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New Horizons®
in Products for Sanitary Applications

• Process Sensors • Temperature Sensors • Control and Display
• Data Loggers • Enclosures • Laboratory Instruments • Components

Version No. 27

Includes 85 Dilbert Cartoons

HOT NEWS®

WELCOME TO OMEGA!

Exceeding Your Expectations

For the past three decades our handbooks have served as valuable reference tools for engineers around the world. And although we are an established direct-marketing pioneer, our people, facilities and superior client services go well beyond the OMEGA® Handbooks. Since our inception in 1962, OMEGA has grown from manufacturing a single product line of thermocouples to an established global leader in the technical marketplace, offering 100,000 state-of-the-art products for measurement and control of temperature, humidity, pressure, strain, force, flow, level, pH and conductivity. OMEGA also provides customers with a complete line of data acquisition, electric heating and custom engineered products. It is our commitment to quality instrumentation and exceptional customer service that has remained the cornerstone of our success. OMEGA's priority is clear. Our facilities exist to "facilitate" solutions to your needs.

Easy to Order
Phone

Ordering is as easy as picking up the phone and dialing: (USA and Canada)

1-800-82-66342 ℠
1-800-TC-OMEGA

One of our courteous, trained sales representatives will assist you with product selection and placing your order. If you need more technical assistance, we have degreed application engineers available to help you solve your application problem.

Internet

Use your web browser to go to **omega.com** Our online store has over 100,000 products available at the click of a mouse. After you place you order, it is reviewed and delivery confirmation is promptly emailed to you.

Fast Delivery

OMEGA ships most orders within 48 hours. We also have overnight service available for customers who need product the next day.

Prices

The prices listed (in U.S. Dollars) are those in effect at the time of publication and are subject to change without notice. Please contact OMEGA's Sales Department for current prices.

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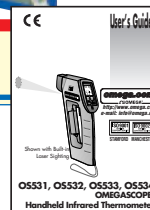Order Online! 24 x 7

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The OMEGA® New Horizons® in Products for Sanitary Applications is an introduction to OMEGA's ongoing expansion of products designed to support the needs of the food, beverage, bio-pharmaceutical, process and other related industries and emerging technologies.

OMEGA and it's affiliates throughout the world have served these industries for many years, from initial laboratory or agriculture field development efforts to manufacturing equipment and processing, through quality inspection, warehousing and shipping.

Photo by Craig Terry, courtesy of Chemical Engineering Program at Rowan University

We begin with OMEGA's Sanitary Tri-Grip™ quick release flanged sensor series for Temperature, and expand this offering in Pressure, Level, Flow and Conductivity sensors. These sensors have been specifically designed for Sanitary and CIP (clean in place) applications and many bear the industry recognized 3A certification. These sensors are also designed to the ASME-BPE-2007 requirements of the bio-processing, pharmaceutical, and personal care product industries as well as other applications with high levels of hygienic requirements.

With wash down, wet, outdoor and other challenging environments in mind, we have designed the industry standard M12 micro DIN style connectors into the sensors and extension cables. These designs incorporate high level IP (ingress protection) ratings such as IP67, 68 and 69K. At the same time, they are designed for ease of installation and maintenance.

The OMEGA® HS Series RTD, thermocouple and thermistor temperature sensors provide the benefits of a hermetically sealed, corrosion proof and electrically isolated design with extreme flexibility and fast response time. The application benefits of this design can be expanded further with the Wireless Smart Connector Series™.

Twist-lock style.

Exploded view showing PX429S15-005GI, standard Tri-Grip™ fitting with commercially available sanitary pipes and fittings $650, see page 77.

The extensive development and expansion of OMEGA's transmitter, monitoring and control instrumentation product lines is designed to compliment the ever increasing implementation of automation control and monitoring throughout all applications. These designs include discrete and add on transmitters, or feature oriented products with display, transmitters and data recording as an integral part of the sensors, they also have the ability to work with existing networks or over the Internet.

Sanitary RTD Probes

PRS-3-100-A-H-0300-D1-M12 heavy-duty ⅜ to ³⁄₁₆" reduced tip design, $140, shown with M12C-PVC-4-S-F-5 mating cable sold separately, $15.50, see page 7.

DTG-RTD100-M12-M, digital RTD thermometer with integral sensor $425, see page 33.

The ever growing OMEGA offering of Wireless products has expanded into the food, beverage, bio-pharmaceutical and process industries with designs intended specifically for wash down, agriculture and other outdoor or wet applications.

MWTC-A-K-915, miniature wireless smart connector series, $79. Visit omega.com/mwtc_series for more information.

OMEGA wireless product designs are also available with the ability to work with PLCs (programmable logic controllers) and other industrial automation devices. The utilization of these wireless products provides a tremendous opportunity for flexibility, and reductions in wire installation and modification costs for your lab, manufacturing or warehouse areas. Product capability includes monitoring and data logging of facilities located up to 5 miles away with our repeater design or across the world with an Internet connection.

Sanitary product line continues to expand, visit omega.com/sanitary for details!

**HOTLINE TO SANITARY PRODUCTS 1-877-82-66342®
1-877-TC-OMEGA**

This Sanitary New Horizons® also includes a sampling of the Omegamation® product line of Industrial Automation, Electrical
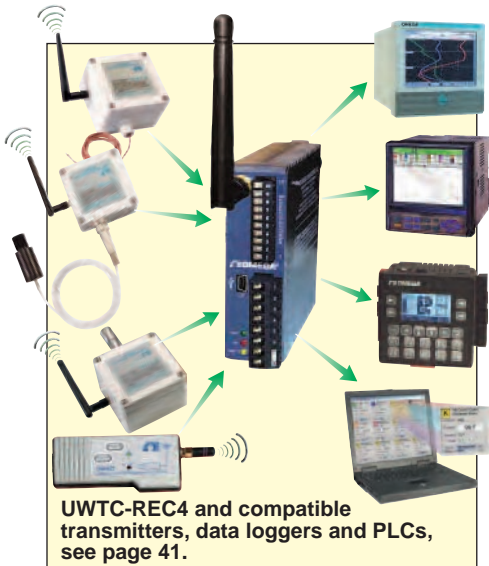
UWTC-REC4 and compatible transmitters, data loggers and PLCs, see page 41.

Control and related products to help you design, fabricate, modify or maintain your equipment. This offering includes NEMA 4 enclosures, PLCs, HMIs along with photoelectric sensors, switches, stepper motors and other products.

OCS XL Series PLC/HMI controllers, see page 109.

This vast product offering also includes the only DIN rail mounted thermocouple connector with a separate but integral connection allowing you to inspect and audit without interrupting your process.

DRTB Series thermocouple terminal blocks DIN rail mounting and audit capable, $8, see page 162.

In response to the increased demands of monitoring and record keeping, we have developed an extensive line of recorders and data loggers to help you address these needs. This product line includes the extremely versatile SUPERECORDER™ Series of portable universal circular chart recorders, capable of accepting m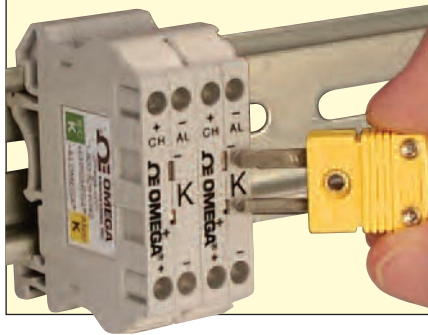ultiple process in puts along with providing concise paper logs or extensive electronic data output to your computer or network.

Portable universal circular chart recorder SUPERECORDER™, 5 CTXL models available, see page 131.

OMEGA also has an exciting addition to the NOMAD® Series of data loggers with RFID (Radio Frequency Identification) technology in the OM84 Matchbook™ Series. This is a fast, economical and accurate wireless data retrieval storage device, the size of a matchbook with the ability to record the temperature details of your raw materials or finished products during travel or storage.

The mini NOMAD® OM-84 Series miniature RFID data loggers and readers offer economical, fast, accurate wireless data retrieval and storage, $90, see pages 191 to 192.

Thank you for shopping OMEGA. We are thrilled to have the opportunity to help you achieve your goals by providing a combination of engineering talents, state of the art fabrication and machining, automated and precision assembly, extensive product testing, industry leading customer support capabilities and the ongoing Made in the USA heritage.

For our complete product development and technical reference information, please visit our website: **omega.com/sanitary** for the most up to date information.

An Introduction to Sanitary Sensors

In typical industrial applications, measurements of parameters such as temperature, flow, or pressure simply involve finding a device with the right specifications that is packaged to provide reasonable durability and a satisfactory life in its operating environment. The measurement range needed and special environmental concerns, such as exposure to corrosive liquids or gases help narrow down the choices. When these measurements involve products for human consumption, an additional set of requirements emerges. In this arena, product contamination can lead to product liability as well as harm to the end user. This is where 3-A sanitary standards come in. Unlike other types of standards, equipment displaying the 3-A Symbol can be shown to meet certain material, design and fabrication standards for cleanability and inspection.

Preventing Contamination

The sidebar shows just a few of the typical applications where sanitary sensors must be used in order to protect the end products from inadvertent contamination. As you can see, the range of products requiring sanitary processing is extensive, and we all use these products and benefit from the use of sanitary sensing devices.

From a safety standpoint, the focus of sanitary sensor design is on maintaining sterility and avoiding contamination of the product. There are three key factors that contribute to meeting this goal; the exposed surface of the sensor, the mechanical design and installation methodology, and the ease which with the sensor can be thoroughly cleaned. Let's consider each of these issues.

The Sensor Surface

The 3-A sanitary standards specify the required properties of a sensor surface in contact with the product. Contamination can occur from the process material clinging to the surface of the sensor and serving as a breeding ground for microbes. Consequently, it must be highly polished, non-porous, and cleanable. In addition, it must be non-reactive and non-contaminating. Corrosion resistance is also very important since corrosion can lead to pitting where product and germs can become imbedded.

Applications for Sanitary Sensors

Dairy Products
Milk, cheese, yogurt, ice cream

Food Products
Syrup, jam, sauces, soups, oils

Beverages
Soda, fruit juice, beer, water

Pharmaceutical Products
Medication, ointments, solutions

Cosmetics
Creams, lotions, lipstick

Any consumable or applied product for which contamination must be avoided.

Design and Installation

The mechanical configuration of the sensing device where it is exposed to the product being processed can introduce opportunities for contamination. To meet the 3-A standards, the sensor must not contain any features that would result in material penetrating the housing or features that could trap debris and encourage microbe growth.

At the installation location, it is desirable to avoid or minimize stagnant zones in the fluid conduits where the product can be trapped and remain after the system is drained. In the case of products that are sticky or have high viscosity, these areas can be difficult to clean. Conduit offsets and T-connections necessary to install a sensor can lead to such stagnate zones.

Cleanability

For process efficiency, it is best to be able to wash out the system between runs without having to remove the sensors. This is called "cleaning in place" or CIP. Sensors that require manual cleaning and inspection add to turnaround time between batches and increase labor costs. This increased handling can also lead to increased risk of contamination.

Types of Sanitary Sensors

Below is a review of the most common types of sanitary sensors used for temperature, pressure, flow, and level control applications. OMEGA® provides a comprehensive line of 3-A sanitary sensors, and we will use examples from our various product lines for illustrative purposes. OMEGA also offers some unique products for wireless connectivity which can greatly simplify sensor installation and maintenance.

Temperature Sensors

One of the simplest and least expensive 3-A temperature measurement devices is the dial thermometer. However, these sensors are limited to situations where manual monitoring is used and accuracy requirements are not too stringent.

The most accurate and most popular device for process temperature control is the RTD (resistance temperature detector) Figure 1.

An RTD that meets 3-A sanitary standards can be provided in the form of a probe for direct immersion (and faster response time) or can be enclosed in a thermowell for mechanical protection and ease of replacement. Direct immersion RTD sensors are provided with straight or stepped probe designs depending on response time and process flow conditions. The wetted surfaces are 316L stainless steel, and are highly polished to meet 3-A requirements. These sensors are also supplied with traditional connection heads, M12 connections, integral extension cables or wireless features for ease of installation.

Pressure Transmitters

Figure 2 shows a 3-A (pending) sanitary pressure transducer. This device is typically used in dairy, food processing, pharmaceutical, and biotech

Figure 1—PRS-3-100-A-H-0600-D1-NB9W sanitary RTD probe with protection head, $125, see page 9.

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1-877-TC-OMEGA

applications. Construction is all stainless steel with an electro-polished finish. This unit is designed for clean-in-place operation. This sensor utilizes thin-film technology which is known for reliability and accuracy. It is calibrated to NIST standards. The low response time of 5 msec ensures tight process control. The reading is delivered via a 1 to 5 Vdc output signal or a 4 to 20 mA current loop.

Figure 2—PX409S 3-A (pending) sanitary pressure transducer, $585, see page 75.

Turbine Flowmeters

Sanitary turbine flowmeters, such as the unit shown in Figure 3, are used in processing liquids and beverages. They are also found in applications requiring pasteurization and can be used for thicker materials such as ketchup and chocolate. Units are available in sizes ranging from ¼ to 3" in diameter. This type of sensor covers flow ranges from a fraction of a gallon per minute (GPM) up to hundreds of GPM. The design of the flowmeter and materials of construction are suitable for cleaning in place (CIP).

Figure 3—FTB-402A 3-A sanitary turbine flowmeter, $1254, see page 92.

Flow Transmitters and Switches

The Model FSW-9000 transmitter/switch shown in Figure 4 monitors the flow velocity of the product based on the principle of thermal dispersion between heated and unheated RTDs immersed in the product. It generates an analog output signal corresponding to the flow rate and includes a set point feature which can signal a process controller or operator when a specified flow is achieved. If an actual flow measurement is not required, a simpler flow switch can be used to signal when the flow rate set point is reached.

Figure 4—FSW-9212 liquid flow transmitter and switch, $654, see page 95.

Level Monitoring

In processes using a vat or other large container, the fill level can be accurately measured with non-contact sensors. These replace capacitance or float-type devices which require immersion in the product. Figure 5 shows an ultrasonic level transmitter. This unit emits ultrasonic pulses which are reflected at the air/liquid interface to detect and measure the fill level. For situations where foam, dust, or vapors interfere with ultrasonic measurements, a radar-based level transmitter such as the unit shown in Figure 6 may be used.

Wireless Connectivity Options

A further refinement to sanitary sensor applications is through the use of wireless technology to transmit measurement data. Here OMEGA has a comprehensive range of products that simplify installation and maintenance, as well as add analytical and control software to improve process control and monitoring. Figure 7 shows an

Figure 6—LVRD500 radar level transmitter, $1900, see pages 101 and 102.
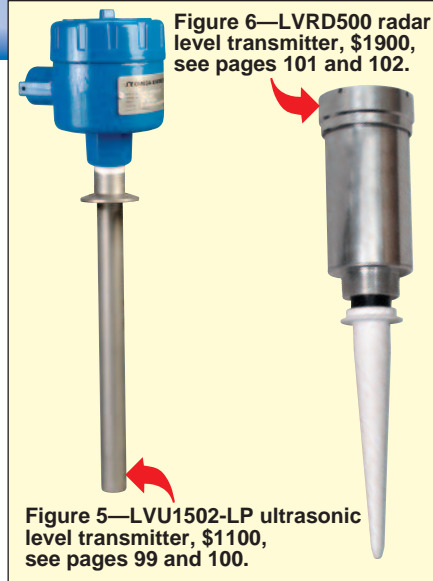
Figure 5—LVU1502-LP ultrasonic level transmitter, $1100, see pages 99 and 100.

RTD-to-wireless unit that transmits measurements to a matching receiver that can handle up to 48 channels. Matching software logs data and provides process control signals.
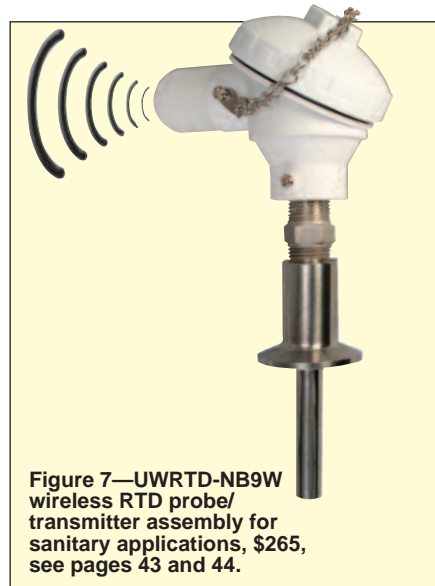
Figure 7—UWRTD-NB9W wireless RTD probe/transmitter assembly for sanitary applications, $265, see pages 43 and 44.

Summary

Although we typically do not give it much thought, everyone who eats, drinks, takes medication or uses cosmetics is a beneficiary of the specialized sensing and measurement devices used in manufacturing these products. By combining our experience in sensor design & development, with new technology and industry leading product availability and support, OMEGA can be your source for leading edge sanitary sensing products that ensure the best possible outcome in any of these critical and important processes.

Tri-Grip™ Process Flange Size Guide

Tri-Grip* Process Mounting Flange Dimensions

Ordering Code	Flange Size	A Dia	B Dia	C Dia
B1	¼"	0.98"	0.18"	0.25"
	⅜"	0.98"	0.31"	0.375"
	½"	0.98"	0.37"	0.50"
	¾"	0.98"	0.62"	0.75"
D1	1"	1.98"	0.87"	1.00"
	1½"	1.98"	1.37"	1.50"
E1	2"	2.52"	1.87"	2.00"
F1	2½"	3.05"	2.37"	2.50"
G1	3"	3.58"	2.87"	3.00"
H1	4"	4.68"	3.83"	4.00"

*Tri-Grip™ (Tri-Clamp® compatible).

When specifying the flange size on sanitary sensors, use the ordering code shown in the table (see individual product specification sheets for code location).
Examples: PRS-3-100-A-S-0300-E1-M12 specifies a direct immersion sanitary RTD with 2" 16 AMP flange (E1), standard duty 3" L probe and M12 connector. **PRS-3-100-A-TW-0450-D1-NB9W** specifies a spring loaded RTD assembly with NB9W white polypropylene head and sanitary thermowell with 1½" 16 AMP Flange (D1) and 4.5" immersion length.
Visit omega.com/tri-grip for details.

"A" Diameter **"B" Diameter** **"C" Diameter**
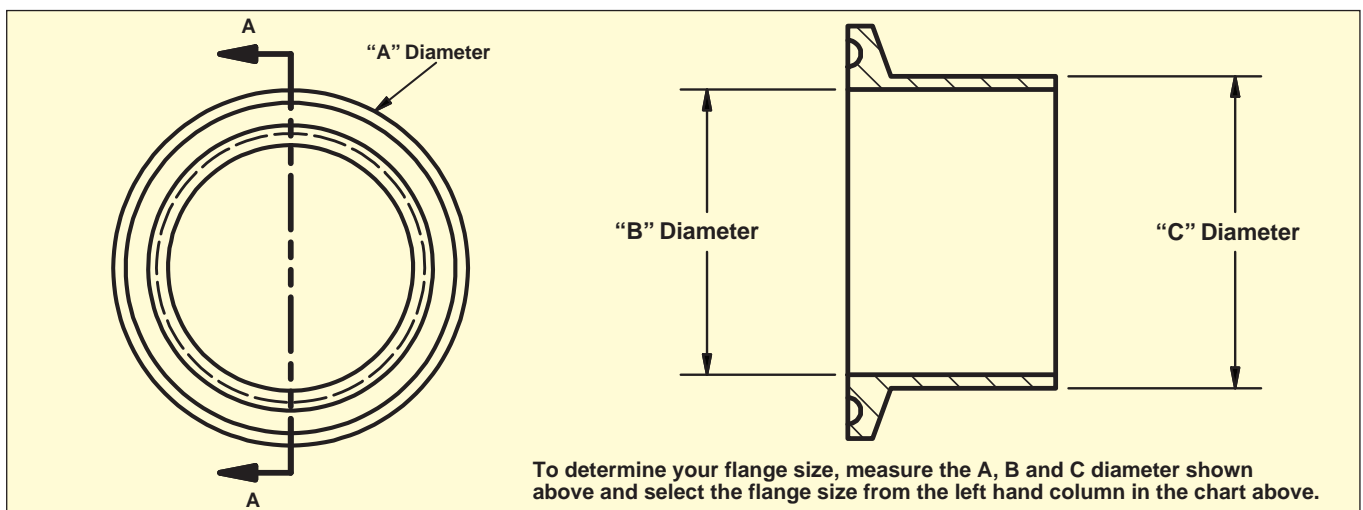
To determine your flange size, measure the A, B and C diameter shown above and select the flange size from the left hand column in the chart above.

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RTD Specifications

OMEGAs sanitary RTD sensors are supplied standard with 100 Ω, Class A sensing elements that conform to the International IEC 60751 Standard. This standard specifies the resistance vs. temperature relationship, the Accuracy Classes, and the color code used. This information is included below to help in the application and use of these sanitary sensors.

For the Complete RTD Temperature vs. Resistance Table Visit omega.com/rtdtable

Resistance vs. Temperature Characteristics

The Resistance vs. Temperature Characteristics of OMEGA sanitary RTD sensors conform to the following equation:

Equations

Platinum RTD resistance can be calculated using the Callendar-Van Dusen Equation as follows:

For temperatures below 0°C:
$$R_t = R_0 [1 + At + Bt^2 + C(t-100)t^3]$$
where: $A = 3.9083 \times 10^{-3}$ (C^{-1})
$B = -5.775 \times 10^{-7}$ (C^{-2})
$C = -4.183 \times 10^{-12}$ (C^{-4})
R_0 = Resistance at 0°C
t = Temperature in degrees celsius

For temperatures above 0°C, this simplifies to:
$$R_t = R_0 (1 + At + Bt^2)$$

Resistance vs. Temperature Values per IEC 60751

Temp (°C)	Resistance (Ω)	Temp (°C)	Resistance (Ω)	Temp (°C)	Resistance (Ω)
-200	18.52	150	157.33	450	264.18
-150	39.72	200	175.86	500	280.98
-50	80.31	250	194.10	550	297.49
0	100.00	300	212.05	600	313.71
50	119.40	350	229.72	650	329.64
100	138.50	400	247.09	700	345.28

*To see the full table (every 1°C), visit **omega.com/rtdtable***

Note: *Resistance values for temperatures from -200 to 700°C are provided for reference. The RTD sensors included in these pages have specific temperature ranges assigned. See the applicable product pages for specific temperature ranges.*

Accuracy Classes

There are four "Accuracy Classes" specified in IEC 60751, listed from least accurate to most accurate they are: (Note: Accuracy Values are in Degrees C)

Class C = ±(0.60 + 0.01* t)   (-50 to 500°C)

Class B = ±(0.30 + 0.005* t)   (-50 to 500°C)

Class A = ±(0.15 + 0.002* t)   (-30 to 300°C)

Class ⅓ DIN† = ±(0.10 + 0.0017* t)   (0 to 150°C)

where t = temperature of interest in °C without regard to sign

(† also known as Class AA)

OMEGAs Sanitary RTDs Come Standard with Class A Accuracies

Wiring Diagrams
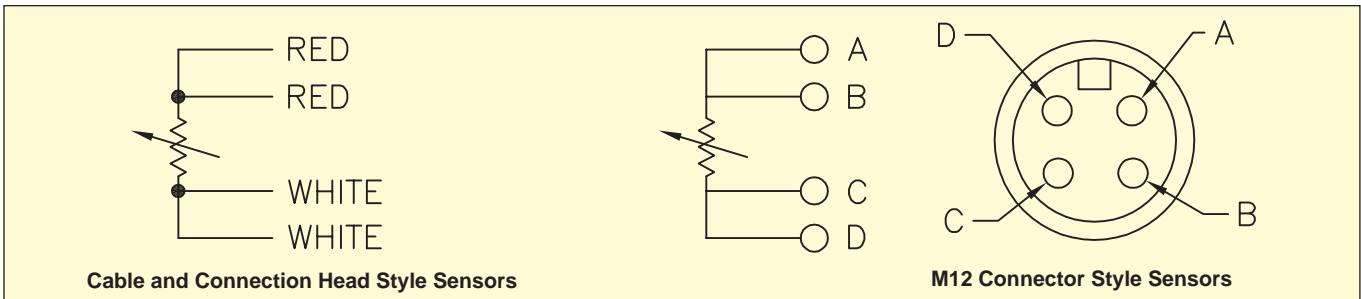
Cable and Connection Head Style Sensors

M12 Connector Style Sensors

NEW®

Sanitary RTD Probes
Standard and Heavy-Duty with M12 Connector

PRS-S-M12 Series
All Models

$110

PRS-H-M12 Series
All Models

$140

MADE IN USA

74-03

- ✔ Standard or Heavy-Duty Probe Diameter
- ✔ 1½" 16 AMP Tri-Grip™ (Tri-Clamp®) Compatible) Fitting Standard
- ✔ 4-Wire M12 Male Connector Standard
- ✔ 316L SS Wetted Surfaces with 32 µin or Better Finish
- ✔ 4-Wire Pt100 Class A Element Standard
- ✔ -50 to 200°C (-58 to 392°F) Temperature Range

Options
- ✔ Fitting Styles
- ✔ Probe Lengths
- ✔ RTD Elements

The OMEGA® PRS-S-M12 Series RTD probes are available in standard lengths from 3 to 6", with a 4-wire Pt100 Class A element (100 ±0.06 Ω at 0°C) that is compatible with 2-, 3-, or 4-wire RTD instrumentation. Standard features include a 1½" 16 AMP Tri-Grip™ fitting and 4-wire M12 male connector termination. Please consult sales for available options, including element types and curves, probe lengths, and sanitary fitting styles.

Provides Quick and Easy Installation in CIP and Sanitary Processes

PRS-3-100-A-S-0300-D1-M12, $110, shown actual size.

Heavy-Duty Stepped Probe Stem for Added Strength

PRS-3-100-A-H-0300-D1-M12 heavy-duty ⅜ to ³⁄₁₆" reduced tip design, $140, shown with M12C-PVC-4-S-F-5 mating cable sold separately, $15.50. See page 68 for optional extension cables.

Sensor Flange Size Range ¾ to 4" Tri-Grip™ Process Flange. See Page 5 or Visit omega.com/tri-grip for Details

1¼"

4-pin male M12 connector plug.

316L SS 1½" 16 AMP Tri-Grip™ cap standard.

1¹⁄₁₆"

¼" diameter.

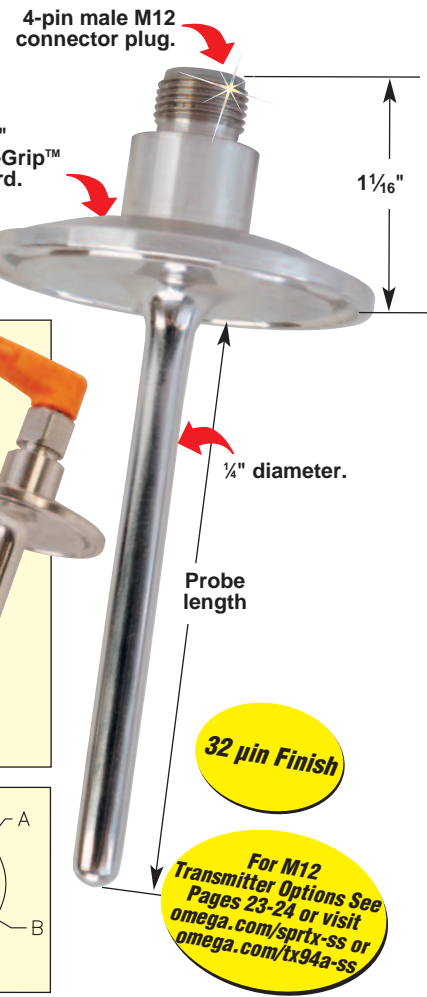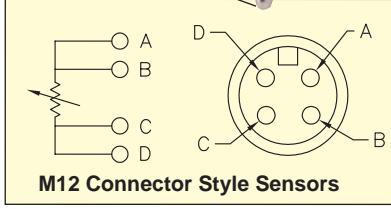**Probe length**

32 µin Finish

For M12 Transmitter Options See Pages 23-24 or visit omega.com/sprtx-ss or omega.com/tx94a-ss

M12 Connector Style Sensors

Standard

MOST POPULAR MODELS HIGHLIGHTED!

To Order *(Specify Model Number)*					
Model No.	Price	Lead Wire Style	Ω at 0°C	Sheath Diameter	Probe Length
PRS-3-100-A-S-0300-D1-M12	**$110**	4-Wire	100	¼"	3"
PRS-3-100-A-S-0400-D1-M12	**110**	4-wire	100	¼"	4"
PRS-3-100-A-S-0500-D1-M12	**110**	4-wire	100	¼"	5"
PRS-3-100-A-S-0600-D1-M12	**110**	4-wire	100	¼"	6"

Heavy-Duty

Model No.	Price	Lead Wire Style	Ω At 0°C	Sheath Diameter	Probe Length
PRS-3-100-A-H-0300-D1-M12	**$140**	4-wire	100	⅜ to ³⁄₁₆"	3"
PRS-3-100-A-H-0400-D1-M12	**140**	4-wire	100	⅜ to ³⁄₁₆"	4"
PRS-3-100-A-H-0500-D1-M12	**140**	4-wire	100	⅜ to ³⁄₁₆"	5"
PRS-3-100-A-H-0600-D1-M12	**140**	4-wire	100	⅜ to ³⁄₁₆"	6"

*See page 68 or or visit **omega.com/m12c** for M12C series cables with M12 connectors.*

***Note:** Please consult sales for available options, including element types and curves, probe lengths, and sanitary fitting styles.*

*For probe lengths longer than 6", change **"0600"** in model number to the required length (eg: 12" = 1200, 9 ¼" = 0925) and add **$1** per inch for standard duty and **$2.50** per inch for heavy duty probes.*

Ordering Examples: PRS-3-100-A-S-0400-D1-M12,** 4-wire Pt100 RTD sensor (100 Ω @ 0°C, Class A accuracy), 1½" 16 AMP Tri-Grip™ fitting, 4" length, standard duty probe, M12 male connector, and **M12C-PVC-4-S-F-5,** 5 m (16.4') PVC cable with M12 connector and stripped lead termination, $110 + 15.50 = **$125.50.

PRS-3-100-A-H-0400-D1-M12,** 4-wire Pt100 RTD sensor (100 Ω @ 0°C, Class A accuracy), 1½" 16 AMP Tri-Grip™ fitting, 4" length, heavy-duty probe, M12 male connector, and **M12C-PVC-4-S-F-5,** 5 m (16.4') PVC cable with M12 connector and stripped lead termination, $140 + 15.50 = **$155.50.

Sanitary product line continues to expand, visit omega.com/sanitary for details!

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NEW

Sanitary Thermistor Probes
Standard and Heavy-Duty with M12 Connector

THS-S-M12 Series
All Models
$110

THS-H-M12 Series
All Models
$140

MADE IN **USA**

3-A 74-03
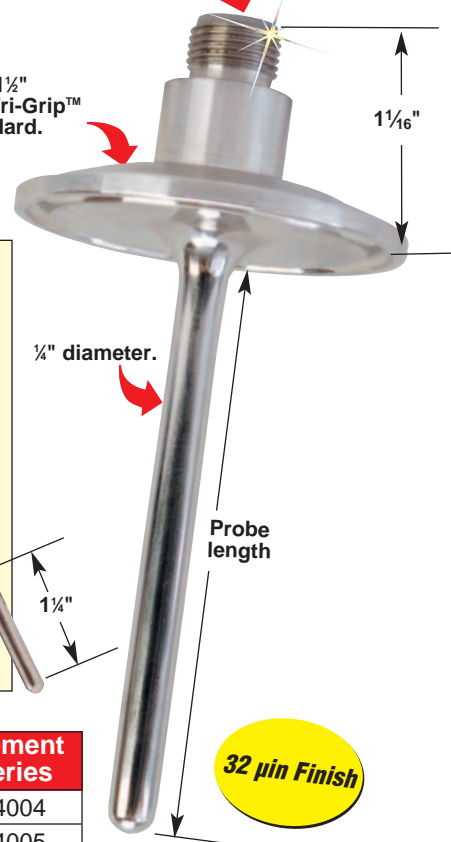
Provides Quick and Easy Installation in CIP and Sanitary Processes

4-pin M12 male connector plug.

316L SS 1½" 16 AMP Tri-Grip™ cap standard.

1¹⁄₁₆"

☑ Standard or Heavy-Duty Probe Diameter
☑ 1½" 16 AMP Tri-Grip™ (Tri-Clamp® Compatible) Fitting Standard
☑ 4-Pin M12 Male Connector Standard
☑ 316L SS Wetted Surfaces with 32 µin or Better Finish
☑ 10k Thermistor Element (44006) Standard
☑ -80 to 150°C (-112 to 302°F) Temperature Range

Options
☑ Fitting Styles
☑ Probe Lengths
☑ Thermistor Elements

Sensor Flange Size Range ¾ to 4" Tri-Grip™ Process Flange. See Page 5 or Visit omega.com/tri-grip for Details

THS-10K-S-0300-D1-M12, $110, shown actual size.

Heavy-Duty Stepped Probe Stem for Added Strength

¼" diameter.

The OMEGA® THS-S-M12 Series thermistor probe assemblies are available in standard lengths from 3 to 6", with standard 10 kΩ (44006) thermistor element. Standard features include a 1½" 16 AMP Tri-Grip™ fitting and a 4-pin M12 male connector termination. Please consult sales for available options, including element types and curves, probe lengths, protection heads and sanitary fitting styles.

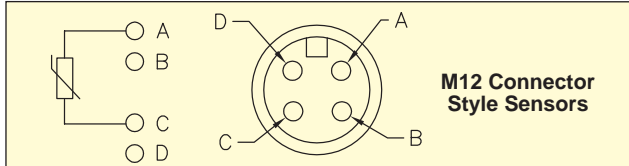**THS-10K-H-0300-D1-M12 heavy-duty ⅜ to ³⁄₁₆" reduced tip design, $140, shown with M12C-PVC-4-S-F-5, mating cable sold separately, $15.50. See page 68 for optional extension cables.**

1¼"

Probe length

M12 Connector Style Sensors

A B C D

Element Options

Sensor Code	Resistance @ 25°C	Element Series
2K	2252 Ω	44004
3K	3000 Ω	44005
5K	5000 Ω	44007
30K	30,000 Ω	44008

For other thermistor elements, change the model number from "10K" to the desired sensor code as shown in the table above, no additional cost.

32 µin Finish

Standard

MOST POPULAR MODEL HIGHLIGHTED!

To Order *(Specify Model Number)*

Model Number	Price	Resistance at 25°C	Element Series	Interchangeability (0 to 70°C)	Sheath Dia.	Probe Length
THS-10K-S-0300-D1-M12	**$110**	10,000 Ω	44006	±0.2°C	¼"	3"
THS-10K-S-0400-D1-M12	110	10,000 Ω	44006	±0.2°C	¼"	4"
THS-10K-S-0500-D1-M12	110	10,000 Ω	44006	±0.2°C	¼"	5"
THS-10K-S-0600-D1-M12	110	10,000 Ω	44006	±0.2°C	¼"	6"

Heavy-Duty

Model Number	Price	Resistance at 25°C	Element Series	Interchangeability (0 to 70°C)	Sheath Dia.	Probe Length
THS-10K-H-0300-D1-M12	**$140**	10,000 Ω	44006	±0.2°C	⅜ to ³⁄₁₆"	3"
THS-10K-H-0400-D1-M12	140	10,000 Ω	44006	±0.2°C	⅜ to ³⁄₁₆"	4"
THS-10K-H-0500-D1-M12	140	10,000 Ω	44006	±0.2°C	⅜ to ³⁄₁₆"	5"
THS-10K-H-0600-D1-M12	140	10,000 Ω	44006	±0.2°C	⅜ to ³⁄₁₆"	6"

*For probe lengths longer than 6", change "0600" in model number to the required length (eg, 12" = 1200, 9¼"= 0925) and add **$1** per inch for standard duty and **$2.50** per inch for heavy duty probes.*

*Ordering Examples: **THS-10K-S-0400-D1-M12,** 10,000 Ω thermistor sensor, 1½" 16 AMP Tri-Grip™ fitting, 4" length, standard duty probe, M12 style male connector, **$110.***

THS-10K-H-0400-D1-M12,** 10,000 Ω thermistor sensor, 1½" 16 AMP Tri-Grip™ fitting, 4" length, heavy-duty probe, M12 style male connector, **$140.

NEW®

Sanitary RTD Assemblies
Standard and Heavy-Duty with Protection Head

PRS-S-NB9W Series
All Models
$95

PRS-H-NB9W Series
All Models
$125

MADE IN **USA**

3-A 74-03

For Use in CIP and Sanitary Processes

¾ NPT conduit connection.

White polypropylene screw cover connection head.

For Head Mounted Transmitter Options See Page 16 or Visit omega.com/tx12

✔ **Standard and Heavy-Duty Probe Diameter**
✔ **1½" 16 AMP Tri-Grip™ (Tri-Clamp® Compatible) Fitting Standard**
✔ **White Polypropylene Head with Screw Cap Standard, Optional 316L SS Head Available**
✔ **316L SS Wetted Surfaces with 32 µin or Better Finish**
✔ **4-Wire Pt100 Class A Element Standard**
✔ **-50 to 200°C (-58 to 392°F) Temperature Range**

Options
✔ **Fitting Styles**
✔ **Protection Heads**
✔ **Probe Lengths**
✔ **RTD Elements**

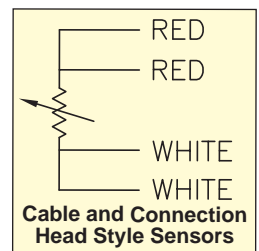*Sensor Flange Size Range ¾ to 4" Tri-Grip™ Process Flange. See Page 5 or Visit omega.com/tri-grip for Details*

1½"

Probe length

316L SS 1½" 16 AMP Tri-Grip™ cap standard.

¼" diameter.

PRS-3-100-A-S-0300-D1-NB9W, $95, shown smaller than actual size.

32 µin Finish

The OMEGA® PRS-S-NB9W Series RTD probe assemblies are available in standard lengths from 3 to 6", with a 4-wire Pt100 Class A element (100 ±0.06 Ω at 0°C) that is compatible with 2-, 3-, or 4-wire RTD instrumentation. Standard features include a 1½" 16 AMP Tri-Grip™ fitting, type NB9W white polypropylene protection head with screw cap. Please consult sales for available options, including element types and curves, probe lengths, protection heads and sanitary fitting styles.

Standard

Heavy-Duty Stepped Probe Stem for Added Strength

1¼"

PRS-3-100-A-H-0300-D1-NB9W, heavy duty ⅜ to 3⁄16" reduced tip design, $125.

RED
RED
WHITE
WHITE

Cable and Connection Head Style Sensors

MOST POPULAR MODELS HIGHLIGHTED!

To Order *(Specify Model Number)*

Model No.	Price	Lead Wire Style	Ω at 0°C	Sheath Diameter	Probe Length
PRS-3-100-A-S-0300-D1-NB9W	$95	4-wire	100	¼"	3"
PRS-3-100-A-S-0400-D1-NB9W	95	4-wire	100	¼"	4"
PRS-3-100-A-S-0500-D1-NB9W	95	4-wire	100	¼"	5"
PRS-3-100-A-S-0600-D1-NB9W	95	4-wire	100	¼"	6"

Heavy-Duty

Model No.	Price	Lead Wire Style	Ω at 0°C	Sheath Diameter	Probe Length
PRS-3-100-A-H-0300-D1-NB9W	$125	4-wire	100	⅜ to 3⁄16"	3"
PRS-3-100-A-H-0400-D1-NB9W	125	4-wire	100	⅜ to 3⁄16"	4"
PRS-3-100-A-H-0500-D1-NB9W	125	4-wire	100	⅜ to 3⁄16"	5"
PRS-3-100-A-H-0600-D1-NB9W	125	4-wire	100	⅜ to 3⁄16"	6"

Optional protection heads: To order with **NB15** large 316 SS head, change model number suffix from **"-NB9W"** to **"-NB15"** and add **$37** to price.
Note: Please consult sales for available options, including element types and curves, probe lengths, and sanitary fitting styles.
For probe lengths longer than 6", change **"0600"** in model number to the required length (eg: 12" = 1200, 9 ¼" = 0925) and add **$1** per inch for standard duty and **$2.50** per inch for heavy duty probes.
*Ordering Examples: **PRS-3-100-A-S-0400-D1-NB9W,** 4-wire Pt100 RTD sensor (100 Ω @ 0°C, Class A accuracy), 1½" 16 AMP Tri-Grip™ fitting, 4" length, standard duty probe, **NB9W** white polypropylene screw cap protection head, $95.*
PRS-3-100-A-H-0400-D1-NB9WTX12,** 4-wire Pt100 RTD sensor (100 Ω @ 0°C, Class A accuracy), 1½" 16 AMP Tri-Grip™ fitting, 4" length, heavy-duty probe, **NB9W** white polypropylene screw cap protection head, with **TX12** head mounted transmitter, $125 + 75 = **$200.

Sanitary product line continues to expand, visit **omega.com/sanitary** for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-6 6 3 4 2®
1-877-TC-OMEGA

NEW

Sanitary RTD Assemblies
Spring Loaded Design with Sanitary Thermowell

PRS-TW-NB9W Series
Starts at
$180

For Head Mounted Transmitter Options See Page 16 or Visit omega.com/tx12

MADE IN USA

¾ NPT conduit connection.

Allows Sensor Removal/Calibration Without Disturbing Your Clean-In-Place System

- ✔ **Removable Spring Loaded Probe in Well for Good Thermal Response**
- ✔ **1½" 16 AMP Tri-Grip™ (Tri-Clamp® Compatible) Fitting**
- ✔ **Standard Insertion Lengths of 1⅝, 2½, 4½, 7½, 10½"**
- ✔ **White Polypropylene Head with Screw Cap Standard, Other Polypropylene and SS Heads Available**
- ✔ **316L SS Thermowell with 32 μin or Better Finish on Wetted Parts**
- ✔ **4-Wire Pt100 Class A Element Standard**
- ✔ **-50 to 200°C (-58 to 392°F) Temperature Range**

White polypropylene screw cover connection head.

½ x ½ NPT fitting spring loads sensor in thermowell.

316L SS 1½" 16 AMP Tri-Grip™ cap standard.

1½"

RED
RED
WHITE
WHITE

Connection Head Style Sensors

Options
- ✔ **Fitting Styles**
- ✔ **RTD Elements**
- ✔ **Protection Heads**

Sensor Flange Size Range ¾ to 4" Tri-Grip™ Process Flange. See Page 5 or Visit omega.com/tri-grip for Details

32 μin Finish

Insertion length

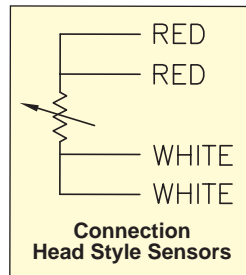**PRS-3-100-A-TW-0250-D1-NB9W, $195, shown smaller than actual size.**

The OMEGA® PRS-TW-NB9W series RTD probes are spring loaded into a sanitary thermowell, with a ½ x ½ NPT fitting for easy removal. These probes feature a 4-wire Pt100 Class A element (100 ±0.06 Ω at 0°C) that is compatible with 2-, 3-, and 4-wire RTD instrumentation.

Please consult sales for available options, including element types and curves, probe lengths, protection heads and sanitary fitting styles.
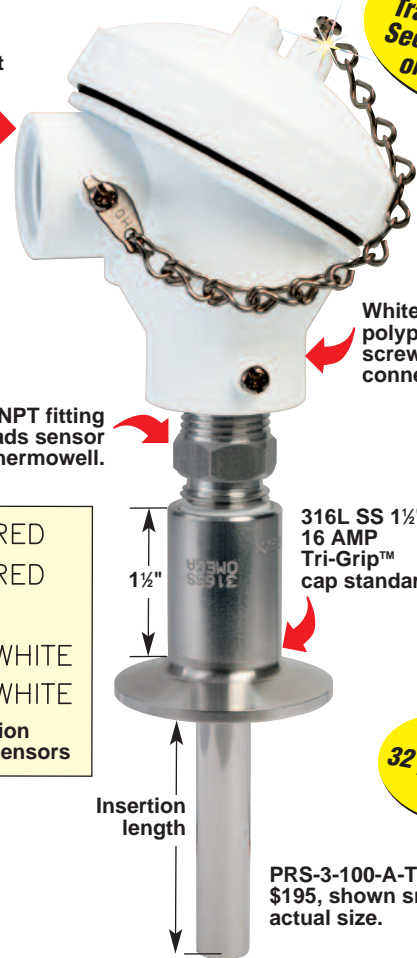
Standard well features include a 0.5" dia. stem (0.75" stepped down for insertion lengths over 2.5") with a 0.260" bore diameter. See the S-260 series thermowells on page 67 or visit **omega.com/s-260_s-385** for complete well dimensions.

MOST POPULAR MODEL HIGHLIGHTED!

To Order *(Specify Model Number)*

Model No.	Price	Lead Wire Style	Ω at 0°C	Well Stem Length	Insertion Length	Shank Diameter
PRS-3-100-A-TW-0163-D1-NB9W	**$180**	4-wire	100	2½"	1⅝"	½"
PRS-3-100-A-TW-0250-D1-NB9W	**195**	4-wire	100	4"	2½"	½"
PRS-3-100-A-TW-0450-D1-NB9W	**215**	4-wire	100	6"	4½"	¾" step to ½"
PRS-3-100-A-TW-0750-D1-NB9W	**240**	4-wire	100	9"	7½"	¾" step to ½"
PRS-3-100-A-TW-1050-D1-NB9W	**260**	4-wire	100	12"	10½"	¾" step to ½"

*Optional protection heads: To order with **NB16W** white polypropylene flip-top head, change model number suffix from **"-NB9W"** to **"-NB16W"** and $7 to price.*

*To order with **NB15** large 316 SS head, change model number suffix from **"-NB9W"** to **"-NB15"** and $37 to price.*

*To order with **NB13** medium size 316 SS head, change model number suffix from **"-NB9W"** to **"-NB13"** and $55 to price.*

***Note:** Please consult sales for available options, including element types and curves, probe lengths, and sanitary fitting styles.*

***Ordering Examples: PRS-3-100-A-TW-0450-D1-NB9W,** 4-wire Pt100 RTD sensor (100 Ω @ 0°C, Class A accuracy), spring loaded in a 1½" 16 AMP fitting thermowell with 6" stem length/4½" insertion length, $215.*

***PRS-3-100-A-TW-0750-D1-NB9W,** 4-wire Pt100 RTD sensor (100 Ω @ 0°C, Class A accuracy), spring loaded in a 1½" 16 AMP fitting thermowell with 9" stem length/7½" insertion length, $240.*

Sanitary Thermistor Assemblies
Standard Duty with Protection Head

**THS-S-NB9W Series
All Models**

$95
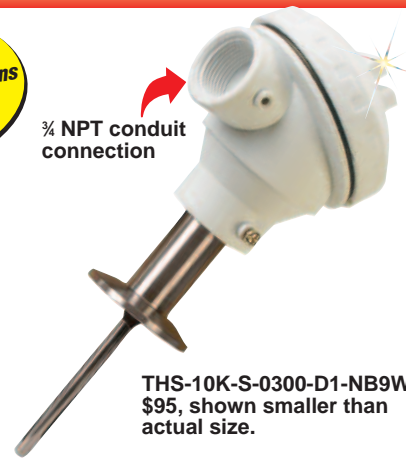
MADE IN USA

74-03

✔ **10k Thermistor Element (44006) Standard**

✔ **-80 to 150°C (-112 to 302°F) Temperature Range**

¾ to 4" Flanges Available. See Page 5 or Visit omega.com/tri-grip For Details

The OMEGA® THS-S-NB9W Series thermistor probe assemblies are available in standard lengths from 3 to 6", with standard 10 kΩ (44006) thermistor element. Standard features include a ¼" dia probe, 1½" 16 AMP Tri-Grip™ fitting, type NB9W white polypropylene protection head with screw cap.

For Complete Product Information and Dimensions Visit omega.com/ths-h-nb9w

¾ NPT conduit connection

Element Options

Sensor Code	Resistance @ 25°C	Element Series
2K	2252 Ω	44004
3K	3000 Ω	44005
5K	5000 Ω	44007
30K	30,000 Ω	44008

For other thermistor elements, change the model number from "10K" to the desired sensor code as shown in the table above, no additional cost.

THS-10K-S-0300-D1-NB9W, $95, shown smaller than actual size.

MOST POPULAR MODEL HIGHLIGHTED!

To Order *(Specify Model Number)*

Model Number	Price	Resistance at 25°C	Element Series	Interchangeability (0 to 70°C)	Sheath Dia.	Probe Length
THS-10K-S-0300-D1-NB9W	$95	10,000 Ω	44006	±0.2°C	¼"	3"
THS-10K-S-0400-D1-NB9W	95	10,000 Ω	44006	±0.2°C	¼"	4"
THS-10K-S-0500-D1-NB9W	95	10,000 Ω	44006	±0.2°C	¼"	5"
THS-10K-S-0600-D1-NB9W	95	10,000 Ω	44006	±0.2°C	¼"	6"

*For lengths longer than 6", change "0600" in model number to the required length (eg, 12" = 1200, 9¼" = 0925) and add **$1** per inch to the price.*

Optional protection heads:
*To order with **NB15** large 316 SS head, change model number suffix from "-NB9W" to "-NB15" and add **$37** to price.*

Ordering Example: THS-10K-S-0400-D1-NB9W,** 10,000 Ω thermistor sensor, 1½" 16 A Tri-Grip™ fitting, 4" length, standard duty probe, NB9W white polypropylene screw cap protection head, **$95.

Sanitary Thermocouple Assemblies
Standard Duty with Protection Head

**TCS-S-NB9W Series
All Models**

$95

MADE IN USA

74-03

✔ **Ungrounded J, K, T or E Thermocouple, Special Limits of Error**

✔ **-50 to 200°C (-58 to 392°F) Temperature Range**

¾ to 4" Flanges Available. See Page 5 or Visit omega.com/tri-grip For Details

The OMEGA® TCS-S-NB9W Series thermocouple probe assemblies are available in standard lengths from 3 to 6", with an ungrounded thermocouple probe. Standard probes are available in J, K, T and E calibrations. Standard features include a ¼" dia probe, 1½" 16 AMP Tri-Grip™ fitting, type NB9W white polypropylene protection head with screw cap.

Shown with optional NB15 316 SS connection head.

½ NPT conduit connection.

For Complete Product Information and Dimensions Visit omega.com/tcs-h-nb9w

See Page 15 for Head Mounted Transmitter Options

TCS-TU-S-0300-D1-NB15, $132, shown smaller than actual size.

MOST POPULAR MODEL HIGHLIGHTED!

To Order *(Specify Model Number)*

Model No.	Price	Thermocouple Calibration	Sheath Diameter	Probe Length
TCS-(*)U-S-0300-D1-NB9W	$95	J, K, T or E	¼"	3"
TCS-(*)U-S-0400-D1-NB9W	95	J, K, T or E	¼"	4"
TCS-(*)U-S-0500-D1-NB9W	95	J, K, T or E	¼"	5"
TCS-(*)U-S-0600-D1-NB9W	95	J, K, T or E	¼"	6"

* Specify calibration: *J, K, T* or *E*

Optional protection heads:
*To order with NB15 large stainless steel screw top head, change suffix "-NB9W" in model number to "-NB15" and add **$37** to price.*

***Note:** Connection heads provided with nickel plated brass terminal blocks.*

*For lengths longer than 6", change "0600" in model number to the required length (12" = 1200, 9¼" = 0925) and add **$1** per additional inch to price.*

Ordering Example: TCS-TU-S-0600-D1-NB9W,** Type "T" ungrounded thermocouple, ¼" diameter, 6" length, with 1½" 16 AMP flange and NB9W white polypropylene screw cover head, **$95.

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-6 6342® 1-877-TC-OMEGA

NEW

Sanitary Thermistor Assemblies
Heavy-Duty with Protection Head

¾ NPT conduit connection

THS-10K-H-0300-D1-NB9W, $125, shown smaller than actual size.

**THS-H-NB9W Series
All Models**
$125

MADE IN USA

A3
74-03

For Complete Product Information and Dimensions. Visit omega.com/ths-h-nb9w

✔ **10k Thermistor Element (44006) Standard**
✔ **-80 to 150°C (-112 to 302°F) Temperature Range**

The OMEGA® THS-H-NB9W Series thermistor probe assemblies are available in the same housing styles as the THS-S-NB9W sensors except with a ⅜ to ³⁄₁₆" diameter stepped probe.

¾ to 4" Flanges Available. See Page 5 or Visit omega.com/tri-grip For Details

Element Options

Sensor Code	Resistance @ 25°C	Element Series
2K	2252 Ω	44004
3K	3000 Ω	44005
5K	5000 Ω	44007
30K	30,000 Ω	44008

☐ **MOST POPULAR MODEL HIGHLIGHTED!**

To Order *(Specify Model Number)*

Model Number	Price	Resistance at 25°C	Element Series	Interchangeability (0 to 70°C)	Sheath Dia.	Probe Length
THS-10K-H-0300-D1-NB9W	**$125**	10,000 Ω	44006	±0.2°C	¼"	3"
THS-10K-H-0400-D1-NB9W	125	10,000 Ω	44006	±0.2°C	¼"	4"
THS-10K-H-0500-D1-NB9W	125	10,000 Ω	44006	±0.2°C	¼"	5"
THS-10K-H-0600-D1-NB9W	125	10,000 Ω	44006	±0.2°C	¼"	6"

For lengths longer than 6", change **"0600"** in model number to the required length (eg, 12" = 1200, 9¼" = 0925) and add **$2.50** per inch to the price.
Optional protection heads: To order with **NB15** large 316 SS head, change model number suffix from **"-NB9W"** to **"-NB15"** and add **$37** to price.
Ordering Example: THS-10K-H-0400-D1-NB9W, 10,000 Ω thermistor sensor, 1½" 16 A Tri-Grip™ fitting, 4" length, heavy duty probe, NB9W white polypropylene screw cap protection head, **$125.**

Sanitary Thermocouple Assemblies
Heavy-Duty with Protection Head

½ NPT conduit connection

316L SS screw cover connection head.

**TCS-H-NB9W Series
All Models**
$125

MADE IN USA

A3
74-03

For Complete Product Information and Dimensions. Visit omega.com/tcs-h-nb9w

See Page 15 for Head Mounted Transmitter Options

TCS-TU-H-0300-D1-NB15, $162, shown smaller than actual size.

☐ **MOST POPULAR MODEL HIGHLIGHTED!**

✔ **Ungrounded J, K, T or E Thermocouple, Special Limits of Error**
✔ **-50 to 200°C (-58 to 392°F) Temperature Range**

¾ to 4" Flanges Available. See Page 5 or Visit omega.com/tri-grip For Details

To Order *(Specify Model Number)*

Model No.	Price	Thermocouple Calibration	Sheath Diameter**	Probe Length
TCS-(*)U-H-0300-D1-NB9W	**$125**	J, K, T or E	⅜"	3"
TCS-(*)U-H-0400-D1-NB9W	125	J, K, T or E	⅜"	4"
TCS-(*)U-H-0500-D1-NB9W	125	J, K, T or E	⅜"	5"
TCS-(*)U-H-0600-D1-NB9W	125	J, K, T or E	⅜"	6"

***** *Specify calibration: **J, K, T** or **E***
****** *⅜" diameter stepped down to ³⁄₁₆" at the probe tip.*

*Optional protection heads: To order with NB15 large stainless steel screw top head, change suffix **"-NB9W"** in model number to **"-NB15"** and add **$37** to price.*

Note: Connection heads provided with nickel plated brass terminal blocks.

*For lengths longer than 6", change **"0600"** in model number to the required length (12" = 1200, 9¼" = 0925) and add **$2.50** per additional inch to price.*

Ordering Example: TCS-TU-H-0600-D1-NB9W, Type "T" ungrounded thermocouple, heavy-duty design with ⅜" step-down diameter, 6" length, with 1½" 16 AMP flange and NB9W white polypropylene screw cover head, **$125.**

The OMEGA® TCS-H-NB9W Series thermocouple probe assemblies are available in the same housing styles as the TCS-S-NB9W sensors except with a ⅜ to ³⁄₁₆" diameter stepped probe.

NEW®

Rugged, Weatherproof, Wall Mounted Temperature Sensor Pt100 Class A Sensor in NEMA 4X (IP65) Enclosure

EWSE Series Starts at
$140

1 YEAR WARRANTY

ACCURACY IEC CLASS A (±0.15°C @ 0°C)

✔ **Designed for Indoor and Outdoor Use**
✔ **Screw Terminal Block for 4-Wire Pt100 Connection**
✔ **Optional Built in 4 to 20 mA Transmitter**
✔ **Rugged Sensor and Protection Tube Design**
✔ **Supplied with NEMA 4X (IP68) Cable Gland or Electrical Connection**

OMEGA's new air temperature sensors offer the perfect solution for temperature monitoring outdoors or in demanding environments.

A rugged 6 mm–diameter sheathed RTD probe is housed in the center of a 14 mm (0.551") outer protection tube which is drilled to improve airflow around the sensor. A 4-terminal connector block or 4 to 20 mA transmitter are housed in a tough aluminum alloy enclosure rated to NEMA 4X (IP65).

A cable gland is fitted on the left hand side of the enclosure, suitable for cables from 2.5 to 6.5 mm (0.098 to 0.25") diameter.

Specifications

Dimensions:
Box: 80 W x 75 H x 58 mm D (3 x 2.9 x 2.3")
Sensor: 75 mm long x 14 mm OD (2.9 x 0.55")
Cable Entry: NEMA 4X (IP68) gland for 2.5 to 6.5 mm (0.098 x 0.25") OD cable

OMEGA®

EWSE SERIES AIR TEMPERATURE SENSOR

Omega Engineering Inc.
One Omega Drive, Stamford CT 06907-0047
www.omega.com Tel: 800-826-6342

EWSE-PT100, $140, shown actual size.

Shown with customer installed wiring.

2.95"

Vent holes to improve airflow.

Weather Proof/Wall Mounted

EWSE-PT100:
Sensor Type: Thin film Pt100 class A 4 wire
Ambient Temperature Range: -50 to 100°C (-58 to 212°F)
Electrical Connection: Screw terminal block

EWSE-PT100-TX:
Ambient Temperature Range: -40 to 85°C (-40 to 185°F) at 10 to 90% RH non condensing
Standard Transmitter Scaling: 4 mA -25°C (-13°F), 20 mA at 75°C
Electrical Connection: Screw terminals, 2-wire

Power Supply: 10 to 30 Vdc, loop powered
Maximum Output Load: [(V supply-10)/20] kΩ eg 700Ω @ 24V

AVAILABLE FOR FAST DELIVERY!

To Order (Specify Model Number)

Model No.	Price	Description
EWSE-PT100	**$140**	External air temperature assembly, 4-wire RTD
EWSE-PT100-TX	208	External air temperature assembly with 2-wire 4 to 20 mA transmitter
FS20	32	Factory scaling charge for non-standard temperature range on 4 to 20 mA output models
TX4-100	35	Multi-conductor hook-up wire, 100' spool

Other probe lengths available on request. Contact sales to discuss your specific requirements.
Ordering Example: EWSE-PT100, air temperature sensor, **$140.**

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-6 6 3 4 2® 1-877-TC-OMEGA
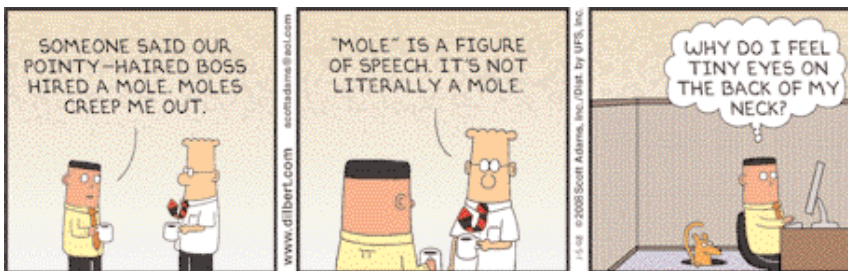
Dilbert © United Feature Syndicate

Sanitary RTD Probes
Standard and Heavy-Duty with M12 Connector

**PRS-S-M12 Series
All Models
$110**

**PRS-H-M12 Series
All Models
$140**

MADE IN USA

See Page 7

74-03

Standard-duty model shown.

Sanitary Thermistor Probes
Standard and Heavy-Duty with M12 Connector

74-03

**THS-S-M12 Series
All Models
$110**

See Page 8

MADE IN USA

Heavy-duty model shown.

**THS-H-M12 Series
All Models
$140**

Sanitary RTD Assemblies
Standard and Heavy-Duty with Protection Head

**PRS-S-NB9W Series
All Models
$95**

**PRS-H-NB9W Series
All Models
$125**

See Page 9

MADE IN USA

74-03

Standard-duty model shown.

NEW

Thermocouple Transmitters
Used with NB9W White Polypropylene and NB15 Stainless Steel Connection Heads

↳ **Mount Directly Inside the NB9W Polypropylene and NB15 Stainless Steel Connection Head**

↳ **4 to 20 mA Output Proportional to Temperature**

↳ **Some Models Field Adjustable or Field Programmable**

All models shown smaller than actual size.

TX93A Series

CE

MADE IN USA
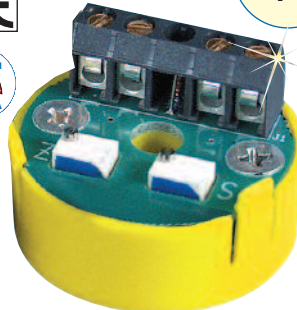
Starts at **$74**

Visit **omega.com/tx93a_tx94a**

TX13

CE

Starts at **$95**

Visit **omega.com/tx13**

TX250 Series

RoHS

Starts at **$119**

Visit **omega.com/tx250**

TX900 Series

RoHS

MADE IN USA

Starts at **$173**

Visit **omega.com/tx900**

TX31 Series

RoHS

Starts at **$195**

Visit **omega.com/tx31**

MOST POPULAR MODELS HIGHLIGHTED!

To Order *(Specify Model Number)*

Model No.	Price	Input Voltage	Accuracy	Operating Temperature	Isolation	Range
TX13	$95	10 to 30 Vdc	±0.5°C or ±0.01%	-40 to 85°C	Yes (250 Vdc)	Pushbutton configurable
TX251	119	10 to 36 Vdc	<0.1% of span (±0.9°C CJC)	-20 to 70°C	No	Dip switches(*)
TX31	195	12 to 32 Vdc	0.1% of voltage input span (±2°C CJC)	-20 to 70°C	Yes (1000 Vrms)	Dip switches(*)
TX901	173	9 to 35 Vdc	0.1% of span	-25 to 85°C	No	Dip switches(*)
TX903	240	9 to 35 Vdc	0.1% of span	-25 to 85°C	Yes (500 Vrms)	Dip switches(*)
TX91-(**)	173	11 to 44 Vdc	0.1% of full scale	-32 to 85°C	No	Fixed(*)
TX93-(**)	97	8 to 35 Vdc	0.1% of span	-25 to 85°C	No	Fixed(*)
TX91A-(**)	99	8 to 50 Vdc	0.1% of span	-40 to 85°C	No	Fixed(*)
TX93A-(**)	74	8 to 35 Vdc	0.1% of span	-25 to 85°C	No	Fixed(*)

(*) Zero and span trim pots. TX91, TX93, TX91A and TX93A must have thermocouple type and range specified, see specific web addresses listed above for these transmitters.

(**) Specify sensor calibration and range, see individual web pages listed above for selections.

Note: Add transmitter model number to the end of the sensor model number. Transmitter will be installed into the connection head before shipment. If ranging is needed please specify range at time of order.

Ordering Examples: TCS-TU-H-0300-D1-NB9W-TX13, heavy duty 3" long stepped Type "T" ungrounded thermocouple probe assembly with 1½" 16 Amp mounting flange, **NB9W** connection head with programmable **TX13** transmitter, $125 + 95 = **$220.**

TCS-TU-S-0600-D1-NB9W-TX93A-T3, standard duty 6" long Type "T" ungrounded thermocouple probe assembly with 1½" 16 Amp mounting flange, **NB9W** connection head with **TX93A** transmitter ranged from 0 to 300°F, $95 + 74 = **$169.**

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-6 6342® 1-877-TC-OMEGA

RTD Transmitters
Used with NB9W White Polypropylene and NB15 Stainless Steel Connection Heads

✔ **Mount Directly Inside the NB9W Polypropylene and NB15 Stainless Steel Connection Head**
✔ **4 to 20 mA Output Proportional to Temperature**
✔ **Some Models Field Adjustable or Field Programmable**
✔ **Non-Isolated**

All models shown smaller than actual size.

TX12
RoHS
Starts at **$75**

Visit **omega.com/tx12**

TX33
CE
Starts at **$95**

Visit **omega.com/tx33**

TX92A-1 Series
CE
MADE IN USA
Starts at **$99**

Visit **omega.com/tx91a_92a**

TX254 Series
RoHS
Starts at **$119**

Visit **omega.com/tx250**

TX92G-2 Series
CE
Starts at **$159**

Visit **omega.com/tx92g**

☐ *MOST POPULAR MODELS HIGHLIGHTED!*

To Order *(Specify Model Number)*

Model No.	Price	Input Voltage	Accuracy	Operating Temperature	Range
TX12	$75	10 to 30 Vdc	0.1°C±.05% of span	-40 to 85°C	Pushbutton configurable
TX254	119	10 to 36 Vdc	<0.1% of span	-20 to 70°C	Dip switches (*)
TX33	95	10 to 32 Vdc	0.1°C ±0.15% of span	-40 to 85°C	Dip switches (*)
TX904-1	173	9 to 35 Vdc	0.1% of full scale	-25 to 85°C	Dip switches (*)
TX92A-1	99	8 to 50 Vdc	0.1% of full scale	-40 to 85°C	-40 to 60°C (*)(**)
TX92A-2	99	8 to 50 Vdc	0.1% of full scale	-40 to 85°C	Fixed 0 to 200°F (*)(**)
TX92A-3	99	8 to 50 Vdc	0.1% of full scale	-40 to 85°C	Fixed 0 to 300°F (*)(**)
TX92A-4	99	8 to 50 Vdc	0.1% of full scale	-40 to 85°C	Fixed 0 to 500°F (*)(**)
TX92A-7	99	8 to 50 Vdc	0.1% of full scale	-40 to 85°C	Fixed 0 to 100°C (*)(**)
TX92A-8	99	8 to 50 Vdc	0.1% of full scale	-40 to 85°C	Fixed 0 to 150°C (*)(**)
TX92A-9	99	8 to 50 Vdc	0.1% of full scale	-40 to 85°C	Fixed 0 to 250°C (*)(**)
TX92G-1	159	9 to 42 Vdc	0.1% of full scale	-40 to 85°C	-40 to 120°F (*)
TX92G-2	159	9 to 42 Vdc	0.1% of full scale	-40 to 85°C	Fixed 0 to 200°F (*)
TX92G-3	159	9 to 42 Vdc	0.1% of full scale	-40 to 85°C	Fixed 0 to 300°F (*)
TX92G-4	159	9 to 42 Vdc	0.1% of full scale	-40 to 85°C	Fixed 0 to 500°F (*)

(*) *Zero and span trim pots.* **(**)** *add "-L" for linearized RTD option at same price.*

Note: *Add transmitter model number to the end of the sensor model number. Transmitter will be installed into the connection head before shipment. If ranging is needed please specify range at time of order.*

Ordering Examples: PRS-3-100-A-H-0300-D1-NB9W-TX12, *heavy-duty 3" long stepped RTD probe assembly with 1½" 16 Amp mounting flange, NB9W connection head with programmable TX12 transmitter, $125 + 75 =* **$200.**

PRS-3-100-A-S-0600-D1-NB9W-TX92A-4, *standard duty 6" long RTD probe assembly with 1½" 16 Amp mounting flange, NB9W connection head with TX92A transmitter ranged from 0 to 500°F, $95 + 99 =* **$194.**

Sanitary RTD Probes
Standard and Heavy-Duty with Integral Cable

NEW

PRS-S-CB-120 Series
All Models
$120

PRS-H-CB-120 Series
All Models
$150

MADE IN USA

✔ **Standard and Heavy-Duty Probe Diameter**
✔ **1½" 16 AMP Tri-Grip™ (Tri-Clamp® Compatible) Fitting Standard**
✔ **120" (10') PFA Insulated Cable with Strain Relief**
✔ **316L SS Wetted Surfaces 32 μin or Better Finish**
✔ **4-Wire Pt100 Class A Element Standard**
✔ **-50 to 200°C (-58 to 392°F) Temperature Range**
✔ **Stripped Wire Leads Standard, Optional Connectors are Available**

Options

✔ **Fitting Styles**
✔ **Probe Lengths**
✔ **RTD Elements**
✔ **Cable Lengths**

Sensor Flange Size Range ¾ to 4" Tri-Grip™ Process Flange. See Page 5 or Visit omega.com/tri-grip for Details

The OMEGA® PRS-S-CB-120 series RTD probes are available in standard lengths from 3 to 6", with a 4-wire Pt100 Class A element (100 ± 0.06 Ω at 0°C) that is compatible with 2-, 3-, or 4-wire RTD instrumentation. Standard features include a 1½" 16 AMP Tri-Grip™ fitting and 120" (10') of PFA insulated and jacketed cable with strain relief. Please consult sales for available options, including element types and curves, probe and cable lengths, and sanitary fitting styles. See next page for thermistor, or thermocouple models.

For Use in CIP and Sanitary Processes

2"

120" of 4-conductor #26 AWG stranded nickel plated copper, PFA insulated and jacketed cable standard.

Integral cable with nylon cable clamp.

PRS-3-100-A-S-0300-D1-CB-120, $120, shown actual size.

¾"

32 μin Finish

Probe length (¼" dia)

316L SS 1½" 16 AMP Tri-Grip™ cap standard.

Heavy-Duty Stepped Probe Stem for Added Strength

⅜" dia

³⁄₁₆" dia

PRS-3-100-A-H-0300-D1-CB-120 heavy-duty design, with ⅜ to ³⁄₁₆" diameter stepped probe, $150.

— RED
— RED

— WHITE
— WHITE

Cable and Connection Head Style Sensors

MOST POPULAR MODELS HIGHLIGHTED!

Standard

To Order *(Specify Model Number)*

Model No.	Price	Lead Wire Style	Ω at 0°C	Sheath Diameter	Probe Length
PRS-3-100-A-S-0300-D1-CB-120	**$120**	4-wire	100	¼"	3"
PRS-3-100-A-S-0400-D1-CB-120	**120**	4-wire	100	¼"	4"
PRS-3-100-A-S-0500-D1-CB-120	**120**	4-wire	100	¼"	5"
PRS-3-100-A-S-0600-D1-CB-120	**120**	4-wire	100	¼"	6"

Heavy-Duty

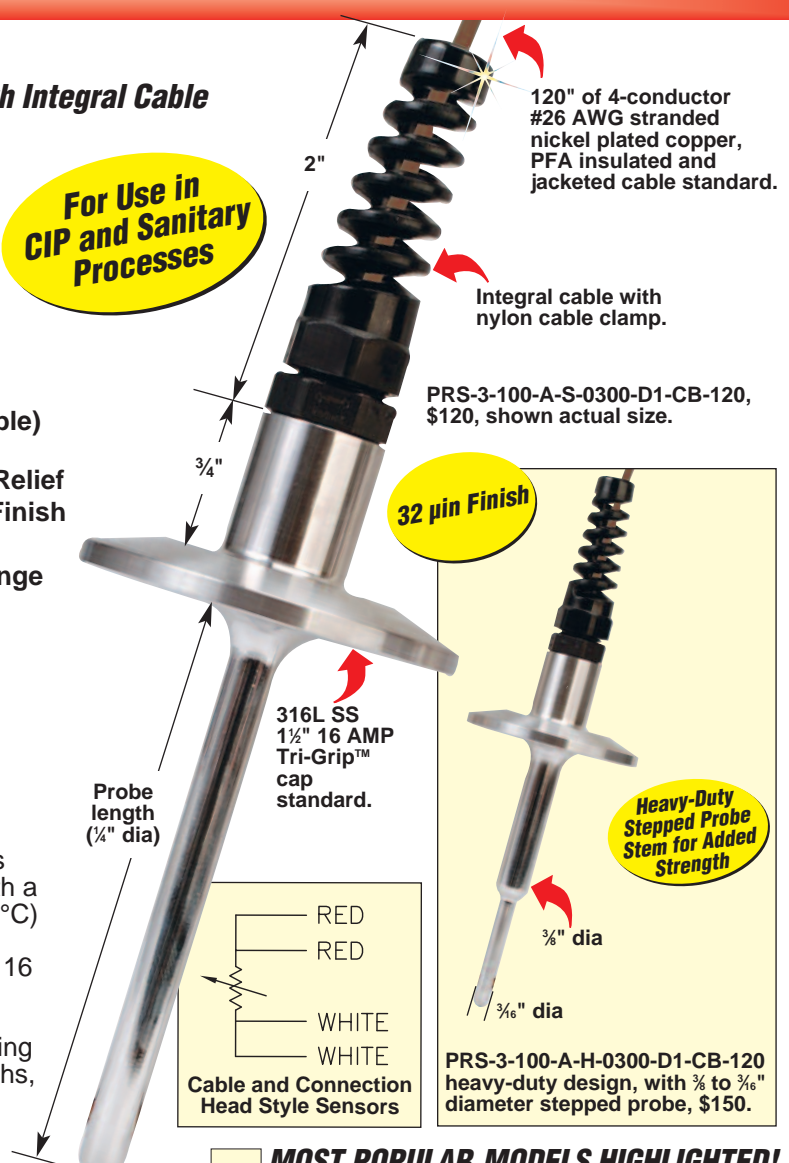| Model No.	Price	Lead Wire Style	Ω At 0°C	Sheath Diameter	Probe Length
PRS-3-100-A-H-0300-D1-CB-120	**$150**	4-wire	100	⅜ to ³⁄₁₆"	3"
PRS-3-100-A-H-0400-D1-CB-120	**150**	4-wire	100	⅜ to ³⁄₁₆"	4"
PRS-3-100-A-H-0500-D1-CB-120	**150**	4-wire	100	⅜ to ³⁄₁₆"	5"
PRS-3-100-A-H-0600-D1-CB-120	**150**	4-wire	100	⅜ to ³⁄₁₆"	6"

To order with longer cable lengths, change model number suffix from "-120" to desired length in inches, and add $1 per add'l foot to price.
For probe lengths longer than 6", change "0600" in model number to the required length (eg: 12" = 1200, 9¼" = 0925) and add $1 per inch for standard duty and $2.50 per inch for heavy duty probes.
Please consult sales for available options, including element types and curves, probe lengths, and sanitary fitting styles.
Ordering Examples: PRS-3-100-A-S-0400-D1-CB-120,** 4-wire Pt100 RTD sensor (100 Ω @ 0°C, Class A accuracy), 1½" 16 AMP Tri-Grip™ fitting, 4" length, standard duty probe, 120" (10') PFA insulated/jacketed cable, **$120.
PRS-3-100-A-H-0400-D1-CB-120,** 4-wire Pt100 RTD sensor (100 Ω @ 0°C, Class A accuracy), 1½" 16 AMP Tri-Grip™ fitting, 4" length, heavy-duty probe, 120" (10') PFA insulated/jacketed cable, **$150.

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS
1-877-82-6 6 3 4 2®
1-877-TC-OMEGA®

NEW

Sanitary Thermistor Probes
Standard Duty with Integral Cable

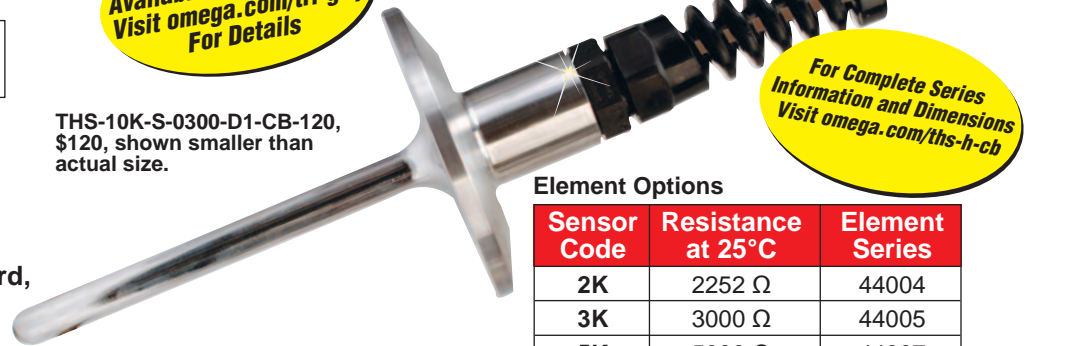**THS-S-CB-120 Series**
All Models

$120

MADE IN USA

✔ **10k Thermistor Element (44006) Standard**

✔ **-80 to 150°C (-112 to 302°F) Temperature Range**

✔ **Stripped Wire Leads Standard, Optional Connectors are Available**

The OMEGA® THS-H-CB-120 Series thermistor probe assemblies are available in standard lengths from 3 to 6", with standard 10kΩ (44006) thermistor element.

¾ to 4" Flanges Available. See Page 5 or Visit omega.com/tri-grip For Details

THS-10K-S-0300-D1-CB-120, $120, shown smaller than actual size.

For Complete Series Information and Dimensions Visit omega.com/ths-h-cb

Standard features include a 1½" 16 AMP Tri-Grip™ fitting and 120" (10') of PFA insulated and jacketed cable with strain relief.

Element Options

Sensor Code	Resistance at 25°C	Element Series
2K	2252 Ω	44004
3K	3000 Ω	44005
5K	5000 Ω	44007
30K	30,000 Ω	44008

For other thermistor elements, change the model number from "10K" to the desired sensor code as shown in the table above, no additional cost.

MOST POPULAR MODEL HIGHLIGHTED!

To Order *(Specify Model Number)*

Model No.	Price	Resistance at 25°C	Element Series	Interchangeability (0 to 70°C)	Sheath Diameter	Probe Length
THS-10K-S-0300-D1-CB-120	$120	10,000 Ω	44006	±0.2°C	¼"	3"
THS-10K-S-0400-D1-CB-120	120	10,000 Ω	44006	±0.2°C	¼"	4"
THS-10K-S-0500-D1-CB-120	120	10,000 Ω	44006	±0.2°C	¼"	5"
THS-10K-S-0600-D1-CB-120	120	10,000 Ω	44006	±0.2°C	¼"	6"

For probe lengths longer than 6", change *"-0600"* in model number to the required length (example: 12" = *"-1200"*, 9¼" = *"-0925"*) and add **$1** per inch to price.

For cable lengths longer than 120" (10'), change the *"-120"* in model number to the desired length in inches, and add **$1** per additional foot to price.

Ordering Examples: THS-10K-S-0400-D1-CB-120, *10,000 Ω thermistor sensor, 1½" 16 AMP Tri-Grip™ fitting, 4" length, standard duty probe, 120" (10') PFA insulated/jacketed cable, **$120**.*

THS-10K-S-0400-D1-CB-144, *10,000 Ω thermistor sensor, 1½" 16 AMP Tri-Grip™ fitting, 4" length, standard duty probe, 144" (12') PFA insulated/jacketed cable, $120 + (2 x 1) = **$122**.*

Sanitary Thermocouple Assemblies
Standard Duty with Integral Cable

TCS-S-CB-120 Series
All Models

$120

MADE IN USA

¾ to 4" Flanges Available. See Page 5 or Visit omega.com/tri-grip For Details

TCS-TU-S-0300-D1-CB-120, $120, shown smaller than actual size.

For Complete Series Information and Dimensions Visit omega.com/tcs-h-cb

✔ **Ungrounded J, K, T or E Thermocouple, Special Limits of Error**

✔ **-50 to 200°C (-58 to 392°F) Temperature Range**

✔ **Stripped Wire Leads Standard, Optional Connectors are Available**

The OMEGA® TCS-S-CB-120 Series thermocouple probe assemblies are available in standard lengths from 3 to 6", with an ungrounded thermocouple probe. Standard features include a 1½" 16 AMP Tri-Grip™ fitting, and 120" (10') of PFA insulated and jacketed cable with strain relief.

MOST POPULAR MODEL HIGHLIGHTED!

To Order *(Specify Model Number)*

Model No.	Price	Thermocouple Calibration	Sheath Diameter	Probe Length
TCS-(*)U-S-0300-D1-CB-120	$120	J, K, T or E	¼"	3"
TCS-(*)U-S-0400-D1-CB-120	120	J, K, T or E	¼"	4"
TCS-(*)U-S-0500-D1-CB-120	120	J, K, T or E	¼"	5"
TCS-(*)U-S-0600-D1-CB-120	120	J, K, T or E	¼"	6"

* *Specify calibration: **J, K, T** or **E***

To order with longer cable lengths, change model number suffix from *"-120"* to desired length in inches, and add **$1** per additional foot to price.

For lengths longer than 6", change *"0600"* in model number to the required length (12" = 1200, 9¼" = 0925) and add **$1** per additional inch to price.

Ordering Example: TCS-TU-S-0600-D1-CB-120, *Type "T" ungrounded thermocouple, ¼" diameter, 6" length, with 1½" 16 AMP flange and 120" (10') cable with molded strain relief, **$120**.*

NEW

Sanitary Thermistor Probes
Heavy-Duty with Integral Cable

THS-H-CB-120 Series
All Models
$150

MADE IN **USA**

¾ to 4" Flanges Available. See Page 5 or Visit omega.com/tri-grip For Details

For Complete Series Information and Dimensions Visit omega.com/ths-h-cb

THS-10K-H-0300-D1-CB-120, $150, shown smaller than actual size.

✔ **10k Thermistor Element (44006) Standard**
✔ **-80 to 150°C (-112 to 302°F) Temperature Range**
✔ **Stripped Wire Leads Standard, Optional Connectors are Available**

The OMEGA® THS-H-CB-120 Series thermistor probe assemblies are available in the same housing styles as the THS-S-CB sensors except with a ⅜ to ³⁄₁₆" diameter stepped probe. 10kΩ (44006) thermistor standard.

Other thermistor options are available, see table for resistances. Thermistor versions are supplied with 2-conductor PFA insulated and jacketed extension cables.

Element Options

Sensor Code	Resistance at 25°C	Element Series
2K	2252 Ω	44004
3K	3000 Ω	44005
5K	5000 Ω	44007
30K	30,000 Ω	44008

For other thermistor elements, change the model number from "10K" to the desired sensor code as shown in the table above, no additional cost.

MOST POPULAR MODEL HIGHLIGHTED!

To Order *(Specify Model Number)*

Model No.	Price	Resistance at 25°C	Element Series	Interchangeability (0 to 70°C)	Sheath Diameter	Probe Length
THS-10K-H-0300-D1-CB-120	$150	10,000 Ω	44006	±0.2°C	¼"	3"
THS-10K-H-0400-D1-CB-120	150	10,000 Ω	44006	±0.2°C	¼"	4"
THS-10K-H-0500-D1-CB-120	150	10,000 Ω	44006	±0.2°C	¼"	5"
THS-10K-H-0600-D1-CB-120	150	10,000 Ω	44006	±0.2°C	¼"	6"

For probe lengths longer than 6", change "-0600" in model number to the required length (example: 12" = "-1200", 9¼" = "-0925") and add $2.50 per inch to price.
For cable lengths longer than 120" (10'), change the "-120" in model number to the desired length in inches, and add $1 per additional foot to price.
Ordering Examples: THS-10K-H-0400-D1-CB-120, 10,000 Ω thermistor sensor, 1½" 16 AMP Tri-Grip™ fitting, 4" length, heavy-duty probe, 120" (10') PFA insulated/jacketed cable, $150.
***THS-10K-H-0400-D1-CB-144,** 10,000 Ω thermistor sensor, 1½" 16 AMP Tri-Grip™ fitting, 4" length, heavy-duty probe, 144" (12') PFA insulated/jacketed cable, $150 + (2 x 1) = $152.*

Sanitary Thermocouple Assemblies
Heavy-Duty with Integral Cable

TCS-H-CB-120 Series
All Models
$150

MADE IN **USA**

¾ to 4" Flanges Available. See Page 5 or Visit omega.com/tri-grip For Details

For Complete Series Information and Dimensions Visit omega.com/tcs-h-cb

TCS-TU-H-0300-D1-CB-120, $150, shown smaller than actual size.

✔ **Ungrounded J, K, T or E Thermocouple, Special Limits of Error**
✔ **-50 to 200°C (-58 to 392°F) Temperature Range**
✔ **Stripped Wire Leads Standard, Optional Connectors are Available**

The OMEGA® TCS-H-CB-120 Series thermocouple probe assemblies are available in the same housing styles as the TCS-S-CB-120 sensors except with a ⅜ to ³⁄₁₆" diameter stepped probe. Thermocouple versions are supplied with PFA insulated thermocouple wire to maintain the thermocouple materials to the instrumentation connection.

MOST POPULAR MODEL HIGHLIGHTED!

To Order *(Specify Model Number)*

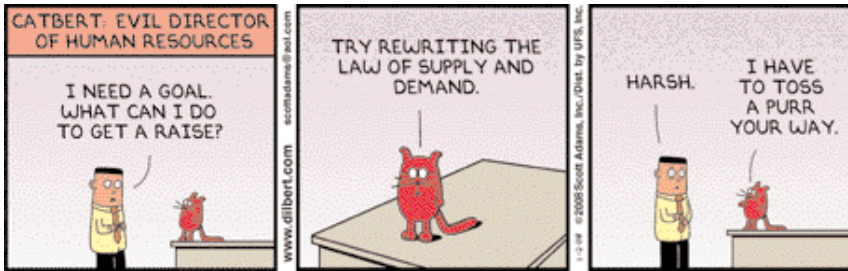| Model No.	Price	Thermocouple Calibration	Sheath Diameter	Probe Length
TCS-(*)U-H-0300-D1-CB-120	$150	J, K, T or E	⅜ to ³⁄₁₆"	3"
TCS-(*)U-H-0400-D1-CB-120	150	J, K, T or E	⅜ to ³⁄₁₆"	4"
TCS-(*)U-H-0500-D1-CB-120	150	J, K, T or E	⅜ to ³⁄₁₆"	5"
TCS-(*)U-H-0600-D1-CB-120	150	J, K, T or E	⅜ to ³⁄₁₆"	6"

*** Specify calibration: *J, K, T or E***
For lengths longer than 6", change "0600" in model number to the required length (12" = 1200, 9¼" = 0925) and add $2.50 per additional inch to price.
Ordering Example: TCS-TU-H-0600-D1-CB-120, Type "T" ungrounded thermocouple, heavy-duty design with ⅜" step-down diameter, 6" length, with 1½" 16 AMP flange and 120" (10') cable with molded strain relief, $150.

Sanitary product line continues to expand, visit **omega.com/sanitary** for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-6 6 3 4 2®
1-877-TC-OMEGA

Rugged, Weatherproof, Wall Mounted Temperature Sensor
Pt100 Class A Sensor in NEMA 4X (IP65) Enclosure

EWSE Series Starts at
$140

Shown with customer installed wiring.

See Page 13

Weather Proof/Wall Mounted

Thermocouple and RTD Transmitters
Used with NB9W White Polypropylene and NB15 Stainless Steel Connection Heads

TX Series Starts at
$74

See Pages 15 and 16

Sanitary RTD Probes
Standard and Heavy-Duty with Integral Cable

PRS-S-CB-120 Series
All Models
$120

PRS-H-CB-120 Series
All Models
$150

MADE IN USA

Heavy-duty model shown.

See Page 17

For Sales and Service, Call Toll-Free:
1-800-82-66342®
1-800-TC-OMEGA
U.S.A. and Canada

Sales: FAX (Toll-Free)
1-877-FAX-OMEG(A)
24 HOURS

20

NEW

Sanitary RTD Assemblies Spring Loaded Design with Sanitary Thermowell

PRS-TW-M12 Series Starts at

$180

MADE IN USA

Allows Sensor Removal/Calibration Without Disturbing Your Clean-In-Place System

✔ **Removable Spring Loaded Probe in Well for Good Thermal Response**
✔ **1½" 16 AMP Tri-Grip™ (Tri-Clamp® Compatible) Fitting**
✔ **Standard Insertion Lengths of 1⅝, 2½, 4½, 7½, 10½"**
✔ **4-Wire M12 Male Connector**
✔ **316L SS Thermowell with 32 µin or Better Finish on Wetted Parts**
✔ **4-Wire Pt100 Class A Element Standard**
✔ **-50 to 200°C (-58 to 392°F) Temperature Range**

Options
✔ **Fitting Styles**
✔ **RTD Elements**

Sensor Flange Size Range ¾ to 4" Tri-Grip™ Process Flange. See Page 5 or Visit omega.com/tri-grip for Details

The OMEGA® PRS-TW-M12 series RTD probes are spring loaded into a sanitary thermowell, with a ½ x ½ NPT fitting for easy removal. These probes feature a 4-wire Pt100 Class A element (100 ±0.06 Ω at 0°C) that is compatible with 3-wire RTD instrumentation.

Please consult sales for available options, including element types and curves, probe lengths, and sanitary fitting styles.

M12 male connection plug.

PRS-3-100-A-TW-0250-D1-M12, $195, shown smaller than actual size.

1½"

M12C-PVC-4-S-F-5, mating cable sold separately, $15.50. See page 68 or visit omega.com/m12c for optional extension cables.

½ NPT fitting spring loads sensor in thermowell.

1½"

316L SS 1½" 16 AMP Tri-Grip™ cap standard.

32 µin Finish

Insertion length

M12 Connector Style Sensors

Standard well features include a 0.5" dia. stem (0.75" stepped down for insertion lengths over 2.5") stem with a 0.260" bore diameter. See the S-260 series thermowells on page 67 or visit **omega.com/s-260_s-385** for complete well dimensions.
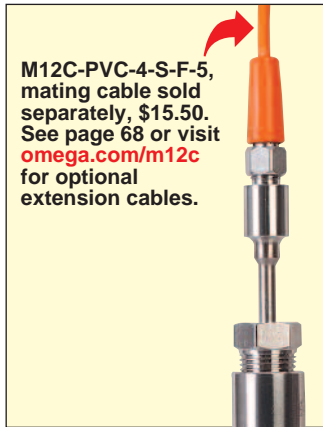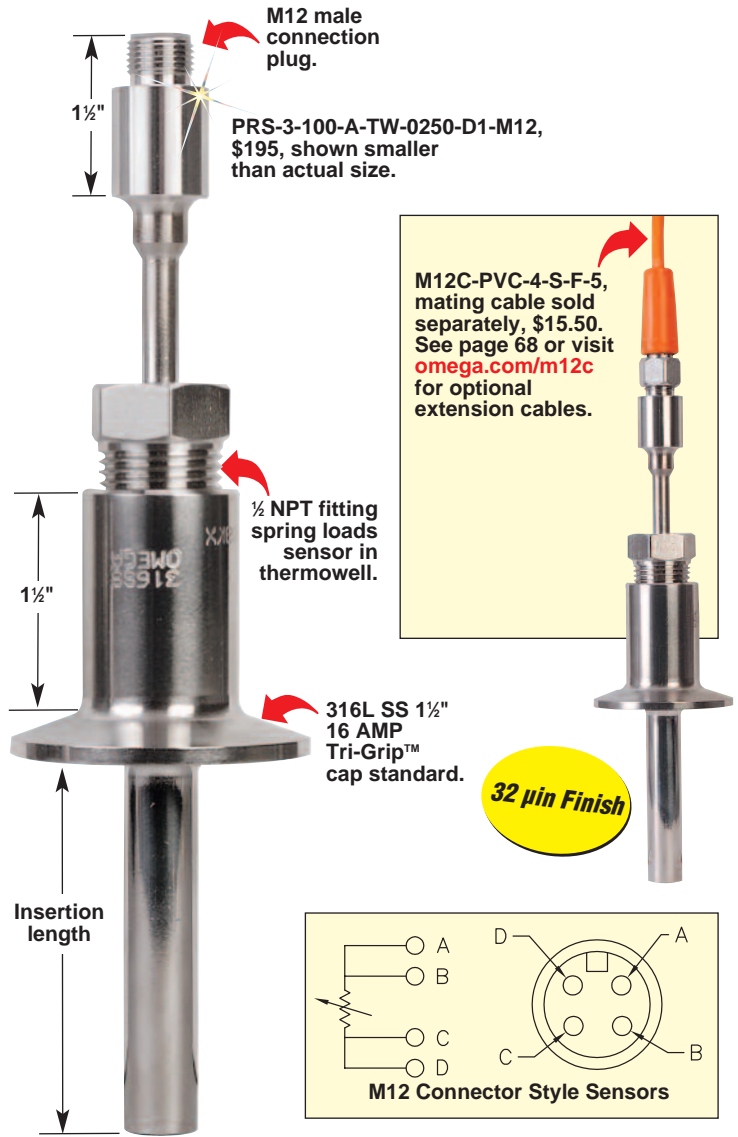
MOST POPULAR MODEL HIGHLIGHTED!

To Order *(Specify Model Number)*

Model No.	Price	Lead Wire Style	Ω at 0°C	Well Stem Length	Insertion Length	Shank Diameter
PRS-3-100-A-TW-0163-D1-M12	$180	4-wire	100	2½"	1⅝"	½"
PRS-3-100-A-TW-0250-D1-M12	195	4-wire	100	4"	2½"	½"
PRS-3-100-A-TW-0450-D1-M12	215	4-wire	100	6"	4½"	¾" step to ½"
PRS-3-100-A-TW-0750-D1-M12	240	4-wire	100	9"	7½"	¾" step to ½"
PRS-3-100-A-TW-1050-D1-M12	260	4-wire	100	12"	10½"	¾" step to ½"

See page 68 for M12C series cables with M12 connectors. Please consult sales for available options, including element types and curves, probe lengths, and sanitary fitting styles.

Ordering Examples: PRS-3-100-A-TW-0450-D1-M12, *4-wire Pt100 RTD sensor (100 Ω @ 0°C, Class A accuracy) M12 4-wire male connector, spring loaded in a 1½" 16 AMP fitting thermowell with 6" stem length/4½" insertion length,* **$215.**

PRS-3-100-A-TW-0750-D1-M12, *4-wire Pt100 RTD sensor (100 Ω @ 0°C, Class A accuracy) M12 4-wire male connector, spring loaded in a 1½" 16 AMP fitting thermowell with 9" stem length/7½" insertion length,* **$240.**

NEW

Standard and Heavy-Duty Sanitary Probes
With Integral Transmitter and M12 Connector

PRS-S-TMM12 Series
All Models
$225

PRS-H-TMM12 Series
All Models
$250

MADE IN USA
A3 74-03

See page 68 or visit **omega.com/m12c** for M12C cable assemblies.

- ✔ **Two Standard Transmitter Ranges Between -40 and 93°C (-40 to 200°F)**
- ✔ **Standard Duty ¼" Dia Probe (3 to 6" Lengths Standard)**
- ✔ **Heavy-Duty with Stepped Stem for Additional Strength**
- ✔ **1½" 16 AMP Tri-Grip™ (Tri-Clamp® Compatible) Fitting Standard**
- ✔ **4 to 20 mA Output Proportional to Temperature**
- ✔ **Supply Voltage 8 to 35 Vdc (24 Vdc Recommended)**
- ✔ **4-Pin M12 Male Connector Standard**
- ✔ **316L SS Wetted Surfaces with 32 µin or Better Surface Finish**
- ✔ **-50 to 200°C (-58 to 392°F) Sensing Temperature [85°C (185°F) Max at Connector End]**

Options
- ✔ **Fitting Styles and Sizes**
- ✔ **Probe Lengths**
- ✔ **Transmitter Output Ranges**

The OMEGA® PRS-H-TMM12 Series probes are identical to the PRS-S-M12 probes except for the addition of a built-in 4 to 20 mA transmitter inside the housing. This eliminates the need for a separate transmitter when a 4 to 20 milliamp signal is required for your instrumentation. The housing cover is removable, allowing for adjustment of the transmitters zero and span settings.

M12 Connector Style Sensors
4-pin male M12 connector
Pin no. 1 = Input (+)
Pin no. 3 = Signal (-)

7/8"   1½"   1¾"
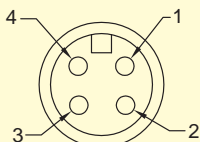
316L SS 1½" 16 AMP Tri-Grip cap standard.

Sensor Flange Size Range ¾ to 4" Tri-Grip™ Process Flange. See Page 5 or Visit omega.com/tri-grip for Details

Probe length

¼" dia

PRS-S-0400-D1-TM2M12, $225, shown smaller than actual size.

Heavy-Duty Stepped Probe Stem for Added Strength

PRS-H-0300-D1-TM2M12, ⅜ to ³⁄₁₆" diameter stepped probe, $250.

3-A Approved, Standard Duty with Built-In 4 to 20 mA Transmitter

4-pin male M12 connector end shown actual size.

Standard

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Model Number	Price	Sheath Diameter	Probe Length
PRS-S-0300-D1-TM(*)M12	$225	¼"	3"
PRS-S-0400-D1-TM(*)M12	225	¼"	4"
PRS-S-0500-D1-TM(*)M12	225	¼"	5"
PRS-S-0600-D1-TM(*)M12	225	¼"	6"

Heavy-Duty

Model Number	Price	Sheath Diameter	Probe Length
PRS-H-0300-D1-TM(*)M12	$250	⅜ to ³⁄₁₆"	3"
PRS-H-0400-D1-TM(*)M12	250	⅜ to ³⁄₁₆"	4"
PRS-H-0500-D1-TM(*)M12	250	⅜ to ³⁄₁₆"	5"
PRS-H-0600-D1-TM(*)M12	250	⅜ to ³⁄₁₆"	6"

* Insert transmitter temperature range, **"1"** for -40 to 49°C (-40 to 120°F), or **"2"** for -18 to 93°C (0 to 200°F).

Please consult sales for other flange diameters, styles and probe lengths.

Ordering Examples: PRS-S-0300-D1-TM2M12, ¼" diameter, 3" long probe with 1½" 16 AMP Tri-Grip™ flange, transmitter ranged from -18 to 93°C (0 to 200°F) and M12 connector, **$225.**

PRS-H-0300-D1-TM2M12, heavy-duty 3" long stepped diameter probe with 1½" 16 AMP Tri-Grip™ flange, transmitter ranged from -18 to 93°C (0 to 200°F) with M12 connector, **$250.**

Connector/Transmitter
For Sanitary Pt100 Probes with M12 Connector Splash-Proof Body and Integral Cable
The Smart Connector™

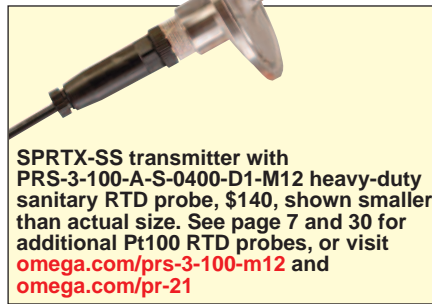**Built-In Transmitter Housing!**

SPRTX-SS1-M12, $95, shown actual size.

U.S. Pat. No 7,259,686

M12 female 4-pin connector

SPRTX-SS Series All Models
$95

MADE IN USA · **1 YEAR WARRANTY** · **NIST** · **CE**

Optional†

SPRTX-SS transmitter with PRS-3-100-A-S-0400-D1-M12 heavy-duty sanitary RTD probe, $140, shown smaller than actual size. See page 7 and 30 for additional Pt100 RTD probes, or visit omega.com/prs-3-100-m12 and omega.com/pr-21

✔ **Miniature Design Attaches Directly to Pt100 Sensors with M12 Connector**
✔ **2-Wire, 4 to 20 mA Output**
✔ **±0.5% FS Accuracy**
✔ **Upscale Break Protection**
✔ **Encapsulated Signal Conditioner with Water Tight Connector Housing**
✔ **Integral 4 m (12') Cable with Stripped Leads on One End**

The SPRTX-SS temperature transmitters are high performance low cost industrial transmitters designed for direct connection to most CIP (clean-in-place) sanitary Pt100 probes with an M12 style connection. The SPRTX-SS transmitter attaches directly to a Pt100 probe with an M12 connection, such as the OMEGA® PRS-S-M12 Series, and PR-21 Series probes provide a standard 4 to 20 mA output signal.

Specifications
Supply Voltage:
  9 to 24 Vdc: @ 30 mA max
  8 to 35 Vdc: NEMA 4 enclosures recommended for external power supply in washdown, outdoor or other wet environments
Max Loop Resistance:
$(V_s – 9V) / 0.020 A$
Output Range: Linearized 4 to 20 mA dc over specified input range
Accuracy: ±0.5% FS @ 23°C (73°F)
Repeatability: ±0.25°C (0.5°F)
Temperature Effect: ±0.00022 mA/°C (0.00012 mA/°F)
Input: RTD, Pt100 (0.00385 curve), 3 or 4-wire; M12 4-pin female connector
Ambient Temperature: -40 to 85°C (-40 to 185°F)
Probe/Sensor Connection: M12 style, 4-pin female
Output Connection: Integral 2-wire shielded polyurethane cable, 4 m (12')
Approvals: CE marked
Dimensions: 76 L x 20 mm Dia (3.0 x 0.8") without cable
Weight: 110 g (0.25 lb) max, with cable

☐ MOST POPULAR MODEL HIGHLIGHTED!

To Order *(Specify Model Number)*

Model No.	Price	Input Range	
SPRTX-SS1-M12	**$95**	-99 to 208°C	-146 to 406°F
SPRTX-SS2-M12	95	2 to 569°C	36 to 1056°F

Accessories

Model No.	Price	Input Range
SCTX2-100	$125	Extension cable, 2-wire shielded, 30 m (100')
PSR-24S	60	Regulated power supply, 24 Vdc, 400 mA, screw terminals
PSR-24L	60	Regulated power supply, 24 Vdc, 400 mA, UL, 1.8 m (6') cable with stripped leads
PSR-24L-230	60	Regulated power supply, 24 Vdc, 400 mA, 230 Vac, CE, 1.8 m (6') cable with stripped leads
SCE-604ELJ*	37	NEMA type 4 enclosure 6 H x 4 W x 4" D
CAL-3†	75	NIST traceable calibration with data

* For ELJ Series enclosures and sub-panels visit omega.com/sce_elj
The SPRTX-SS comes complete with operator's manual.

Ordering Example: SPRTX-SS1-M12, *temperature transmitter with Pt100 input, -99 to 208°C (-146 to 406°F) range, 4 to 20 mA output, M12 female connector for probes (input) and 4 m (12') cable with* **PSR-24S,** *screw terminal power supply, $95 + 60 = ***$155.***

NEW

RTD Temperature Transmitter
316 Stainless Steel Construction Ideal for Wash-Down, Outdoor, Sanitary, or Marine Environments
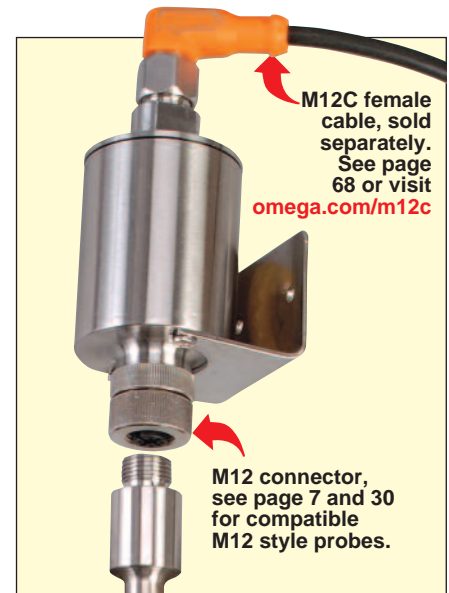
**TX94A-SS Series
All Models**

$195

TX94A-SS, transmitter, $195, shown actual size.

M12 female 4-pin connector shown.

Integral M12 male 4-pin connector standard.

Includes mounting bracket.

MADE IN USA · 1 YEAR WARRANTY · NIST Optional† · CE

✔ **Splash-Proof 316 SS Housing with NEMA 4 (IP67) Rating**
✔ **Compact Design Attaches Directly to Pt100 Sensors with M12 Connecting Cable**
✔ **2-Wire, 4 to 20 mA Output**
✔ **±0.1% FS Accuracy**
✔ **Zero and Span Adjustments**
✔ **Upscale Break Protection**
✔ **Available in Ranges From -40 to 260°C (-40 to 500°F)**

The TX94A-SS temperature transmitters are high performance stainless steel industrial transmitters designed for direct connection to most CIP (clean-in-place) sanitary Pt100 probes that incorporate an M12 style connection. Available in four temperature ranges, the TX94A-SS has a standard 4 to 20 mA output signal.

Accuracy: ±0.1% FS (includes effects of linearity, hysteresis and repeatability)
Frequency Response: 3 dB @ 3 Hz
Input: RTD, Pt100 (0.00385 curve), 3 or 4-wire
Zero and Span Adjustment Range: ±25%
Ambient Temperature: -40 to 85°C (-10 to 185°F)
Probe/Sensor Connection: M12 style, 4-pin; male or female; mating connector included
Output Connection: M12 style, 4-pin male
Approvals: CE marked
Housing: 316 SS, polished finish; NEMA 4 (IP67) rated
Dimensions: 51 L x 38 mm Dia (2.0 x 1.50")

M12C female cable, sold separately. See page 68 or visit **omega.com/m12c**

M12 connector, see page 7 and 30 for compatible M12 style probes.

Specifications
Supply Voltage: 8 to 35 Vdc; 24 Vdc recommended; NEMA 4 enclosures recommended for external power supply in washdown, outdoor or other wet environments.
Max Loop Resistance: (Vs – 8V)/0.020 A
Output Range: Linearized 4 to 20 mA dc over specified input range

MOST POPULAR MODEL HIGHLIGHTED!

To Order *(Specify Model Number)*

Model No.	Price	Input Range	
TX94A-SS-M12(*)-1	$195	-40 to 49°C	-40 to 120°F
TX94A-SS-M12(*)-2	195	-18 to 93°C	0 to 200°F
TX94A-SS-M12(*)-3	195	-18 to 149°C	0 to 300°F
TX94A-SS-M12(*)-4	195	-18 to 260°C	0 to 500°F

(*) *Specify probe/sensor connection; "M" for male, or "F" for female (compatible with OMEGA® sanitary Pt100 probes).*
Comes complete with mating connector, mounting bracket and operator's manual. See page 68 for M12C series connecting cables.

Accessories

Model No.	Price	Description
M12C-PVC-4-S-F-5	15.50	M12 connecting cable, 4-pin female, PVC jacket, 5 m (16.4') L, stripped lead termination
PSR-24S	60.00	Regulated power supply, 24 Vdc, 400 mA, screw terminals
PSR-24L	60.00	Regulated power supply, 24 Vdc, 400 mA, UL, 1.8 m (6') cable with stripped leads
PSR-24L-230	60.00	Regulated power supply, 24 Vdc, 400 mA, 230 Vac, CE, 1.8 m (6') cable with stripped leads
SCE-604ELJ*	37	NEMA type 4 enclosure 6 H x 4 W x 4" D
CAL-3†	75.00	NIST traceable calibration with data

* For ELJ Series enclosures and sub-panels visit **omega.com/sce_elj**

Ordering Example: TX94A-SS-M12F-3, *temperature transmitter with Pt100 input, -18 to 149°C (0 to 300°F) range, 4 to 20 mA output, M12 female connector for probes (input) and M12 male connector for cable (output), with **PSR-24S** screw terminal power supply, and **M12C-PVC-4-S-F-5,** PVC jacketed connecting cable with M12 female connector, $195 + 60 + 15.50 =* ***$270.50.***

NEW®

Cut-to-Length RTD
For Field Adaptable Applications

PRCTL Series Starts at
$55

MADE IN **USA** | **ACCURACY** IEC CLASS **A** (±0.15°C @ 0°C) | **ACCURACY** IEC CLASS **B** (±0.30°C @ 0°C)

- ✔ **316 Stainless Steel Sheath**
- ✔ **Field Cuttable to Desired Length Tubing Cutter Needed (3" Length Minimum)**
- ✔ **Available in 100 Ω DIN Platinum Class "A" or Class "B"**
- ✔ **3-Wire Configuration Standard, 4-Wire Available**
- ✔ **All Sensors Supplied with IEC60751/ASTM E-1137 Color Codes**
- ✔ **¼", ³⁄₁₆", 6 mm and 4.5 mm Diameters Standard**
- ✔ **PFA Insulated Lead Wires Standard– Available with Glass Insulation or SS Braiding Over the PFA or Glass**
- ✔ **Temperature Range: -50 to 260°C**
- ✔ **Optional OTP/MTP Connector**

PRCTL-2-100-A-1/4-24-40, $59, shown smaller than actual size.
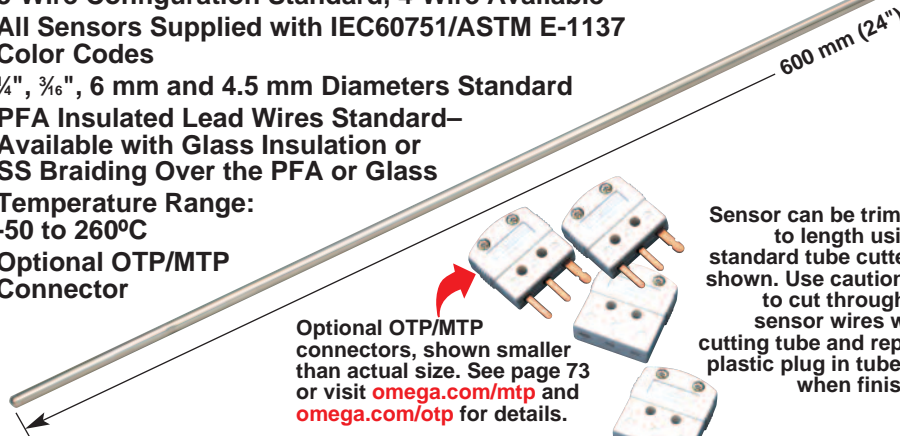
600 mm (24")

Optional OTP/MTP connectors, shown smaller than actual size. See page 73 or visit omega.com/mtp and omega.com/otp for details.

Sensor can be trimmed to length using a standard tube cutter as shown. Use caution not to cut through the sensor wires when cutting tube and replace plastic plug in tube end when finished.

CTL-TOOL, tube cutter, $20, sold separately. Visit omega.com/prctl to order.

Standard Dimensions

MOST POPULAR MODELS HIGHLIGHTED!

To Order *(Specify Model Number)*

Model Number	Resistance at 0°C	Sheath Diameter	Sensor Length	No. of Wires	Wire Length	Price
PRCTL-2-100-A-1/4-24-40	100 Ω, Class A	0.250 mm (¼")	24"	3	40"	**$59**
PRCTL-2-100-A-3/16-24-40	100 Ω, Class A	0.188 mm (³⁄₁₆")	24"	3	40"	59
PRCTL-2-100-B-1/4-24-40	100 Ω, Class B	0.250 mm (¼")	24"	3	40"	55
PRCTL-2-100-B-3/16-24-40	100 Ω, Class B	0.188 mm (³⁄₁₆")	24"	3	40"	55

Options: For 4 wire configuration change "2" to "3" in the model number. For sheath lengths greater than 24" change model number to length desired and add $1 per inch to the price. For stainless steel overbraid on the PFA insulated lead wires add "-SB" to model number and $8. For glass insulated lead wires add "-GG" to model number and $2. For wire lengths greater than 40", change model number to length desired and add $1 per foot to the price.

Ordering Examples: PRCTL-2-100-A-1/4-36-40-SB, ¼" diameter x 36" long sheath with 3-wires PFA insulated with stainless steel overbraid 40" long, 100 Ω class A platinum RTD, $59 + 12 + 8 = $79.

PRCTL-2-100-B-3/16-24-40-GG, ³⁄₁₆" diameter x 24" long sheath with 3-wires Fiberglass insulated 40" long, 100 Ω class B platinum RTD, $55 + 2 = $57.

Metric Dimensions

Model Number	Resistance at 0°C	Sheath Diameter	Sensor Length	No. of Wires	Wire Length	Price
PRCTL-2-100-A-M6-600-1	100 Ω, Class A	6 mm	600 mm	3	1 m	**$59**
PRCTL-2-100-A-M4.5-600-1	100 Ω, Class A	4.5 mm	600 mm	3	1 m	59
PRCTL-2-100-B-M6-600-1	100 Ω, Class B	6 mm	600 mm	3	1 m	55
PRCTL-2-100-B-M4.5-600-1	100 Ω, Class B	4.5 mm	600 mm	3	1 m	55

Options: For 4 wire configuration change "2" to "3" in the model number. For sheath lengths greater than 600 mm change model number to length desired and add $1 for each 25 mm to the price. For stainless steel overbraid on the PFA insulated lead wires add "-SB" to model number and $8. For glass insulated lead wires add "-GG" to model number and $2. For wire lengths greater than 1 m, change model number to length desired and add $1 for each 300 mm to the price.

Ordering Examples: PRCTL-2-100-A-M6-600-1-SB, 6 mm diameter x 600 mm long sheath with 3-wires PFA insulated 1 m long, 100 Ω class A platinum RTD, $59 + 8 = $67.

PRCTL-2-100-B-M4.5-600-1-GG, 4.5 mm diameter x 600 mm long sheath with 3-wires fiberglass insulated 1 m long, 100 Ω class B platinum RTD, $55 + 2 = $57.

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-6 6 342® 1-877-TC-OMEGA

General Purpose RTD Probes
With PFA Jacketed Cables for Industrial Applications

Metric Available! Visit omega.com/prtf-10

PRTF Series Starts at
$35

Shown with "-ST" option (no charge)

300 Series stainless steel probe

Probe length specified by customer

Probe length (2" minimum)

Probe Diameters: Standard = ¼, ³⁄₁₆, ⅛"

40" of #26 AWG stranded nickel-plated copper, PFA insulated, PFA jacketed cable (also available with optional stainless steel overbraid)

PFA Coating Available, Visit omega.com/ pfa-rtd

PRTF-10-2-100-1/4-12-E-ST, $35, shown smaller than actual size.

Stripped lead wires standard. Optional OTP/MTP connectors, shown smaller than actual size. See page 73 or visit omega.com/mtp and omega.com/otp for details.

MADE IN USA **ACCURACY IEC CLASS B (±0.30°C @ 0°C)**

- ✔ **Transitions Directly to Lead Wires (No Transition Fitting)**
- ✔ **Compact Design for Applications with Space Restrictions**
- ✔ **Available in Standard and Metric Sizes**
- ✔ **Temperature Range: -50 to 250°C**

- ✔ **Precision Thin Film 100 or 1000Ω, Class B DIN Platinum Elements per IEC60751 (alpha = 0.00385 $\Omega/\Omega/°C$)**
- ✔ **2-, 3-, 4-Wire Constructions Available**
- ✔ **All Sensors Supplied to IEC60751/ ASTM E-1137 Color Codes**

100 Ω Sensor

MOST POPULAR MODELS HIGHLIGHTED!

To Order *(Specify Model Number)*

Model Number	Lead Wire Style*	Sheath Length	Price		
			¼" Dia.	³⁄₁₆" Dia.	⅛" Dia.
PRTF-10-2-100-(*)-6-E	3-wire	6"	$35	$41	$41
PRTF-10-2-100-(*)-12-E	3-wire	12"	35	41	41
PRTF-10-2-100-(*)-18-E	3-wire	18"	38	44	44
PRTF-10-2-100-(*)-24-E	3-wire	24"	41	47	47

* Specify *"-1/8", "-3/16",* or *"-1/4"* for probe diameter in inches. To order 4-wire sensors, change *"-2"* to *"-3"* in the model number and add **$5** to the price. To order with shrink tube strain relief, specify *"-ST"* at end of model number, no additional charge. To order probes in intermediate lengths (2" minimum), change length in model number and use next longer probe price.
For probe lengths over 24", change length in model number and add **$1** per inch of probe length. For cables longer than 40", add cable length to end of model number and add **$1** per foot. For MTP and OTP connections, add *"-MTP"* or *"-OTP"* to model number and **$7**.
Ordering Example: PRTF-10-2-100-1/8-12-E-OTP, 100 Ω, Class "B" RTD with a ⅛" diameter by 12" long probe, 40" of 3-wire cable and OTP connector, $41 + 7 = **$48.**

1000 Ω Sensor

Model Number	Lead Wire Style*	Sheath Length	Price		
			¼" Dia.	³⁄₁₆" Dia.	⅛" Dia.
PRTF-10-2-1000-(*)-6-E	3-wire	6"	$35	$41	$41
PRTF-10-2-1000-(*)-12-E	3-wire	12"	35	41	41
PRTF-10-2-1000-(*)-18-E	3-wire	18"	38	44	44
PRTF-10-2-1000-(*)-24-E	3-wire	24"	41	47	47

* Specify *"-1/8", "-3/16",* or *"-1/4"* for probe diameter in inches. To order 4-wire sensors, change *"-2"* to *"-3"* in the model number and add **$5** to the price. To order with shrink tube strain relief, specify *"-ST"* at end of model number, no additional charge. To order probes in intermediate lengths (2" minimum), change length in model number and use next longer probe price.
For probe lengths over 24", change length in model number and add **$1** per inch of probe length. For cables longer than 40", add cable length to end of model number and add **$1** per foot. For MTP and OTP connections, add *"-MTP"* or *"-OTP"* to model number and **$7**.
Ordering Example: PRTF-10-2-1000-1/8-12-E-OTP, 1000 Ω, Class "B" RTD with a ⅛" diameter by 12" long probe, 40" of 3-wire PFA insulated cable and OTP connector, $41 + 7 = **$48.**

Ready-Made Insulated Thermocouples
Hermetically Sealed Tip Design with Stripped Leads

HSTC Series Starts at
$25

MEETS OR EXCEEDS
SPECIAL LIMITS OF ERROR (SLE)
AND EN 60584-2: Tolerance Class 1

- ✔ Seal-Welded Tip
- ✔ Highly Resilient to Chemicals and Oils
- ✔ Electrically-Insulated Junction
- ✔ Easily Cleaned and Sterilized
- ✔ Small Size Provides a Fast Response
- ✔ Rated to 250°C (482°F)
- ✔ 20 and 24 AWG Stranded Thermocouple Grade Wire Available

These PFA insulated thermocouple wire sensors are hermetically seal-welded at the sensor tip to provide continuous PFA protection over the measurement junction. This unique design provides a small, flexible, and electrically isolated thermocouple, suited to a variety of applications.
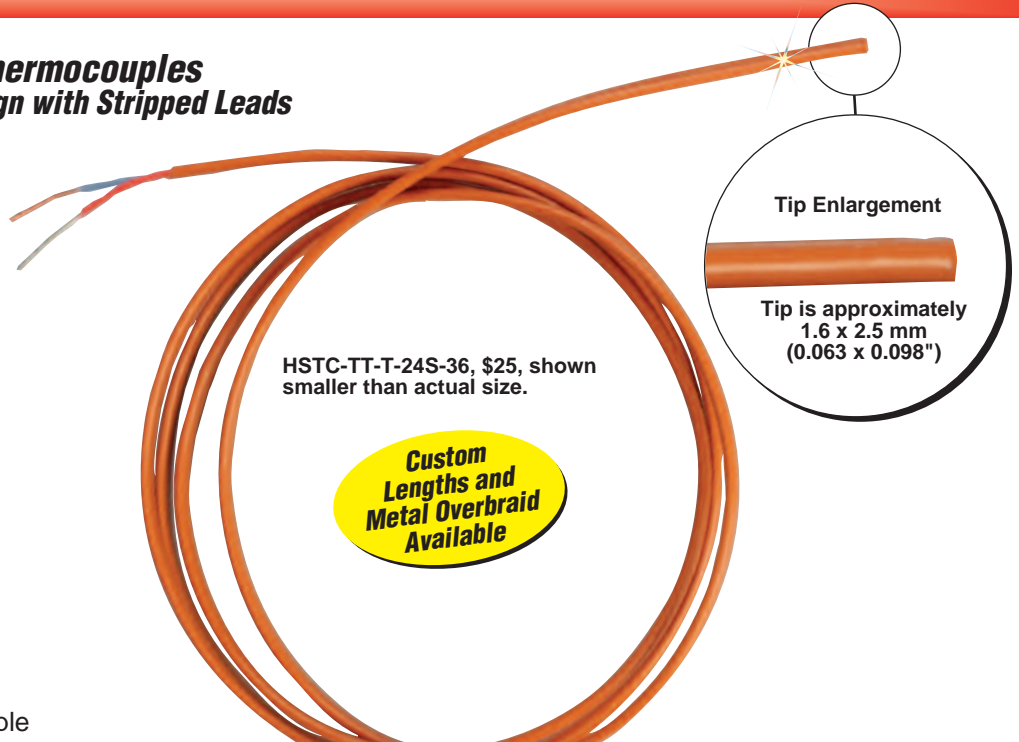
Tip Enlargement

Tip is approximately 1.6 x 2.5 mm (0.063 x 0.098")

HSTC-TT-T-24S-36, $25, shown smaller than actual size.

Custom Lengths and Metal Overbraid Available

Wireless transmission option
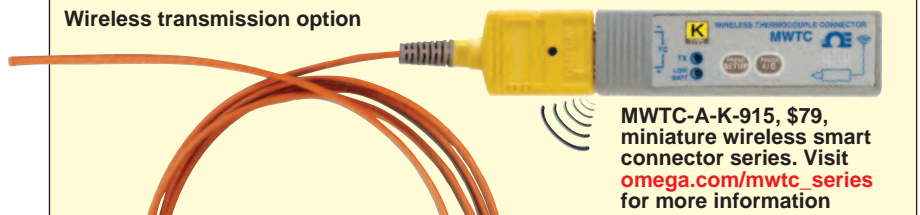
MWTC-A-K-915, $79, miniature wireless smart connector series. Visit omega.com/mwtc_series for more information

Optional Connectors
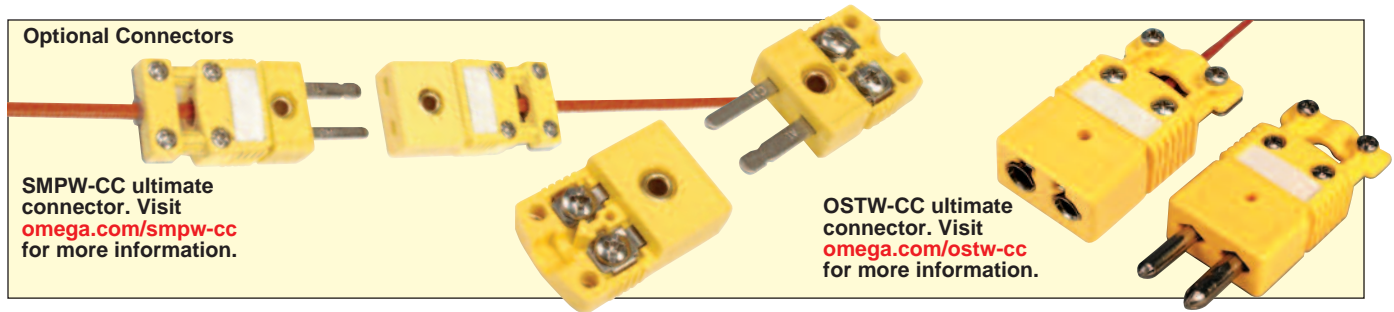
SMPW-CC ultimate connector. Visit omega.com/smpw-cc for more information.

OSTW-CC ultimate connector. Visit omega.com/ostw-cc for more information.

MOST POPULAR MODELS HIGHLIGHTED!

To Order *(Specify Model Number)*

Model No.	Price	Description
HSTC-TT-(*)-24S-36	$25	Hermetically sealed tip thermocouple, 1 m (40"), stripped ends
HSTC-TT-(*)-24S-72	28	Hermetically sealed tip thermocouple, 2 m (80"), stripped ends
HSTC-TT-(*)-24S-120	32	Hermetically sealed tip thermocouple, 3 m (120"), stripped ends
HSTC-TT-(*)-24S-36-SMPW-CC	30	Hermetically sealed thermocouple, 1 m (40"), ultimate SMPW male with cable clamp
HSTC-TT-(*)-24S-72-SMPW-CC	33	Hermetically sealed thermocouple, 2 m (80"), ultimate SMPW male with cable clamp
HSTC-TT-(*)-24S-120-SMPW-CC	37	Hermetically sealed thermocouple, 3 m (120"), ultimate SMPW male with cable clamp

* Insert calibration J, K, T, or E.

Add **$1** per additional 300 mm (12") of TT wire. To order thermocouple with mini-size connector, replace **"SMPW"** in the model number with **"OSTW",** no additional charge. To order **20 AWG** stranded thermocouple replace **"24S"** in the model with **"20S"** and add **$3** to price.

Ordering Example: HSTC-TT-K-24S-36-SMPW-CC, 1 each, PFA insulated thermocouple, Type K calibration (CHROMEGA®-ALOMEGA®), 24 stranded AWG, 1 m (40") L, ultimate mini male connector with strain relief, **$30.**

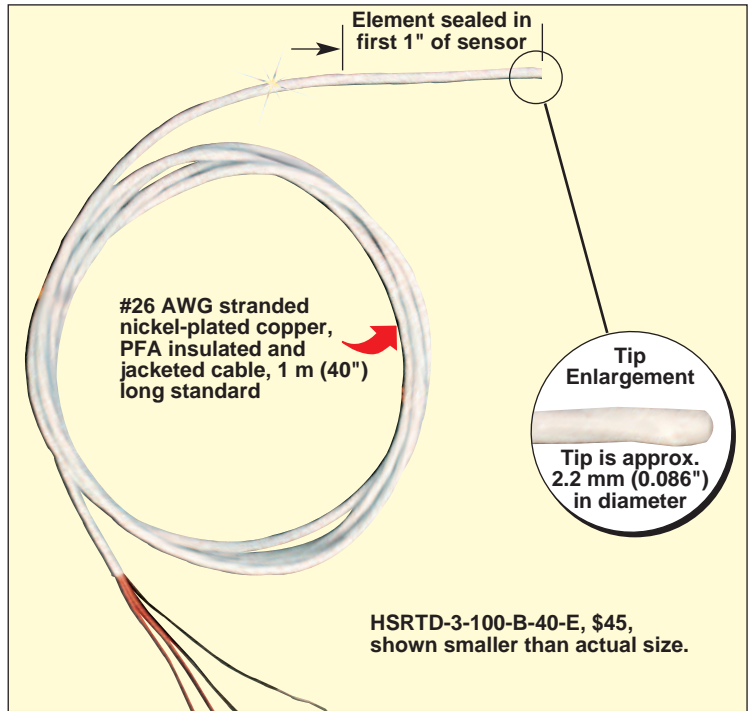**Sanitary product line continues to expand, visit omega.com/sanitary for details!**

HOTLINE 1-877-82-6 6342®
TO SANITARY PRODUCTS 1-877-TC-OMEGA

Flexible Sealed PFA RTD Sensors
For Use in Wet and Corrosive Environments

HSRTD Series Starts at
$45

Custom Lengths Available

ACCURACY IEC CLASS A (±0.15°C @ 0°C)	ACCURACY IEC CLASS B (±0.30°C @ 0°C)

- ✔ **100 Ω, Class "A" or "B" DIN Platinum Element Standard, Other Resistances and Classes Available**
- ✔ **Sealed Against Moisture and Corrosion**
- ✔ **PFA Insulated Cable**
- ✔ **Temperature Range: -60 to 260°C**
- ✔ **4-Wire Configuration Standard**
- ✔ **Easily Cleaned and Sterilized**

Element sealed in first 1" of sensor

#26 AWG stranded nickel-plated copper, PFA insulated and jacketed cable, 1 m (40") long standard

Tip Enlargement

Tip is approx. 2.2 mm (0.086") in diameter

HSRTD-3-100-B-40-E, $45, shown smaller than actual size.

MOST POPULAR MODELS HIGHLIGHTED!

To Order *(Specify Model Number)*

Model Number	Resistance	Number of Wires	Wire Length	Price
HSRTD-3-100-A-40-E	100 Ω, Class "A"	4	1 m (40")	$52
HSRTD-3-100-A-80-E	100 Ω, Class "A"	4	2 m (80")	58
HSRTD-3-100-A-120-E	100 Ω, Class "A"	4	3 m (120")	67
HSRTD-3-100-A-180-E	100 Ω, Class "A"	4	4.5 m (180")	78
HSRTD-3-100-A-240-E	100 Ω, Class "A"	4	6 m (240")	90
HSRTD-3-100-B-40-E	100 Ω, Class "B"	4	1 m (40")	45
HSRTD-3-100-B-80-E	100 Ω, Class "B"	4	2 m (80")	51
HSRTD-3-100-B-120-E	100 Ω, Class "B"	4	3 m (120")	60
HSRTD-3-100-B-18-E	100 Ω, Class "B"	4	4.5 m (180")	71
HSRTD-3-100-B-240-E	100 Ω, Class "B"	4	6 m (240")	83

Options: *Sensors come with stripped leads standard. For custom cable lengths greater than 6 m (240"), change the "-240" variable at the end of the model number to desired length in inches and add **$2.25 per additional foot** to the price. For miniature connectors add "-MTP" to the end of the model number and add $7 to price. For a 4-wire audio connector, add "-TA4F" to model number and add $17 to price.*

Ordering Examples: HSRTD-3-100-B-40-TA4F, *100 Ω Class "B" sensor with 1 m (40") of cable and TA4F connector, $45 + 17 =* **$62.**

HSRTD-3-100-A-120-E, *100 Ω Class "A" sensor with 3 m (120") of cable,* **$67.**

TA4F connector, $10, see page 72 or visit omega.com/ta3_ta4.

HH804U meter, $149. omega.com/ hh804_805

CNi8 Series meters, $310. omega.com/cni8_series

NEW®

Hermetic Flexible Thermistor Sensors
PFA Jacketed For Use in Wet and Corrosive Environments

**HSTH-44000 Series
All Models**

$45

✔ **Available in 3 Standard Resistance Values**
✔ **PFA Jacketed Design is Highly Resistant to Chemicals and Oils**
✔ **1, 2, or 3 m (40, 80, or 120") of 26 AWG Stranded PFA Insulated and Jacketed Cable with Stripped Leads Standard**
✔ **Easily Sterilized for Food Applications**
✔ **Small Physical Size Provides Fast Temperature Response**
✔ **Temperature Range -80 to 150°C (-112 to 302°F)**
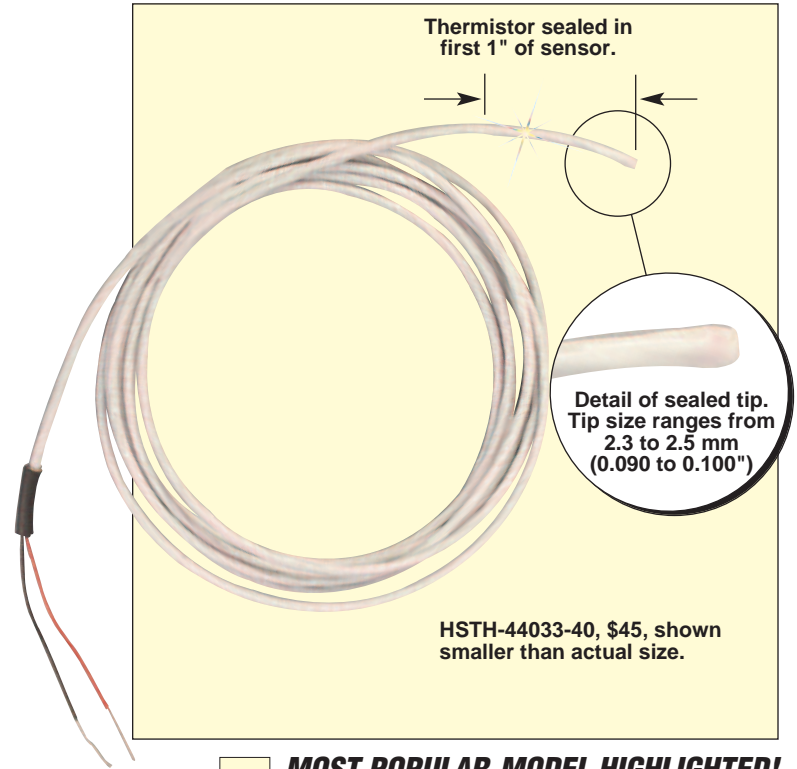
Thermistor sealed in first 1" of sensor.

Detail of sealed tip. Tip size ranges from 2.3 to 2.5 mm (0.090 to 0.100")

HSTH-44033-40, $45, shown smaller than actual size.

MOST POPULAR MODEL HIGHLIGHTED!

To Order *(Specify Model Number)*

Model Number	Price	Resistance	Interchangeability @ 0 to 70°C	Cable Length
HSTH-44033-40	$45	2252 Ω @ 25°C	±0.1°C	1 m (40"), stripped leads
HSTH-44033-80	51	2252 Ω @ 25°C	±0.1°C	2 m (80"), stripped leads
HSTH-44033-120	60	2252 Ω @ 25°C	±0.1°C	3 m (80"), stripped leads
HSTH-44034-40	45	5000 Ω @ 25°C	±0.1°C	1 m (40"), stripped leads
HSTH-44034-80	51	5000 Ω @ 25°C	±0.1°C	2 m (80"), stripped leads
HSTH-44034-120	60	5000 Ω @ 25°C	±0.1°C	3 m (80"), stripped leads
HSTH-44031-40	45	10,000 Ω @ 25°C	±0.1°C	1 m (40"), stripped leads
HSTH-44031-80	51	10,000 Ω @ 25°C	±0.1°C	2 m (80"), stripped leads
HSTH-44031-120	60	10,000 Ω @ 25°C	±0.1°C	3 m (80"), stripped leads

Notes: For custom cable lengths greater than 3 m (120"), change the "-40", "-80", or "-120" variable at the end of the model number to desired length in inches and add $2.25 per additional foot to the price. For a phone plug, add "-PP" to the end of the model number and $7 to the price.
Ordering Examples: HSTH-44033-40, flexible sealed thermistor sensor, 2252 Ω at 25°C, interchangeability of ±0.1°C, 1 m (40") long with stripped leads, $45.
HSTH-44031-80-PP, flexible sealed thermistor assembly, 10,000 Ω at 25°C, interchangeability of ±0.1°C, 2 m (80") long with stripped leads and a phone plug connector, $51 + 7 = $58.
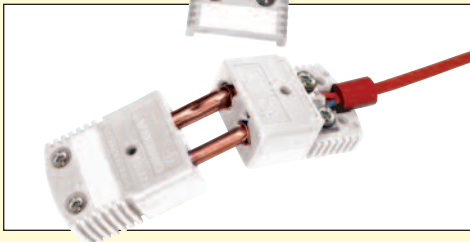
**OSTW-U-MF connectors, $5.65.
Visit omega.com/ostw for more information.**

**450-ATH high accuracy handheld thermometer, $315.
Visit omega.com/450_handheld for more information.**

**DP25-TH Series ⅛ DIN precision thermistor meter/controllers, start at $245.
Visit omega.com/dp25-th for more information.**

29 Sanitary product line continues to expand, visit **omega.com/sanitary** for details!

**HOTLINE
TO SANITARY PRODUCTS**
**1-877-82-6 6342®
1-877-TC-OMEGA**

Hypodermic and Mini Hypodermic Probes Thermocouple and RTD Elements
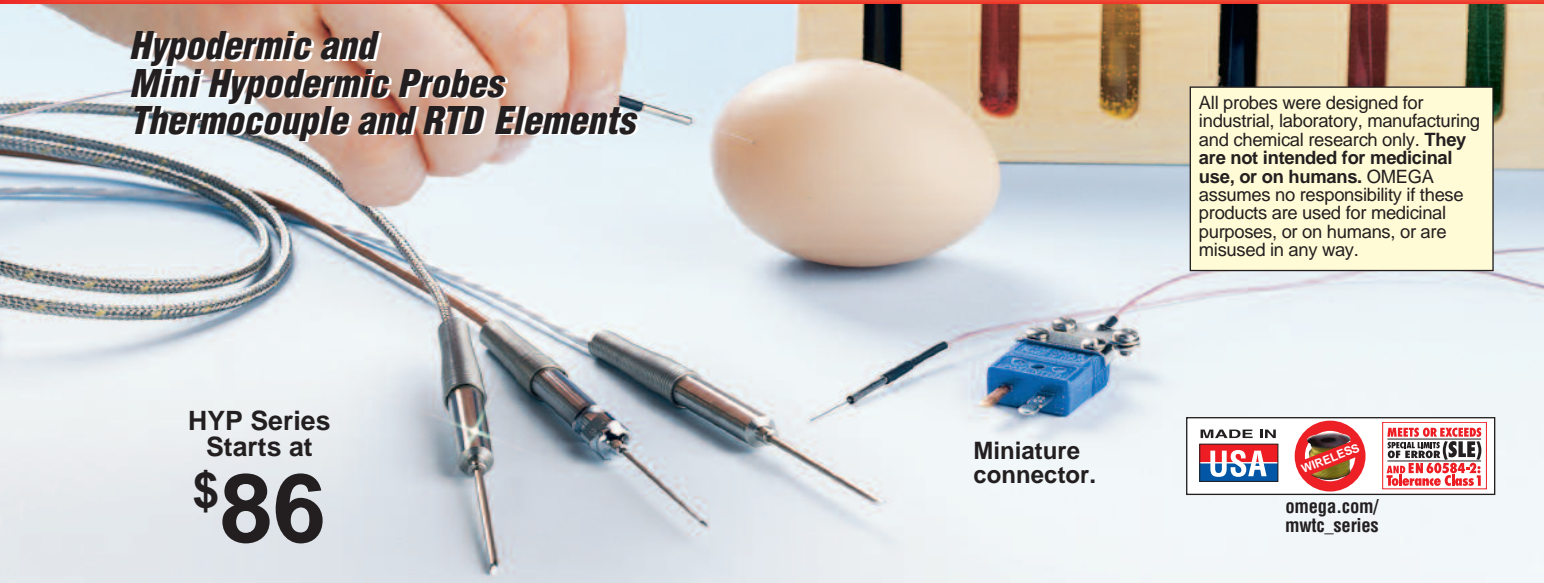
HYP Series Starts at

$86

Miniature connector.

All probes were designed for industrial, laboratory, manufacturing and chemical research only. **They are not intended for medicinal use, or on humans.** OMEGA assumes no responsibility if these products are used for medicinal purposes, or on humans, or are misused in any way.

MADE IN USA   **WIRELESS**   **MEETS OR EXCEEDS SPECIAL LIMITS OF ERROR (SLE) AND EN 60584-2: Tolerance Class 1**

omega.com/ mwtc_series

OMEGA® Hypodermic Needle Temperature Probes are designed for industrial, laboratory, manufacturing and chemical research applications. Five probe types are available, with diameters from 0.2 to 1.65 mm (0.008 to 0.065"). The HYP0, HYP1 and HYP2 have Type T (Copper-Constantan) thermocouple elements, while the HYP3 is available in J, K, T or E calibration, and the HYP4 has a 100 Ω Platinum RTD (a = 0.00385).

The HYP0 is a mini-hypodermic probe, with 0.2 mm (0.008") diameter. The HYP1 has an O.D. of 0.3 mm (0.012"), and has an added feature of being steam autoclavable to temperatures up to 160°C (325°F). The HYP3 and HYP4 are industrial probes, with thermocouple and RTD elements respectively.

The HYP0 Mini Hypodermic probe with a needle diameter of only 0.2 mm (0.008") is the least likely to disturb the surrounding insertion area. Vision

enhanced micro-manufacturing techniques result in an extremely small type T (Copper-Constantan) thermocouple being implanted in a 33 gage, 25 mm (1") long stainless steel hypodermic needle. The HYP0 has the fastest response of the hypodermic probes, and has a continuous temperature rating of 200°C (400°F). It has 1.5 m (5') long PFA coated, 36 AWG leads with an SMP type subminiature connector.

Thermocouple Probe Model HYP0

The HYP0 mini-hypodermic probe with a needle diameter of only 0.2 mm (0.008") is the least likely to disturb the surrounding insertion area. Vision enhanced micro-manufacturing techniques result in an extremely small Type T (copper-constantan) thermocouple being implanted in a 33 gauge, 25 mm (1") long stainless steel hypodermic needle. The HYP0 has the fastest response of the hypodermic probes, and has a continuous temperature rating of 200°C (400°F). It has 1.5 m (5') long PFA-coated, 36 AWG leads with an SMP-type miniature connector.

18.25 (0.72)   25 (1)
With shrink tubing not shown   1.57 (0.062) O.D.   0.20 (0.008) O.D.   Dimensions: mm (in)
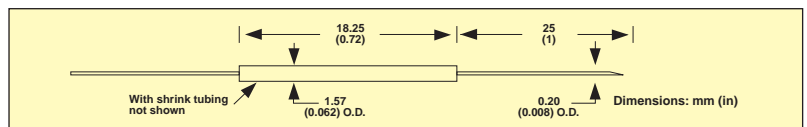
To Order (Specify Model Number)

Model No. ANSI Color Code	Price
HYP0-33-1-(*)-G-60-SMPW-M	$124

** Specify calibration: **K,** or **T.** T = Copper-Constantan, K = CHROMEGA®-ALOMEGA® For lead wire lengths over 1.5 m (60") add $1/300 mm (12") and modify model number.* **Ordering Example: HYP0-33-1-T-G-60-SMPW-M,** *mini hypodermic probe with Type T grounded thermocouple, 1.5 m (5') long bead wire, and a miniature SMPW male connector,* **$124.**
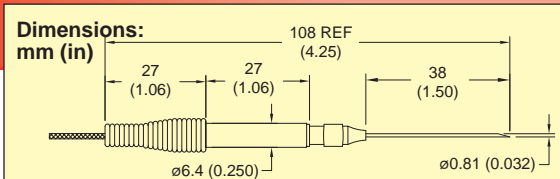
Thermocouple Probe Model HYP1

OMEGA® Research, autoclavable probe is designed to give instant readings in plants, other semi-solids and liquids. A 30 gage x 15 mm needle provides this very fast response. The measurable temperature range is cryogenic to 200°C (400°F). This is a type "T" (Copper-Constantan) grounded-junction probe with PFA insulated extension wire and a subminiature male connector termination. The entire assembly is steam autoclavable to a temperature of 160°C (325°F). All probes have 1.5 m (5') leads.

Subminiature Probe
These probes should not be used for human implantation
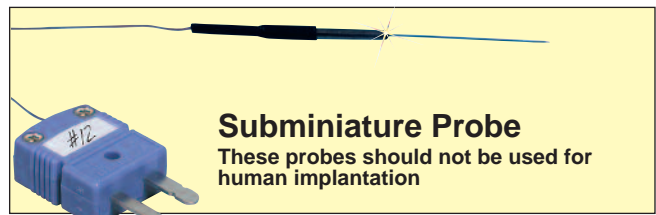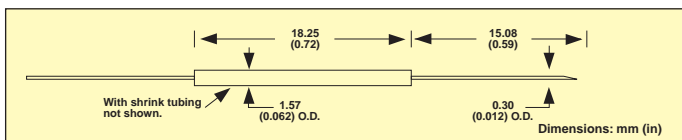
Model No. ANSI Color Code	Price
HYP1-30-1/2-(*)-G-60-SMPW-M	$102

** Specify calibration: **K, T,** or **E.** K = CHROMEGA®-ALOMEGA®, T = Copper-Constantan, E = CHROMEGA®-Constantan For lead wire lengths over 1.5 m (60") add $1/300 mm (12") and modify model number.*

Ordering Example: HYP1-30-1/2-T-G-60-SMPW-M, *thermocouple probe,* **$102.**

18.25 (0.72)   15.08 (0.59)
With shrink tubing not shown.   1.57 (0.062) O.D.   0.30 (0.012) O.D.   Dimensions: mm (in)

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-6 6 3 4 2®
1-877-TC-OMEGA

Dimensions: mm (in)

108 REF (4.25)
27 (1.06) 27 (1.06) 38 (1.50)
ø6.4 (0.250) ø0.81 (0.032)

MOST POPULAR MODELS HIGHLIGHTED!

Thermocouple Probe Model HYP2 and HYP5

The HYP2 and HYP5 Probes have Natural Science, Industrial and Food Processing uses. These assemblies comes complete with a type "T" (Copper-Constantan) element, 1.2 m (4') PFA insulated lead wires†, and uses a standard (21 gage) hypodermic needle 38 mm (1.5") long. 1.2 m (4') lead wire is standard. Standard size male connector terminates the lead wire.

Model No. ANSI Color Code	Price
HYP2-21-1-1/2-(*)-G-48-OSTW-M	$86
HYP2-21-1-1/2-(*)-G-48-SMPW-M	86
HYP5-21-1-1/2-(*)-G-SMPW	50

† HYP5 does not have lead wires
** Specify calibration: **J, K, T,** or **E.***
J = Iron-Constantan　　　　*T = Copper-Constantan*
K = CHROMEGA®-ALOMEGA®　*E = CHROMEGA®-Constantan*
*Easy grip handle, add **"EGH"** suffix, additional price **$10.***
*For lead wire lengths over 1.2 m (48") add **$1**/300 mm (12") and modify model number.*
Ordering Example: HYP2-21-1-1/2-T-G-48-OSTW-M,** Type T grounded junction probes, **$86.

HYP5 with SMPW connector.

MADE IN USA

HYP2

OSTW connector included on HYP2.

Shown smaller than actual size.

These probes should not be used for human implantation.
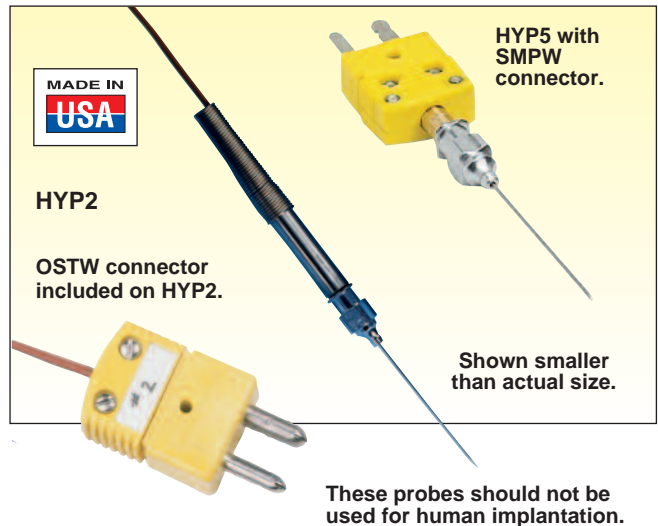
Thermocouple Probe Model HYP3

OMEGA® Industrial Hypodermic Probe uses a 16 gage x 38 mm (1.5") long needle and may contain J, K, T, E calibrations; they may have a grounded or ungrounded junction, and come with stainless steel overbraided extension wire. The stainless steel overbraiding adds flexibility and extends the probe life. These probes are not autoclavable. They are designed for heavy-duty service. 1.2 m (4') lead wire is standard. Maximum tip temperature is 200°C (400°F).

Model No. ANSI Color Code	Price
HYP3-16-1-1/2-(*)-(**)-48-RP	$88

When ordering, specify calibration and whether grounded or ungrounded junction is desired
** Specify calibration: **J, K, T,** or **E.**　　J = Iron-Constantan*
T = Copper-Constantan　　　K = CHROMEGA®-ALOMEGA®
E = CHROMEGA®-Constantan
** Specify measuring junction style: U or G
Also Available: R and S (platinum)—consult factory for price and delivery.
*Easy Grip Handle, add **"EGH"** suffix, additional price **$10**.*
*For lead wire lengths over 1.2 m (48") add **$2.50**/300 mm (12") and modify model number.*

Shown smaller than actual size.

Add an SMPW connector, $5, see ordering example.

Dimensions: mm (in)

31.8 (1.25)　36 (1.19)　38 (1.5)
6.4 (0.25) OD　1.65 (0.065) OD
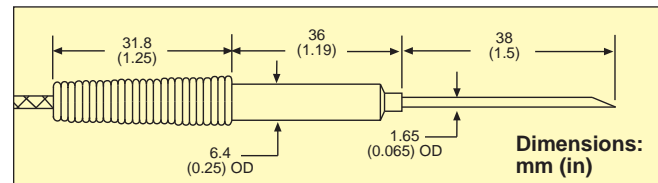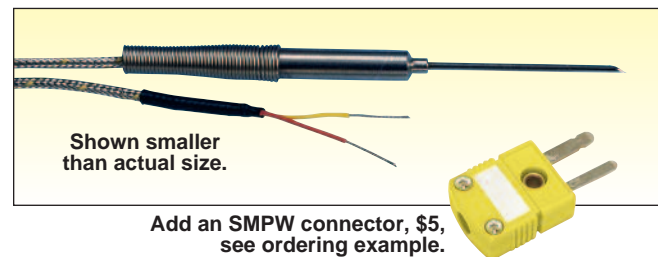
*To add an SMPW male connector add suffix **"-SMPW-M"** to model number and **$5** to price.*
Ordering Example: HYP3-16-1-1/2-K-G-48-SMPW-M,** Type K grounded junction probe with 1.2 m (48") leads, **$88 + 5 = $93.

These probes should not be used for human implantation.

RTD Probe Model HYP4

The RTD Hypodermic Probes are offered for Industrial, Natural Sciences and Food Processing use. These probes contain a 100 Ω platinum RTD (a = 0.00385) within a 16 gage x 38 mm (1.5") hypodermic needle, and come with 1.2 m (4') PFA insulated lead wire.

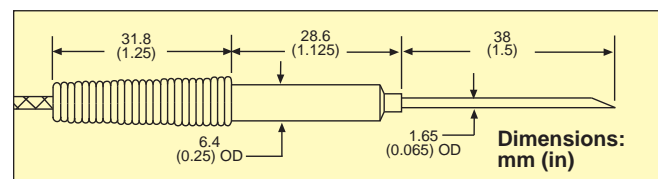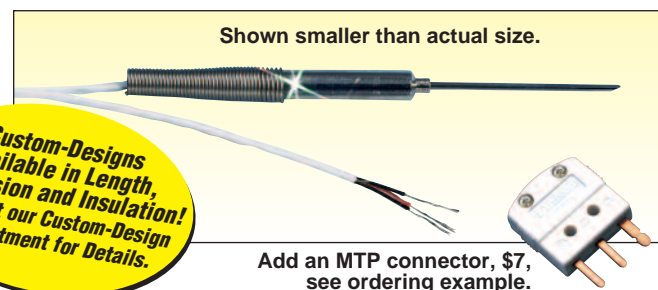| Model No. ANSI Color Code	Price
HYP4-16-1-1/2-100-EU-48-RP	$88

*All probes were designed for industrial, laboratory, manufacturing and chemical research only. **They are not intended for medicinal use, or on humans.** OMEGA assumes no responsibility if these products are used for medicinal purposes, or on humans, or are misused in any way.*
*For lead wire lengths over 1.2 m (48") add **$2.25**/300 mm (12") and modify model number.*
*To add an MPT-U male connector add suffix **"-MTP-M"** ($7 add'l)*
Ordering Example: HYP4-16-1-1/2-100-EU-48-MTP-M,** RTD hypodermic probe with 1.2 m (48" leads) and MPT-U male connector, **$88 + 7 = $95.

Shown smaller than actual size.

Custom-Designs Available in Length, Dimension and Insulation! Consult our Custom-Design Department for Details.

Add an MTP connector, $7, see ordering example.

Dimensions: mm (in)

31.8 (1.25)　28.6 (1.125)　38 (1.5)
6.4 (0.25) OD　1.65 (0.065) OD

These probes should not be used for human implantation.

Digital RTD Thermometer
316 SS Enclosure for Sanitary, Wash-Down, and Marine Applications

Thermocouple Models Available. For Complete Product Information Visit omega.com/dtg-tc100/

Antenna connection for wireless option.

DTG-RTD100 Series
Starts at
$395

2 YEAR WARRANTY | **NIST** | CE | **EMC SERVICES**

Optional †

✔ **Large Multicolor Backlit Display with 25 mm (1") Digits Readable From Over 10.7 m (35')**

✔ **Up to ±0.2°C (±0.3°F) or ±0.1% Rdg Accuracy**

✔ **Connects Directly to 3-Wire Pt100 RTD Sensors**

✔ **User Scaleable 4 to 20 mA, 0 to 5 or 0 to 10 Vdc Analog Output Standard**

✔ **Powered by Internal Battery or External DC Power Supply**

✔ **Included Setup and Service Software Allows for Fast Maintenance and Calibration via USB Connection**

✔ **Wireless Transmitter Option Sends Readings to Remote Locations and Allows for PC-Based Chart Recording and Data Logging**

✔ **Low Power Operation and Sleep Mode for Long Battery Life**

✔ **Display Backlight Changes from Green to Blue for Low Alarm and from Green to Red for High Alarm**

Large 25 mm (1") Digits

Magnetic stylus (included).

DTG-RTD100-1/4-600-E-W-AB, $610, with angle bracket and wireless transmitter option, shown actual size.

OMEGA's new DTG-RTD100 Thermometer Series features a rugged 316 SS enclosure that is designed specifically for wash-down, sanitary and marine applications. The large backlit LCD display incorporates both large 25 mm (1") digits and a 25 segment bar graph that make reading at distances up to 10.7 m (35') easy. Models are available with or without integral standard or sanitary sensors. Standard features include: internal battery external DC power supply operation, analog output and user programmable alarms. The

New security feature uses magnetic stylus (included) for keypad activation. No accidental button presses. Perfect for dirty hands or if wearing gloves

wireless transmitter option allows for remote monitoring, chart recording and data logging. A variety of user-configurable options and settings include: update rate, dampening, units, backlight, and auto-off.

Available with Built-In Wireless Transmitter Option

† Refer to accessories chart on page 37 for NIST calibration ordering information.

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-6 6 342® 1-877-TC-OMEGA

Specifications

Range: -51 to 538°C (-60 to 1000°F) (depending on sensor selected)

Accuracy: ±0.2°C (±0.3°F) or ±0.1% of reading

Resolution: 0.1°C (0.1°F)

Operating Environment: -40 to 70°C (-40 to 158°F) 5-100% RH non-condensing

RTD Probe/Sensor Input: Pt100, 3-wire

Display Type: LCD with selectable backlight

Display Digits: 4 digits, 9999 counts

Character Height: 25.4 mm (1.0")

Computer Interface: USB (one programming cable included)

Sample/Display Rate: User adjustable from 0.25 to 10 sec, preset to 1/sec

Power: Two 3.6V lithium, 8.4 Ah capacity ("C" cell) included; 12 to 24 Vdc

Battery Life (Typical): 4 years*

Analog Output: User selectable 0 to 5 Vdc, 0 to 10 Vdc, or 4 to 20 mA; Requires external 12 to 24 Vdc power supply for operation

Enclosure: 316 Stainless Steel housing, ABS center gasket

Enclosure Finish: Electropolished

Enclosure Rating: Weatherproof, NEMA 4 (IP65)

Settings (USB/Software)

Auto-Off: Locked-on, 1 min, 2 min, 5 min, 10 min, 15 min, 30 min, 60 min

* Without wireless option

Units: °F, °C, K

Lock: Allows for front button "lock-out"

Alarms: User selectable "high" and "low" alarm limits

Analog Output: User selectable scaling

Backlight: On/off, or 10 sec, 30 sec, 1 min, 5 min

Wireless Transmitter (Optional): Channel number, transmission rate, alarms, sensor offset, chart recording, data logging

Calibrate: Zero and span

Wireless Option Specifications

Transmit Sample Rate: User programmable from 1 sample/2 min to 1 sample/every 2 sec

Radio Frequency (RF) Transceiver Carrier: ISM 2.4 GHz

RF Output Power: 10 dBm (10 mW)

Range of RF Link:
  Outdoor Line of Sight: Up to 120 m (400')
  Indoor/Urban: Up to 40 m (130')

Software (Included Free): Requires Windows® 2000, XP or Vista (32 bit)

Internal Battery: Two 3.6V lithium, 8.4 Ah capacity ("C" cell) included

Data Transmitted to Host: Temperature reading, ambient temperature reading, RF transmit strength and battery level

Wireless Receivers

UWTC-REC4 receiver, $275.

Receive data from up to 48 transmitters, and provide a scalable retransmitted, hard wired analog output for 4 user selected transmitters in your system. Visit **omega.com/uwtc**

UWTC-REC1, $225.

Receive data from up to 48 transmitters, powered directly by the USB connection on your computer. Visit **omega.com/uwtc**

UWTC-REC3 32-channel receiver with ethernet, $235.

Receiver/host with ethernet is compatible with UWTC and UWRTD connectors, transmitters and wireless probe assemblies. Connects directly to your network or the Internet—no PC required! See page 42.

Read From Up to 10.7 m (35') Away!

Large 25 mm (1") Digits
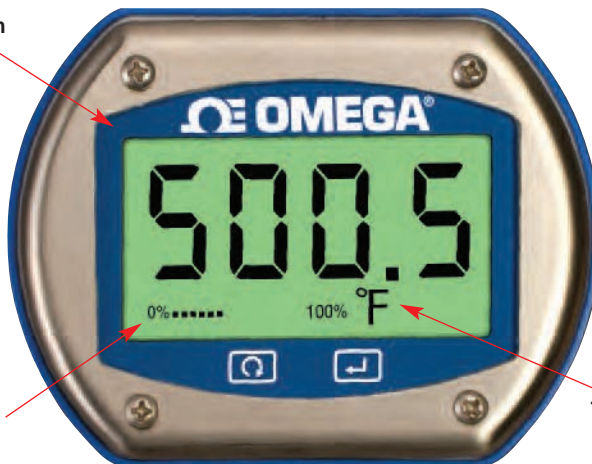
25 Segment Bargraph

Temperature Units (°C/°F)

Low Alarm Backlight

High Alarm Backlight

Digital RTD Thermometer with Integral Sensor

Integral Sensor Options

Attach the DTG-RTD100 to a 3-A approved PRS-3-100-A-S-0300-D1-M12 standard duty sensor for a ¼" diameter, 3" long probe with 1½" 16AMP mounting flange. Lengths of 4, 5 and 6" are also available. Temperature range -50 to 200°C (-58 to 392°F).

74-03

Ordering Example:
DTG-RTD100-PRS-3-100-AS-300-D1, comes complete with thermometer and 3" L integral sensor, $490.

Attach the DTG-RTD100 to a 3-A approved PRS-3-100-A-H-0300-D1-M12 sensor for a heavy duty stepped probe (³⁄₁₆ to ⅜" dia), 3" long with 1½" 16AMP mounting flange. Lengths of 4, 5 and 6" are also available. Temperature range -50 to 200°C (-58 to 392°F).

74-03

Ordering Example:
DTG-RTD100-PRS-3-100-AH-400-D1, comes complete with thermometer and 4" L integral sensor, $520.

⅛" or ¼" dia, industrial sensor, 316 stainless steel construction, and ¼ NPT fitting, temperature range -51 to 538°C (-60 to 1000°F).

Ordering Example: DTG-RTD100-1/4-400-E, comes complete with thermometer and 4" L integral sensor, $465.

Thermowell Options for Sanitary Sensors

Standard 304 or 316 stainless steel models–260L Series

3A approved 316 stainless steel models–S Series. Visit omega.com/sanitary for the complete selection.

Universal Angle Bracket Option—$45
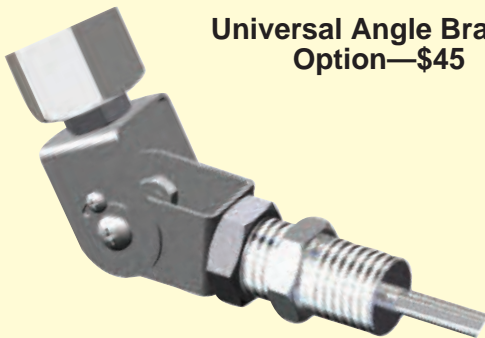
Ordering Example: DTG-RTD100-1/4-400-E-AB, field adjustable bracket allows sensor to be rotated and angled, $465 + 45 = $510.

Antenna connection for wireless option.

ΩE OMEGA®

500.5

0% ▪▪▪▪▪▪ 100% °F
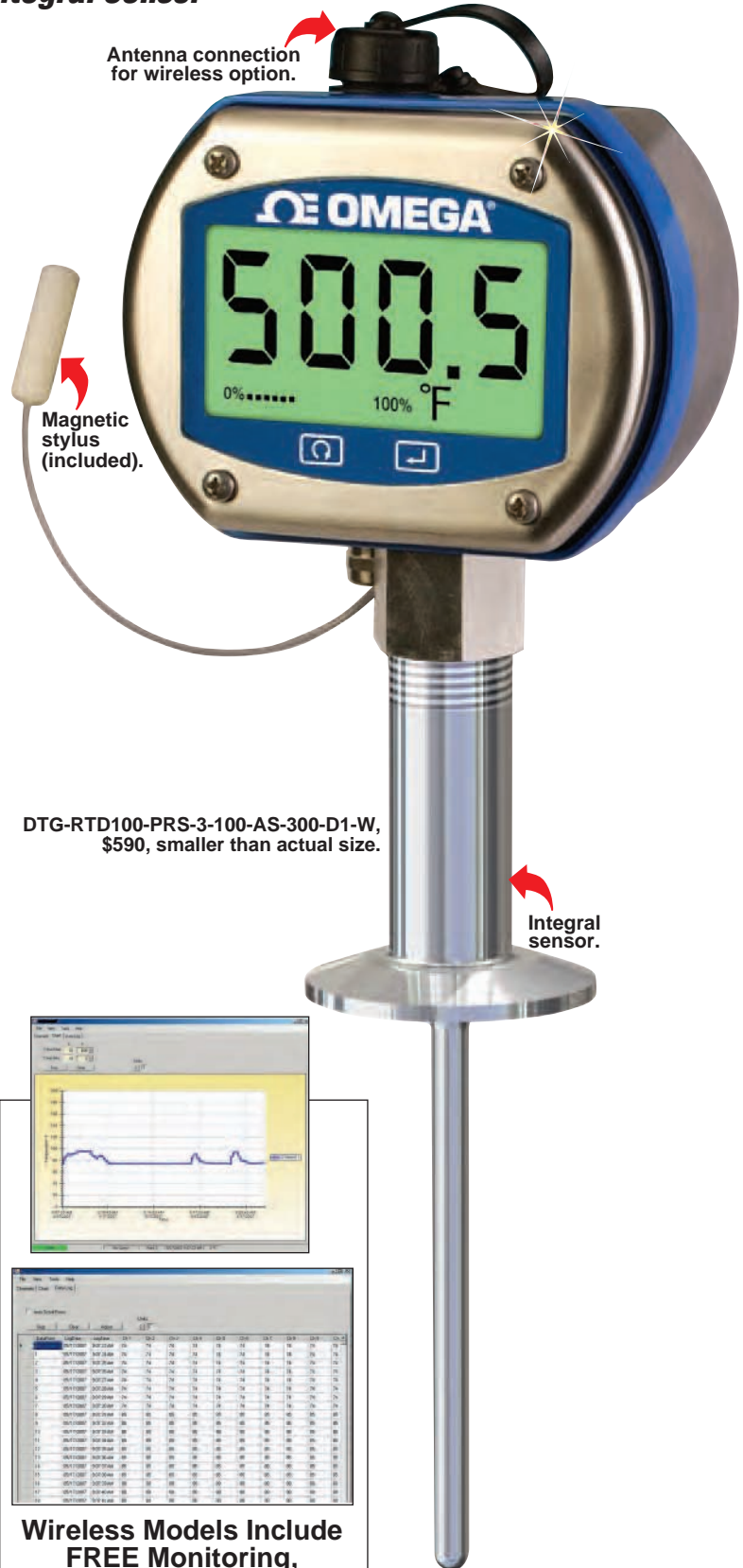
Magnetic stylus (included).

DTG-RTD100-PRS-3-100-AS-300-D1-W, $590, smaller than actual size.

Integral sensor.

Wireless Models Include FREE Monitoring, Charting and Data Logging Software For Your PC!

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS
1-877-82-6 6342®
1-877-TC-OMEGA®

## Digital RTD Thermometer for Use with Remote Sensor

Remote Sensor Options

3A approved, ¼" dia standard duty design, Pt100 sensor with M12 male connector, stainless steel construction and 1½" 16AMP cap, standard lengths from 3 to 6". Temperature range -50 to 200°C (-58 to 392°F).
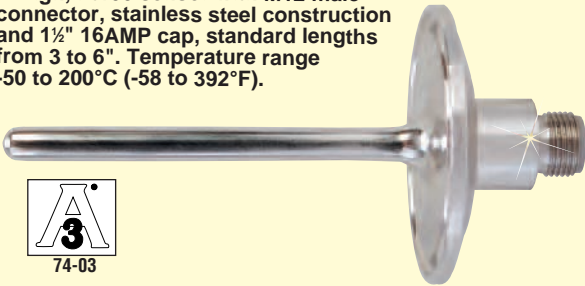
Ordering Example: DTG-RTD100-M12-F, thermometer with male M12 connection, PRS-3-100-A-S-0600-D1-M12, 6" standard duty sensor, and M12-PVC-4-S-M-R-F-5, cable, PVC jacket, 5 m (16.4') long.
Total system price: $425 + 110 + 22 = $557.

3A approved, ⅜" dia (stepped to ³⁄₁₆"), heavy-duty design, Pt100 sensor with M12 male connector, stainless steel construction and 1½" 16AMP cap, standard lengths from 3 to 6". Temperature range -50 to 200°C (-58 to 392°F).
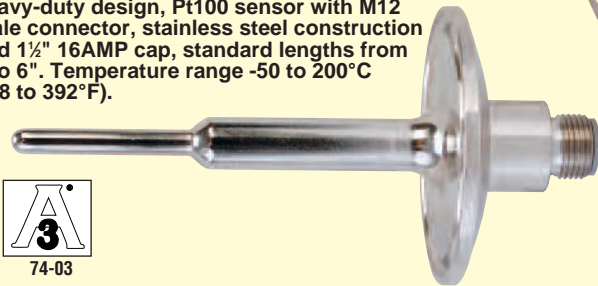
Ordering Example: DTG-RTD100-M12-F, thermometer with M12 male connection, PRS-3-100-A-H-0600-D1-M12, 6" heavy-duty sensor, and M12-PVC-4-S-M-R-F-5, cable, PVC jacket, 5 m (16.4') long.
Total system price: $425 + 140 + 22 = $587.

⅛" or ¼" dia, industrial sensor 316 stainless steel construction, ½ NPT with M12 connector. Temperature range -50 to 260°C (-58 to 500°F).

Ordering Example: DTG-RTD100-M12-F, thermometer with M12 male connection PR-21B-3-100-A-1/4-0600-M12, 6" industrial sensor, and M12C-PVC-4-R-F-5, cable, PVC jacket, 5 m (16.4') long. **Total system price: $425 + 75 + 22 = $522.**
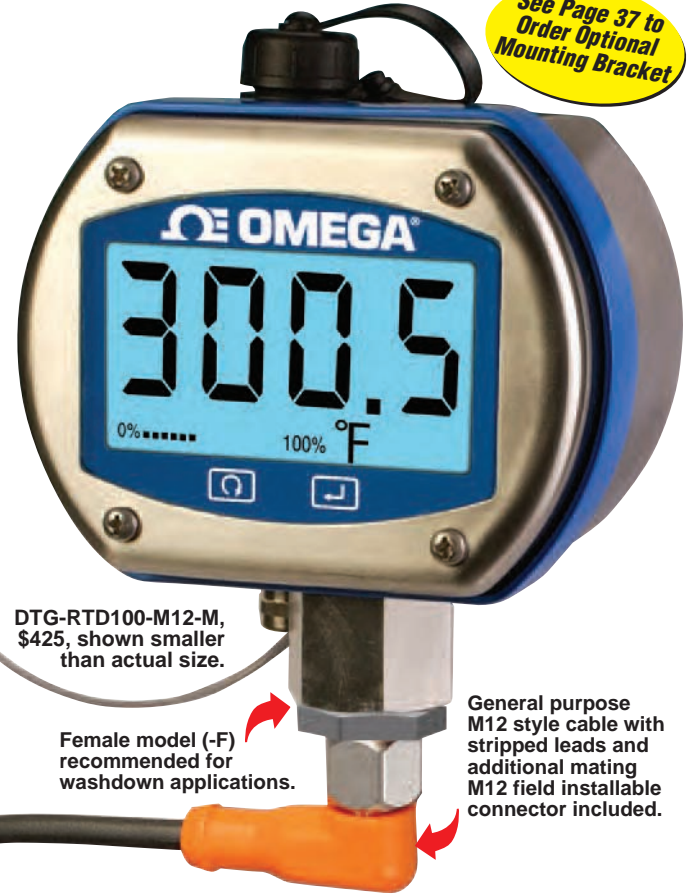
DTG-RTD100-M12-M, $425, shown smaller than actual size.

Female model (-F) recommended for washdown applications.

General purpose M12 style cable with stripped leads and additional mating M12 field installable connector included.

Optional Cables with M12C Connectors for Remote Sensor Connection

Rugged PVC jacketed cables for wash-down applications.

316 SS nut.

M12C-PVC-4-S-M-R-F-2 with right angle male and female connectors, $21.

M12C-PVC-4-S-M-S-F-2, with straight male and female connectors $21.

Thermowell Options for Sanitary Sensors
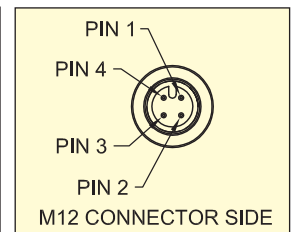
Standard 304 or 316 stainless steel models–260L Series

3A approved 316 stainless steel models–S Series. Visit omega.com/sanitary for the complete selection.

M12-R-F-FM, $11.

Field mountable connectors.

M12-S-F-FM, $11.

PIN 1, PIN 4, PIN 3, PIN 2
M12 CONNECTOR SIDE

Color Codes			
Pin 1	Pin 2	Pin 3	Pin 4
Brown	White	Blue	Black

Typical Multi-Unit Wireless Data Logging System

Shown smaller than actual size.

Up to 122 m (400')

DTG-RTD100, remote sensor model shown.

DTG-RTD100 shown with integral industrial probe and angle bracket option.

DTG-RTD100 shown with integral sanitary sensor.

UWTC-REC1 USB receiver, $225.

Laptop not included.

Thermometer without Sensor

AVAILABLE FOR FAST DELIVERY!

To Order *(Specify Model Number)*		
Model No.	**Price**	**Description**
DTG-RTD100	**$395**	Digital RTD thermometer with internal terminal block connection
DTG-RTD100-M12-F	425	Digital RTD thermometer with female M12 connection
DTG-RTD100-M12-M	425	Digital RTD thermometer with male M12 connection

Thermometer with Integral Sensors

Model No.	Price	Description
DTG-RTD100-PRS-3-100-AS-(*)-D1	**$490**	Digital RTD thermometer with integral standard duty ¼" dia sanitary Pt100 sensor, 1½" Tri-Grip™ 16AMP cap
DTG-RTD100-PRS-3-100-AH-(*)-D1	520	Digital RTD thermometer with integral heavy-duty ⅜" dia (stepped to ³⁄₁₆") sanitary Pt100 sensor, 1½" Tri-Grip™ 16AMP cap
DTG-RTD100-1/8-(*)-E	465	Digital RTD thermometer with integral ⅛" dia standard duty Pt100 sensor
DTG-RTD100-1/4-(*)-E	465	Digital RTD thermometer with integral ¼" dia standard duty Pt100 sensor

3A Approved Sensors with M12 Connector
(For use with DTG-RTD100-M12 Thermometers)

Model No.	Price	Description
PRS-3-100-A-S-(*)-D1-M12	**$110**	Standard duty sanitary ¼" Pt100 sensor, 1½" 16AMP cap
PRS-3-100-A-H-(*)-D1-M12	140	Heavy-duty sanitary ⅜" dia (stepped to ³⁄₁₆") Pt100 sensor, 1½" 16AMP cap

Accessories

Model No.	Price	Description
DTG-RTD100-MB	**$25**	Mounting bracket (not needed for models with intregral sensor)
DTG-RTD100-SK	35	Service kit, includes enclosure lid, clear window, gasket, washers, screws
DTG-MS	30	Spare magnetic programming stylus (2 pack)
BATT-C-3V	15	Replacement battery, "C" cell 3.6V lithium (2 required with wireless option)
UWTC-REC1	225	Wireless 48-channel USB receiver (used with wireless option only)
UWTC-REC3	235	Wireless 32-channel web based ethernet receiver (used with wireless option only)
UWTC-REC4-(**)	275	48-channel DIN rail wireless receiver with 4 analog outputs and alarms
CAL-3†	75	NIST-traceable calibration (meter only)
CAL-3-SYSTEM†	125	NIST-traceable calibration (meter with probe)

Comes complete with operator's manual, USB cable, user software and two 3.6V lithium "C" cell batteries.
*** Specify probe length; "300" for 3", "400" for 4", "500" for 5", or "600" for 6".*
**** Specify analog output signal: "V1" for 0 to 5 Vdc; "V2" for 0 to 10 Vdc, "TC" for Type K thermocouple, or "MA" for 4 to 20 mA signal.*
To order with angle bracket option, add suffix "-AB" to model number and $45 to price.
To order with wireless transmitter option, add suffix "-W" to model number, and $100 to price.
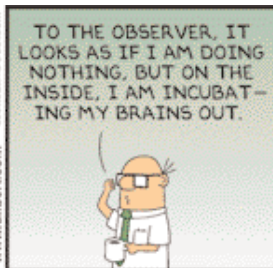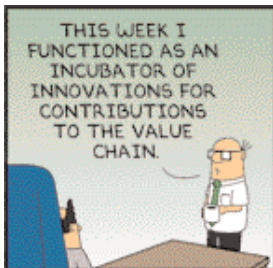**Note:** *Units with the wireless option require a UWTC series receiver or transceiver to operate.*
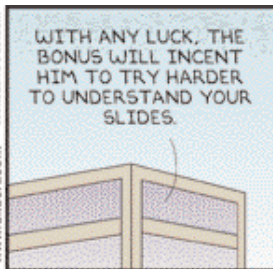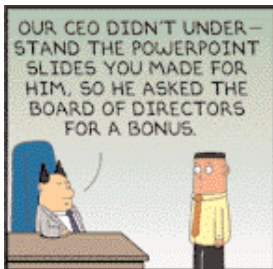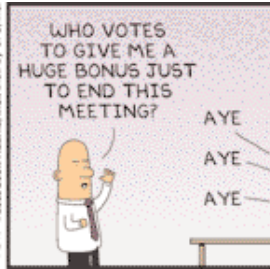**Ordering Examples: DTG-RTD100-AB-100-1/4-600-E-W-AB**, *RTD meter with integral Pt100, 6" long, ¼" dia industrial probe with angle bracket and wireless options, and* **UWTC-REC1**, *48-channel USB receiver, $465 + 45 + 100 + 225 = $835.*
DTG-RTD100-PRS-3-100-AS-300-D1, *RTD meter with integral Pt100, 3" L, ¼" dia sanitary probe, $490.*
DTG-RTD100-M12-M, *RTD meter with M12 connector, $425.*

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-6 6 342®
1-877-TC-OMEGA

NEW

Wireless RTD Transmitter
For Use in Sanitary/Washdown Applications

UWRTD-S-2 Starts at
$275

FCC/Industry Canada Approved

MADE IN USA · 1 YEAR WARRANTY · CE

For Sanitary, Washdown, Marine Applications

✔ **Transmit Temperature Data Wirelessly to Your Computer or the Internet**
✔ **Water Tight White Polypropylene Housing with Industry Standard M12 Connector**
✔ **Designed for 3-Wire Pt100 RTD Probe Input and Accuracy (4-Wire Compatible)**
✔ **Transmit Up to 120 m (400')**
✔ **Includes Software to Convert a PC into a Multichannel Chart Recorder or Data Logger**
✔ **Each Unit Transmits Sensor Temperature, Ambient Temperature, Signal Strength and Battery Status in Real Time**
✔ **Low Power Operation, Sleep Mode for Long Battery Life**
✔ **Compatible with UWTC-REC Wireless Receivers**
✔ **Works with Every OMEGA® UWTC Series USB or Web Enabled Ethernet Receiver and Wi Series Meter/Controller/Scanner and DIN Rail Receivers**
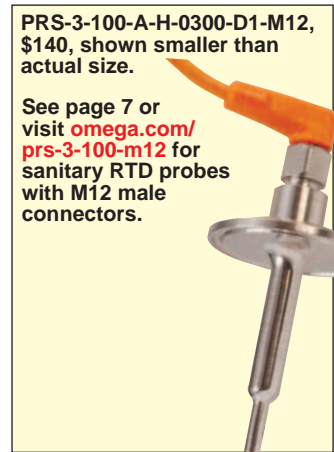
Works with all OMEGA UWTC Series wireless receivers, Visit omega.com/uwtc

UWTC SERIES WIRELESS RF RECEIVER · 2.4 GHz

UWRTD-S-2, $275, shown smaller than actual size.

PRS-3-100-A-H-0300-D1-M12, $140, shown smaller than actual size.

See page 7 or visit **omega.com/prs-3-100-m12** for sanitary RTD probes with M12 male connectors.

Includes mounting bracket and 2 m (6.5') M12 female sensor cable shown.

The new OMEGA® UWRTD-S-2 wireless temperature transmitter features a standalone, compact, battery powered wireless RTD transmitter that can communicate with a remote host receiver up to 120 m (400') away. Each unit can be programmed in the field for either Pt100 (0.00385) or 0.00392 curve operation. You can also program the transmission rate, from 2 sec to 2 min. The UWRTD-S-2 transmits the probe reading, along with ambient temperature, RF signal strength and battery condition. This data can be displayed on a PC in real time, using the TC Central software included with each unit. Interface up to 48 different wireless transmitters with one receiver.

Specifications
(See page 44 or visit **omega.com/uwrtd-s-2** for complete specifications)

RTD Connection: Standard 4-wire M12 connection cable included; 2 m (6.5') PVC insulated cable with a M12 male and female connector at the ends.
Battery: Two 1.5V lithium (AA) field replaceable (included) 1.5 yrs life at 1 sample/minute reading rate @ 25°C (77°F)
Housing Material: White polypropylene
Dimensions: 51 D x 147 mm L (2 x 5.78")
**Mounting:** Direct connection to probe or sensor (mounting bracket included)

AVAILABLE FOR FAST DELIVERY!

To Order *(Specify Model Number)*

Model No.	Price	Description
UWRTD-S-2	$275.00	Wireless RTD transmitter, polypropylene housing, M12 connection
MN1500-L	6.90	Two "AA" 1.5V lithium replacement batteries for UWRTD-S-2
UWTC-CABLE	5.00	Programming cable (included with UWTC-REC units)

Comes complete with two 1.5V lithium batteries, mounting bracket and 2 m (6.5') M12 sensor cable.
Ordering Example: UWRTD-S-2, *wireless RTD transmitter, with* **UWTC-REC1,** *48 channel wireless receiver, visit* **omega.com/uwtc**, *$275 + 225 = $500.*
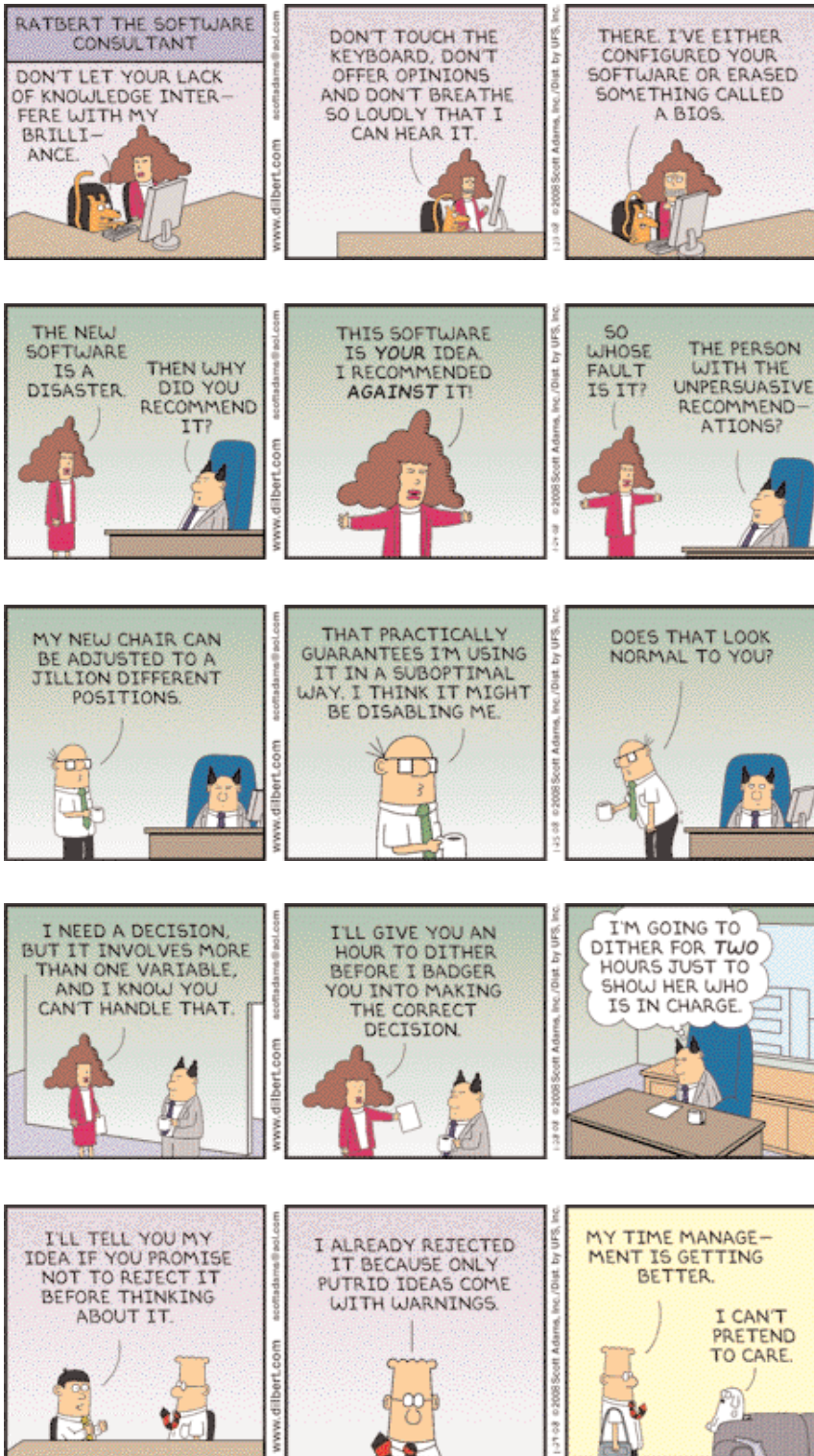
HOTLINE TO SANITARY PRODUCTS 1-877-82-66342® 1-877-TC-OMEGA

Wireless DIN Rail Receiver With 4 Analog Outputs and Alarms

UWTC-REC4
$275

MADE IN USA

See Page 41

Wireless RTD Probe/Transmitter Assembly
For Use in Sanitary Applications

UWRTD-NB9W Series
Starts at
$265

MADE IN USA

See Page 43

Wireless Infrared Thermometers
Built-In Dot/Circle Switchable
Laser Sighting, Thermocouple
Input and Close Focus Models

PATENTED

WIRELESS
OMEGASCOPE®
OS530E
Starts at
$295

MADE IN USA

See Page 45

For Sales and Service, Call Toll-Free:
1-800-82-66342®
1-800-TC-OMEGA
U.S.A. and Canada

Sales: FAX (Toll-Free)
1-877-FAX-OMEG(A)
24 HOURS

40

Wireless DIN Rail Receiver With 4 Analog Outputs and Alarms

UWTC-REC4

$275

✔ **Works with Up to 48 Wireless Transmitters**

✔ **Four 0 to 5 Vdc, 0 to 10 Vdc or 4 to 20 mA Analog Outputs**

✔ **Interface Directly to PLCs, Chart Recorders and Data Loggers**

✔ **Standard DIN Rail Enclosure**

✔ **Built-in Programmable Alarms for Each Channel**

✔ **Field Programmable via USB**

✔ **Included Software Turns a PC Into a Multi-Channel Meter, Chart Recorder or Data Logger**

Works with:
- **UWTC–Thermocouple**
- **UWRTD–RTD**
- **UWRH–Humidity**
- **UWIR–Infrared Temperature**
- **UWPH–pH**
- **UWPC–Process Voltage/Current Wireless Transmitters**

The UWTC-REC4 wireless DIN rail receiver can work with up to 48 wireless transmitters, displaying their data in real time on your PC. The UWTC-REC4 also has four independent analog outputs, which can be user-programmed as a retransmission signal from any input channel, driving a PLC or data logger. The UWTC-REC4 is compatible with the full line of UW wireless transmitters from OMEGA; choose from thermocouple, RTD, %RH, infrared (non-contact) temperature, pH, as well as process voltage/current models.

The standard DIN rail mount design provides for easy mounting, and fast connections to other DIN rail equipment, including PLCs. The optional iDRN-PS-1000 power supply can power up to three UWTC-REC4 units, which can give you up to 12 analog outputs.

Specifications

Power: 12 to 24 Vdc @ 250 mA

Analog Output: 4 independent, non-isolated, retransmission 0 to 5 Vdc, 0 to 10 Vdc or 4 to 20 mA

Alarms (Programmable): One per channel, rising/falling activation

Alarm Type: Open drain, 100 mA max

Power, Output, Alarm Connection: Screw terminals

Operating Ambient: 0 to 55°C (32 to 131°F), 90% RH non-condensing

Radio Frequency (RF) Transceiver Carrier: ISM 2.4 GHz, direct sequence spread spectrum

RF Data Packet Standard: IEEE 802.15.4, open communication architecture

Enclosure: DIN rail (plastic)

Dimensions: 93 H x 39 W x 125 mm D (3.64 x 1.55 x 4.93")

UWTC-REC4, $275, shown actual size.

Note: The UWTC-REC4 can be powered directly by the PLC or data logger you are connecting to and will not require an additional power source if the instrument has 12 to 24 Vdc @ 250 mA available for external devices. If your instrument does not have a power source available for external devices you will need to add an additional power supply (iDRN-PS-1000) to power the wireless receiver. This power supply can power up to 3 UWTC-REC4 receivers. Visit omega.com/wireless for more information.

Convenient DIN rail mount design simplifies installation and operation with PLCs and other instrumentation.

HE-XE102, $445, sold separately.

RAIL-35-1, $10, sold separately.

NEW!

Interfaces Directly with PLCs and Multi-Channel Data Loggers to Form a Complete *Wireless* Measurement and Control System!

UWTC-2-NEMA, thermocouple transmitter, $165.

RD8802CD, paperless recorder, $1995.

UWIR-2-NEMA, infrared temperature transmitter, $285.

RD9912, paperless recorder, $3200.

4 Analog Outputs

Wireless Inputs

HE-XE102, programmable logic controller, $445.

UWRH-2-NEMA, humidity/temperature transmitter, $235.

USB Connection

TC Central Software Included, Visit omega.com/uwtc-rec4 for Details

Up To 48 Channels!

Laptop not included.

UWTC-2, thermocouple connector, $135.

Patent Pending

*Typical system shown above includes any 4 wireless transmitters with one **UWTC-REC4-MA** wireless receiver with analog outputs, **$275** and **HE-XE102** PLC, **$445,** $275 + 445 = **$720.** (Receiver and PC only)*

AVAILABLE FOR FAST DELIVERY!

To Order *(Specify Model Number)*		
Model No.	**Price**	**Description**
UWTC-REC4-(*)	$275	DIN rail wireless receiver with 4 analog outputs and alarms
iDRN-PS-1000	150	Power supply (switching) 95 to 240 Vac input, 24 Vdc output @ 850 mA (power 3 units)
RAIL-35-1	10	35 mm (1.4") DIN rail, 1 m (3.3') length
RAIL-35-2	15	35 mm (1.4") DIN rail, 2 m (6.6') length

Comes complete with measurement/data logging software, USB programming cable, and operator's manual.
**** Specify analog output signal: "V1"** for 0 to 5 Vdc; **"V2"** for 0 to 10 Vdc, **"TC"** for Type K thermocouple, or **"MA"** for 4 to 20 mA signal.*
Ordering Example: UWTC-REC4-MA,** 48-channel DIN rail receiver with four 4 to 20 mA outputs and alarms, **$275.

Wireless RTD Probe/Transmitter Assembly
For Use in Sanitary Applications

**UWRTD-NB9W Series
Starts at**
$265

MADE IN USA **1 YEAR WARRANTY** **C E**

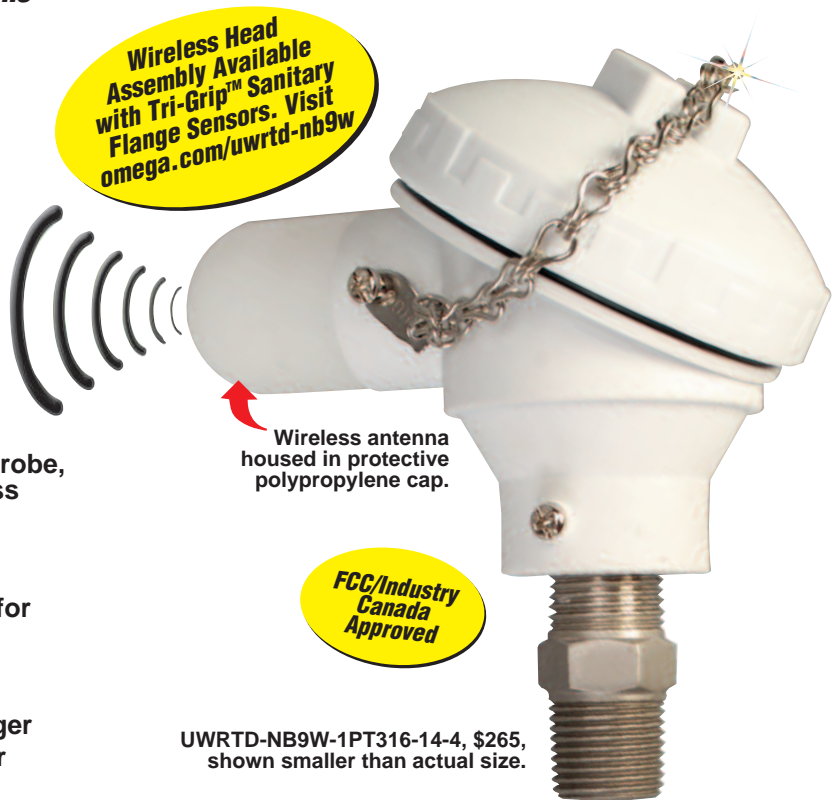*Wireless Head Assembly Available with Tri-Grip™ Sanitary Flange Sensors. Visit omega.com/uwrtd-nb9w*

↳ **Transmit Temperature Data Wirelessly to Your Computer or the Internet**
↳ **Complete Industrial Assembly—Includes Probe, Transmitter Housing/Head, Integral Wireless Transmitter and Long Life Battery**
↳ **Stainless Steel Construction with White Polypropylene Transmitter Housing**
↳ **Available with 3-A Approved Thermowells for Clean-in-Place (CIP) Applications**
↳ **Transmit up to 120 m (400')**
↳ **Included Software Converts a PC into a Multi-Channel Chart Recorder or Data Logger**
↳ **Each Wireless Connector Transmits Sensor Temperature, Ambient Temperature, Signal Strength and Battery Status in Real Time**
↳ **Low Power Operation, Sleep Mode for Long Battery Life**
↳ **Compatible with UWTC-REC Wireless Receivers, Wi Series Meter/Controller/Scanner and DIN Rail Receivers-Create 32- or 48-Channel Wireless Systems**

Wireless antenna housed in protective polypropylene cap.

FCC/Industry Canada Approved

UWRTD-NB9W-1PT316-14-4, $265, shown smaller than actual size.

Another Sani-Fit™ Product from OMEGA

The OMEGA wireless RTD industrial probe assemblies for sanitary applications feature a complete, ready to install, pre-wired Pt100 sensor and wireless transmitter package. Built into the NB9W white polypropylene head is a wireless transmitter that can transmit temperature readings back to a host receiver up to 120 m (400') away. The probes transmit the measured temperature, along with the head ambient temperature, RF signal strength and battery condition to a remote host, such as the UWTC-REC Series. You can program the UWTC-NB9 to transmit your data at rates from once every 2 seconds to every 2 minutes.

Data received by the UWTC-REC can be received and displayed on your computer, using the TC Central software included with each unit. The UWTC-REC1 is a 48-channel receiver with USB connection; the UWTC-REC-2 adds an analog output that can be used to retransmit a 0 to 5 Vdc, 0 to 10 Vdc, Type K thermocouple or 4 to 20 mA signal to a remote meter, controller, PLC or data acquisition instrument. Both are available with an optional NEMA-rated enclosure. The TC Central software can turn your PC into a strip chart recorder or data logger so readings can be saved and later printed or exported to a spreadsheet file.

Complete Your Wireless System With a USB or Web-Based Receiver!

UWTC SERIES WIRELESS RF RECEIVER
2.4 GHz
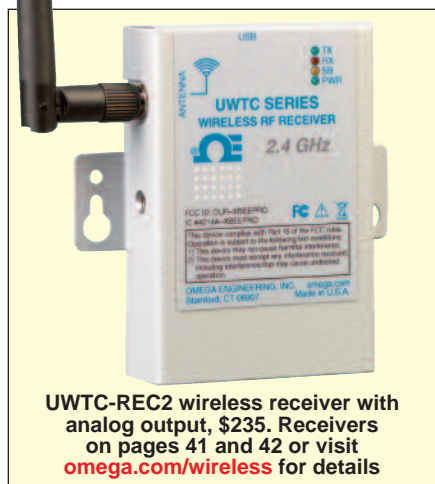
UWTC-REC2 wireless receiver with analog output, $235. Receivers on pages 41 and 42 or visit omega.com/wireless for details

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS **1-877-82-6 6342®**
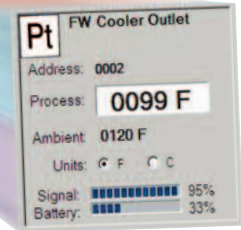**1-877-TC-OMEGA**

SANITARY TEMPERATURE SENSOR

NEW

Typical Wireless System

With OMEGA's wireless probes and receivers you can connect directly to a process recorder, as well as to your computer, to print and save your data!

TC Central Software Included, Visit omega.com/uwrtd-nb9w for Details

Available with or without 3-A thermowell. Wells also available separately; See page 67, or visit **omega.com/s-260_s-385** for details

Pt FW Cooler Outlet
Address: 0002
Process: **0099 F**
Ambient: 0120 F
Units: ⊙ F ○ C
Signal: 95%
Battery: 33%

USB

UWTC SERIES WIRELESS RF RECEIVER 2.4 GHz

Analog output

Up To 48 Channels!

UWTC-REC2 wireless receiver with analog output, **$235**, visit **omega.com/uwtc-rec1_2**

CTXL-DPR chart recorder, **$795**, see page 135 or visit **omega.com/ctxl**

Specifications

Input Type: 100 Ω Pt RTD; 0.00385 (Class A) or 0.00392 curve; 500 Ω, 1000 Ω elements also available by special order

Measurement Range:
  0.00385: -200 to 850°C (-328 to 1562°F)
  0.00392: -100 to 457°C (-148 to 854°F)

Accuracy: ±0.5°C (1°F)

Resolution: 1°C/1°F

Operating Environment: -10 to 70°C (14 to 158°F)

Transmit Sample Rate: Programmable from 2 sec to 2 min

Note: Because of transmission frequency regulations, these products may only be used in the United States, Canada and Europe.

Radio Frequency (RF) Transceiver

Carrier: ISM 2.4 GHz, direct sequence spread spectrum

RF Output Power: 10 dBm (10 mW)

RF Link Range: Up to 120 m (400') outdoor line of sight; up to 40 m (130') indoor/urban

RF Data Packet Standard: IEEE 802.15.4, open communication architecture

Computer Interface: USB, for initial transmitter/sensor setup and configuration

Software (Included with Receivers): Requires Windows OS

Battery: One 3.6V lithium (C size), 8.5 Ah capacity (included); 3 yr life at 1 sample/min rate @ 25°C (77°F)

Data Transmitted to Host: measured temperature, ambient temperature, RF signal strength and battery condition

Probe Assembly Material: 304 SS or 316 SS

Transmitter Housing Material: White polypropylene head

MOST POPULAR MODEL HIGHLIGHTED!

To Order (Specify Model Number)

Model No.	Price	Description
UWRTD-NB9W-(†)-(††)-4	$265	Wireless RTD probe/transmitter/head assembly (4" probe)
UWRTD-NB9W-(†)-(††)-6	275	Wireless RTD probe/transmitter/head assembly (6" probe)
UWRTD-NB9W-(†)-(††)-4-B	390	Wireless RTD probe/transmitter/head assembly (4" probe) with 11/2-S-260-U21/2-316SS thermowell
UWRTD-NB9W-(†)-(††)-6-C	420	Wireless RTD probe/transmitter/head assembly (6" probe) with 11/2-S-260-U41/2-316SS thermowell
UWTC-BATT-C	25	Replacement battery for UWRTD-NB9W, UWRTD-2-NEMA
UWTC-CABLE	5	Spare programming cable (one included with UWTC-REC receivers)

UWRTD-NB9 comes complete with probe, head/transmitter/antenna assembly and battery.
† Specify sensor type and probe sheath: "1PT304" for 100 Ω, 0.00385 curve with 304 SS sheath, "1PT316" for 100 Ω, 0.00385 curve with 316 SS sheath, "2PT304" for 100 Ω, 0.00392 curve with 304 SS sheath, or "2PT316" for 100 Ω, 0.00392 curve with 316 SS sheath, no additional charge.
†† Specify sheath diameter: "116" for 1.59 mm (1/16"), "18" for 3.18 mm (1/8"), "316" for 4.78 mm (3/16"), or "14" for 6.35 mm (1/4").
Ordering Examples: UWRTD-NB9W-1PT316-14-4-B, wireless RTD probe assembly, 100 Ω, 0.00385 curve, 316 SS sheath, 6.35 mm (1/4") sheath diameter, 102 mm (4") long, with 11/2-S-260-U21/2-316SS sanitary thermowell with 2½" insertion length, $390.
UWRTD-NB9W-1PT316-18-6, wireless RTD probe assembly, 100 Ω, 0.00385 curve, 316 SS sheath, 3.18 mm (1/8") sheath diameter, 152 mm (6") long, $275.
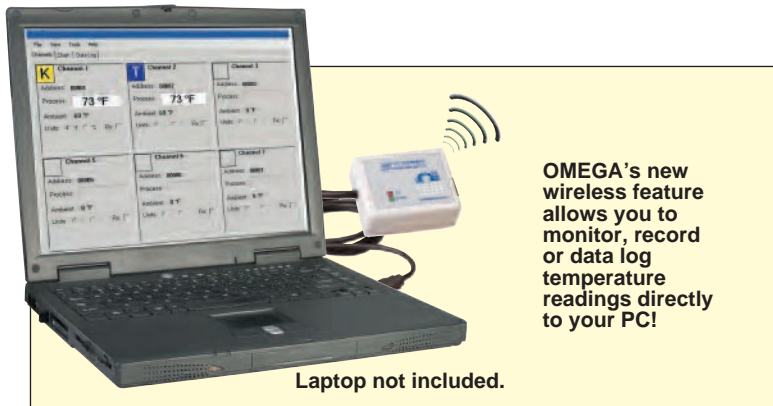
SHOP ONLINE AT **omega.com**℠

To download information and to order online, visit omega.com/sanitary

44

NEW ®

Wireless **Infrared Thermometers**
Built-In Dot/Circle Switchable
Laser Sighting, Thermocouple
Input and Close Focus Models

WIRELESS
OMEGASCOPE®
OS530E
Starts at
$295

MADE IN **USA** · **OE 2 YEAR WARRANTY** · **CE** · **EMC SERVICES**

™

PATENTED

OMEGA's new wireless feature allows you to monitor, record or data log temperature readings directly to your PC!

Laptop not included.

OS532E-W9, $450.

NEW

Portable mini-tripod (included), shown smaller than actual size.

The OS530E is a perfect toolbox companion! Check surface temperatures quickly and accurately.

305 mm (1') Retractable Cable Expands to 1.2 m (4')

SPHT-K-6, Type-K surface probe, included with all thermocouple input models.

A $45 value included FREE!

Sanitary product line continues to expand, visit **omega.com/sanitary** for details!

HOTLINE
TO SANITARY PRODUCTS
1-877-82-6 6342®
1-877-TC-OMEGA

NEW

OMEGASCOPE®
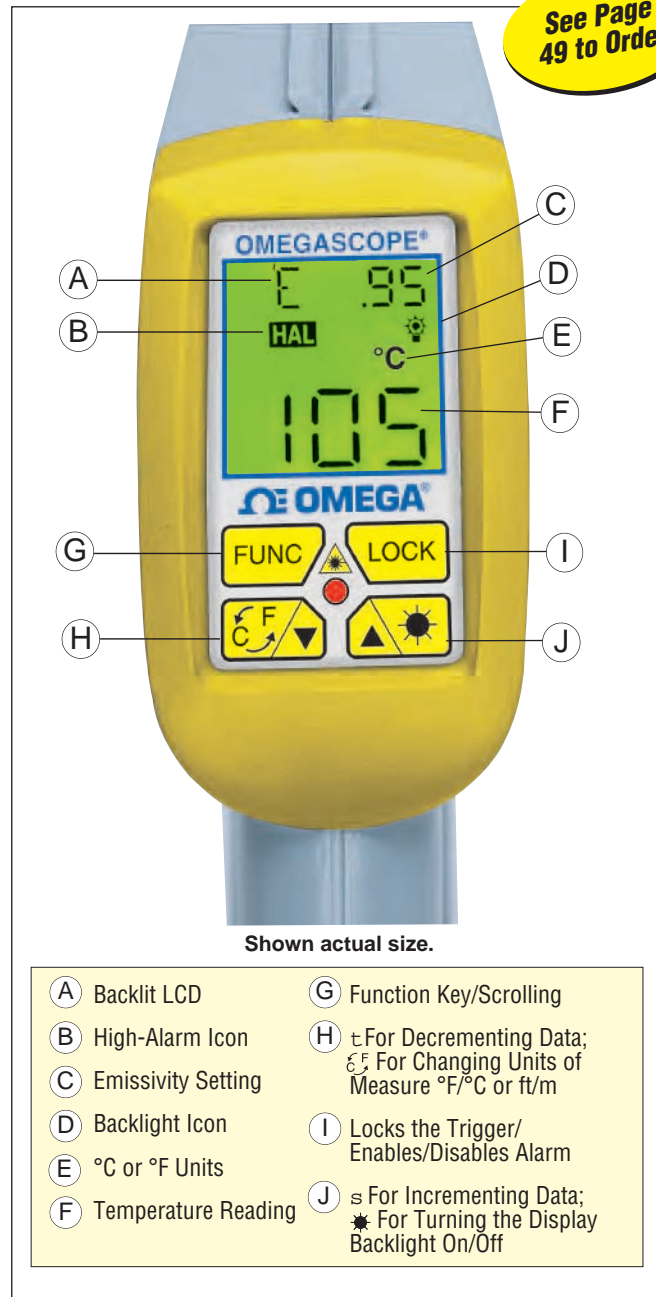### Unmatched Performance, Features and Value

ΩE MONOGRAM® SERIES

PATENTED

Patents issued and pending on many aspects of this device, including but not limited to laser circle and distance measurement.

- ✔ Built-In **Wireless** Measurement
- ✔ Rugged, High-Performance Design
- ✔ Built-In Patented Laser Sighting is Switchable Between Laser Dot and Circle Patterns
- ✔ The Laser Can be Flashing or Continuous
- ✔ New Series Includes High-Performance, General Purpose, Close-Focus, and High-Resolution Models
- ✔ Models Available with Temperature Ranges from -23 to 871°C (-10 to 1600°F)
- ✔ Emissivity Adjustable from 0.1 to 1.00 in 0.01 Steps
- ✔ Models OS532, OS533, OS534 Come with 6" Long Type K Surface Probe
- ✔ Distance Measuring Option—Either Field Mountable or Built-In [0.9 and 9 m (3 and 30') Range]
- ✔ Backlit LCD
- ✔ Dual Digital Display Indicates Current Temperature as well as Min, Max, Average, or Differential Temperatures
- ✔ °C/°F Switchable
- ✔ 1 mV/Degree Analog Output Standard
- ✔ RS232 Output Models Include **FREE** Windows® Based Data Logging Software
- ✔ Audible and Visible Alarms
- ✔ Integral Tripod Mount
- ✔ Type K Thermocouple Input Available
- ✔ Temperature Data Storage Available on OS534E (Up to 800 Data Points)
- ✔ Electronic Trigger Lock
- ✔ Last Temperature Recall
- ✔ All Models Include Portable Mini-Tripod, Built-In Laser Sighting, Display and Lens Protective Bumpers, Wrist Strap, Soft Carrying Case, 4 "AA" Lithium Batteries, and User's Manual with Emissivity Reference Chart
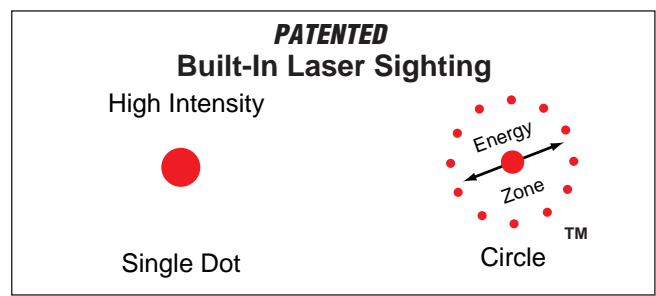
OMEGACARE℠ Extended Warranty Program

OMEGACARE℠ extended warranty program is available for models shown on this page. Ask your sales respresentative for full details when placing an order. OMEGACARE℠ covers parts, labor and equivalent loaners.

We make running changes when technical advances allow. Check at time of ordering for additional features.

OMEGASCOPE®

ΩE OMEGA®

| FUNC | LOCK |
| C F ▼ | ▲ ☀ |

Shown actual size.

Ⓐ Backlit LCD		Ⓖ Function Key/Scrolling
Ⓑ High-Alarm Icon		Ⓗ t For Decrementing Data; For Changing Units of Measure °F/°C or ft/m
Ⓒ Emissivity Setting		
Ⓓ Backlight Icon		Ⓘ Locks the Trigger/ Enables/Disables Alarm
Ⓔ °C or °F Units		
Ⓕ Temperature Reading		Ⓙ s For Incrementing Data; ☀ For Turning the Display Backlight On/Off

PATENTED
Built-In Laser Sighting

High Intensity

Single Dot

Energy Zone

Circle ™

Laser Circle to Dot Switchable

To download information and to order online, visit omega.com/sanitary

NEW® MADE IN USA

OMEGASCOPE® *WIRELESS* Handheld Thermometer Series

Patented Laser Switchable from Circle to Dot

With a combination of powerful features, the portable and rugged OS530E Series infrared thermometers offer solutions for many non-contact temperature measurement applications. Emissivity adjustable in 0.01 increments, the OS530E series provides versatility when measuring a variety of surfaces.
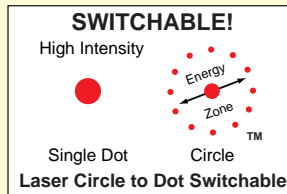
A custom backlit LCD display provides dual digital display of both current and max, min, diff or average temperatures simultaneously. This provides the user with more information at a glance. Built-in laser sighting creates a 12-point circle which clearly indicates the target area being measured.

The OS530E also features a high alarm setpoint, providing both audible and visual indication of the alarm status. The standard 1 mV per degree analog output allows interfacing with data acquisition equipment, including chart recorders, dataloggers and computers.

Optical Field of View

10:1 Distance to Spot Size Ratio

OS530LE, OS532E
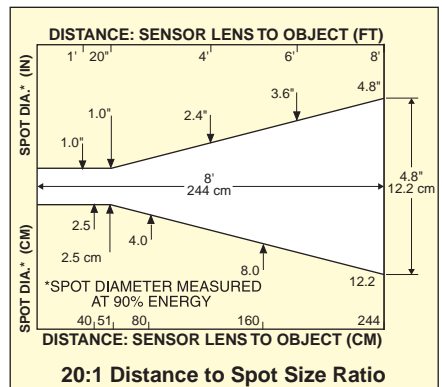
20:1 Distance to Spot Size Ratio

OS530HRE, OS533E
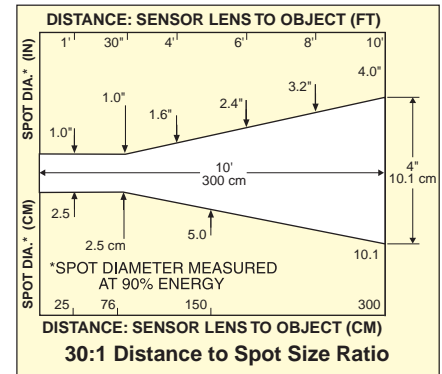
30:1 Distance to Spot Size Ratio

OS534E
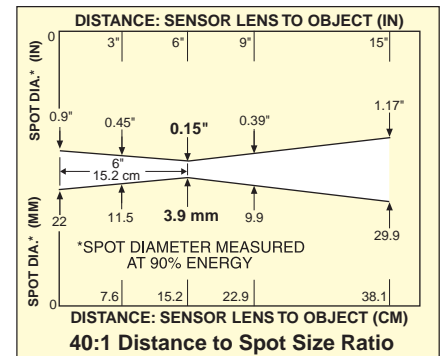
40:1 Distance to Spot Size Ratio

OS530LE-CF, OS533E-CF and OS534E-CF

Standard Features

Circle/Dot Switch

SWITCHABLE!
High Intensity

Single Dot   Circle ™

Laser Circle to Dot Switchable

Patented Laser Sighting Switchable Between Dot and Circle Laser Pattern

Tripod Mountable

Laser Power Switch

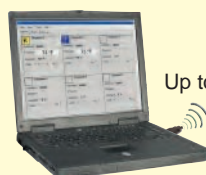**Analog Output Standard on All Models**

6" Long K Surface Probe Standard on OS532E, OS533E, and OS534E

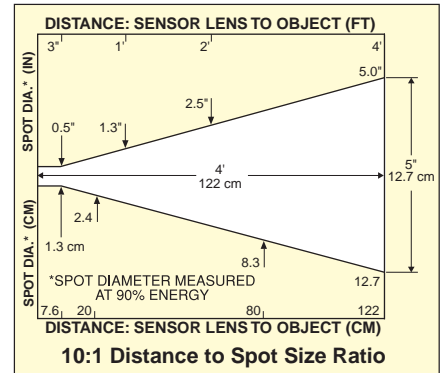**Large, Backlit Display**

Accessories Included

Up to 150' wireless distance

**Built-In Wireless Measurement Standard on All Models***

* Requires optional wireless receiver

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS **1-877-82-6 6 342**® **1-877-TC-OMEGA**

NEW

Laptop not included.

TC Central Software Included, Visit omega.com/os530e-w9 for Details

See Page 49 to Order

Monitor Up to 48 Different Wireless Instruments with One Receiver!

Optional Wireless Receivers

MWTC-REC5, mini USB wireless receiver, actual size, $35.
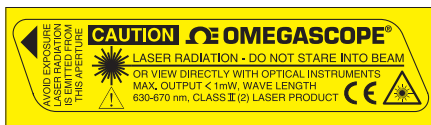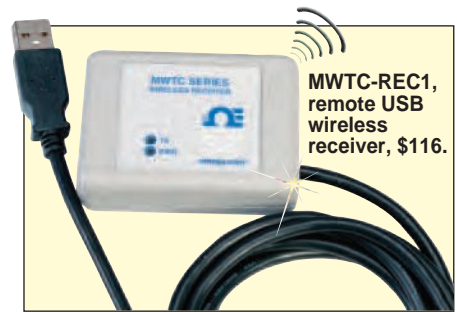

MWTC-REC1, remote USB wireless receiver, $116.

Specifications
Repeatability: ±(1% rdg + 1 digit)
Resolution: 1°C or 1°F (0.1°C or °F on OS530HR)
Response Time: 250 msec
Spectral Response: 8 to 14 μ
Emissivity: 0.10 to 1.00 in 0.01 increments
Operating Ambient: 0 to 50°C (32 to 122°F)
Power: 4 "AA" alkaline batteries (2 sets included) or optional ac adaptor
Battery Life: 58 hr, alkaline; 9 days, lithium
Analog Output: 1 mV/°C or 1 mV/°F
Tripod Mount: ¼" to 20 UNC
Display: Backlit LCD; displays current and min or max, differential, average temperatures simultaneously
Alarm: High alarm standard, with audible and visual indication
RS232: One way communication

Wireless Specifications
Measurement Accuracy: ±1.0°C (1.8°F)
Measurement Resolution: 1°C/1°F
Transmit Sample Rate: 1 sample/ every 2 seconds (fixed)

Radio Frequency: ISM 915 MHz or ISM 868 MHz
RF Output Power: 10dBm (10 mW)
Range of RF Link:
  Up to 90 m (300'): Outdoor line of sight
  Up to 39 m (130'): Indoor/urban
Laser Sight Specifications
Wavelength (color): 650 nm (red)
Operating Distance:
  Laser Dot: 0.6 to 12 m (2 to 40')
  Laser Circle: 0.6 to 4.5 m (2 to 15')
FDA Classification: Class II
European Classification: Class 2
Beam Diameter: 5 mm
Operating Temperature: 0 to 50°C (32 to 122°F)

Free Data Logging Software with RS232 Models. Windows® Software Displays Data in Graphical or Tabular Format.

FREE SOFTWARE

**CAUTION** Ω **OMEGASCOPE®**
LASER RADIATION - DO NOT STARE INTO BEAM
OR VIEW DIRECTLY WITH OPTICAL INSTRUMENTS
MAX. OUTPUT < 1mW, WAVE LENGTH
630-670 nm, CLASS II (2) LASER PRODUCT
AVOID EXPOSURE LASER RADIATION IS EMITTED FROM THIS APERTURE

NEW

Distance Measuring Option

For built-in distance measurement option add suffix "-DM" to model number and $75 to price.
Example: OS530LE-W9-DM, $370

PATENTED
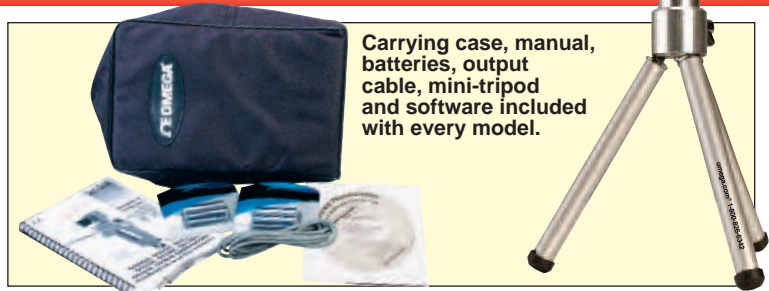
Carrying case, manual, batteries, output cable, mini-tripod and software included with every model.

☐ *MOST POPULAR MODELS HIGHLIGHTED!*

To Order *(Specify Model Number)*

Model No.	OS530LE-(†)	OS530HRE-(†)	OS530LE-CF-(†)	OS532E-(†)	OS533E-CF-(†)	OS533E-(†)	OS534E-CF-(†)	OS534E-(†)
Price	$295	$345	$345	$450	$550	$550	$650	$650
Accuracy*	±1% rdg	±1% rdg	±1% rdg	±1% rdg	±1% rdg	±1% rdg	±1% rdg	±1% rdg
Range	-23 to 538°C -10 to 1000°F	-30 to 121°C -22 to 250°F	-23 to 538°C -10 to 1000°F	-23 to 538°C -10 to 1000°F	-23 to 538°C -10 to 1000°F	-23 to 538°C -10 to 1000°F	-23 to 871°C -10 to 1600°F	-23 to 871°C -10 to 1600°F
Emissivity	Adjustable	Adjustable	Adjustable	Adjustable	Adjustable	Adjustable	Adjustable	Adjustable
Display Resolution	1°	0.1°	1°	1°	1°	1°	1°	1°
Distance to Spot Size Ratio	10:1	20:1	0.15"@6"	10:1	0.15"@6"	20:1	0.15"@6"	30:1
Differential Temperature	Std	Std	Std	Std	Std	Std	Std	Std
Min/Max Temperature	Std	Std	Std	Std	Std	Std	Std	Std
Average Temperature	Std	Std	Std	Std	Std	Std	Std	Std
High Alarm	Std	Std	Std	Std	Std	Std	Std	Std
Low Alarm	—	—	—	—	Std	Std	Std	Std
Audible Buzzer and Indicator	Std	Std	Std	Std	Std	Std	Std	Std
Ambient Target Temp. Comp.	—	—	—	—	Std	Std	Std	Std
Analog Output	1 mV/deg	1 mV/deg	1 mV/deg	1 mV/deg	1 mV/deg	1 mV/deg	1 mV/deg	1 mV/deg
RS232 Output	—	—	—	—	Std	Std	Std	Std
Thermocouple Input	—	—	—	Std	Std	Std	Std	Std
Data Storage	—	—	—	—	—	—	Std	Std
Laser Sight (Built-In)	Dot/circle	Dot/circle	Dot	Dot/circle	Dot	Dot/circle	Dot	Dot/circle
Trigger Lock	Std	Std	Std	Std	Std	Std	Std	Std
Last Temperature Recall	Std	Std	Std	Std	Std	Std	Std	Std

* Or 1.7°C (3°F), whichever is greater.
† Insert "W9" for 915 MHz (USA/Canada) or "W8" for 868 MHz (CE models).

All units come complete with mini-tripod, software, carrying case, output cable, 4 "AA" batteries (2 sets included) and operator's manual.
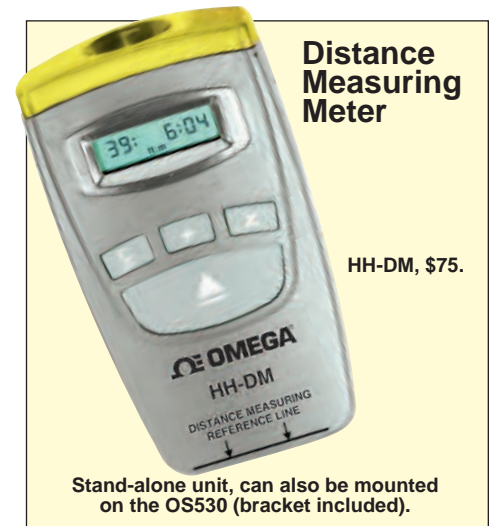
Accessories

Model No.	Price	Description
UNIV-AC-100/240	$25	Universal 9V adaptor
OS520-RCC	30	Hard carrying case
OM-3000-SC	15	Spare soft carrying case
88013K	110	Surface probe, up to 815°C (1500°F)
88001K	110	Surface probe, up to 482°C (900°F)
CAL-3-IR	125	NIST-traceable calibration
CAL-3-IR-X	175	NIST calibration for over 1000°F
MINI-TRIPOD	12	Replacement portable mini-tripod expands from 142 to 279 mm (5.6 to 11")
HH-DM	75	Distance measuring meter w/mounting bracket (3 to 30')
SPHT-K-6	45	6" Type K surface probe, rated up to 650°C (1200°F)
OM-CONV-USB	15	RS232 to USB cable
WRS232-USB	159	Wireless RS232 transceiver kit
MWTC-REC5-(**)	35	Mini USB wireless receiver
MWTC-REC1-(**)	116	Remote USB wireless receiver

Distance Measuring Meter

HH-DM, $75.

Stand-alone unit, can also be mounted on the OS530 (bracket included).

** Insert "915" for 915 MHz (USA/Canada) or "868" for 868 MHz (CE models).

Ordering Examples: OS530LE-W9, wireless handheld infrared thermometer (USA/Canada) with built-in Laser Circle to Dot Switchable feature, **$295,** plus **MWTC-REC5-915,** mini USB wireless receiver (USA/Canada), **$35,** $295 + 35 = **$330.**

OS532E-W8, wireless handheld infrared thermometer (USA/Canada) with built-in Laser Circle to Dot Switchable feature and thermocouple input, **$450,** plus **MWTC-REC1-868,** remote USB wireless receiver (Europe), **$116,** $450 + $116 = **$566.**

OS534E-CF-W9, close-focus wireless handheld infrared thermometer (USA/Canada) with built-in Laser Circle to Dot Switchable feature, thermocouple input and RS232 output, **$650,** plus **OCW-3** OMEGACARE℠ 3-year extended warranty, **$65,** and **MWTC-REC5-915,** mini USB wireless receiver (USA/Canada), **$35,** $650 + 65 + 35 = **$750.**

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-6 6 3 4 2®
1-877-TC-OMEGA

DOGBERT THE FINANCIAL PLANNER

WITH ADVANCES IN HEALTH CARE, YOU COULD LIVE TO BE 200.

IF YOU HAVE A GOOD FINANCIAL PLAN, ONLY THE LAST 120 YEARS WILL BE SPENT IN SQUALOR.

I RECOMMEND A DIVERSIFIED PORTFOLIO.

AND BACON.

DOGBERT THE FINANCIAL PLANNER

INVESTING IS FAR TOO COMPLICATED FOR YOUR TINY BRAIN.

YOU ARE A FINANCIAL TROGLODYTE!!!

DO I GET SOME ADVICE NOW?

NO, OUR FIRST MEETING IS JUST TO SOFTEN YOU UP.

DO YOU HAVE ANY HOBBIES?

I LIKE TO READ OBSCURE ARTICLES ON THE INTERNET AND IMAGINE HAVING FRIENDS WHO ARE INTERESTED IN THE SAME THINGS.

BUT YOU DO HAVE FRIENDS, RIGHT?

IS IT TOO LATE TO CHANGE THE SUBJECT?

IF I TRY TO GIVE YOU THE RAISE YOU DESERVE, THE PEOPLE ABOVE ME WILL JUST REDUCE IT.

MAYBE YOU COULD USE SOME OF YOUR POLITICAL CAPITAL TO ARGUE MY CASE.

MAYBE NOT.

YOUR TRAVEL EXPENSES ARE REJECTED BECAUSE ALL OF YOUR MEAL COSTS ARE ROUND NUMBERS.

EITHER YOU ARE A LIAR, OR WORSE.

I DECIDE WHAT TO ORDER BASED ON WHAT TOTALS TO A ROUND NUMBER AFTER A 15% TIP.

THAT'S WORSE.

Dilbert © United Feature Syndicate

Thermal Imager

OSXL-101
$2900

See Page 51

Thermal image PC software included.

Temperature and Humidity Virtual Chart Recorder i.Server
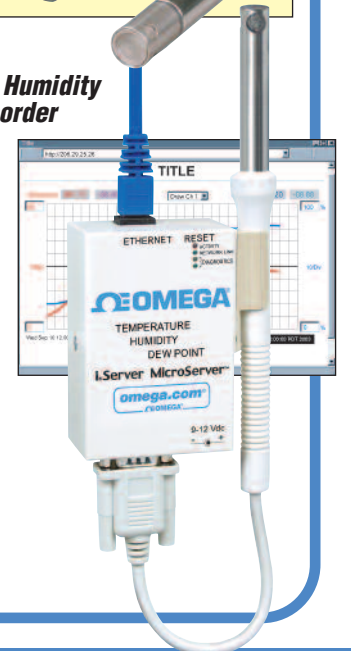
iTHX-2 Series Starts at
$295

MADE IN USA

See Page 55

TITLE
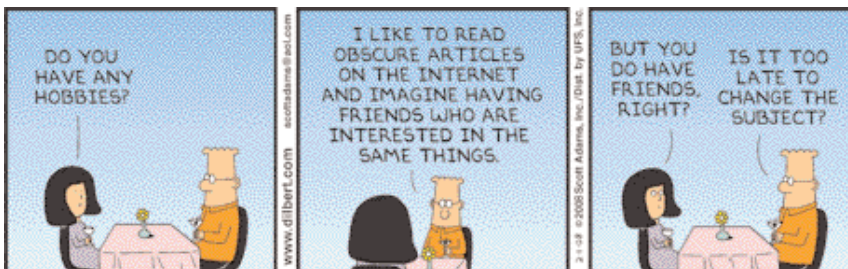
Temperature and Humidity Virtual Chart Recorder

i.Server

iTHX-W Series Starts at
$295

MADE IN USA

See Page 57

ETHERNET   RESET

OMEGA
TEMPERATURE
HUMIDITY
DEW POINT
i.Server MicroServer™
omega.com®

NEW ®

Thermal Imager

OSXL-101

$1990

1 YEAR WARRANTY CE RoHS

- ✔ **Thermal Imager with Ethernet Connection**
- ✔ **Easy to Use and Implement**
- ✔ **2256 Pixel Resolution**
- ✔ **Built-In Alarms**
- ✔ **NEMA 4 (IP65)**

The OSXL-101 is a compact infrared thermal imaging sensor utilizing a thermopile array detector. The OSXL-101 sensor measures real-time temperature and a thermal image up to 300°C (572°F). Ethernet connectivity allows the sensor to communicate with the PC running the application software or customers LAN.

Specifications
Temp Range: -20 to 300°C (-4 to 572°F)
Working Temp: -10 to 50°C (14 to 122°F)
Working RH: 10 to 80% RH
(no dew condensation)
Temperature Resolution: 0.5°C
Accuracy: ±2% of reading or ±3°C whichever larger
(at ambient temp of 25°C ±2°C)
Detector: Thermopile array,
48 x 47 pixels
Wavelength: Center wavelength 10μm
Viewable Angle: 60°x 60°
Radius Resolution: 21.8 mrad
Frame Speed: 3 fps (1 fps for alarm output)
Focus: Fixed focus
Emissivity: 0.10 to 1.00
Ethernet: 10BASE-T/100BASE-TX
Alarm: 2 SPST (non-voltage contact output)
Power Supply: 9 to 30 Vdc
Power Consumption:
Max 2VA @ 12 Vdc
Inrush Current: Max 1.3A @ 12 Vdc
(The inrush current should be considered for the selection of power)
Casing: Polycarbonate (color: black)
Weight: Approx. 150 g (5.2 oz)
(sensor only)
Protection: NEMA 4 (IP65) (with provided exclusive cable and tripod screw)
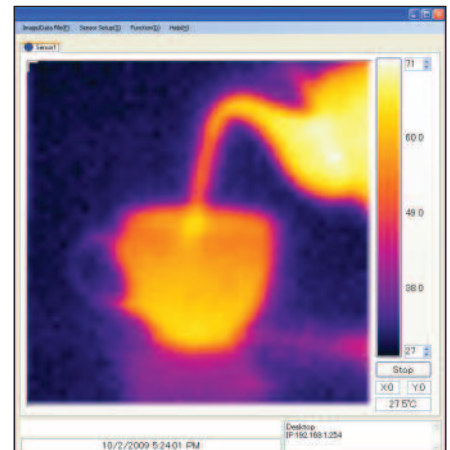**Standards:** CE (EN61326 Annex A)

OSXL-101, $1990, shown with mounting stand (included).

Mounting stand features a ball-socket fitting for full range of motion.
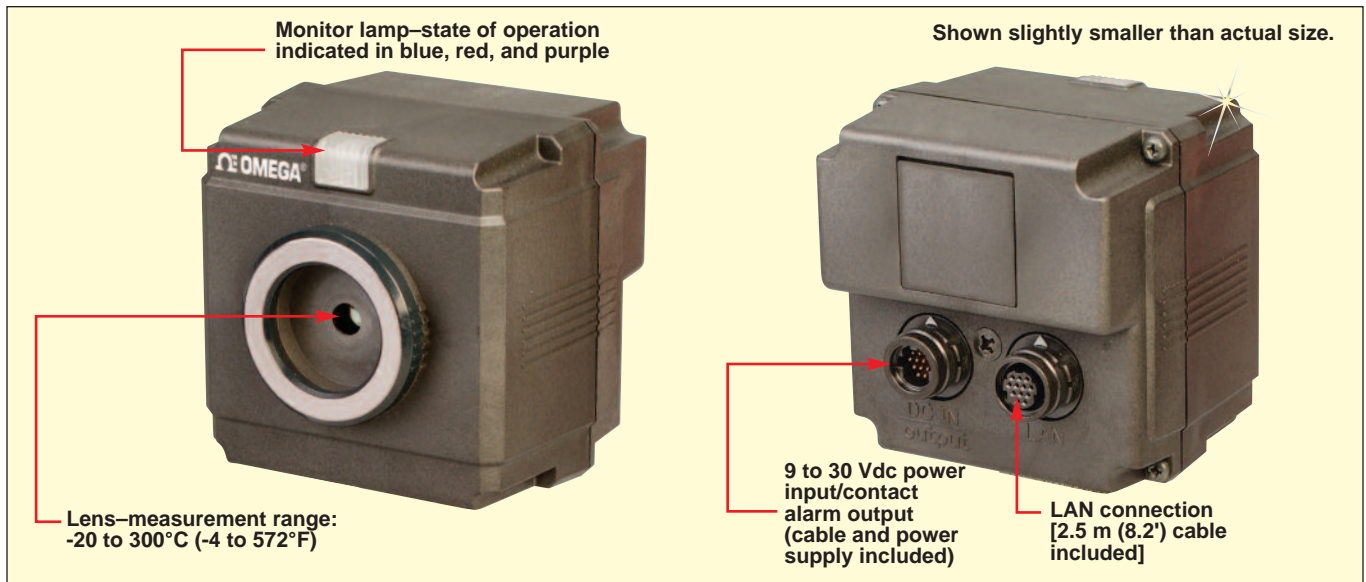
Thermal imaging software included.
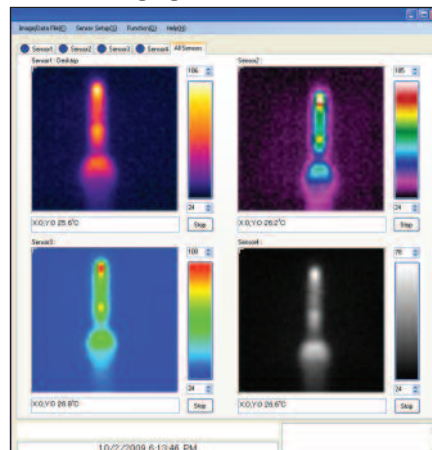
Thermal image PC screen of 4 sensors (maximum) connected.

Thermal image PC screen of 1 sensor connected.

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-6 6 342 ®
1-877-TC-OMEGA

Thermal Imager

Monitor lamp–state of operation indicated in blue, red, and purple

Shown slightly smaller than actual size.

OMEGA

Lens–measurement range: -20 to 300°C (-4 to 572°F)

9 to 30 Vdc power input/contact alarm output (cable and power supply included)

LAN connection [2.5 m (8.2') cable included]

Functions

Monitoring Mode

The temperature data is outputted continuously by a command from the PC
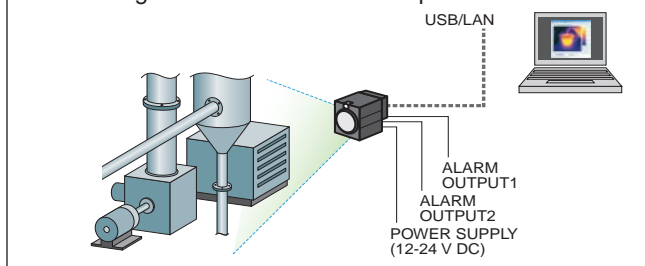
Monitor Mode

Multiple Unit Connection (LAN)

☞ Up to 4 sensors can be connected

☞ Monitoring and alarm outputs from sensor can be used together

LAN

ALARM OUTPUT1
ALARM OUTPUT2
POWER SUPPLY (12-24 V DC)
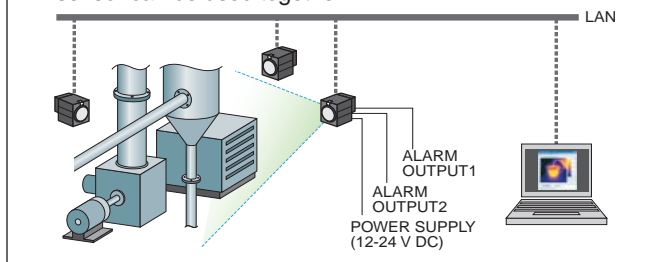
Monitor Mode

Single Unit Usage

☞ Single unit can monitor 1 area and has 2 alarm outputs

☞ When alarm goes on, the unit stores 1 image to the memory

☞ Image saving updates every occurrence of alarm

☞ Reading the data from host PC is possible

USB/LAN

ALARM OUTPUT1
ALARM OUTPUT2
POWER SUPPLY (12-24 V DC)

Capturing Mode

The temperature data is outputted row-by-row horizontally by a command from PLC, etc.
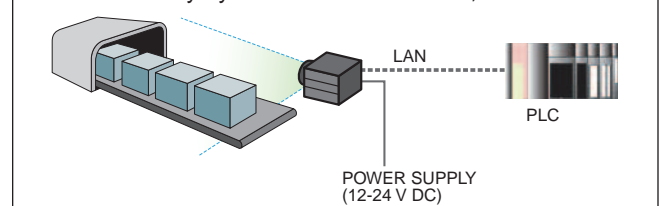
Connectivity

Up to 4 sensors can be connected to a PC via LAN and viewer software allows you to monitor thermal images, measuring temperature and alarms.
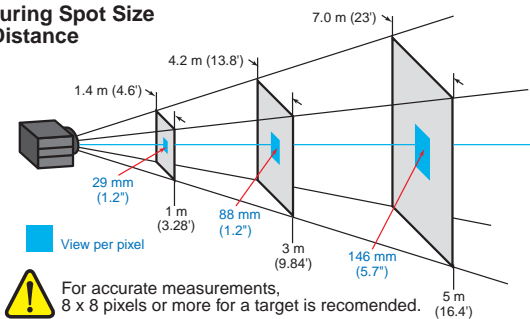
Capturing Mode

PLC Connection

☞ The temperature data is outputted row-by-row horizontally by a command from PLC, etc

LAN

PLC

POWER SUPPLY (12-24 V DC)

Measuring Spot Size and Distance

7.0 m (23')
4.2 m (13.8')
1.4 m (4.6')

29 mm (1.2")
88 mm (1.2")
146 mm (5.7")

1 m (3.28')
3 m (9.84')
5 m (16.4')

View per pixel

⚠ For accurate measurements, 8 x 8 pixels or more for a target is recomended.

Distance	1 m (3.28')	3 m (9.84')	5 m (16.4')
Width m (ft)	1.4 (4.6)	4.2 (13.8)	7.0 (23)
Width/Pix mm (in)	29 (1.2)	88 (3.5)	146 (5.7)

Application Software

Requirements

OS: Windows® 2000 (SP4 or later)/ XP/Vista (Windows XP or later recommended)
NET Framework 2.0 or later (required)

Memory

Windows 2000/XP: 1 GB recommended (512 MB or more)
Windows Vista: 2 GB or more recommended

CPU

Windows 2000/XP: 1.5 GHz or faster recommended
Windows Vista: 2 GHz or faster recommended

Basic Function

When the LAN settings are completed correctly between a PC and the thermal image sensor and the LAN communication is established, thermal image screen will appear. The thermal images up to 4 sensors can be displayed with this application software, and the simultaneous display for 4 images and the individual display for each sensor can be switched.

Various Settings of Sensor

LAN settings/alarm settings of the sensors/emissivity setting

Data Storage

Image temperature data storage (temperature data/csv for 2256 pixels)/ Thermal image screen storage (JPEG)

Image Processing

Screen averaging/spatial smoothing/ median filter/rotation/maximum and minimum values indications
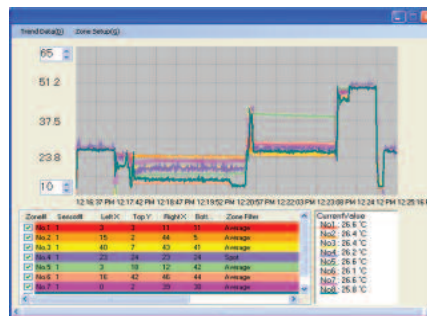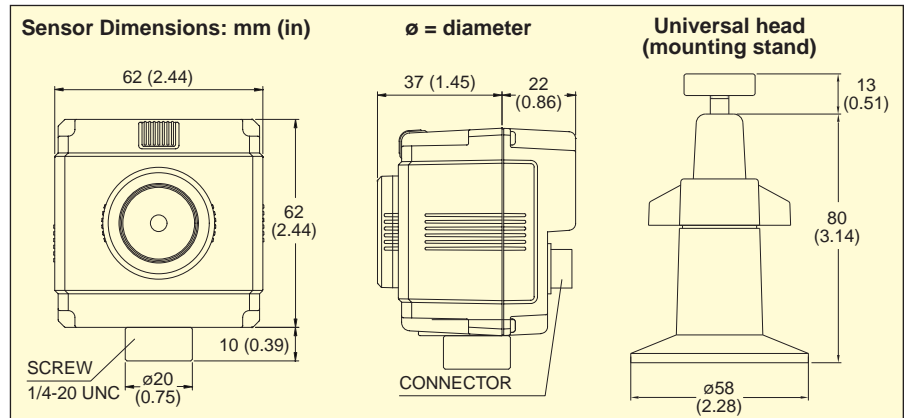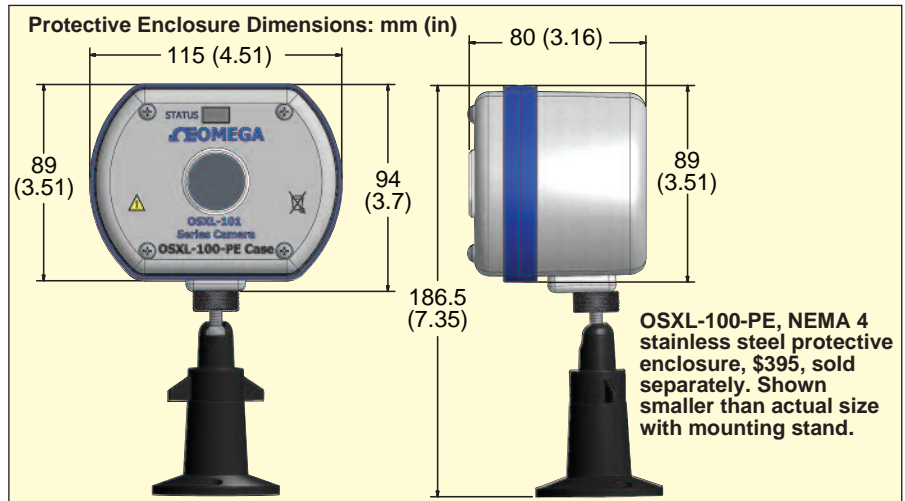
Trend Graph

By specifying a graph area, data can be displayed by the trend graph and the graph data can be stored by setting. (max 8 areas)

Alarm Settings by the Application Software

• By specifying a zone, alarms can be set (max 8 areas)
• The zone alarm as set in the application software are separate and in addition to alarms set in the sensor

OMEGACARE℠ Extended Warranty Program

OMEGACARE℠ extended warranty program is available for models shown on this page. Ask your sales representative for full details when placing an order. OMEGACARE℠ covers parts, labor and equivalent loaners.

Protective Enclosure Dimensions: mm (in)

115 (4.51) · 80 (3.16) · 89 (3.51) · 94 (3.7) · 89 (3.51) · 186.5 (7.35)

OSXL-100-PE, NEMA 4 stainless steel protective enclosure, $395, sold separately. Shown smaller than actual size with mounting stand.

Sensor Dimensions: mm (in) — **ø = diameter** — **Universal head (mounting stand)**

62 (2.44) · 62 (2.44) · 10 (0.39) · SCREW 1/4-20 UNC · ø20 (0.75) · 37 (1.45) · 22 (0.86) · CONNECTOR · 13 (0.51) · 80 (3.14) · ø58 (2.28)

Trend Graph

Note: The alarm of the sensor is interlocked with the contact output, but the contact output cannot be activated with the alarm by the application software.
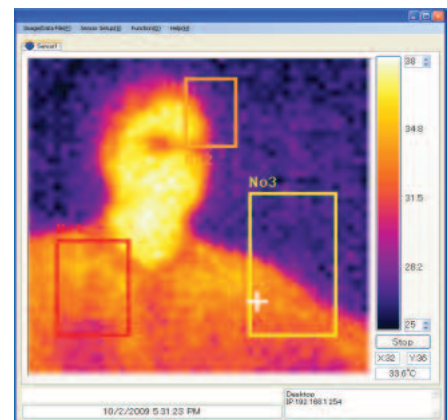
Alarm Screening

AVAILABLE FOR FAST DELIVERY!

To Order *(Specify Model Number)*

Model No.	Price	Description
OSXL-101	**$1990**	Fixed mount thermal imager
OSXL-100-PE	395	NEMA 4 stainless steel protective enclosure
OSXL-100-LAN	80	Replacement LAN cable, 2.5 m (8.2')
OSXL-100-PAC	120	Replacement power/alarm cable, 2.5 m (8.2')
OSXL-100-MOUNT	40	Replacement mounting stand
OSXL-100-PS	100	Replacement power supply with 2.5 m (8.2') cable

Comes complete with operator's manual, software CD, mounting stand, power supply, LAN cable, power/alarm cable, mounting screws and plugs, lens and connector caps.

Ordering Examples: OSXL-101,** thermal imager, **$1990.

OCW-3,** OMEGACARE℠ extends standard 1-year warranty to a total of 4 years **($350),** $1990 + 350 = **$2340.

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-6 6 342® 1-877-TC-OMEGA

Temperature and Humidity Virtual Chart Recorder

iTHX-2 Series Starts at
$295

MADE IN USA CE c(UL)us LISTED FCC-B

iServer

✔ **Web Server**
✔ **Email Alarms**
✔ **Data Logging**
✔ **No Special Software Required**

View Temperature and Humidity with a Web Browser

The OMEGA® iTHX-2 transmitter lets you monitor and record temperature, relative humidity, and dew point over an Ethernet network or the Internet with no special software except a Web browser.

The iTHX serves active Web pages to display real-time readings, charts of temperature and humidity, or log data in standard data formats for use in a spreadsheet or data acquisition program such as Excel or Visual Basic.

The virtual chart viewed on the Web page is a JAVA™ Applet that records a chart over the LAN or Internet in real time. With the iTHX, there is no need to invest time and money learning a proprietary software program to log or chart the data.
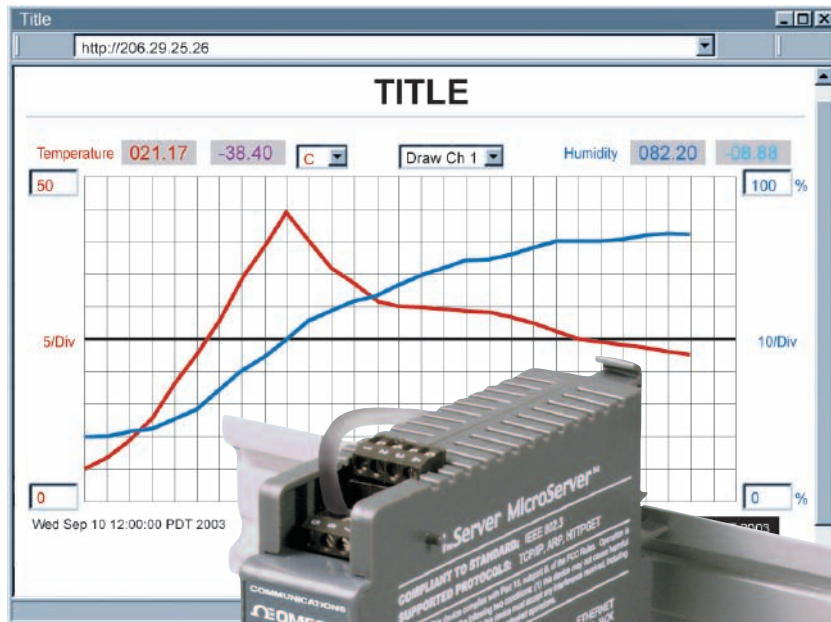
Adjustable Charts

Chart scales are fully adjustable on the fly. For example, the chart can display one minute, one hour, one day, one week, one month or one year. Temperature and humidity can be charted across the full span [-40 to 124°C (-40 to 254°F)], and 0 to 100% RH) or within any narrow range such as 20 to 30°C (68 to 86°F). When a second sensor is added, users can select a chart that records channel 1, channel 2 or the difference of the two channels.

Display and Chart Two Channels

The iTHX transmitters come complete with a temperature and humidity probe for measurement of a single location. With the addition of a second probe, the iTHX transmitter can measure and display temperature, humidity, and dew point in a second location up to 10' away.

The transmitter can display and chart absolute measurements in both locations, or a differential measurement between the two locations. The second probe requires no change to the basic iTHX transmitter hardware.
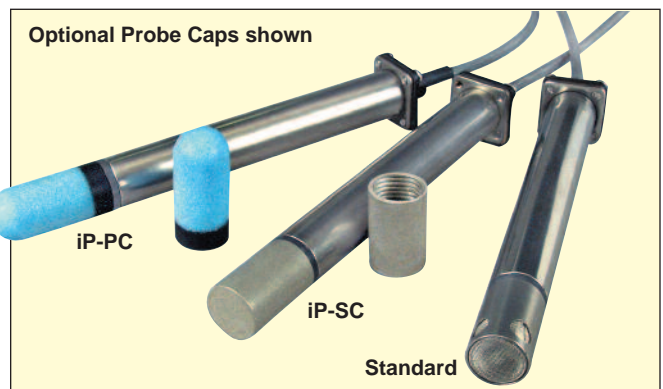
RAIL-35-2 DIN Rail, 2 m (6.6'), sold separately, $15.

PROBE INCLUDED!

iTHX-2 iServer MicroServer™ shown with industrial temperature/humidity probe (included), $295.

A second probe can be added at the time of purchase or in the future. OMEGA offers a choice of industrial probes in 2 and 5" lengths

Award-Winning Technology

The OMEGA iTHX is simple to install and use, and features OMEGA's award-winning iServer technology that requires no special software except a Web

Optional Probe Caps shown

iP-PC

iP-SC

Standard

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-6 6 342® 1-877-TC-OMEGA

browser. The iTHX connects to an Ethernet network with a standard RJ45 connector and sends data in standard TCP/IP packets. It is easily configured with a simple menu using a Web browser and can be password protected.

From within an Ethernet LAN or over the Internet, the user simply types the IP address or an easy-to-remember name such as "Cleanroom5" or "Server Room" in any Web browser, and the iTHX serves a Web page with the current readings.

Email Alarms

All OMEGA iTHX models that are on a LAN that is connected to the Internet can trigger an alarm that can be sent by email to a user or a distribution list anywhere in the world, including text messages to cell phones and PDA's.

Typical Applications

The OMEGA iTHX is great for monitoring temperature and humidity in applications such as: clean rooms, computer rooms, HVAC systems, pharmaceutical and food processing and storage, hospitals, laboratories, semiconductor labs, electronic assembly, warehousing, museums, manufacturing, greenhouses and, farm animal shelters.

OMEGA iServer products are designed and manufactured in the USA.

Sensor Specifications

RELATIVE HUMIDITY (RH)
Accuracy/Range:
  10 to 90%: ±2%
  5 to 10% and 90 to 95%: ±3%
  0 to 5% and 95 to 100%: ±4%
Non-Linearity: ±3%
Hysteresis: ±1% RH
Response Time: 8 seconds, tau 63%
Repeatability: ±0.1%
Resolution: 0.1%, 12 bit

TEMPERATURE (T)
Accuracy/Range**:
Industrial Probe: (see chart in manual)
±0.5°C (±1°F) for 5 to 45°C (41 to 113°F);
±0.5 to ±1.5°C (±1 to ±2.7°F) for
-40 to 5°C and 45 to 124°C
(-40 to 41°F and 113 to 255°F)
** Note: Extended temperature range is for industrial probe only, the iServer's operating temperature is 0 to 70°C (32 to 158°F)
Response Time: 5 to 30 seconds, tau 63%
Repeatability: ±0.1°C
Resolution: 0.1°C, 14 bit

NIST-Traceable Calibration Certificate available.
In compliance with ISO9001:2008, ISO10012-1.1992(E), ANSI/NCSL Z540-1.1994 and MIL-STD-45662A.

Probe Specifications
iTHP-5, iTHP-2:
137 or 51 L x 16 mm Dia (5 or 2 x 0.63")
  Housing Material: 316 SS
  Cable: 3 or 0.9 m L (10 or 3')
  Cable Operating Temperature:
  -40 to 125°C (-40 to 257°F)

iServer Specifications
INTERFACES
Ethernet: 10 BASE-T (RJ45)
Sensor: Digital 4-wire;
8 pos screw terminal
Supported Protocols: TCP, UDP, ARP, ICMP, DHCP, DNS, HTTP, and Telnet
Embedded Web Server:
Serves Web pages containing real-time data and live updated charts within definable time intervals
Software: OPC Server; macro for datalogging in Excel program; compatible with Windows operating systems
Power
Input: 10 to 32 Vdc Switching power supply (sold separately)
ENVIRONMENTAL
Operating Temperature:
0 to 70°C (32 to 158°F)
Storage Temp:
-40 to 125°C (-40 to 257°F)
Packaging Material:
Polycarbonate case with DIN rail mount
DIN rail mount

iDRN-PS-1000 $150
✔ **24 Vdc Supply**
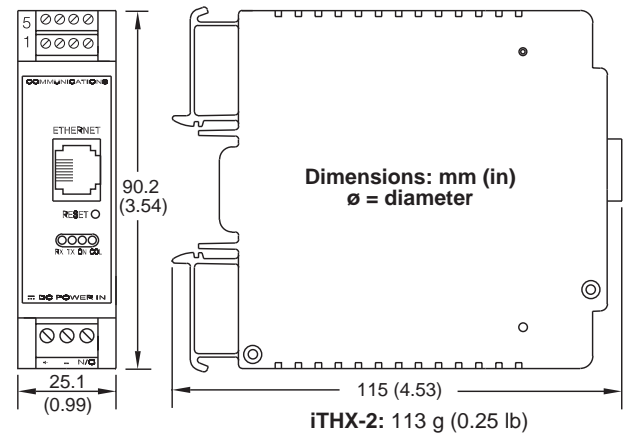✔ **Switching Power Supply Powers Up to 7 Units**

Industrial Probes shown smaller than actual size.

iTHP-5, $125.
iTHP-2, $115.

Mechanical Specifications

Dimensions: mm (in)
ø = diameter

90.2 (3.54)
25.1 (0.99)
115 (4.53)
iTHX-2: 113 g (0.25 lb)

AVAILABLE FOR FAST DELIVERY!

To Order *(Specify Model Number)*

Model No.		Description	Price
iTHX-2		iServer MicroServer™ for temperature and humidity and dew point	$295
	*	Standard industrial probe 127 mm (5"), 3 m (10') cable (no entry required)	N/C
	-2	Industrial probe 51 mm (2"), 0.9 m (3') cable [substitution for 127 mm (5") probe]	N/C
Accessories			
iTHP-2		Industrial probe 51 mm (2"), 0.9 m (3') cable	$115
iTHP-5		Industrial probe 137 mm (5"), 3 m (10') cable	125
iP-PC		Polyethylene probe cap, for wet environments	N/C
iP-SC		Porous stainless steel probe cap, 5 um porosity, for dusty, pressurized (<35 psi) environments	25
iDRN-PS-1000		Power supply (switching), 95 to 240 Vac input, 24 Vdc output @ 850 mA (powers up to 7 units)	150
CAL-3-HU		NIST-traceable calibration certificate. 3 points of 25%, 50%, 75% RH, temperature 25°C (77°F), for new units	125
CAL-3-HU-DUAL		Same as CAL-3-HU, for new units with 2 probes	175
CT485B-CAL-KIT		Calibration kit, 33% and 75% RH standards	75
* -CAL-3-HU		Calibrated replacement probe and calibration certificate	50

* Volume discounts available.

*Ordering Examples: **iTHX-2,** iServer MicroServer™ with temp and humidity and dew point, 127 mm (5") industrial probe, **$295**.*

***iTHP-5-CAL-3-HU,** calibrated replacement probe, with certificate, $125 + 50 = **$150**.*

Temperature and Humidity Virtual Chart Recorder

iTHX-W Series Starts at

$295

MADE IN USA   C E   c (UL) us   FCC-B
LISTED

✔ **Web Server**
✔ **Email Alarms**
✔ **Data Logging**
✔ **No Special Software Required**

iTHX-W iServer MicroServer™, $295.

View Temperature and Humidity with a Web Browser

The OMEGA® iTHX-W transmitter lets you monitor and record temperature, relative humidity, and dew point over an Ethernet network or the Internet with no special software except a Web browser.

The iTHX serves active Web pages to display real-time readings, charts of temperature and humidity, or log data in standard data formats for use in a spreadsheet or data acquisition program such as Excel or Visual Basic.

The virtual chart viewed on the Web page is a JAVA™ Applet that records a chart over the LAN or Internet in real time. With the iTHX, there is no need to invest time and money learning a proprietary software program to log or chart the data.

Adjustable Charts

Chart scales are fully adjustable on the fly. For example, the chart can display one minute, one hour, one day, one week, one month or one year. Temperature and humidity can be charted across the full span [-40 to 124°C (-40 to 254°F)], and 0 to 100% RH) or within any narrow range such as 20 to 30°C (68 to 86°F). When a second sensor is added, users can select a chart that records channel 1, channel 2 or the difference of the two channels.

Display and Chart Two Channels

The iTHX transmitters come complete with a temperature and humidity probe for measurement of a single location. With the addition of a second probe, the iTHX transmitter can measure and display temperature, humidity, and dew point in a second location up to 10' away.

The transmitter can display and chart absolute measurements in both locations, or a differential measurement between the two locations. The second probe requires no change to the basic iTHX transmitter hardware.

A second probe can be added at the time of purchase or in the future. OMEGA offers a choice of industrial probes in 2 and 5" lengths, and a wand style for ambient indoor applications. A simple DB9 "Y" connector is available for adding a second probe.
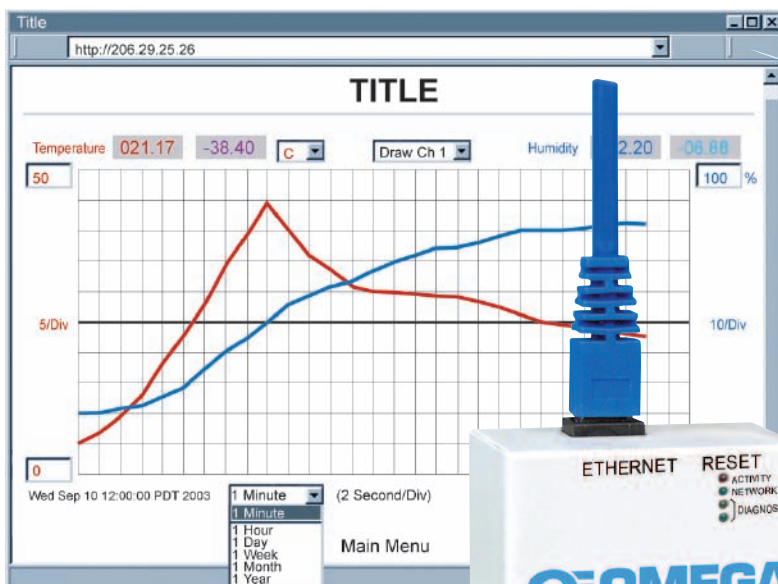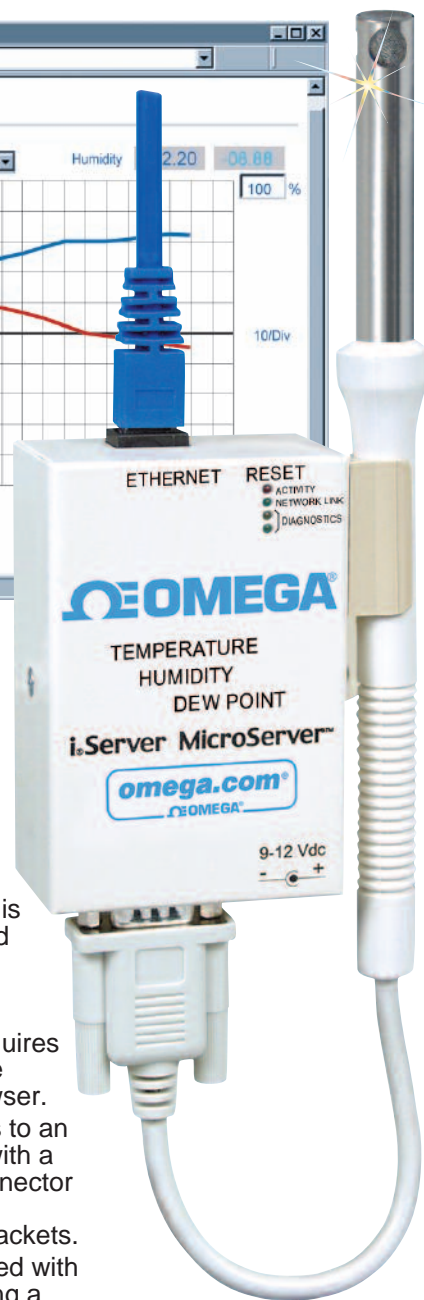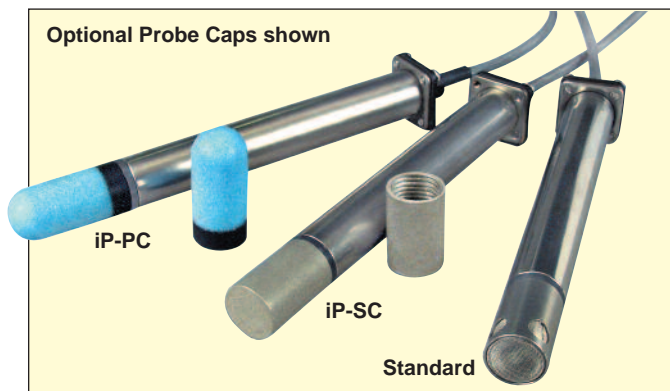
i.Server

Award-Winning Technology

The OMEGA iTHX is simple to install and use, and features OMEGA's award-winning iServer technology that requires no special software except a Web browser.

The iTHX connects to an Ethernet network with a standard RJ45 connector and sends data in standard TCP/IP packets.

It is easily configured with a simple menu using a Web browser and can be password protected.

Optional Probe Caps shown

iP-PC

iP-SC

Standard

HOTLINE 1-877-82-66342®
TO SANITARY PRODUCTS 1-877-TC-OMEGA

From within an Ethernet LAN or over the Internet, the user simply types the IP address or an easy-to-remember name such as "Server Room" or "Cleanroom5" in any Web browser, and the iTHX serves a Web page with the current readings.

Email Alarms

All OMEGA iTHX models that are on a LAN that is connected to the Internet can trigger an alarm that can be sent by email to a user or a distribution list anywhere in the world, including text messages to cell phones and PDA's.

Typical Applications

The OMEGA iTHX is great for monitoring temperature and humidity in applications such as: clean rooms, computer rooms, HVAC systems, pharmaceutical and food processing and storage, hospitals, laboratories, electronic assembly,semiconductor labs, warehousing, museums, manufacturing, greenhouses and, farm animal shelters.

OMEGA iServer products are designed and manufactured in the USA.

Sensor Specifications

RELATIVE HUMIDITY (RH)
Accuracy/Range:
 10 to 90%: ±2%
 5 to 10% and 90 to 95%: ±3%
 0 to 5% and 95 to 100%: ±4%
Non-Linearity: ±3%
Hysteresis: ±1% RH
Response Time: 8 seconds, tau 63%
Repeatability: ±0.1%
Resolution: 0.1%, 12 bit

TEMPERATURE (T)
Accuracy/Range:
Wand Probe: ±0.5°C (±1°F) for 5 to 45°C (41 to 113°F); ±0.5 to ±1°C (±1 to ±2°F) for 0 to 5°C and 45 to 70°C (32 to 41°F and 113 to 158°F)
Industrial Probe: (see chart in manual) ±0.5°C (±1°F) for 5 to 45°C (41 to 113°F); ±0.5 to ±1.5°C (±1 to ±2.7°F) for -40 to 5°C and 45 to 124°C (-40 to 41°F and 113 to 255°F)
** Note: Extended temperature range is for industrial probe only, the iServer's operating temperature is 0 to 70°C (32 to 158°F)
Response Time: 5 to 30 seconds, tau 63%
Repeatability: ±0.1°C
Resolution: 0.1°C, 14 bit

Probe Specifications

iTHP-W: 198 x 19 mm Dia (7.8 x 0.75")
 Cable: 152 mm L (6") with DB9 conn.
 Cable Operating Temperature:
 0 to 80°C (32 to 176°F)

iTHP-5, iTHP-2:
137 or 51 L x 16 mm Dia (5 or 2 x 0.63")
 Housing Material: 316 SS
 Cable: 3 or 0.9 m L (10 or 3')
 Cable Operating Temperature:
 -40 to 125°C (-40 to 257°F)

iServer Specifications

INTERFACES
Ethernet: 10 BASE-T (RJ45)
Sensor: Digital 4-wire (DB9 connector)
Supported Protocols: TCP, UDP, ARP, ICMP, DHCP, DNS, HTTP, and Telnet
Management: Device configuration and monitoring through embedded Web server
Software: OPC Server; macro for datalogging in Excel program; compatible with Windows operating systems
Embedded Web Server:
Serves Web pages containing real-time data and live updated charts within definable time intervals
Power
Input: 9 to 12 Vdc
ENVIRONMENTAL
Operating Temperature:
0 to 70°C (32 to 158°F)
ac Adapter: 0 to 40°C (32 to 104°F)
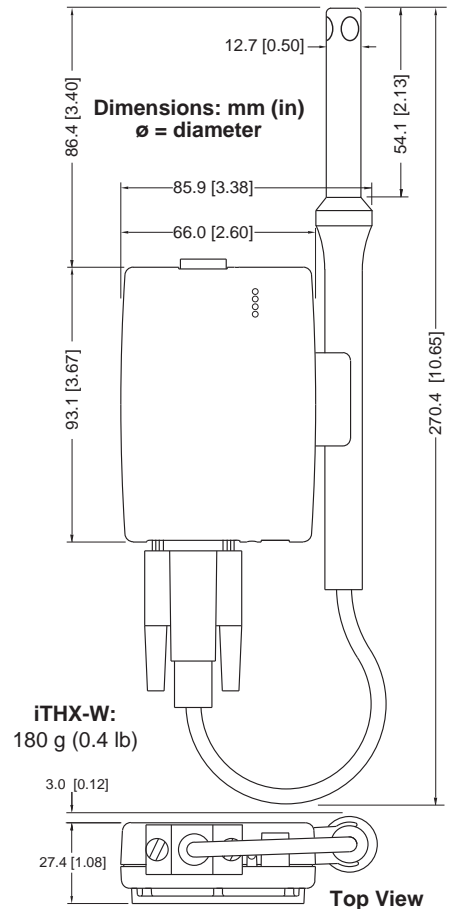**Safety Qualified AC Power Adaptor (Included):**
 Nominal Output: 9 Vdc @ 0.5A
 Input: 100 to 240 Vac, 50/60Hz
Storage Temp: -40 to 125°C (-40 to 257°F)
Packaging
Material: Valox 364 PBT case with wall mount bracket

Mechanical Specifications

Dimensions: mm (in)
ø = diameter

iTHX-W:
180 g (0.4 lb)

Top View

AVAILABLE FOR FAST DELIVERY!

To Order (Specify Model Number)

Model No.		Description	Price
iTHX-W		iServer MicroServer™ for temperature and humidity and dew point	$295
	*	Standard 203 mm (8") wand probe, 152 mm (6") cable, with DB9 connector. No entry required	N/C
	-2	Industrial probe 51 mm (2"), 0.9 m (3') cable, with DB9 connector [substitution for wand probe]	N/C
	-5	Industrial probe 137 mm (5"), 3 m (10') cable, with DB9 connector [substitution for wand probe]	N/C
Accessories			
iTHP-W-6		Replacement wand probe, 203 mm (8"), 152 mm (6") cable	$100
iTHP-2-W		Industrial probe 51 mm (2"), 0.9 m (3') cable with DB9	115
iTHP-5-W		Industrial probe 137 mm (5"), 3 m (10') cable with DB9	125
DB9-Y		DB9 "Y" connector adapter for 2 probes	25
DB9-CA-3		Extension cable, 0.9 m (3') with DB9 connectors	15
iP-PC		Polyethylene probe cap, for wet environments	N/C
iP-SC		Porous stainless steel probe cap, 5 um porosity,for dusty, pressurized (<35 psi) environments	25
CAL-3-HU		NIST-traceable calibration certificate. 3 points of 25%, 50%, 75% RH, temperature 25°C (77°F), for new units	125
CAL-3-HU-DUAL		Same as CAL-3-HU, for new units with 2 probes	175
CT485B-CAL-KIT		Calibration kit, 33% and 75% RH standards	75
* -CAL-3-HU		Calibrated replacement probe and calibration certificate	50

* Volume discounts available.

Ordering Examples: iTHX-W, *iServer MicroServer™ with temp and humidity and dew point, 203 mm (8") wand probe,* ***$295.***

iTHP-W-6-CAL-3-HU, *calibrated replacement probe with certificate, $100 + 50 =* ***$150.***

Non-Reversible Labels

8-Dot Labels (°C/°F)

TL-E labels are the most cost-effective of the TL Series labels. These labels have 8 different temperature ratings on a single label. They come in packages of 10 or 30.

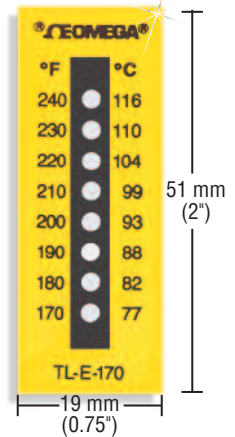**TL-E Series Price**

pkg of 10   pkg of 30

$34⁵⁰   **$80**

☐ **MOST POPULAR MODELS HIGHLIGHTED!**

Model No. (Pkg 10)	Temperature Range °C (°F)							
TL-E-105	41 (105)	43 (110)	46 (115)	49 (120)	54 (130)	60 (140)	66 (150)	71 (160)
TL-E-170	77 (170)	82 (180)	88 (190)	93 (200)	99 (210)	104 (220)	110 (230)	116 (240)
TL-E-250	121 (250)	127 (260)	132 (270)	138 (280)	143 (290)	149 (300)	154 (310)	160 (320)
TL-E-330	166 (330)	171 (340)	177 (350)	182 (360)	188 (370)	193 (380)	199 (390)	204 (400)
TL-E-410	210 (410)	216 (420)	224 (435)	232 (450)	241 (465)	249 (480)	254 (490)	260 (500)

*To order package of 30, add suffix **"-30"** to model number.*
***Ordering Example: TL-E-170-30,** 8-dot labels, 77 to 116°C (170 to 240°F), package of 30, $80.*

TL-E-170, $34.50, shown actual size.

51 mm (2")
19 mm (0.75")
TL-E-170

5-Dot Round Labels (°C)

TL-C5 labels have 5 temperature ratings in °C scales. Ideal for measuring temperatures in small areas such as electronic applications. They are sold in packages of 10 or 30.

TL-C5 Series Price

pkg of 10   pkg of 30

$13⁵⁰   **$38**

Model No. (Pkg 10)	Temperature-Indicating Levels					
TL-C5-105	°C	40	43	46	49	54
TL-C5-140	°C	60	66	71	77	82
TL-C5-190	°C	88	93	99	104	110
TL-C5-240	°C	116	121	127	132	138
TL-C5-290	°C	143	149	154	160	166
TL-C5-340	°C	171	177	182	188	193
TL-C5-390	°C	199	204	210	216	224
TL-C5-450	°C	232	241	249	254	260

*To order package of 30, add suffix **"-30"** to model number.*
***Ordering Example: TL-C5-105-30,** 5-dot round labels, (40 to 54°C), package of 30, $38.*

15 mm (0.6")

TL-C5-240, $13.50, shown actual size.

Non-Reversible Labels for Low Temperatures

The TL-CC series are used to control and identify problematic temperature conditions that are experienced in transportation of goods, using a low cost method for instance for medical supplies, or to increase food protection in transit to warehouse or depots. Change of state occurs after a short duration not exceeding five minutes, staining of the white paper (to blue/purple) occurs when the specified rating has been exceeded.

Specifications

Type: Non-reversible indicator, circular, self-adhesive
Size: 32 mm diameter x 6 mm deep (1.25" x 0.23")
Print: 2 colors (blue print onto white background)
Temperature: °F and °C, ±°C accurate

Model No.	Price/Pkg of 10	Description °C (°F)
TL-CC/-17C	$18	-17 (+1)
TL-CC/-8C	18	-8 (+18)
TL-CC/-5C	18	-5 (+23)
TL-CC/-2C	18	-2 (+28)
TL-CC/5C	18	+5 (+41)
TL-CC/9C	18	+9 (+48)
TL-CC/17C	18	+17 (+63)
TL-CC/20C	18	+20 (+68)

***Ordering Example: TL-CC/5C,** 5° low temperature label, package of 10, $18.*

32 mm (1.25")

TL-CC/-17C, $18, shown actual size.

Triple Level Thermal Disinfection Indicator (TDI)

- ✔ **Adhesive Backed**
- ✔ **Attach to Tray/Carrier**
- ✔ **Remove and Retain as Permanent Record of Temperature Attained**
- ✔ **Proof for HACCP Compliance Documentation**
- ✔ **Accurate to ±1°C of Rated Temperature Physical Properties**

TDI is designed to withstand the extreme conditions within an industrial dishwasher and provide permanent proof that a rated temperature has been reached. Not one, but 3 distinct temperature levels depending upon need. An irreversible color change occurs from white/grey to black; at 65°C (150°F) for standard dish washers, at 71°C (160°F) for a thermal/chemical disinfection and 82°C (180°F) when a thermal disinfection temperature has been reached.

Specifications
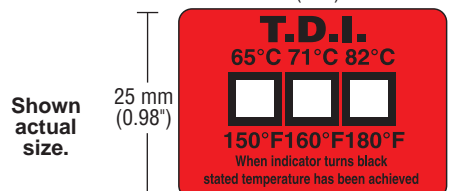
Adhesive Type: Acrylic with clear polyester carrier
Covering Film: 50 μm Polyester
Size: 25 x 35 mm (0.98 x 1.4")
Color Change Material: Non-toxic, white crystalline melt material coated on a black absorbent backing
Shelf Life: 12 months from invoice date when stored at room temperature and humidity [i.e. 21°C (70°F) & 50% relative humidity]

Application: Peel label from backing paper. Apply to clean, dry surface; ideally a plate or stainless steel surface in the middle of the dishwasher rack. Ensure the entire indicator is in contact with the surface. Remove indicator while the surface is still warm.

Shown actual size.

25 mm (0.98")
35 mm (1.4")

T.D.I.
65°C 71°C 82°C
150°F 160°F 180°F
When indicator turns black stated temperature has been achieved

Model No.	Price	Description
TL-TI-5	$17	25 labels per pack
TL-TI-3	30	50 labels per pack

Indicator dot turns black at rated temperature.

Single Dot Round Labels (°C/°F)
TL-S labels are designed for low-cost, single-temperature operation. TL-S labels are compact round labels, only 9.52 mm (⅜") in diameter. They are perfect for use in limited spaces. TL-S labels are supplied in packages of 30 or 50.

Price

pkg of 30	pkg of 50
$6	**$9**

⊢ 9.52 mm ⊣ (0.37")

**TL-S-340
$6, shown
actual size.**

Specifications
Accuracy: Up to 99°C (210°F) is ±1°C (1.8°F); from 100°C (212°F) to 154°C (309°F) is ±1.5°C (2.7°F); from 160°C (320°F) to 280°C (536°) is ±1% and ±1°C (1.8°F)

Model No. (Pkg 30)	°C (°F) Range	Model No.	°C (°F) Range	Model No.	°C (°F) Range	Model No.	°C (°F) Range
TL-S-100	38 (100)	TL-S-190	88 (190)	TL-S-300	149 (300)	TL-S-410	210 (410)
TL-S-105	41 (105)	TL-S-200	93 (200)	TL-S-310	154 (310)	TL-S-420	216 (420)
TL-S-110	43 (110)	TL-S-210	99 (210)	TL-S-320	160 (320)	TL-S-435	224 (435)
TL-S-115	46 (115)	TL-S-220	104 (220)	TL-S-330	166 (330)	TL-S-450	232 (450)
TL-S-120	49 (120)	TL-S-230	110 (230)	TL-S-340	171 (340)	TL-S-465	241 (465)
TL-S-130	54 (130)	TL-S-240	116 (240)	TL-S-350	177 (350)	TL-S-480	249 (480)
TL-S-140	60 (140)	TL-S-250	121 (250)	TL-S-360	182 (360)	TL-S-490	254 (490)
TL-S-150	66 (150)	TL-S-260	127 (260)	TL-S-370	188 (370)	TL-S-500	260 (500)
TL-S-160	71 (160)	TL-S-270	132 (270)	TL-S-380	193 (380)		
TL-S-170	77 (170)	TL-S-280	138 (280)	TL-S-390	199 (390)		
TL-S-180	82 (180)	TL-S-290	143 (290)	TL-S-400	204 (400)		

To order package of 50, add suffix "-50" to model number.
Ordering Example: TL-S-100-50,** single dot round label, 38°C (100°F), package of 50, **$9.

4 Dot Round Labels (°F only)
TL-C labels feature 4 temperature ratings in a single, compact, round design. These labels are especially suited for use in areas with limited space. TL-C indicators are supplied 10 or 30 to a package.

Price

pkg of 10	pkg of 30
$13	**$38**

⊢ 15 mm ⊣ (0.6")

**TL-C-170
$13, shown
actual size.**

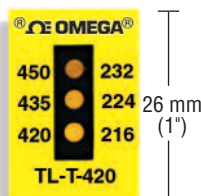| Model No. (Pkg 10)	Temperature Range °F				Model No.	Temperature Range °F			
TL-C-105	105	110	115	120	TL-C-290	290	300	310	320
TL-C-130	130	140	150	160	TL-C-330	330	340	350	360
TL-C-170	170	180	190	200	TL-C-370	370	380	390	400
TL-C-210	210	220	230	240	TL-C-410	410	420	435	450
TL-C-250	250	260	270	280	TL-C-465	465	480	490	500

*To order package of 30, add suffix **"-30"** to model number.*
Ordering Example: TL-C-105-30,** 4 dot label, 105 to 120°F, package of 30, **$38.

3 Dot Labels (°C/°F)
TL-T labels have 3 temperature ratings on a single label, which gives the user more information about the maximum temperature of the label. Use these labels to bracket the maximum temperature. TL-T labels are supplied 20 or 40 to a package.

Price

pkg of 20	pkg of 40
$17	**$34**

®ΩE OMEGA®

450 | 232
435 | 224
420 | 216

TL-T-420

26 mm (1")

⊢ 19 mm ⊣ (0.75")

**TL-T-240,
$17, shown
actual size.**

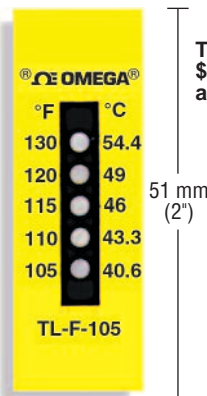| Model No. (Pkg 20)	Temperature Range °C (°F)			Model No.	Temperature Range °C (°F)		
TL-T-105	41 (105)	43 (110)	46 (115)	TL-T-300	149 (300)	154 (310)	160 (320)
TL-T-120	49 (120)	54 (130)	60 (140)	TL-T-330	166 (330)	171 (340)	177 (350)
TL-T-150	66 (150)	71 (160)	77 (170)	TL-T-360	182 (360)	188 (370)	193 (380)
TL-T-180	82 (180)	88 (190)	93 (200)	TL-T-390	199 (390)	204 (400)	210 (410)
TL-T-210	99 (210)	104 (220)	110 (230)	TL-T-420	216 (420)	224 (435)	232 (450)
TL-T-240	116 (240)	121 (250)	127 (260)	TL-T-465	241 (465)	249 (480)	254 (490)
TL-T-270	132 (270)	138 (280)	143 (290)				

*To order package of 40, add suffix **"-40"** to model number.*
Ordering Example: TL-T-120-40,** 3 dot label, 49 to 60°C (120 to 140°F), package of 40, **$34.

5 Dot Labels (°C/°F)
TL-F labels have 5 temperature dots aligned in a straight line. This design tells the user the maximum temperature, with just a quick glance. The TL-F labels are supplied 10 or 30 to a package.

Price

pkg of 10	pkg of 30
$22	**$56**

**TL-F-105,
$22, shown
actual size.**

®ΩE OMEGA®

°F	°C
130	54.4
120	49
115	46
110	43.3
105	40.6

TL-F-105

51 mm (2")

⊢ 19 mm ⊣ (0.75")

Model No. (Pkg 10)	Temperature Indicating Levels °C (°F)				
TL-F-105	41 (105)	43 (110)	46 (115)	49 (120)	54 (130)
TL-F-140	60 (140)	66 (150)	71 (160)	77 (170)	82 (180)
TL-F-190	88 (190)	93 (200)	99 (210)	104 (220)	110 (230)
TL-F-240	116 (240)	121 (250)	127 (260)	132 (270)	138 (280)
TL-F-290	143 (290)	149 (300)	154 (310)	160 (320)	166 (330)
TL-F-340	171 (340)	177 (350)	182 (360)	188 (370)	193 (380)
TL-F-390	199 (390)	204 (400)	210 (410)	216 (420)	224 (435)
TL-F-450	232 (450)	241 (465)	249 (480)	254 (490)	260 (500)

*To order package of 30, add suffix **"-30"** to model number.*
Ordering Example: TL-F-105-30,** 5 dot label, 41 to 54°C (105 to 130°F), package of 30, **$56.

Sanitary product line continues to expand, visit omega.com/sanitary for details!

**➤HOTLINE
TO SANITARY
PRODUCTS** **1-877-82-6 6 3 4 2®
1-877-TC-OMEGA**

NEW

Non-Reversible Profile Style OMEGALABEL®
Continuous Temperature Labels

TL-P Series
Starts at
$60

MADE IN USA **RoHS**

7.5 m (25') Roll*
150 Labels

For Non-Reversible Multi-Point Profile Style OMEGALABEL®5 and 10 Temperature Point Continuous Lengths of Temperature Labels, Consult Engineering

✔ **Permanent, Non-Reversible Indicating Labels**
✔ **Accurate to ±1°C (1.8°F)**
✔ **For Temperatures from 43 to 54°C (110 to 130°F)**
✔ **Continuous Profile Lengths from 50 mm (2") Up to 7.5 m (25') and Longer**
✔ **Convenient 7.5 m (25') Rolls in Stock—15 and 30 m (50 and 100') Rolls Also Available for Custom Order**

Specifications

Range: 43 to 54°C (110 to 130°F)
Accuracy: ±1°C (1.8°F)
Roll Lengths: 7.5, 15 and 30 m (25, 50 and 100')
Labels Per Roll: 150 per 7.5 m (25')
Dimensions: 25.4 x 50.8 mm (1 x 2")

For Complete Details Visit omega.com/tl-p

OMEGALABEL®
54°C (130°F)
49°C (120°F)
43°C (110°F)

PATENT PENDING

Monitor shipping and storage temperatures of your product. **Label shown actual size.**

AVAILABLE FOR FAST DELIVERY!

To Order *(Specify Model Number)*

Model No.	Price	Range
TL-P-3-110-25	$60	43 to 54°C (110 to 130°F)

* *15 and 30 m (50 and 100') roll lengths also available for special order, consult sales.*

Ordering Example: TL-P-3-110-25, *7.5 m (25') continuous length of 43 to 54°C (110 to 130°F) non-reversible temperature labels (150 labels), $60.*

OMEGALABEL®
Temperature Monitors

Series 21
All Models
$66

For Complete Details Visit omega.com/ 21_labels

54°C
K1
130°F
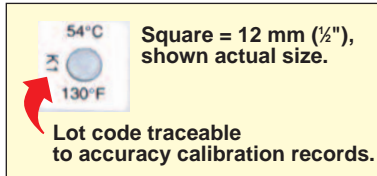
Square = 12 mm (½"), shown actual size.

Lot code traceable to accuracy calibration records.

Shown smaller than actual size.

Spot turns gray or black at rated temperature.

Fast, Easy-To-Use Temperature Monitoring System

OMEGALABEL® is a self-adhesive temperature monitor consisting of a heat-sensitive indicator sealed under a transparent heat-resistant window. The indicator circle turns to light gray or black at the temperature rating shown on the card. Color change is not reversible and provides a temperature history of the surface being monitored. To serve as a permanent record, the OMEGALABEL® can be removed and attached to an inspection report.

Guaranteed Accuracy and Reliability

OMEGALABEL® accuracy is guaranteed to be within ±2%.

The Series 21 OMEGALABEL® is conveniently mounted on sheets (21 per sheet) for fast, on-the-spot application by just peeling them off one at a time. The adhesive backing easily adheres to any clean, dry surface.

MOST POPULAR MODELS HIGHLIGHTED!

Model No.	Range	Model No.	Range
21-100	38°C (100°F)	21-220	104°C (220°F)
21-110	43°C (110°F)	21-230	110°C (230°F)
21-120	49°C (120°F)	21-240	116°C (240°F)
21-130	54°C (130°F)	21-250	121°C (250°F)
21-140	60°C (140°F)	21-260	127°C (260°F)
21-150	66°C (150°F)	21-270	132°C (270°F)
21-160	71°C (160°F)	21-280	138°C (280°F)
21-170	77°C (170°F)	21-290	143°C (290°F)
21-180	82°C (180°F)	21-300	149°C (300°F)
21-190	88°C (190°F)	21-400	204°C (400°F)
21-200	93°C (200°F)	21-500	260°C (500°F)
21-210	99°C (210°F)		

Ordering Example: 21-500, *1 pack of labels (10 sheets, 210 labels) with a temperature range of 260°C (500°F), $66.*
Notes: *All temperatures can be combined for quantity pricing.*
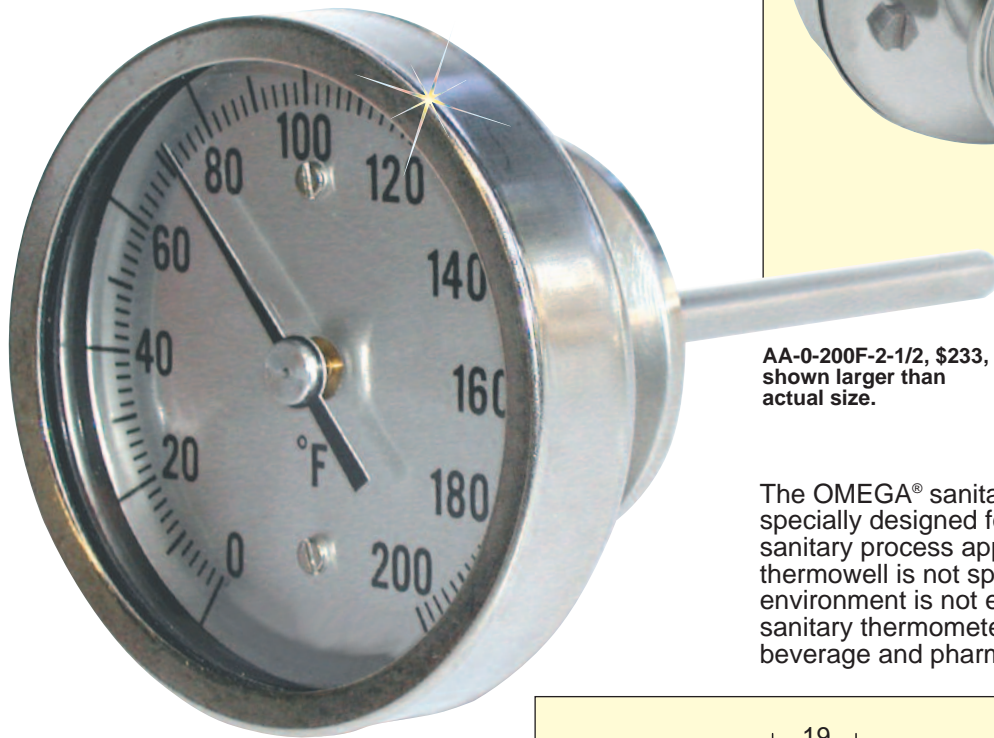*Dot dimension: 4.8 mm (³⁄₁₆") diameter.*
Individual label: 12 mm (½") square.
Standard packaging: 10 sheets of one temperature per pack.

Sanitary Dial Thermometers

Starts at
$233

MADE IN **USA** | NIST | **A3** | **RoHS**

Optional†

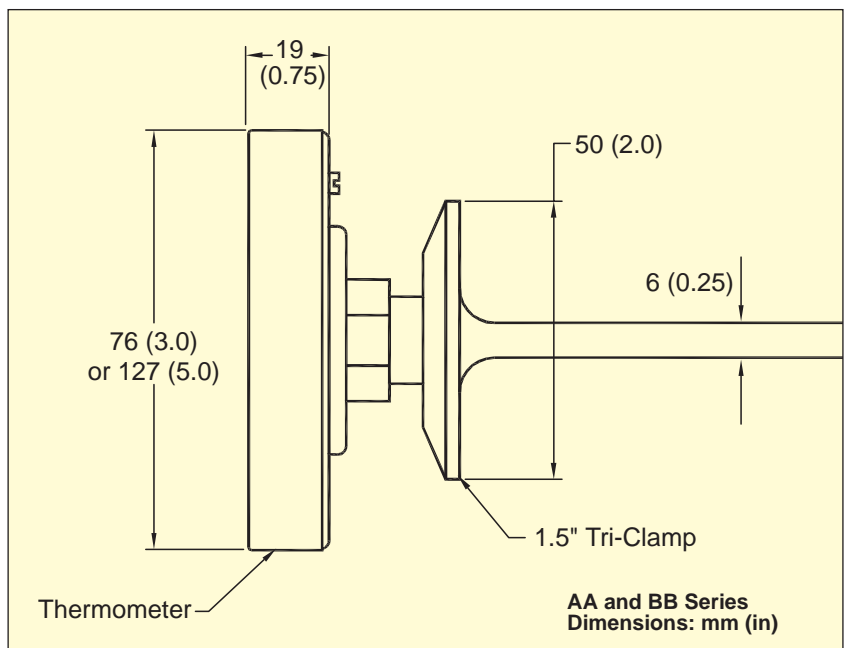**AA-0-200F-2-1/2, $233, shown smaller than actual size**

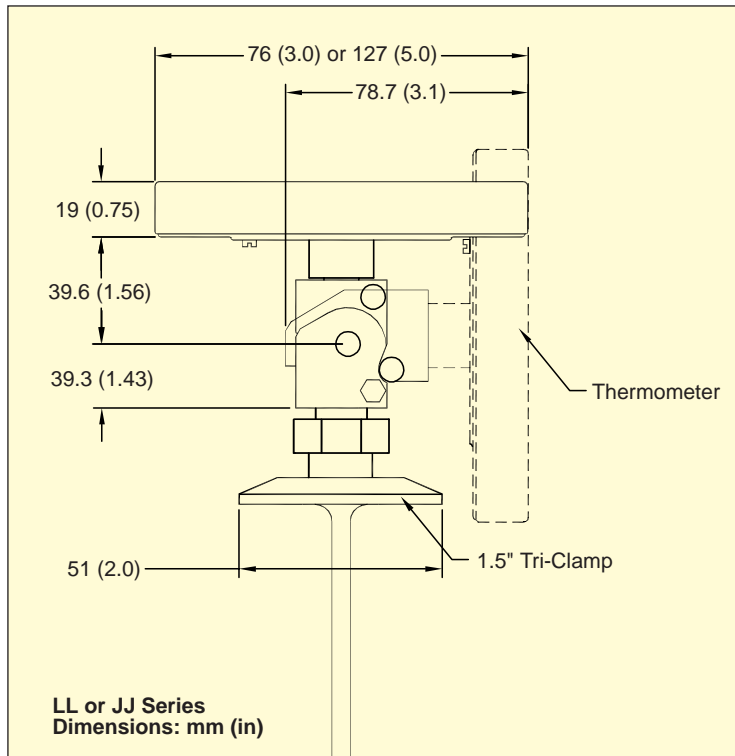**AA-0-200F-2-1/2, $233, shown larger than actual size.**

The OMEGA® sanitary bi-metal thermometer is specially designed for direct insertion into sanitary process applications when a standard thermowell is not specified or the process environment is not exposed to pressure. The sanitary thermometer is ideal for the food, beverage and pharmaceutical industries.

- ✔ **All 316/316L SS Wetted Parts**
- ✔ **All Welded Construction**
- ✔ **Easy to Calibrate Reset Screw**
- ✔ **3-A Certified Design**
- ✔ **Hermetically Sealed**
- ✔ **32 Ra Max on All Wetted Surfaces**
- ✔ **Standard Connection: 1½" Tri-Grip™ (Tri-Clamp® Compatible)**
- ✔ **6 mm (¼") Standard Stem Diameter**
- ✔ **Glass Lens Standard**
- ✔ **Standard Lengths From 2½ to 15"**

19 (0.75)

50 (2.0)

6 (0.25)

76 (3.0) or 127 (5.0)

Thermometer

1.5" Tri-Clamp

AA and BB Series Dimensions: mm (in)

† Refer to the options chart on page 64 for NIST calibration ordering information.

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE **1-877-82-6 6342**®
TO SANITARY PRODUCTS **1-877-TC-OMEGA**

76 (3.0) or 127 (5.0)
78.7 (3.1)
19 (0.75)
39.6 (1.56)
39.3 (1.43)
Thermometer
51 (2.0)
1.5" Tri-Clamp

LL or JJ Series
Dimensions: mm (in)

JJ-0-200F-2-1/2, $301, shown
smaller than actual size.

Temperature Range Table

Fahrenheit		Celsius		Dual	
Range	**Div.**	**Range**	**Div.**	**Range**	**Div.**
-40 to 160°F	2°	-40 to 70°C	1°	-40 to 160°F	2°
25 to 125°F††	1°	0 to 50°C††	1°	-40 to 70°C	1°
0 to 200°F	2°	0 to 100°C	2°	25 to 125°F††	1°
0 to 250°F	2°	-20 to 120°C	1°	-5 to 50°C	1°
50 to 300°F	2°	0 to 150°C	1°	0 to 200°F	2°
50 to 500°F	5°	0 to 250°C	5°	-10 to 90°C	1°
150 to 750°F	10°	50 to 400°C	5°	0 to 250°F	2°
				-20 to 120°C	2°
				50 to 300°F	2°
				10 to 150°C	2°
				50 to 500°F	5°
				10 to 260°C	5°
				150 to 750°F	10°
				70 to 400°C	5°

†† 4" minimum stem length.

To order AA, BB, LL or JJ models, specify:
Model - Range - Stem Length - Options

Ordering Examples:

AA-40-160F-2-1/2, *76 mm (3") dial, 25 to 38 mm (1 to 1.5") Tri-Grip™, 64 mm (2.5") long, -40 to 160°F,* **$233.**

BB-40-160F-4-SF, *127 mm (5"), 102 mm (4") long, -40 to 160°F, optional silicone filled dial, $265 + 50 =* **$315.**

LL-40-160F-6, *76 mm (3") adjustable dial, 152 mm (6") long, -40 to 160°F,* **$311.**

JJ-0-200F-10-90C-12, *127 mm (5") adjustable dial, 305 mm (12") long, dual range, 0 to 200°F and -10 to 90°C,* **$353.**

Options

Suffix	Add'l Price	Description
-SF	$50	Silicone filled
-PY	7	Polycarbonate window
-R20	40 + $3 per inch	Ra20 max wetted finish
-NIST†	100	3 point NIST calibration certificate

☐ *MOST POPULAR MODELS HIGHLIGHTED!*

Standard Stem Length

Dial Size	Mount	1 or 1.5" Tri-Grip™ Models	Temperature Range	Length (L)					
				2½"	**4"**	**6"**	**9"**	**12"**	**15"**
76 mm (3")	Back connected	**AA-(*)-(**)**	Select from table above	$233	$233	$243	$251	$261	$274
127 mm (5")	Back connected	**BB-(*)-(**)**	Select from table above	265	265	275	283	293	306
76 mm (3")	Adjustable angle	**LL-(*)-(**)**	Select from table above	301	301	311	329	329	342
127 mm (5")	Adjustable angle	**JJ-(*)-(**)**	Select from table above	325	325	335	343	353	366

***** Specify temperature range from table above.
****** Specify inch length (L): 2½, 4, 6, 9, 12 or 15.

Waterproof Keypad Thermometer

TPD572W
$21

- -50 to 300°C (-58 to 572°F)
- Probe Length: 76 mm (3")
- Stainless Steel Probe
- Protective Plastic Sheath

TPD572W, $21, with cover (included) shown smaller than actual size.

Visit **omega.com/tpd30** for complete details.

Large Display Stem Thermometer

TPD300E
$13

- -40 to 150°C (-40 to 302°F)
- Probe Length: 114.3 mm (4.5")
- Pocket Clip
- Protective Plastic Sheath

TPD300E, $13, shown smaller than actual size.

Visit **omega.com/tpd30** for complete details.

Digital Stem Thermometers

TPD36   **TPD37**
$17 $26

Visit **omega.com/tpd30** for complete details.

- TPD36: -50 to 150°C (-58 to 302°F)
- TPD37: -50 to 280°C (-58 to 536°F)
- 3.5 Dia. x 125 mm L (0.14 x 5")
- Stainless Steel Probe

TPD36, $17, with case (included), shown smaller than actual size.
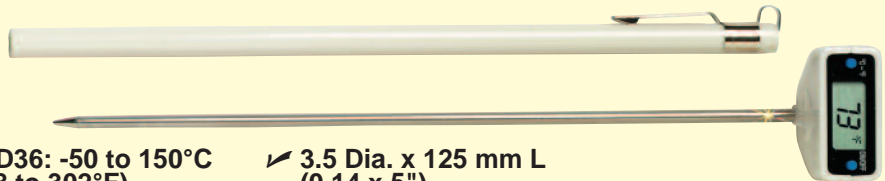
Temperature Testers

TPD38   **TPD39**
$23 $24

Visit **omega.com/tpd30** for complete details.

- TPD38: -50 to 150°C (-58 to 302°F)
- TPD39: -50 to 280°C (-58 to 536°F)
- 3.5 Dia. x 200 mm L (0.14 x 8")
- Stainless Steel Probe

TPD38, $23, with case (included), shown smaller than actual size.
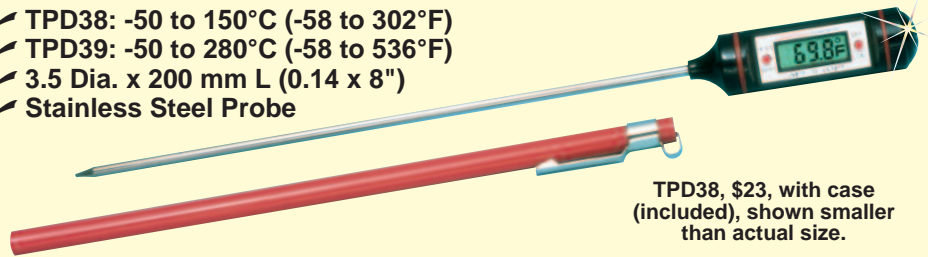
Stem Thermometer with Pocket Clip

TPD9268
$36

- -50 to 300°C (-58 to 572°F)
- Probe Length: 250 mm (9.85")
- Plastic Sheath with Pocket Clip
- Stainless Steel Probe

TPD9268, $36, shown smaller than actual size.

Visit **omega.com/tpd30** for complete details.

Food Service Infrared Thermometer With Penetration Probe

OS303
$139

Distance(D) to spot Size(S)
D:S=2.5:1
0.4@1   2@5   inch
10@25   60@150   mm

- Hazard Analysis and Critical Control Point (HACCP)
- Non-Contact Surface or Internal Temperature Measurement
- Min/Max Mode
- °C or °F Selectable
- Adjustable Emissivity
- Auto Power Off

OS303, $139, shown smaller than actual size.

Visit **omega.com/os303** for complete details.

Sanitary product line continues to expand, visit **omega.com/sanitary** for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-6 6 342®
1-877-TC-OMEGA
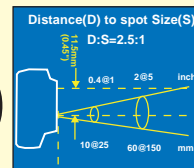
Food Service Thermometer

Waterproof!

- ✔ Simple to Operate
- ✔ Waterproof Case
- ✔ Type T and Thermistor Models
- ✔ Long Battery Life (Typically 500 Hours), Battery Included
- ✔ Rugged Case for Use in Harsh Environments
- ✔ Ergonomic Design
- ✔ "Hold" Function
- ✔ °F or °C Settings
- ✔ Isolated Battery Compartment

HH2106T/2146T Series Starts at

$171

2 YEAR WARRANTY · **NIST** · **C E** · **RoHS**

Optional†

The HH2106T and HH2146T build on the success of the HH2000 series thermometers.

This generation marks an evolutionary step in the development of OMEGA's digital thermometers and probes. These thermometers are completely waterproof and incorporate the Food Industry standard Lumberg connector for thermistor and thermocouple probes.

HH2146TC, $171 and THX-HH2146T penetration probe, $55, sold separately, see ordering chart below. Shown smaller than actual size.

◄ **THX-HH2146T penetration probe.**
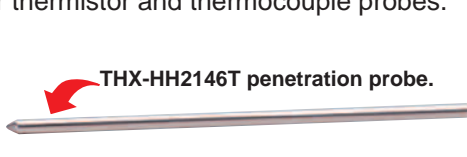
Specifications

GENERAL
Battery: 2 "AA" size (included)
Dimensions: 155 H x 65 W x 35 mm D (6.1 x 2.5 x 1.4")
Weight: 250 g (8 oz)

HH2146TC/HH2146TF
Sensor Type: Thermistor, THX-HH2146T
Connector Type: Lumberg
Probe: 316 stainless steel
Setting: HH2146TC reads in°C; HH2146TF reads in °F
Instrument Accuracy: ±0.5°C (0.4°F) over range -20 to 70°C (-4 to 158°F), ±0.8°C (1.4°F) elsewhere
Hold Function: Yes
Range: -40 to 120°C (-40 to 248°F)

HH2106TC/HH2106TF
Sensor Type: Type T thermocouple, THX-HH2106T
Connector Type: Lumberg
Probe: 316 stainless steel
Setting: HH2106TC reads in°C; HH2106TF reads in °F
Instrument Accuracy: ±0.2°C (0.4°F) over range -20 to 70°C (-4 to 158°F), ±0.1% rdg, ±0.2°C (0.4°F) elsewhere
Hold Function: Yes
Range: -250 to 400°C (-418 to 752°F)
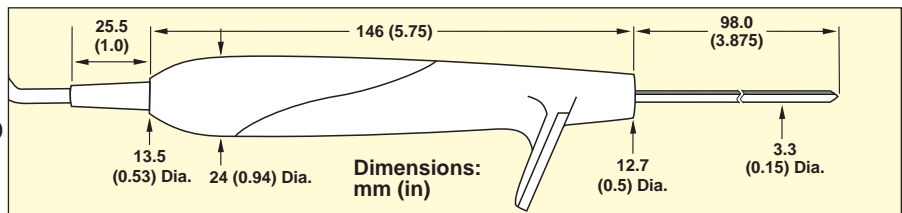
Dimensions: mm (in)

25.5 (1.0) · 146 (5.75) · 98.0 (3.875) · 13.5 (0.53) Dia. · 24 (0.94) Dia. · 12.7 (0.5) Dia. · 3.3 (0.15) Dia.

OMEGA CARE℠ Extended Warranty Program

OMEGACARE℠ extended warranty program is available for models shown on this page. Ask your sales representative for full details when placing an order. OMEGACARE℠ covers parts, labor and equivalent loaners.

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Model No.	Price	Description
HH2146TC	$171	Series 400 thermistor handheld thermometer, °C
HH2146TF	171	Series 400 thermistor handheld thermometer, °F
HH2106TC	229	Type T thermocouple handheld thermometer, °C
HH2106TF	229	Type T thermocouple handheld thermometer, °F
HH-NIST†	55	NIST-traceable calibration, no points
CAL-3-HH†	75	NIST-traceable calibration with points

Probes

Model No.	Price	Description
THX-HH2146T	$55	Penetration probe (for HH2146TC or HH2146TF)
THX-HH2106T	81	Penetration probe (for HH2106TC or HH2106TF)

Comes complete with 2 "AA" batteries, rubber boot and operator's manual. Order probe separately above.

Ordering Examples: HH2146TC** and **THX-HH2146T,** handheld thermometer in °C, thermistor sensor type with penetration probe, $171 + 55 = **$226. OCW-3,** OMEGACARE℠ extends standard 2-year warranty to a total of 5 years ($42), $171 + 42 = **$213.

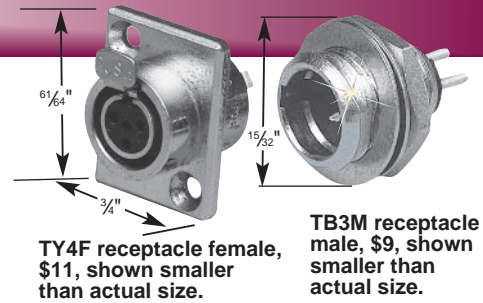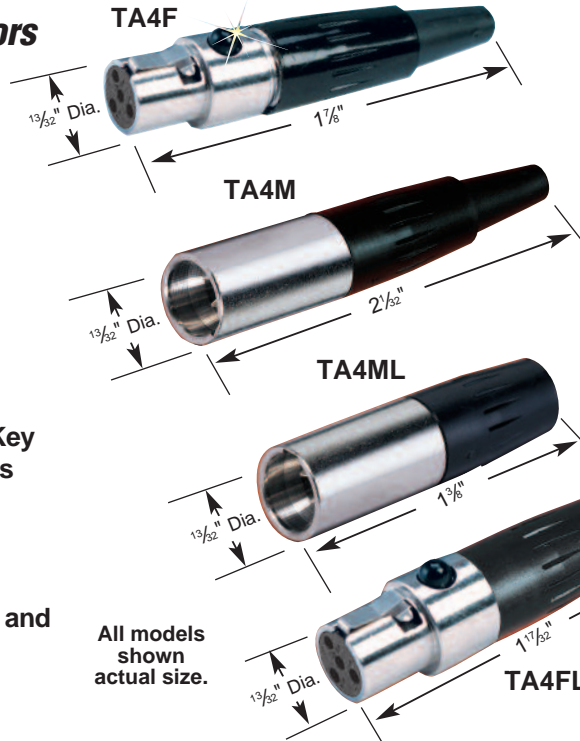***HH2106TF,** Type T handheld thermometer in °F, **$229.***

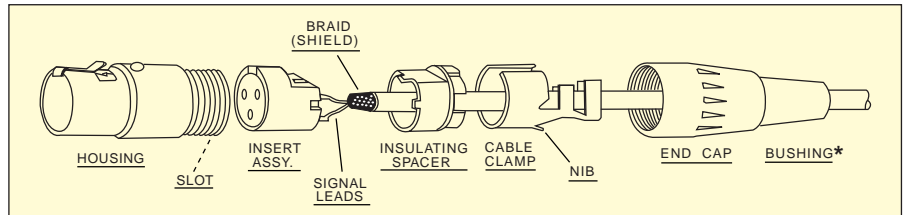## Miniature Connectors for RTDs and Thermistors

T Series Starts at
$8

MADE IN USA

- ✔ **Latch Lock Mechanism**
- ✔ **Polarized by Mechanical Key**
- ✔ **Three and Four Pin Models**
- ✔ **Three and Four Wire RTD Applications**
- ✔ **Well Suited for Most Instrumentation Uses**
- ✔ **Both Internal Strain Relief and External Flexure Relief***

TA4F

13/32" Dia.   1⅞"

TA4M

13/32" Dia.   2¹/32"

TA4ML

13/32" Dia.   1⅜"

All models shown actual size.

13/32" Dia.   1¹⁷/32"   **TA4FL**

61/64"   ¾"   15/32"

TY4F receptacle female, $11, shown smaller than actual size.

TB3M receptacle male, $9, shown smaller than actual size.

TA4F, miniature connector, $10.

63

OMEGA 450 APT
PLATINUM THERMOMETER
°C-.0039%
HOLD   °F
OFF   °C
TEMPERATURE INDICATOR

TA4F shown with 450 Series handheld thermometer, $315. See omega.com/450_handheld for details on 450 Series.

The OMEGA® "T" Series miniature instrumentation connectors are particularly well suited for both three and four wire RTD sensors as well as other types of instrumentation where copper-type lead wire is used. OMEGA "T" connectors are not recommended for use with thermocouples which require connectors with special compensating alloys in their construction.

The "T" Series connector family includes both male (TA3M or TA4M) and female (TA3F or TA4F) cord plugs, as well as panel/bulkhead receptacles, male (TB3M or TB4M), and female (TY3F or TY4F). Items are available in both three or four pin contact construction as identified by the "3" or "4" in the model number. A trim plate, model TYEF-02, is available for the female panel receptacle.

Both male and female cord plugs are offered in two styles: with flexure relief, which accepts up to 2.9 mm (0.114") cable diameter, or without flexure relief, which accepts up to 4.4 mm (0.173") cable diameter (add "L" suffix to model number when ordering). "L" style must be ordered when used with the OMEGA Retractable Sensor Cable (RSC). Connections are made on all styles by solder terminals.

BRAID (SHIELD)

HOUSING   SLOT   INSERT ASSY.   SIGNAL LEADS   INSULATING SPACER   CABLE CLAMP   NIB   END CAP   BUSHING*

***Note:** Double strain reliefs.*

AVAILABLE FOR FAST DELIVERY!

To Order *(Specify Model Number)*

Item	Male/Female	Max Cable Dia. mm (in)	No. Contact Pins	Model No.	Price
Cord Plug	Male	2.9 (0.114)	3	**TA3M***	**$8.00**
		2.9 (0.114)	4	**TA4M***	9.00
	Female	2.9 (0.114)	3	**TA3F***	10.00
		2.9 (0.114)	4	**TA4F***	10.00
Cord Plug	Male	4.4 (0.173)	3	**TA3ML**	**$8.00**
		4.4 (0.173)	4	**TA4ML**	9.00
	Female	4.4 (0.173)	3	**TA3FL**	9.00
		4.4 (0.173)	4	**TA4FL**	9.00
Receptacle	Male	—	3	**TB3M**	**$9.00**
		—	4	**TB4M**	10.00
	Female	—	3	**TY3F**	10.00
		—	4	**TY4F**	11.00
Trim Plate	—	—	—	**TYEF-02**	**$1.00**

***Note:** Connectors can be added to most RTD or thermistor probe cables. Add "-**Connector Model (Instrument Model)**" to the probe number and add **$12** for a 3-pin connector, or **$17** for a 4-wire connector.*

Ordering Examples: PR-11-2-100-1/4-6-E-TA3F (450APT),** RTD sensor with TA3F connector wired for use with a 450-APT handheld meter (sold separately, see information above), $66 + 12 = **$78.

***TA3M,** 4-pin male connector with external flex relief, accepts cable diameters to 0.114", **$8.**

Series S Sanitary Thermowells
Standard Threaded Well for ¼ or ⅜" Diameter Elements

Application: ¼ or ⅜" diameter stem, bimetal thermometers; temperature sensing elements having 0.252" (S-260 models) and 0.377" (S-385 models) maximum diameters, #20-gage thermocouple elements. Applications: food and beverage, pharmaceuticals, research.

Connection Size: 1½, 2 and 2½" Tri-Grip (Tri-Clamp® compatible) flange size are standard, 3 and 4" Tri-Grip models also available upon request.

Materials: 316 stainless steel. Custom wells are also available in special materials; prices on request.
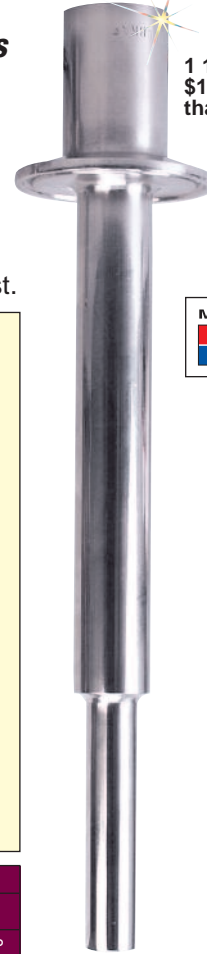
1 1/2-S-260-U7 1/2-316SS, $170, shown smaller than actual size.

Other Flange Diameters From 1½ to 4"

MADE IN USA · A3 · RoHS
74-03

1 1/2-S-385-U1 5/8-316SS, $110, shown smaller than actual size.

S-385 Series

NPSM internal pipe thread will accept both NPT and NPS male threads.

Dimensions: mm (in)

- 44.45 (1.75)
- 1/2 NPSM
- U = INSERTION LENGTH
- -16 AMP SANITARY END CAP
- 26.6 (1.050)
- 49/64 Q DIA
- 385 +0.005 BORE -0.003
- A = STEM LENGTH
- 6.35 (0.25)

S-260 Series

- 44.45 (1.75)
- 1/2 NPSM
- U = INSERTION LENGTH
- -16 AMP SANITARY END CAP
- 63.5 (2.5)
- 26.67 (1.050) Dia.
- Q DIA
- 12.7 (0.5)
- 260 +0.005 BORE -0.003
- A = STEM LENGTH
- 6.35 (0.25)

Visit **omega.com/s-260_s-385** for details.

▢ **MOST POPULAR MODELS HIGHLIGHTED!**
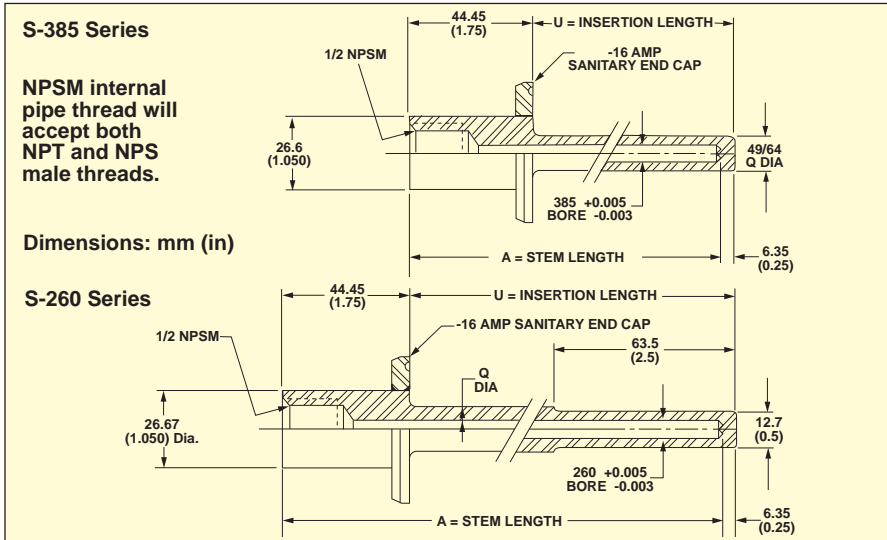
Pressure-Temperature Rating–lb per square inch

Material	Temperature — °F						
	70°	200°	400°	600°	800°	1000°	1200°
A.I.S.I.-316	7000	7000	6400	6200	6100	5100	2500

To Order *(Specify Model Number)*

Model No.	Price	Flange Size	Shank Style	Stem Length, A	Insertion Length, U	Shank Dia. Q
S-260 Series*		**0.260 Bore Diameter**				
1 1/2-S-260-U1 5/8-316SS	$110	1" and 1½"	No Step Down	2½	1⅝"	½"
1 1/2-S-260-U2 1/2-316SS	125	1" and 1½"	No Step Down	4	2 ½"	½"
1 1/2-S-260-U4 1/2-316SS	145	1" and 1½"	Step Down	6	4½"	¾"
1 1/2-S-260-U7 1/2-316SS	170	1" and 1½"	Step Down	9	7½"	¾"
1 1/2-S-260-U10 1/2-316SS	190	1" and 1½"	Step Down	12	10½"	¾"
2-S-260-U1 5/8-316SS	125	2"	No Step Down	2½	1⅝"	½"
2-S-260-U2 1/2-316SS	140	2"	No Step Down	4	2½"	½"
2-S-260-U4 1/2-316SS	160	2"	Step Down	6	4½"	¾"
2-S-260-U7 1/2-316SS	185	2"	Step Down	9	7½"	¾"
2-S-260-U10 1/2-316SS	205	2"	Step Down	12	10½"	¾"
2 1/2-S-260-U1 5/8-316SS	135	2½"	No Step Down	2½	1⅝"	½"
2 1/2-S-260-U2 1/2-316SS	150	2½"	No Step Down	4	2½"	½"
2 1/2-S-260-U4 1/2-316SS	170	2½"	Step Down	6	4½"	¾"
2 1/2-S-260-U7 1/2-316SS	195	2½"	Step Down	9	7½"	¾"
2 1/2-S-260-U10 1/2-316SS	215	2½"	Step Down	12	10½"	¾"
S-385 Series*		**0.385 Bore Diameter**				
1 1/2-S-385-U1 5/8-316SS	$110	1" and 1½"	No Step Down	2½	1⅝"	½"
1 1/2-S-385-U2 1/2-316SS	125	1" and 1½"	No Step Down	4	2½"	½"

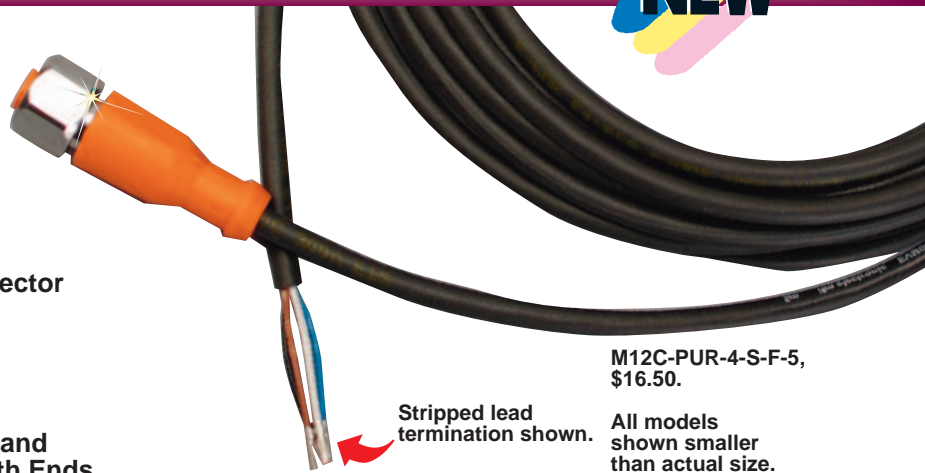*Ordering Examples: 1 1/2-S-260-U2 1/2-316SS, 1½" Tri-Grip™ 316 SS sanitary well with 2½" insertion length and 0.260" internal diameter, **$125**. 1 1/2-S-260-U4 1/2-316SS, 1½" Tri-Grip™ 316 SS step down sanitary well with 4½" insertion length and 0.260" internal diameter, **$145**. 1 1/2-S-260-U7 1/2-316SS, 1½" Tri-Grip™ 316 SS sanitary well with 7½" insertion length and 0.260" internal diameter, **$170**.*

The above thermowells are also available with 3 and 4" Tri-Grip flanges, contact sales for ordering information.

67 Sanitary product line continues to expand, visit **omega.com/sanitary** for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-66342® 1-877-TC-OMEGA

Micro-DC Cable Assemblies
For Probes, Sensors and Transmitters

M12C Series Starts at
$11

- ✔ Extension Cables with M12 Female Connector
- ✔ Gold Plated Contacts
- ✔ PVC and Polyurethane Jacket/Insulation
- ✔ Available in Various Lengths
- ✔ Straight or Right Angle Connection
- ✔ Cable Configurations Include Connector and Stripped Lead Ends or Connectors at Both Ends

M12C-PUR-4-S-F-5, $16.50.

Stripped lead termination shown.

All models shown smaller than actual size.

Highly flexible polyurethane cables for Automation applications.

Nickel plated brass nut.

M12C-PUR-4-R-F-5 with right angle connector, $16.50.

M12C-PUR-4-S-F-5, $16.50.

Rugged PVC jacketed cables for wash-down applications.

316 SS nut.

M12C-PVC-4-R-F-5 with right angle connector, $15.50.

M12C-PVC-4-S-F-5, $15.50.

M12-R-F-FM, $11.

Field mountable connectors.

M12-S-F-FM, $11.
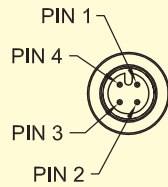
PIN 1
PIN 4
PIN 3
PIN 2
M12 CONNECTOR SIDE

Color Codes			
Pin 1	Pin 2	Pin 3	Pin 4
Brown	White	Blue	Black

MOST POPULAR MODELS HIGHLIGHTED!

To Order *(Specify Model Number)*

Model Number	Price	Connector #1	Connector #2	Cable Length	Insulation/Jacket
M12C-PUR-4-S-F-2	$13.50	Straight M12 plug	Stripped leads	2 m (6.5')	PUR
M12C-PUR-4-R-F-2	13.50	Angled M12 plug	Stripped leads	2 m (6.5')	PUR
M12C-PUR-4-S-F-5	16.50	Straight M12 plug	Stripped leads	5 m (16.4')	PUR
M12C-PUR-4-R-F-5	16.50	Angled M12 plug	Stripped leads	5 m (16.4')	PUR
M12C-PUR-4-S-F-10	19.50	Straight M12 plug	Stripped leads	10 m (32.6')	PUR
M12C-PUR-4-R-F-10	19.50	Angled M12 plug	Stripped leads	10 m (32.6')	PUR
M12C-PVC-4-S-F-5	15.50	Straight M12 plug	Stripped leads	5 m (16.4')	PVC
M12C-PVC-4-R-F-5	15.50	Angled M12 plug	Stripped leads	5 m (16.4')	PVC
M12C-PVC-4-S-F-10	18.50	Straight M12 plug	Stripped leads	10 m (32.6')	PVC
M12C-PVC-4-R-F-10	18.50	Angled M12 plug	Stripped leads	10 m (32.6')	PVC
M12C-PVC-4-S-M-R-F-2	21.00	Straight M12 plug	Angled M12 socket	2 m (6.5')	PVC
M12C-PVC-4-S-M-R-F-5	22.00	Straight M12 plug	Angled M12 socket	5 m (16.4')	PVC
M12C-PVC-4-S-M-S-F-2	21.00	Straight M12 plug	Straight M12 socket	2 m (6.5')	PVC
M12C-PVC-4-S-M-S-F-5	22.00	Straight M12 plug	Straight M12 socket	5 m (16.4')	PVC
M12-S-F-FM	11.00	Straight M12 socket - field mountable†		N/A	N/A
M12-S-M-FM	11.00	Straight M12 plug - field mountable†		N/A	N/A
M12-R-F-FM	11.00	Angled M12 socket - field mountable†		N/A	N/A
M12-R-M-FM	11.00	Angled M12 plug - field mountable†		N/A	N/A

† Field installable 4-pin M12 connector with screw type terminals.
*Ordering Examples: **M12C-PVC-4-R-F-5,** M12C series cable assembly, right angle connection, PVC cable, 5 m (16.4') L, **$15.50.***
M12C-PUR-4-S-F-2,** M12C series cable assembly, straight connection, polyurethane cable, 2 m (6.5') L, **$13.50.

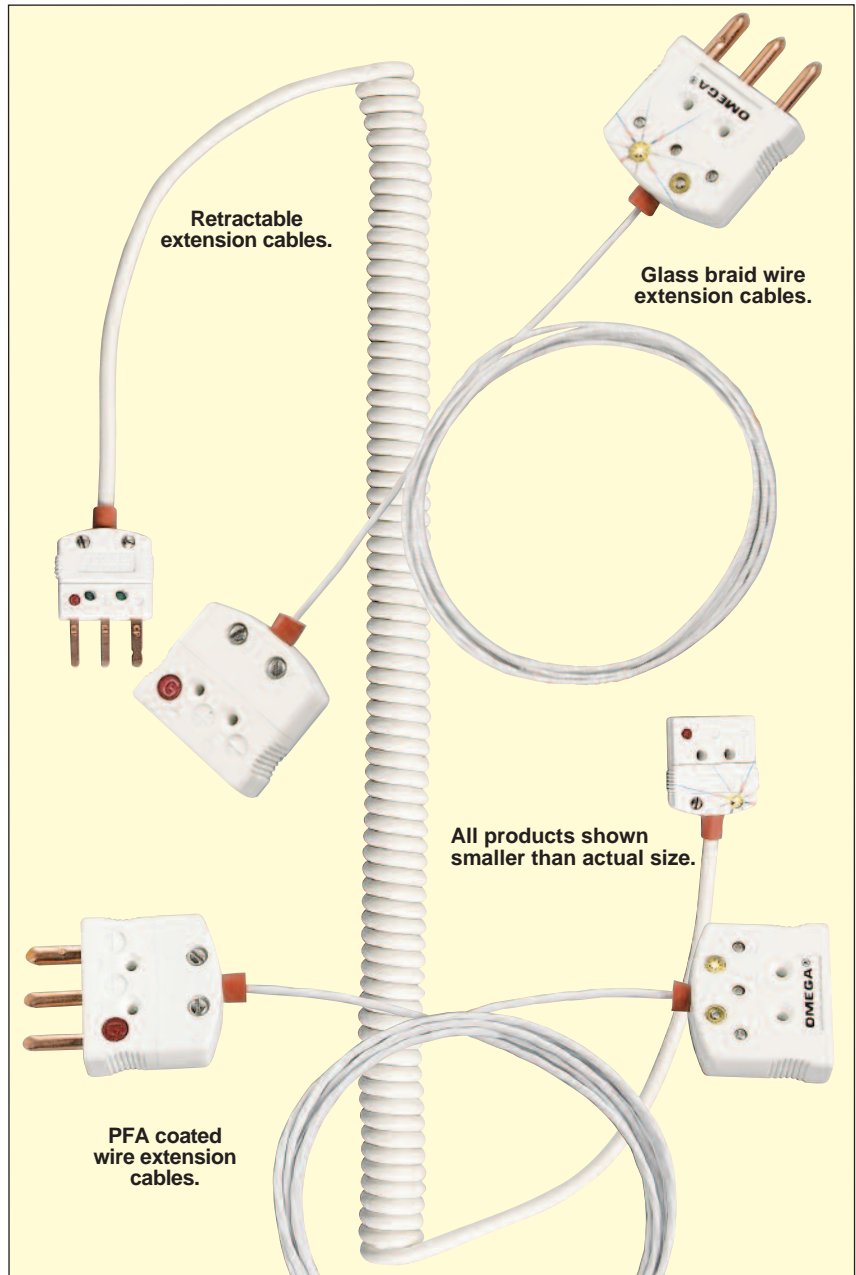## RTD and Thermistor Extension Cables

Starts at
$15

MADE IN
USA

- ✔ Retractable Cable Have 12" and 4' Initial Lengths with 5:1 Stretch
- ✔ Set-Length Extension Cables Provided in 10 and 25' Standard Lengths
- ✔ 3 Conductor Cables are Standard, 2 Conductor Cables are Provided When Ordered with 2-Pin Connectors Installed
- ✔ 3 Standard Cable Constructions Available
- ✔ Standard and Mini Quick Disconnect Connectors and Audio Connectors Available

Connector Codes

Ordering Code	Description
OTP-U-M	3-lead standard male
OTP-U-F	3-lead standard female
MTP-U-M	3-lead miniature male
MTP-U-F	3-lead miniature female
OST-U-M	2-lead standard male
OST-U-F	2-lead standard female
SMP-U-M	2-lead miniature male
SMP-U-F	2-lead miniature female
TA3M	T Series, male†
TA3F	T Series, female†

† Add **$30** to cost of cable for each end with T Series, see page 72 or visit **omega.com/ta3_ta4** for details.

Retractable extension cables.

Glass braid wire extension cables.

All products shown smaller than actual size.

PFA coated wire extension cables.

☐ *MOST POPULAR MODELS HIGHLIGHTED!*

To Order *(Specify Model Number)*

Model No.	Price	Description	Length
RECU1-(*)-(*)	$18.50	3 conductor TPE jacketed retractable extension cable	1', unstretched
RECU4-(*)-(*)	33.50	3 conductor TPE jacketed retractable extension cable	4', unstretched
GECU10-(*)-(*)	15.00	3 conductor fiberglass insulated and jacketed cable	10'
GECU25-(*)-(*)	30.00	3 conductor fiberglass insulated and jacketed cable	25'
TECU10-(*)-(*)	15.00	3 conductor PFA insulated and jacketed cable	10'
TECU25(*)-(*)	30.00	3 conductor PFA insulated and jacketed cable	25'

(*) If connectors are to be installed onto the cables, please insert the connection codes. Connection codes listed in chart above.
Notes: *RECU cables contain three #28 AWG stranded copper wire with PFA insulation and TPE jacket. Temperature range is -30 to 150ºC. Expansion ratio is 5:1. **GECU** cables contain three #26 AWG nickel plated copper conductors with fiberglass insulation and fiberglass jacket. Temperature range is -73 to 482ºC. **TECU** cables contain three #26 AWG nickel plated copper conductors with PFA insulation and jacket. Temperature range is 267 to 260ºC.*
Ordering Examples: *RECU1-MTP-U-F-MTP-U-M, RECU1 cable with a male MTP on one end and a female MTP connector on the other end, $18.50. TECU10-TA3F-TA3M, 3-conductor PFA insulated cable, 10' long with TA3M connector one end and TA3F connector on the other, $15 + 30 + 30 = $75.*

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Sanitary product line continues to expand, visit **omega.com/sanitary** for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-6 6342® 1-877-TC-OMEGA

RTD and Thermistor Extension Wire
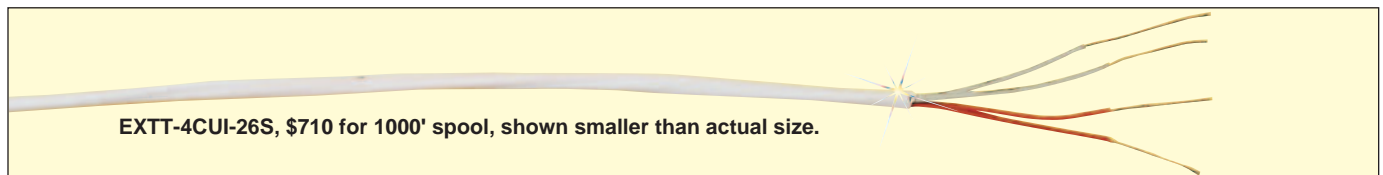
EXTT-4CUI-26S, $710 for 1000' spool, shown smaller than actual size.

MOST POPULAR MODELS HIGHLIGHTED!

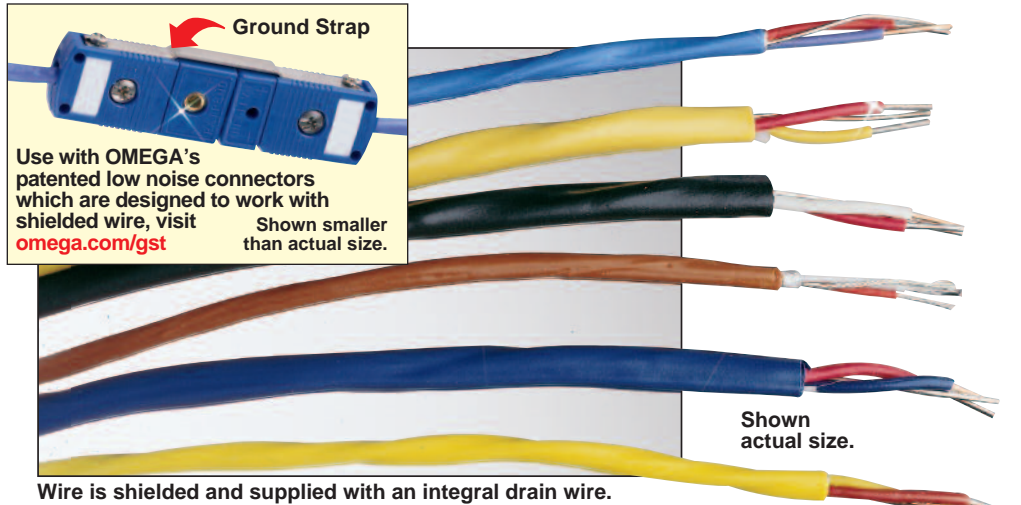| AWG No.	Model Number	Price/ 1000'	# of Con.	Wire Type	Conductor Material	Conductor	Overall	Braid	°C*	°F*	Nominal Size: mm (in)	Wt. kg/300 m (lb/1000')†	Color Code	Outer Jacket Color
Glass Insulation														
20	EXGG-2CU-20	$370	2	Solid	NPC	Glass braid	Glass braid	None	482	900	1.5 x 2.4 (0.060 x 0.095)	4 (9)	1 Red 1 Black	White
26	EXGG-2CU-26S	280	2	7 x 34	NPC			None	482	900	1.5 x 1.3 (0.060 x 0.052)	2 (5)	1 Red 1 Black	White
26	EXGG-3CU-26S	360	3	7 x 34	NPC			None	482	900	1.5 x 1.6 (0.060 x 0.064)	3 (7)	1 Red 2 Black	White
26	EXGG-4CU-26S	420	4	7 x 34	NPC			None	482	900	1.5 x 1.7 (0.060 x 0.066)	4 (9)	2 Red 2 Black	White
26	EXGG-2CUI-26S	290	2	7 x 34	NPC			None	482	900	2.1 Ø (0.083 dia.)	2.2 (5)	1 Red 1 White	White
26	EXGG-3CUI-26S	370	3	7 x 34	NPC			None	482	900	2.2 Ø (0.087 dia.)	3.2 (7)	2 Red 1 White	White
26	EXGG-4CUI-26S	420	4	7 x 34	NPC			None	482	900	2.4 Ø (0.095 dia.)	4.2 (9.3)	2 Red 2 White	White
Glass with Outer Braid Insulation														
26	EXGG-2CUI-26S-SB	$500	2	7 x 34	NPC	Glass braid	Glass braid	SST	482	900	2.8 Ø (0.110 dia.)	5.2 (11.5)	1 Red 1 White	SST braid
26	EXGG-3CUI-26S-SB	580	3	7 x 34	NPC			SST	482	900	2.9 Ø (0.114 dia.)	6.2 (13.7)	2 Red 1 White	SST braid
26	EXGG-4CUI-26S-SB	630	4	7 x 34	NPC			SST	482	900	3.1 Ø (0.122 dia.)	7.2 (15.9)	2 Red 2 White	SST braid
Neoflon® PFA Insulation														
26	EXTT-2CU-26S	$480	2	7 x 34	NPC	PFA	PFA	None	260	500	1.1 x 1.7 (0.042 x 0.068	2 (5)	1 Red 1 Black	White
26	EXTT-3CU-26S	650	3	7 x 34	NPC			None	260	500	11.8 Ø (0.072 dia.)	4 (9)	1 Red 2 Black	White
26	EXTT-4CU-26S	700	4	7 x 34	NPC			None	260	500	2.1 Ø (0.082 dia.)	5 (11.5)	2 Red 2 Black	White
26	EXTT-2CUI-26S	490	2	7 x 34	NPC			None	260	500	2.1 Ø (0.083 dia.)	2.2 (5)	1 Red 1 White	White
26	EXTT-3CUI-26S	660	3	7 x 34	NPC			None	260	500	2.2 Ø (0.087 dia.)	4.2 (9.3)	2 Red 1 White	White
26	EXTT-4CUI-26S	710	4	7 x 34	NPC			None	260	500	2.4 Ø (0.095 dia.)	5.2 (11.5)	2 Red 2 White	White
PFA with Shield Insulation														
26	EXTT-2CUI-26S-SB	$700	2	7 x 34	NPC	PFA	PFA	SST	260	500	2.8 Ø (0.110 dia.)	5.2 (11.5)	1 Red 1 White	SST braid
26	EXTT-3CUI-26S-SB	870	3	7 x 34	NPC			SST	260	500	2.9 Ø (0.114 dia.)	7.2 (15.9)	2 Red 1 White	SST braid
26	EXTT-4CUI-26S-SB	980	4	7 x 34	NPC			SST	260	500	3.1 Ø (0.122 dia.)	8.2 (18.1)	2 Red 2 White	SST braid
Polyvinyl (PVC) Insulation														
24	EXPP-2CU-24S	$390	2	7 x 32	NPC	Polyvinyl	Polyvinyl	None	105	221	2.1 x 3.4 (0.082 x 0.134)	5 (10)	1 Red 1 Black	White
24	EXPP-3CU-24S	520	3	7 x 32	NPC			None	105	221	4.22 Ø (0.166 dia.)	6 (14)	1 Red 2 Black	White
24	EXPP-4CU-24S	570	4	7 x 32	NPC			None	105	221	4.3 Ø (0.169 dia.)	7 (15.5)	2 Red 2 Black	White
24	EXPP-2CUI-24S	400	2	7 x 32	NPC			None	105	221	2.1 x 3.4 (0.082 x 0.134)	5 (10)	1 Red 1 White	White
24	EXPP-3CUI-24S	530	3	7 x 32	NPC			None	105	221	4.22 Ø (0.166 dia.)	6 (14)	2 Red 1 White	White
24	EXPP-4CUI-24S	580	4	7 x 32	NPC			None	105	221	4.3 Ø (0.169 dia.)	7 (15.5)	2 Red 2 White	White
Polyvinyl (PVC) with Shield Insulation														
24	EXPP-2CUI-24S-TCB-P	$610	2	7 x 32	NPC	Polyvinyl	Polyvinyl	Tinned copper	105	221	2.8 x 4.0 (0.110 x .157)	8 (17.7)	1 Red 1 White	White
24	EXPP-3CUI-24S-TCB-P	740	3	7 x 32	NPC			Tinned copper	105	221	4.9 Ø (0.193 dia.)	9 (19.9)	2 Red 1 White	White
24	EXPP-4CUI-24S-TCB-P	790	4	7 x 32	NPC			Tinned copper	105	221	5.0 Ø (0.197 dia.)	10 (22)	2 Red 2 White	White

*Maximum temperature is for wire or insulation, whichever is lower.
† Weight of spool and wire rounded to the next highest kilogram (lb); does not include packing material.
Conductors can be welded (spliced) within spool.
Ordering Example: EXTT-3CU-26S-1000, 1000' of #26 AWG PFA insulated wire with 3 conductors, **$650.**

Twisted/Shielded Thermocouple Wire

- ✔ **Maintains Electrical Ground from Probe Sheath to Instrument**
- ✔ **Polyvinyl, FEP, and PFA Insulations Available**
- ✔ **Complements OMEGA® Low Noise Thermocouple Probes and Connectors**
- ✔ **Extension and Thermocouple Grades**
- ✔ **Custom Wire Design Available**
- ✔ **7.5 to 300 m (25 to 1000') Spools Available from Stock**

Ground Strap

Use with OMEGA's patented low noise connectors which are designed to work with shielded wire, visit **omega.com/gst**

Shown smaller than actual size.

Shown actual size.

Wire is shielded and supplied with an integral drain wire.

Thermocouple Grade PFA Insulation

AWG†	Model Number ANSI Color Code	Nominal Size mm (in)	T/C Type	Price 1000'	Price SLE††
20	TT-J-20-TWSH	3.7 (0.15)	J	$990	$1140
	TT-K-20-TWSH	3.7 (0.15)	K	1140	1305
	TT-T-20-TWSH	3.7 (0.15)	T	975	1125
	TT-E-20-TWSH	3.7 (0.15)	E	1205	1385
20S*	TT-J-20S-TWSH	3.8 (0.15)	J	1190	1430
	TT-K-20S-TWSH	3.8 (0.15)	K	1365	1640
	TT-T-20S-TWSH	3.8 (0.15)	T	1170	1405
	TT-E-20S-TWSH	3.8 (0.15)	E	1445	1730
24	TT-J-24-TWSH	2.7 (0.11)	J	585	675
	TT-K-24-TWSH	2.7 (0.11)	K	685	785
	TT-T-24-TWSH	2.7 (0.11)	T	560	645
	TT-E-24-TWSH	2.7 (0.11)	E	720	830
24S*	TT-J-24S-TWSH	2.9 (0.12)	J	700	845
	TT-K-24S-TWSH	2.9 (0.12)	K	820	980
	TT-T-24S-TWSH	2.9 (0.12)	T	670	805
	TT-E-24S-TWSH	2.9 (0.12)	E	870	1045

Extension Grade Polyvinyl Insulation

AWG†	Model Number ANSI Color Code	Nominal Size mm (in)	T/C Type	Price 1000'	Price SLE††
16	EXPP-J-16-TWSH	6.4 (0.250)	J	$590	$680
	EXPP-K-16-TWSH	6.4 (0.250)	K	985	1130
	EXPP-T-16-TWSH	6.4 (0.250)	T	555	635
	EXPP-E-16-TWSH	6.4 (0.250)	E	1000	1150
16S*	EXPP-J-16S-TWSH	6.9 (0.270)	J	975	1170
	EXPP-K-16S-TWSH	6.9 (0.270)	K	1590	1910
	EXPP-T-16S-TWSH	6.9 (0.270)	T	930	1120
	EXPP-E-16S-TWSH	6.9 (0.270)	E	1615	1935
20	EXPP-J-20-TWSH	5.1 (0.200)	J	265	305
	EXPP-K-20-TWSH	5.1 (0.200)	K	415	480
	EXPP-T-20-TWSH	5.1 (0.200)	T	270	310
	EXPP-E-20-TWSH	5.1 (0.200)	E	435	500
20S*	EXPP-J-20S-TWSH	5.5 (0.215)	J	415	500
	EXPP-K-20S-TWSH	5.5 (0.215)	K	710	850
	EXPP-T-20S-TWSH	5.5 (0.215)	T	415	500
	EXPP-E-20S-TWSH	5.5 (0.215)	E	765	870

*Stranded wire. † Please visit **omega.com/colorcodes** for AWG dimensions. Extension grade wire also available in R and S calibrations. Consult Sales Department for pricing information.*

Note: Minimum bending radius is 4 times the nominal diameter

Note: Published prices are based on market value at time of printing and are subject to change due to Nickel surcharges, Chromium and precious-metal market fluctuations.

Thermocouple Grade FEP Insulation

MOST POPULAR MODELS HIGHLIGHTED!

AWG†	Model Number ANSI Color Code	Nominal Size mm (in)	T/C Type	Price 1000'	Price SLE††
20	FF-J-20-TWSH	3.7 (0.15)	J	$750	$860
	FF-K-20-TWSH	3.7 (0.15)	K	905	1040
	FF-T-20-TWSH	3.7 (0.15)	T	735	845
	FF-E-20-TWSH	3.7 (0.15)	E	930	1065
20S*	FF-J-20S-TWSH	3.8 (0.15)	J	895	1080
	FF-K-20S-TWSH	3.8 (0.15)	K	1090	1315
	FF-T-20S-TWSH	3.8 (0.15)	T	885	1060
	FF-E-20S-TWSH	3.8 (0.15)	E	1120	1340
24	FF-J-24-TWSH	2.7 (0.11)	J	440	505
	FF-K-24-TWSH	2.7 (0.11)	K	515	590
	FF-T-24-TWSH	2.7 (0.11)	T	425	490
	FF-E-24-TWSH	2.7 (0.11)	E	545	630
24S*	FF-J-24S-TWSH	2.9 (0.12)	J	535	635
	FF-K-24S-TWSH	2.9 (0.12)	K	620	740
	FF-T-24S-TWSH	2.9 (0.12)	T	505	610
	FF-E-24S-TWSH	2.9 (0.12)	E	655	785

PFA insulation also available. Change "FF" in Model Number to "TT" Example: EXTT-J-16-TWSH Consult Sales for pricing.

Extension Grade FEP Insulation

AWG†	Model Number ANSI Color Code	Nominal Size mm (in)	T/C Type	Price 1000'	Price SLE††
16	EXFF-J-16-TWSH	4.3 (0.17)	J	$1015	$1170
	EXFF-K-16-TWSH	4.3 (0.17)	K	1910	2200
	EXFF-T-16-TWSH	4.3 (0.17)	T	960	1105
	EXFF-E-16-TWSH	4.3 (0.17)	E	1960	2255
16S*	EXFF-J-16S-TWSH	4.5 (0.18)	J	1220	1465
	EXFF-K-16S-TWSH	4.5 (0.18)	K	2290	2745
	EXFF-T-16S-TWSH	4.5 (0.18)	T	1155	1385
	EXFF-E-16S-TWSH	4.5 (0.18)	E	2350	2825
20	EXFF-J-20-TWSH	3.7 (0.15)	J	590	680
	EXFF-K-20-TWSH	3.7 (0.15)	K	765	885
	EXFF-T-20-TWSH	3.7 (0.15)	T	575	660
	EXFF-E-20-TWSH	3.7 (0.15)	E	785	905
20S*	EXFF-J-20S-TWSH	3.8 (0.15)	J	710	850
	EXFF-K-20S-TWSH	3.8 (0.15)	K	925	1105
	EXFF-T-20S-TWSH	3.8 (0.15)	T	710	850
	EXFF-E-20S-TWSH	3.8 (0.15)	E	950	1140

†† *To order special limits of error wire, add "-SLE" to model number before spool length. **Ordering Example: FF-K-20S-TWSH-SLE-1000,** 1000' of 20 gage twisted/shielded Type K Neoflon coated wire, **$1315.***

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-66342® 1-877-TC-OMEGA

3-Prong Miniature Connectors
For Thermocouples, RTD's and 3-Wire Thermistors
Glass-Filled Nylon Rated From -29 to 220°C (-20 to 425°F)

Glass-Filled Nylon!

ANSI color code shown

To order IEC color code visit omega.com

MTP Starts at $2⁵⁰

MADE IN USA

Basic Male Connector

For Complete Details Visit omega.com/mtp
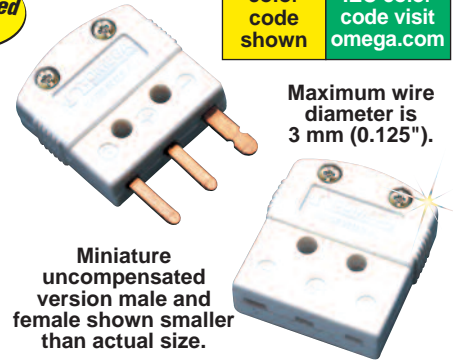
Maximum wire diameter is 3 mm (0.125").

Miniature uncompensated version male and female shown smaller than actual size.

✔ **Supplied with Shielded Wire Copper Connection Pin**
✔ **Glass-Filled Nylon, Rated to -29 to 220°C (-20 to 425°F)**

✔ **Heavy-Duty Construction**
✔ **Color-Coded**
✔ **Accepts Stranded or Solid Wire up to Size 20 AWG**
✔ **Combination Phillips/ Slot Screws**

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Alloy Code†	Type of Thermocouple Used With Connector	Compensating Alloy Used in Connector		Shell Color	Model No. ANSI Color Code	Price		
		+	–			Pair (MF)	Female (F)	Male (M)
K	CHROMEGA®-ALOMEGA®	CHROMEGA®	ALOMEGA®	Yellow	MTP-K-(*)	$5.50	$3.00	$2.50
T	Copper-Constantan	Copper	Constantan	Blue	MTP-T-(*)	5.50	3.00	2.50
J	Iron-Constantan	Iron	Constantan	Black	MTP-J-(*)	5.50	3.00	2.50
E	CHROMEGA®-Constantan	CHROMEGA®	Constantan	Purple	MTP-E-(*)	5.50	3.00	2.50
U	Uncompensated	Copper	Copper	White	MTP-U-(*)	5.50	3.00	2.50
N	OMEGALLOY®	OMEGA-P®	OMEGA-N®	Orange	MTP-N-(*)	8.25	4.50	3.75

† K, T, J, E, R, S and B are ANSI designations
* To order, specify "MF" for a connector pair, "M" for male connector only, or "F" for female connector only
OMEGALLOY® Type N is generically known as Nicrosil-Nisil
OMEGA's subminiature connectors are molded of high performance glass-filled nylon. Each male connector is supplied with one blank brass bushing to which protection tubes are easily soldered or brazed. Special washers are provided to guarantee good contact without damaging fine wires. Connectors will accommodate protection tubes from 0.25 mm to 3.17 mm (0.010" to ⅛") O.D. Additional bushings can be purchased for $0.25 each; order BB-SMP-1.
Ordering Examples: MTP-K-MF, *CHROMEGA®-ALOMEGA®, 3-prong subminiature connector pair,* **$5.50.**
MTP-J-MF, *Copper-Constantan, 3-prong subminiature connector pair,* **$5.50.**

3-Prong Standard Heavy-Duty Connectors
Glass-Filled Nylon Color-Coded with Shield Connection Pin,
Rated From -29 to 220°C (-20 to 425°F)

RTD Thermistor Sensors Use Uncompensated Style

ANSI color code shown

To order IEC color code visit omega.com

OTP Series $9 Basic Pair

MADE IN USA

For Complete Details Visit omega.com/otp

OTP-T-M male (plug), $3.50.

OTP-T-F female (jack), $5.50, shown with optional PCLM cable clamp, $1. Visit omega.com/pclm for information.

Both shown smaller than actual size.

To Order (Specify Model Number)

Alloy Code†	Type of Thermocouple Used With Connector	Compensating Alloy Used in Connector		Shell Color	Model No.	Price		
		+	–			Pair (MF)	Female (F)	Male (M)
K	CHROMEGA®-ALOMEGA®	CHROMEGA®	ALOMEGA®	Yellow	OTP-K-(*)	$9.00	$5.50	$3.50
T	Copper-Constantan	Copper	Constantan	Blue	OTP-T-(*)	9.00	5.50	3.50
J	Iron-Constantan	Iron	Constantan	Black	OTP-J-(*)	9.00	5.50	3.50
E	CHROMEGA®-Constantan	CHROMEGA®	Constantan	Purple	OTP-E-(*)	9.00	5.50	3.50
U	Uncompensated	Copper	Copper	White	OTP-U-(*)	9.00	5.50	3.50
N	OMEGALLOY®	OMEGA-P®	OMEGA-N®	Orange	OTP-N-(*)	13.50	8.36	5.25

† J, K, T, and E are ANSI designations.
* To order, specify "MF" for connector pair, "M" for male connector only, or "F" for female connector only.
OMEGALLOY® Type N is generically known as Nicrosil-Nisil.
Note: *Type U (uncompensated) connectors are used with type B thermocouples (Platinum/6% Rhodium-Platinum 30%Rhodium)*
Ordering Examples: OTP-U-M, *uncompensated, 3-prong, heavy-duty male connector,* **$3.50.**
OTP-K-MF, *CHROMEGA®-ALOMEGA®, 3-prong, heavy-duty connector pair,* **$9.00.**

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS **1-877-82-6 6 3 4 2®**
1-877-TC-OMEGA

Sanitary Current Output Pressure Transducer
Proven Thin-Film Technology

Ranges from Vacuum to 1000 psi (69 bar)
4 to 20 mA Output

PX792 Series Starts at
$420

MADE IN USA **A3**

✔ **All Stainless Steel Construction**
✔ **NEMA 4X (IP65) Enclosure**
✔ **Dairy, Food Processing, Pharmaceutical, Biotech Applications**
✔ **High Reliability**

The PX790 Series transducers use proven thin-film technology and precision machining and electro-polishing to meet 3A standards.

Specifications
Excitation: 10 to 36 Vdc unregulated reverse voltage protected
Output: 4 to 20 mA 2-wire
Zero Balance: ±1% FS
Vmin = 10 V + (0.022A) x R_L
Linearity: ±0.4% BFSL
Hysteresis: +0.2%
Repeatability: ±0.07%
Stability: ±1% FS/year
Durability: 100M cycles
Operating Temperature: -29 to 82°C (-20 to 180°F)
Compensated Temperature: -1 to 54°C (30 to 130°F)
Thermal Effects:
  Zero: ±0.04% FS/°F
  Span: ±0.04% FS/°F
Proof Pressure: 200% range
Burst Pressure: 800% range
Gage Type: Stainless steel diaphragm, diffused silicon sensor
Vibration: <±0.1% FS effect for 20 g, 0 to 2000 Hz in any axis
Shock: Less than ±0.05% FS effect for 100 g, 20 ms shock in any axis
Position Effect: <0.1% FS
Response Time: 5 ms
Wetted Parts: 316L stainless steel electro-polished
Fill Fluid: USP grade 99.5% glycerin

Exploded view showing PX792 transducer, Tri-Grip™ clamp gasket and T-fitting.
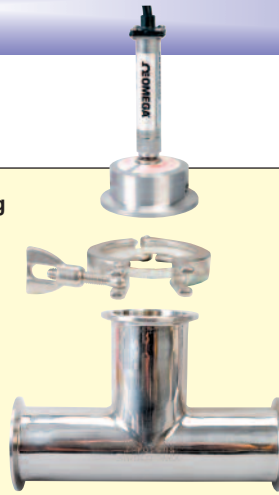
PX792-100G5V, with 2" Tri-Grip™ flange, $420, shown actual size.

Connections
Red   +
Black   −

Dimensions: mm (in)
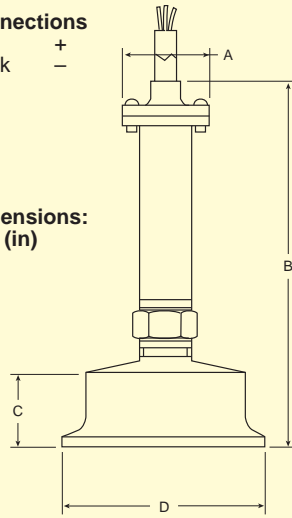
MODEL	A	B	C	D
1½" Tri-Grip™	20.3 (0.8)	119.4 (4.7)	22.9 (0.9)	51 (2.0)
2" Tri-Grip™	20.3 (0.8)	119.4 (4.7)	22.9 (0.9)	63.5 (2.5)

Pressure Port: Tri-Grip™ (Tri-Clamp® compatible) style, 2" standard, 1½" optional
Case: 300 Series SS
Electrical Connection: 24 AWG, 91.4 cm (36") PVC, shielded, vented
Weight: 383 g (13.5 oz)

MOST POPULAR MODELS HIGHLIGHTED!

To Order *(Specify Model Number)*

Range psig	bar	Model No. 1½" FTG*	Model No. 2" FTG*	Price	Compatible Meters**
Vac to 30	Vac to 2.1	PX791-V30GI	PX792-V30GI	$455	DP41-E, DP302-E, DP460-E
Vac to 60	Vac to 4.1	PX791-V60GI	PX792-V60GI	455	DP41-E, DP302-E, DP460-E
Vac to 100	Vac to 6.9	PX791-V100GI	PX792-V100GI	455	DP41-E, DP3002-E, DP460-E
0 to 30	0 to 2.1	PX791-30GI	PX792-30GI	435	DP41-E, DP3002-E, DP460-E
0 to 60	0 to 4.1	PX791-60GI	PX792-60GI	420	DP41-E, DP302-E, DP460-E
0 to 100	0 to 6.9	PX791-100GI	PX792-100GI	420	DP41-E, DP302-E, DP460-E
0 to 200	0 to 13.8	PX791-200GI	PX792-200GI	420	DP41-E, DP302-E, DP460-E
0 to 300	0 to 20.7	PX791-300GI	PX792-300GI	420	DP41-E, DP3002-E, DP460-E
0 to 500	0 to 34.5	PX791-500GI	PX792-500GI	420	DP41-E, DP3002-E, DP460-E
0 to 750	0 to 51.7	PX791-750GI	PX792-750GI	420	DP41-E, DP3002-E, DP460-E
0 to 1000	0 to 68.9	PX791-1KGI	PX792-1KGI	420	DP41-E, DP3002-E, DP460-E

Comes complete with operator's manual.

** To order with 1½" fitting, change model number to **PX791** (no extra charge).*
*** Visit **omega.com/dp25** for compatible meters.*

Ordering Example: PX792-V100GI,** 51 mm (2") fitting, range from vacuum to 100 psig and 4 to 20 mA output at the full scale level, **$455.

Sanitary Process Transducers
Using Micro-Machined Silicon Technology
10 mV, 0 to 5 Vdc, 4 to 20 mA Outputs

Gage or Absolute Pressures
10 inH₂O to 600 psi
(25 mbar to 41 bar)
Gage 5 psi to 500 psi
(344 mb to 34.5 bar) Absolute
1½" or 2" Tri-Grip Fitting

PX409S Tri-Grip™
Sanitary Series
Starts at
$585

MADE IN USA   **NIST Standard**   **CE**
A3 74-03   **RoHS**

✔ **High, 0.08%, Accuracy**
✔ **Solid State Sensor for Durability**
✔ **Excellent Long Term Stability**
✔ **Welded Stainless Steel Construction**
✔ **316L SS Wetted Parts**
✔ **Shock and Vibration Rated**
✔ **High Overpressure Rating**
✔ **Ruggedized with Secondary Containment**

The PX409S Series micro-machined silicon transducers with 1½ or 2" sanitary fittings are ideal for pressure or level CIP applications in food processing, beverage or bio/pharmaceutical applications as well as industrial applications that require a rugged, high accuracy transducer. The micro-machined silicon sensor provides a very stable transducer with exceptional high accuracy of 0.08% and a broad compensated range of -6.7 to 85°C (20 to 185°F). The modular construction allows for fast delivery of most configurations and fittings.

Specifications
Accuracy: 0.08% Best Straight Line (Linearity, Hysteresis and Repeatability combined)
Operating Temperature Range: -15 to 115°C (-5 to 240°F)
Compensated Temperature Range: -6.7 to 85°C (20 to 185°F)
Temperature Compensation: Zero and span combined
≥ 5 psi: 1% over 55.6°C (100°F) range

≤ 2.5 psi: 2% over 55.6°C (100°F) range
Min Isolation Between Case and Output Terminations: 100 MΩ @ 50 Vdc
Pressure Cycles: 1 million, minimum
Long Term Stability (1-Year): ±0.1% FS typ.
Shock: 50 g, 11 ms half sine shock, (under test)
Vibration: ±20 g (under test)
Bandwidth: DC to 1 kHz typical
Response Time: <1 ms
Fill Fluid: NEOBEE M5 Food grade
Designed to Meet or Exceed 3A Sanitary Specification 74-03
CE Compliant: Meets industrial emissions and immunity standard IEC61326
Environmental Protection: IP65 or IP67 depending upon electrical termination
Pressure Rating:
1½" and 2" Tri-Grip™ (Tri-Clamp® compatible) fitting: 600 psi using suitable clamp
Over Pressure: 4 x rated pressure to maximum rated flange pressure
Secondary Containment: 6 x rated pressure to a maximum of 2000 psi (not in clamp)
Wetted Parts: 316L SS
Weight: 285 gm (10 oz)

PRESSURE LINES®

Twist-lock style.

PX429S15-005GV, $585, shown smaller than actual size.

mini DIN style.

1½ or 2" Tri-Grip™ Fitting

PX419S20-100AV, $585, shown smaller than actual size.

Dimensions: mm (in)
Ø = Diameter

ø22.25 (0.88)
5.21 (0.20)
60.97 (2.40)
MODEL NO: PX4
PRESSURE RA
OUTPUT: 0 TO 5V
SERIAL NO:1234
ø63.91 (02.52)
PX429S20 2" flange

ø22.25 (0.88)
5.21 (0.20)
60.97 (2.40)
Mating connector included (not shown)
MODEL NO: PX4
PRESSURE RA
OUTPUT: 0 TO 5V
SERIAL NO:1234
ø50.39 (01.98)
PX419S15 1½" flange

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS **1-877-82-6 6342®**
1-877-TC-OMEGA

NEW ®
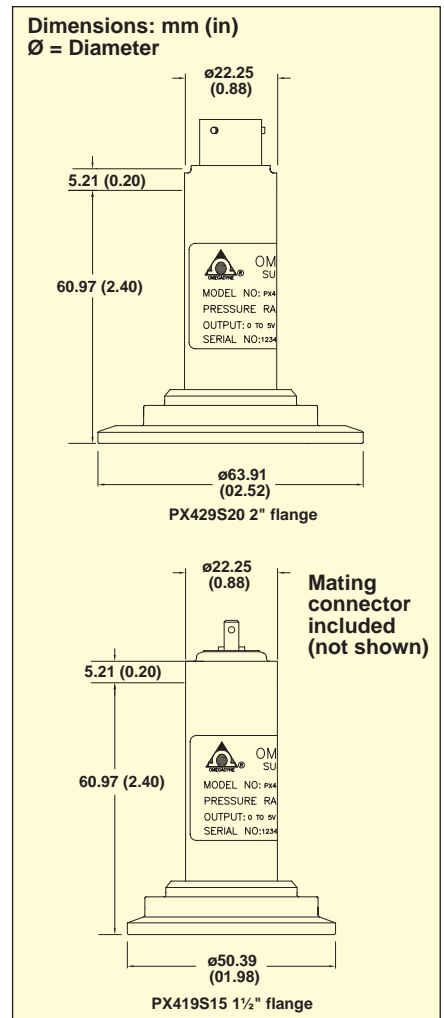
10 mV/V Output

Specifications (10 mV/V Output)

Output/ Supply: 10 mV/V; Ratiometric 5 to 10 Vdc
Accuracy: 0.08% BSL (linearity, hysteresis repeatability combined)
Zero Balance: ±0.5% FS typical 1% max (For ranges ≤2.5 psi ±1% typ 2% max)

Span Setting: ±0.5% FS typical 1% max
(For ranges ≤2.5 psi ±1% typ 2% max)
Calibrated in vertical position with fitting down

Electrical Terminations

PX409S: 2 m (6') cable IP67 rating

PX409CS: Conduit/ cable IP67 rating

PX419S: mini DIN IP67 rating, absolute IP65 rating, gage

PX429S: Twist-lock IP67 rating, absolute IP65 rating, gage

PX459S: M12 connector IP67 rating, absolute IP65 rating, gage
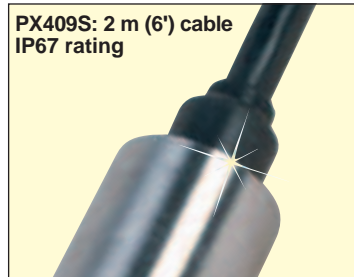
10 mV/V Output

MOST POPULAR MODELS HIGHLIGHTED!

To Order *(Specify Model Number)*

Range		1½" Tri-Grip™ Fitting	Price	2" Tri-Grip™ Fitting	Price
psi	bar				
2 m (6') Cable Termination—10 mV/V Output					
0 to 10 inH$_2$O	0 to 25 mb	PX409S15-10WGV	$585	PX409S20-10WGV	$585
0 to 1	0 to 69 mb	PX409S15-001GV	585	PX409S20-001GV	585
0 to 2.5	0 to 172 mb	PX409S15-2.5GV	585	PX409S20-2.5GV	585
0 to 5	0 to 345 mb	PX409S15-005[*]V	585	PX409S20-005[*]V	585
0 to 15	0 to 1	PX409S15-015[*]V	585	PX409S20-015[*]V	585
0 to 30	0 to 2.1	PX409S15-030[*]V	585	PX409S20-030[*]V	585
0 to 50	0 to 3.4	PX409S15-050[*]V	585	PX409S20-050[*]V	585
0 to 100	0 to 6.9	PX409S15-100[*]V	585	PX409S20-100[*]V	585
0 to 150	0 to 10.3	PX409S15-150[*]V	585	PX409S20-150[*]V	585
0 to 250	0 to 17.2	PX409S15-250[*]V	585	PX409S20-250[*]V	585
0 to 500	0 to 34.5	PX409S15-500[*]V	585	PX409S20-500[*]V	585
0 to 600	0 to 41.4	PX409S15-600[*]V	585		
mini DIN Termination—10 mV/V Output					
0 to 10 inH$_2$O	0 to 25 mb	PX419S15-10WGV	$585	PX419S20-10WGV	$585
0 to 1	0 to 69 mb	PX419S15-001GV	585	PX419S20-001GV	585
0 to 2.5	0 to 172 mb	PX419S15-2.5GV	585	PX419S20-2.5GV	585
0 to 5	0 to 345 mb	PX419S15-005[*]V	585	PX419S20-005[*]V	585
0 to 15	0 to 1	PX419S15-015[*]V	585	PX419S20-015[*]V	585
0 to 30	0 to 2.1	PX419S15-030[*]V	585	PX419S20-030[*]V	585
0 to 50	0 to 3.4	PX419S15-050[*]V	585	PX419S20-050[*]V	585
0 to 100	0 to 6.9	PX419S15-100[*]V	585	PX419S20-100[*]V	585
0 to 150	0 to 10.3	PX419S15-150[*]V	585	PX419S20-150[*]V	585
0 to 250	0 to 17.2	PX419S15-250[*]V	585	PX419S20-250[*]V	585
0 to 500	0 to 34.5	PX419S15-500[*]V	585	PX419S20-500[*]V	585
0 to 600	0 to 41.4	PX419S15-600[*]V	585		
Twist-Lock Connector Termination—10 mV/V Output					
0 to 10 inH$_2$O	0 to 25 mb	PX429S15-10WGV	$585	PX429S20-10WGV	$585
0 to 1	0 to 69 mb	PX429S15-001GV	585	PX429S20-001GV	585
0 to 2.5	0 to 172 mb	PX429S15-2.5GV	585	PX429S20-2.5GV	585
0 to 5	0 to 345 mb	PX429S15-005[*]V	585	PX429S20-005[*]V	585
0 to 15	0 to 1	PX429S15-015[*]V	585	PX429S20-015[*]V	585
0 to 30	0 to 2.1	PX429S15-030[*]V	585	PX429S20-030[*]V	585
0 to 50	0 to 3.4	PX429S15-050[*]V	585	PX429S20-050[*]V	585
0 to 100	0 to 6.9	PX429S15-100[*]V	585	PX429S20-100[*]V	585
0 to 150	0 to 10.3	PX429S15-150[*]V	585	PX429S20-150[*]V	585
0 to 250	0 to 17.2	PX429S15-250[*]V	585	PX429S20-250[*]V	585
0 to 500	0 to 34.5	PX429S15-500[*]V	585	PX429S20-500[*]V	585
0 to 600	0 to 41.4	PX429S15-600[*]V	585		

[*] Insert "G" for gage pressure or "A" for absolute pressure (≥5 psi), no additional charge. Other ranges and custom configurations available, see our on-line configurator at omega.com/pxconfig

To order units with conduit/cable termination, change model number from "PX409S" to "PX409CS", no additional charge. To order with M12 connector specify "PX459S", no extra charge.

Ordering Examples: *PX409S15-10WGV, 2 m (6') cable termination, 1½" Tri-Grip™ fitting, 10 inH$_2$O gage pressure, 10 mV/V output,* **$585.**
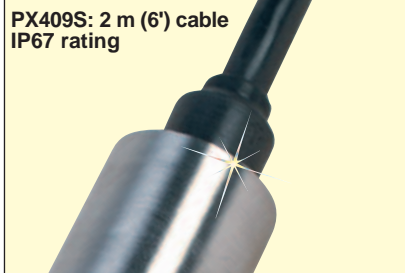*PX419S20-30AV, mini DIN termination, 2" Tri-Grip™ fitting, 30 psi absolute pressure, 10 mV/V output,* **$585.**

NEW®

MADE IN USA

Amplified Voltage Output

Specifications (Amplified Voltage Output)

Output/ Supply:
0 to 5 Vdc: 10 to 30 Vdc @10 mA
0 to 10 Vdc: 15 to 30 Vdc @ 10 mA
Accuracy: 0.08% BSL (linearity, hysteresis repeatability combined)
Zero Balance: ±0.5% FS typical 1% max (For ranges ≤2.5 psi ±1% typ 2% max)
Span Setting: ±0.5% FS typical 1% max (For ranges ≤2.5 psi ±1% typ 2% max) calibrated in vertical position with fitting down

Twist-lock style.

Exploded view showing PX429S15-005GI, $650. Standard Tri-Grip™ fitting works with commercially available sanitary pipes and fittings. Shown smaller than actual size.

Amplified Voltage Output

Range		1½" Tri-Grip™ Fitting	Price	2" Tri-Grip™ Fitting	Price
psi	bar				
To Order (Specify Model Number)					
2 m (6') Cable Termination—0 to 5 Vdc Output					
0 to 10 inH$_2$O	0 to 25 mb	PX409S15-10WG5V	$650	PX409S20-10WG5V	$650
0 to 1	0 to 69 mb	PX409S15-001G5V	650	PX409S20-001G5V	650
0 to 2.5	0 to 172 mb	PX409S15-2.5G5V	650	PX409S20-2.5G5V	650
0 to 5	0 to 345 mb	PX409S15-005[*]5V	650	PX409S20-005[*]5V	650
0 to 15	0 to 1	PX409S15-015[*]5V	650	PX409S20-015[*]5V	650
0 to 30	0 to 2.1	PX409S15-030[*]5V	650	PX409S20-030[*]5V	650
0 to 50	0 to 3.4	PX409S15-050[*]5V	650	PX409S20-050[*]5V	650
0 to 100	0 to 6.9	PX409S15-100[*]5V	650	PX409S20-100[*]5V	650
0 to 150	0 to 10.3	PX409S15-150[*]5V	650	PX409S20-150[*]5V	650
0 to 250	0 to 17.2	PX409S15-250[*]5V	650	PX409S20-250[*]5V	650
0 to 500	0 to 34.5	PX409S15-500[*]5V	650	PX409S20-500[*]5V	650
0 to 600	0 to 41.4	PX409S15-600[*]5V	650		
mini DIN Termination—0 to 5 Vdc Output					
0 to 10 inH$_2$O	0 to 25 mb	PX419S15-10WG5V	$650	PX419S20-10WG5V	$650
0 to 1	0 to 69 mb	PX419S15-001G5V	650	PX419S20-001G5V	650
0 to 2.5	0 to 172 mb	PX419S15-2.5G5V	650	PX419S20-2.5G5V	650
0 to 5	0 to 345 mb	PX419S15-005[*]5V	650	PX419S20-005[*]5V	650
0 to 15	0 to 1	PX419S15-015[*]5V	650	PX419S20-015[*]5V	650
0 to 30	0 to 2.1	PX419S15-030[*]5V	650	PX419S20-030[*]5V	650
0 to 50	0 to 3.4	PX419S15-050[*]5V	650	PX419S20-050[*]5V	650
0 to 100	0 to 6.9	PX419S15-100[*]5V	650	PX419S20-100[*]5V	650
0 to 150	0 to 10.3	PX419S15-150[*]5V	650	PX419S20-150[*]5V	650
0 to 250	0 to 17.2	PX419S15-250[*]5V	650	PX419S20-250[*]5V	650
0 to 500	0 to 34.5	PX419S15-500[*]5V	650	PX419S20-500[*]5V	650
0 to 600	0 to 41.4	PX419S15-600[*]5V	650		
Twist-Lock Connector Termination—0 to 5 Vdc Output					
0 to 10 inH$_2$O	0 to 25 mb	PX429S15-10WG5V	$650	PX429S20-10WG5V	$650
0 to 1	0 to 69 mb	PX429S15-001G5V	650	PX429S20-001G5V	650
0 to 2.5	0 to 172 mb	PX429S15-2.5G5V	650	PX429S20-2.5G5V	650
0 to 5	0 to 345 mb	PX429S15-005[*]5V	650	PX429S20-005[*]5V	650
0 to 15	0 to 1	PX429S15-015[*]5V	650	PX429S20-015[*]5V	650
0 to 30	0 to 2.1	PX429S15-030[*]5V	650	PX429S20-030[*]5V	650
0 to 50	0 to 3.4	PX429S15-050[*]5V	650	PX429S20-050[*]5V	650
0 to 100	0 to 6.9	PX429S15-100[*]5V	650	PX429S20-100[*]5V	650
0 to 150	0 to 10.3	PX429S15-150[*]5V	650	PX429S20-150[*]5V	650
0 to 250	0 to 17.2	PX429S15-250[*]5V	650	PX429S20-250[*]5V	650
0 to 500	0 to 34.5	PX429S15-500[*]5V	650	PX429S20-500[*]5V	650
0 to 600	0 to 41.4	PX429S15-600[*]5V	650		

[*] Insert **"G"** for gage pressure or **"A"** for absolute pressure (≥5 psi), no additional charge. Other ranges and custom configurations available, see our on-line configurator at **omega.com/pxconfig**

To order with 0 to 10 Vdc output, change "**5V**" to "**10V**", no additional charge.

To order units with conduit/cable termination, change model number from "**PX409S**" to "**PX409CS**", no additional charge. To order with M12 connector specify "**PX459S**", no extra charge.

Ordering Examples: PX409S15-10WG5V, 2 m (6') cable termination, 1½" Tri-Grip™ fitting, 10 inH$_2$O gage pressure, 0 to 5 Vdc output, **$650**.

PX419S20-30A5V, mini DIN termination, 2" Tri-Grip™ fitting, 30 psi absolute pressure, 0 to 5 Vdc output, **$650**.

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-6 6 3 4 2® 1-877-TC-OMEGA

Specifications(4 to 20 mA Output)

Output: 4 to 20 mA
Supply Voltage: 9 to 30 Vdc max loop res
Ω = (Vs-9) x 50 [9 to 20 Vdc above 105°C (229°F)]
Accuracy: 0.08% BSL (linearity, hysteresis repeatability combined)

Zero Balance: ±0.5% FS typical 1% max
(For ranges ≤2.5 psi ±1% typ 2% max)
Span Setting: ±0.5% FS typical 1% max (For ranges ≤2.5 psi ±1% typ 2% max) Calibrated in vertical position with fitting down

Electrical Terminations

PX409S: 2 m (6') cable IP67 rating

PX409CS: Conduit/ cable IP67 rating

PX419S: mini DIN IP67 rating, absolute IP65 rating, gage

PX429S: Twist-lock IP67 rating, absolute IP65 rating, gage

PX459S: M12 connector IP67 rating, absolute IP65 rating, gage

4 to 20 mA Output ▢ **MOST POPULAR MODELS HIGHLIGHTED!**

To Order *(Specify Model Number)*

| Range | | 1½" Tri-Grip™ | | 2" Tri-Grip™ | |
psi	bar	Fitting	Price	Fitting	Price
2 m (6') Cable Termination—4 to 20 mA Output					
0 to 10 inH₂O	0 to 25 mb	PX409S15-10WGI	$650	PX409S20-10WGI	$650
0 to 1	0 to 69 mb	PX409S15-001GI	650	PX409S20-001GI	650
0 to 2.5	0 to 172 mb	PX409S15-2.5GI	650	PX409S20-2.5GI	650
0 to 5	0 to 345 mb	PX409S15-005[*]I	650	PX409S20-005[*]I	650
0 to 15	0 to 1	PX409S15-015[*]I	650	PX409S20-015[*]I	650
0 to 30	0 to 2.1	PX409S15-030[*]I	650	PX409S20-030[*]I	650
0 to 50	0 to 3.4	PX409S15-050[*]I	650	PX409S20-050[*]I	650
0 to 100	0 to 6.9	PX409S15-100[*]I	650	PX409S20-100[*]I	650
0 to 150	0 to 10.3	PX409S15-150[*]I	650	PX409S20-150[*]I	650
0 to 250	0 to 17.2	PX409S15-250[*]I	650	PX409S20-250[*]I	650
0 to 500	0 to 34.5	PX409S15-500[*]I	650	PX409S20-500[*]I	650
0 to 600	0 to 41.4	PX409S15-600[*]I	650		
mini DIN Termination—4 to 20 mA Output					
0 to 10 inH₂O	0 to 25 mb	PX419S15-10WGI	$650	PX419S20-10WGI	$650
0 to 1	0 to 69 mb	PX419S15-001GI	650	PX419S20-001GI	650
0 to 2.5	0 to 172 mb	PX419S15-2.5GI	650	PX419S20-2.5GI	650
0 to 5	0 to 345 mb	PX419S15-005[*]I	650	PX419S20-005[*]I	650
0 to 15	0 to 1	PX419S15-015[*]I	650	PX419S20-015[*]I	650
0 to 30	0 to 2.1	PX419S15-030[*]I	650	PX419S20-030[*]I	650
0 to 50	0 to 3.4	PX419S15-050[*]I	650	PX419S20-050[*]I	650
0 to 100	0 to 6.9	PX419S15-100[*]I	650	PX419S20-100[*]I	650
0 to 150	0 to 10.3	PX419S15-150[*]I	650	PX419S20-150[*]I	650
0 to 250	0 to 17.2	PX419S15-250[*]I	650	PX419S20-250[*]I	650
0 to 500	0 to 34.5	PX419S15-500[*]I	650	PX419S20-500[*]I	650
0 to 600	0 to 41.4	PX419S15-600[*]I	650		
Twist-Lock Connector Termination—4 to 20 mA Output					
0 to 10 inH₂O	0 to 25 mb	PX429S15-10WGI	$650	PX429S20-10WGI	$650
0 to 1	0 to 69 mb	PX429S15-001GI	650	PX429S20-001GI	650
0 to 2.5	0 to 172 mb	PX429S15-2.5GI	650	PX429S20-2.5GI	650
0 to 5	0 to 345 mb	PX429S15-005[*]I	650	PX429S20-005[*]I	650
0 to 15	0 to 1	PX429S15-015[*]I	650	PX429S20-015[*]I	650
0 to 30	0 to 2.1	PX429S15-030[*]I	650	PX429S20-030[*]I	650
0 to 50	0 to 3.4	PX429S15-050[*]I	650	PX429S20-050[*]I	650
0 to 100	0 to 6.9	PX429S15-100[*]I	650	PX429S20-100[*]I	650
0 to 150	0 to 10.3	PX429S15-150[*]I	650	PX429S20-150[*]I	650
0 to 250	0 to 17.2	PX429S15-250[*]I	650	PX429S20-250[*]I	650
0 to 500	0 to 34.5	PX429S15-500[*]I	650	PX429S20-500[*]I	650
0 to 600	0 to 41.4	PX429S15-600[*]I	650		

***[*]** Insert* **"G"** *for gage pressure or* **"A"** *for absolute pressure (≥5 psi), no additional charge. Other ranges and custom configurations available, see our on-line configurator at* **omega.com/pxconfig**

To order units with conduit/cable termination, change model number from **"PX409S"** *to* **"PX409CS"**, *no additional charge. To order with M12 connector specify* **"PX459S"**, *no extra charge.*

Ordering Examples: *PX409S15-10WGI, 2 m (6') cable termination, 1½" Tri-Grip™ fitting, 10 inH₂O gage pressure, 4 to 20 mA output,* **$650.**

PX419S20-30AI, mini DIN termination, 2" Tri-Grip™ fitting, 30 psi absolute pressure, 4 to 20 mA output, **$650.**

Micro-DC Cable Assemblies
For Probes, Sensors and Transmitters

Highly flexible polyurethane cables for Automation applications.

M12C Series Starts at $11

Rugged PVC jacketed cables for wash-down applications.

See Page 68

Sanitary Current Output Pressure Transducer
Proven Thin-Film Technology
Ranges from Vacuum to 1000 psi (69 bar) 4 to 20 mA Output

PX792 Series Starts at $420

MADE IN USA

See Page 74

Sanitary Process Transducers
Using Micro-Machined Silicon Technology
10 mV, 0 to 5 Vdc, 4 to 20 mA Outputs

See Page 75

PX409S Tri-Grip™ Sanitary Series Starts at $585

Twist-lock style.

MADE IN USA

mini DIN style.

3 Pending

Dilbert © United Feature Syndicate

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For Sales and Service, Call Toll-Free: **1-800-82-66342®**
1-800-TC-OMEGA
U.S.A. and Canada
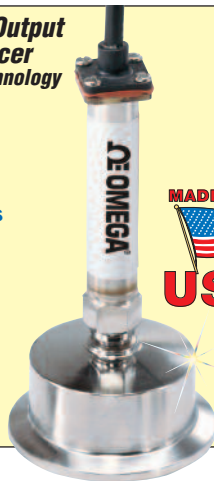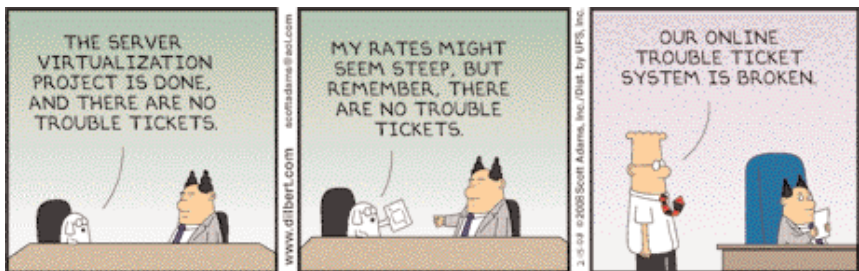
Sales: FAX (Toll-Free)
1-877-FAX-OMEG(A)
24 HOURS

Platform Load Cell
For Washdown Applications
Standard And Metric Models

Compression
0-50 lb to 0-1000 lb
0-25 kgf to 0-500 kgf

1 Newton = 0.2248 lb
1 daNewton = 10 Newtons
1 lb = 454 g
1 t = 1000 kgf = 2204 lb

LCAD/LCMAD Series Starts at
$495

MADE IN **USA** | **NIST** | OMEGADYNE | **RoHS**
Standard

✔ **Hermetically Sealed for Washdown Applications**
✔ **All Stainless Steel Construction**
✔ **High 0.02% Linearity FSO**
✔ **Low 0.03% Creep FSO**
✔ **Heavy-Duty Construction for Weighing Applications**
✔ **Built-In Overload Stops**

The LCAD Series platform load cells are hermetically sealed and designed for applications such as industrial food processing and weighing and automated weighing stations, in which high accuracy and watertightness are important. The all stainless steel construction and rugged design give the LCAD high accuracy and high reliability even in washdown areas.

Specifications
Output: 2.1 mV/V ±0.1mV/V
Excitation: 10 Vdc (15V max)
Linearity: ±0.02% FSO
Hysteresis: ±0.02% FSO
Repeatability: ±0.02% FSO
Creep: ±0.03% FSO (20 min)
Zero Balance: ±2.0% FSO
Operating Temp Range:
-51 to 93°C (-60 to 200°F)
Protection Class: IP68
Compensated Temp Range:
16 to 71°C (60 to 160°F)
Thermal Effects:
  Zero: ±0.0015% FSO/°F
  Span: ±0.0008% rdg/°F
Overload to Stops: 225% of capacity (compression only)

STANDARD
LCAD-250, $495, shown much smaller than actual size.

Dimensions: mm (in)

WIRING CODE:
RED   +INPUT
BLACK   -INPUT
GREEN   +OUTPUT
WHITE   -OUTPUT
YELLOW   SHIELD
(ORANGE)

1/2-14 NPT CONDUIT FITTING
4.6 m (15') 4-CONDUCTOR SHIELDED PVC CABLE
77 (3.05) REF
152 (6.00)
121 (4.75) MAX
56 (2.20) 48 (1.90)
FORCE
M12 x 1.75 -6H THREAD 4 HOLES 0.52 DP. MIN
33 (1.30)
60 (2.35)
25 (1.00)
32 (1.25)
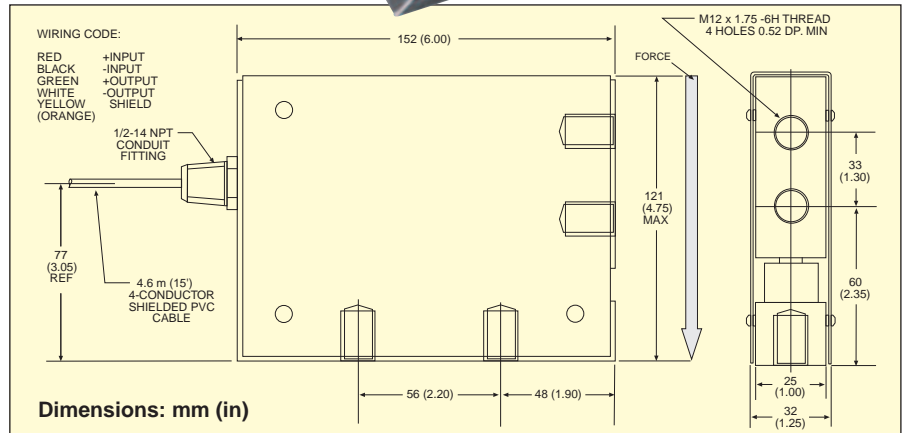
Ultimate Overload: 500% of capacity(compression only)
Input Resistance: 370 Ω minimum
Output Resistance: 350 ±3.5 Ω
Construction: 17-4 PH stainless steel
Electrical: 4.6 m (15') 4-conductor shielded PVC cable

MOST POPULAR MODELS HIGHLIGHTED!

To Order *(Specify Model Number)*				
Capacity		Model No.	Price	Compatible Meters*
Standard Models				
23 kgf	50 lb	**LCAD-50**	**$495**	DPiS, DP41-S, DP25B-S
45 kgf	100 lb	**LCAD-100**	495	DPiS, DP41-S, DP25B-S
114 kgf	250 lb	**LCAD-250**	495	DPiS, DP41-S, DP25B-S
227 kgf	500 lb	**LCAD-500**	495	DPiS, DP41-S, DP25B-S
341 kgf	750 lb	**LCAD-750**	495	DPiS, DP41-S, DP25B-S
455 kgf	1000 lb	**LCAD-1K**	495	DPiS, DP41-S, DP25B-S
Metric Models				
25 kgf	55 lb	**LCMAD-25**	**$495**	DPiS, DP41-S, DP25B-S
50 kgf	110 lb	**LCMAD-50**	495	DPiS, DP41-S, DP25B-S
250 kgf	550 lb	**LCMAD-250**	495	DPiS, DP41-S, DP25B-S
500 kgf	1100 lb	**LCMAD-500**	495	DPiS, DP41-S, DP25B-S

Comes complete with 5-point NIST-traceable calibration and 59 kΩ shunt data.
* Visit omega.com/dp25 for compatible meters.
Ordering Examples: LCAD-50, *50 lb capacity hermetically sealed platform load cell with 4.6 m (15') cable,* **$495.**
LCMAD-50, *50 kgf capacity hermetically sealed platform load cell with 4.6 m (15') cable,* **$495.**

Environmentally Protected Load Cells

Tension/Compression
0-25 lb to 0-20,000 lb
0-10 kgf to 0-5000 kgf

LCCD Series Starts at
$360

For Complete Details and Metric Models Visit omega.com/lccd

MADE IN USA | NIST OMEGADYNE Standard | RoHS

- ✔ Environmentally Protected to IP67
- ✔ Stainless Steel
- ✔ Calibration Certificate Supplied
- ✔ 0.25% Interchangeability

LCCD-2K, $425, shown smaller than actual size.

LCCD-50, $360, shown smaller than actual size.

Specifications
Excitation: 10 Vdc (15 Vdc max)
Output: 3.0 mV/V ±0.25%
Linearity: 0.03% FS
Hysteresis: 0.02% FS
Repeatability: 0.01% FS
Zero Balance: 1% FS
Creep in 20 min: 0.03% FS
Operating Temperature: -18 to 66°C (0 to 150°F)
Compensated Temperature: -18 to 66°C (0 to 150°F)
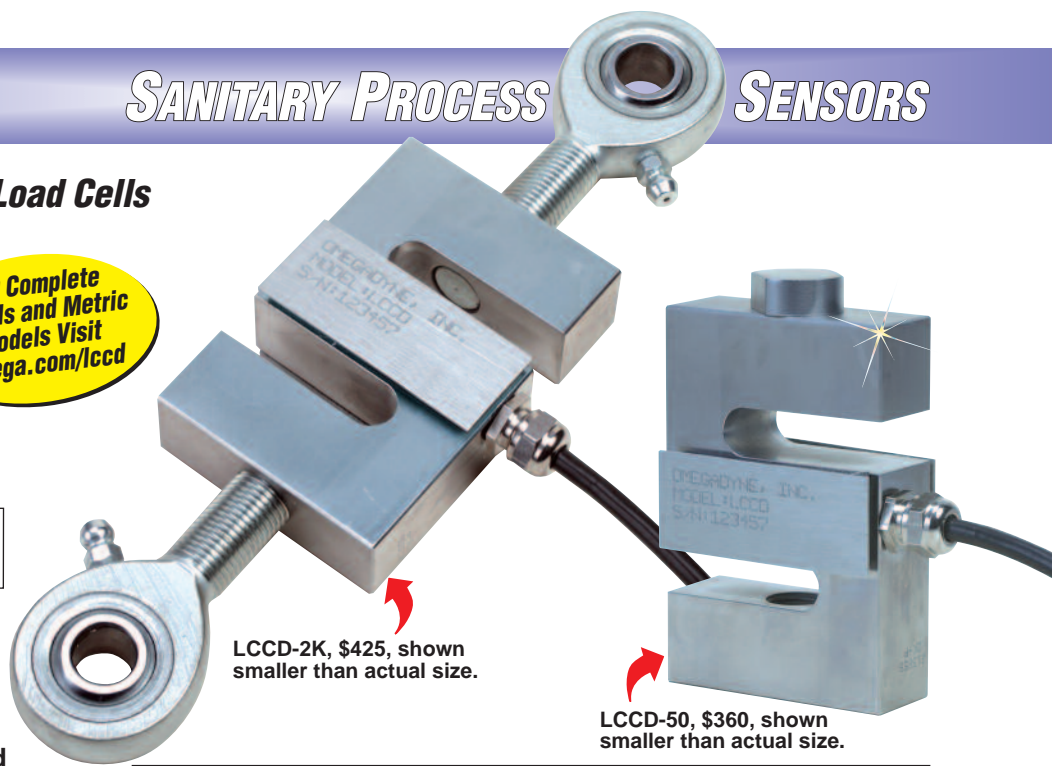
Capacity, lb	Threads	H	W	T1	T2
25 to 200	1/4-28 UNF-2B	63.5 (2.5)	50.8 (2)	10.2 (0.4)	19.1 (0.75)
250	3/8-24 UNF-2B	76.2 (3)	50.8 (2)	12.7 (0.5)	21.6 (0.85)
500 to 2000	1/2-20 UNF-2B	76.2 (3)	50.8 (2)	17.8 (0.7)	25.4 (1)
3000	1/2-20 UNF-2B	76.2 (3)	50.8 (2)	24.1 (0.95)	33 (1.3)
5000 to 10,000	3/4-16 UNF-2B	108 (4.25)	76.2 (3)	24.1 (0.95)	33 (1.3)
15,000	1-14 UNF-2B	139.7 (5.5)	101.6 (4)	31.8 (1.25)	40.6 (1.6)
20,000	1-1/4-12 UNF-2B	177.8 (7)	127 (5)	50.8 (2)	58.4 (2.3)

Thermal Effects:
 Zero: 0.0027% FS/°C
 Span: 0.0015% rdg/°C
Maximum Load: Safe, 150%; ultimate, 300%

Bridge Resistance: 350 Ω nominal
Construction: 17-4 PH stainless steel
Cable: 6 m (20') 4-conductor shielded 22-gage wire

MOST POPULAR MODELS HIGHLIGHTED!

To Order *(Specify Model Number)*

lb	kgf	Model No.	Price	Defl. mm	wt	Compatible Meters*	Load Button Model	Price	Rod End Model	Price
25	11	LCCD-25	$360	0.011	0.4 lb	DP25B-S, DP41-S, DPiS	LBC-014	$40	REC-014M	$25
50	23	LCCD-50	360	0.010	0.4 lb	DP25B-S, DP41-S, DPiS	LBC-014	40	REC-014M	25
100	45	LCCD-100	375	0.010	0.4 lb	DP25B-S, DP41-S, DPiS	LBC-014	40	REC-014M	25
150	68	LCCD-150	375	0.010	0.4 lb	DP25B-S, DP41-S, DPiS	LBC-014	40	REC-014M	25
200	91	LCCD-200	375	0.010	0.4 lb	DP25B-S, DP41-S, DPiS	LBC-014	40	REC-014M	25
250	114	LCCD-250	375	0.010	0.6 lb	DP25B-S, DP41-S, DPiS	LBC-038	40	REC-038M	25
500	227	LCCD-500	375	0.010	1 lb	DP25B-S, DP41-S, DPiS	LBC-012	40	REC-012M	45
750	340	LCCD-750	375	0.006	1 lb	DP25B-S, DP41-S, DPiS	LBC-012	40	REC-012M	45
1000	454	LCCD-1K	375	0.007	1 lb	DP25B-S, DP41-S, DPiS	LBC-012	40	REC-012M	45
2000	907	LCCD-2K	425	0.011	1 lb	DP25B-S, DP41-S, DPiS	LBC-012	40	REC-012M	45
3000	1361	LCCD-3K	425	0.006	1.3 lb	DP25B-S, DP41-S, DPiS	LBC-012	40	REC-012M	45
5000	2269	LCCD-5K	590	0.011	2.3 lb	DP25B-S, DP41-S, DPiS	LBC-034	55	REC-034M	65
10,000	4537	LCCD-10K	590	0.014	2.6 lb	DP25B-S, DP41-S, DPiS	LBC-034	55	REC-034M	65
15,000	6806	LCCD-15K	710	0.018	6 lb	DP25B-S, DP41-S, DPiS	LBC-100	55	REC-100M	135
20,000	9074	LCCD-20K	1090	0.028	14 lb	DP25B-S, DP41-S, DPiS	—	—	REC-114M	150

* Visit omega.com/dp25 for compatible meters. DPiS meter suitable for one direction measurement only.
Comes complete with 5-point NIST-traceable calibration and 59 kΩ shunt data.
Ordering Example: LCCD-1K, *1000 lb capacity load cell, $375.*

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-66342® 1-877-TC-OMEGA

High-Accuracy Stainless Steel Cantilever Beams

**Tension/Compression
0-100 lb to 0-100,000 lb
0-25 kgf to 0-10,000 kgf**

IP67 Protection Level

LC501 and LC511 Series Starts at

$340

MADE IN USA | **NIST Standard** | **OMEGADYNE** | **FM APPROVED** | **RoHS**

LC501-20K, $695, shown smaller than actual size.

For Complete Details and Metric Models Visit omega.com/lc501

- ✔ **FM Approved Intrinsically Safe Rating**
- ✔ **All Stainless Steel Construction for Harsh Industrial Applications**
- ✔ **0.25% Interchangeability for Multiple Cell Applications**
- ✔ **5-Point Calibration Provided**

Specifications
Excitation: 10 Vdc, 15 Vdc max
Output: 3 mV/V ±0.25%
5-Point Calibrated (in Compression): 0%, 50%, 100%, 50%, 0%
Linearity: ±0.03% FSO

Hysteresis: ±0.02% FSO
Repeatability: ±0.02% FSO
Zero Balance: ±1% FSO
Agency Approvals: FM Intrinsically Safe IS/I.II.III/1/CDEFG
Operating Temp Range: -34 to 82°C (-30 to 180°F)
Compensated Temp Range: 16 to 71°C (60 to 160°F)
Thermal Effects:
  Zero: ±0.001% FSO/°F (0.0018%/°C)
  Span: ±0.001% FSO/°F (0.0018%/°C)
Safe Overload: 150% of capacity

Ultimate Overload: 300% of capacity
Input Resistance: 360 Ω minimum
Output Resistance: 350 ±10 Ω
FS Deflection: 0.5 mm (0.02") typical
Construction: 17-4 PH stainless steel, >20,000 lb, high-alloy steel
Electrical:
  LC501/LCM501: 4.6 m (15') 4 conductor shielded cable
  LC511/LCM511: 6-pin DT02H-10-6P or equivalent
Mating Connector: PT06F10-6S $26.50 (sold separately)

MOST POPULAR MODELS HIGHLIGHTED!

To Order *(Specify Model Number)*

Capacity		Model No.				Ni Plated Base Plate	Price
kgf	**lb**	**Cable Style**	**Connector Style**	**Price**	**Compatible Meters****		
45	100	**LC501-100**	**LC511-100**	**$340**	DP41-B, DP41-S, DP25B-S	**BP-10**	**$44**
91	200	**LC501-200**	**LC511-200**	340	DP41-B, DP41-S, DP25B-S		
227	500	**LC501-500**	**LC511-500**	340	DP41-B, DP41-S, DP25B-S		
341	750	**LC501-750**	**LC511-750**	340	DP41-B, DP41-S, DP25B-S		
455	1000	**LC501-1K**	**LC511-1K**	350	DP41-B, DP41-S, DP25B-S	**BP-15**	76
909	2000	**LC501-2K**	**LC511-2K**	350	DP41-B, DP41-S, DP25B-S		
1361	3000	**LC501-3K**	**LC511-3K**	350	DP41-B, DP41-S, DP25B-S		
2269	5000	**LC501-5K**	**LC511-5K**	350	DP41-B, DP41-S, DP25B-S		
4537	10,000	**LC501-10K**	**LC511-10K**	695	DP41-B, DP41-S, DP25B-S		
9074	20,000	**LC501-20K**	**LC511-20K**	695	DP41-B, DP41-S, DP25B-S*	**BP-20**	80
13,612	30,000	**LC501-30K**	LC511-30K	695	DP41-B, DP41-S, DP25B-S*	–	–
22,686	50,000	**LC501-50K**	LC511-50K	†	DP41-B, DP41-S, DP25B-S*	–	–
36,298	80,000	**LC501-80K**	LC511-80K	†	DP41-B, DP41-S, DP25B-S*	–	–
45,372	100,000	**LC501-100K**	LC511-100K	†	DP41-B, DP41-S, DP25B-S*	–	–

Comes complete with 5-point NIST-traceable calibration and 59 kΩ shunt data.
** 4-digit meter.   ** Visit **omega.com/dp25** for compatible meters. † Consult factory.*
Note: *Base plates are nickel-plated carbon steel.*
*To order stainless steel base plates (see **omega.com/lc501**), specify **BP-10-SS $70, BP-15-SS $144, BP-20-SS $144,***
*To order load cells with a twist-lock connector, specify **LC511**, no extra charge. **PT06F10-6S,** mating connector (sold separately), **$26.50.***
Ordering Example: LC501-5K,** 5000 lb capacity load cell, **REC-012M,** optional rod end, **BP-15,** optional base plate, **PT06F10-6S,** mating connector, $350 + 45 + 76 + 26.50 = **$497.50.

Self-Adjusting Weigh Assemblies
With LC501 Series Load Cell Included
0-100 lb to 0-20,000 lb
0-25 kgf to 0-10,000 kgf

TWA5 (Nickel-Plated Carbon Steel)
TWA6 (Stainless Steel)
Starts at

$560

MADE IN USA | NIST Standard | OMEGADYNE | RoHS
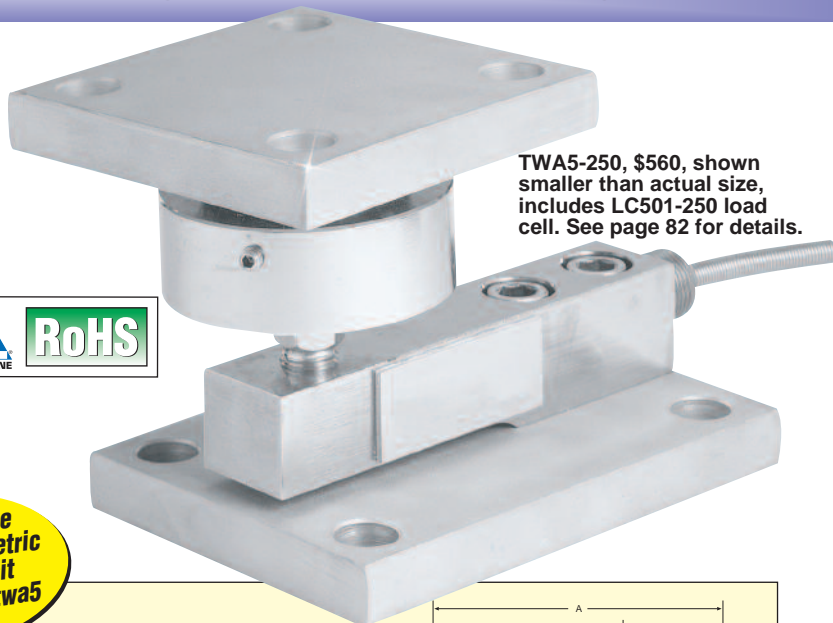
TWA5-250, $560, shown smaller than actual size, includes LC501-250 load cell. See page 82 for details.

- ✔ Heavy-Duty Design
- ✔ For Tank and Bin Weighing
- ✔ Self-Adjusting for Accurate Measurements
- ✔ Highly Corrosion-Resistant Materials
- ✔ Shipped Fully Assembled, Including Load Cell
- ✔ 5-Point Calibration Provided
- ✔ 150% Compression Overload
- ✔ Ideal for Multicell Installations

For Complete Details and Metric Models Visit omega.com/twa5

Specifications
Non-Parallel Mounting:
Self-adjusting for surfaces up to 2°
Thermal Expansion:
Self-adjusting for up to ±1.6 mm
Height: Adjustable per dimension "J"
Weight (Including Load Cell):

Range	kgf (lb)
100 to 750	4.5 (10)
1000 to 5000	10.5 (23)
10,000	11.5 (25)
20,000	25 (55)

5-Point Calibration (in Compression):
0%, 50%, 100%, 50%, 0%
For summing J-boxes, visit **omega.com/sbj2**

LC501 LOAD CELL INCLUDED

SEE LOAD CELL BOLT TORQUE IN TABLE BELOW

"G" DIA.THRU, 8 PLACES
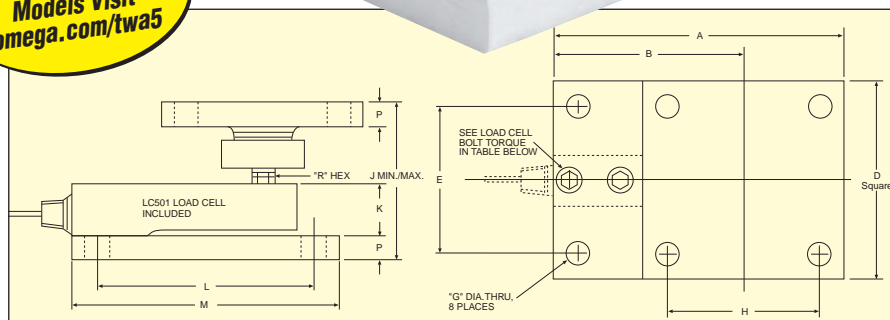
Dimensions: mm (in)

Capacity kgf (lb)	A	B	D	E	G	H	J	K	L	M	P	R	Torque N-m (ft-lb)
≤375 (≤750)	146 (5.75)	102 (4.00)	88.9 (3.50)	63.5 (2.50)	13.5 (0.53)	63.5 (2.50)	95.3/102 (3.75/4.00)	25.4 (1.00)	101.6 (4.00)	127 (5.00)	12.7 (0.50)	14.2 (0.56)	30 (22)
500 to 2.5K (1 K to 5K)	222 (8.75)	146 (5.75)	152 (6.00)	114 (4.50)	17.3 (0.68)	114 (4.50)	121/127 (4.75/5.00)	38.1 (1.50)	165.1 (6.50)	203 (8.00)	19 (0.75)	14.2 (0.56)	76 (56)
5K (10K)	248 (9.75)	171 (6.75)	152 (6.00)	114 (4.50)	17.3 (0.68)	114 (4.50)	127/133 (5.00/5.25)	38.1 (1.50)	165.1 (6.50)	203 (8.00)	19 (0.75)	22.4 (88)	245 (180)
10K (20K)	311 (12.3)	216 (8.50)	191 (7.50)	140 (5.50)	20.6 (0.81)	140 (5.50)	184/191 (7.25/7.50)	63.5 (2.50)	203 (8.00)	254 (10.00)	25.4 (1.00)	28.4 (1.12)	245 (180)

MOST POPULAR MODELS HIGHLIGHTED!

To Order *(Specify Model Number)*

Capacity		Weighing Assemblies with Load Cell				Replacement Load Cell	
		Carbon Steel		Stainless Steel			
kgf	lb	Model No.	Price	Model No.	Price	Model No.	Price
45	100	**TWA5-100**	**$560**	**TWA6-100**	**$735**	**LC501-100**	**$340**
91	200	**TWA5-200**	560	**TWA6-200**	735	LC501-200	340
227	500	**TWA5-500**	560	**TWA6-500**	735	LC501-500	340
341	750	**TWA5-750**	560	**TWA6-750**	735	LC501-750	340
455	1000	**TWA5-1K**	615	**TWA6-1K**	745	LC501-1K	350
909	2000	**TWA5-2K**	615	**TWA6-2K**	745	LC501-2K	350
1361	3000	**TWA5-3K**	615	**TWA6-3K**	745	LC501-3K	350
2269	5000	**TWA5-5K**	615	**TWA6-5K**	745	LC501-5K	350
4537	10,000	**TWA5-10K**	805	**TWA6-10K**	970	LC501-10K	695
9074	20,000	**TWA5-20K**	1055	**TWA6-20K**	1220	LC501-20K	695

Note: *Weighing assembly is shipped fully assembled including the load cell. Load cell comes with 5-point NIST-traceable calibration and 59 kΩ shunt data. LC501 series load cell will be installed into the TWA module.*

Ordering Examples: TWA6-5K, *5000 lb weighing assembly in stainless steel with* **LC501-5K** *load cell included,* **$745.**
TWA5-750, *750 lb weighing assembly in carbon steel with* **LC501-750** *load cell included,* **$560.**
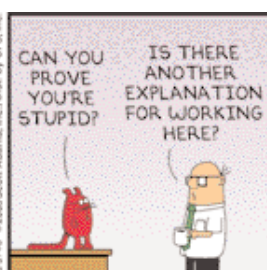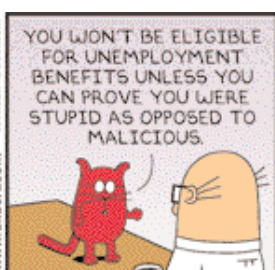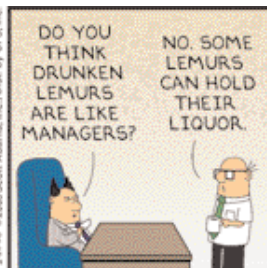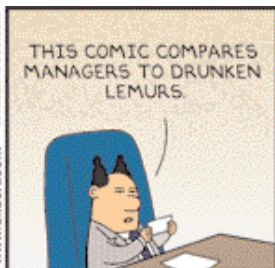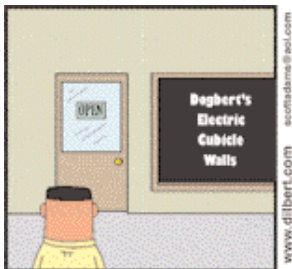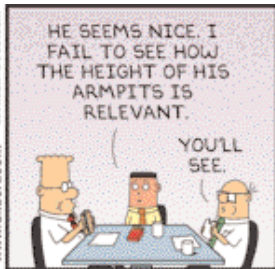
Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-66342®
1-877-TC-OMEGA

Environmentally Protected Load Cells

LCCD Series
Starts at
$360

See Page 81

MADE IN USA

Low-Profile Pancake Style Load Cells

LCHD Series
Starts at
$765

MADE IN USA

See Page 85

Tuning Fork Point Level Switches
For High/Low Liquid Levels

LTU-2000 Series
Starts at
$330

See Page 87

For Sales and Service, Call Toll-Free:
1-800-82-66342®
1-800-TC-OMEGA
U.S.A. and Canada

Sales: FAX (Toll-Free)
1-877-FAX-OMEG(A)
24 HOURS

84

Low-Profile Pancake Style Load Cells

**Tension/Compression
Calibrated in Tension
5 lb to 500,000 lb
2.3 kg to 226,860 kgf**

LCHD Series Starts at
$765
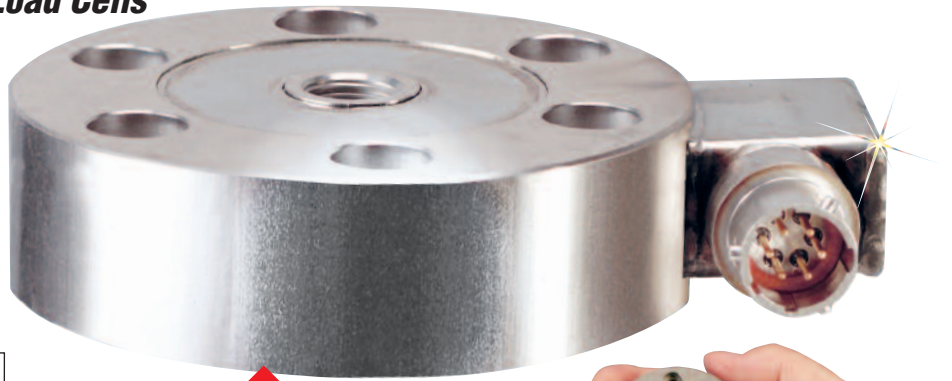
LCHD-5K, $765, shown actual size. See chart below for dimensions.

LCHD-25, $765

Models Available with Built-In Amplifiers! See Page 86
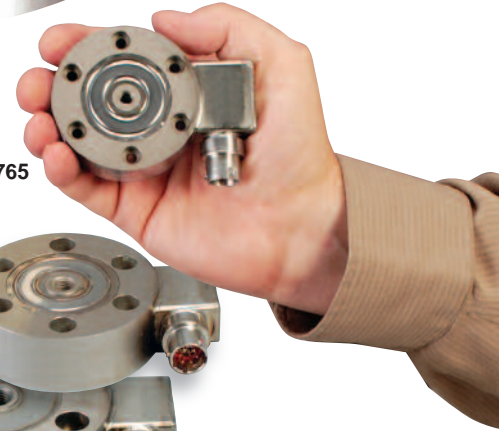
LCHD-100, $765

LCHD-2K, $765

All models shown proportionally smaller than actual size.

- ✔ **0.25% Interchangeability for Scale Applications**
- ✔ **All Stainless Steel Construction**
- ✔ **Heavy-Duty Design**
- ✔ **High Accuracy**
- ✔ **Low Profile for Easy Installation**
- ✔ **5-Point Calibration**
- ✔ **Mating Connector Included**

AB = +EX
CD = −EX
E = −OUT
F = +OUT

T (THREAD)

**F CLEARANCE HOLES
(5-15 K lb, 2.5-7500 kgf Counter Bored)
EQUALLY SPACED ON G DIA.
B.C., K DIA. THRU**

For Complete Details and Metric Models Visit omega.com/lchd

Dimensions: mm (in)

Capacity	D	H	F	G	K	T	A	B	C
5 to 25 lb	64 (2.5)	20 (0.80)	6	51 (2.0)	4.6 (0.18)	¼-28 UNF	24 (0.94)	19 (0.75)	32 (1.25)
50 to 1K lb	76 (3.0)	25 (1.0)	6	57 (2.25)	7.1 (0.28)	⅜-24 UNF	24 (0.94)	19 (0.75)	32 (1.25)
2K to 5K lb	89 (3.5)	25 (1.0)	6	67 (2.63)	8.6 (0.34)	½-20 UNF	24 (0.94)	19 (0.75)	32 (1.25)
7.5K to 15K lb	140 (5.5)	46 (1.8)	8	114 (4.5)	10 (0.40)	1-14 UNS	32 (1.25)	38 (1.5)	51 (2.0)
20K to 50K lb	152 (6.0)	46 (1.8)	8	124 (4.88)	13 (0.53)	1½-12 UNF	32 (1.25)	38 (1.5)	51(2.0)
75K to 100K lb	229 (9.0)	64 (2.5)	12	197 (7.75)	17 (0.66)	2-12 UN	32 (1.25)	38 (1.5)	51 (2.0)
150K to 200K lb	279 (11)	76 (3.0)	12	241 (9.5)	20 (0.78)	2½-12 UN	32 (1.25)	38 (1.5)	51 (2.0)
300K to 500K lb	356 (14)	108 (4.25)	12	298 (11.75)	25 (1.0)	3½-8 UN	32 (1.25)	38 (1.5)	51(2.0)

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-66342® 1-877-TC-OMEGA

Specifications

Excitation: 10 Vdc (15 V max)
Output (FSO):
≤25 lb/10 kgf: 2 mV/V ±0.25%
≥50 lb/20 kgf: 3 mV/V ±0.25%
5-Point Calibration (in Tension):
0%, 50%, 100%, 50%, 0%
Linearity:
≤25 lb/10 kgf: ±0.20% FSO
≥50 lb/20 kgf: ±0.10% FSO
Hysteresis:
≤25 lb/10 kgf: ±0.10% FSO
≥50 lb/20 kgf: ±0.10% FSO
Repeatability:
≤25 lb/10 kgf: ±0.1% FSO
≥50 lb/20 kgf: ±0.03% FSO
Zero Balance: ±1% of FSO
Operating Temp Range:
-54 to 121°C (-65 to 250°F)
Compensated Temp Range:
16 to 71°C (60 to 160°F)
Thermal Effects:
Zero: 0.0036% FSO/°C
Span: 0.0036% FSO/°C
Safe Overload: 150% of capacity
Ultimate Overload: 300% of capacity
Input Resistance: 350 ±10 Ω
Output Resistance: 350 ±10 Ω
FS Deflection:
0.025 to 0.076 mm
(0.0001 to 0.0003") typical
Construction: 17-4 PH SS
Electrical:
≤5000 lb/2000 kgf: DT02H-10-6P
>5000 lb/2500 kgf:
MS3102E-14S-6P (or equiv.)
Mating Connector (Included):
≤5000 lb/2000 kgf: PT06F-10-6S
>5000 lb/2500 kgf:
MS3102E-14S-6S (or equiv.)

Popular Options

Description	Suffix	Price
0-5 Vdc Output (≥5000 kgf)	**"-5V"**	$135
Overload Stops	**"-OL"**	Consult Factory
Dual Bridge ≤5000 lb/2500 kgf >5000 lb/2500 kgf	**"-DUAL"** **"-DUAL"**	250 350
Extended Temperature Range between**:** -50 to 93°C (-50 to 200°F) and to 163°C (350°F)	**"-TC1"** **"-TC2"**	50 125

PT06F10-6S, mating connector (included).
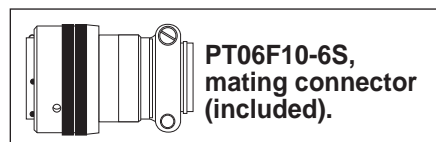
Tension Plates

Model No.	Price	Description
LCHD-TP225	**$65**	Tension plate, 50 to 1000 lb ranges
LCHD-TP263	85	Tension plate, 2000 to 5000 lb ranges
LCHD-TP450	155	Tension plate, 7500 to 15,000 lb ranges
LCHD-TP488	180	Tension plate, 20,000 to 50,000 lb ranges
LCHD-TPXXX	Consult Sales	Tension plate, ranges over 50,000 lb

MOST POPULAR MODELS HIGHLIGHTED!

To Order *(Specify Model Number)*

Capacity		Model No.	Price	Compatible Meters**
5 lb	2.3 kgf	**LCHD-5**	**$765**	DPiS, DP41-S, DP25B-S
10 lb	4.5 kgf	**LCHD-10**	765	DPiS, DP41-S, DP25B-S
25 lb	11 kgf	**LCHD-25**	765	DPiS, DP41-S, DP25B-S
50 lb	23 kgf	**LCHD-50**	765	DPiS, DP41-S, DP25B-S
100 lb	45 kgf	**LCHD-100**	765	DPiS, DP41-S, DP25B-S
250 lb	114 kgf	**LCHD-250**	765	DPiS, DP41-S, DP25B-S
500 lb	227 kgf	**LCHD-500**	765	DPiS, DP41-S, DP25B-S
1K lb	455 kgf	**LCHD-1K**	765	DPiS, DP41-S, DP25B-S
2K lb	909 kgf	**LCHD-2K**	765	DPiS, DP41-S, DP25B-S
3K lb	1361 kgf	**LCHD-3K**	765	DPiS, DP41-S, DP25B-S
4K lb	1815 kgf	**LCHD-4K**	765	DPiS, DP41-S, DP25B-S
5K lb	2269 kgf	**LCHD-5K**	765	DPiS, DP41-S, DP25B-S
7.5K lb	3403 kgf	**LCHD-7.5K**	765	DPiS, DP41-S, DP25B-S
10K lb	4537 kgf	**LCHD-10K**	935	DPiS, DP41-S, DP25B-S
15K lb	6806 kgf	**LCHD-15K**	935	DPiS, DP41-S, DP25B-S*
20K lb	9074 kgf	**LCHD-20K**	1075	DPiS, DP41-S, DP25B-S*
30K lb	13,612 kgf	**LCHD-30K**	1075	DPiS, DP41-S, DP25B-S*
50K lb	22,686 kgf	**LCHD-50K**	1075	DPiS, DP41-S, DP25B-S*
75K lb	34,029 kgf	**LCHD-75K**	†	DPiS, DP41-S, DP25B-S*
100K lb	45,372 kgf	**LCHD-100K**	†	DPiS, DP41-S, DP25B-S*
150K lb	68,058 kgf	**LCHD-150K**	†	DPiS, DP41-S, DP25B-S*
200K lb	90,744 kgf	**LCHD-200K**	†	DPiS, DP41-S, DP25B-S*
300K lb	136,116 kgf	**LCHD-300K**	†	DPiS, DP41-S, DP25B-S*
400K lb	181,488 kgf	**LCHD-400K**	†	DPiS, DP41-S, DP25B-S*
500K lb	226,860 kgf	**LCHD-500K**	†	DPiS, DP41-S, DP25B-S*

Comes complete with 5-point NIST-traceable calibration, mating connector, and 59 kΩ shunt data.

*† Consult factory.   * 4-digit meter.*

*** Visit **omega.com/dp25** for compatible meters. DPiS meter suitable for one direction measurement only.*

Note: *Models >300,000 lb are calibrated at 300,000 lb—see Specifications.*

Ordering Examples: *LCHD-500, 500 lb capacity load cell, $765.*

PT06F10-6S, *mating connector (included).*

Accessories

Model No.	Price	Description
MS3106E-14S-6S	$64.00	Spare mating connector for units above 5000 lb capacity
PT06F10-6S	26.50	Spare mating connector for units below 7500 lb capacity

Tuning Fork Point Level Switches
For High/Low Liquid Levels

**LTU-2000 Series
Starts at**

$330

1 YEAR WARRANTY **RoHS**

✔ **Unique Tuning Fork Technology, Unaffected by Variations in Density, Conductivity, Dielectric, Foam, Tank Agitation or Vibration**

✔ **316 SS Construction with Optional ETFE Coating**

✔ **0.1% Accuracy, 0.5 mm Repeatability**

✔ **Models Available with Fixed or Adjustable Time Delay**

LTUR-2012, $438.

LTUR-2041, $510.

LTUR-2011, $360.

LTUM1-2014, $330.

All models shown smaller than actual size.

The LTU-2000 Series tuning fork level switches are point level switches that detect high or low liquid levels. Based on the vibrating tuning fork principle, these units accurately detect contact with a liquid, triggering a switching output. Depending on the liquid viscosity, the LTU-2000 is virtually immune to chemical or physical properties, and can be installed at any angle into a pipe or tank. Recalibration is not required between batches, and units may be cleaned in place. Models are available with PNP, relay or direct load switching.

Specifications
Viscosity: 10,000 cSt max
Power Consumption: ±3 mA
Switching Point: 12 mm from tip
Accuracy: ±0.1%
Repeatability: ±0.5 mm
Wetted Parts: 316 SS

Model	LTUP	LTUR	LTUM1	LTUM2
Power	20 to 60 Vdc	20 to 60 Vdc 20 to 264 Vac	20 to 60 Vdc	85 to 264 Vac
Output	PNP (3-wire)	SPDT relay 5 A @ 250 Vac	PNP (3-wire)	100 mA SSR
Load Current	500 mA	—	500 mA	500 mA
Electrical Connection	Cable gland or ½ NPT	Cable gland or ½ NPT	DIN 43650 plug	DIN 43650 plug
Time Delay	1 to 20 sec adjustable	1 to 20 sec adjustable	1 sec	1 sec
Enclosure	Glass filled nylon	Glass filled nylon	316 SS DIN 43650	316 SS DIN 43650
Operating Ambient	-10 to 80°C (14 to 176°F)	-10 to 80°C (14 to 176°F)	-10 to 120°C (14 to 248°F)	-10 to 120°C (14 to 248°F)
Protection	NEMA 4 (IP65)	NEMA 4 (IP65)	NEMA 6 (IP67)	NEMA 6 (IP67)

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS **1-877-82-6 6 342®
1-877-TC-OMEGA**

Max Pressure: 50 bar (725 psi)
Dimensions:
   DIN 43650 Plug (LTUM Models Only): 27 Dia x 80 mm H (1.0625 x 3.125")

Nylon Head: 88 W x 80 mm H (3.5 x 3.125")**
Aluminum Head: 89 Dia x 126 mm H (3.5 x 5")**

Insertion Length, "D" Dimension: 80 mm (3.15") standard; measure from bottom of hex to tip of fork
** Available on LTUR and LTUP models only.

Standard Configurations

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Model No.	Price	Description
LTUP-2011	$336	Tuning fork level switch, 20 to 60 Vdc power, PNP output, 316 SS, ¾ NPT connection, nylon enclosure, standard 80 mm (3.15") insertion depth
LTUR-2011	360	Tuning fork level switch, 20 to 264 Vac/20 to 60 Vdc power, 5 A SPDT relay output, 316 SS, ¾ NPT connection, nylon enclosure, standard 80 mm (3.15") insertion depth
LTUR-2041	510	Tuning fork level switch, 20 to 264 Vac/20 to 60 Vdc power, 5 A SPDT relay output, 316 SS, 1.5" tri-clamp connection, nylon enclosure, standard 80 mm (3.15") insertion depth
LTUR-2012	438	Tuning fork level switch, 20 to 264 Vac/20 to 60 Vdc power, 5 A SPDT relay output, 316 SS, ¾ NPT connection, aluminum enclosure with ½ NPT conduit, standard 80 mm (3.15") insertion depth
LTUM1-2014	330	Tuning fork level switch, 20 to 60 Vdc power, PNP output, 316 SS, ¾ NPT connection, DIN 43650 plug, standard 80 mm (3.15") insertion depth
LTUM2-2014	354	Tuning fork level switch, 85 to 264 Vac power, SSR output, 316 SS, ¾ NPT connection, DIN 43650 plug, standard 80 mm (3.15") insertion depth

Model No.	Price	Description
LTUP-2(A)(B)(C)-(D)	$330	Custom tuning fork point level switch; PNP output; Select wetted material (A), process connection (B), enclosure (C) and insertion length in inches (D)
LTUR-2(A)(B)(C)-(D)	354	Custom tuning fork point level switch; relay output; Select wetted material (A), process connection (B), enclosure (C) and insertion length in inches (D)
LTUM1-2(A)(B)(4)-(D)	330	Custom tuning fork point level switch; PNP output, with miniature plug; Select wetted material (A), process connection (B), enclosure (4) and insertion length in inches (D)
LTUM2-2(A)(B)(4)-(D)	354	Custom tuning fork point level switch; SSR output, with miniature plug; Select wetted material (A), process connection (B), enclosure (4) and insertion length in inches (D)

Options

Ordering Suffix	Add'l Price	Description
A-Wetted Materials		
0	N/C	316 SS
1	$180/ft	ECTFE/ETFE coating; flange connections recommended
B-Process Connection		
1	N/C	¾ NPT thread
2	N/C	1 NPT thread
3	$150	1½ NPT thread
4	150	1.5" Tri-Grip™, sanitary*
5	216	2" flange, ANSI, 15016 316 SS
Others	Call for price	Consult Engineering with details
C-Enclosure		
1	$6	Glass filled nylon with ½ NPT conduit with cable gland**
2	84	Aluminum die cast with ½ NPT conduit entry**
3	90	Aluminum die cast with cable gland entry
4	N/C	316 SS DIN 43650; for LTUM units only
D-Insertion Length		
D (in)	$90/ft	Rod length (in); 1.5 m (60") max

Dimensions: mm (in)

Switching hysteresis 1 mm
Switching point = 12 (1/2)

Switching hysteresis 1 mm
Switching point = 12 (1/2)

* Tri-Grip™ (Tri-Clamp® compatible).
Comes complete with operator's manual.

Ordering Examples: LTUP-2011, *tuning fork level switch, 20 to 60 Vdc power, PNP output, 316 SS, ¾ NPT connection, nylon enclosure, 80 mm insertion depth,* **$336.**
LTUM2-2014, *tuning fork level switch, 85 to 264 Vac power, SSR output, 316 SS, ¾ NPT connection, DIN 43650 plug, 80 mm insertion depth,* **$354.**
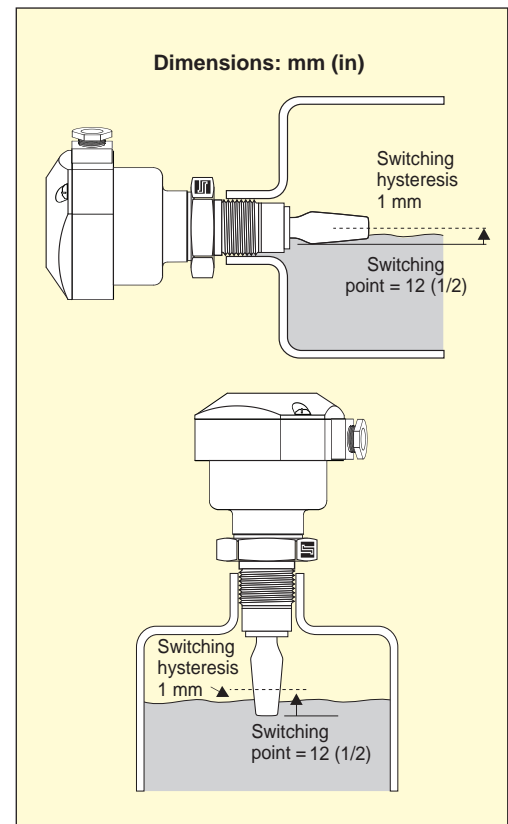
Transit-Time Ultrasonic Flowmeter

FDT-31, $1277, shown smaller than actual size.

TRANSIT TIME FLOW METER

64.97 GAL/MIN

ΩOMEGA®

FDT-30 Series Starts at

$1277

MADE IN USA · **1 YEAR WARRANTY** · CE

TX4-100 connection cable and FDT-30-CABLE CLAMP, each sold separately, see next page to order.

✔ **Compact Enclosure**
✔ **Large Digital Display**
✔ **4 to 20 mA, TTL and Turbine Simulated Outputs**
✔ **Rate and Total Displays**
✔ **Clean Liquid Compatible**

The FDT-30 Series provides easy and low cost installation by clamping to the outside of existing piping systems. Non-invasive transit time system allows solids to pass through the pipe with no affect on the meter. Y-strainers or filtering devices are not needed. Greater accuracy can be attained in applications consisting of entrained gases. The FDT-30 Series will automatically correct displayed flow rates and electronic outputs. Direct interface is provided to data collection systems via 4 to 20 mA output and either TTL-pulse or simulated turbine meter outputs that are proportional to fluid flow rate. Designed to replace mechanical flowmeters in applications where liquid conditions tend to damage or impede mechanical flow meter operation. No maintenance is required. The FDT-30 Series can be used on applications such as well water and other liquids with moderate amounts of suspended solids or aeration.

FDT-30 Series is housed in an enclosure suitable for outdoor mounting. Integral mount transducers are available for pipes 50 mm (2") and smaller.

Specification
Liquid Types: Most clean liquids, or liquids containing moderate amounts of suspended solids
Power: 11 to 30 Vdc @ 0.25 A
Velocity: 0.03 to 12.4 MPS (0.1 to 40 FPS)
4 to 20 mA Output (Standard): 12-bit resolution; source power; 5V max insertion loss; 900 Ω max loop impedance; can share ground common with power supply-isolated from piping system
Turbine Frequency Output (TTL Pulse): Switch selectable; non-ground referenced AC, ground referenced squarewave; 100 mV pp min/5 Vdc amplitude; 0 to 1 kHz range; 50% ±10% duty cycle
Display: 2 line x 8 character LCD alternates between rate and total in 10 second intervals

Top Row: 18 mm (0.7"), 7-segment
Bottom Row: 9 mm (0.35"), 14-segment
Rate: 8 digits max
Totalizer: 8 digits max; exponential multipliers from -1 to +6
Units: Feet, gallons, ft^3, million-gal, barrels (liquid and oil), acre-feet, lbs, meters, m^3, liters, million-liters, kg; rates programmable for per: sec, min, hr, or day
Operating Ambient: -40 to 85°C (-40 to 185°F)
Enclosure: NEMA 3 ABS, PVC and Ultem, brass or SS hardware
Dimensions: 169.2 L x 80.5 W x 65.3 mm D (6.66 x 3.17 x 2.57")
Transducer Type: Clamp-on for pipe mount; time of flight ultrasonic
Accuracy: ±1% rdg @ rates > 0.3 MPS (1 FPS); ±0.003 MPS (0.01 FPS) @ rates < 0.3 MPS (1 FPS)
Repeatability: ±0.5% rdg
Response Time: 0.3 to 30 sec, adjustable
Protection: Reverse polarity, surge suppression
Pipe Sizes: 12 to 50 mm (0.5 to 2")
Pipe Materials: Carbon steel, stainless steel, copper and plastic

U-Bolt Connections (ANSI & Copper 2" Models)

Standard System

169.2 (6.66)

80.5 (3.17)

TRANSIT TIME FLOW METER

65.3 (2.57)

22.2 (0.875) Dia conduit hole
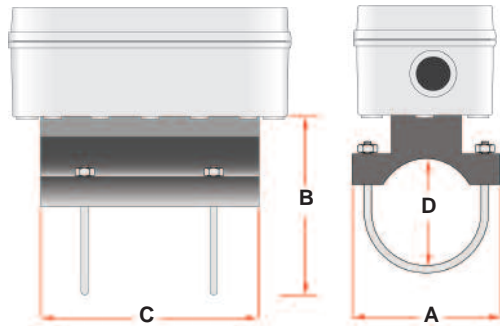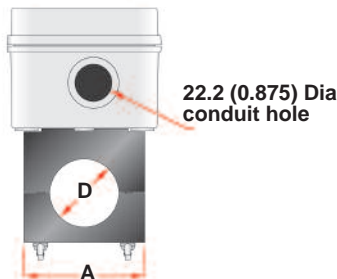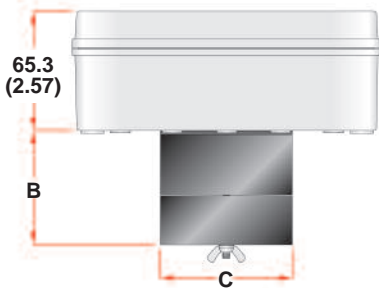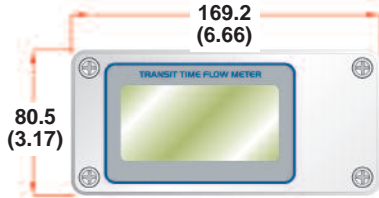
Dimensions: mm (in)

Pipe Size	Pipe Material	A	B	C	D	Measuring Range
½"	ANSI	62.5 (2.46)	59.9 (2.36)	67.6 (2.66)	21.3 (0.84)	2 to 100 LPM 0.5 to 25 GPM
	Copper	62.5 (2.46)	59.9 (2.36)	84.6 (3.33)	15.9 (0.63)	2 to 100 LPM 0.5 to 25 GPM
	Tubing	62.5 (2.46)	57.9 (2.28)	94.5 (3.72)	12.7 (0.50)	2 to 100 LPM 0.5 to 25 GPM
¾"	ANSI	62.5 (2.46)	65.3 (2.57)	67.6 (2.66)	26.7 (1.05)	4 to 200 LPM 1 to 55 GPM
	Copper	62.5 (2.46)	63.5 (2.50)	90.4 (3.56)	22.2 (0.88)	4 to 200 LPM 1 to 55 GPM
	Tubing	62.5 (2.46)	57.9 (2.50)	94.5 (3.56)	12.7 (0.75)	4 to 100 LPM 1 to 55 GPM
1"	ANSI	62.5 (2.46)	74.2 (2.92)	72.6 (2.86)	33.4 (1.32)	8 to 375 LPM 2 to 100 GPM
	Copper	62.5 (2.46)	72.9 (2.87)	96.5 (3.80)	28.6 (1.13)	8 to 375 LPM 2 to 100 GPM
	Tubing	62.5 (2.46)	69.9 (2.75)	96.5 (3.80)	25.4 (1.00)	8 to 375 LPM 2 to 100 GPM
1¼"	ANSI	71.0 (2.80)	80.8 (3.18)	79.8 (3.14)	42.2 (1.66)	15 to 570 LPM 4 to 150 GPM
	Copper	62.5 (2.46)	76.2 (3.00)	102.6 (4.04)	34.9 (1.38)	15 to 570 LPM 4 to 150 GPM
	Tubing	62.5 (2.46)	76.2 (3.00)	102.6 (4.04)	31.8 (1.25)	15 to 570 LPM 4 to 150 GPM
1½"	ANSI	76.7 (3.02)	86.9 (3.42)	84.6 (3.33)	48.3 (1.90)	18 to 830 LPM 5 to 220 GPM
	Copper	68.8 (2.71)	72.6 (2.86)	108.7 (4.28)	41.3 (1.63)	18 to 830 LPM 5 to 220 GPM
	Tubing	68.8 (2.71)	84.1 (3.31)	108.7 (4.28)	38.1 (1.50)	18 to 830 LPM 5 to 220 GPM
2"	ANSI	94.0 (3.70)	86.9* (3.42)	139.7 (5.50)	60.3* (2.375)	30 to 1500 LPM 8 to 400 GPM
	Copper	94.0 (3.70)	85.9* (3.38)	139.7 (5.50)	54.0* (2.125)	30 to 1500 LPM 8 to 400 GPM
	Tubing	81.5 (3.21)	98.0 (3.85)	120.7 (4.75)	50.8 (2.00)	30 to 1500 LPM 8 to 400 GPM

* *Varies due to U-bolt configuration*

Recommended Reference Book: Standard Handbook of Machine Design, **GE-0135, $125,** Visit **omega.com/bobi** for Additional Books

☐ *MOST POPULAR MODELS HIGHLIGHTED!*

To Order *(Specify Model Number)*

Model No.	Price	Description	Range LPM (GPM)
FDT-31	**$1277**	Transit-time ultrasonic flowmeter, ½" ANSI pipe	2 to 100 (0.5 to 25)
FDT-32	1277	Transit-time ultrasonic flowmeter, ¾" ANSI pipe	4 to 200 (1 to 55)
FDT-33	1304	Transit-time ultrasonic flowmeter, 1" ANSI pipe	8 to 375 (2 to 100)
FDT-34	1315	Transit-time ultrasonic flowmeter, 1¼" ANSI pipe	15 to 570 (4 to 150)
FDT-35	1315	Transit-time ultrasonic flowmeter, 1½" ANSI pipe	18 to 830 (5 to 220)
FDT-36	1359	Transit-time ultrasonic flowmeter, 2" ANSI pipe	30 to 1500 (8 to 400)

Accessories

Model No.	Price	Description
FDT-30-PC CABLE	$147	PC communications cable
FDT-30-CABLE CLAMP	20	Water tight cable clamp
FDT-GREASE	28	Coupling grease for FDT-30/80 series
TX4-100	35	Multi-conductor hook-up wire, 100' spool

Comes complete with operator's manual and coupling grease. For copper pipe applications, add suffix "-C" to model number, no additional charge. For plastic tubing applications, add suffix "-T" to model number, no additional charge.
Ordering Examples: FDT-32, transit-time ultrasonic flowmeter for ¾" ANSI pipe, **$1277.**
FDT-33-C, transit-time ultrasonic flowmeter for 1" copper pipe, **FDT-GREASE,** coupling grease, $1304 + 28 = **$1332.**

Sanitary Turbine Flowmeters

OMEGA FLOW ONSTREAM®

FTB-970A Series Starts at
$1166

MADE IN USA | *1 YEAR WARRANTY* | *NIST Standard*

FTB-973A, $1166, shown actual size.

✔ **NIST Certificate Supplied Standard**
✔ **Sizes Available from ¼ to 3" Tri-Grip™**
✔ **Flow Rates from 0.5 to 650 GPM**
✔ **Suitable for Cleaning in Place (CIP)**

FTB-970A Series sanitary turbine flowmeters are available in 11 sizes, from ¼ to 3" with standard Tri-Grip™ (Tri-Clamp® compatible) fittings. Covering flow rates from 0.5 to 650 GPM, these flowmeters are constructed of suitable materials for CIP.

Use the FTB-970A Series turbine flowmeter with the DPF701 Series flow indicator, $260. Visit omega.com/dpf701 for details.

Specifications
Accuracy and Linearity: ±0.5% rdg
Repeatability: ±0.1% rdg or better
Temperature Range:
-73 to 232°C (-100 to 450°F)
-268 to 65°C (-450 to 150°F)
for FTB-971AT
Signal Output: 30 mV p-p minimum

Materials of Construction: 304 SS except as noted below
Rotor: 17-4 PH SS
Bearings: Tungsten carbide sleeve
Electrical: 2-wire connector (included)
Maximum Pressure Drop: 4 psid

Compatible Meters: DPF701, DPF402, DPF70 with FLSC-AMP, DPF10, FC20, 21, 22. Also FLSC-60 Series. Visit omegainstrument.info

MOST POPULAR MODELS HIGHLIGHTED!

To Order *(Specify Model Number)*

Model No.	Price	Tri-Clamp Size (in)	Flowmeter Line Size (in)	Linear Flow Range (US GPM)	Length mm (in)	Approx. Weight kg (lb)	Nominal K Factor (pulses/gal)	Operating Pressure (psig)
FTB-971AB	$1166	¾	¼	0.5 to 3.5	102 (4.0)	0.45 (1)	15,000	1500
FTB-972A	1166	¾	⅜	0.75 to 5.0	102 (4.0)	0.45 (1)	6000	1500
FTB-973A	1166	¾	½	1.25 to 9.5	102 (4.0)	0.45 (1)	3160	1500
FTB-974A	1166	¾	⅝	1.75 to 16	102 (4.0)	0.45 (1)	5300	1500
FTB-975A	1166	1½	¾	2.5 to 29	127 (5.0)	0.45 (1)	1035	600
FTB-976A	1172	1½	1	4 to 60	127 (5.0)	1.36 (3)	500	600
FTB-977A	1206	1½	1¼	6 to 93	127 (5.0)	1.36 (3)	320	600
FTB-978A	1325	1½	1½	8 to 130	127 (5.0)	2.27 (5)	230	600
FTB-979A	1469	2	2	15 to 225	152 (6.0)	2.27 (5)	133	450
FTB-980A	1705	2½	2½	25 to 400	191 (7.5)	2.73 (6)	75	400
FTB-981A	2197	3	3	40 to 650	241 (9.5)	3.18 (7)	46.1	350

Comes complete with operator's manual, mating electrical connector and NIST certificate.
Units can also be ordered as systems with the FLSC-60 Series signal conditioners, visit omega.com/flsc60

Ordering Examples: FTB-976A, flowmeter with 1½" tri-clamp size, 4 to 60 GPM flow rate, **$1172.**

SYS/FTB-972A/FLSC-62A, sanitary turbine flowmeter for ⅜" line (¾" Tri-Grip™ fitting) with 4 to 20 mA output signal conditioner, $1166 + 431 = **$1597.**

Recommended Reference Book: Chemical Process Equipment, **FW-402, $175.** Visit **omega.com/bobi** for Additional Books

Sanitary product line continues to expand, visit **omega.com/sanitary** for details!

HOTLINE 1-877-82-6 6342®
TO SANITARY PRODUCTS 1-877-TC-OMEGA

Sanitary Turbine Flowmeters
3-A Label for Process Liquid Measurement

**FTB-401A
Starts at**
$1254

**FTB-406A, $1381,
shown smaller
than actual size.**

- ✔ **Meets 3-A Sanitary Standard No. 28-01**
- ✔ **Sizes Available, from ¼ to 3"**
- ✔ **Flow Rates from 0.35 to 650 GPM**
- ✔ **Suitable for Cleaning in Place (CIP)**

OMEGA's FTB400 Series sanitary design turbine flowmeter is accepted as meeting 3-A sanitary standard no. 28-01 for measurement of process liquids where highly sanitary standards are required. The meter is available in sizes from ¼ to 3" with standard Tri-Grip™ (Tri-Clamp® compatible) fittings, covering flowrates from 0.35 to 650 GPM. The design of flowmeter and materials of construction are suitable for cleaning in place (CIP).

Specifications
Accuracy and Linearity:
±0.5% of reading or better
Repeatability: ±0.1% of rdg or better
Temperature Range: -268 to 232°C (-450 to 450°F)
Signal Output: 10 mV rms or greater into a 10 kΩ load at minimum flowrate
Materials of Construction: 316 SS except as noted below:
  Rotor: 17-4 PH SS
  Retaining Rings: 15-7 MO PH SS
  Bearings: Hard carbon composite

Compatible Meters: DPF701, DPF402, DPF70 with FLSC-AMP, DPF10, FC20, 21, 22. Visit omegainstrument.info

Use the FTB-400A Series turbine flowmeter with the DPF701 Series flow indicator, $260. Visit omega.com/dpf701 for details.

MOST POPULAR MODELS HIGHLIGHTED!

To Order *(Specify Model Number)*

Model No.	Price	Tri-Grip™ Size (in)	Flowmeter Size (in)	Linear Flow Range (US GPM)	Length mm (in)	Nominal K-Factor (pulses/gal)	Weight kg (lb)
FTB-401A	$1254	1½	¼	0.35 to 3.5	90 (3.56)	15000	1.4 (3)
FTB-402A	1254	1½	⅜	0.75 to 7.5	90 (3.56)	9000	1.4 (3)
FTB-403A	1254	1½	½	1.25 to 9.5	90 (3.56)	5800	1.4 (3)
FTB-404A	1254	1½	⅝	1.75 to 16	90 (3.56)	5300	1.4 (3)
FTB-405A	1254	1½	¾	2.5 to 29	83 (3.25)	1035	1.4 (3)
FTB-406A	1381	1½	1	4 to 60	90 (3.56)	670	1.4 (3)
FTB-407A	1419	1½	1¼	6 to 93	117 (4.59)	320	2.3 (5)
FTB-408A	1449	1½	1½	8 to 130	117 (4.59)	250	2.7 (6)
FTB-409A	1792	2	2	15 to 225	154 (6.06)	126	3.2 (7)
FTB-410A	2200	3	2½	25 to 400	254 (10.00)	75	3.6 (8)
FTB-411A	2433	4	3	40 to 650	254 (10.00)	45	4.5 (10)

Comes complete with operator's manual and 10-point NIST calibration certificate.
Ordering Examples: FTB-406A,** 1" flowmeter with 1½" clamp size, 4 to 60 GPM flow rate, **$1381.
FTB-402A, ⅜" flowmeter, with 1½" clamp size, 0.75 to 7.5 GPM flow rate, **$1254.**

Thermal Dispersion Flow Switches

**FSW-6000/7000 Series
Starts at**

$456

1 YEAR WARRANTY **RoHS**

FSW-6512, $606, shown smaller than actual size.

✔ **Simple to Install and Low Cost**
✔ **No Moving Parts-Maintenance Free Reliability**
✔ **Optimal Temperature Compensation—Unaffected by Temperature Gradient**
✔ **Can Operate in Temperatures up to 120°C (248°F) with Sanitary Option**
✔ **300 Bar (4300 psi) Maximum Working Pressure**
✔ **Chain of 8 LEDs-Integrated Flow Rate/Setpoint Indication**
✔ **Can Be Used as a Level Switch**

The FSW-6000/7000 Series are thermal flow switch monitors designed to monitor flow status and also used to detect level of liquids, air and gas. A chain of 8 LEDs gives the user a visual indication of the flow rate. In addition, there is also a dichromatic LED, which shows the switch point status of the unit. The sensing element and connection of the FSW-6000/7000

Series are made with 316 SS and can be coated with PTFE as an option. The standard enclosure is glass-filled nylon and is also available in an aluminum enclosure for hazardous environments. The FSW-6000/7000 Series can be made with a great variety of process connections such as threaded, flange, or sanitary.

The FSW-6000/7000 Series line of thermal flow switch monitors is based on the principle of thermal dispersion. A typical configuration uses two platinum Resistance Temperature Detectors (RTDs) set within the tip of the sensor. One RTD is heated a few degrees above the temperature of the medium and the other RTD is used as a reference, sensing the actual process temperature. The second RTD also monitors the temperature of the medium, as any changes in temperature must be compensated for in the first RTD. As the process medium flows over the tip of the sensor it disperses some of the heat from the first RTD. The temperature change between the two RTD's signals the probe's electronics and the switch changes state once the setpoint has reached.

The FSW-6000/7000 Series may be installed in a pipe or tank using the thread or connection provided. Use only the hexagon when tightening to achieve a seal, do not use the body. The body should be rotated after tightening to leave the cable gland in suitable orientation. The FSW-6000/7000 Series is not affected by its fixing position so it may be installed at any angle around the pipe. However, it is recommended that with horizontal pipe runs the sensor should be installed on the side, into the middle of the pipe. In vertical pipes, the FSW-6000/7000 Series should be installed when there is flow in an upward direction against gravity. Care should be taken when installing the sensor that the probe extends clear of the pipe's internal wall and is fully immersed into the flow. In pipes with smaller diameters, some care should also be taken so that the sensor is not screwed too far into the line.

Specifications
Accuracy: ±10% of setpoint
Repeatability: ±1% of setpoint
Power Supply:
   FSW-6000: 85 to 240 Vac (50/60 Hz)
   FSW-7000: 24 Vdc ±10%

TEMPERATURE RANGE:
Process: -20 to 80°C (-4 to 176°F) [sanitary option to 120°C (248°F) for CIP]
Operating: -20 to 60°C (-4 to 140°F)
Max Pressure: 300 bar (4351 psi)
Protection Class: NEMA 4 (IP65)
Wetted Materials: 316 SS
Enclosure Material: Glass filled nylon standard or aluminum die cast option
Process Connection: ½ to 1½ NPT, Tri-Grip™, or flange (others available, consult Flow Engineering Department)

Output: 250 Vac SPDT 5 A relay
Switch Point Adjustment: Potentiometer
BARGRAPH
Green LED: Flow rate above setpoint
Yellow LED: Flow is at above setpoint
Red LED: Flow is below setpoint
Switch Point Status:
Red LED: No flow
Green LED: Flow
Response Time: 1 to 10 seconds
Max Start Up Delay: 12 seconds

Switching Range: 3 cm/s to 3 m/s (0.09 to 9.84 ft/sec) (liquid), 5 cm/sec to 15 m/sec (0.16 to 49 ft/sec) (gas)
DIMENSIONS
Nylon Head: 88 Dia x 80 mm H (3.5 x 2.5")
Aluminum Head: 88 Dia x 108 mm H (3.5 x 4.25")
Insertion Length: 1⅜, 2 and 3" standard, for other lengths consult Flow Engineering Department
Weight: Approx 680 g (1.5 lb)

AVAILABLE FOR FAST DELIVERY!

To Order *(Specify Model Number)*

Model No.	Price	Description	Process Connection	Enclosure	Insertion Length
FSW-6212	$456	Thermal dispersion flow switch, 85 to 240 Vac power	¾ NPT	Glass filled nylon, ½ NPT conduit, cable gland, and 2 m (6.5') cable	51 mm (2") for 1 to 4" pipe
FSW-7112	456	Thermal dispersion flow switch, 24 Vdc power	½ NPT	Glass filled nylon, ½ NPT conduit, cable gland, and 2 m (6.5') cable	51 mm (2") for 1 to 4" pipe
FSW-7111	456	Thermal dispersion flow switch, 24 Vdc power	½ NPT	Glass filled nylon, ½ NPT conduit, cable gland, and 2 m (6.5') cable	35 mm (1⅜") for ½ to 1" pipe

Accessories

Model No.	Price	Description
70A-1	$20	Continuous tone alarm
TX4-100	35	4-conductor wire, 30.5 m (100') spool
U24Y175	169	24 Vdc power supply

Recommended Reference Book: Valve Handbook, **FW-306, $135** Visit **omega.com/bobi** for Additional Books

Build to Order Models

Model No.	Price	Description
FSW-6(*)(**)(***)	$432	Flow switch, 85 to 240 Vac power; specify connection (*), enclosure (**) and insertion length (***)
FSW-7(*)(**)(***)	432	Flow switch, 24 Vdc power; specify connection (*), enclosure (**) and insertion length (***)

Options

Ordering Suffix	Add'l Price	Description
Process Connection (*)		
1	N/C	½ NPT thread
2	N/C	¾ NPT thread
3	N/C	1 NPT thread
5	$150	1.5" Tri-Grip™
6	300	2" ANSI flange, 15016 316 SS
Enclosure (**)		
1	$24	Glass filled nylon with ½ NPT conduit, cable gland, and 2 m (6.5') cable
2	84	Aluminum die cast with ½ NPT conduit
3	90	Aluminum die cast with cable gland
Insertion Length (***)		
1	N/C	35 mm (1⅜")
2	N/C	50 mm (2")
3	N/C	75 mm (3")

Comes complete with operator's manual.
To order ECTFE/ETFE element coating, add suffix "-ETFE" to model number and $180 to price.
Ordering Examples:** FSW-6212, flow switch, 85 to 240 Vac power, ¾ NPT fitting, glass filled nylon, 51 mm (2") insertion length, and **70A-1,** alarm, $456 + 20 = **$476.
FSW-7113, flow switch, 24 Vdc power, ½ NPT fitting, glass filled nylon, 75 mm (3") insertion length, $456.

FSW-6000 flow switches are available with ½, ¾ or 1 NPT threads, 1.5" Tri Grip™ (Tri-Clamp® compatible) connection for sanitary applications, or 2" ANSI flanges
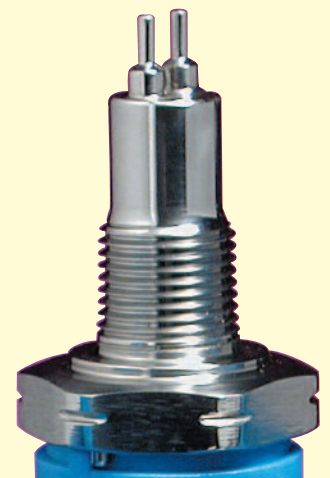
Liquid Flow Transmitter and Switch

FSW-9000 Series
$654
Complete Transmitter

1 YEAR WARRANTY **RoHS**

FSW-9512, $804, shown smaller than actual size.

✔ **High Reliability—No Moving Parts**
✔ **4 to 20 mA, PNP/NPN (Transistor), or Relay Output**
✔ **Excellent LowFlow Sensitivity**

The FSW-9000 Series is a flow switch monitor that measures the velocity of the flow. It is ideal for use in measurement and control liquid applications. The FSW-9000 Series provides two output options: a 4 to 20 mA analog output and a PNP/NPN output. For the 4 to 20 mA output, the electronics' module converts the signal from the probe to a 4 to 20 mA analog output, which can be used to indicate flow rate. For the PNP/NPN output, the measured flow rate is compared to the setpoint value selected by the user and the switch changes state once the setpoint value has been achieved.

The FSW-9000 Series microprocessor based electronics and unique self-calibration program gives the flow switch superior temperature compensation, a fast response time (adjustable from 3 to 10 seconds) and increased long term switch point stability. Even in the event of a power failure, the calibration program will store values for maximum and minimum flows for up to 10 years.

A chain of 8 LEDs gives the user a visual indication of the flow rate as well as setpoint status, and one di-chromatic LED indicates switch point status. In addition, if there is a problem with the unit, the 8 LEDs will flash continuously providing troubleshooting information.

The conical shape of the sensor's tip means that the probe can be installed at almost any angle in the pipe and that if the probe is misaligned, accuracy will not be affected. The sensing element and

connection of the FSW-9000 Series are made with 316 SS and the standard enclosure is glass-filled nylon. The FSW-9000 Series can be made with a great variety of process connections such as threaded, flange, or sanitary and is also available in an aluminum enclosure for hazardous environments. Intrinsic safety barriers required for explosion proof areas.

Measuring Ranges for FSW-9000 Series

The FSW-9000 Series nominal measuring range is 0.04 to 2.0 m/s. The switch can be set to trip at any value in this range. To calculate the velocity for your application, use the following simple formula:

$$V = \frac{1.27 \times Q}{D^2}$$

Q = Flow rate in meters per second

D = Pipe internal diameter in meters

V = Fluid velocity in meters per second

Please note that the 4 to 20 mA option is scaled over 0 to 2.0 m/s

The FSW-90-R is very similar to the FSW-9212 Series with one main difference: The sensor is separate from the electronics and it does not have an enclosed housing. This gives the FSW-90-R Series the ability to be installed in very small pipes and be remotely controlled by the FSCN-91 relay. The FSW-90-R Series is the ideal solution when there is not a lot of space to install even a compact unit or when there is a need for a mounted relay. In addition, the conical shape of the sensor's tip allows the probe to be installed at almost any angle in the pipe, and if it is misaligned, accuracy will not be affected. The FSW-90-R is made with 316 SS. FSCN-91 relay can operate with DC or AC supply voltage and provides an analog 4 to 20 mA and SPDT output. The FSCN-91 enclosure is made with ABS and can be mounted on a DIN rail or by using 2 fixing screws.

Specifications

Accuracy: ±5% of setpoint
Repeatability: ±1% of setpoint
Power Supply: FSW-90-R: 85 to 240 Vac, 50/60 Hz or 24 Vdc ±10%; FSW-9000: 24 Vdc ±10%

TEMPERATURE RANGE

Process: -20 to 80°C (-4 to176°F) (Sanitary option to 284°F for CIP)
Operating: -20 to 60°C (-4 to140°F)
Max Pressure: 300 bar (4351 psi)
Protection Class: NEMA-4 (IP65)
Wetted Materials: 316 Stainless Steel
Enclosure Material: Glass filled nylon standard; aluminum head optional

Process Connection: ½ to 1½ NPT, Tri-Grip™ (Tri-Clamp® compatible), or flange
Output: FSW-90-R + FSCN-90: relay (SPDT) and 4 to 20 mA; FSW-9000: transistor NPN/PNP (400 mA) and 4 to 20 mA
Switch Point Adjustment: Potentiometer
Bargraph: 8 LED

SWITCH POINT STATUS

Red LED: No flow
Green LED: Flow
Response Time: 3 to 10 sec nominal
Max Start-Up Delay: 12 seconds
Switching Range: 0.04 m/s to 2 m/s (water)
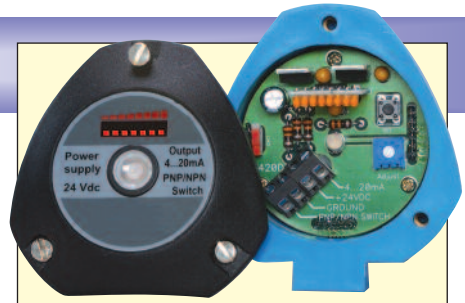
Dimensions:
   Nylon Head: 89 H x 64 mm D (3.5 x 2.5")
   Aluminum Head: 89 H x 108 mm D (3.5 x 4.25")
Probe Diameter: 16 mm (0.625")
Insertion Length: 1⅜, 2 and 3" standard; for other lengths consult Flow Engineering Department
Weight: Approx. 680 g (1.5 lb)

AVAILABLE FOR FAST DELIVERY!

To Order *(Specify Model Number)*

Model No.	Price	Description	Process Connection	Enclosure	Insertion Length
FSW-9212	**$654**	Complete transmitter	½ NPT	Glass filled nylon, ½ NPT conduit, cable gland, and 2 m (6.5') cable	51 mm (2")
FSW-91-R	330	Flow sensor (FSCN-90 electronics sold separately)	½ NPT	None	51 mm (2")
FSCN-91	402	FSW-91-R electronics, 24 Vdc power			
FSCN-92	414	FSW-91-R electronics, 85 to 240 Vac power			

Accessories

Model No.	Price	Description
70A-1	**$20**	Continuous tone alarm
TX4-100	35	4 conductor wire, 30.5 m (100') spool
U24Y175	169	24 Vdc power supply

Recommended Reference Book: Auser's Control Valve Primer, **FW-346, $110.** Visit **omega.com/bobi** for Additional Books

Build to Order Models

Model No.	Price	Description
FSW-9(*)(**)(***)	**$630**	Complete transmitter, specify connection (*), enclosure (**) and insertion length (***)
FSW-9(*)-R	330	Flow sensor, specify connection (*); (FSCN-90 electronics sold separately)

Options

Ordering Suffix	Add'l Price	Description
Process Connection (*)		
1	N/C	½ NPT thread
2	N/C	¾ NPT thread
3	N/C	1 NPT thread
5	$150	1.5" Tri-Grip™ (inches only)
6	300	2" ANSI flange, 15016 316 SS
Enclosure (**)		
1	$24	Glass filled nylon with ½ NPT conduit, cable gland, and 2 m (6.5') cable
2	84	Aluminum die cast with ½ NPT conduit
3	90	Aluminum die cast with cable gland
Insertion Length (***)		
1	N/C	35 mm (1⅜")
2	N/C	50 mm (2")
3	N/C	75 mm (3")

16 (0.625)

L

Dimensions: mm (in)

Comes complete with operator's manual.
To order ECTFE/ETFE element coating add suffix "-ETFE" to model number and $180 to price.
Ordering Examples: *FSW-9212, Vac powered switch, and 70A-1, alarm, $654 + 20 = $674.*
FSW-9123, *transmitter with ½ NPT thread, aluminum die cast enclosure with ½ NPT conduit, 75 mm (3") insertion length, $630 + 84 = $714.*
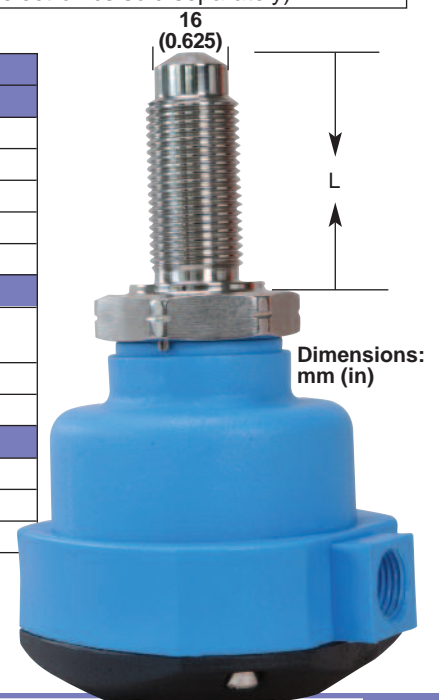
ElectroMagnetic Flowmeter

FMG600 Series Starts at

$3450

✔ **Virtually No Pressure Loss**
✔ **No Moving Parts**
✔ **ANSI 150# Flanges or Tri-Clover Sanitary Mount**
✔ **RS485 Standard**
✔ **Suitable for Pipes Up to 305 mm (12")**
✔ **High Accuracy**
✔ **4 to 20 mA and Frequency Outputs Standard**
✔ **NIST 3-Point Calibration Included**

FMG606, 51 mm (2") meter with 150# flanges, $3650, shown smaller than actual size.

The FMG600 Series electromagnetic flowmeters are designed for measurement of conductive liquids. With no moving parts and a PTFE lining, they can handle applications involving wastewater, pulp, food, and slurries. Standard outputs include analog, frequency, and RS485 communications. Optional sanitary tri-clamp mounting allows use of the FMG600 flowmeters in applications not previously open to magmeters. Local- and remote-display models are available.

Specifications
Flange Sizes:
150# ANSI: 19 to 305 mm (¾ to 12")
Sanitary Tri-Clamp: 13 to 305 mm (½ to 12")
Maximum Pressure: 145 psi
Minimum Conductivity: 20 µS
Electrode Material: Hastelloy C4 (standard), tantalum (TGE optional)
Environmental Temperature: -5 to 55°C (23 to 131°F)
Sensor Lining: PTFE

Electronics Housing: Local or remote (optional)
Liquid Temperature: 0 to 50°C (32 to 122°F) STD, 0 to 150°C (32 to 302°F) with remote electronics
Empty Pipe Alarm: Available on 2" and larger sizes (-EPD option)
Accuracy: ±0.5% from 5 to 100% Qs, ±1% from 1 to 5% Qs
Range: 0.1 to 10 m/s (0.328 to 32.81 fps)
Outputs: Adjustable from 0.1 to 1000 gallons/pulse

Current: 4 to 20 mA with galvanic isolation
Frequency: 0 to 1000 Hz with galvanic isolation
Communications: RS485
Power: 24 Vdc, 115/230 Vac switchable (optional)
Consumption: 15 VA
Protection: IP67
Storage Temperature and Humidity: -10 to 70°C (14 to 158°F) at max; relative humidity 70%

NEW®

▭ *MOST POPULAR MODELS HIGHLIGHTED!*

To Order *(Specify Model Number)*

Model No.	Price	Size: mm (in)	Max GPM	Description
FMG601-S	**$4120**	15 (½)	11	SS sanitary mount magmeter with empty pipe detection
FMG601-S-R	4728	15 (½)	11	SS Sanitary mount magmeter with empty pipe detection and remote display
FMG602	3450	20 (¾)	52	150# ANSI flange magmeter with empty pipe detection
FMG602-R	4041	20 (¾)	52	150# ANSI flange magmeter with empty pipe detection and remote display
FMG602-S	4206	20 (¾)	31	SS sanitary mount magmeter with empty pipe detection
FMG602-S-R	4797	20 (¾)	31	SS sanitary mount magmeter with empty pipe detection and remote display
FMG603	3476	25 (1)	79	150# ANSI flange magmeter with empty pipe detection
FMG603-R	4059	25 (1)	79	150# ANSI flange magmeter with empty pipe detection and remote display
FMG603-S	4276	25 (1)	61	SS sanitary mount magmeter with empty pipe detection
FMG603-S-R	4867	25 (1)	61	SS sanitary mount magmeter with empty pipe detection and remote display
FMG604	3520	32 (1¼)	132	150# ANSI flange magmeter with empty pipe detection
FMG604-R	4102	32 (1¼)	132	150# ANSI flange magmeter with empty pipe detection and remote display
FMG604-S	4380	32 (1¼)	96	SS sanitary mount magmeter with empty pipe detection
FMG604-S-R	5041	32 (1¼)	96	SS sanitary mount magmeter with empty pipe detection and remote display
FMG605	3529	40 (1½)	198	150# ANSI flange magmeter with empty pipe detection
FMG605-R	4120	40 (1½)	198	150# ANSI flange magmeter with empty pipe detection and remote display
FMG605-S	4589	40 (1½)	151	SS sanitary mount magmeter with empty pipe detection
FMG605-S-R	5214	40 (1½)	151	SS sanitary mount magmeter with empty pipe detection and remote display
FMG606	3650	50 (2)	317	150# ANSI flange magmeter
FMG606-R	4233	50 (2)	317	150# ANSI flange magmeter and remote display
FMG606-S	4797	50 (2)	281	SS sanitary mount magmeter
FMG606-S-R	5440	50 (2)	281	SS sanitary mount magmeter and remote display
FMG607	3772	65 (2½)	528	150# ANSI flange magmeter
FMG607-R	4363	65 (2½)	528	150# ANSI flange magmeter and remote display
FMG607-S	5006	65 (2½)	451	SS sanitary mount magmeter
FMG607-S-R	5788	65 (2½)	451	SS sanitary mount magmeter and remote display
FMG608	3928	80 (3)	793	150# ANSI flange magmeter
FMG608-R	4519	80 (3)	793	150# ANSI flange magmeter and remote display
FMG609	4189	100 (4)	1233	150# ANSI flange magmeter
FMG609-R	4771	100 (4)	1233	150# ANSI flange magmeter and remote display
FMG610	4919	125 (5)	1893	150# ANSI flange magmeter
FMG610-R	5501	125 (5)	1893	150# ANSI flange magmeter and remote display
FMG611	5606	150 (6)	2862	150# ANSI flange magmeter
FMG611-R	6196	150 (6)	2862	150# ANSI flange magmeter and remote display
FMG612	8456	200 (8)	5063	150# ANSI flange magmeter
FMG612-R	9047	200 (8)	5063	150# ANSI flange magmeter and remote display
FMG613	10,533	250 (10)	7925	150# ANSI flange magmeter
FMG613-R	11,115	250 (10)	7925	150# ANSI flange magmeter and remote display
FMG614	12,896	300 (12)	11,100	150# ANSI flange magmeter
FMG614-R	13,479	300 (12)	11,100	150# ANSI flange magmeter and remote display

Optional Equipment:
For units with switchable 115/230 Vac power, add "-VAC" to the model number and subtract $100 from the price.
For empty pipe detection on units 2" and larger, add "-EPD" to the model number and add $300 to the price.
For units with a batching option, add "-B" to the model number and add $320 to the price.
For units with tantalum electrodes, add "-TE" to the price and add $490 to the price.
If a third tantalum grounding electrode is needed, add "-TGE" to the model number and add $250 to the price.
If a third hastelloy grounding electrode is needed, add "-HGE" to the model number and add $200 to the price.
For a 4-point NIST calibration, add "-NIST4" to the model number and add $520 to the price.
For a 10-point NIST calibration, add "-NIST10" to the model number and add $1040 to the price.

Comes complete with operator's manual and 3-point NIST calibration certificate.

Ordering Examples: FMG606-R-EPD,** 2", 150# flange mount magmeter with remote electronics and empty pipe detection, $4233 + 300 = **$4533.
FMG605-NIST4,** 150# flange mount magmeter with optional 4-point NIST calibration, $3529 + 520 = **$4049.

For Dimensional Drawings Visit omega.com/ fmg600
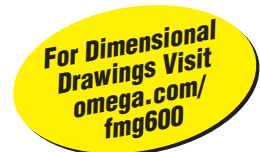
Loop Powered and Four-Wire Ultrasonic Level Transmitters

LVU1506-LP, $850, shown smaller than actual size.

LVU1501 Starts at

$850

LVU1502-LP, $1100, shown smaller than actual size.

MADE IN USA · 1 YEAR WARRANTY · CE

- ✔ **0.3 to 7.6 m (1 to 25') Range**
- ✔ **Exclusive VSS Sensor Sense™ with ¾ NPT Mounting**
- ✔ **Programmable Zero and Span Through BCD Switches**
- ✔ **Direct Replacement of Capacitance System**
- ✔ **Intrinsically Safe and Explosion Proof Rating with 316LSS Sensor, PTFE, Sensors**

The LVU1500-LP Series Two-Wire ("Four-Wire" for four wire unit), non-contact continuous level transmitter, is easy to program, can be used in hazardous locations, and offers unique stainless steel and ¾ NPT sensors. It is a great choice for sanitary, hazardous, dirty, corrosive or high purity processes. The 4 to 20 mA output is compatible with all control systems and updates quickly making the LVU1500 Series the right choice for fast filling processes.

The LVU1500 Series is plug-and-play. Digital signal processing, and automatic temperature compensation eliminates all adjustment except zero and span.

Zero and span calibration is set directly in inches using digital switches and requires no power. The rugged epoxy coated aluminum enclosure survives where plastic enclosures fail.

Operation

The sensor is mounted on the top of the tank. The electronics generate an electronic signal that is converted by the sensor to ultrasonic pulses that are transmitted through air space.

At the liquid/air interface, the pulses are reflected back to the sensor. These echoes are received by the microprocessor in the electronics, which samples the echoes and calculates the level in the tank.

A continous output of 4 to 20 mA (isolated) adjustable in increments of 1"/0.1" over entire span is provided to satisfy a number of applications. Programming is done through a pair of BCD switches.

Specifications
Range: 0.3 to 7.6 m (1 to 25')
Output Accuracy: 0.25% of full scale

Repeatability:
  Four Wire: 3.2 mm ($\frac{1}{8}$") typical
  Loop Power: ± 0.13 mm (± 0.005") typical
Input Power:
  Four Wire: 24 Vdc
  Loop Power: 18 Vdc to 36 Vdc
Two Wire: Loop Power
Output Signal:
  Four Wire: 4 to 20 mA DC (isolated), 2 to 10 Vdc
  Loop Power: 4 to 20 mA DC (isolated)
Lost Echo Indicator:
  Four Wire: LED Flashes
  Two Wire: LED Flashes and output at 22.0 mA
Temperature Compensation: Automatic over full range of sensor operating temperature
Controls: Programmable zero and span, height & distance-mode through BCD switches increments of 25 mm (1") up to 7.6 m (300"), increments of 2.5 mm (0.1") up to 2.5 m (99.9")

SANITARY PROCESS SENSORS

Temperature Range:
  Sensor: -29 to 82°C
  (-20 to 180°F)
  Electronics: -29 to 77°C
  (-20 to 170°F)
Sensor Pressure Rating:
  316L SS: 17.2 bar (100 psig)
  ETFE: 6.9 bar (40 psig)
Sensor Construction:
ETFE or 316 LSS or PTFE
Electronics Enclosures:
  NEMA-4/7 Explosion-Proof:
  Class I, Divisions 1 or 2 Groups
  B, C & D, Class II, Divisions
  1 and 2, Groups E, F & G, Class III
  Cenelec
Mounting: ¾"
  NPT and Sanitary:
  Up to 3 m (10')
  2 NPT: Up to 6 m (20')

LVU1507, $1100, shown smaller than actual size.

LVU1506, $850, shown smaller than actual size.

Recommended Reference Book:
Ultrasonic Fundamentals, Technology,
Applications, **MA-1509, $220**
Visit **omega.com/bobi**
for Additional Books

☐ *MOST POPULAR MODELS HIGHLIGHTED!*

To Order *(Specify Model Number)*

Model No.	Price	Liquid Range m (in)	Sensor Length mm (in)	Sensor	Mounting
Loop Powered					
LVU1501-LP	**$850**	0.15 to 3 (6 to 120)	254 (10)	316L SS	¾ NPT
LVU1502-LP	**1100**	0.15 to 3 (6 to 120)	254 (10)	316L SS	Sanitary 1"
LVU1503-LP	1100	0.15 to 3 (6 to 120)	254 (10)	316L SS	Sanitary 1½"
LVU1504-LP	1350	0.15 to 3 (6 to 120)	50.8 (2)	PTFE	¾ NPT
LVU1505-LP	**1450**	0.15 to 3 (6 to 120)	50.8 (2)	PTFE	Sanitary 1"
LVU1506-LP	850	0.15 to 3 (6 to 120)	25.4 (1)	ETFE	¾ NPT
LVU1507-LP	1100	0.3 to 7.6 (12 to 300)	254 (10)	ETFE	2 NPT
LVU1508-LP	1100	0.3 to 7.6 (12 to 300)	254 (10)	316L SS	2 NPT
4-Wire					
LVU1501	**$850**	0.15 to 3 (6 to 120)	254 (10)	316L SS	¾ NPT
LVU1502	1100	0.15 to 3 (6 to 120)	254 (10)	316L SS	Sanitary 1"
LVU1504	**1350**	0.15 to 3 (6 to 120)	50.8 (2)	PTFE	¾ NPT
LVU1505	1450	0.15 to 3 (6 to 120)	50.8 (2)	PTFE	Sanitary 1"
LVU1506	**850**	0.15 to 3 (6 to 120)	25.4 (1)	ETFE	¾ NPT
LVU1507	1100	0.3 to 7.6 (12 to 300)	254 (10)	ETFE	2 NPT
LVU1508	1100	0.3 to 7.6 (12 to 300)	254 (10)	316L SS	2 NPT

Accessories

Model No.	Price	Description
CNi3233	**$195**	¹⁄₃₂ DIN controller, see page 121 for details
DPi32	150	¹⁄₃₂ DIN panel meter, see page 121 for details
70A-1	20	Continuous tone alarm
PSR-24S	60	24 Vdc regulated power supply, 90 to 264 Vac supply

Comes complete with operator's manual.
***Ordering Examples:** LVU1502-LP, loop powered transmitter with 1" sanitary fitting, $1100.*
***LVU1507**, four wire transmitter with 2 NPT fitting, $1100.*

Radar Level Sensor

**LVRD500 Series
Starts at**
$**1900**

[1 YEAR WARRANTY] CE

✔ **Non-Contact Measurement**
✔ **Continuous Level Measurement**
✔ **Pulse Radar Measurement Range: 0.254 to 30 m (10" to 100')**
✔ **Simple Pushbutton Calibration**
✔ **Communications Standard**

The LVRD500 Series a logical extension to the ultrasonic sensor series, is designed for applications requiring non-contact liquid level measurement, in which ultrasonic level measurement is not acceptable.

The LVRD500 Series radar technology can be adjusted for variables such as materials to be measured, vessel configuration, and system interface. These sensors are ideal when vapor, dust, or a foaming surface prevents ultrasonic-wave measurements.

LVRD500 Series radar sensors can detect the level under a layer of light dust or airy foam, but if the dust particle size increases, or if the foam or dust gets thick, they will no longer detect the liquid level. Instead, the level of the dust or foam will be measured. Internal piping, deposits on the antenna, multiple reflections, or reflections from the wall can interfere with the proper operation of the radar sensor. Other sources of interference are rat-holing and bridging of solids, as well as angled process material surfaces that can reflect the radar beam away from the receiver.

The sensors use improved microwave-pulse technology to track any target material from the tip of the antenna to the bottom of the tank. Their power, pulse widths, and sensitivity depend on the distance of the target from the antenna and the dielectric constant of the reflecting material.

LVRD500 sensors feature "echo marker" signal processing, making them among the most technologically advanced pulse radar systems on the market. This technology provides reliable, continuous pulse shapes unaffected by environmental factors such as temperature, vacuums, methane, steam, pressure, carbon dioxide, vapors, and condensation.

LVRD501-RS232, $1900, shown smaller than actual size.

LVRD501-RS232-S radar level transmitter, $2361, shown smaller than actual size.

The antenna comes in polypropylene or an optional high resistance PTFE that can help protect against material buildup. Simple mounting and push-button calibration make for easy installation. The sensor can be threaded directly into a 2 NPT metal or plastic flange. The tank must have a metal bottom to stop the microwave signal.

HOTLINE 1-877-82-6 6 3 4 2®
TO SANITARY PRODUCTS 1-877-TC-OMEGA
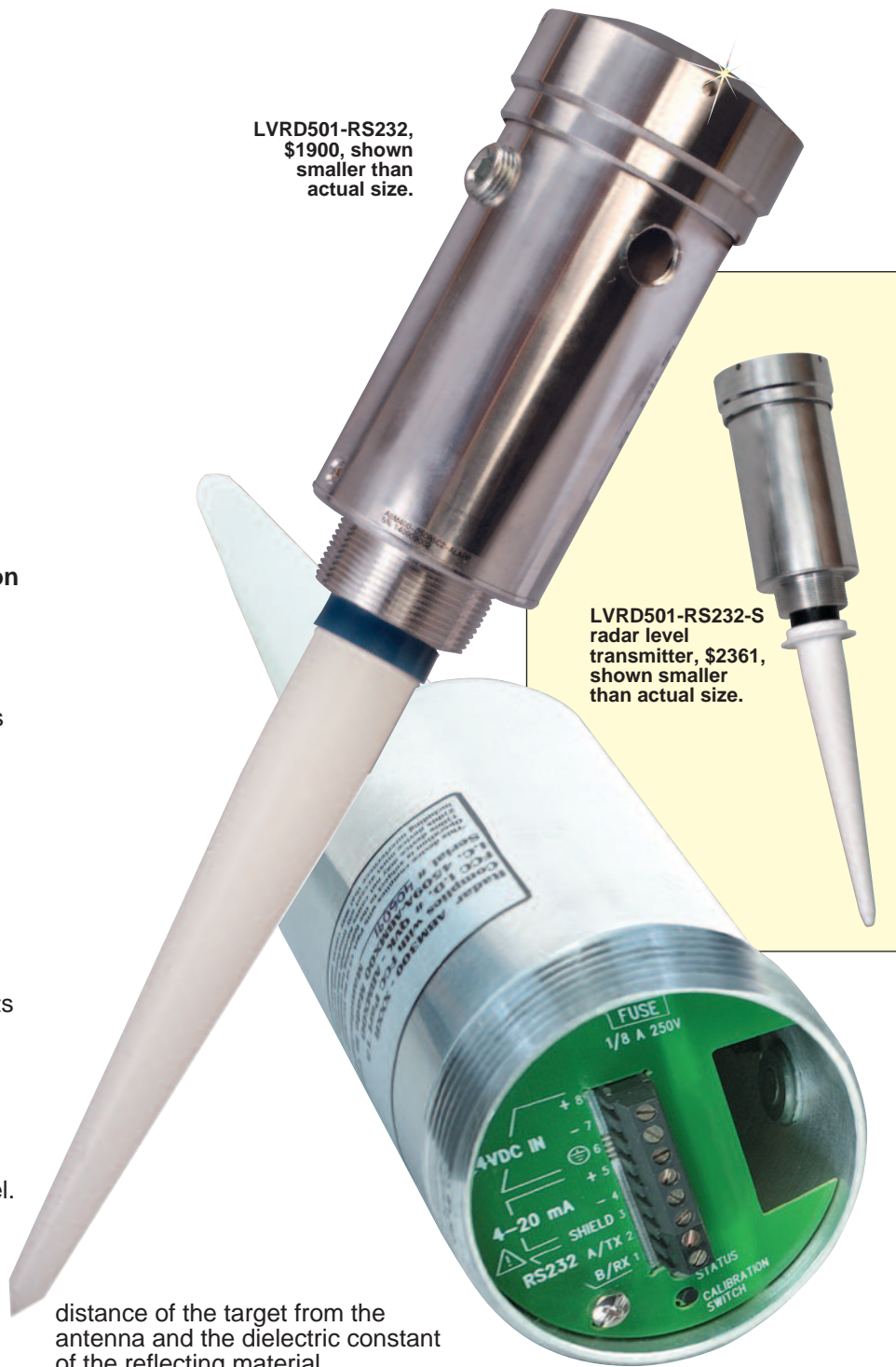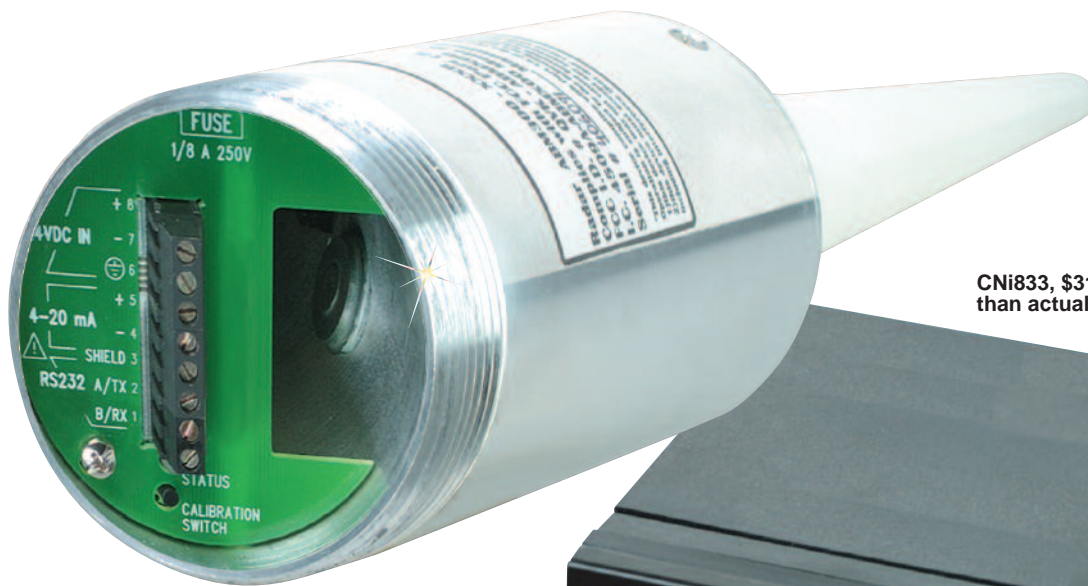
LVRD501-RS232, $1900,
shown smaller than actual size.

CNi833, $310, shown smaller
than actual size, see page 115.

Specifications

Accuracy: ±0.25% of max range (in air)

Power Options:

  AC: 115 Vac, 60 Hz or 230 Vac,
50 Hz (±20%), 1.7 VA (4 wire)

  DC: 12 to 30 Vdc @ 0.07 A max,
24 Vdc (3 wire)

  R load = (Vs–6)/24 mA

Output: 4 to 20 mA, 6.1 µA resolution;
750 Ω (isolated on 4-wire models only);
optional RS232 communications port

Frequency: 5.8 GHz

Loss of Echo Hold: 30 seconds,
22 mA output

Transmitter Power: 50 µW average

Calibration: Pushbutton or optional
programmable

Diagnostics (Echo Profile):
Via optional programmable port

Antenna: Dielectric rod

Operating Temperature Range:
-40 to 60°C (-40 to 140°F)

Installation Category: Class II

Approvals: FCC Part 15—low-power
communication device

Conduit Entry: ½ NPT standard

Mounting: 2 NPT, or optional sanitary
2" Tri-Grip™ (Tri-Clamp® compatible) (-S)

Housing: Aluminum or optional
316 SS

Ingress Protection: NEMA 4 (IP65)

Communications Port: RS232 or RS485

Options: -HT antenna (up to 204°C or
399°F), 316 SS housing (note: -HT
available with PTFE units only)

Dimensions:

Housing: 102 Dia. x 216 mm L (4 x 8.5")

Antenna: Max Dia. 38 x 259 mm L (4 x 8.5")

☐ *MOST POPULAR MODELS HIGHLIGHTED!*

To Order *(Specify Model Number)*

Model No.	Price	Resolution mm (in)	Range m (ft)	Power	Mounting
LVRD501-RS232	**$1900**	5.6 (0.22)	15.24 (50)	DC	2 NPT
LVRD501-RS232-S	2361	5.6 (0.22)	15.24 (50)	DC	2" Tri-Grip
LVRD502-RS232	1900	5.6 (0.22)	15.24 (50)	AC	2 NPT
LVRD502-RS232-S	2383	5.6 (0.22)	15.24 (50)	AC	2" Tri-Grip
LVRD503-RS232	2150	11.2 (0.44)	30.48 (100)	DC	2 NPT
LVRD503-RS232-S	2158	11.2 (0.44)	30.48 (100)	DC	2" Tri-Grip
LVRD504-RS232	2150	11.2 (0.44)	30.48 (100)	AC	2 NPT
LVRD504-RS232-S	2181	11.2 (0.44)	30.48 (100)	AC	2" Tri-Grip

Accessories

Model No.	Price	Description
DPi8	**$240**	⅛ DIN process meter, see page 115
CNi833	310	⅛ DIN controller with relays, see page 115

Comes complete with operator's manual. Windows software included.

*For PTFE antenna, add suffix **"-PTFE"** to model number and **$250** to price.*

*For high temperature PTFE, add suffix **"-HT"** to model number and **$650** to price.*

*For 230 Vac model, add suffix **"-230VAC"** to AC-powered model number, no extra charge.*

*For 316 SS housing, add suffix **"-316SS"** to model number and **$550** to price*

*For units with RS485 communications, change the **RS232** in the part number to **RS485,** no extra charge.*

Ordering Examples: LVRD504-RS232,** 30 m (100') range, AC power with RS232, **$2150.

LVRD501-RS232,** 15 m (50') range, DC power with RS232, **$1900.

> Recommended Reference Book:
> The Consumer Guide to Non-Contact Level Gauges, **FW-205, $250**
> Visit **omega.com/bobi** for Additional Books

Conductive Level Controllers

LVCN4000 Series Starts at

$484

1 YEAR WARRANTY **CE** **RoHS**

- ✔ **Accurate and Reliable Measurement**
- ✔ **Easy Installation**
- ✔ **Rugged Construction**
- ✔ **No Moving Parts**
- ✔ **100 to 2000 mm (0.33 to 6.5') Rod Lengths Available**
- ✔ **Rod Can be Cut in the Field**
- ✔ **ECTFE/ETFE Coating Available**
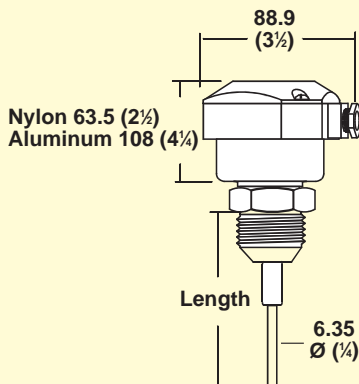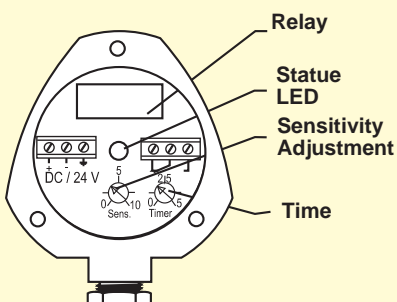
The LVCN4000 Series conductive level switch controllers offer a wide range of customized options to meet any application's need. They are designed to control the level of all conductive media with up to 2 different points of level control.

The LVCN4100 Series has a single rod and is able to control one point of level. The LVCN4200 Series can accommodate up to 2 rods and is able to control 2 points of levels. Both models feature a 24 Vdc power supply and an internal relay that substitutes for an external relay. As with other conductive probes, the rods for these 2 models can be custom-cut and made with any process connection, such as threaded or sanitary. In addition, the electrodes operate on alternating current to prevent electrolyses.

LVCN4151-18, $422, shown smaller than actual size.

Wiring Diagram

88.9 (3½)

Nylon 63.5 (2½)
Aluminum 108 (4¼)

Length

6.35 Ø (¼)

Dimensions: mm (in)
Ø = diameter

Relay

Statue LED

Sensitivity Adjustment

Time

DC / 24 V
Sens.
Timer

Sanitary product line continues to expand, visit **omega.com/sanitary** for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-66342®
1-877-TC-OMEGA
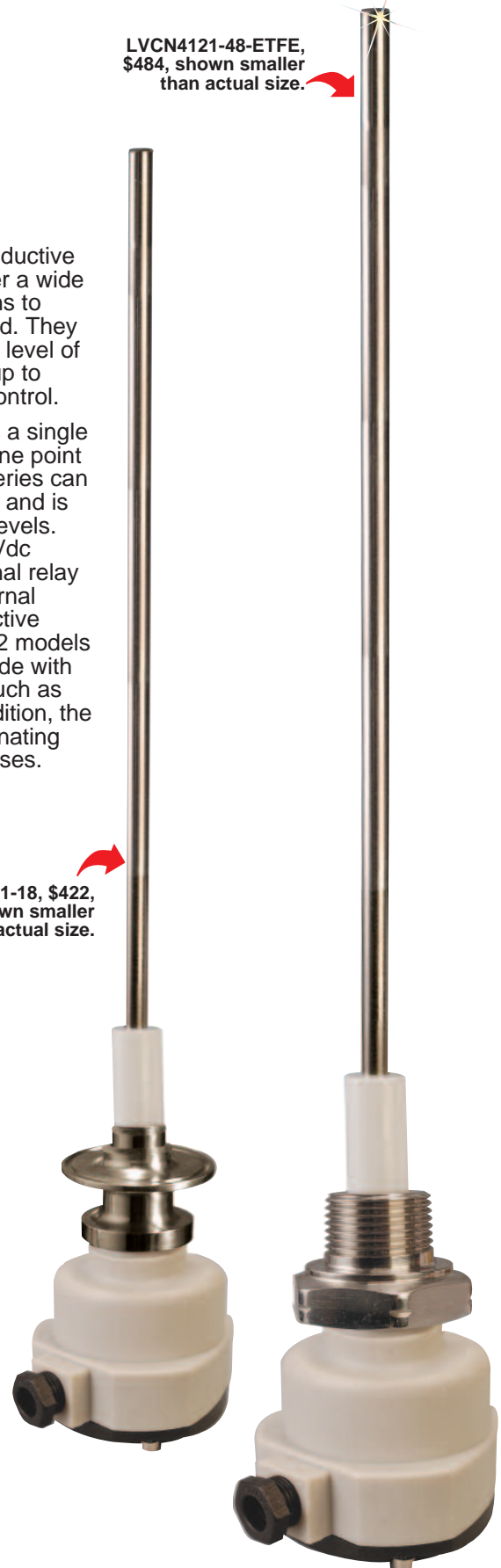
Specifications
Power Supply: 24 Vdc (±10%)
Current Consumption: Max 2 VA
Temperature Range:
316 SS: -10 to 82°C
(-14 to 180°F)
ETFE: -10 to 120°C
(-14 to 248°F)
Max Pressure: 290 psi (20 bar)
Wetted Materials: 316 SS

Enclosure Material: Glass-filled nylon standard, aluminum optional
Electrical Connection: Cable entry and ½ NPT conduit
Process Connection:
½, ¾, 1, 1½ NPT; Tri-Grip™ (Tri-Clamp® compatible) or flange
Output: 5 A SPDT relay (250 Vac max)
Time Delay:
0.1 to 5 seconds nominal

Sensitivity Adjustment:
0.5 to 50 kΩ (potentiometer)
Electrodes: 316 SS
Electrode Length:
100 to 2000 mm (3.9" to 6.5')
Output Voltage of Electrodes:
12 V to 100 Hz
Weight: Approx. 2.7 kg (6 lb) for 1.2 m (4')
Protection Class: NEMA 4 (IP65)

AVAILABLE FOR FAST DELIVERY!

To Order *(Specify Model Number)*

Model No.	Price	Description of Capacitance Transmitter with 4 to 20 mA Output Standard
LVCN4121-48-ETFE	$484	1 rod, ¾ NPT, 48" L, ECTFE/ETFE coated, max temp 120°C (248°F), approx 680 g (1.5 lb)
LVCN4231-36-48-ETFE	706	2 rods, 1 NPT, 36" L rod and 48" L rod, ECTFE/ETFE coated, 120°C (248°F) approx 1.0 kg (2.3 lb)

Custom Models Available*

Model No.	Price	Description
LVCN41(A)(B)-(C)	$222	Custom conductive level controller, single rod, select process connection (A), enclosure (B), and rod length in inches (C)
LVCN42(A)(B)-(C)	252	Custom conductive level controller, dual rod, select process connection (A), enclosure (B), and rod length in inches (C)

* Rods must be coated when using the probes above 82°C (180°F). All conductive applications must have a reference point, such as the metallic tank wall or another rod for non-metallic tanks.

Options

Ordering Suffix	Additional Price	Description
A-Process Connection		
1	N/C	½ NPT thread
2	N/C	¾ NPT thread
3	N/C	1 NPT thread
4	$150	1½ NPT thread
5	150	1.5" Tri-Grip™, sanitary
6	300	2" flange, ANSI, 15016 316 SS
Others	Call for price	Consult Engineering with details
B-Enclosure		
1	$6	Glass-filled nylon with ½ NPT conduit and cable gland
2	84	Aluminum die cast with ½ NPT conduit entry
3	90	Aluminum die cast with cable gland
C-Rod Length		
Specify INCHES	$22/ft/rod	Rod length (in), 96" max
Other Options		
-ETFE	$42/ft	ECTFE/ETFE probe coating

Comes complete with operator's manual.
***Ordering Examples: LVCN4121-48-ETFE,** 1-rod (48") level controller, **PSU-93,** unregulated power supply, **70A-1,** alarm, $484 + 40 + 20 = **$544.**
LVCN4231-36-48-ETFE, 2-rod (36 to 48") level controller, **$706.***

LVCN4000 Series, easy access enclosures give customers quick access to screw block terminals for wiring.

Accessories

Model No.	Price	Description
70A-1	$20	Continuous tone alarm
TX4-100	35	30.5 m (100') spool of 4-conductor wire
PSU-93	40	Unregulated 24 Vdc power supply

Recommended Reference Book: Wastewater Treatment Biological and Chemical Processes, **ES-2253, $159.**
Visit **omega.com/bobi** for Additional Books
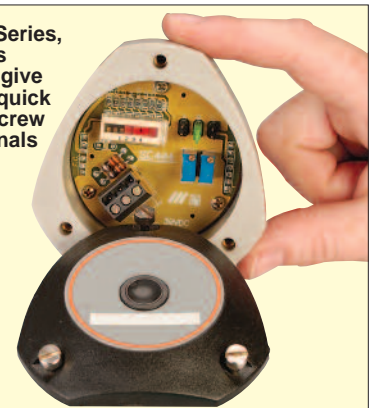
Photoelectric Sensors
The World's Most Rugged and Best Sealed Photoelectric Sensors

E58-30TD250-GD, $362, shown smaller than actual size.

E58 Series Starts at
$266

CE c(UL)us

E58-30TS250-GA, $312, shown smaller than actual size.

- ✔ **Tempered Glass Lens Cover Protects Against Abrasion**
- ✔ **Output Indicator is Visible for Full 360°**
- ✔ **All Models Have Visible Red Beam**
- ✔ **Sensors are Available in 18 and 30 mm (0.71 and 1.30") Diameters**
- ✔ **Highly Refined Optics for Long Sensing Ranges and to See-Through High Levels of Contamination—Unmatched Optical Performance**
- ✔ **Perfect Prox® Technology Provides Exceptional Background Rejection and Extremely High Excess Gain**
- ✔ **Resistant to the Wide Range of Chemicals Used in the Automotive, Manufacturing and Forest Products Industries**
- ✔ **Suitable for High Temperature, High Pressure Washdown 83 bar (1200 psi)**
- ✔ **Mechanical FKM Seals Hold up to Extreme Temperature Variations**
- ✔ **Visible Sensing Beam on All Models, Lets You See Where the Beam is Aimed for Quick Setup and Alignment**
- ✔ **Output Status Indicator is the Brightest Available and is Visible from Any Angle and in Any Lighting Condition**
- ✔ **The Industrys Only Background Rejection Sensors with 2-Wire Circuit Design**
- ✔ **Models Available with Both AC and DC Operation in a Single Unit**

M 18 x 25.4 (1.0) Thread (mm) fits into a 19 (0.75) hole
4 (0.16)
Cable length
40 (1.57)
5.5 (0.22)
23.8 (9.39)
28 (1.09)
80 (3.15)

Dimensions: mm (in)

M 30 x 38.1 (1.5) Thread (mm) fits into a 31.8 (1.25) hole
5 (0.2)
Cable length
22 (0.85)
66 (2.59)
30 (1.18)
1.65 (42)
111 (4.36)
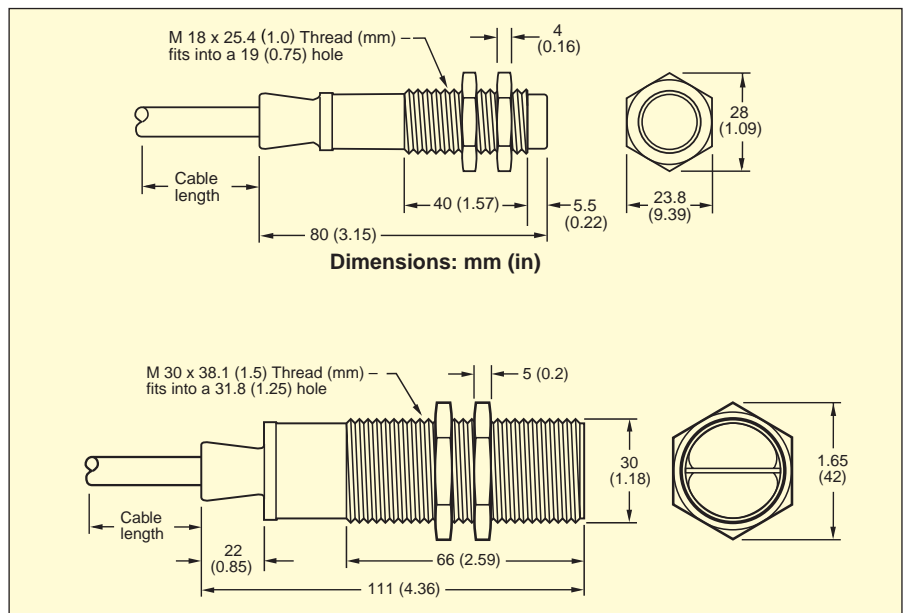
The Cutler-Hammer® E58 Harsh Duty Series by Eaton's electrical business was designed to withstand your harshest physical, chemical and optical environments. Extensive research dictated the choice of materials used in this sensor. Stainless steel, PVDF and tempered glass components are mechanically assembled using FKM seals to ensure complete sealing and resistance to industry chemicals. All adhesives and potting subject to failure from chemical attack have been eliminated from the design. The result is a sensor highly resistant to chemical attack and moisture intrusion, that can withstand heavy shock and vibration in almost any application. E58 harsh duty sensors feature unparalleled optical performance. They are ideal for automotive applications where exposure to lubricants, cutting fluids, coolants and glycols is common.

Specifications
3-WIRE MODELS
Input Voltage: See "To Order" table
Power Dissipation: 3 W maximum
Output Type 3-Wire:
  AC Operation: VMOS (bi-directional)
  DC Operation: NPN (sink)
Current Switching 3-Wire: 300 mA max
Voltage Switching 3-Wire: 186V peak maximum
Off-State Leakage: 250 uA typical 500 uA maximum
Surge Current: 2 A maximum
On-State Voltage Drop:
DC Operation (only):
1.8V @ 10 mA; 4.0V @ 300 mA

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-66342®
1-877-TC-OMEGA

Response Time:
  AC Operation: 10 mS
  DC Operation: 2 mS
Short Circuit Protection:
Sensor will turn off immediately when a short of overload is detected (indicator LED will flash); turn power OFF and back ON to reset; sensor will reset when short is removed
Operation/Storage Temperature:
-40 to 55°C (-40 to 131°F)

2-WIRE MODELS

Input Voltage: See "To Order" table
Power Dissipation: 3 W maximum
Output Type 2-Wire:
  18 mm: DMOS/bipolar
  30 mm: DMOS
Current Switching 2-Wire:
  18 mm: 100 mA
  30 mm: 300 mA
Voltage Switching 2-Wire:
  AC Operation: 186V peak max
  DC Operation: 50 Vdc maximum
Off-State Leakage:
  AC Operation: 1.7 mA maximum
  DC Operation:
      18 mm: 1.7 mA max
      30 mm: 1.5 mA max

Surge Current:
  AC Operation: 1 A AC
  DC Operation: 1 A DC
On-State Voltage Drop:
  AC Operation: 10 Vac rms
  DC Operation:
      18 mm: 10 Vdc
      30 mm: 8 Vdc
Response Time: 35 mS
Short Circuit Protection: Auto reset
Operation/Storage Temperature:
  18 mm: -40 to 70°C (-40 to 158°F)
  30 mm: -25 to 55°C (-10 to 131°F)
COMMON SPECIFICATIONS
Enclosure Materials
Cable Jacket: PVC (poly vinly chloride)
Indicator Ring: PVDF (high density fluorinated polimer)
Seals: FKM (registered trademark of Dupont)
Lens Cover:
  Thru-Beam and Perfect Prox Models: Tempered glass
  Polarized Relex Models: Glass
  Body: 303 SS
Vibration: 30 g over 20 Hz to 2 kHz

Shock:
100 g for 3 mS ½ sinewave pulse
Indicator LED:
  Thru-Beam Source: Lights when power is ON
  All Other Models: Lights steady when output is ON, flashes when short circuit protection is in latched condition (except 2-wire models)
Sunlight Immunity:
  Perfect Prox: 5000 foot-candles
  Others: 10,000 foot-candles
Enclosure Ratings: NEMA 1, 2, 3, 3R, 4, 4X, 6 ,6P, 12, 12K, and 13 (IP65)
Washdown: This product is suitable for high temperature, high pressure washdown 83 bar (1200 psi)
Chemical Resistance: This product was designed to withstand chemicals commonly used in automotive, machine tool, food processing, and forest industries

Thru-Beam and Reflex Sensors, 3-Wire Sensors

AVAILABLE FOR FAST DELIVERY!

To Order *(Specify Model Number)*

Size/Type	Model No.	Price	Operating Voltage	Sensing Range	Optimum Range	Field of View	Thru-Beam Component	Conn. Type	Light Operate	Dark Operate
30 mm Thru-Beam	**E58-30TS250-GA**	$312	20 to 132 Vac 50/60 Hz or 15 to 30 Vdc	250 m (800')	0.03 to 90 m (0.1 to 300')	830 mm (33") Dia. @ 7.6 m (25')	Source	2 m Cable	Y	Y
30 mm Thru-Beam	**E58-30TD250-GD**	362	20 to 132 Vac 50/60 Hz or 15 to 30 Vdc	250 m (800')	0.03 to 90 m (0.1 to 300')	830 mm (33") Dia. @ 7.6 m (25')	Detector	2 m Cable	N	Y
30 mm Polarized Reflex	**E58-30RP10-GD**	394	20 to 132 Vac 50/60 Hz or 15 to 30 Vdc	10 m (34')	0.03 to 6 m (0.1 to 20')	150 mm (6") Dia. @ 6 m (20')	—	2 m Cable	N	Y

Ordering Example: E58-30RP10-GD, 30 mm polarized reflex sensor with 2 m cable, $394.

Perfect Prox® Background Rejection Sensors, 2-Wire Sensors

Size/Type	Model No.	Price	Operating Voltage	Nominal Range[1]	Optimum Range	Cut Off Range[2]	Field Of View	Conn. Type	Light Operate	Dark Operate
18 mm Perfect Prox	**E58-18DP100-EL**	$266	90 to 132 Vac 50/60 Hz or 18 to 50 Vdc	100 mm (4")	13 to 76 mm (0.5 to 3")	127 mm (5") and beyond	10 mm (0.38") Dia. @ 100 mm (4")	2 m Cable	Y	N
30 mm Perfect Prox	**E58-30DPS280-EL**	362	90 to 132 Vac 50/60 Hz or 18 to 50 Vdc	280 mm (11")	28 to 228 mm (1 to 9")	318 mm (12.5")	26 mm (1") Dia. @ 280 mm (11")	2 m Cable	Y	N

[1] Sensor will detect 90% reflectance card at this range.

[2] Sensor will ignore 90% reflectance card at this range.

Ordering Example: E58-18DP100-EL, 18 mm diameter perfect prox reflex with 2 m cable, $266.

Accessories

Model No.	Price	Description
E57KM18	$9.90	Bracket for 18 mm (0.71") tubular sensors
E58KAM18B	20.75	Bracket, adjustable ball swivel for 18 mm (0.71") tubular sensors
E57KM30	13.00	Bracket for 30 mm (1.30") tubular sensors
6200A-6504	6.00	Reflector, 32 mm (1.25") diameter with adhesive back, 2 to 3 K reflectivity
6200A-6505	6.50	Reflector, 55 mm (2.18") diameter with mounting hole, 2 to 3 K reflectivity
E51KR84	7.60	Reflector, 76 mm (3") diameter with mounting hole, 10 K reflectivity

NEW

Inductive Proximity Sensor
iProx™ Our Highest Performance Sensor
12, 18 and 30 mm Diameter

E59 Series Starts at
$67

c **UL** us

E59-M12C110C02-D1, $67, shown actual size.

- ✔ Available in AC 2-Wire, DC 3-Wire
- ✔ Reliably Detects Metal Targets at Up to 3 Times the Range of Conventional Shielded or Unshielded Tubular Inductive Sensors
- ✔ Quality Construction Using a Stainless Steel Barrel, 360° Dual-Color LED Indicator, Ryton® Impact-Resistant Face Cap and Vibration Absorbing Potting Compound
- ✔ Auto-Configuration Technology Automatically Detects a Sinking (NPN) or Sourcing (PNP) Connection and Switches the Sensor Accordingly, Without any User Intervention
- ✔ Highly Visible Dual Color Output Status LED
- ✔ Withstands High Electrical Noise (Up to 20 V/m)
- ✔ Resistant to Extreme Temperatures (-40°C)

Typical Applications

- ✔ Automotive
- ✔ Machine Tool
- ✔ Material Handling
- ✔ Metalworking

The Cutler-Hammer® iProx represents the highest performance, most versatile tubular inductive sensor offered by Omega®. By utilizing an embedded microprocessor and exclusive SmartSense™ technology, iProx can sense up to three times farther than typical sensors of its class. Both shielded and unshielded versions of iProx feature extended sensing ranges. This allows the sensor to be mounted farther from the target, thereby reducing the potential for target impacts and increasing the sensing reliability of your application. With extended sensing range, quality construction and the ability to automatically configure its output for sinking or sourcing connection, iProx is the ideal choice for even the most demanding inductive sensing applications.

E59-M30A115C02-D1, $83, shown actual size.

Specifications
2-WIRE SENSORS

Input Voltage: 20 to 132 Vac
Load Current: 12 mm: 5 to 300 mA; 200 mA >50°C
Leakage Current: ≤1.7 mA @ 0°C, 2.0 mA @ -40°C
Voltage Drop: <5 Vac
Protection: None
Switching Hysteresis: <15% rated sensing distance repeat accuracy
  Shielded Models:
  <1% sensing distance
  Unshielded Models:
  <3% sensing distance
Surge Capacity: 3A/30 ms

Temperature Range: -40 to 70°C (-40 to 158°F)
Material of Construction: 303 SS; End bells: Polycarbonate; Face caps: Ryton®; Cable: AWM Style 20387 (PVC)
Vibration and Shock Vibration: 10 to 55 Hz, 1 mm Amplitude, IEC 60068-2-6; Shock: 30g, 11 mS per IEC 68-2-27
Indicator LED: 360° viewable LED
Enclosure Ratings: NEMA 4, 4X, 6, 6P, 12 and 13 (IP67)
Response Time 2-Wire Sensors:
Factory Default Mode: Shipped in "side by side mode" by default (20 V/m)
Side by Side: 30 Hz (10 V/m)
High Noise Immunity Mode: 10 Hz (>20 V/m)

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-6 6 342® 1-877-TC-OMEGA

NEW®

3-WIRE SENSORS
Input Voltage: AC 6 to 48 Vdc
Load Current: ≤500 mA @ 6 to 30 Vdc; ≤300 mA @ 32 to 48 Vdc
Leakage Current: ≤150 µA
Voltage Drop: ≤2.5 Vdc
Burden Current: ≤15 mA
Protection: Auto Reset
Switching Hysteresis:
<15% rated sensing distance
Repeat Accuracy:
  Shielded Models:
  <1% sensing distance
  Unshielded Models:
  < 3% sensing distance

Temperature Range: -40 to 70°C (-40 to 158°F)
Material of Construction: 303 SS;
End bells: Polycarbonate;
  Face caps: Ryton®; Cable: AWM Style 20387 (PVC)
Vibration and Shock Vibration:
10 to 55Hz, 1 mm Amplitude, IEC 60068-2-6; Shock: 30g, 11 mS per IEC 68-2-27
Indicator LED: 360° viewable LED
Enclosure Ratings: NEMA 4, 4X, 6, 6P, 12 and 13 (IP67)

Response Time 3-Wire Sensors:
 Factory Default Mode:
 Shielded:
  12 mm: 580 Hz (10 V/m)
  18 mm: 390 Hz (10 V/m)
  30 mm: 240 Hz (10 V/m)
 Unshielded:
  12 mm: 300 Hz (10 V/m)
  18 mm: 150 Hz (10 V/m)
  30 mm: 145 Hz (10 V/m)
 Side by Side: 50 Hz (20 V/m)
 High Noise Immunity Mode:
 10 Hz (>20 V/m)

Cable Models

Size	Shielding	A	B	C	D
12 mm	Shielded	62.4 (2.46)	50.3 (1.98)	0.5 (0.02)	17 (0.67)
	Unshielded	62.4 (2.46)	41.6 (1.64)	9.0 (0.36)	17 (0.67)
18 mm	Shielded	64.5 (2.54)	50.9 (2.00)	0.5 (0.02)	24 (0.94)
	Unshielded	64.5 (2.54)	37.4 (1.47)	14 (0.55)	24 (0.94)
30 mm	Shielded	69.6 (2.74)	54.1 (2.13)	0.75 (0.03)	36 (1.41)
	Unshielded	69.6 (2.74)	35.8 (1.41)	19 (0.75)	36 (1.41)

MOST POPULAR MODELS HIGHLIGHTED!

To Order *(Specify Model Number)*
iPROX™ Inductive Proximity Sensors

Type	Model No.	Price	Operating Voltage	Sensing Range (std range) mm (in)	Shielding	Connection Type m (ft)
2-Wire Sensors						
12 mm Dia NO Output	E59-M12A105C02-A1	$93	20 to 132 Vac 50/60 Hz	4 (0.15)	Shielded	2 (6) cable
	E59-M12C110C02-A1	93		10 (0.4)	Unshielded	2 (6) cable
18 mm Dia NO Output	E59-M18A109C02-A1	95		8 (0.3)	Shielded	2 (6) cable
	E59-M18C118C02-A1	95		18 (0.7)	Unshielded	2 (6) cable
30 mm Dia NO Output	E59-M30A115C02-A1	98		15 (0.6)	Shielded	2 (6) cable
	E59-M30C129C02-A1	98		29 (1.1)	Unshielded	2 (6) cable
3-Wire Sensors						
12 mm Dia NO Output	E59-M12A105C02-D1	$67	6 to 48 Vdc	4 (0.15)	Shielded	2 (6) cable
	E59-M12C110C02-D1	67		10 (0.4)	Unshielded	2 (6) cable
18 mm Dia NO Output	E59-M18A108C02-D1	102		8 (0.3)	Shielded	2 (6) cable
	E59-M18C116C02-D1	75		18 (0.7)	Unshielded	2 (6) cable
30 mm Dia NO Output	E59-M30A115C02-D1	83		29 (1.1)	Unshielded	2 (6) cable
	E59-M30C129C02-D1	83		29 (1.1)	Unshielded	2 (6) cable

Ordering Examples: E59-M18A109C02-A1, iProx sensor, 18 mm diameter, 8 mm sensing range, shielded with 2 m (6') cable, $95.
E59-M12A105C02-D1, iProx sensor, 12 mm diameter, 4 mm sensing range, shielded with 2 m (6') cable, $67.

Accessories

Model No.	Price	Description
E57KM12	$9.90	Bracket for 12 mm tubular sensors
E57KM18	9.90	Bracket for 18 mm tubular sensors
E58KAM18B	20.75	Bracket, adjustable ball swivel for 18 mm tubular sensors
E57KM30	13.00	Bracket for 30 mm tubular sensors

E58KAM18B, bracket, $20.75, shown smaller than actual size.

PLC/HMI Controllers*
Low-Cost Compact "All-in-One" Graphical OCS
*Operator Control Stations

HE-XL102, $1550, shown smaller than actual size.

OCS XL Series Starts at
$445

MADE IN USA | 1 YEAR WARRANTY | CE | UL

✔ **More Compact and Affordable than Separate PLC and Operator Interface**
✔ **Best of Class Graphics Display for Better Process Visualization and Machine Indication**
✔ **Built-In I/O with Removable Terminal Blocks for Easy Wiring**
✔ **Removable Mass Data Storage (MicroSD™)**
✔ **Two Serial Ports and Downloadable Protocol**
✔ **Ethernet and Telephone Modem Options Cards for Plant and Remote Connectivity**

Introducing the XL Series Operator Control Station (OCS), an "all-in-one" controller, small enough to fit in the palm of your hand (only 3.75" square). More than just a PLC these devices include a Graphical Operator Interface (HMI), built-in I/O, networking and removable mass data storage. OCS is a robust, reliable control product that combines a traditional controller (programmed with ladder logic) with an operator interface, I/O and networking into an integrated, all-in-one unit using a single industry-recognized software package called Cscape™.

HE-XT102, $775, shown smaller than actual size.

HE-XE102, $445, shown smaller than actual size.

First with Removable MicroSD™ Memory
The XL Series is the first industrial product to include support for the latest standard in removable mass storage. Available in densities ranging from 128 MB to 2 GB, this dime-sized memory is ideal for storing process data, machine recipes, and application files. Users can easily update the application program through this memory device—allowing logic and screen updates to be made in a single step with transportable media.

Built-In I/O and Networking
OCS models with built-in I/O include digital, analog and high speed I/O. For machine control, the high speed I/O can provide totalizing, frequency measurement, PWM generation and pulse outputs. The available universal analog I/O is ideal for process control applications using thermocouple, RTD, 4 to 20 mA, ±100 mV, and 0 to 10V signals. Field installable communications options include an Ethernet card which makes machine data accessible at a plant-wide or world-wide basis. An internal 57.6k telephone modem card is also available.

Applications
As a compact, powerful controller, the XL Series can be used in literally thousands of applications. From OEM machine control to machine monitoring in a plant environment, the XL Series can be instrumental in keeping your automation activities running smoothly.

Temperature Control
With built-in RTD and thermocouple available, along with auto-tune PID, the XL series can perform advanced temperature control and much more on any machine.

Packaging
The XL series compact size, affordable price and fast response make it a natural for packaging machinery of all types.

Agriculture
A small rugged package, 12 Vdc compatibility, and removable mass storage are ideal for the agricultural environment.

Water Treatment
The XL Series offers the perfect I/O mix, size and communications capability for pump control, tank monitoring and remote telemetry in general.

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-66342® 1-877-TC-OMEGA®

CONTROL/DISPLAY

XLe Series OCS: All models have a PLC, operator interface, networking and I/O built-in. Controller has 256 KB of application memory and 1.2 mS/K logic scan.

Operator interface features a 128 x 64 graphical display and 20-key keypad with function key and numeric entry capability.

To Order *(Specify Model Number)*

Model No.	Price	Description
HE-XE102	$445	DC/relay I/O: 12 DC inputs (4 HSC); 6 relay outputs (3A); 4 analog Inputs (0 to 10V, 4 to 20 mA, selectable)
HE-XE103	515	DC/DC I/O: 12 DC inputs (4 HSC); 12 DC outputs (2 PWM/pulse); 2 analog inputs (0 to 10V, 4 to 20 mA, selectable)
HE-XE104	575	DC/DC I/O: 24 DC Inputs (4 HSC); 16 DC Outputs (2 PWM/pulse); 2 analog inputs (0 to 10V, 4 to 20 mA, selectable)
HE-XE105	685	DC/DC and universal analog I/O: 12 DC inputs (4 HSC); 12 DC outputs (2 PWM/pulse); 2 universal analog inputs (RTD, thermocouple, 0 to 100 mV, 0 to 10V, 4 to 20 mA, selectable); 2 analog outputs (0 to 10V, 4 to 20 mA, selectable)

Ordering Example: HE-XE102 XLe-series OCS with DC/relay I/O, $445, HE-CSP100-4 software package with documentation and symbol library with 4000 plus symbols, including 9-pin and RJ-45 programming cables, $59, $445 + 70 = $515.

XLt Series OCS: All models have a PLC, operator interface, networking and I/O built-in. Controller has 256 KB of application memory and 1.2 mS/K logic scan.

Operator interface features a 160 x 128 sunlight readable graphics display via a high resolution resistive touch screen, 4 function keys and a system key.

Model No.	Price	Description
HE-XT102	$775	DC/relay I/O: 12 DC inputs (4 HSC); 6 relay outputs (3A); 4 analog inputs (0 to 10V, 4 to 20 mA, selectable)
HE-XT103	840	DC/DC I/O: 12 DC inputs (4 HSC); 12 DC outputs (2 PWM/pulse); 2 analog inputs (0 to 10V, 4 to 20 mA, selectable)
HE-XT104	900	DC/DC I/O: 24 DC inputs (4 HSC); 16 DC outputs (2 PWM/pulse); 2 analog inputs (0 to 10V, 4 to 20 mA, selectable)
HE-XT105	1000	DC/DC and universal analog I/O: 12 DC inputs (4 HSC); 12 DC outputs (2 PWM/pulse); 2 universal analog inputs (RTD, thermocouple, 0 to 100 mV, 0 to 10V, 4 to 20 mA, selectable); 2 analog outputs (0 to 10V, 4 to 20 mA, selectable)

XL6 Series OCS: 5.7" TFT color touchscreen with PLC, networking and I/O built-in. Controller has 256 KB of application memory and 0.2 mS/K logic scan.

Operator interface features a 320 x 240 sunlight readable graphics display via a high resolution resistive touch screen, 5 function keys and a system key.

Model No.	Price	Description
HE-XL100	$1290	No local I/O; requires expansion I/O modules
HE-XL102	1550	DC/relay I/O: 12 DC inputs (4 HSC); 6 relay outputs (3A); 4 analog inputs (0 to 10V, 4 to 20 mA, selectable)
HE-XL103	1615	DC/DC I/O: 12 DC inputs (4 HSC); 12 DC outputs (2 PWM/pulse); 2 analog inputs (0 to 10V, 4 to 20 mA, selectable)
HE-XL104	1680	DC/DC I/O: 24 DC inputs (4 HSC); 16 DC outputs (2 PWM/pulse); 2 analog inputs (0 to 10V, 4 to 20 mA, selectable)
HE-XL105	1785	DC/DC and universal analog I/O: 12 DC inputs (4 HSC); 12 DC outputs (2 PWM/pulse); 2 universal analog inputs (RTD, thermocouple, 0 to 100 mV, 0 to 10V, 4 to 20 mA, selectable); 2 analog outputs (0 to 10V, 4 to 20 mA, selectable)

XL Series Communication Options

Model No.	Price	Description
HE-XEC	$255	10/100 ethernet option kit, field installable
HE-XMC	250	57.6k telephone modem option kit, field installable
HE-XRC9	385	900 MHz RF modem interface

XL Series Accessories

Model No.	Price	Description
HE-CSP100-4	$70	Cscape software package; includes CD, OCS programming cable, documentation and symbol library with 4000 plus symbols
HE500CBL300	45	OCS programming cable, 9-pin female (PC) to RJ-45 (OCS), 1.8 m (6')
HE500USB600	97	USB to RS232 adaptor cable, 1.8 m (6'); HE500CBL300 prog. cable sold separately
HE-MC1	50	Removable memory card, compatible with XL Series; card capacity is 256MB
HE-MR1	28	Memory card reader for HE-MC1; portable device allows HE-MC1 to be plugged into the USB port of personal computers as a portable hard drive
ELC-PS01	36	DIN rail power supply, 24V, 1 A
ELC-PS02	72	DIN rail power supply, 24V, 2 A

Transit-Time Ultrasonic Flowmeter

FDT-30 Series
Starts at
$1277
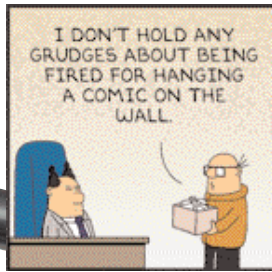
TRANSIT TIME FLOW METER

64.97
GAL/MIN

OMEGA

MADE IN
USA

See Page 89

ElectroMagnetic Flowmeter
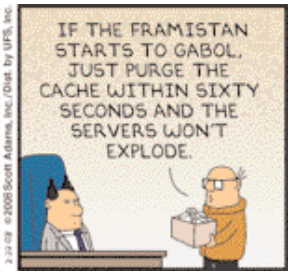
FMG600 Series
Starts at
$3450

See Page 97
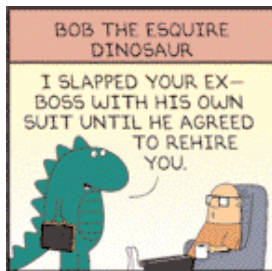
Radar Level Sensor

LVRD500 Series
Starts at
$1900

See Page 101
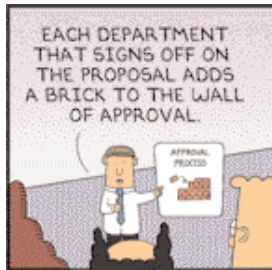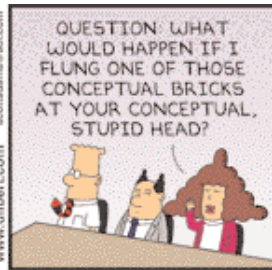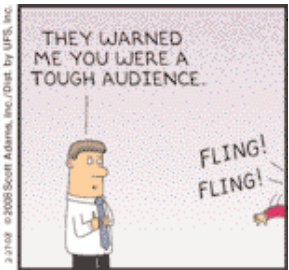
Dilbert © United Feature Syndicate

Web-Enabled Operator Interface
3 to 10" Displays

G303 Series Starts at

$599

✔ **Up to 5 RS232/422/485 Communications Ports**
✔ **Built-in Ethernet Port to Network Units and Host Web Pages**
✔ **USB Port: Download Configuration from PC or Transfer Data to PC**
✔ **CompactFlash® Socket to Increase Memory Capacity**
✔ **Keypad for On-Screen Menus**
✔ **Keypad for Data Entry (G303 Series)**
✔ **Power Unit From 24 Vdc Supply**
✔ **Resistive Analog Touchscreen (All Models Except G303)**
✔ **For Use in Hazardous Locations: Class I, Division 2, Groups A, B, C, and D; Class II, Division 2, Groups F and G; Class III, Division 2**

The G303 Series operator interface terminals combine unique capabilities normally expected from high-end units with a very affordable price. The G303 Series is able to communicate with many different types of hardware using high-speed RS232/422/485 communications ports and Ethernet 10Base-T/ 100Base-TX communications. In addition, the G303 features USB for fast downloads of configuration files and access to trending and data logging. A CompactFlash socket is provided so that Flash cards can be used to collect your trending and data logging information as well as to store larger configuration files. In addition to accessing and controlling of external resources, the G303 Series allows a user to easily view and enter information. The unit uses a Liquid Crystal Display (LCD) module, which is easily readable in both indoor and outdoor applications. Users can enter data through the front panel 32-button keypad (G303) that has user identifiable keys. Other models allow data entry through the touchscreen and/or front panel keypad.
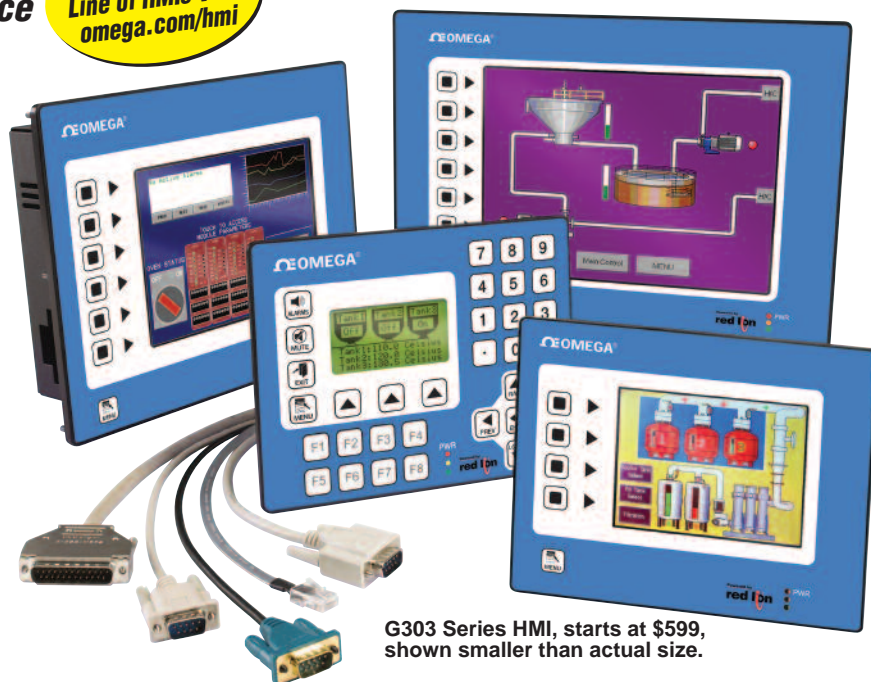
G303 Series HMI, starts at $599, shown smaller than actual size.

MOST POPULAR MODELS HIGHLIGHTED!

To Order *(Specify Model Number)*

Model No.	Price	Description
G303M000	$599	3.2" operator interface, LCD 128 x 64 pixels, indoor use
G303S000	649	3.2" operator interface, LCD 128 x 64 pixels, outdoor use
G306C000	999	5.7" operator interface LCD, DSTN, indoor, 5-button keypad
G306A000	1299	5.7" operator interface LCD, TFT, indoor, QVGA, 5-button keypad
G308C000	1499	7.7" operator interface LCD, DSTN, 640 x 480, indoor, 7-button keypad
G308A000	1999	8.4" operator interface LCD, TFT, 640 x 480, indoor, 7-button keypad
G310C000	2399	10.4" operator interface LCD, TFT, indoor, 8-button keypad
G310S000	2599	10.4" operator interface LCD, TFT, outdoor, 8-button keypad

Ordering Example: G303M000, 3.2" web enabled operator interface, SFCRM200, Crimson programming software, manual and USB cable, $599 + 62 = $661.

Accessories

Model No.	Price	Description
G3CF064M	$90	64 MB compact flash card (industrial grade)
G3CF256M	235	256 MB compact flash card (industrial grade)
G3CF512M	368	512 MB compact flash card (industrial grade)
SFCRM200	62	Crimson programming software, manual and USB cable
PSDR0100	129	DIN rail power supply, 24 Vdc, 1 A (recommended for G30303/G30306)
PSDR0200	159	DIN rail power supply, 24 Vdc, 2 A (recommended for G308)
PSDR0400	199	DIN rail power supply, 24 Vdc, 4 A (recommended for G310)
CBLPROG0	41	RS232 programming cable
CBLUSB00	26	USB programming cable (included with SFCRM200)
G3RS0000	131	Two port RS232/485 (isolated) option card
G3PBDP00	395	Profibus option card
G3DN0000	395	DeviceNet option card
G3CN0000	135	CANopen option card

Ordering Example: G303RS0000, two port RS232/485 (isolated) option card, $131.

Operator Interfaces/HMIs

HMI Series Starts at
$350

For Complete Details Visit omega.com/ hmi_04-10
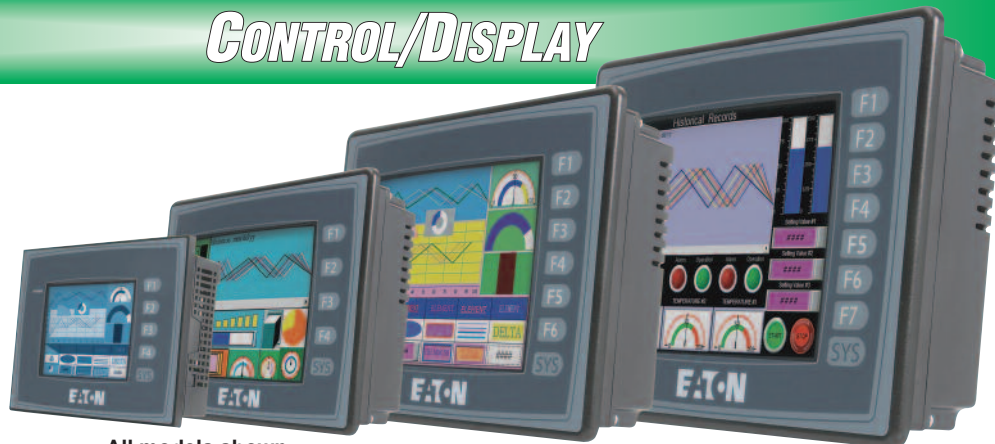
All models shown smaller than actual size.

MOST POPULAR MODELS HIGHLIGHTED!

- ✔ **4 to 10" Displays**
- ✔ **True Analog Touchscreen**
- ✔ **Retentive Internal Data Storage**
- ✔ **Real TimeTrending/Stored Data Trending**
- ✔ **Alarming, Alarm Storage, Alarm Frequency**
- ✔ **Event Storage (History)**
- ✔ **USB Programming, Memory Storage, Printer**
- ✔ **Recipe Storage**
- ✔ **On-Line/Off-Line Simulation**
- ✔ **I/O Expansion Slot (Except 4" Models)**
- ✔ **10-Level Password Protection**

To Order *(Specify Model Number)*

Model No.	Price	Description
HMI04BU	$350	HMI 4" blue mode touchscreen
HMI06BE	480	HMI 6" blue mode touchscreen with expansion slot
HMI06CE	765	HMI 6" color mode touchscreen with expansion slot
HMI08CE	1300	HMI 8" color mode touchscreen with expansion slot
HMI10CE	2010	HMI 10" color mode touchscreen with expansion slot

Accessories

Model No.	Price	Description
HMISOFT	$130	HMI programming software
OMG-CA179	8	USB programming cable
ELC-CBPCELC1	25	HMI-to-PLC communication cable, 1 m (3.3') length
ELC-CBPCELC3	28	HMI-to-PLC communication cable, 3 m (9.8') length
HMIEC0806	182	I/O module, 8 digital inputs, 6 relay outputs (for all 6, 8, and 10" models)
HMIEC1612	295	I/O module, 16 digital inputs, 12 relay outputs (for all 6, 8, and 10" models)

Ordering Example: HMI04BU, HMI 4" blue mode touchscreen, $350.

GP Series Starts at
$184

For Complete Details Visit omega.com/ elc_gp

ELC-GP02, $184, shown smaller than actual size.

- ✔ **10 Programmable Function Keys**
- ✔ **Two Serial Ports (RS232/RS485)**
- ✔ **Supports: Eaton D50/D32LT, D320, ELC**
- ✔ **MODBUS® ASCII/RTU**
- ✔ **Allen Bradley DF1**
- ✔ **Mitsubishi FX, FX2N Series**
- ✔ **OMRON C-Series**
- ✔ **Siemens 57-200 Series**
- ✔ **Koyo K-Sequence**
- ✔ **LG 200S**
- ✔ **ASCII Slave Mode and More!**

To Order *(Specify Model Number)*

Model No.	Price	Description
ELC-GP02	$184	Graphics panel, 160 x 32 pixels, 10 function keys, monochrome
ELC-GP04	242	Graphics panel, 128 x 64 pixels, 10 function keys, monochrome

Accessories

Model No.	Price	Description
ELC-CBPCELC3	$28	Cable to connect ELC-GP to an ELC controller or PC, 3 m (9.8')
ELCSOFTGP	110	Programming software for GP units

Ordering Examples: ELC-GP04, graphics panel, 128 x 64 pixels, $242.
ELCSOFTGP, programming software, ELC-CBPCELC3, cable, $110 + 28 = $138.

Sanitary product line continues to expand, visit **omega.com/sanitary** for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-6 6 342®
1-877-TC-OMEGA
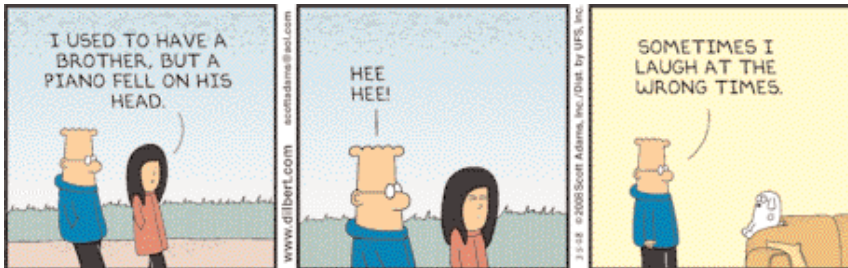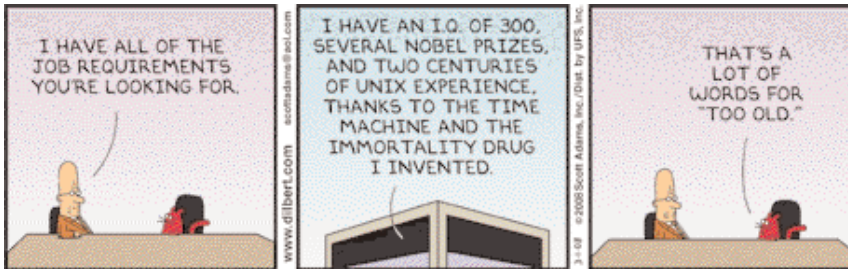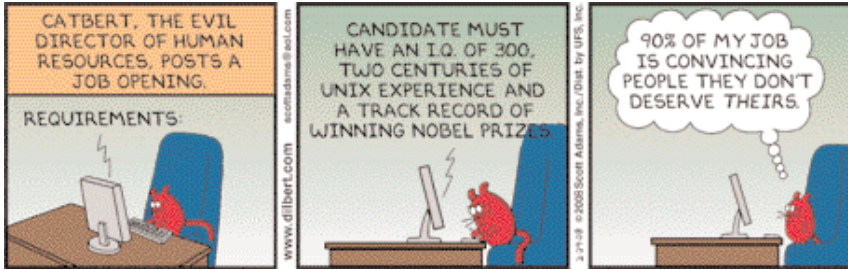
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Photoelectric Sensors
The World's Most Rugged and Best Sealed Photoelectric Sensors

E58 Series Starts at $266

See Page 105

PLC/HMI Controllers*
Low-Cost Compact "All-in-One" Graphical OCS
Operator Control Stations

OCS XL Series Starts at $445

See Page 109

MADE IN USA

Web-Enabled Operator Interface
3 to 10" Displays

G303 Series Starts at $599

See Page 112

For Sales and Service, Call Toll-Free: **1-800-82-66342®**
1-800-TC-OMEGA
U.S.A. and Canada

Sales: FAX (Toll-Free)
1-877-FAX-OMEG(A)
24 HOURS

114

⅛ DIN Temperature, Process, Strain Meters and PID Controllers

i/8 iSeries OE MONOGRAM

DPi8 Meter Starts at

$240

MADE IN USA | 5 YEAR WARRANTY | CE | c(UL)us

CNi8 Controller Starts at

$310

✔ **High Quality**
✔ **5-Year Warranty**
✔ **High Accuracy ±0.5°C (0.9°F), 0.03% Reading**
✔ **User-Friendly, Simple to Configure**
✔ **Free Software**
✔ **Full Autotune PID Control**
✔ **Universal Inputs: Thermocouple, RTD, Process Voltage/Current, Strain**
✔ **Totally Programmable Color Displays, Standard**
✔ **Built-In Excitation, Standard**
✔ **2 Control or Alarm Outputs, Choice of dc Pulse, Mechanical Relays, Analog Voltage and Current**
✔ **Front Removable**

The OMEGA® DPi8/CNi8 is a ⅛ DIN size (96 x 48 mm) Digital Panel Meter featuring the big iSeries color-changing display. The digits are twice the size of typical ⅛ DIN panel meters. The iSeries meters feature the only LED displays that can be programmed to change color between **GREEN**, **AMBER**, and **RED** at any set point or alarm point.

The "DPi8/CNi8" model is available as an extremely accurate programmable digital panel meter with no outputs or with dual outputs for controlling or alarming functions. Other options include isolated programmable analog output, serial communications, MODBUS® and Ethernet. The user can easily program the DPi8/CNi8 for any control or alarming requirement from simple on-off to full autotune PID with a choice of Form C SPDT relays, Solid State Relays, DC pulse, and Analog (voltage and current) outputs.

Fully Isolated Analog Output for retransmission of the process value is available in addition to the control and alarm relays (specify model CNi8A33).

The DPi8/CNi8 covers a broad selection of transducer and transmitter inputs with two input models:

The UNIVERSAL TEMPERATURE & PROCESS instrument (model "i") handles ten common types of thermocouples, multiple RTD's, and

several Process (DC) Voltage and Current ranges.

This model also features built-in excitation, 24 Vdc @ 25 mA. With it's wide choice of signal inputs, this model is an excellent choice for measuring or controlling temperature with a thermocouple, RTD, or 4-20 mA transmitter.

The STRAIN & PROCESS instrument (model "iS") measures inputs from Load Cells, Pressure Transducers, and most any strain gauge sensor as well as Process Voltage and Current ranges.

The "iS" has built-in 5 or 10 Vdc excitation for bridge transducers, 5 Vdc @ 40 mA or 10 Vdc @ 60 mA. (Any excitation voltage between 5 and 24 Vdc is available by special order). This "iS" model supports 4 and 6 wire bridge configurations, ratiometric and non-ratiometric measurements. The "iS" features fast and easy "in process" calibration/scaling of the signal inputs to any engineering units. This model also features 10 Point Linearization which allows the user to linearize the signal input from extremely nonlinear transducers of all kinds.

	Input Type	Range	Accuracy
Universal Temperature / Process			
J	Iron-Constantan	-210 to 760°C / -346 to 1400°F	0.4°C / 0.7°F
K	CHROMEGA®-ALOMEGA®	-270 to -160°C / -160 to 1372°C -454 to -256°F / -256 to 2502°F	1.0°C / 0.4°C 1.8°F / 0.7°F
T	Copper-Constantan	-270 to -190°C / -190 to 400°C -454 to -310°F / -310 to 752°F	1.0°C / 0.4°C 1.8°F / 0.7°F
E	CHROMEGA®-Constantan	-270 to -220°C / -220 to 1000°C -454 to -364°F / -364 to 1832°F	1.0°C / 0.4°C 1.8°F / 0.7°F
R	Pt/13%Rh-Pt	-50 to 40°C / 40 to 1768°C -58 to 104°F / 104 to 3214°F	1.0°C / 0.5°C 1.8°F / 0.9°F
S	Pt/10%Rh-Pt	-50 to 100°C / 100 to 1768°C -58 to 212°F / 212 to 3214°F	1.0°C / 0.5°C 1.8°F / 0.9°F
B	30%Rh-Pt/6%Rh-Pt	100 to 640°C / 640 to 1820°C 212 to 1184°F / 1184 to 3308°F	1.0°C / 0.5°C 1.8°F / 0.9°F
C	5%Re-W/26%Re-W	0 to 2320°C / 32 to 4208°F	0.4°C / 0.7°F
N	Nicrosil-Nisil	-250 to -100°C / -100 to 1300°C -418 to -148°F / -148 to 2372°F	1.0°C / 0.4°C 1.8°F / 0.7°F
L	J DIN	-200 to 900°C / -328 to 1652°F	0.4°C / 0.7°F
RTD	Pt, 0.00385, 100, 500, 1000 Ω	-200 to 900°C / -328 to 1652°F	0.4°C / 0.7°F
RTD	Pt, 0.00392, 100, 500, 1000 Ω	-200 to 850°C / -328 to 1562°F	0.4°C / 0.7°F
Nickel RTD Input (FS required)			
RTD-1N	Nickel MIL-T-7990B	0 to 200°C / 32 to 392°F	0.1°C / 0.2°F
RTD-2N	Nickel MIL-T-7990B	-40 to 300°C / -40 to 572°F	0.3°C / 0.5°F

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-66342® 1-877-TC-OMEGA

i/8

Dimensions: in (mm)

3.78 (96.0)

1.89 (48.0)

FRONT VIEW

0.80 (20.3)

4.33 (110.0) MAX

ANALOPO SALIDA CUR V RTN

PULSO SALIDA PUL RTN

SSR SALIDA NO C

POWER OUTPUT 1 OUTPUT 2
L N NO NC C NO NC C

ETHERNET RST

STATUS COL ON TX RX

INPUT RS232/485

8 7 6 5 4 3 2 1

1(-) 2 3 4 5 6 7 8 9 10

Communication Connectors

THERMOCOUPLE INPUT
1(-) 2 3 4 5 6 7

RTD (100 Ω) INPUT
1(-) 2 3 4 5 6 7

RTD (1K/500 Ω) INPUT
1(-) 2 3 4 5 6 7

PROCESS (VOLTS) INPUT
1(-) 2 3 4 5 6 7
1 V/10 V 100 mV Return

PROCESS (CURRENT) INPUT
1(-) 2 3 4 5 6 7
External Excitation

PROCESS (CURRENT) INPUT
1(-) 2 3 4 5 6 7 RTN
Internal Excitation
Jumper

Please visit omega.com/panelpunches for standard DIN size panel punches.

AVAILABLE FOR FAST DELIVERY!

Front Removable

iSeries change color

at any setpoint

REd

AMbR

GREN

PATENTED

Totally Programmable Color Displays

The OMEGA® i/8, i/16, and i/32 are the first complete series of ⅛, 1/16 and 1/32 DIN process control instruments with totally programmable color displays. The display can be programmed to change color at any setpoint or alarm point.

RED AMBER GREEN

To Order *(*Specify Model Number)*

Model No.			Description	Price
DPi8			Temperature/Process (Monitor only) ⅛ DIN	$240
DPi8A			Temperature/Process Monitor with Isolated Analog Output ⅛ DIN *1	295
DPiS8			Strain/Process (Monitor only) ⅛ DIN	275
Control Outputs #1 & 2 Direct (Cool) or Reverse (Heat) Acting				
CNi8	(*)	(*)	Temperature/Process with 2 Control Outputs	$310
CNi8A	(*)	(*)	Temperature/Process with Isolated Analog Output and 2 Outputs *1,*4	365
CNiS8	(*)	(*)	Strain/Process with 2 Control Outputs	370
	2	2	Two solid state relays (SSR's): 0.5 A @ 120/240 Vac continuous	
	2	3	SSR and relay: Form "C" SPDT 3 A @ 120 Vac, 3 A @ 240 Vac	
	2	4	SSR and pulsed 10 Vdc @ 20 mA (for use with external SSR)	
	3	3	2 Relays: Form "C" SPDT 3 A @ 120 Vac, 3 A @ 240 Vac	
	4	2	Pulsed 10 Vdc @ 20 mA (for use with external SSR) and SSR	
	4	3	Pulsed 10 Vdc @ 20 mA (for use with external SSR) and relay: Form "C" SPDT 3 A @ 120 Vac, 3 A @ 240 Vac	N/C
	4	4	Two pulsed 10 Vdc @ 20 mA (for use with external SSR)	
	5	2	Analog Output selectable as either control or retransmission of process value; 0 to 10 Vdc or 0-20 mA @ 500 ohm max. and SSR	
	5	3	Analog Output 0 to 10 Vdc or 0-20 mA @ 500 ohm max. and Relay	
	5	4	Analog Output 0 to 10 Vdc or 0-20 mA @ 500 ohm max. and Pulse 10 Vdc	
		-AL	Limit Alarm Version (Alarm Menu, No PID Control)*3, *4	
		-SM	Simplified Menu Version (ON/OFF Control, No PID)*5	
Network Options (One Option Max.)				**Price**
-EI		Ethernet with Embedded Internet		$55
-C24		Isolated RS232 and RS485 300 to 19.2 k baud *2		60
-C4EI		Ethernet with Embedded Web Server + Isolated RS485/422 hub for up to 31 devices*1		115
Power Supply (Select One)				
*		Standard power input: 90 to 240 Vac/dc, 50-400 Hz (no entry required)		N/C
-DC		12 to 36 Vdc (for CN/DPi8), 20 to 36 Vdc (for CN/DPi8A), 24 Vac*2		$25
Factory Setup (Requires Network Option)				
-FS		Factory Setup and Configuration		N/C
-FS(RTD-1N)		Factory Scaled for MIL-T-7990B Nickel RTD input (0 to 200°C)		N/C
-FS(RTD-2N)		Factory Scaled for MIL-T-7990B Nickel RTD input (-40 to 300°C)		N/C
Software (Requires Network Option)				**Price**
OPC-SERVER LICENSE		OPC Server/Driver Software License		$295

*1 Analog Output (Option 5) and Ethernet Options are not available for the CN/DPi8A.
*2 -DC, -C24, or -C4EI not available with excitation.
*3 Analog Output (Option 5) is not available with -AL units.
4 For CNi8A0-AL: One Analog Retransmission and One Alarm (Output 1 is not available).
*5 Strain CN/DPiS8 and/or Isolated Analog Output CN/DPi8A are not available with -SM units.

Ordering Examples: *DPi8A* ⅛ *DIN Meter with isolated scalable analog retransmission of the process value* ***$295****; CNi833-AL-C24* ⅛ *DIN Indicator and Dual Alarm only with serial communication* ***$370.***
CNiS833-C24-FS(RTD-1N) ⅛ *DIN Controller with 2 relay outputs, serial communication and is factory scaled for MIL Standard MIL-T-7990B Nickel RTD input* ***$430.***

⅛ DIN Dual Display Temperature, Process and Strain PID Controllers

CNi8D Dual Output Controller Starts at
$340

i/8D
iSeries
ΩE MONOGRAM

✔ **High Quality**
✔ **5-Year Warranty**
✔ **High Accuracy ±0.5°C (0.9°F), 0.03% Reading**
✔ **First ⅛ DIN Controller with Embedded Ethernet Connectivity (Optional)**
✔ **Dual Display with Bright Color Changing Feature**
✔ **Programmable Digital Filter**
✔ **2 Control or Alarm Outputs. Choice of DC Pulse, Solid State Relays, Mechanical Relays, Analog Voltage and Current**
✔ **Full Autotune PID Control**
✔ **Built-In Excitation Standard**
✔ **Front Removable**

The OMEGA® CNi8DH and CNi8DV are high quality, highly accurate single loop Autotune PID Temperature and Process Controllers for ⅛ DIN (96 x 48 mm) horizontal or vertical panel cutouts. Both devices feature the same state of the art technology, uncompromising accuracy, and quality backed by an extended 5-year warranty. The CNi8DH and CNi8DV are simple to configure and use, while providing tremendous versatility and a wealth of powerful features.

The CNi8DH and CNi8DV come standard with your choice of two control or alarm outputs in almost any combination: solid state relays (SSR) rated at 0.5 A @120/240 Vac; Form "C" SPDT (Single Pole Double Throw) relays rated at 3 amps @120/240 Vac; pulsed 10 Vdc output for use with an external SSR; or Analog Output (0 to 10 Vdc or 0 to 20 mA) selectable for control or retransmission of the process value.

CNi8DH33, $340, shown smaller than actual size.

The universal TEMPERATURE & PROCESS instrument (model "i") offers a selection of 10 thermocouple types as well as 2, 3 or 4 wire RTD's, process voltage and current. The CNi8DH and CNi8DV are ideal controllers for use with transmitters and amplified transducers. Built in excitation is standard (24 Vdc @ 25 mA). The devices handle 0 to 20 mA Process Current and Process Voltage in three scales: 0 to 100 mV, 0 to 1V, and 0 to 10V.

As with all iSeries devices, the Process Value display can be programmed to change color between **GREEN**, **AMBER**, and **RED** at any set point or alarm point. The LED's displaying the Process Value on the i8DH (horizontal ⅛ DIN) are the largest digits of any ⅛ DIN controller.

The STRAIN/PROCESS instrument (model "iS") meters and controllers measure inputs from Load Cells, Pressure Transducers, and most any strain gauge sensor. Input ranges include 0 to 100 mVdc, -100 mVdc to 1 Vdc, 0 to 10 Vdc in addition to 0 to 20 mA. Excitation for transducers of 5 Volt and 10 Volt is standard.

The highly recommended Networking and Communications options include direct Ethernet LAN connectivity with an Embedded Web Server, and serial communications.

CNiS8DV33, $400, shown smaller than actual size.

The -C24 serial communications option includes both RS232 and RS485 which can be selected from the menu as well as both a straightforward ASCII protocol or MODBUS®. The -C4EI option includes both Ethernet and RS485 ASCII/MODBUS on one device.

The iSeries, with the network option, are designed for easy integration with popular industrial automation, data acquisition and control programs as well as Microsoft Visual Basic and Excel. OMEGA provides free configuration software which makes it fast and easy to get up and running. Available on CD-ROM and for download off the Web.

iSeries
change color
at any setpoint

RED
AMbR
GREN

Totally Programmable Color Displays
PATENTED

RED
AMBER
GREEN

Input Type	Range	Accuracy
Universal Temperature/Process		
Process Voltage	0 to 100 mV, 0 to 1V, 0 to 10 Vdc	0.03% rdg
Process Current	0 to 20 mA (4 to 20 mA)	0.03% rdg
Excitation	24V @ 25 mA	-
Universal Strain/Process		
Process Voltage	0 to 100 mV, -100 mV to 1V, 0 to 10 Vdc	0.03% rdg
Process Current	0 to 20 mA (4 to 20 mA)	0.03% rdg
Excitation	5V @ 40 mA, 10V @ 60 mV	-

HOTLINE TO SANITARY PRODUCTS 1-877-82-66342® 1-877-TC-OMEGA

CNi8DV

CNi8DH

Dimensions: in (mm)

0.80 (20.3)

4.33 (110.0) MAX

3.780 (96.00)

1.890 (48.00)

1.890 [48.00]

3.780 [96.00]

Please visit
omega.com/panelpunches for
standard DIN size panel punches.

AVAILABLE FOR FAST DELIVERY!

To Order *(*Specify Model Number)*

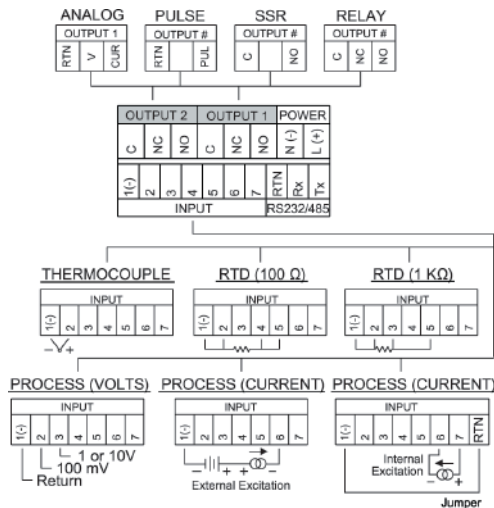| Model No.			Description	PRICE
Control Outputs #1 & 2 Direct (Cool) or Reverse (Heat) Acting				PRICE
CNi8DH	(*)	(*)	Temperature/Process 1/8 DIN Dual Display Horizontal with 2 Control Outputs	$340
CNi8DV	(*)	(*)	Temperature/Process 1/8 DIN Dual Display Vertical with 2 Control Outputs	340
CNiS8DH	(*)	(*)	Strain/Process 1/8 DIN Dual Display Horizontal with 2 Control Outputs	400
CNiS8DV	(*)	(*)	Strain/Process 1/8 DIN Dual Display Vertical with 2 Control Outputs	400
	2	2	Two solid state relays (SSR's): 0.5 A @ 120/240 Vac continuous	
	2	3	SSR and relay: Form "C" SPDT 3 A @ 120 Vac, 3 A @ 240 Vac	
	2	4	SSR and pulsed 10 Vdc @ 20 mA (for use with external SSR)	
	3	3	2 Relays: Form "C" SPDT 3 A @ 120 Vac, 3 A @ 240 Vac	
	4	2	Pulsed 10 Vdc @ 20 mA (for use with external SSR)an Solid State	
	4	3	Pulsed 10 Vdc @ 20 mA (for use with external SSR) and relay: Form "C" SPDT 3 A @ 120 Vac, 3 A @ 240 Vac	N/C
	4	4	Two pulsed 10 Vdc @ 20 mA (for use with external SSR)	
	5	2	Analog Output selectable as either control or retransmission of process value; 0 to 10 Vdc or 0-20 mA @ 500 ohm max and SSR	
	5	3	Analog Output 0 to 10 Vdc or 0-20 mA @ 500 ohm max and Relay	
	5	4	Analog Output 0 to 10 Vdc or 0-20 mA @ 500 ohm max and Pulse 10 Vdc	
		-AL	Limit Alarm Version (Alarm Menu, No PID Control)[2]	
		-SM	Simplified Menu Version (ON/OFF Control, No PID)[3]	

Network Options (One Option Max)		Price
-EI	Ethernet with Embedded Internet	$55
-C24	Isolated RS232 and RS485 300 to 19.2 k baud [1]	60
-C4EI	Ethernet with Embedded Web Server + Isolated RS485/422 hub for up to 31 devices[1]	115

Power Supply (Select One)		
*	Standard power input: 90 to 240 Vac/dc, 50-400 Hz (no entry required)	N/C
-DC	20 to 36 Vdc, 24 Vac[1]	$25

Factory Setup (Requires Network Option)		
-FS	Factory Setup and Configuration	N/C
-FS(RTD-1N)	Factory Scaled for MIL-T-7990B Nickel RTD input (0 to 200°C)	N/C
-FS(RTD-2N)	Factory Scaled for MIL-T-7990B Nickel RTD input (-40 to 300°C)	N/C

Software (Requires Network Option)		Price
OPC-SERVER LICENSE	OPC Server/Driver Software License	$295

*1 -DC, -C24, or -C4EI not available with excitation.
*2 Analog Output (Option 5) is not available with -AL units.
*3 Strain CNiS8DH or CNiS8DV is not available with -SM units.
***Ordering Examples: CNi8DH43** horizontal 1/8 DIN Dual display with pulse and relay **$340.**
CNiS8DH43-C24-FS(RTD-1N) factory scaled for MIL Standard MIL-T-7990B Nickel RTD input **$460.**

ANALOG
OUTPUT 1

PULSE
OUTPUT #

SSR
OUTPUT #

THERMOCOUPLE   RTD (100 Ω)   RTD (1 KΩ)

PROCESS (VOLTS)   PROCESS (CURRENT)   PROCESS (CURRENT)

STRAIN (4-WIRE)   STRAIN (4-WIRE)

Internal Excitation   External Excitation

STRAIN (6-WIRE)   STRAIN (6-WIRE)

Internal Excitation   External Excitation

The i/8 Series controllers feature plug/removable connectors and a sturdy panel mounting sleeve with adjustable thumb nuts for easy secure installation.

i Series
ΩE MONOGRAM

DPi16 Meters Starts at
$180

CNi16 Controllers Starts at
$225

MADE IN USA · **5 YEAR WARRANTY** · CE · c UL us

⅟₁₆ DIN Temperature, Process and Strain Meters and PID Controllers
i/16

CNi633, $225, shown smaller than actual size.

CNi16D33, $245, shown smaller than actual size.

✔ **High Quality**
✔ **5-Year Warranty**
✔ **High Accuracy ±0.5°C (0.9°F), 0.03% Reading**
✔ **First ⅟₁₆ DIN Controller with Totally Programmable Color Displays (Standard)**
✔ **User-Friendly, Simple to Configure**
✔ **Free Software**
✔ **Full Autotune PID Control**
✔ **Universal Inputs: Thermocouple, RTD, Process Voltage/Current, Strain**
✔ **Embedded Ethernet Connectivity**
✔ **First ⅟₁₆ DIN Controller Offering Both RS232 and RS485 Serial Communications in One Instrument (Optional)**
✔ **First ⅟₁₆ DIN Controller with Built-in Excitation, 24 Vdc, Standard**
✔ **First ⅟₁₆ DIN Instrument with Analog Output Selectable as a Control Output or as a Calibrated Retransmission of Process Variable**
✔ **NEMA-4 (IP65) Front Bezel**
✔ **2 Control or Alarm Outputs (Optional) dc Pulse, Solid State Relays (SSR's), Mechanical Relays, Analog Voltage and Current**
✔ **Temperature Stability ±0.04°C/°C RTD and ±0.05°C/°C TC @ 25°C (77°F)**
✔ **Front Removable and Plug Connectors**

The OMEGA® DPi16/CNi16 is the popular ⅟₁₆ DIN size (48 mm square) meter or controller. The meter (model "DPi16") displays the process value and has no control outputs.

The controller is available with a single (model "CNi16") or dual display (model "CNi16D") that displays a set point along with the process value. The DPi16/CNi16 display can be programmed to change color at any set point or alarm point.

The CNi16 is the first ⅟₁₆ DIN controller with the option of both

RS232 and RS485 in one instrument with both MODBUS® serial protocol and the straightforward OMEGA® ASCII protocol. And of course the CNi16 is the first ⅟₁₆ DIN Controller that can connect directly to an ethernet network and features an embedded web server. OMEGA® provides free configuration and data acquisition software for the iSeries on CD-ROM and for download off the Web.

The DPi16/CNi16 enclosure has a NEMA 4 (IP65) rated front bezel. The electronics are removable from the front panel.

Access Vital information Anytime, Anywhere, On the World Wide Web

⅟₁₆ DIN Controller With Embedded Web Server, Dual Control Outputs, Dual Display
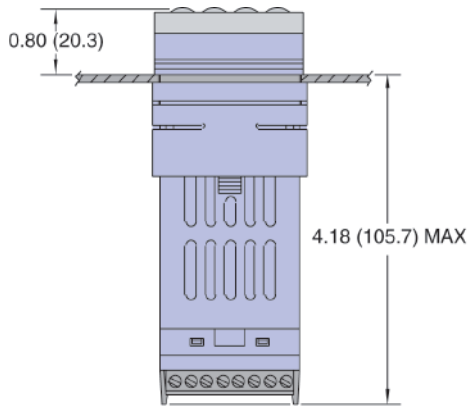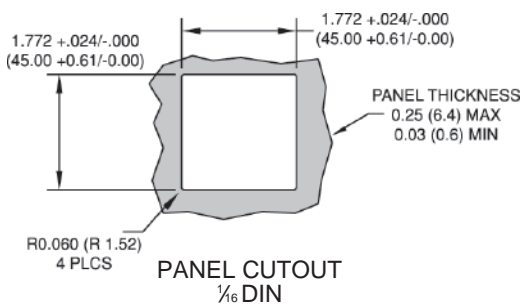
HOTLINE TO SANITARY PRODUCTS 1-877-82-6 6 3 4 2® 1-877-TC-OMEGA

0.80 (20.3)

4.18 (105.7) MAX

TOP VIEW

1.772 +.024/-.000
(45.00 +0.61/-0.00)

1.772 +.024/-.000
(45.00 +0.61/-0.00)

PANEL THICKNESS
0.25 (6.4) MAX
0.03 (0.6) MIN

R0.060 (R 1.52)
4 PLCS

PANEL CUTOUT
1/16 DIN

**Please visit
omega.com/panelpunches for
standard DIN size panel punches**

REAR VIEW

Dimensions: in (mm)

1.93 (49.0)

2.10 (53.3)

i16

RJ45 10BASE-T
Connection

Reset
Button

LED
Indicators

Communication
Port

1.89 [48.0]

1.89 [48.0]

Process Value

Setpoint 1 Value

"EI" and "C4EI"
options

SINGLE DISPLAY   DUAL DISPLAY
FRONT VIEWS
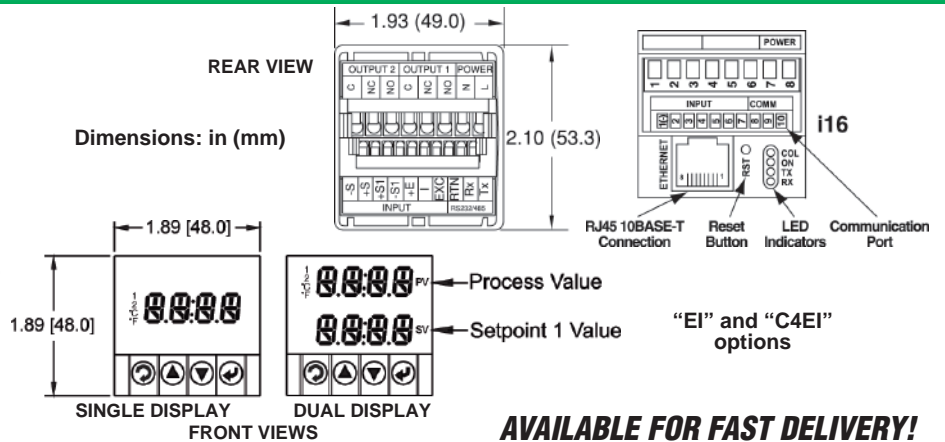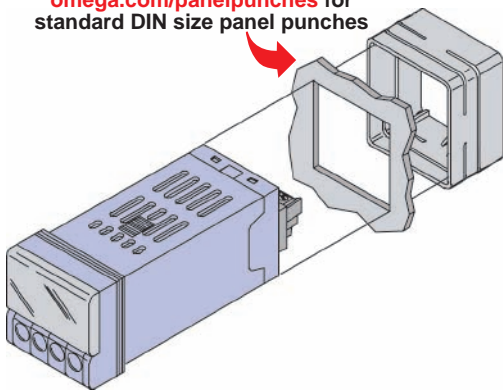
AVAILABLE FOR FAST DELIVERY!

To Order *(*Specify Model Number)*

Model No.			Description	PRICE
DPi16			Temperature/Process (Monitor only) 1/16 DIN	$180
DPiS16			Strain/Process (Monitor only) 1/16 DIN	230
Control Outputs #1 & 2 Direct (Cool) or Reverse (Heat) Acting				
CNi16	(*)	(*)	Temperature/Process with 2 Control Outputs	$225
CNi16D	(*)	(*)	Temperature/Process Dual Display with 2 Control Outputs *1	245
CNiS16	(*)	(*)	Strain/Process with 2 Control Outputs	275
CNiS16D	(*)	(*)	Strain/Process Dual Display with 2 Control Outputs *1	295
	2	2	Two solid state relays (SSR's): 0.5 A @ 120/240 Vac continuous	N/C
	2	3	SSR and relay: Form "C" SPDT 3 A @ 120 Vac, 3 A @ 240 Vac	
	2	4	SSR and pulsed 10 Vdc @ 20 mA (for use with external SSR)	
	3	3	2 Relays: Form "C" SPDT 3 A @ 120 Vac, 3 A @ 240 Vac	
	4	2	Pulsed 10 Vdc @ 20 mA (for use with external SSR) and SSR	
	4	3	Pulsed 10 Vdc @ 20 mA (for use with external SSR) and relay: Form "C" SPDT 3 A @ 120 Vac, 3 A @ 240 Vac	
	4	4	Two pulsed 10 Vdc @ 20 mA (for use with external SSR)	
	5	2	Analog Output selectable as either control or retransmission of process value; 0 to 10 Vdc or 0-20 mA @ 500 ohm max and SSR	
	5	3	Analog Output 0 to 10 Vdc or 0-20 mA @ 500 ohm max and Relay	
	5	4	Analog Output 0 to 10 Vdc or 0-20 mA @ 500 ohm max and Pulse 10 Vdc	
		-AL	Limit Alarm Version (Alarm Menu, No PID Control)*3	
		-SM	Simplified Menu Version (ON/OFF Control, No PID)*4	

Network Options (One Option Max)		PRICE
-EI	Ethernet with Embedded Internet*1	$50
-C24	Isolated RS232 and RS485 300 to 19.2 k baud *2	60
-C4EI	Ethernet with Embedded Web Server + Isolated RS485/422 hub for up to 31 devices *1,*2	110

Power Supply (Select One)		
*	Standard power input: 90 to 240 Vac/dc, 50-400 Hz (no entry required)	N/C
-DC	12 to 36 Vdc (for CN/DPi16), 20 to 36 Vdc (for CNi16D), 24 Vac *2	$25

Factory Setup (Requires Network Option)		
-FS	Factory Setup and Configuration	N/C
-FS(RTD-1N)	Factory Scaled for MIL-T-7990B Nickel RTD input (0 to 200°C)	N/C
-FS(RTD-2N)	Factory Scaled for MIL-T-7990B Nickel RTD input (-40 to 300°C)	N/C

Software (Requires Network Option)		PRICE
OPC-SERVER LICENSE	OPC Server/Driver Software License	$295

*1 Ethernet options are available for the CNi16D and CNiS16D Controller only.
*2 -DC, -C24 or -C4EI not available with excitation.
*3 Analog Output (Option 5) is not available with -AL units.
*4 Strain DP/CNiS16 or CNiS16D is not available with -SM units.
Ordering Examples: CNi16D44, 1/16 DIN dual display PID Controller with two pulse control outputs, $245.

CNiS16DH44-C24-FS(RTD-1N), factory scaled for MIL Standard MIL-T-7990B Nickel RTD input, $355.

OUTPUT 2 | OUTPUT 1 | POWER

INPUT | COMM

ETHERNET

RST

COL
ON
TX
RX

THERMOCOUPLE

RTD (100 Ω)

RTD 1000/500 Ω

PROCESS (VOLTS)

1 v/10 V
100 mV
Return

PROCESS (CURRENT)

External

PROCESS (CURRENT)

Internal
Excitation

Jumper
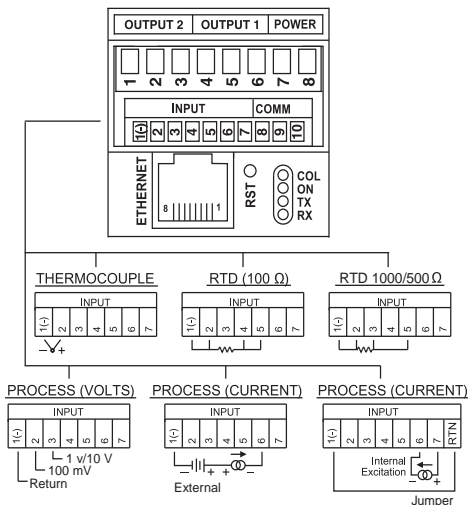
⅟₃₂ DIN Temperature, Process and Strain Meters and PID Controllers

iSeries
Ω MONOGRAM

**DPi32 Meters
Starts at
$150**

**CNi32 Controllers
Starts at
$195**

MADE IN USA • 5 YEAR WARRANTY • CE • c(UL)us

- ✔ **High Quality**
- ✔ **5-Year Warranty**
- ✔ **High Accuracy ±0.5°C (0.9°F), 0.03% Reading**
- ✔ **First ⅟₃₂ DIN Instrument with Totally Programmable Color Displays (Standard)**
- ✔ **User-Friendly, Simple to Configure**
- ✔ **Free Software, Active X Controls**
- ✔ **Full Autotune PID Control**
- ✔ **Universal Inputs: Thermocouple, RTD, Process Voltage/Current, Strain**
- ✔ **First ⅟₃₂ DIN Instrument Offering Both RS232 and RS485 Serial Communications in One Instrument (Optional)**
- ✔ **First ⅟₃₂ DIN Instrument with Built-in Excitation, 24 Vdc, Standard**
- ✔ **Temperature Stability ±0.04°C/°C RTD and ±0.05°C/°C TC at 25°C (77°F)**
- ✔ **NEMA-4 (IP65) Front Bezel**
- ✔ **First ⅟₃₂ DIN Instrument with Analog Output Selectable as a Control Output or as Retransmission of Process Variable**
- ✔ **2 Control or Alarm Outputs (Optional) dc Pulse, Solid State Relays (SSR's), Mechanical Relays, Analog Voltage & Current**
- ✔ **Front Removable and Plug Connectors**

CNi3233, $195, shown smaller than actual size.

The OMEGA® DPi32/CNi32 is the iSeries meter (DPi32) and controller (CNi32) in the extremely compact and increasingly popular ⅟₃₂ DIN size. The DPi32/CNi32 is the most sophisticated and accurate instrument available in the small ⅟₃₂ DIN package, yet is still easy to configure.

The DPi32/CNi32 handles more thermocouple, RTD, process voltage and current inputs than any other ⅟₃₂ DIN controller.

The DPi32/CNi32 is the first ⅟₃₂ DIN controller with built-in excitation for transmitters or other devices, 24 Vdc at 25 mA.

The DPiS32/CNiS32 has built-in excitation for bridge transducers, 5 Vdc @ 40 mA or 10 Vdc @ 60 mA. When communications options are installed, external excitation may be used and ratiometric operation maintained by connecting the external excitation to the sense leads. Both 4 or 6-wire bridge configurations are supported for internal or external excitation. Non-ratiometric operation is supported for voltage and current transducers and is also valuable in measuring offset and millivolt output of bridge devices during manufacturing and calibration.

This model also features 10 Point Linearization which allows the user to linearize the signal input from extremely nonlinear transducers of all kinds.

The DPi32/CNi32 andDPiS32/CNiS32 introduce a number of unique features not yet found on any other ⅟₃₂ DIN instrument.

The DPi32/CNi32 and DPiS32/CNiS32 are the first ⅟₃₂ DIN controllers with a totally programmable display that can change color at any set point or alarm point. The unique 9-segment LED characters greatly improves alphanumeric representations.

The DPi32/CNi32 and DPiS32/CNiS32 are the first ⅟₃₂ DIN controllers offering 2 SPDT (Single Pole Double Throw) Form C relays, instead of the single throw relays on typical ⅟₃₂ DIN controllers.

The DPi32/CNi32 and DPiS32/CNiS32 are the first to offer both RS232 and RS422/485 serial communications in one instrument (-C24 option). Both ASCII protocol and modbus protocol are selectable from the menu.

The **iSeries** displays feature unique 9-segment LED characters, which greatly improves alphanumeric representations. The 7-segment LED characters found on most instruments are adequate for presenting numbers, but not letters. Words are easier to read with the unique 9-segment LED characters on the **iSeries**, which makes operating and programming simpler and easier.

9-segment LED

7-segment display

9-segment display

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-6 6 342® 1-877-TC-OMEGA

DPi32-B-COVER supplied with each unit, standard.

Dimensions: inches (mm)
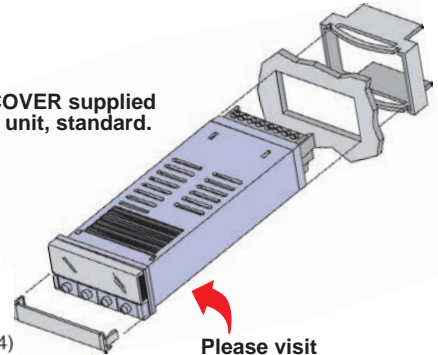
0.886 +.024/-.000
(22.50 +0.61/-0.00)

1.772 +.024/-.000
(45.00 +0.61/-0.00)

PANEL THICKNESS
.25 (6.4) MAX
.03 (0.6) MIN

1.89 (48.0)

1.00 (25.4)

PANEL CUTOUT
1/32 DIN

REAR VIEW

1.89 (48.0)

1.00 (25.4)

FRONT VIEW

Please visit omega.com/panelpunches for standard DIN size panel punches.

0.57 (14.5)

4.40 (111.8)MAX

TOP VIEW

ANALOG OUTPUT 1: RTN | V | CUR
PULSE OUTPUT #: RTN | PUL
SSR OUTPUT #: C | NO
RELAY OUTPUT #: C | NC | NO

OUTPUT 2: C | NC | NO
OUTPUT 1: C | NC | NO
POWER: N (-) | L (+)

INPUT: 1(-) | 2 | 3 | 4 | 5 | 6 | 7
RS232/485: RTN | Rx | Tx

THERMOCOUPLE INPUT: 1(-) | 2 | 3 | 4 | 5 | 6 | 7
−√+

RTD (100 Ω) INPUT: 1(-) | 2 | 3 | 4 | 5 | 6 | 7

RTD (1 KΩ) INPUT: 1(-) | 2 | 3 | 4 | 5 | 6 | 7

PROCESS (VOLTS) INPUT: 1(-) | 2 | 3 | 4 | 5 | 6 | 7
1 or 10V
100 mV
Return

PROCESS (CURRENT) INPUT: 1(-) | 2 | 3 | 4 | 5 | 6 | 7
+ −
External Excitation

PROCESS (CURRENT) INPUT: 1(-) | 2 | 3 | 4 | 5 | 6 | 7 | RTN
Internal Excitation
− +
Jumper
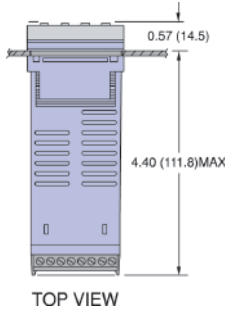
AVAILABLE FOR FAST DELIVERY!

To Order *(*Specify Model Number)*

Model No.			Description	Price
DPi32			Temperature/Process (Monitor only) 1/32 DIN	**$150**
DPiS32			Strain/Process (Monitor only) 1/32 DIN	195
Control Outputs #1 & 2 Direct (Cool) or Reverse (Heat) Acting				
CNi32	(*)	(*)	Temperature/Process with 2 Control Outputs	**$195**
CNiS32	(*)	(*)	Strain/Process with 2 Control Outputs	240
	2	2	Two solid state relays (SSR's): 0.5 A @ 120/240 Vac continuous	N/C
	2	3	SSR and relay: Form "C" SPDT 3 A @ 120 Vac, 3 A @ 240 Vac	
	2	4	SSR and pulsed 10 Vdc @ 20 mA (for use with external SSR)	
	3	3	2 Relays: Form "C" SPDT 3 A @ 120 Vac, 3 A @ 240 Vac	
	4	2	Pulsed 10 Vdc @ 20 mA (for use with external SSR) and SSR	
	4	3	Pulsed 10 Vdc @ 20 mA (for use with external SSR) and relay: Form "C" SPDT 3 A @ 120 Vac, 3 A @ 240 Vac	
	4	4	Two pulsed 10 Vdc @ 20 mA (for use with external SSR)	
	5	2	Analog Output selectable as either control or retransmission of process value; 0 to 10 Vdc or 0-20 mA @ 500 ohm max and SSR	
	5	3	Analog Output 0 to 10 Vdc or 0-20 mA @ 500 ohm max and Relay	
	5	4	Analog Output 0 to 10 Vdc or 0-20 mA @ 500 ohm max and Pulse 10 Vdc	
		-AL	Limit Alarm Version (Alarm Menu, No PID Control)[2]	
		-SM	Simplified Menu Version (ON/OFF Control, No PID)[3]	

Network Options		Price
-C24	Isolated RS232 and R485/422. 300 to 19.2k Baud [1]	**$60**
Power Supply (Select One)		
*	Standard power input: 90 to 240 Vac/dc, 50-400 Hz (no entry required)	N/C
-DC	12 to 36 Vdc, 24 Vac [1]	$25
Factory Setup (Requires Network Option)		
-FS	Factory Setup and Configuration	N/C
-FS(RTD-1N)	Factory Scaled for MIL-T-7990B Nickel RTD input (0 to 200°C)	N/C
-FS(RTD-2N)	Factory Scaled for MIL-T-7990B Nickel RTD input (-40 to 300°C)	N/C

Model No.	Description	Price
EIS-2B	iServer MicroServer, serves 32 devices, visit **omega.com/eis2**	$195
EIS-W	iServer MicroServer for Serial to Ethernet applications visit **omega.com/eis-w** for Complete Details	195

Software (Requires Network Option)		Price
OPC-SERVER LICENSE	OPC Server/Driver Software License	$295

*1 -DC, -C24 not available with Excitation.
*2 Analog Output (Option 5) is not available with -AL units.
*3 Strain DP/CNiS32 is not available with -SM units.

Ordering Examples: CNi3222-C24, 1/32 DIN PID Controller with two solid state relays for PID control and serial communications, both RS232 and RS485, $195 + 60 = $255.
CNiS3222-C24-FS(RTD-1N), factory scaled for MIL Standard MIL-T-7990B Nickel RTD input, $300.

iServer

$195
Visit **omega.com/eis2**

The "iServer" is a DIN rail mounted device which can be a hub connecting up to 32 instruments to the Ethernet and Internet. The "iServer" is both a Web Server and an Ethernet-Serial bridge. To connect to the iServer, iSeries devices must feature the "C24" Serial Communications option.

1/8 DIN Ultra Compact Case Temperature, Process and Strain PID Controllers

CNi8C Series Starts at
$355

i. Series
OE MONOGRAM

MADE IN USA · 5 YEAR WARRANTY · CE · c(UL)us

✔ **Ultra Compact 1/8 DIN Controller**
✔ **Built-In Excitation**
✔ **NEMA 4 (IP65) Bezel**
✔ **RS232, RS422/485 or Modbus Communication, Menu Selectable**

The ultra-compact CNi8C and CNi8SC controllers are similar to the full size CNi8 in an ultra-compact enclosure. Only 51 mm (2") behind the panel.

CNi8C33, $355, shown actual size.

Ultra Compact!

54.84 (2.159) **CNi8C**
104.10 (4.100) **CNi8**
Dimensions: mm (in)
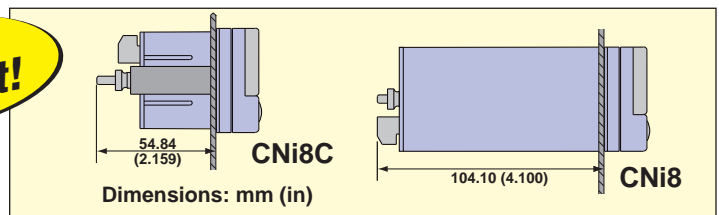
Options

Ordering Suffix	Add'l Price	Description
-AL	N/C	Limit alarm version (simplified menu, alarms only, no PID control)[2]
-SM	N/C	Simplified menu (on/off control or alarms, no PID)[3]
Network Options		
-C24	$60	Isolated RS232 and RS485/422, 300 to 19.2 Kb[1]
Power Supply		
-DC	$25	12 to 36 Vac/dc, 24 Vac[1]
Factory Setup (Requires Network Option)		
-FS	N/C	Factory setup and configuration
-FS(RTD-1N)	N/C	Factory scaled for MIL-T-7990B nickel RTD input, 0 to 200°C (32 to 392°F)
-FS(RTD-2N)	N/C	Factory scaled for MIL-T-7990B nickel RTD input, -40 to 300°C (-40 to 572°F)
Software (Requires Network Option)		
OPC-SERVER LICENSE	$295	OPC server/driver software license

[1] Excitation not available with "-DC", "-C24" or "-C4EI" options.
[2] "-AL" option not available on models with analog (0 to 10V/0 to 20 mA) output.
[3] "-SM" option not available on CNiS strain/process input models.

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Model No.	Price	Output 1	Output 2
Temperature/Process Input			
CNi8C22	**$355**	0.5 A SSR	0.5 A SSR
CNi8C23	355	0.5 A SSR	Relay
CNi8C24	355	0.5 A SSR	DC pulse
CNi8C33	355	Relay	Relay
CNi8C34	355	Relay	DC pulse
CNi8C44	355	DC pulse	DC pulse
CNi8C52	355	Analog	0.5 A SSR
CNi8C53	355	Analog	Relay
CNi8C54	355	Analog	DC pulse
Strain/Process Input			
CNiS8C22	**$415**	0.5 A SSR	0.5 A SSR
CNiS8C23	415	0.5 A SSR	Relay
CNiS8C24	415	0.5 A SSR	DC pulse
CNiS8C33	415	Relay	Relay
CNiS8C42	415	DC pulse	0.5 A SSR
CNiS8C43	415	DC pulse	Relay
CNiS8C44	415	DC pulse	DC pulse
CNiS8C52	415	Analog	0.5 A SSR
CNiS8C53	415	Analog	Relay
CNiS8C54	415	Analog	DC pulse

Accessory

Model No.	Price	Description
DPP-5	**$525**	1/8 DIN panel punch

Comes complete with operator's manual.
Ordering Examples: CNi8C33, 1/8 DIN compact universal temperature process controller with 2 relay outputs, **$355.**

CNiS8C43, 1/8 DIN compact strain/process controller with DC pulse and relay outputs, **$415.**

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-6 6342 ® 1-877-TC-OMEGA

iSeries *Common Specifications (All i/8, i/16, i/32 DIN)*

Universal Temperature and Process Input (Model "i")
Accuracy: ±0.5°C; 0.03% rdg
Resolution: 1°/0.1°; 10 µV process
Temperature Stability:
　RTD: 0.04°C/°C
　Thermocouple @ 25°C (77°F):
　0.05°C/°C cold-junction compensation
　Process: 50 ppm/°C
NMRR: 60 dB
CMRR: 120 dB
A/D Conversion: Dual slope
Reading Rate: 3 samples per second
Digital Filter: Programmable
Display: 4-digit, 9-segment LED;
10.2 mm (0.40"): i32, i16, i16D, i8DV;
21 mm (0.83"): i8; 10.2 mm (0.40") and
21 mm (0.83"): i8DH; red, green and
amber programmable colors for process
variable, setpoint and temperature units
Input Types: Thermocouple, RTD,
analog voltage, analog current
Thermocouple Lead Resistance:
100 Ω max
Thermocouple Type (ITS 90): J, K, T,
E, R, S, B, C, N, L
RTD Input (ITS 68): 100/500/1000 Ω
Pt sensor, 2-, 3- or 4-wire; 0.00385 or
0.00392 curve
Voltage Input: 0 to 100 mV, 0 to 1V,
0 to 10 Vdc
Input Impedance: 10 MΩ for 100 mV;
1 MΩ for 1 or 10 Vdc
Current Input: 0 to 20 mA (5 Ω load)
Configuration: Single-ended
Polarity: Unipolar
Step Response: 0.7 s for 99.9%
Decimal Selection: None, 0.1 for
temperature; none, 0.1, 0.01 or 0.001
for process
Setpoint Adjustment: -1999 to 9999
counts
Span Adjustment: 0.001 to 9999
counts
Offset Adjustment: -1999 to ±9999

Universal Strain and Process Input (Model "iS")
Accuracy: 0.03% rdg
Resolution: 10/1 µV
Temperature Stability: 50 ppm/°C
NMRR: 60 dB
CMRR: 120 dB
A/D Conversion: Dual slope
Reading Rate: 3 samples per second
Digital Filter: Programmable
Input Types: Analog voltage, analog
current
Voltage Input: 0 to 100 mVdc,
-100 mVdc to 1 Vdc, 0 to 10 Vdc
Input Impedance: 10 MΩ for 100 mV;
1 MΩ for 1V or 10 Vdc
Current Input: 0 to 20 mA (5 Ω load)
Linearization Points: Up to 10
Configuration: Single-ended
Polarity: Unipolar
Step Response: 0.7 s for 99.9%
Decimal Selection: None, 0.1, 0.01
or 0.001

Setpoint Adjustment:
-1999 to 9999 counts
Span Adjustment:
0.001 to 9999 counts
Offset Adjustment: -1999 to ±9999
**Excitation (Optional in Place of
Communication):** 5 Vdc @ 40 mA;
10 Vdc @ 60 mA

Control
Action: Reverse (heat) or direct (cool)
Modes: Time and amplitude proportional
control modes; manual or auto PID,
proportional, proportional with integral,
proportional with derivative with anti-reset
windup and ON/OFF
Rate: 0 to 399.9 s
Reset: 0 to 3999 s
Cycle Time: 1 to 199 s; set to
0 for ON/OFF operation
Gain: 0.5 to 100% of span; setpoints 1 or 2
Damping: 0000 to 0008
Soak: 00.00 to 99.59 (HH:MM), or OFF
Ramp to Setpoint:
00.00 to 99.59 (HH:MM), or OFF
Autotune: Selectable from front panel

Control Output 1 and 2
Relay: 250 Vac or 30 Vdc @ 3 A
(resistive load); configurable for ON/OFF,
PID, ramp and soak
Output 1: SPDT type; can be configured
as alarm 1 output
Output 2: SPDT type; can be configured
as alarm 2 output
SSR: 20 to 265 Vac @ 0.05 to 0.5 A
(resistive load); continuous
DC Pulse: Non-isolated; 10 Vdc @ 20 mA
Analog Output (Output 1 Only):
Non-isolated, proportional 0 to 10 Vdc or
0 to 20 mA; 500 Ω max

Network and Communications
Ethernet: In compliance with IEEE 802.3
10 Base-T
Supported Protocols:
TCP/IP, ARP, HTTPGET
RS232/RS422/RS485: Selectable from
menu; both ASCII and MODBUS® protocol
selectable from menu; programmable
300 to 19.2K baud; complete programmable
setup capability; program to transmit current
display, alarm status, min/max, actual
measured input value and status
RS485: Addressable from 0 to 199
Connection: Screw terminals

Alarm 1 and 2 (Programmable)
Type: Same as output 1 and 2
Operation: High/low, above/below, band,
latch/unlatch, normally open/normally
closed and process/deviation; front-panel
configurations
Analog Output (Programmable):
Non-isolated, retransmission 0 to 10 Vdc
or 0 to 20 mA, 500 Ω max (output 1 only).
Accuracy is ±1% FS when following
conditions are satisfied:
1) Input is not scaled below 1% of
　input FS
2) Analog output is not scaled below
　3% of output FS

**Excitation
(Not Included with Communication):**
24 Vdc @ 25 mA (not available for
low power option)
Insulation
Power to Input or Output: 2500 Vac per
1-minute test (RS232/485, input or output)
For Low-Voltage Power Option:
1500 Vac per 1-minute test
(RS232/485, input or output)
Power to Relay/SSR Option:
2500 Vac per 1-minute test
Relay/SSR to Relay/SSR Option:
2500 Vac per 1-minute test
RS232/485 to Input/Options:
500 Vac per 1-minute test
Approvals: UL, C-UL, CE per EN50081-1,
EN50082-2, EN61010- 1

General
Power: 90 to 240 Vac ±10%,
50 to 400 Hz*, 110 to 375 Vdc,
equivalent voltage
Low Voltage Power Option: 24 Vac
±10%, 12 to 36 Vdc, from qualified safety
approved source
Environmental Conditions:
0 to 50°C (32 to 122°F), 90% RH
non-condensing—CNi8DV, CNi8DH,
CNi16D; 0 to 55°C (32 to 131°F) 90% RH
non-condensing—i/8, i/16, i/32
Installation Category:
II per EN61010-1
Equipment Class: II per EN61010-1
Pollution Degree: II per EN61010-1
Protection: NEMA 4 (IP65) front bezel

Dimensions
i/8 Series: 48 H x 96 W x 127 mm D
(1.89 x 3.78 x 5.00")
i/16 Series: 48 H x 48 W x 127 mm D
(1.89 x 1.89 x 5.00")
i/32 Series: 25.4 H x 48 W x 127 mm D
(1.0 x 1.89 x 5.00")

Panel Cutout
i/8 Series: 45 H x 92 mm W
(1.772" x 3.622"), ⅛ DIN
i/16 Series: 45 mm (1.772") square, ¹⁄₁₆ DIN
i/32 Series: 22.5 H x 45 mm W
(0.886" x 1.772"), ¹⁄₃₂ DIN

Weight
i/8 Series: 295 g (0.65 lb)
i/16 Series: 159 g (0.35 lb)
i/32 Series: 127 g (0.28 lb)
* No CE compliance above 60 Hz

iSeries change color
At Any Setpoint*
Totally Programmable Color Displays

Environmental Surveillance Over the Internet
Web-Based Remote Surveillance of Temperature + Humidity
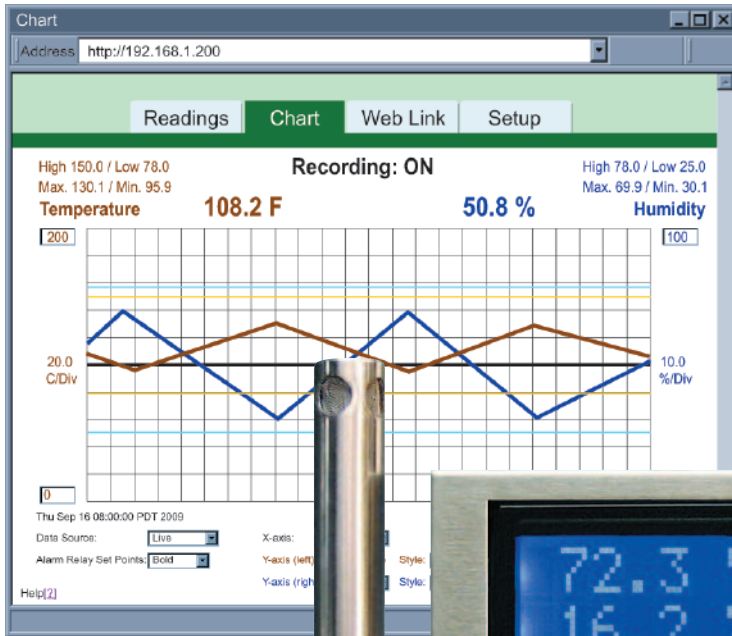
i.SD–TH

- ✔ **Virtual Chart Recorder**
- ✔ **Web Server**
- ✔ **Alarms by Email or Text Message**
- ✔ **No Special Software Required**
- ✔ **Record Years of Data on Popular SD Cards**

iSD Series Starts at
$495

MADE IN USA · **1 YEAR WARRANTY** · CE · **FCC-B**

iSD-TH, $495, shown smaller than actual size.

The **OMEGA® iSD** environmental monitor provides Web-based remote surveillance of environmental conditions in critical HVAC applications such as computer server rooms, clean rooms, laboratories, museums, warehouses, or any remote facility.

View and record Temperature, Relative Humidity and Dew Point over an Ethernet network or the Internet with no special software—just a Web browser.

EMAIL ALARMS
The device can trigger an alarm if temperature or humidity goes above or below a set point that you determine. Your alarm can be sent by email to a single user or to a group distribution list, including text messages to cell phones and PDA's.

PHYSICAL THREATS
The OMEGA iSD includes screw terminals for two contact closures that work with common alarm sensors. You can instruct the iSD monitor to send an alarm if a door is opened, a window is broken, or a fire sprinkler goes off.

POWER FAILURE
The iSD monitor can trigger an alarm if the AC power fails. The iSD monitor will continue to collect data for two days powered by a standard 9 Volt alkaline battery (included). A failure on the Ethernet network will not interrupt data recording.

LOCAL ALARMS
The OMEGA iSD monitor includes two 1.5 Amp output relays that are controlled by the alarm conditions you select. The relays can trigger flashing lights and a siren for example to alert personnel near the scene.

With the easy Web-based setup page, the two relays can be programmed for any combination of temperature or humidity, and high or low set points, as well as alarm conditions triggered by contact closures. The relays can also be programmed to turn off when conditions return to normal, or programmed to remain latched and require a manual reset.

HOTLINE TO SANITARY PRODUCTS 1-877-82-66342® 1-877-TC-OMEGA

VIEW CHARTS AND GRAPHS ON THE WEB

The OMEGA iSD serves Active Web Pages to display real time readings, display charts of temperature and humidity, or log data in standard data formats for use in a spreadsheet or data acquisition program such as Excel or Visual Basic.
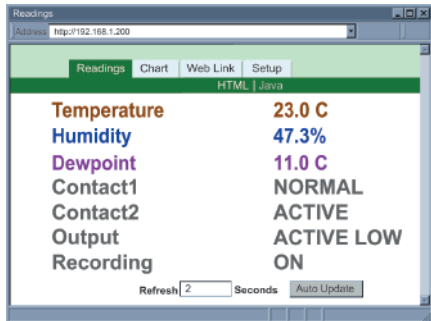
The virtual chart viewed on the web page is a JAVA™ Applet that records a chart over the LAN or Internet in real time. With the OMEGA iSD, there is no need to invest time and money learning a proprietary software program to log or chart the data.

Chart scales are fully adjustable on the fly. For example, the chart can display one minute, one hour, one day, one week, one month or one year.

Temperature and humidity can be charted across the full span (-40 to 124°C, and 0 to 100% RH) or within any narrow range such as (20 to 30°C).
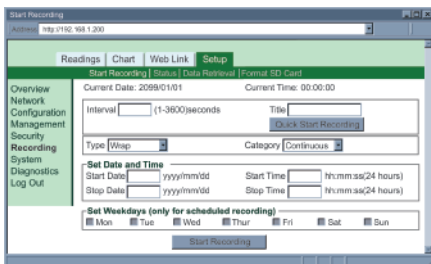
Recording Setup

LINK TO WEB CAM OR IP CAMERA

The Web page includes a link to a "Web Cam" or "IP camera" (not included). If you get a message about an alarm condition, you can quickly click on the link to view the actual scene over the Internet.
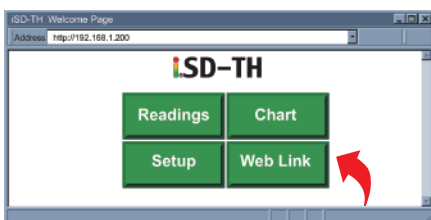
SD FLASH MEMORY CARD

The iSD comes complete with a removable 2 GB SD Flash Memory card that can store up to seven years of readings taken at ten second intervals.

RECORDS ON SD FLASH CARDS

The data is recorded on widely available SD (Secure Digital) flash cards. The format is a simple ".txt" text file that is easily imported to spread sheets and other programs. It can be read directly on a PC or MAC with a USB card reader. You can also download the data remotely over an Ethernet network or the Internet.

SENSOR AND CALIBRATION

The iSD monitors come complete with a plug-in temperature and humidity probe that mounts on the instrument or separately with the six foot extension cable (included).

It is not necessary to take the iSD monitor out of service for routine calibration. The temperature / humidity sensors are interchangeable and can be replaced for about the same cost as a typical calibration.

OMEGA offers replacement sensors with optional 3-point NIST traceable calibration certificates.

iP-PC, polyethylene cap option, no charge

iP-SC, porous stainless steel cap option, $25.
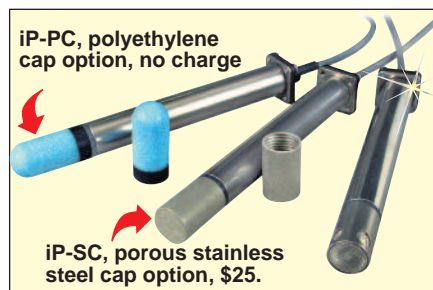
Installation and operation of the OMEGA iSD monitor requires no special training, tools, or software. The device connects to any Ethernet network with standard cable and plugs and is powered by any AC outlet supplying 110 to 240 VAC.

AWARD-WINNING TECHNOLOGY

The OMEGA iSD is simple to install and use, and features OMEGA's award-winning iServer technology that requires no special software except a Web Browser.

View temperature and humidity over Ethernet or the Internet.
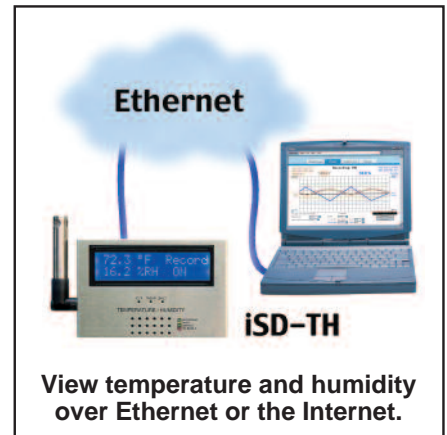
The iSD connects to an Ethernet Network with a standard RJ45 connector and sends data in standard TCP/IP packets. It is easily configured with a simple menu using a Web Browser and can be password protected. From within an Ethernet LAN or over the Internet, the user simply types its IP address or an easy to remember name such as "Cleanroom 5" or "Midwest Server Room" in any Web Browser, and the iSD serves a Web Page with the current readings.

TYPICAL APPLICATIONS

The OMEGA iSD is great for monitoring temperature + humidity in applications such as: clean rooms, computer rooms, HVAC systems, pharmaceutical and food processing and storage, hospitals, laboratories, semiconductor fabs, electronic assembly, warehousing, museums, manufacturing, greenhouses, farm animal shelters, and many more.

OMEGA iServer products are designed and manufactured in the U.S.A..

Datalogging spreadsheet

To download information and to order online, visit omega.com/sanitary

Specifications

RELATIVE HUMIDITY SENSOR

Accuracy/Range: ±2% for 10 to 90%; ±3% for 5 to 10% and 90 to 95%; ±4% for 0 to 5% and 95 to 100%

Non-linearity: ±3%

Hysteresis: ±1%RH

Response Time: 8 seconds, tau 63%

Repeatability: ±0.1%

Resolution: 0.1%, 12 bit

TEMPERATURE SENSOR

Accuracy/Range*

Wand Probe:
±0.5°C (±1°F) for 5 to 45°C (41 to 113°F); ±0.5 to ±1°C (±1 to ±2°F) for 0 to 5°C and 45 to 60°C (32 to 41°F and 113 to 140°F)

Industrial Probe: (see chart in manual) ±0.5°C (±1°F) for 5 to 45°C (41 to 113°F); ±0.5 to ±1.5°C (±1 to ±2.7°F) for -40 to 5°C and 45 to 124°C (-40 to 41°F and 113 to 255°F)

*Note: extended temperature range is for Ind. probe only, the iServer's operating temperature is 0 to 60°C

Response Time: 5 to 30 secs, tau 63%

Repeatability: ±0.1°C

Resolution: 0.1°C, 14 bit

Standard Probe Dimensions:
Ø13 x 83.8 mm lg (Ø 0.5 x 3.3" lg)

Industrial Probe iSD-THP-5:
Probe: Ø16 x 137 mm lg (0.63 x 5" lg)
Housing material: SS 316
Cable length 3 m (10')
Cable operating temperature:
-40 to 125°C (-40 to 257°F)

INTERFACES

Ethernet (RJ45): Fixed or auto-negotiating 10/100BASE-T, Auto MDI/MDIX

Protocols TCP, UDP, SNMP, SMTP, NTP, ARP, ICMP, DHCP, DNS, HTTP, and Telnet

LCD Display 32 Digits 4.8 x 9.7 mm (0.19 x 0.38")

SD Flash Memory Card
2GB card: 8 months of data storage at 1 second recording intervals or 7 years at 10 second intervals

Relay Outputs
Two Relays 1.5A @ 30 Vdc

Alarm I/Os: Two contact inputs, TTL 0.5 mA with 10K pull-up; one open collector output 150 mA @ 30 Vdc

Embedded WEB Server: Serves WEB pages containing real-time data and live updated charts within definable time intervals

POWER

Input: 9 to 12 Vdc

AC Power Adaptor (Included):
Input: 100 to 240 Vac, 50/60Hz
Nominal Output: 9 Vdc @ 0.5 A

Back-up Battery: 9 Vdc, Alkaline

Operating Temperature:
iServer Unit: 0 to 60°C (32 to 140°F)
Battery: -18 to 55°C (0 to 131°F)
ac Adaptor: 0 to 40°C (32 to 104°F)

PACKAGING

Weight: 490 g (1.08 lbs)

Material: SS 304 case with wall mount bracket

Replacement Probes with Calibration Certificate available, just add:
"- CAL-3-HU"
No need to take your unit out of service to get re-calibrated, order a calibrated probe instead.

Dimensions: mm (in)
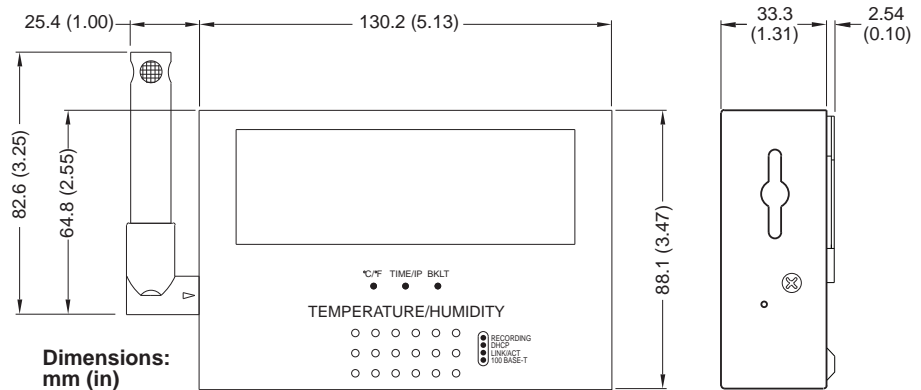
AVAILABLE FOR FAST DELIVERY!

To Order *(Specify Model Number)*

Model No.	Price	Description
iSD-TH	**$495**	iSD monitor for temperature + humidity, standard probe, 1.8 m (6') extension cable
iSD-TH-5	**520**	iSD monitor for temperature + humidity, 137 mm (5") industrial probe with 3 m (10') cable
Accessories		
iSDTHP	**$100**	Replacement standard right angle probe
iSDTHP-5	**125**	Replacement industrial 137 mm (5") probe, cable 3 m (10')
iP-PC	**N/C**	Polyethylene probe cap for wet environments
iP-SC	**25**	Porous stainless steel probe cap, 5 µm porosity, for dusty and pressurized (<35 psi) environments
Calibration for new units		
CAL-3-HU	**$125**	NIST traceable calibration certificate. Three humidity points: 25%, 50%, 75%, one temperature 25°C, for new units.
CT485B-CAL-KIT	**75**	Calibration kit, 33% and 75% RH standards
For Calibrated Replacement Probes, including Calibration Certificate		
iSDTHP-CAL-3-HU	**$150**	Standard right angle probe and NIST traceable calibration certificate.
iSDTHP-5-CAL-3-HU	**$175**	Industrial probe and NIST traceable calibration certificate.

Comes complete with LCD display, 2 GB SD flash memory card, 2 relay alarms, battery back-up, universal 100 to 240 Vac power adaptor and operator's manual.

Ordering Examples: iSD-TH, *monitor for temperature plus humidity with a right angle probe and 1.8 m (6') extension cable,* ***$495.***

iSD-TH-5, *monitor for temperature plus humidity with industrial 137 mm (5") probe and 3 m (10') cable,* ***$520.***

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-6 6342® 1-877-TC-OMEGA

1- or 2-Channel Circular Recorders

**CT5100 Series
Starts at**
$839

MADE IN USA · 2 YEAR WARRANTY · CE Optional†

- ✔ **254 mm (10") Chart**
- ✔ **1- or 2-Pen Versions**
- ✔ **Programmable Inputs: Thermocouple, RTD, DC Current, or Voltage**
- ✔ **4-Digit, 14 mm H (0.56") LED Display**

CT5100 Series circular chart recorders can measure and display up to 2 process variables. Choose from a variety of programmable inputs. All recorder and alarm functions are easily configured with the 3 front-panel keys. Required panel depth is only 64 mm (2.5"), with only a 33 mm (1.3") protrusion.

CT5100, $839, shown smaller than actual size.

Specifications
INPUTS
Input Types/Range:
  Thermocouple: J, K, T, R, S
  RTD: 100 Ω platinum, 0.00385 Ω/Ω/°C
  DC Current: 0 to 20 mA, 4 to 20 mA; internal 4.7 Ω shunt resistor
  DC Voltage: 0 to 25 mV, 0 to 50 mV, 10 to 50 mV, 0 to 5 V, 1 to 5 V
Impedance: >100 MΩ for T/C and mV inputs, 100 kΩ for 5 V inputs, 4.7 Ω for μA inputs
RTD Excitation Current: 150 μA, typical
Input Scan Rate: 1 scan per second for non-RTD inputs; 1 scan per 1.2 seconds for RTD inputs
Input Correction: Offset adjustment: 999 to 999 units
Sensor Fault Detection: Display goes to "SnSr" and pen goes up-scale if a sensor break is detected. No sensor break can be detected for zero-based volt and milliamp ranges. Display goes to "Hi" 10% above span; display goes to "Lo" 10% below span or zero, whichever is higher.

**Input Performance
Under Reference Conditions:
Measurement Error:**
Type J, K, T, R, S and RTD: ±0.25% of span ±1 degree; mA, mV and Vdc: ±0.25% of scaled span plus 1 least-significant digit
Cold-Junction Compensation Error: ±0.2°C @ 25°C (±0.36°F @ 77°F)
Cold-Junction Compensation Rejection: 0.04°/°C deviation from 25°C (0.07°/°F from 77°F)
Linearization Error:
  T/Cs: ±0.25°C (0.45°F) typical, ±0.5°C (0.9°F) worst case
  RTDs: ±0.1°C (0.18°F) typical, ±0.3°C (0.54°F) worst case
Ambient Temperature Error: ±0.01% of span per °C (1.8°F) deviation from 25°C (77°F)
Common Mode Rejection: >120 dB @ 50/60 Hz, 260 Vac max.
Normal Mode Rejection: 85 db minimum @ 60 Hz or greater
Isolation: 350 Vac, 500 Vdc; inputs share a common signal ground

REFERENCE CONDITIONS
Ambient Temperature: 25°C (77°F)
Relative Humidity: 60 to 70% RH
Supply Voltage: 115 Vac, 60 Hz
Source Resistance:
<10 Ω for T/C input
Lead Resistance: <0.1 Ω (Pt100)
RECORDING
Pen Type: Disposable fiber tip
Pen Color: Pen 1—red; pen 2—green
Chart Size: 254 mm D (10")
Chart Drive: Stepper motor
Chart Rotation: User configurable: 8 hours, 12 hours, 24 hours, 48 hours or 7 days
Chart Span: Bottom and top of span, -9999 to 9999 units
Recording Performance:
Chart Recording Accuracy: 0.5% of chart span reference accuracy
Chart Rotation Accuracy: ±0.5% of rotation time, assuming all backlash removed
Operator Interface
Display: 4-digit, 14 mm H (0.56"), red, 7-segment, LED display
Status Indicators: 5 red LED alarm status indicators, 1 green LED pen 2 indicator

† Refer to footnote on page 130 for CE ordering information.

Sanitary product line continues to expand, visit omega.com/sanitary for details!

**HOTLINE
TO SANITARY
PRODUCTS** 1-877-82-6 6 3 4 2 ®
1-877-TC-OMEGA

Ranges

Sensor Type	Sensor Specs	Code	Reference Range °C	Reference Range °F
T/C	Iron-constantan	J	0 to 760	0 to 1400
	CHROMEGA®-ALOMEGA®	K	0 to 1360	0 to 2500
	Copper-constantan	T	-200 to 400	-330 to 752
	Platinum 13% rhodium-platinum	R	200 to 1650	400 to 3000
	Platinum 10% rhodium-platinum	S	200 to 1650	400 to 3000
RTD	100 Ω platinum, 0.00385 Ω/Ω/°C	Pt100	-140 to 400	-220 to 752

Keypad: 3 keys for programming and unit operation

Display Modes: Normal: process value(s) or blank

ALARMS

Number: Up to 2 process alarms for each of 2 inputs

Type: Process high or low

Limit Device: Optional high/low limits for each input with latching output; normally open output latches open; red reset button to the right of the display

Hysteresis: Fully adjustable, 0 to 200 units, single sided

Security: Alarm setpoint changes can be prohibited

Sensor Fault Action: Alarm works normally in "Hi" and "Lo" conditions; alarm relays are de-energized in a "SnSr" sensor break condition

RELAY OUTPUTS

Relays: SPDT; contacts rated 5 A resistive @ 115 Vac, 2.5 A resistive @ 230 Vac, ⅛ hp @ 230 Vac (single phase), 250 VA @ 115/230 Vac

POWER REQUIREMENTS

Line Voltage: 90/264 Vac, 50/60 Hz; optional: 20 to 50 Vac, 50/60 Hz, or 22 to 65 Vdc

Power Consumption: 18 VA max

CONSTRUCTION

Enclosure: Injection-molded Noryl® case and cover with acrylic window

NEMA Rating: NEMA 3 (IP54)

Conduit Openings: 3 openings on the right side

Mounting: Panel or wall

Overall Dimensions: 355.6 W x 355.6 H x 96.5 mm D (14 x 14 x 3.8")

Panel Cutout: 322.58 W x 322.58 mm H (12.7 x 12.7")

Panel Depth: 64 mm (2.5")

Panel Protrusion: 33 mm (1.3")

Weight: 8.8 kg (15 lb) max

Retrofit: With adaptor plate, will fit CT7000 cutout

ENVIRONMENTAL AND OPERATING CONDITIONS

Operating Temperature: 0 to 50°C (32 to 122°F)

CT5100, $839, shown smaller than actual size.

Storage Temperature: -40 to 65°C (-4 to 149°F)

Humidity: 10 to 90% RH, non-condensing

GENERAL REFERENCE DATA

Data Backup: EEPROM for configuration parameters and calibration data; EEPROM for alarm setpoints

APPROVALS AND COMPLIANCE

Safety:

UL Approved for USA: UL 1092, UL 916 and QUXY, pending

UL Certified for Canada: CSA Spec 142, pending

Limit/Device: FM, pending

OMEGACARE℠ extended warranty program is available for models shown on this page. Ask your sales representative for full details when placing an order. OMEGACARE℠ covers parts, labor and equivalent loaners.

MOST POPULAR MODELS HIGHLIGHTED!

Accessories

Model No.	Price	Description
CT7000-GREEN	$25	Green pens, pkg. of 5, channel 2 only
CT7000-RED	25	Red pens, pkg. of 5, channel 1 only
CT7000C-0-100/24	21	Circular paper, 100 qty., 24-hr
CT7000C-0-100/7	21	Circular paper, 100 qty., 7-day
CT7000C-0-300/24	21	Circular paper, 100 qty., 24-hr
CT7000C-0-300/7	21	Circular paper, 100 qty., 7-day
CT7000C-0-2500/24	21	Circular paper, 100 qty., 24-hr
CT7000C-GENERIC/24HR	21	Circular paper, 100 qty., 24-hr
CT-CK	200	Configuration kit for CT5000 and CT9000

Note: *Other ranges available. Consult Sales for details.*

To Order *(Specify Model Number)*

Model No.	Price	Description
CT5100	$839	1-pen recorder
CT5101	928	1-pen recorder with 1 alarm relay
CT5102	999	1-pen recorder with 2 alarm relays
CT5100-LOCK	874	1-pen recorder with door lock
CT5110	1102	2-pen recorder
CT5112	1262	2-pen recorder with 1 alarm relay per channel
CT5114	1422	2-pen recorder with 2 alarm relays per channel
CT5110-LOCK	1136	2-pen recorder with door lock

Comes complete with package of paper, 1 pen per channel and operator's manual.
For transmitter power supply, add "-XPS" to model number and $114 to price.
†To order CE approval, add suffix "-CE" to model number and $25 to price.
Ordering Examples: CT5100, *1-pen recorder,* **CT7000C-0-100/7,** *100 sheets of chart paper, $839 + 21 =* **$860.**
CT5102, *1-pen recorder with 2 alarm relays,* **OCW-1** *OMEGACARE℠ extends standard 2-year warranty to a total of 3 years* **($82),** *$99 + 99 =* **$1098.**

NEW®

Portable Universal Circular Chart Recorder
5 Models Available

SUPERECORDER™

Choice of White or Gray to Meet Your Needs!

5 Models Available!
1 Temperature/Humidity with Wired Probe
2 Temperature/Humidity with Remote Wireless Probe
4 Dual Process-Voltage or Current
4 Dual Thermocouple
5 pH/Temperature

For Complete Details Visit omega.com/ctxl

Large 200 mm (8") Chart 2-Sided

PATENTED AND PATENTS PENDING

CTXL Series Starts at
$795

MADE IN USA   2 YEAR WARRANTY   NIST   CE   EMC SERVICES

Optional†

CTXL-TRH recorder $795, shown smaller than actual size.

✔ **Large, 200 mm (8") Scale**
✔ **1, 7 or 32 Day Recording**
✔ **Easy to Read Dual Channel Backlit LCD Readout**
✔ **Convenient Front Panel Programming/Operation**
✔ **Monitors Min/Max/Avg Values**
✔ **High/Low Audible/ Visual Alarms**
✔ **Dual High Alarm Relays, Dual Low Alarm Voltage Outputs**
✔ **Double Sided Charts with Magnetic Mount Hub**
✔ **Benchtop or Wall Mount with Built-In Chart Lights**
✔ **Powered by 4 D Batteries or Universal AC Adaptor**
✔ **Data Logging PC Software Included**

The CTXL Series circular chart recorders from OMEGA combine form and function in an easy to use two-channel circular chart recorder with a large, 200 mm (8") diameter chart, and dual channel LCD readout. Depending on your application, the CTXL is available to measure ambient temperature and humidity (with an available wireless option capable of up to 90 m (300') (line of sight), dual thermocouple, dual process (1 V, 5 V, 10 V, or 0/4 to 20 mA), or pH/temperature.

The CTXL has a custom LCD readout that displays the current values of both channels, and can indicate the min, max or average input values as well. The display also indicates the chart speed (1, 7 or 32 day), battery status, high and low alarm indication, keypad lockout status, and battery life.

Additional features of the CTXL include dual relays with contact closures for high alarms, and dual voltage outputs for low alarms to drive external relays. A built-in audible buzzer also informs the user of an alarm condition. A hidden key (White Box) can lockout unauthorized access to the front keypad, preventing changes to the recorder settings.

The CTXL features a rugged, ABS enclosure, suitable for industrial environments, but it's also intended to fit right in to other environments, such as museums, art galleries, computer rooms, labs, clean rooms, even hospitals. The CTXL is designed for both benchtop and wall mount operation; a convenient base rotates out of the way, and is hidden by a decorative foot cover for wall mount use.

Each unit comes complete with 120 assorted double-sided charts, 2 pen sets, extra chart light, universal ac adaptor, 4 "D" cell alkaline batteries, RS232 cable and adaptor, software CD, wall mounting kit, and operator's manual. CTXL-TRH models are also supplied with sensor probe and clip, and 1.8 m (6') probe extension cable.

† Refer to accessories chart on page 134 for NIST calibration ordering information.

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS **1-877-82-6 6 342**® **1-877-TC-OMEGA**

Temperature/Relative Humidity Recorder

Large 200 mm (8") Chart 2-Sided

Choice of White or Gray to Meet Your Needs!

Model #1
CTXL-TRH

$795

MADE IN USA | 2 YEAR WARRANTY | NIST | CE | EMC SERVICES

Optional†

- ✔ **-17 to 49°C (2 to 120°F) and 2 to 98% RH Ranges**
- ✔ **Detachable Sensor Probe for Direct Attachment or Remote Mounting**
- ✔ **Available Wireless Sensor Model**
- ✔ **Windows-Based PC Data Logging Software Included**
- ✔ **Specialty Chart Papers Available for Custom Applications**
- ✔ **Benchtop or Wall Mount with Built-In Chart Lights**

The CTXL-TRH recorder is designed for both local and remote monitoring of temperature and relative humidity. The standard sensor probe clips to the side of the unit, or may be detached and mounted up to 12 m (40') away, using available extension cables. For even longer distances, the recorder is available with a wireless probe, which can be placed up to 90 m (300') line of sight, or 33 m (110') indoors away from the recorder. Simply plug-in the wireless receiver in place of the probe into the recorder, and you're ready to go.

The CTXL-TRH is available with specialty paper charts, with optimal ranges marked right on the chart, so you can easily see from a distance that the temperature and humidity readings are within range.

The CTXL-TRH comes with a Windows-based application program that allows the user to monitor the temperature and relative humidity using their PC. You can log the data to a file, as well as display the information on a custom on-screen chart; set the alarms on the recorder, and display their status on-screen. You can also re-scale the recorder chart paper,

CTXL-TRH recorder, $795, shown smaller than actual size.

setting temperature and %RH limits anywhere within the range of the unit. This allows you to use the 8" chart to display narrow temperature and humidity bands, for greater resolution.

Specifications
(See Common Specifications on Page 138)
Temperature:
Range: -17.7 to 49°C (0 to 120°F)
Display Accuracy: ±1°C (2°F)
Chart Accuracy: ±1.5°C (3°F)
Display Resolution: 0.1° (F or C)
Relative Humidity:
Range: 0 to 98% RH
Display Accuracy: ±3% RH, 15 to 90% RH @ room temperature; ±5% RH, <15 or > 90% RH @ room temperature

PATENTED AND PATENTS PENDING

Chart Accuracy: ±4% RH, 15 to 90% RH, ±6% RH, <15 or >90% RH
Display Resolution: 1% RH
Remote Probe:
12.2 m (40') max distance
Temperature/Humidity Sensor: Digital sensor
Probe Disconnect: Pens will go to the Home position; Display will show "Prb Err". Chart motor will continue to run

Alarm Set Point Resolution:
  Temperature: 0.5°C or °F
  Humidity: 1%RH
Alarm Deadband:
  Temperature: 0.5°C or °F
  Humidity: 3% RH

† Refer to accessories chart on page 134 for NIST calibration ordering information.

NEW®

Choice of White or Gray to Meet Your Needs!

PATENTED AND PATENTS PENDING

Large 200 mm (8") Chart 2-Sided

**Model #2
CTXL-TRH-W**
$895

MADE IN **USA** | **2 YEAR** WARRANTY | **NIST** | CE | **EMC** SERVICES &

Optional†

✔ **Record Temperature/Humidity with Remote Wireless Probe**
✔ **RF Range 90 m (295') Line of Sight and 33 m (108') Indoors**
✔ **1, 7 or 32 Day Recording**
✔ **Easy to Read Dual Channel Backlit LCD Readout**
✔ **Convenient Front Panel Programming/Operation**
✔ **Monitor Min/Max/Avg Values**
✔ **High/Low Audible/ Visual Alarms**
✔ **Dual High Alarm Relays, Dual Low Alarm Voltage Outputs**
✔ **Double Sided Charts with Magnetic Mount Hub**
✔ **Benchtop or Wall Mount with Built-In Chart Lights**
✔ **Powered by 4 "D" Batteries or Universal AC Adaptor**

Specifications

(See Common Specifications on Page 138)
Transmitter
Transmit Sample Rate: 2 sec up to 2 min
Radio Frequency: ISM 915 MHz or ISM 868 MHz
Approvals:
  CTXL-TRH-(*)-W9: FCC, Class A
  CTXL-TRH-(*)-W8: CE
RF Link Range:
Outdoor Line of Sight: Up to 90 m (300')
Indoor/Urban: Up to 33.5 m (110')
Computer Interface:
USB, to change transmit interval, frequency and channel ID
Operating Ambient: -18 to 49°C (0 to 120°F), 2 to 98% RH
LED Indicators: Red LED for Low Battery and other communication error indications; Green LED for transmit indication
Power: One 3.6 Vdc "AA" Lithium Battery, 2400 mAH capacity, or optional ac adaptor, UNI-AC-100/240-5V

Wireless Transmitter—Up to 90 m (300') from Recorder

Remote wireless temperature/humidity transmitter, included, shown smaller than actual size.

**OMEGA
CTXL-PT SERIES
WIRELESS TEMPERATURE/HUMIDITY TRANSMITTER**

Battery Life: 1 year typical, at 1 minute transmission rate
Receiver
Computer Interface:
USB, to change receive interval, frequency and channel ID
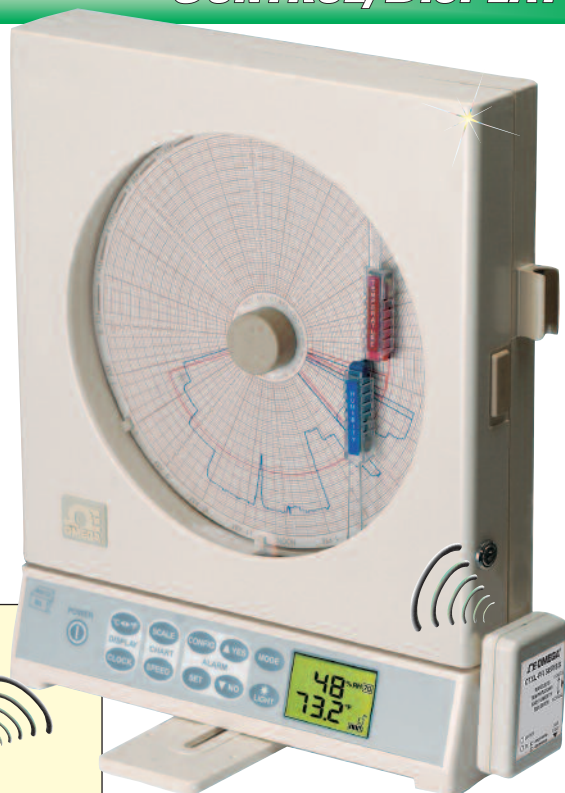
CTXL-TRH-W-W9 temperature/humidity recorder with remote wireless receiver, $895, shown smaller than actual size.

Operating Ambient: -18 to 49°C (0 to 120°F), 2 to 98% RH
LED indicators: Red LED for comm. error indications, Green LED for receive indication
Power: From the CTXL recorder through the round DIN connector

† Refer to accessories chart on page 134 for NIST calibration ordering information.

Application Software Included!
- **Monitors Temperature and Humidity**
- **Line Graph and Store of Readings in Real Time and Download of Recorded Data**
- **Set the Line Graph Scales to Auto, Logarithmic, or Manual**
- **Re-Scale the Recorder Chart Paper**
- **Print Line Graphs to a Printer**

Application Software Included

Sanitary product line continues to expand, visit omega.com/sanitary for details!

**HOTLINE TO SANITARY PRODUCTS 1-877-82-6 6 3 4 2®
1-877-TC-OMEGA**
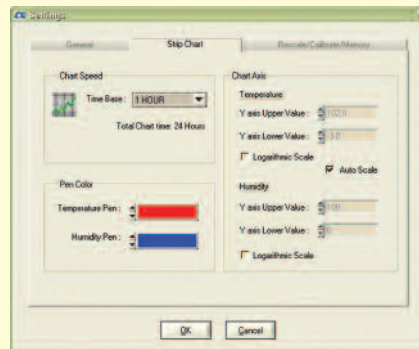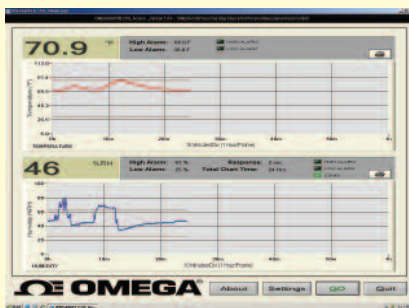
Custom Charts Available!
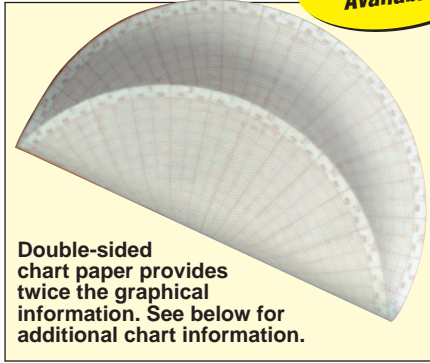
Double-sided chart paper provides twice the graphical information. See below for additional chart information.

AVAILABLE FOR FAST DELIVERY!

To Order *(Specify Model Number)*

Model No.	Price	Description	Color	Wireless
CTXL-TRH-W	$795	Temperature/RH recorder	White	—
CTXL-TRH-G	795	Temperature/RH recorder	Gray	—
CTXL-TRH-W-(*)	895	Temperature/RH recorder	White	Y
CTXL-TRH-G-(*)	895	Temperature/RH recorder	Gray	Y

* Specify wireless type: "W9" for USA/Canada (915 MHz) or "W8" for Europe (868 MHz).

Double-Sided Charts††

Model No.	Price	Description
CT485-CDF	$19	100 charts, 1 day (am/pm), °F
CT485-CDC	19	100 charts, 1 day (am/pm), °C
CT485-C24F	19	100 charts, 1 day (24 hr), °F
CT485-C24C	19	100 charts, 1 day (24 hr), °C
CT485-CWF	19	100 charts, 7 day, °F
CT485-CWC	19	100 charts, 7 day, °C
CT485-CMF	19	100 charts, 32 day, °F
CT485-CMC	19	100 charts, 32 day, °C
CT485-CSP	19	120 charts, 20 each, 1 day (am/pm), 7 day, 32 day, °F and °C (one included with unit)

*†† To order a package of 600 double sided charts, add suffix "-6" to model number, **$87.50/pkg.***

CTXL-TRH Units Include
120 Double-Sided Charts FREE!
(20 each of 1-day, °F; 1-day, °C; 7-day, °F; 7-day, °C; 32-day, °F; 32-day °C).
Additional charts can be ordered as 1 pack of 100 or 6 packs of 100 (see "Charts" table below left).

Double-Sided Specialty Charts (pkg of 20)

To Order *(Specify Model Number)*

Model No.	Price	Description	Optimal Band Range
CT485-MW(*)	$20	Museum/art gallery, 7 day	18.3 to 22.2°C (65 to 72°F), 40 to 50% RH
CT485-MM(*)	20	Museum/art gallery, 32 day	18.3 to 22.2°C (65 to 72°F), 40 to 50% RH
CT485-HW(*)	20	Hospital, 7 day	20 to 23.3°C (68 to 74°F), 40 to 50% RH
CT485-HM(*)	20	Hospital, 32 day	20 to 23.3°C (68 to 74°F), 40 to 50% RH
CT485-LW(*)	20	Lab/clean room, 7 day	20 to 23.9°C (68 to 75°F), 40 to 55% RH
CT485-LM(*)	20	Lab/clean room, 32 day	20 to 23.9°C (68 to 75°F), 40 to 55% RH
CT485-PW(*)	20	Computer room/office, 7 day	18.3 to 23.9°C (65 to 75°F), 45 to 60% RH
CT485-PM(*)	20	Computer room/office, 32 day	18.3 to 23.9°C (65 to 75°F), 45 to 60% RH

* Specify temperature units, "C" for °C or "F" for °F.

Accessories

Model No.	Price	Description
CTXL-PT-(*)	$125	Wireless Temperature/Humidity probe transmitter, to retrofit a CTXL-TRH unit
CTXL-PR-(*)	75	Wireless Temperature/Humidity receiver, to retrofit a CTXL-TRH unit
UNI-AC-100/240-5V	25	Universal 5 Vdc adaptor
CTXL-CABLE-6	16	1.8 m (6') sensor extension cable (replacement)
CTXL-CABLE-10	25	3 m (10') sensor extension cable
CTXL-CABLE-25	40	7.6 m (25') sensor extension cable
CTXL-CABLE-6-S	15	3 m (10') sensor extension cable
CT485B-CAL-KIT	85	RH calibration kit, 33 and 75% RH salt solutions
CAL-3-CTXL†	150	NIST-traceable calibration
CT485-PS	10	pen set, one each red and blue pens
CT485-PS-6	52	six pen sets, six each red and blue pens
CTXL-RP-W	80	Temperature/Humidity sensor probe, white
CTXL-RP-G	80	Temperature/Humidity sensor probe, gray
CT485B-CLIP-KIT	5	Sensor clip kit

** Specify wireless type: "W9" for USA/Canada (915 MHz) or "W8" for Europe (868 MHz). To retrofit a CTXL-TRH recorder with wireless capability, one transmitter (**CTXL-PT**) and one receiver (**CTXL-PR**) are required.*

Each unit comes complete with sensor probe and clip, 120 assorted double-sided charts, 2 pen sets, 1.8 m (6') remote sensor cable, wall mount kit, 4 "D" cell batteries, RS232 cable and adaptor, software CD, universal ac adaptor, and operator's manual.

***Ordering Example: CTXL-TRH-W-W9**, white temperature/relative humidity recorder with remote/wireless probe, **CT485-CWF** chart paper (100 double sided sheets, 7 day, °F), and **OCW-3**, OMEGACARE℠ extends standard 2-year warranty to a total of 5 years, $895 + 19 + 232 = **$1137**.*

NEW®

Dual Input Process Recorder

Model #3 CTXL-DPR

$795
All Models

MADE IN USA · 2 YEAR WARRANTY · NIST · CE · EMC SERVICES

Optional†

Choice of White or Gray to Meet Your Needs!

Large 200 mm (8") Chart 2-Sided
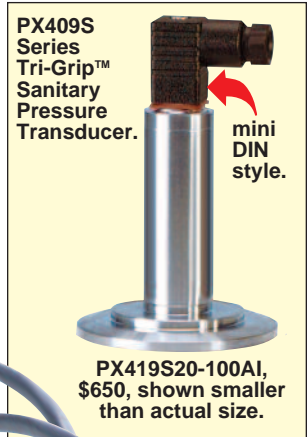
- ✔ **Models Available for Voltage or Current Input**
- ✔ **Voltage Models Selectable for 1, 5 or 10V Inputs**
- ✔ **Current Models Selectable for 0 to 20 or 4 to 20 mA Inputs**
- ✔ **±1% FS Display Accuracy**
- ✔ **Windows® Based PC Data Logging Software Included**
- ✔ **Benchtop or Wall Mount with Built-In Chart Lights**
- ✔ **Data Logging PC Software Included**

The CTXL-DPR is a dual input process recorder, available with either voltage or current inputs. Both input channels are set to the same input range; the voltage input model has selectable ranges of 0 to 1, 0 to 5 and 0 to 10V, while the current model is selectable between 0 to 20 and 4 to 20 mA ranges. Standard charts are scaled for 0 to 100%; the user can also scale the chart paper to show a portion of the full range.

Specifications
(See Common Specifications on Page 138)

Input Types: Process voltage (DPR-V) or current (DPR-I)

Input Connection: mini DIN connector

Input Ranges: Both input channels configured to same input range

    CTXL-DPR-V: 0 to 1V, 0 to 5V or 0 to 10V

    CTXL-DPR-I: 4 to 20 mA or 0 to 20 mA

Display Accuracy: ±1.0%FS

Standard Chart Scale: 0 to 100%

Out of Range Input: Display will flash. Chart motor will continue to run

Alarm set point Resolution: 1%

Alarm Deadband: 3%

Excitation Voltage: 15Vdc @ 50 mA

PX409S Series Tri-Grip™ Sanitary Pressure Transducer.

mini DIN style.

PX419S20-100AI, $650, shown smaller than actual size.

CTXL-DPR recorder, $795, shown smaller than actual size.

For the Complete Selection of OMEGA Pressure Transducers Visit omega.com/pressure

Pressure transducers sold separately.

PATENTED AND PATENTS PENDING

AVAILABLE FOR FAST DELIVERY!

To Order *(Specify Model Number)*

Model No.	Price	Description	Color	Input
CTXL-DPR-W-V	$795	Dual input process recorder	White	Voltage
CTXL-DPR-G-V	795	Dual input process recorder	Gray	Voltage
CTXL-DPR-W-I	795	Dual input process recorder	White	Current
CTXL-DPR-G-I	795	Dual input process recorder	Gray	Current

Double-Sided Charts

Model No.	Price	Description
CTXL-DPR-CD	$19	100 charts, 1 day (am/pm), 0 to 100%
CTXL-DPR-CW	19	100 charts, 7 day, 0 to 100%
CTXL-DPR-CM	19	100 charts, 32 day, 0 to 100%
CTXL-CSP-P	19	120 charts, sample pack (one included with unit)

Accessories

Model No.	Price	Description
CAL-3-CTXL†	$150	NIST-traceable calibration
CTXL-CABLE-6-S	15	1.8 m (6') analog input extension cable, stripped leads termination
CT485-PS	10	Pen set, one each red and blue pens
CT485-PS-6	52	Six pen sets, six each red and blue pens

Each unit comes complete with 120 assorted double-sided charts, 2 pen sets, 1.8 m (6') input cable, wall mount kit, 4 "D" cell batteries, RS232 cable and adaptor, software CD, universal ac adaptor, and operator's manual.

***Ordering Example: CTXL-DPR-W-V**, white dual voltage input recorder with **CTXL-DPR-CW** chart paper (100 double-sided sheets, 7 day, 0 to 100%), $795 + 19 = **$814**.*

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-66342® 1-877-TC-OMEGA

Dual Input Thermocouple Recorder

Model #4
CTXL-DTC
$795
All Models

MADE IN USA · 2 YEAR WARRANTY · NIST · CE · EMC SERVICES

Optional†

- ✔ **User Selectable for J, K or T Type Thermocouple Input**
- ✔ **Universal Thermocouple Connector Compatible with Standard and Miniature Connectors**
- ✔ **6 Wire Thermocouple Sensor Assemblies Included – 2 of Each Calibration J, K and T**
- ✔ **Display Accuracy of ±1.5°C (3°F) for J, T and ±2°C (4°F) for K Type Thermocouple**
- ✔ **Benchtop or Wall Mount with Built-In Chart Lights**
- ✔ **Data Logging PC Software Included**

The CTXL-DTC is a dual input thermocouple recorder, both input channels are set to the same calibration; the user can select either J, K or T type thermocouple calibration. Input connections are via UST type universal thermocouple connector that is compatible with both standard (type OST) and miniature (type SMP) thermocouple connectors.

The recorder comes with standard chart papers for J, K, and T Type thermocouple inputs. The blank chart paper can be used to re-scale the chart paper within the operating chart scale.

Specifications
(See Common Specifications on Page 138)

Input Types: Dual J, K, or T thermocouple; user programmable from PC

Input Connection: Universal connector, compatible with both standard (type OST) and miniature size (type SMP) thermocouple connectors

Display Range:
Type J: -100 to 700°C (-148 to 1292°F)
Type K: -100 to 1000°C (-148 to1832°F)
Type T: -100 to 300°C (-148 to 572°F)

Choice of White or Gray to Meet Your Needs!

Large 200 mm (8") Chart 2-Sided

PATENTED AND PATENTS PENDING

CTXL-DTC recorder, $795, shown smaller than actual size.

Thermocouple sensors sold separately shown for reference only.

Optional Sanitary Thermocouple Probe with Tri-Grip™ Flange.

TCS-TU-S-0300-D1-CB-120, $120, shown smaller than actual size. Visit omega.com/tcs-h-cb for details.

Display Accuracy:
Type K: ±2°C (4°F)
Types J and T: ±1.5°C (3°F)
Standard Chart Scales:
Type J: -40 to 260°C (-40 to 500°F)
Type K: -40 to 560°C (-40 to 1040°F)
Type T: -40 to 160°C (-40 to 320°F)

Open Thermocouple input: Pens will go to the Home position; display will show "Prb Err". Chart motor will continue to run

Out of Range Input: Display flashes
Alarm Set Point Resolution: 1°C or °F
Alarm Deadband: 3°C or °F

AVAILABLE FOR FAST DELIVERY!

To Order *(Specify Model Number)*

Model No.	Price	Description	Color
CTXL-DTC-W	**$795**	Dual input thermocouple recorder	White
CTXL-DTC-G	795	Dual input thermocouple recorder	Gray

Double-Sided Charts

Model No.	Price	Description
CTXL-DTC-(*)-CD	**$19**	100 charts, 1 day (am/pm)
CTXL-DTC-(*)-CW	19	100 charts, 7 day
CTXL-DTC-(*)-CM	19	100 charts, 32 day
CTXL-CSP-T	19	150 charts, sample pack (one included with unit)

Accessories

Model No.	Price	Description
CAL-3-CTXL†	**$150**	NIST-traceable calibration
CT485-PS	10	Pen set, one each red and blue pens
CT485-PS-6	52	Six pen sets, six each red and blue pens

* Specify chart range: "R1" for -40 to 560°C (-40 to 1040°F), "R2" for -40 to 260°C (-40 to 500°F), or "R3" for -40 to 160°C (-40 to 320°F)

Each unit comes complete with two J, K, T thermocouples, 120 assorted double-sided charts, 2 pen sets, wall mount kit, 4 "D" cell batteries, RS232 cable and adaptor, software CD, universal ac adaptor, 2 OSTW-U-M mating connectors and operator's manual.

***Ordering Example: CTXL-DTC-G**, gray dual thermocouple input recorder with **CTXL-DTC-R1-CW** chart paper [100 double-sided sheets, 7 day, -40 to 560°F (-40 to 1040°F) range], $795 + 19 = **$814**.*

NEW ®

**Model #5
CTXL-PH**

$795
All Models

MADE IN USA • 2 YEAR WARRANTY • NIST • CE • EMC SERVICES &
Optional†

pH/Temperature Recorder

- ✔ **Record pH with Automatic Temperature Compensation**
- ✔ **Standard BNC pH Electrode Connector**
- ✔ **Pt100 RTD Temperature Sensor ATC**
- ✔ **Benchtop or Wall Mount with Built-In Chart Lights**
- ✔ **Data Logging PC Software Included**

The CTXL-PH is a high accuracy pH and temperature recorder, compatible with any standard pH electrode. The CTXL-PH also measures temperature from a pH electrode with built-in PT100 RTD sensor for automatic temperature compensation for pH measurement. Standard charts feature 0 to 12 pH and 0 to 120°C ranges, while the recorder can display 0 to 14 pH and 0 to 100°C on the digital readout. The user can also scale the chart paper to show a portion of the full ranges, ie, from 6 to 8 pH and from 50 to 75°C, for greater resolution.

Specifications

(See Common Specifications on Page 138)

pH Input:
  Connection: BNC connector
  Display Range: 0 to 14 pH
  Chart Scale: 0 to 12 pH
  Accuracy: 0.1 pH, chart and display
Resolution:
  Chart paper: 0.1 pH
  Display: 0.01 pH
  Input Impedance: 10^{12} Ω, typical
  Automatic Temperature:
  Compensation: 0 to 100°C (32 to 212°F)

Temperature Input
  Input: Pt100 RTD, 0.00385 curve
  Connection: Terminal Block
  Display Range: 0 to 100°C (32 to 212°F), chart and display
  Chart Scale: 0 to 120°C
  Accuracy: 1°C, chart and display
  Resolution:
  Chart Paper: 1°
  Display: 0.1

Large 200 mm (8") Chart 2-Sided

Choice of White or Gray to Meet Your Needs!

PATENTED AND PATENTS PENDING

CTXL-PH, pH/Temperature recorder, $795, shown smaller than actual size.

pH electrode sold separately.
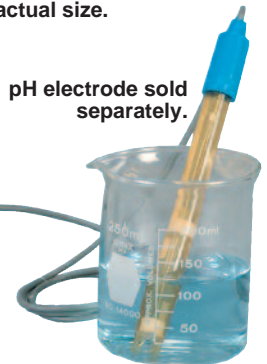
AVAILABLE FOR FAST DELIVERY!

To Order *(Specify Model Number)*

Model No.	Price	Description	Color
CTXL-PH-W	$795	pH/Temperature recorder	White
CTXL-PH-G	795	pH/Temperature recorder	Gray

* *pH Electrode sold separately.*

Double-Sided Chart

Model No.	Price	Description
CTPH-CDC	$19	100 charts, 1 day (am/pm), 0 to 12 pH/0 to 120°C
CTPH-CWC	19	100 charts, 7 day, 0 to 12 pH/0 to 120°C
CTPH- CMC	19	100 charts, 32 day, 0 to 12 pH/0 to 120°C
CTPH-CSP	19	120 charts, sample pack (one included with unit)

Accessories

Model No.	Price	Description
PHE-7352-15-PT100	$175	heavy duty pH electrode with Pt100 RTD temperature sensor
PHE-6510	134	submersible flat surface pH electrode
PHE-1311	57	general purpose pH electrode
PHA-4	5	4 pH buffer solution, 475 ml bottle
PHA-7	5	7 pH buffer solution, 475 ml bottle
PHA-10	5	10 pH buffer solution, 475 ml bottle
CAL-3-CTXL†	150	NIST-traceable calibration
CT485-PS	10	pen set, one each red and blue pens
CT485-PS-6	52	six pen sets, six each red and blue pens

Each unit comes complete with 120 assorted double-sided charts, 2 pen sets, wall mount kit, 4 "D" cell batteries, RS232 cable and adaptor, software CD, universal ac adaptor, temperature compensation resistor and operator's manual.

* pH Electrode sold separately.

***Ordering Example: CTXL-PH-W**, **PHE-6510**, white pH/temperature recorder with submissible flat surface pH electrode, $795 + 134 = **$929**.*

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-66342 ® 1-877-TC-OMEGA

SUPERECORDER™
CTXL Series

Keypad Buttons

Clock – Display Time & Date for 3 seconds

°C ◄►°F – Toggle Temperature Units (Temp units)

Scale – Sets the Chart Scale for °C or °F (Temp units)

Speed - Sets Chart Speed for 1, 7 or 32 Day Operation

Config – Enter Configuration Menu

Set – Enable/Disable Alarms

▲ Yes – Increase Set Value

▼ No – Decrease Set Value

Mode – Display Min, Max, Average; also T1-T2 (thermocouple model)

Light – Chart Light and Display Backlight Switch

White Box – User Lockout

Common Specifications

Display: Custom, 4-digit, dual LCD with backlight

Display Sampling Rate: 2 sec

Display Modes: Max, min, avg, T1 – T2

Chart Response Time: 0.5, 3.5, 16 min for 1, 7, and 32 days, respectively

Keypad Response: 350 ms

Chart Paper: 203 mm (8") circular, linear radial divisions, double sided

Chart Drive:
 Type: Stepper motor
 Accuracy: 1% rotation

Chart Hold-Down: Magnetic hub

Pen Drive:
 Type: Stepper motor, linear screw drive
 Deadband: 0.5°C or °F and 3% RH
 Pen Lift: Automatic on door opening—pens are door mounted and swing clear of the chart when door opens

Clock: Time (24 hr clock) and date

Clock Battery Backup: Holds clock information for 14 days when main power is removed

Audible Alarm: Piezoelectric beeper

Alarm Outputs:
 Relay Contacts: Two, rated 2 A @ 30 Vdc (high alarm)
 Voltage Output: Two, rated 100 mA to drive an external relay (low alarm)

Operating Ambient: 0 to 49°C (32 to 120°F); 2 to 98% RH

Power: 4 "D" alkaline batteries and ac adaptor (included)

Battery Life: 3 months under normal conditions

AC Adaptor: 100 to 240 Vac input, 9 Vdc @ 1.7 A output

Battery Status: indicator on LCD; shows 100, 75%
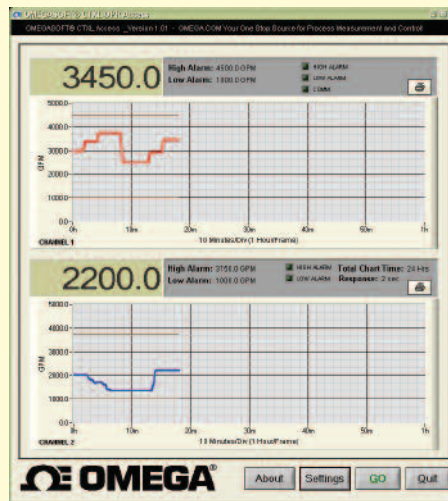
CTXL-DPR PC Application
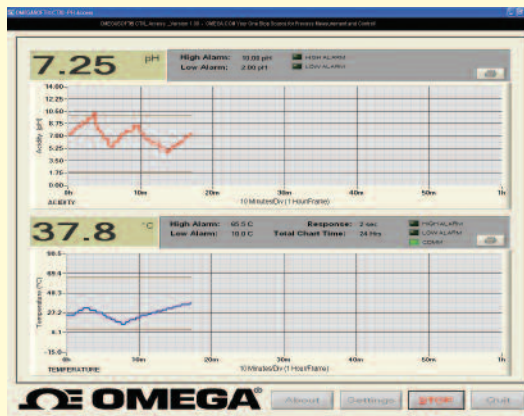
CTXL-PH PC Application
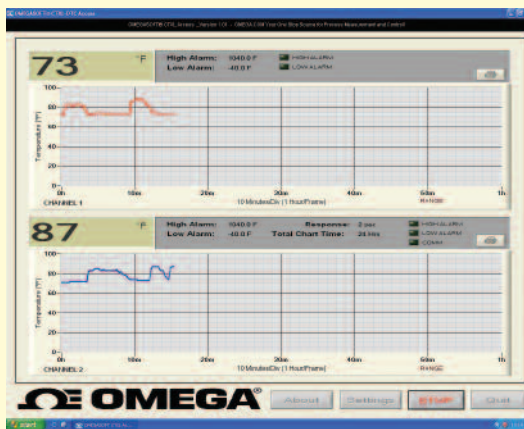
CTXL-DTC PC Application
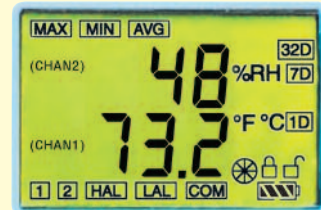
CTXL-TRH–Temperature/Humidity Local Display
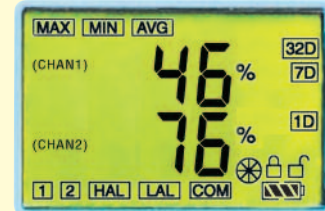
CTXL-DPR–Dual Process Local Display
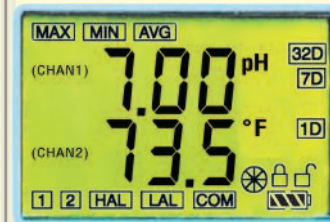
CTXL-PH–pH & RTD Local Display
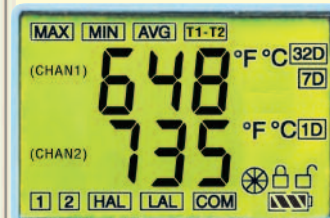
CTXL-DTC–Dual Thermocouple Local Display

Serial PC Communications: RS232, 2-way, 9600 baud

Memory: 256K EEPROM (2.8 chart revolutions worth of data)

Lock/Unlock (White Box) Key: Press and hold for 3 seconds to enable/disable; when in lock mode, all keys are inactive except for the power, light, mode, clock and lock/unlock keys

Mounting: Keyhole slots for wall mounting; foot cover for bench top use

Case: ABS plastic

Dimensions: 33.5 H x 27.1 W x 6.7 cm D ($13\frac{3}{16}$ x $10\frac{11}{16}$ x $2\frac{5}{8}$")

Weight: Approx. 3.2 kg (7 lb) with batteries

Paperless Recorders
Ethernet and USB Communications Standard

**RD9900 Series
Starts at**
$2500

2 YEAR WARRANTY C E

✔ **6 and 12 Input Channel Models**
✔ **Large 140 mm (5.6") TFT Display Shows Trend, Bar Graph, Digital Data, and Dual Real-Time/ Historical Trends**
✔ **Up to 2 GB Data Storage with Compact Flash Cards**
✔ **High Speed, up to 100 msec for 12 Channel Scan**
✔ **Accurate to 0.1%**

The RD9900 Series paperless recorders are available in 6 and 12 channel models. A large, backlit color LCD 140 mm (5.6") can be programmed to show measured data in either trend, digital data or bar graph format, along with a historical trend display, and alarm status. The display also makes set-up fast and easy, using either the front panel buttons or a USB connection to your computer. Standard Ethernet communications allow you to download data via FTP, e-mail or web browser. Optional RS232/485 communications is also available, as is a user-installable 12-channel relay alarm board, with mechanical relays rated 0.5 A @ 100 Vac (0.2 A @240 Vac).

Dimensional Drawings and Detailed Specifications at omega.com/rd9900

RD9912, $3200, shown smaller than actual size.

Specifications
Inputs
DC Voltage: ±13.8 mV, ±27.6 mV, ±69.0 mV, ±200 mV, ±500mV, ±2V, ±5V, ±10V, ±20V, ±50V
DC Current: With external shunt resistor (user supplied)
Thermocouple: J, K, T, E, N, R, S, B, and N, PtRh40-PtRh20, G, C, Platinel II, NiMo-Ni, CR-AuFe, U, L
RTD: Pt100, JPt100, Pt-Co, Pt50
Sample Rate: 100 msec for all channels
Allowable Signal Source Resistance: DC voltage input, ±2V or less: 1 kΩ max; ±5V to ±50V: 100 Ω max
Input Resistance: 1 MΩ, DC voltage or thermocouple input
Channel Isolation: 1000 Vac
Recording
Internal Memory: Flash memory, 4MB capacity

External Memory: Compact Flash card, 32MB to 2GB capacity) 128 MB card included with each unit
Sampling Rate: 100, 200, 500 ms; 1, 2, 3, 5, 10, 15, 20, 30s; 1, 2, 3, 5, 10, 15, 20, 30, 60 min
Logged Data: Measured data: file name (group name), time of day, month and year of recording start, tag,measured data, alarm status/types, setting parameter
Storage Methods: Manual start/stop (dedicated key operation); Schedule (designation for time of day and date); trigger signal (alarm event)
Computation Specifications
Computation Types:
Arithmetic Operations: Addition, subtraction, multiplication, division, remainder, exponential
Comparison Operations: =, ≠, >, <, ≥, ≤
Logical Operations: AND, OR, XOR, NOT
General Functions: Round-up, round-down, absolute value, square root, exponent of e, natural logarithm, common logarithm
Integration Operations: Analog integration, digital integration
Channel Data Operations: Measured data computation, calculated data computation

Alarm Specifications
Setups: Up to 4 alarms can be programmed per channel
Alarm Types: Upper limit, lower limit, differential higher limit, differential lower limit (deadband is selectable), abnormal data
Delay Function: Setup range of alarm delay from 1 to 3600 seconds
Alarm Settings: AND/OR selectable
Display Specifications
Display: 140 mm (5.6") TFT color LCD
Display Types:
Measured data display (trend screen, data screen, bar-graph screen)
Historical trend display (simultaneous display with real-time trend is available)
Information display (alarm display, marker list, file list) Setting screen (alarm, computation, memory, system, maintenance, communication, etc.)
LCD Back Light: Auto/manual OFF function; brightness: 4 levels adjustment
Communication Functions
Communication Type: Ethernet (10BASE-T/100BASE-TX)
FTP Server: Data file can be read from the network computer
Web Server: Conforms to HTTP 1.0

E-Mail: E-Mail notification to up to 8 recipients

USB Communications

Transfer Systems: Bulk transfer, control transfer

Communication Contents: File transfer by virtual drive connection

Power: 100 to 240 Vac, 50/60 Hz

Max Power Consumption: 50 VA

Ambient Temperature/Humidity: 0 to 50°C (32 to 122°F), 20 to 80% RH

Dimensions: 144 H x 144 W x 230 mm D (5.7 x 5.7 x 9.1")

Panel Cutout: 138 H x 138 mm W (5.43 x 5.43")

Weight: 2.2 kg (4.9 lb)

Option Specifications

Alarm Output: Relay contact output at alarm activation and abnormal input

Output Points: 12 points

Mechanical Relay: 0.5 A @ 100 Vac; 0.2 A @ 240 Vac

Communication Interface: RS232C/RS485 switchable

OMEGA CARE℠
Extended Warranty Program

OMEGACARE℠ extended warranty program is available for models shown on this page. Ask your sales representative for full details when placing an order. OMEGACARE℠ covers parts, labor and equivalent loaners.

Bar Graph Display

Digital Data Display

Channel Setup

Wireless Conversion Receivers Available. For Details Visit omega.com/mwtc-rec6

Channel Settings

Dual Trend Display

Information Screen

Real Time Trend Display

Schedule Storage Setup

AVAILABLE FOR FAST DELIVERY!

To Order *(Specify Model Number)*

Model No.	Price	Description
RD9906	$2500	6 channel paperless recorder
RD9912	3200	12 channel paperless recorder
POWERCORD-SE	7	Power cord

Option Boards

Model No.	Price	Description
RD9900-C24	$480	RS232C/RS485 communication interface
RD9900-AL12	620	12 point mechanical relay

Option Software

Model No.	Price	Description
RD9900-ZAILA	$110	ZAILA data analysis software; visit **omega.com/rd9900** for complete details

Comes complete with operator's manual and 128 MB compact flash card.

Ordering Examples: RD9912,** 12 points paperless recorder, **$3200.

RD9906,** 6 points paperless recorder and **OCW-3,** OMEGACARE℠ extends standard 2-year warranty to a total of 5-years, $2500 + 350 = **$2850.

DC Input Signal Conditioner

DRG-SC-DC

$269

For Complete Details Visit omega.com/drg-sc

5 YEAR WARRANTY $C \epsilon$

The DRG-SC-DC is a DIN rail mount DC voltage and current input signal conditioning module. The input can be field configured for any one 12 voltage ranges from 10 mV to 100V or 6 current ranges from 1 mA to 100 mA. The output is linear to the input and can be set to either 0 to 5V, 0 to 10V, 0 to 1 mA, 0 to 20 mA or 4 to 20 mA for the DRG-SC-DC-U (unipolar outputs) and -5V to +5V or -10V to +10V for the DRG-SC-DC-B (bipolar outputs). Zero and span pots allow 50% adjustability of offset and span turn down within each of the ranges. For example the 0 to 2 mA input range could be turned down to 0 to 1 mA and provide a full scale output signal (e.g. 4 to 20 mA).

INPUT RANGES (UNIPOLAR AND BIPOLAR)

Voltages: 20 mV, 50 mV, 100 mV, 200 mV, 500 mV, 1V, 2V, 5V, 10V, 25V, 50V, 100V

Current: 2 mA, 5 mA, 10 mA, 20 mA, 50 mA, 100 mA
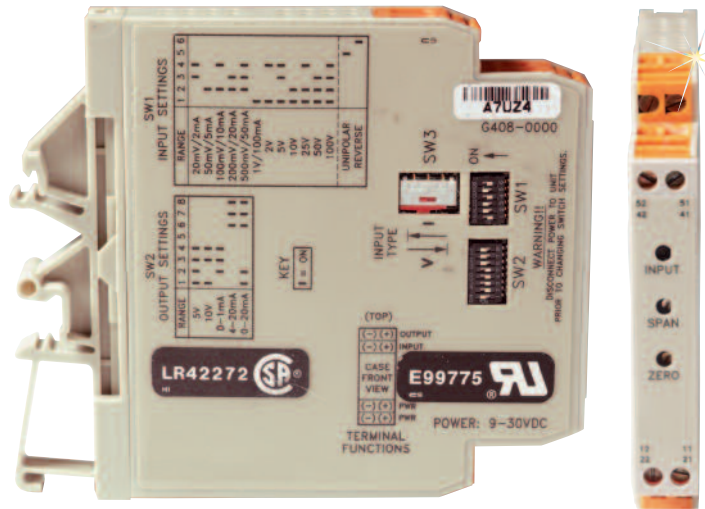
DRG-SC-DC, $269, shown smaller than actual size.

To Order *(Specify Model Number)*

Model No.	Price	Description
DRG-SC-DC-B	**$269**	DC voltage/current input signal conditioner with bipolar output ranges
DRG-SC-DC-U	269	DC voltage/current input signal conditioner with unipolar output ranges
DRN-PS-1000	150	Power supply, 95 to 240 Vac input, 24 Vdc output @ 1A
RAIL-35-1	10	35 mm (1.4") DIN rail, 1 m (3.3') length
RAIL-35-2	15	35 mm (1.4") DIN rail, 2 m (6.6') length

Comes complete with operator's manual.
*Ordering Example: **DRG-SC-DC-U,** DC voltage/current input signal conditioner, **$269.***

Bridge/Strain Gage Input Signal Conditioner

DRG-SC-BG

$310

5 YEAR WARRANTY $C \epsilon$

For Complete Details Visit omega.com/drg-sc

The DRG-SC-BG is a DIN rail mount bridge or strain gage input signal conditioning module. The field configurable input and output offers flexible, wide ranging capability for bridge or strain gage applications from 0.5 mV/V to over 50 mV/V. Wide ranging, precision zero and span pots allow 50% adjustability of offset and gain within each of the 11 switch selectable input ranges. The output can be set for either 0 to 5V, 0 to 10V, 0 to 1 mA, 0 to 20 mA or 4 to 20 mA. This flexibility, combined with an adjustable (1 to 10 Vdc) bridge excitation source, provides the user a reliable, accurate instrument to isolate and condition virtually any bridge or strain gage input.

INPUT RANGES:

0 to 10 mV, 0 to 20 mV, 0 to 50 mV, 0 to 100 mV, 0 to 200 mV, ±5 mV, ±10 mV, ±20 mV, ±50 mV, ±100 mV, ±200 mV
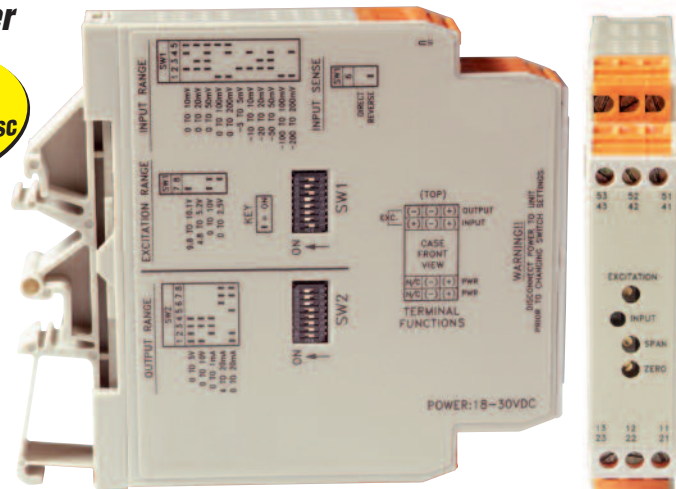
DRG-SC-BG, $310, shown smaller than actual size.

To Order *(Specify Model Number)*

Model No.	Price	Description
DRG-SC-BG	**$310**	Bridge input signal conditioner

Comes complete with operator's manual.
*Ordering Example: **DRG-SC-BG,** bridge input signal conditioner, **$310.***

Sanitary product line continues to expand, visit **omega.com/sanitary** for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-6 6 342® 1-877-TC-OMEGA

RTD Input Signal Conditioner

DRG-SC-RTD
$310

5 YEAR WARRANTY CE

The DRG-SC-RTD is a DIN rail mount RTD input signal conditioning module. It accepts a wide variety of RTDs including 100, 500 and 1000 Ohm Platinum RTDs as well as 10, 25 and 100 Ohm copper. It works with RTDs with a = 0.00385Ω/Ω/°C or 0.00392.Ω/Ω/°C

The input can be field configured for any one of up to sixteen temperature ranges. The output is linear to temperature and can be set for either 0 to 5V, 0 to 10V, 0 to 1 mA, 0 to 20 mA or 4 to 20 mA.

INPUT RANGES (°C):

Pt100, Pt500 and Pt1000: -200 to 600, -200 to 400, -100 to 400, -200 to 260, -200 to 0, -200 to -100, -100 to 260, -100 to 100, -50 to 50, -18 to 50, -18 to 100, -18 to 260, -18 to 300, -18 to 400, -18 to 500, -18 to 600

Cu10, Cu25 & Cu100: -200 to 260,-200 to 0, -200 to -100, -100 to 260, -100 to 100, -50 to 50, -18 to 50, -18 to 100, -18 to 260
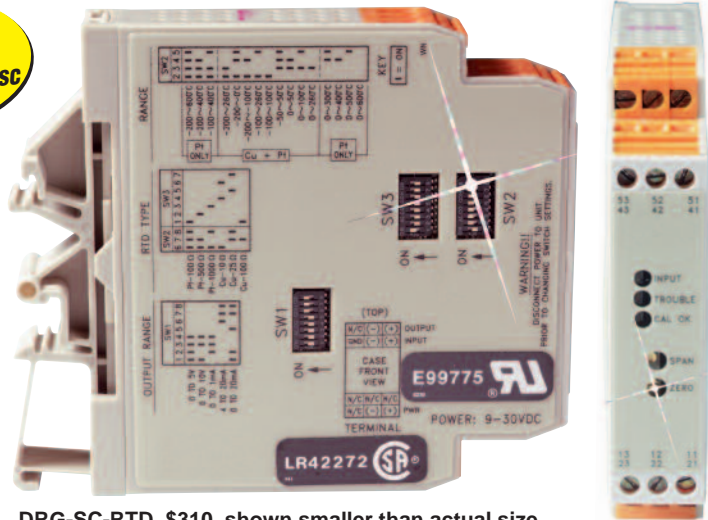
DRG-SC-RTD, $310, shown smaller than actual size.

To Order *(Specify Model Number)*

Model No.	Price	Description
DRG-SC-RTD	$310	RTD input signal conditioner
DRN-PS-1000	150	Power supply, 95 to 240 Vac input, 24 Vdc output @ 1A
RAIL-35-1	10	35 mm (1.4") DIN rail, 1 m (3.3') length
RAIL-35-2	15	35 mm (1.4") DIN rail, 2 m (6.6') length

Comes complete with operator's manual.
Ordering Example: DRG-SC-RTD,** RTD input signal conditioner, **$310.

Frequency Input Signal Conditioner

DRG-SC-FR
$310

5 YEAR WARRANTY CE

The DRG-SC-FR is a DIN rail mount frequency input signal conditioning module. The field configurable input and output offers flexible, wide ranging capability for a variable frequency drives, magnetic pickups, turbine meters and other pulse or frequency output transducers. The output can be set for either 0 to 5V, 0 to 10V, 0 to 1 mA, 0 to 20 mA or 4 to 20 mA. The DRG-SC-FR can be configured for virtually any frequency input to DC signal output within the ranges specified. Calibration utilizes technology where the user simply applies minimum and maximum input frequencies, touching a recessed button to configure the minimum and maximum output range.

INPUT RANGE: 2 Hz to 10,000 Hz, 50 mVp to 150 Vrms

DRG-SC-FR, $310, shown smaller than actual size.

To Order *(Specify Model Number)*

Model No.	Price	Description
DRG-SC-FR	$310	Frequency input signal conditioner

Comes complete with operator's manual.
Ordering Example: DRG-SC-FR,** frequency input signal conditioner, **$310.

Dual DIN Rail Temperature Transmitter

TXDIN70 Starts at

$85

1 YEAR WARRANTY **CE**

☑ **Provides Two-Channel Transmitters or Signal Isolators (4 to 20 or 0 to 20 mA)**
☑ **Programmable Input Types and Ranges with the Optional External Display**
☑ **DIN Rail Mounted**
☑ **Input to Output Isolation (Use Ungrounded Thermocouple Only)**
☑ **Universal Power Supply**

It provides 2 channels of configurable inputs, and supports multiple voltage, RTD, thermocouple inputs with auto reference junction compensation. Each channel has its own digital filtering and can adjust its filtering degree.

- Generates two isolated current outputs, 4 to 20 or 0 to 20 mA
- Range of retransmission output can be freely defined
- The model is DIN rail mounted. Its width is only 22.5 mm
- Can be easily configured by connecting to our E8 handset display
- Universal power supply of 100 to 240 Vac or 24 Vdc

TXDIN70, DIN rail temperature transmitter, $85.

TXDIN70-DISPLAY, external plug-in display, $20.

Both shown smaller than actual size.

Specifications

Input Type
Thermocouple: K, S, R, E, J, T, B, N, WRe5-WRe26
RTD: Pt100, Cu50
Linear Voltage: 0 to 20 mV, 0 to 60 mV, 0 to 100 mV, 0 to 1V, 0.2 to 1V, -20 to 20 mV, -100 to 100 mV
Instrument Input Range:

   Style K: -50 to 1300°C
   Style S: -50 to 1700°C
   Style R: -50 to 1700°C
   Style T: -200 to 350°C
   Style E: 0 to 1000°C
   Style J: 0 to 1200°C
   Style B*: 0 to 1800°C
   Style N: -50 to 1300°C
   Style WRe5%WRe26: 0 to 2300°C
   Style Pt100: -200 to 900°C

* Note: B thermocouple obtains the measurement accuracy only at the range of 400 to 1800°C. It's measurement from 60 to 400°C is less accurate.

Linear Input: -9990 to 30,000 units defined by user
Retransmission Accuracy: 0.3% FS ±1 digit (including input and output error)

Output Specification: Can be freely defined in the range of 0 to 22 mA with maximum output voltage ≥11V
Temperature Drift: ≤0.015%FS/°C (including the temperature drift of input and output)
Electromagnetic Compatibility (EMC): ±4 KV/5 KHz according to IEC61000-4-4 (EFT); 4 KV according to IEC61000-4-5
Isolation Withstanding Voltage: Voltage between power, signal input and output terminals ≥2300 Vdc; between inputs or 2 outputs ≥200 Vdc
Power Supply: 100 to 240 Vac, -15%, +10%/ 50 to 60 Hz; or 24 Vdc/Vac
Power Consumption: ≤3W
Operating Ambient: Temp -10 to 60°C; humidity ≤90%RH
Dimensions: 100 H x 22.5 W x 100 mm D (3.9 x 0.89 x 3.9")
Weight: 85 g (0.18 lb)

AVAILABLE FOR FAST DELIVERY!

To Order *(Specify Model Number)*		
Model No.	**Price**	**Description**
TXDIN70	**$85**	DIN rail temperature transmitter/isolator
TXDIN70-24V	**91**	DIN rail temperature transmitter/isolator 24 Vac/Vdc
TXDIN70-DISPLAY	**20**	External plug-in display

Comes complete with operator's manual.

Ordering Example: TXDIN70,** DIN rail temperature transmitter and **TXDIN70-DISPLAY** plug-in display, $85 + 20 = **$105.

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS **1-877-82-66342® 1-877-TC-OMEGA**
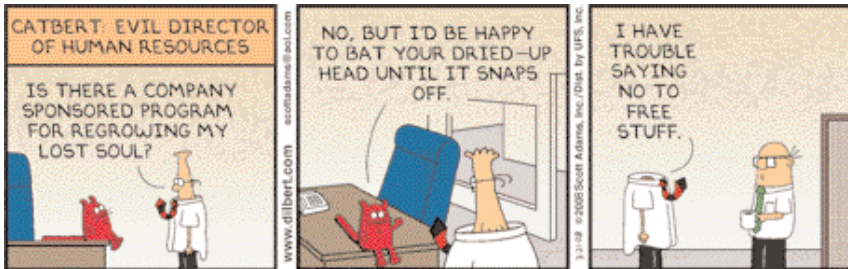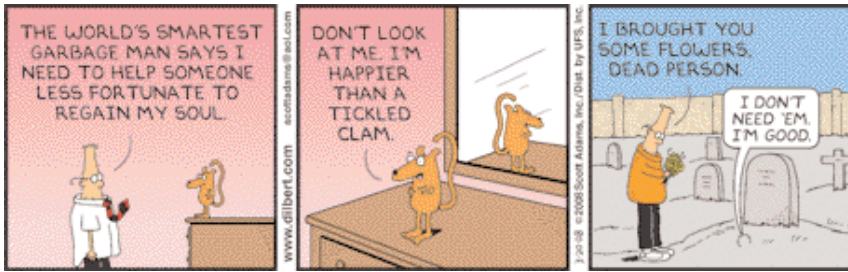
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Portable Universal Circular Chart Recorder
5 Models Available

SUPERECORDER™

PATENTED AND PATENTS PENDING

CTXL Series Starts at
$795

MADE IN
USA

See Page 131

Paperless Recorders
Ethernet and USB Communications Standard

RD9900 Series Starts at
$2500

See Page 139

Dual DIN Rail Temperature Transmitter

TXDIN70 Starts at
$85

External plug-in display, sold separately

See Page 143

For Sales and Service, Call Toll-Free:
1-800-82-66342®
1-800-TC-OMEGA
U.S.A. and Canada

Sales: FAX (Toll-Free)
1-877-FAX-OMEG(A)
24 HOURS

144

Analog and Digital Output Signal Conditioners/Transmitters

**iDRN/iDRX Series
Starts at**

$250

MADE IN USA · **5 YEAR WARRANTY** · C E

✔ **Analog or Digital Output**

✔ **Models Available for: Thermocouple, RTD, Process Voltage & Current, Strain, Frequency/Pulse, AC Voltage and Current**

✔ **Up to 1800 Vdc Isolation**

✔ **iDRN Series Provide 0 to 10 Vdc, 4 to 20 mA or 0 to 20 mA Output**

✔ **iDRX Series Provide RS485 Output (ASCII Serial Protocol and MODBUS® Serial Protocol)**

✔ **Free Setup and Configuration Software**

✔ **Factory Setup and Configuration Available at No Charge (for iDRN Analog Output Models)**

The iD Series signal conditioners combine the accuracy of laboratory instrumentation with the performance required by demanding industrial applications. The iD Series signal conditioners are ideal for those applications in Data Acquisition, Test & Measurement, Process Control, and Industrial Automation

PAT. PENDING

where accuracy, performance, and reliability are critically important.

The iD Series signal conditioners mount on a 35 mm DIN rail, and operate on any voltage between 10 to 32 DC power. (A matching 24 Vdc 850 mA switching power supply is also available.) The devices feature three-way isolation of up to 1800 Vdc between the signal inputs, outputs, and power supply.

The iD series feature seven (7) models designed for each of the most widely measured signal inputs: Process (DC) Voltage and Current; Strain Gage; Thermocouples; RTDs; AC Voltage; AC Current; Frequency/Pulse.

The iD series devices are designed to work directly with a variety of sensors and transducers; no other components are necessary. For sensors such as RTDs, strain gages, and some process transducers, precise stable excitation is provided directly from the iD module.

The iD series are available with two different types of signal outputs: Analog or Digital. The iDRN series provides a totally scalable analog output in DC voltage or current. The iDRX series provide a digital RS485 output. Both iD Series signal conditioners are intelligent microprocessor based instruments that can be scaled and programmed by computer via serial communications, or over an Ethernet network.

iDRN SERIES ANALOG OUTPUT

The iDRN series feature a 0 to 10 Vdc, or 0 to 20 mA (including 4 to 20 mA) analog output signal that is typically scaled to be directly proportional to the input signal. It is an ideal component in a system with PLCs or PCs with analog data acquisition boards.

The iDRN series are an excellent choice for applications that demand an extra measure of accuracy and performance that is not possible with conventional "analog" signal conditioners or transmitters. Unlike conventional analog devices that are scaled by adjusting zero and span "pots", the programmable, micro-processor based iDRN instruments are scaled precisely on a PC with free and simple Windows software. The iDRN modules connect directly to a PC's RS232 Serial Communications port for programming and scaling.

Once the module is configured, the parameters are saved in non-volatile memory. The device can be disconnected from the PC, or the RS232 output from the module can be used for continuous data acquisition in addition to the analog output.

Alternatively, the iDRN signal conditioner can be connected to a PCs Ethernet port or an Ethernet network using the EIS-2B module as a Serial/Ethernet bridge.

FREE SETUP AND CONFIGURATION

If an iDRN signal conditioner is not going to be connected to a computer, it can be ordered preconfigured by the factory at no extra charge. The user can select the input types, ranges and output scale, and OMEGA will program the instruments to those specific requirements in our calibration lab prior to shipment. For custom factory setup and scaling of the iDRN model, please specify the "-FS" option.

iDRX SERIES DIGITAL OUTPUT

The iDRX Series Signal Conditioners provide highly accurate digital outputs. Each module provides an RS485 Serial output that can be transmitted directly to computers and other devices with serial communications capability, or converted to Ethernet.

On an RS485 bus, up to 32 modules can be connected over a distance of 1200 m (4000') on a single pair of wires. With optional RS485 repeaters, up to 254 modules may be connected to a single RS485 port. The iDRX Series digital conditioners may be connected to an RS485 bus using either screw terminator or RJ-12 connector.

ASCII AND MODBUS

The user can select between an easy-to-use, straightforward ASCII protocol, or the popular MODBUS® protocol found in many existing industrial installations. With the simple ASCII commands, writing programs using the iDRX does not require special drivers or libraries. In addition, many off-the-shelf software packages can be used with the iDRX devices without any programming. OMEGA also provides a number of useful programs and demos for the iDRX at no charge.

OPC SERVER AND ACTIVE X CONTROLS

OMEGA offers an optional OPC Server (OLE for Process Control) and ActiveX Controls for the iDRX Series. These programs make it easy to integrate the iDRX devices with information systems using "ActiveX Containers" such as Microsoft Visual Basic and Microsoft Excel as well as with popular OLE and OPC compliant data acquisition, process control, and industrial automation software from OMEGA®, Iconics, Wonderware, Intellution, Rockwell Automation, and GE Fanuc Cimplicity among others.

iDRX AND iDRN SERIES COMMON SPECIFICATIONS

Input Power Supply: 10 to 32 Vdc
iDRX Output: 2-wire (half duplex) RS485 (OMEGA® Serial Protocol and MODBUS Serial Protocol)
iDRN Output: 0 to 10V @ 10 mA max; 0 to 20 mA or 4 to 20 mA, 10V compliance
Isolation: 1800 Vdc peak
Typical Step Response to 99%: 1 second
Operating Ambient: -5 to 55°C (23 to 131°F)
Storage Temperature Range: -40 to 85°C (-40 to 185°F)
Mounting: 35 mm DIN rail
Dimensions: 90 H x 25 W x 107 mm D (3.54 x 0.99 x 4.21")

MADE IN USA

Mounts to 35 mm DIN rails.

RAIL-35-2, $15, 2 m (6') long.
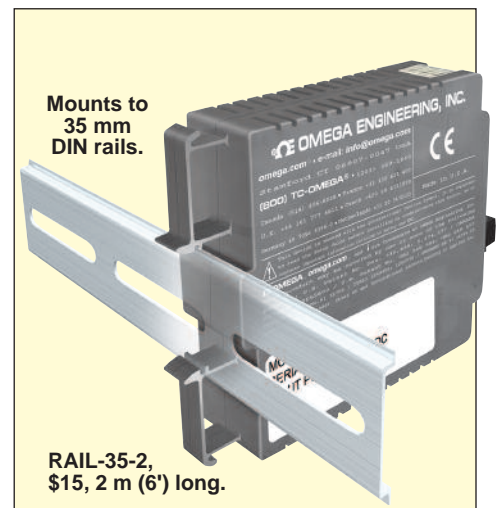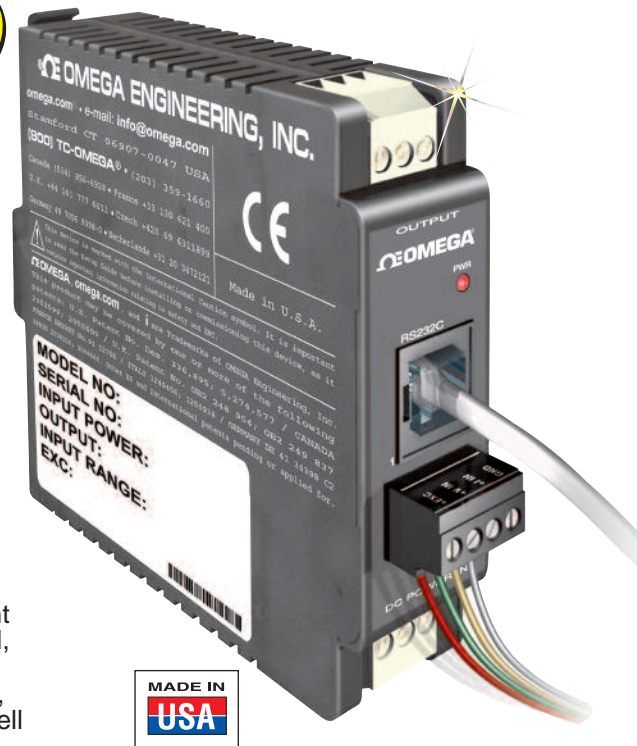
MOST POPULAR MODELS HIGHLIGHTED!

Input	Thermocouple	RTD	AC Voltage	AC Current	Process	Strain/Bridge	Frequency Pulse
Model No.	**iDRN/iDRX-TC**	**iDRN/iDRX-RTD**	**iDRN/iDRX-ACV**	**iDRN/iDRX-ACC**	**iDRN/iDRX-PR**	**iDRN/iDRX-ST**	**iDRN/iDRX-FP**
Input Type	Thermocouple temperature sensor	RTD Temperature sensor Pt100, 500, 1000Ω	AC Voltage	AC Current	DC Millivolt, Volt and Current	Millivolt	NAMUR Contact closure low level open collector
Input Range	J, K, T, E, R, S, B, N, J DIN thermocouple full range	α = 385, 392 Full range of RTD 2, 3 or 4-wire	Full Scale Range: 400 mV to 400V	Full Scale Range: 10 mA to 5 A	Full Scale Range: ±400 mV to ±10V 0 to 20 mA	0 to 30 mV 0 to 100 mV ±100 mV	Full Scale Range 20k to 0 to 200 M pulses 50 kHz
Accuracy	±1°C	±0.5°C	0.2%	0.2%	0.1% FS	0.2% FS	0.1% FS
Resolution	0.1°C	0.1°C	10 to 14 bit	10 to 14 bit	12 to 15 bit	13 to 15 bit	15 to 19 bit
Output	iDRX Series: 2-wire (half duplex) RS485/iDRN Series: 0 to 10V @ 10 mA max; 0 to 20 mA or 4 to 20 mA						
Excitation	N/A	N/A	N/A	N/A	14 Vdc @ 25 mA	10V @ 30 mA	5, 8.2 and 12.5 Vdc @ 25 mA
iDRN RS232 ANALOG	**iDRN-TC $325**	**iDRN-RTD $355**	**iDRN-ACV $345**	**iDRN-ACC $345**	**iDRN-PR $325**	**iDRN-ST $345**	**iDRN-FP $295**
iDRX RS485	**iDRX-TC $250**	**iDRX-RTD $250**	**iDRX-ACV $270**	**iDRX-ACC $270**	**iDRX-PR $275**	**iDRX-ST $300**	**iDRX-FP $250**

RTD Signal Conditioners

**iDRX-RTD
Starts at
$250**

MADE IN USA · 5 YEAR WARRANTY · CE

✔ **100Ω Pt, 500Ω Pt, 1000Ω Pt**
✔ **0.1°C Resolution**
✔ **±0.5°C Accuracy**
✔ **1800 Vdc Isolation**
✔ **Free Setup and Configuration Software**
✔ **Factory Setup and Configuration Available at No Charge (for iDRN Analog Output Models)**

SERIAL I/O

A/IN

DI/O

OMEGA manufactures many types of RTD probes. Visit omega.com/rtd

The iDRN-RTD and iDRX-RTD signal conditioners provide highly accurate, stable, isolated measurement of RTD temperature sensors. Both models can accept 2, 3, or 4 wire 100Ω PT, 500Ω PT and 1000Ω PT RTDs.

2 Models (Analog or Digital Outputs)
The iDRN-RTD provides a fully scalable analog output that is proportional to the input signal. The iDRX-RTD uses digital RS485 communications.

Analog Digital Output
The output of the iDRN-RTD can be user set for 0 to10V, 4 to 20 mA or 0 to 20 mA. Input scaling and configuration of other operating parameters is accomplished by connecting to a standard RS232 port of a personal computer and using the Windows-based setup software. Once configured the settings may be stored in non-volatile memory and the unit disconnected from the PC.

Factory Setup and Configuration at No Extra Charge (iDRN Analog Output Model) Please Specify:
Type and resistance
Temperature high and low
Output Value high and low
Example: Type Pt100; 0.00385; 4-wire; 0°C = 4 mA, 100°C = 20 mA

Digital Output Model
The iDRX-RTD is a digital signal conditioner which communicates over an RS485 communication link using either a simple, straightforward ASCII Serial Protocol or MODBUS® Serial Protocol. Up to 32 modules may be connected to a single RS485 port stretching up to 1200 m (4000') without repeaters.

Ethernet Connection
The Optional EIS-2B iServer module can connect up to thirty-two (32) iDRX RS485 Signal Conditioners to an Ethernet network and the Internet using standard TCP/IP protocol. The iServer can also be used as a simple Serial to Ethernet "bridge" or converter to connect a single iDRN RS232 device to an Ethernet network and the Internet.

Specifications
Accuracy at 25°C: ±0.5°C
Input Types: Platinum RTD, 100Ω, 500Ω or 1000Ω element (2, 3 or 4 wire, 385 or 392 curve)
Resolution: 0.1ºC
Power Consumption: 2.4 W (100 mA @ 24Vdc)
Input Range: -200 to 850°C (-328 to 1562°F)
iDRX Output: 2-wire (half duplex) RS485 (OMEGA® Serial Protocol and MODBUS Serial Protocol)
iDRN Output: 0 to 10V @ 10 mA max; 0 to 20 mA or 4 to 20 mA, 10V compliance
RTD Default Settings iDRN: Input Pt100, 0.00385, 3-wire, range 0 to 1000°F; Output 4 to 20 mA (custom settings available at no charge)

MOST POPULAR MODEL HIGHLIGHTED!

To Order (Specify Model Number)

Model No.	Price	Description
iDRX-RTD	**$250**	Digital signal conditioner with RS485 output for RTD temperature sensors
iDRN-RTD	**355**	Signal conditioner with analog output for RTD temperature sensors
-FS	**Free**	Factory setup and scaling

Comes complete with operator's manual.
Ordering Example: iDRN-RTD,** digital signal conditioner, and **DB9-RJ12,** connector adaptor, $355 + 30 = **$385.
*For iDRN/iDRX accessories and power supplies, please visit **omega.com/drn-drx***

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-66342®
1-877-TC-OMEGA

Strain Gage/Bridge Transducer-Signal Conditioners

iDRX-ST
$300

MADE IN USA · 5 YEAR WARRANTY · C E

- ✔ Unipolar/Bipolar 30 mV to 100 mV
- ✔ 13-Bit Resolution
- ✔ 10 Vdc Excitation
- ✔ 0.2% FS Accuracy
- ✔ 1800 Vdc Isolation
- ✔ 250 Vac/1 Min Input Overvoltage Protection
- ✔ Free Setup and Configuration Software
- ✔ Factory Setup and Configuration Available at No Charge (For iDRN Analog Output Models)

The iDRN-ST and iDRX-ST signal conditioners provide highly accurate, stable, isolated measurement for strain gage transducers such as load cells, torque transducers, non-amplified pressure transducers, and other bridge based transducers. Both models can accept signals from 30 to 100 mV full scale and provide 10 Vdc reference voltage which may be used for transducer excitation.

2 Models (Analog or Digital Outputs)
The iDRN-ST provides an analog output that is proportional to the input signal and the iDRX-ST uses RS485 Serial Communications.

Analog Output Model
The output of iDRN-ST can be user set for 0 to10V, 4 to 20 mA or 0 to 20 mA. Input scaling and configuration of other operating parameters is accomplished by connecting to a standard RS232 port of a personal computer and using the free Windows-based setup software. Once configured the settings may be stored in non-volatile memory and the unit disconnected from the PC.

Factory Setup And Configuration at No Extra Charge (iDRN Analog Output and RS232 Signal Conditioners)

Please Specify:
Input value high and low
Output value high and low
Excitation: 10 or 14 Vdc
Ratiometric or non-ratiometric
Example: 0V = 4 mA, 100 mV = 20 mA, excitation 10V, ratiometric

Digital Output Model
The iDRX-ST is a digital signal conditioner which communicates over RS485 communication link using either a simple ASCII Protocol or MODBUS® Protocol. Up to 32 modules may be connected to a single RS485 port stretching up to 1200 m (4000') without repeaters.

Ethernet Connection
The Optional EIS-2B iServer module can connect up to 32 iDRX RS485 Signal Conditioners to an Ethernet network and the Internet using standard TCP/IP protocol. The iServer can also be used as a simple Serial to Ethernet "bridge" or converter to connect a single iDRN RS232 device to an Ethernet network and the Internet.

Specifications
Accuracy at 25°C: ±0.2% FS
Resolution: 13 to 15 bit
Excitation: 10V @ 30 mA
Power Consumption: 2 W without excitation (84 mA @ 24 Vdc), 3 W with excitation (125 mA @ 24 Vdc)
Input Ranges: 0 to 30 to 0 to 100 mV full scale
iDRX Output: 2-wire (half duplex) RS485 (OMEGA® serial protocol and MODBUS Serial Protocol)
iDRN Output: 0 to 10V @ 10 mA max; 0 to 20 mA or 4 to 20 mA, 10V compliance

Shown smaller than actual size.

SERIAL I/O   A/IN
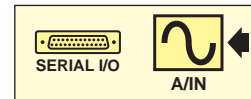
Strain Default Settings iDRN: Input range 0 to 30 mV; output 4 to 20 mA excitation 10V ratiometric (custom settings available at no charge)

OMEGA manufactures many types of Load Cells. Visit omega.com/load_cells

LC101

LC1102

LCGD

MOST POPULAR MODEL HIGHLIGHTED!

To Order *(Specify Model Number)*

Model No.	Price	Description
iDRX-ST	$300	Digital signal conditioner for strain gages and bridge transducers with RS485 output
iDRN-ST	345	Signal conditioner for strain gages and bridge transducers with analog output
-FS	Free	Factory setup and scaling

Comes complete with operator's manual.

Ordering Example: iDRX-ST, *digital signal conditioner for strain gages and bridge transducers with RS485 output,* ***CAT-285,*** *bi-directional RS232-RS485 converter for iDRX series, $300 + 159 =* ***$459.***

For iDRN/iDRX accessories and power supplies, please visit **omega.com/drn-drx**

Process Inputs Signal Conditioners

iDRX-PR
$275

MADE IN USA · **5 YEAR WARRANTY** · CE

- ✔ Unipolar/Bipolar 400 mV to 10 Vdc, 0 to 20 mA dc
- ✔ 11 to 14-Bit Resolution
- ✔ ±0.1% FS Accuracy
- ✔ 14 Vdc Excitation
- ✔ 1800 Vdc Isolation
- ✔ 250 Vac/1 Min Input Overvoltage Protection (Voltage Input Only)
- ✔ Free Setup and Configuration Software
- ✔ Factory Setup and Configuration Available at No Charge (For iDRN Analog Output Models)

The iDRN-PR and iDRX-PR signal conditioners provide highly accurate, stable, isolated measurement of process signals. Both models can accept unipolar and bipolar signals from 400 mV to 10 Vdc full scale, as well as 0 to 20 mA current range. The Signal Conditioners also provide a 10 Vdc or 14 Vdc reference voltage which can be used for transducer excitation.

2 Models (Analog or Digital Outputs)
The iDRN-PR provides a programmable analog output that is proportional to the input signal. The iDRX-PR uses a digital RS485 Serial Communications.

Analog Output Model
The output of iDRN-PR can be user set for 0 to 10V, 4 to 20 mA, or 0 to 20 mA. Scaling and configuration is done with the free software on a PC using either the standard RS232 port, or an Ethernet connection with the optional EIS-2B module. Once configured the settings are stored in non-volatile memory and the unit disconnected from the PC.

Factory Setup And Configuration at No Extra Charge (iDRN Analog Output Model)
Please Specify:
Input value high and low
Output value high and low
Excitation: 10 or 14 Vdc
Ratiometric or non-ratiometric
Example: 0V = 4 mA, 10V = 20 mA, Excitation 10V, non-ratiometric
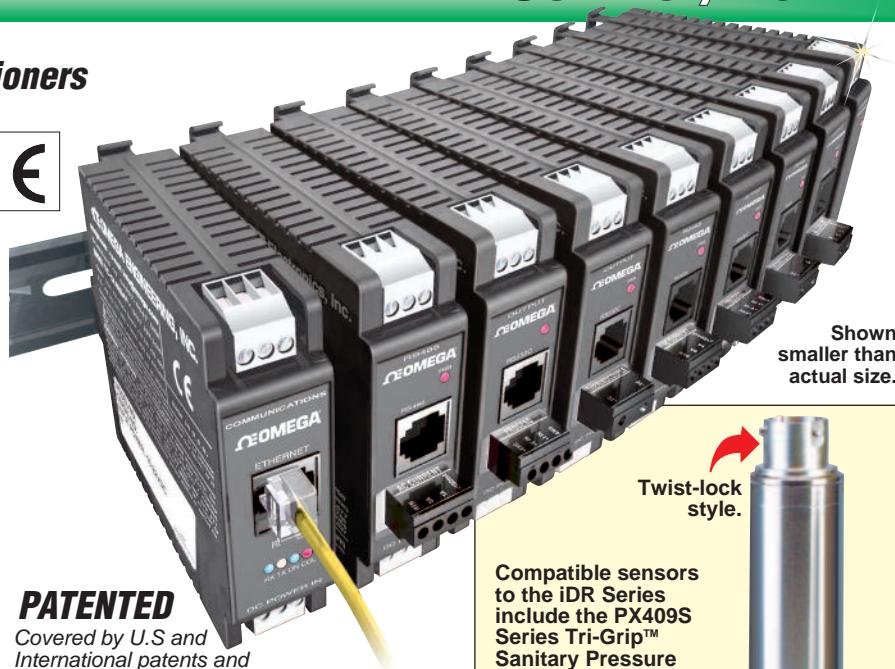
Shown smaller than actual size.

PATENTED
Covered by U.S and International patents and pending applications

SERIAL I/O · **A/IN** · **DI/O**

Twist-lock style.

Compatible sensors to the iDR Series include the PX409S Series Tri-Grip™ Sanitary Pressure Transducer.

PX429S15-015GI, $650, shown smaller than actual size.
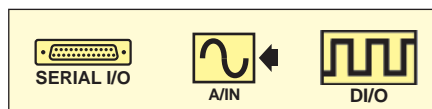
Digital Output Model
The iDRX-PR is a digital signal conditioner which communicates over an RS485 communication link using either a simple straightforward ASCII Serial Protocol or MODBUS® Serial Protocol. Up to 32 modules may be connected to a single RS485 port stretching up to 1200 m (4000') without repeaters.

Ethernet Connection
The optional EIS-2B iServer module can connect up to 32 iDRX RS485 Signal Conditioners to an Ethernet network and the Internet using standard TCP/IP protocol. The iServer can also be used as a simple Serial to Ethernet "bridge" or converter to connect a single iDRN RS232 device to an Ethernet network and the Internet.

Specifications
Accuracy at 25°C: ±0.1% FS
Excitation: 14 Vdc @ 25 mA
Resolution: 11 to 14-bit
Power Consumption: 2 W (84 mA @ 24 Vdc) without excitation, 3 W (125 mA @ 24 Vdc) with excitation
Input Ranges: Uni/bipolar, 400 mV to 10 Vdc; 0 to 20 mA
iDRX Output: 2-wire (half duplex) RS485 (OMEGA® Serial Protocol and MODBUS Serial Protocol)
iDRN Output: 0 to 10V @ 10 mA max; 0 to 20 mA or 4 to 20 mA, 10V compliance
Process Default settings DRN: Input range 0 to 20 mA; output 4 to 20 mA. Excitation 14V (custom settings available at no charge)

MOST POPULAR MODEL HIGHLIGHTED!

To Order (Specify Model Number)

Model No.	Price	Description
iDRX-PR	$275	Digital signal conditioner with RS485 output for process signals
iDRN-PR	325	Signal conditioner with analog output for process signals
-FS	Free	Factory setup and scaling

Comes complete with operator's manual.
Ordering Example: iDRX-PR, digital signal conditioner with RS485 output for process signals, **iDRN-PS-1000,** power supply, 95 to 240 Vac input, 24 Vdc output @ 850 mA, $275 + 150 = **$425.**
For iDRN/iDRX accessories and power supplies, please visit **omega.com/drn-drx**
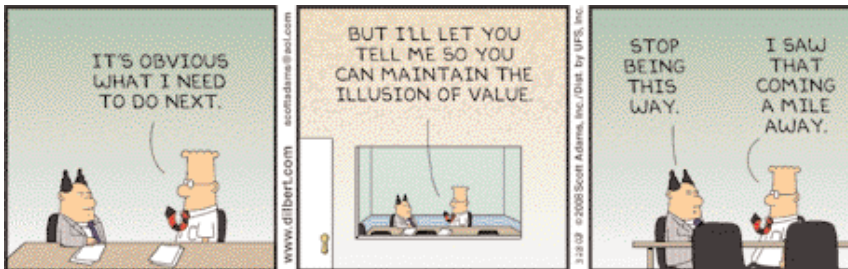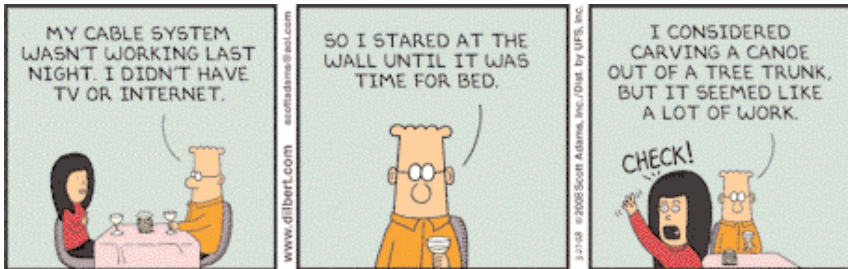
Dilbert © United Feature Syndicate

Analog and Digital Output Signal Conditioners/Transmitters

iDRN/iDRX Series
Starts at
$250

MADE IN
USA

See Page 145

PAT. PENDING

ELC Programmable Logic Controllers and Modules

ELC Series
Starts at
$134

See Page 151

Stepper Motors
Frame Sizes From NEMA 11 to 34

Stepper Motors
Start at
$90

See Page 155

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and Service,
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1-800-TC-OMEGA
U.S.A. and Canada

Sales: FAX (Toll-Free)
1-877-FAX-OMEG(A)
24 HOURS

150

ELC Programmable Logic Controllers And Modules

ELC Series Starts at

$134

1 YEAR WARRANTY C E RoHS

✔ **Base Models with 10 to 14 I/O, Expandable to 256**

✔ **Half the Size of Most PLCs**

✔ **1-, 4-, 8-, 16-and 32-Bit Instructions**

✔ **DIN Rail Mountable, No Rack Required**

✔ **Built-In Integral LED Display**

✔ **High-Level Network Access–MODBUS®, DeviceNet and Profibus**

✔ **Remote Analog Modules for Analog I/O, Thermocouples and RTDs**

The Eaton Logic Controller (ELC) is Eaton Cutler-Hammer's latest offering into the PLC (Programmable Logic Controller) market. Using the latest technology this reduced-sized ELC, with its abundant module selection provides a "just right" concept, for delivering only what you want for the price you desire.

The Right Amount of I/O
Why pay for functionality you'll never need? Why be trapped with functionality that you can't scale to meet changing needs? Eaton is changing everything with the ELC. At less than half the size of most PLCs, the Cutler-Hammer ELC is an ideal solution when space is at a premium and specialized I/O needs present themselves.

ELC's Value Added Differences
4 Controller Styles:
• Basic—14 I/O (8I/6O) Over 130 instructions provide all the power you need; 2 serial ports for master/slave communications

• Clock/Calendar—Same features as the basic model plus clock/calendar, remote I/O and retentive data storage

• Analog—Same features as clock/calendar plus analog in and out

• High Speed—All the features of clock/calendar with the ability to capture or output 100 Khz pulses

A Wealth of Features
The ELC family offers four styles of controllers. These controllers offer combinations of the following features:

• High speed pulse capture and high speed pulse output on all controllers

• Interrupts

• Large module selection AC/DC in, relay/transistor out

• Large analog selection of analog in, out, combined, thermocouple, RTD platinum

• Over 200 instructions to choose from: Floating point math, communications, hex, decimal, octal, BCD, ASCII conversion, 1, 4, 8, 16, 32, bit manipulations, logical, block move, block compare, retentive data storage, time base from clock/calendar

• 2 MODBUS (ASCII or RTU) serial ports: 1 slave only, 1 master/slave

• ELC controller can be wired for remote I/O communications (except the PB model)

Space Saving, Cost Saving
This space-saving design perfectly fits at home in small machine control stations as well as other enclosed applications where space is critical. While the ELC is perfectly suited for applications with 40 I/O and less, it can also be expanded to 256 I/O. That means there's no need to change to a different controller as I/O needs expand. Furthermore, the ELC's 2 communication ports can provide any networking task. In remote mode, the ELC exchanges and shares information with up to 16 other devices, in normal mode, the ELC can communicate with up to 32 other devices. Its small size allows for reduced panel size, and saves valuable machine space.

Capability

The ELC provides the instruction set of a large PLC in a small package. It is capable of 1-, 4-, 8-, 16- and 32-bit instructions, block compare, block move, communications, interrupts, clock/calendar and logic, over 240 instructions in all (except PB).

No Racks Required

A DIN rail lets you add as many modules as desired. Just snap on, and slide into place. All connections are done automatically.

No racks required.
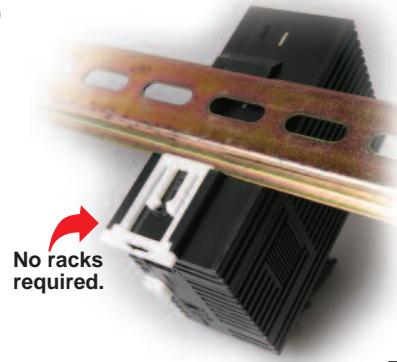
Built-In Display

An integral LED display provides user-assigned process monitoring, error messages, alarms, display counts and more.

Built-in display.

☐ *MOST POPULAR MODELS HIGHLIGHTED!*

To Order *(Specify Model Number)*

Model No.	Price	Description	Input AC	Input DC	Input Analog	Output Relay	Output Transistor	Output Analog
ELC-PB14NNDR	**$134**	14 I/O PB Series		8		6		
ELC-PC12NNAR	167	12 I/O PC Series	8			4		
ELC-PC12NNDR	**152**	12 I/O PC Series		8		4		
ELC-PH12NNDT	180	12 I/O PH Series		8			4	
ELC-PA10AADR	283	10 I/O PA Series		4	2	2		2

Digital I/O Expansion Modules

Model No.	Price	Description	Type	Input AC	Input DC	Output Relay	Output Transistor
ELC-EX06NNNI	$73	6 I/O expansion	6 A outputs				6
ELC-EX08NNAN	59	8 I/O expansion	AC in	8			
ELC-EX08NNDN	54	8 I/O expansion	AC in		8		
ELC-EX08NNNR	**65**	8 I/O expansion	Relay out				8
ELC-EX08NNDR	**65**	8 I/O expansion	in/out combo		4	4	
ELC-EX16NNDR	**79**	16 I/O expansion	in/out combo		8	8	

Analog I/O Modules

Model No.	Price	Description	Analog in	Analog out
ELC-AN04ANNN	$123	4 I/O analog in	4	
ELC-AN02NANN	157	2 I/O analog out		2
ELC-AN04NANN	213	4 I/O analog out		4
ELC-AN06AANN	**246**	6 I/O analog in/out	4	2
ELC-TC04ANNN	271	4 I/O thermocouple J, K, R, S, T	4	
ELC-PT04ANNN	265	4 I/O platinum RTD, Pt100	4	

Accessories

Model No.	Price	Description
ELCSOFT	**$144**	ELC programming software for ELC controllers
ELC-CBPCELC1	25	ELC programming cable, 1 m (3.3') length
ELC-CBPCELC3	28	ELC programming cable, 3 m (9.8') length
ELC-PS01	36	ELC power supply, 24 W, 1 A, DIN rail mount
ELC-PS02	71	ELC power supply, 48 W, 2 A, DIN rail mount
OM-CONV-USB	15	USB to RS232 interface converter

Ordering Examples: ELC-PB14NNDR, PLC controller with 8 digital inputs, 6 relay outputs, ELC-PS01, ELC power supply, ELCSOFT, programming software, ELC-CBPCELC3, 3 m (9.8') programming cable, $134 + 36 + 144 + 28 = $342.

ELC-PA10AADR, PLC controller with 4 digital inputs, 2 relay outputs, 2 analog inputs, 2 analog outputs, ELC-PS01, 24 W ELC power supply, ELCSOFT, programming software, ELC-CBPCELC3, 3 m (9.8') programming cable, $283 + 36 + 144 + 28 = $491.

Universal Remote I/O Modules, DIN Rail Mountable MODBUS® I/O

**HE359 Series
Starts at**
$200

RoHS ⓊL CE

✔ **Connects Via 2-Wire RS485 MODBUS RTU to Any Programmable Logic Controller (PLC)**
✔ **A Total of 31 I/O Modules May be Daisy-Chained on a Single RS485 Link**
✔ **Optical Isolation**
✔ **Response Time Suitable for Most Analog Applications**
✔ **Cost Effective Addition Per Point**
✔ **Fits in the Smallest Panels:
   17.5 x 100 x 120 mm (0.69 x 3.94 x 4.72")**
✔ **12 Different I/O Modules Including:**
   • **DC In, DC Out**
   • **DC In, Relay Out**
   • **Analog In, Analog Out**
   • **RTD**
   • **Thermocouple**

Shown smaller than actual size.

**(L to R) HE359DAC007, $280,
HE359ADC107, $245, and HE359RTD100, $280.**

Remote I/O, or distributed I/O, offers several advantages over the traditional local I/O found on a Programmable Logic Controller (PLC). First, it allows you to locate the I/O modules close to the process that is being monitored or controlled. This greatly improves noise immunity, as the weak sensor signals are converted to digital signals before being transmitted long distances through a noisy plant environment. Omega universal remote I/O modules use a simple 2-wire RS485 link using Modbus RTU protocol, which is supported by most programmable logic controllers. A second advantage is that remote I/O greatly reduces the wiring at the main control panel, saving time and money when repairs and upgrades are necessary. Adding additional sensors and control signals is as easy as connecting to the already installed RS485 link and modifying the PLC program to utilize the new I/O. In addition, remote I/O allows you to expand your process control system beyond the local I/O capabilities of your PLC. You can add thermocouple, RTD, pressure, and flow sensors to a PLC that doesn't support these types of inputs. With remote I/O, your process application is no longer dependent on your controller choice.

Specifications

Number of Channels:
   4: HE359ADC107, HE359ADC120, HE359DAC007, HE359RTD100, HE359THM100, HE359DIQ512
   8: HE359ADC207, HE359ADV220, HE359DAC107, HE359DAC201, HE359THM200
   12: HE359DIM610

Input Ranges:
   ±10V: HE359ADC107, HE359ADC207
   ±20 mA: HE359ADC120, HE359ADV220
   12/24 Vdc: HE359DIM610, HE359DIQ512
   RTD Pt-100, Ni-100, Pt-1000, Ni-1000; 0 to 2000 Ω, 0 to 500 Ω: HE359RTD100
   J, K, R, S, B, E, T, N; ±50 mV, ±100 mV, ±500 mV, ±1V: HE359THM100, HE359THM200
Output Ranges:
   0 to 20 mA or 0 to 10V: HE359DAC007, HE359DAC107
   0 to 10V: HE359DAC201
OFF Voltage Level: 0 to 3 Vdc (HE359DIM610, HE359DIQ512)
ON Voltage Level: 10 to 30 Vdc (HE359DIM610, HE359DIQ512)
Resolution:
   16-bit: HE359ADC107, HE359ADC207, HE359ADC120, HE359ADC220
   1 µA or 1 mV: HE359DAC007, HE359DAC107
   1 mV: HE359DAC201
   0.1°C or 0.1 Ω: HE359RTD100
   0.1°C or 0.001 mV: HE359THM100, HE359THM200
RTD Excitation Current (HE359RTD100):
350 µA, typical
Accuracy:
   ±0.1% FS: HE359RTD100, HE359THM100, HE359THM200
Load Resistance:
   Voltage: >5 kΩ (HE359DAC007, HE359DAC107, HE359DAC201)
   Current: <500 Ω (HE359DAC007, HE359DAC107)
Output Calibration:
   Voltage: ±10 mV (HE359DAC007, HE359DAC107, HE359DAC201)
   Current: ±20 µA (HE359DAC007, HE359DAC107)

**Sanitary product line continues to expand,
visit omega.com/sanitary for details!**

HOTLINE 1-877-82-66342®
TO SANITARY
PRODUCTS 1-877-TC-OMEGA

Input Impedance:
1 MΩ: HE359ADC107, HE359ADC207
<50 Ω: HE359ADC120, HE359ADC220
4.7 kΩ: HE359DIM610, HE359DIQ512
>10 MΩ: HE359THM100, HE359THM200
Relay Outputs Per Module (HE359DIQ512):
4 (2 SPDT, 2 SPST)
Max Switching Power (HE359DIQ512):
2A @ 250 Vac, 2A @ 30 Vdc
Min Load (HE359DIQ512): 5 Vdc, 10 mA
Max Voltage (HE359DIQ512): 250 Vac, 110 Vdc
Linearity: ±0.1%
External Power Supply Voltage:
10 to 30 Vdc: HE359ADC107, HE359ADC207,
HE359ADC120, HE359ADC220, HE359DIM610,
HE359RTD100, HE359THM100, HE359THM200
18 to 30 Vdc: HE359DAC007, HE359DAC107,
HE359DAC201
Required Power (Steady State):
30 mA @ 24 Vdc, Typical: HE359ADC107,
HE359ADC207, HE359ADC120, HE359ADC220,
HE359DAC201, HE359RTD100, HE359THM100,
HE359THM200
30 mA @ 24 Vdc, Typical (100 mA max):
HE359DAC007, HE359DAC107
35 mA @ 24 Vdc, Typical: HE359DIM610
45 mA @ 24 Vdc, Typical: HE359DIQ512
Required Power (Inrush): Negligible
Isolation: 2000 Vac for 60 seconds (input/power and
input/comms)
PLC Update Rate:
Determined by Communications with OCS:
HE359DIM610, HE359RTD100, HE359THM100,
HE359HTM200
20 mS min: HE359DIQ512
Thermal Drift (HE359DAC201): 100 ppm max
Terminal Type: Screw type, removable
Storage Temperature: -40 to 85°C (-40 to 185°F)
Operating Temperature: -10 to 60°C (14 to 140°F)

Note: Number of I/O terminal connections vary from model to model.
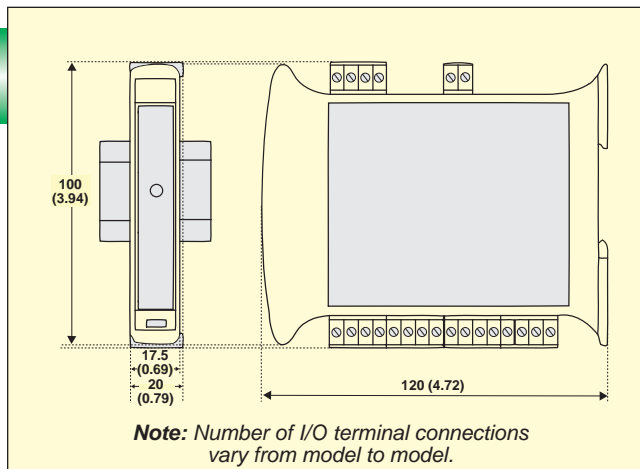
Relative Humidity (Non-Condensing):
5 to 95%: HE359ADC107, HE359ADC207,
HE359DAC007, HE359DAC107, HE359DAC201,
HE359DIM610, HE359DIQ512, HE359RTD100,
HE359THM100, HE359THM20
5 to 90%: HE359ADC120, HE359ADC220
Dimensions: 17.5 W x 100 H x 120 mm D
(0.69 x 3.94 x 4.72")
Weight: 150 g (6 oz); 210 g (8.4 oz)
HE359DIQ512 only
Communications: MODBUS®/RTU (binary) RS485
half duplex
Default Communications Parameters:
38400 baud, N, 8, 1, no h/s default modbus ID 1
Supported MODBUS Commands:
1, 2, 3, 4, 5, 6, 8, 15, 16

Accessories

Model No.	Price	Description
XBANS3575P	$9.00	DIN rail, 35 x 7.5 mm x 2 m (1.4 x 0.30" x 6.6'), slotted
XBANS3575U	9.30	DIN rail, 35 x 7.5 mm x 2 m (1.4 x 0.30" x 6.6'), solid
XBANS3515P	17.00	DIN rail, 35 x 15 mm x 2 m (1.4 x 0.30" x 6.6'), slotted
XBANS3515U	17.00	DIN rail, 35 x 15 mm x 2 m (1.4 x 0.30" x 6.6'), solid
ELC-PS01	36.00	ELC power supply, 24 W, 1 A
ELC-PS02	71.00	ELC power supply, 24 W, 2 A

☐ *MOST POPULAR MODELS HIGHLIGHTED!*

To Order *(Specify Model Number)*

Model No.	Price	Description
HE359DIQ512	**$200**	I/O module, 4 DC inputs (12/24 Vdc), 4 relay outputs (250 Vac, 30 Vdc, 2A max)
HE359DIM610	245	I/O module, 12 DC inputs (12/24 Vdc)
HE359ADC107	245	I/O module, 4 analog inputs, voltage (±10 Vdc), 1 mV resolution
HE359ADC120	245	I/O module, 4 analog inputs, current (4 to 20 mA), 1µA resolution
HE359ADC207	385	I/O module, 8 analog inputs, voltage (±10 Vdc), 1 mV resolution
HE359ADC220	385	I/O module, 8 analog inputs, current (4 to 20 mA), 1µA resolution
HE359RTD100	280	I/O module, 4 RTD inputs (Pt-100, Ni-100, Pt-1000, Ni-1000) or resistance inputs (0 to 2000 Ω), 0.1°C resolution
HE359THM100	280	I/O module, 4 thermocouple inputs (Types J, K, R, S, B, E, T, N) or millivolt inputs (±1000 mV, max), 0.1°C resolution
HE359THM200	425	I/O module, 8 thermocouple inputs (Types J, K, R, S, B, E, T, N) or millivolt inputs (±1000 mV, max), 0.1°C resolution
HE359DAC007	280	I/O module, 2 analog outputs, selectable between voltage (0 to 10 Vdc) and current (0 to 20 mA), 1 mV/1 µA resolution
HE359DAC107	425	I/O module, 4 analog outputs, selectable between voltage (0 to 10 Vdc) and current (0 to 20 mA), 1 mV/1 µA resolution
HE359DAC201	560	I/O module, 8 analog outputs, voltage (0 to 10 Vdc), 1 mV resolution

Ordering Examples: HE359THM100, I/O module, 4 thermocouple inputs, $280.
HE359RTD100, I/O module, 4 RTD inputs, $280.

NEW

Stepper Motors
Frame Sizes From NEMA 11 to 34

Wide Range of Motor Sizes

For Complete Details Visit omega.com/stepper-motors

Stepper Motors Start at
$90

Omegamation™ offers a robust line of 2-phase step motors ranging in frame size from NEMA 11 to NEMA 34. In the most common frame sizes high torque (HT) motors are available. All motors conform to industry-standard NEMA mounting dimensions, and are offered with a range of well-featured, compatible drives and indexers.

Applied Motion Products

motors • drives • controls

All models shown smaller than actual size.

☐ MOST POPULAR MODELS HIGHLIGHTED!

To Order *(Specify Model Number)*

Model No.	Price	Description
OMHT11-013	$130	NEMA 11 high torque step motor, 15 oz-in min holding torque
OM5014-842	105	NEMA 14 standard torque step motor, 26 oz-in min holding torque
OMHT17-075	90	NEMA 17 high torque step motor, 62.8 oz-in min holding torque
OMHT23-393	110	NEMA 23 high torque step motor, 76.6 oz-in min holding torque
OMHT23-397	125	NEMA 23 high torque step motor, 177 oz-in min holding torque
OMHT23-400	160	NEMA 23 high torque step motor, 264 oz-in min holding torque
OMHT23-550	190	NEMA 23 high torque step motor with 3 m (10') shielded cable, 255 oz-in min holding torque
OMHT34-485	294	NEMA 34 high torque step motor, 650 oz-in min holding torque
OMHT34-486	392	NEMA 34 high torque step motor, 1200 oz-in min holding torque
OMHT34-487	540	NEMA 34 high torque step motor, 1845 oz-in min holding torque
OMHT34-488	400	NEMA 34 high torque step motor with 3 m (10') shielded cable, 650 oz-in min holding torque
OMHT34-490	646	NEMA 34 high torque step motor with 3 m (10') shielded cable, 1845 oz-in min holding torque

Note: Optional encoders can only be added to double shaft versions. To order with double shaft, add suffix "-D" to model number and $5 to price.
Ordering Example: OMHT34-490-D, NEMA 34 high torque step motor with 1845 oz-in min holding torque with 3 m (10') shielded cable and double shaft, $646 + 5 = $651. Recommended drive, STAC6-Si, high performance programmable stepper drive with power supply, $1393, see page 142.

Accessories

Model No.	Price	Description
ENC-1000i	$357	Differential encoder for NEMA 11/14/17 motors, 1000-line, with index pulse
ENC-1000i-23	357	Differential encoder for NEMA 23 motors, 1000-line, with index pulse
ENC-1000i-34	370	Differential encoder for NEMA 34 motors, 1000-line, with index pulse
ENC-CA-4217-6FT	80	Encoder cable, 2 m (6')
ENC-CA-4217-10FT	98	Encoder cable, 3 m (10')
ENC-CA-4217-20FT	126	Encoder cable, 6 m (20')
ENC-ZAA	250	Differential encoder for ST and STAC6 drives, NEMA 23 motors, 2000-line, with index
ENC-YAA	250	Differential encoder for ST and STAC6 drives, NEMA 34 motors, 2000-line, with index
ENC-ST-CA-10	56	Encoder cable for ST and STAC6 Drives, 3 m (10')

Encoders offered are differential encoders with line drivers. These provide two channels of signals with complementary signals. Versions with index also offer Z-channel and its complementary signal. Remember that a double shaft motor is required.
Ordering Examples: OMHT17-075-D, NEMA 17 high torque step motor with 62.8 oz-in min holding torque and double shaft, $90 + 5 = $95.
ENC-1000i, 1000-line encoder with index pulse for NEMA 17 motor, and ENC-CA-4217-10FT, 3 m (10') encoder cable, $357 + 98 = $455.
ST/STAC6 Encoder Option:
Use encoder ENC-ZAA for ST5-Si, ST10-Si, and STAC6-Si drives with NEMA 23 motors, visit omega.com/stepper-drives
Use encoder ENC-YAA for ST5-Si, ST10-Si, and STAC6-Si drives with NEMA 34 motors, visit omega.com/stepper-drives
The ENC-ST-CA-10 cable connects the optional encoders listed above to the ST and STAC6 series drives.

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS **1-877-82-6 6 342®**
1-877-TC-OMEGA

Stepper Drives
Step+Direction, Oscillator, Stand-Alone Programmable, High-Performance

Stepper Drives Start at
$189

CE

For Complete Details Visit omega.com/ stepper-drives
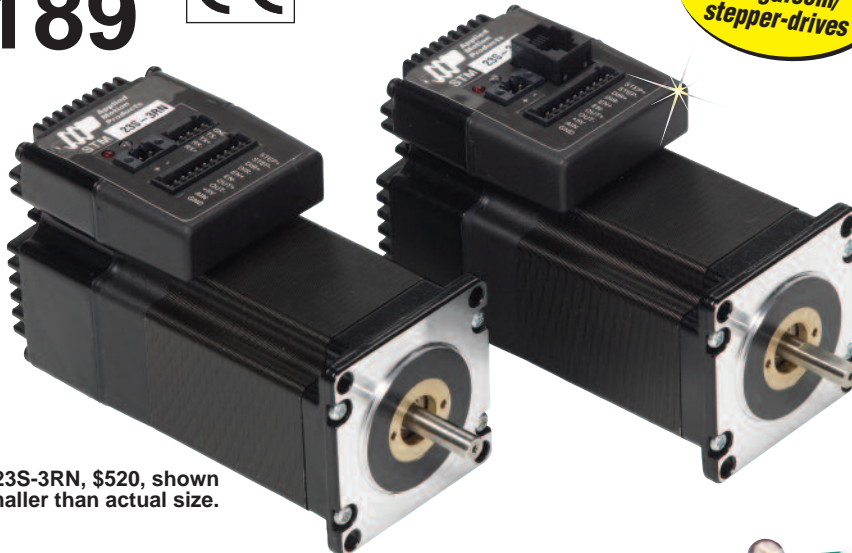
STM23S-3RN, $520, shown smaller than actual size.

STAC6-Si, $1393, shown smaller than actual size.

Omegamation™ offers a wide variety of stepper drives to complement our selection of stepper motors, from the basic step+direction drives (2035, 3540M) to the high-performance, programmable microstepping drives (ST5, ST10, STAC6). We also offer integrated drive+motor combinations (STM23 series), which fuse stepper motor, drive, and controller technologies into a single device. To learn more about step motor/drive basics, visit **omega.com/intro-to-stepper-motors**
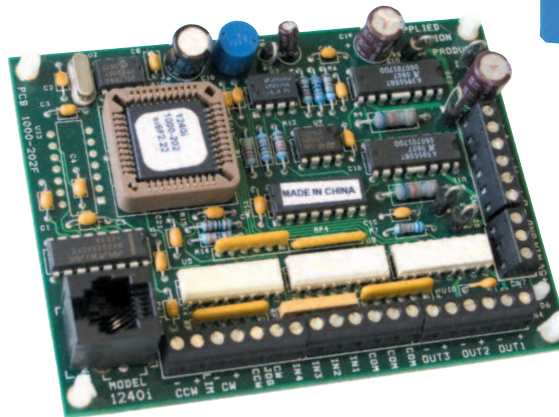
1240i, $360, shown smaller than actual size.

☐ *MOST POPULAR MODELS HIGHLIGHTED!*

To Order *(Specify Model Number)*

Model No.	Price	Description
2035	$189	Step motor drive, 2.0 A, 35V
1240i	360	Programmable step motor indexer/drive, 1.2 A, 40V
3540i	415	Programmable step motor indexer/drive, 3.5 A, 40V
3540M	275	Step motor drive, 3.5 A, 40V
Si3540	1045	Programmable step motor indexer/drive, 3.5 A, 40V, with AC power supply
ST5-Si	630	High-performance programmable step motor indexer/drive, 5.0 A, 48V
ST10-Si	770	High-performance programmable step motor indexer/drive, 10.0 A, 80V
STAC6-S	1113	High-performance step+direction step motor drive, with AC power supply
STAC6-Si	1393	High-performance programmable step motor drive, with AC power supply
STM23S-2AN	417	Integrated stepper drive/motor, 125 oz-in max torque, RS232
STM23S-3AN	477	Integrated stepper drive/motor, 210 oz-in max torque, RS232
STM23S-2RE	667	Integrated stepper drive/motor, 125 oz-in max torque, RS485, encoder
STM23S-3RE	687	Integrated stepper drive/motor, 210 oz-in max torque, RS485, encoder

Ordering Examples: 3540i, programmable step motor indexer/drive, 3.5 A, 40V, $415.
STAC6-Si, high-performance programmable step motor with AC power supply, $1393.

NEMA 12 Continuous Hinge Enclosures

SCE-CH Series Starts at

$37

MADE IN USA · 1 YEAR WARRANTY · UL · CSA · RoHS

For Complete Selection Visit omega.com/wall-mount-enclosures

✔ **0.075" Carbon Steel**
✔ **Seams Continuously Welded and Ground Smooth, No Holes or Knockouts**
✔ **External Screw Clamps are Quick and Easy to Operate**
✔ **Oil Resistant Gasket**

✔ **Standoffs Provided for Mounting Optional Panels**
✔ **Ground Stud on Door**

Visit **omega.com/sce_conthinge** for additional SCE-CH Series product selections.

SCE-1210CH, $82, shown much smaller than actual size.

MOST POPULAR MODELS HIGHLIGHTED!

To Order *(Specify Model Number)*

TYPE 12 Continuous Hinge Enclosures

Enclosures		Dimensions: (in)			Sub-Panel		Dimensions: (in)	
Model No.	Price	Height	Width	Depth	Model No.	Price	Height	Width
SCE-404CH	$37	4.00	4.00	3.00	No Panel	—	—	—
SCE-8066CH	60	8.00	6.00	6.00	SCE-8P6	$4.30	6.75	4.88
SCE-10086CH	73	10.00	8.00	6.00	SCE-10P8	5.90	8.75	6.88
SCE-1210CH	82	12.00	10.00	5.00	SCE-12P10	8.00	10.75	8.88
SCE-1210CHS	82	12.00	10.00	5.00	SCE-12P10	8.00	10.75	8.88
SCE-1412CH	104	14.00	12.00	6.00	SCE-14P12	10.50	12.75	10.88
SCE-1614CH	122	16.00	14.00	6.00	SCE-16P14	20.75	14.75	12.88

Note: Model numbers ending in "S" are hinged on the width dimension.
Ordering Examples: SCE-404CH,** Type 12 enclosure with continuous hinge (4 H x 4 W x 3" D) enclosure, **$37.
SCE-10086CH,** Type 12 enclosure with continuous hinge (10 H x 8 W x 6" D) with **SCE-10P8,** sub-panel (8.75 H x 6.88" W), $73 + 5.90 = **$78.90.

NEMA 12 Consolets

SCE Series Starts at

$105

For Complete Selection Visit omega.com/operator-consoles
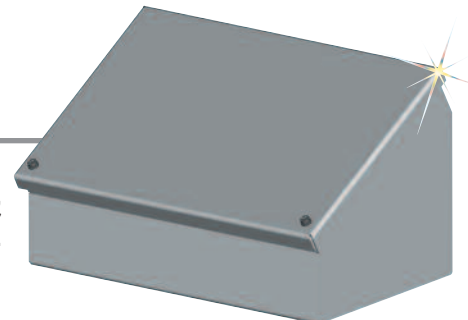
SCE-12C16, $151, shown much smaller than actual size.

Visit **omega.com/sce_console** for additional SCE Series product selections.

MOST POPULAR MODELS HIGHLIGHTED!

MADE IN USA · 1 YEAR WARRANTY · UL · CSA · RoHS

✔ **0.075" Carbon Steel**
✔ **Seams Continuously Welded and Ground Smooth, No Holes or Knock-Outs**
✔ **Captivated Cover Screws Thread Into Sealed Wells**
✔ **Door Attached With Continuous Hinge**
✔ **Oil-Resistant Gasket**
✔ **Ground Stud on Door**
✔ **May Also Be Ordered in Type 304 and Type 316 Stainless Steel***

To Order *(Specify Model Number)*

Model No.	Price	Door (in)	Width (in)	Height (in)	Depth (in)
SCE-8C8	$105	8.00	8.00	7.09	7.44
SCE-12C12	136	12.00	12.00	9.09	10.91
SCE-12C16	151	12.00	16.00	9.09	10.91
SCE-16C16	177	16.00	16.00	11.09	14.38
SCE-16C20	194	16.00	20.00	11.09	14.38
SCE-16C24	212	16.00	24.00	11.09	14.38
SCE-20C20	223	20.00	20.00	13.09	17.84
SCE-20C24	248	20.00	24.00	13.09	17.84
SCE-20C30	284	20.00	30.00	13.09	17.84

***** *Consult Sales for ordering information.*
Ordering Examples: SCE-8C8,** consolet with 8 x 8" door, **$105.
SCE-16C20,** consolet with 16 x 20" door, **$194.

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-6 6 3 4 2®
1-877-TC-OMEGA

Enclosures

NEMA 12 pushbutton enclosures.

Too Many to Show Here! For Complete Selection Visit omega.com/ nema_enclosures
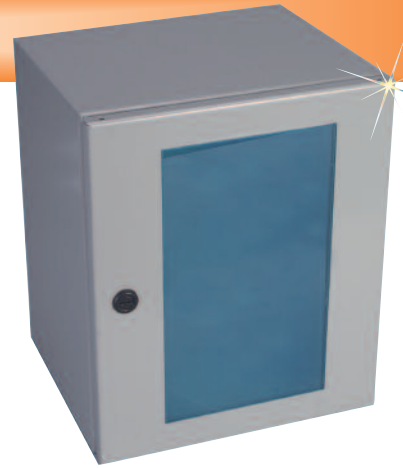
NEMA 4 Enviroline® Series enclosures with window.
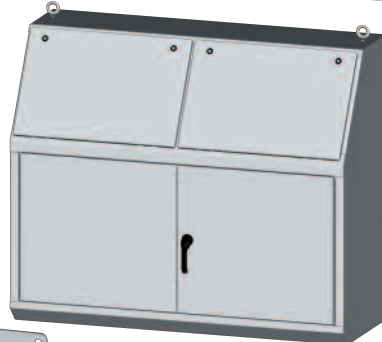
NEMA 12 two-door consoles.

NEMA 12 screw cover enclosures.

NEMA 12 continuous hinge enclosures.

NEMA 12 single door consoles.

NEMA 12 single-door enclosures.
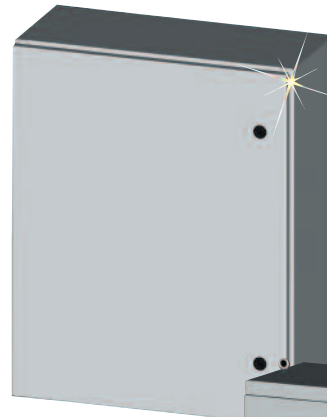
NEMA 4 Enviroline® Series enclosures.

NEMA 4 free standing single door enclosures.

NEMA 12 consoles.

NEMA 12 two-door enclosures.
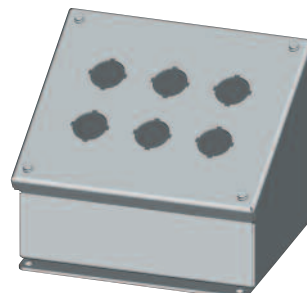
NEMA 12 sloping front pushbutton.

NEMA 12 free standing two-door enclosures.

NEMA Type 4X ENVIROLINE® Series 304 and 316 Stainless Steel Enclosures

For Complete Selection and Specifications Visit omega.com/sce_elss

SCE-ELSS Series Starts at
$490

MADE IN USA · **1 YEAR WARRANTY** · UL · CSA · RoHS

- ✔ **Seams Continuously Welded and Ground Smooth**
- ✔ **Flange Trough Collar Around All Sides of Door Opening**
- ✔ **Oil-Resistant Gasket**
- ✔ **Collar Studs Provided for Mounting Optional Sub-Panels**
- ✔ **Stainless Steel Concealed Hinge**
- ✔ **Removable and Interchangeable Doors**
- ✔ **Black Quarter Turn Latches**
- ✔ **Latches are Opened or Closed With a Screwdriver (Optional Tamper-Resistant Inserts are Available)**
- ✔ **Mounting Holes in Back of Enclosure**
- ✔ **Mounting Hardware, Sealing Washer and Hole Plug Included**
- ✔ **Removable Print Pocket**
- ✔ **Ground Studs on Door and Body**
- ✔ **Optional Mounting Feet Available**
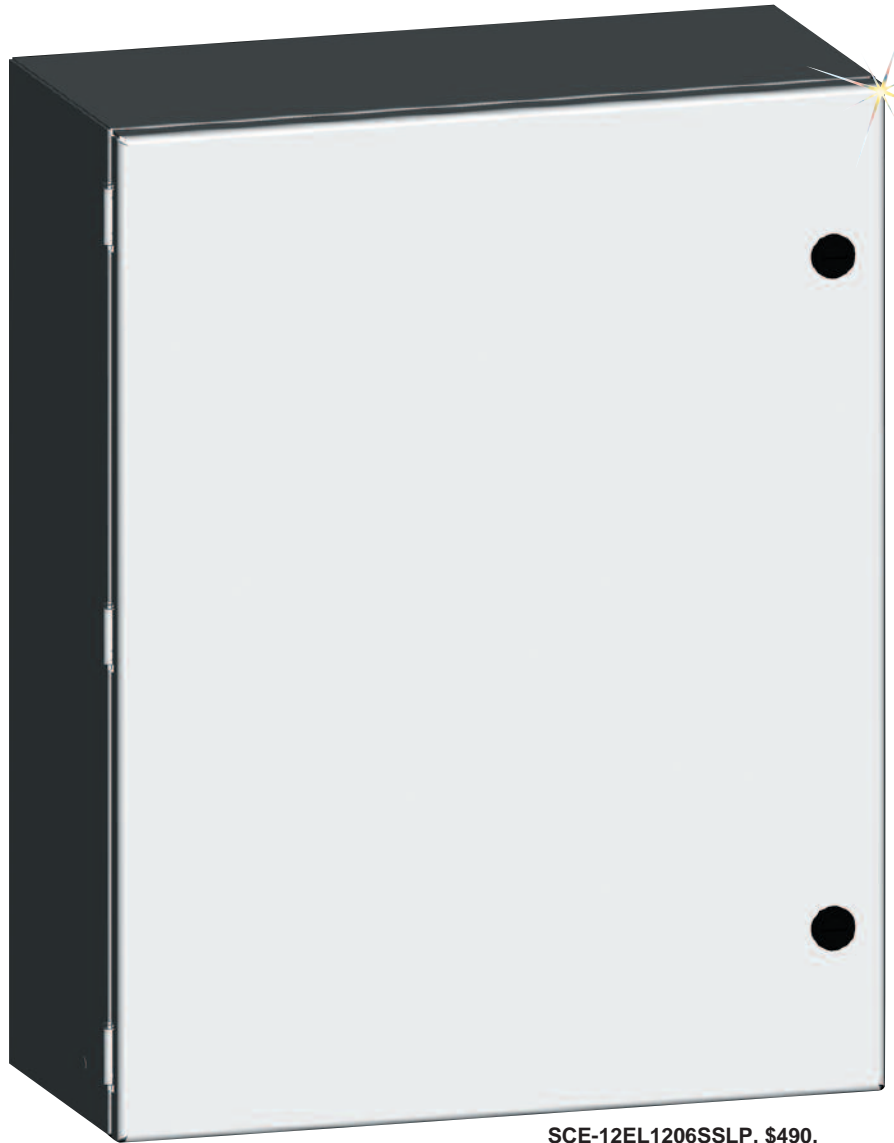
SCE-12EL1206SSLP, $490, shown smaller than actual size.

MOST POPULAR MODEL HIGHLIGHTED!

To Order *(Specify Model Number)*

TYPE 4X 304 Stainless Steel ENVIROLINE® Series Enclosures

Enclosures (in)				Sub-Panel (in)			
Model No.	Price	Height (A)	Width (B)	Depth (C)	Model No.	Price	Height (D)	Width (E)
SCE-16EL2008SSLP	**$705**	16.00	20.00	8.00	**SCE-20P16**	**$31.50**	17.00	13.00
SCE-20EL2010SSLP	835	20.00	20.00	10.00	**SCE-20P20**	37.00	17.00	17.00
SCE-24EL2012SSLP	970	24.00	20.00	12.00	**SCE-24P20**	47.50	21.00	17.00
SCE-24EL3010SSLP	960	24.00	30.00	10.00	**SCE-30P24**	55.00	27.00	21.00
SCE-30EL3608SSLP	1145	30.00	36.00	8.00	**SCE-36P30**	88.00	33.00	27.00
SCE-42EL3616SSLP	1715	42.00	36.00	16.00	**SCE-42P36**	119.00	39.00	33.00

Ordering Examples: SCE-12EL1206SSLP, Type 4X 304 stainless steel Enviroline® series enclosure, 12 H x 12 W x 6" D, $490.
SCE-24EL2008SSLP, Type 4 series Enviroline stainless steel enclosure, 24 H x 20 W x 8" D, SCE-24P20, sub-panel, $855 + 47.50 = $902.50.

Sanitary product line continues to expand, visit **omega.com/sanitary** for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-6 6342® 1-877-TC-OMEGA

22.5 mm Pushbuttons and Indicating Lights

OMPBD7 Series Complete Kits Start at

$22

✔ **Modular Design**
✔ **Tool-Less Mounting Latch**
✔ **Plastic Operators: NEMA 4/4X/13 (IP66) Environmental Rating**
✔ **Metal Operators: NEMA 4/13 (IP66) Environmental Rating**

Visit **omega.com/ompbd7** and **omega.com/ompbd7_mush2** for additional product selections.
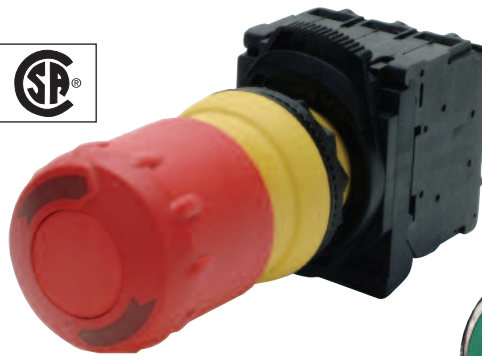
OMPBD7D-MT44X02, $40, shown smaller than actual size.

OMPBD7M-F3PX10, $24, shown smaller than actual size.

AVAILABLE FOR FAST DELIVERY!

To Order *(Specify Model Number)*

Model No.	Price	Description
OMPBD7P-F2PX01	$22	Plastic black 1 NC momentary-flush
OMPBD7M-F3PX10	24	Metal green 1 NO momentary-flush
OMPBD7D-P3D5	26	Green indicating light, 120 Vac, with incandescent bulb
OMPBD7D-P4N5	26	Red LED indicating light, 120 Vac/dc, with bulb
OMPBD7D-MT44X02	40	E-stop button, 40 mm red plastic bezel, 2 NC contacts

Ordering Example: OMPBD7P-F2PX01, plastic black 1 NC non-illuminating momentary, flush pushbutton kit, $22.
OMPBD7D-MT44X02, e-stop button with 40 mm red plastic bezel, 2 NC contacts, $40.

Heavy-Duty 30.5 mm Metal Pushbuttons

10250T Series Components Start at

$38^{75}

✔ **Heavy-Duty Zinc Die Cast Construction**
✔ **Enclosed Silver Contacts with Reliability Nibs**
✔ **Diaphragm Seals with Drainage Holes**
✔ **Grounding Nibs on Operator Casing**

10250T20LB, $63

10250T21LB, $63

10250T23B, $38.75

10250T25R, $38.75

10250T29, $85.50

All models shown smaller than actual size.

AVAILABLE FOR FAST DELIVERY!

To Order *(Specify Model Number)*

Model No.	Price	Description
10250T Common Complete Devices (Includes Contact Blocks)		
10250T20LB	$63.00	On/Off switch (black knob switch comes with NO/NC contact block)
10250T21LB	63.00	H-O-A switch (black lever switch comes with 2 NO/2 NC contact blocks)
10250T23B	38.75	Start button (black flush button comes with NO contact block)
10250T25R	38.75	Stop button (red extended button comes with NC contact block)
10250T29	85.50	Emergency stop (red jumbo MRH button comes with NC contact block)

Ordering Example: 10250T29, emergency stop, $85.50.   Visit **omega.com/10250t_series** for additional product selections.

NEW®

RTD Sensor with M12 Connector for Process Control and Test and Measurement Applications

M12 4-pin connector.

Mounting thread.

PR-21 Series Starts at

$60

MADE IN USA

ACCURACY IEC CLASS A (±0.15°C @ 0°C)

PR-21B-3-100-A-1/4-0600-M12-1, $70.

✔ **All Welded 316L Stainless Steel Housing**

✔ **Available With or Without Mounting Thread (¼, ⅜ and ½ NPT Mounting Threads Available)**

✔ **Class A, Pt100 or Pt1000 4-Wire Platinum RTD Elements per IEC60751 Standard**

✔ **Integral 4-Pin M12 Connector for Easy Connection**

✔ **Fast Response Time (3.5 Seconds or Less 63% Response in Water)**

✔ **¼" Diameter Standard, Optional ⅛" Diameter Available**

Metric Available! See Page 161
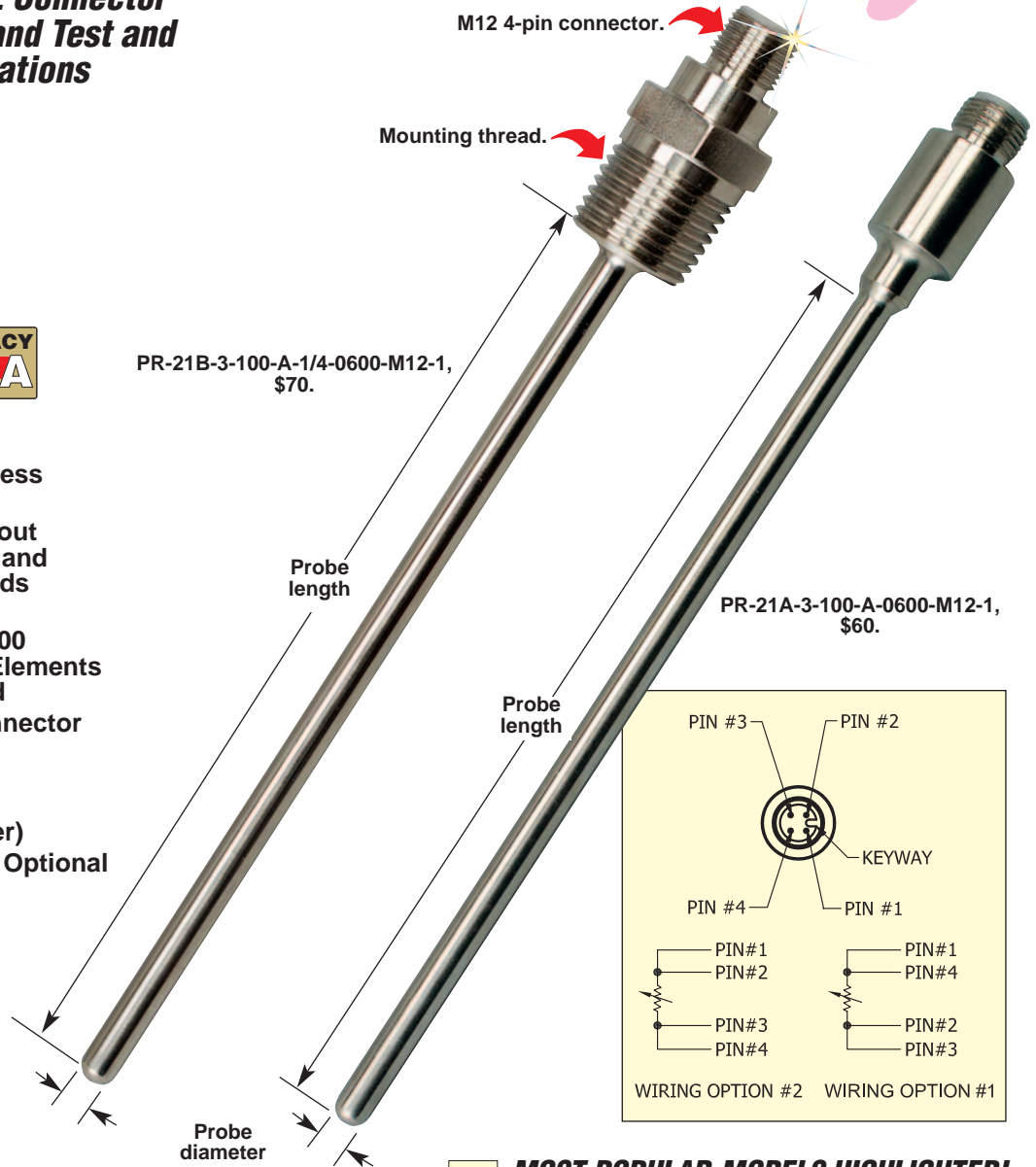
Probe length

Probe length

PR-21A-3-100-A-0600-M12-1, $60.

PIN #3   PIN #2

KEYWAY

PIN #4   PIN #1

PIN#1 / PIN#2 / PIN#3 / PIN#4

PIN#1 / PIN#4 / PIN#2 / PIN#3

WIRING OPTION #2   WIRING OPTION #1

Probe diameter

Standard

MOST POPULAR MODELS HIGHLIGHTED!

To Order *(Specify Model Number)*

Model Number	Price	Element	Length (in)	Mounting Thread
PR-21A-3-100-A-1/4-0600-M12-1	$60	Pt100, Class A	6.00	None
PR-21B-3-100-A-1/4-0600-M12-1	70	Pt100, Class A	6.00	½ NPT
PR-21C-3-100-A-1/4-0600-M12-1	70	Pt100, Class A	6.00	⅜ NPT
PR-21D-3-100-A-1/4-0600-M12-1	70	Pt100, Class A	6.00	¼ NPT
PR-21A-3-1000-A-1/4-0600-M12-1	60	Pt1000, Class A	6.00	None
PR-21B-3-1000-A-1/4-0600-M12-1	70	Pt1000, Class A	6.00	½ NPT
PR-21C-3-1000-A-1/4-0600-M12-1	70	Pt1000, Class A	6.00	⅜ NPT
PR-21D-3-1000-A-1/4-0600-M12-1	70	Pt1000, Class A	6.00	¼ NPT

For lengths other than 6", change "0600" in model number to required length and add $1 per inch greater than 6" (example: 9" = 0900, 4½" = 0450).

For ⅛" probe diameters, change "1/4" in model number to "1/8", no additional cost.

Ordering Examples: *PR-21A-3-100-A-1/4-0600-M12-1,* ¼" *diameter probe 6" long with Pt100, Class A element, no mounting thread, with M12 connector, $60.*

PR-21D-3-100-A-1/4-0600-M12-1, ¼" *diameter probe 6" long with Pt100, Class A element, ¼ NPT mounting thread, with M12 connector, $70.*

RTD Sensor with M12 Connector for Process Control and Test and Measurement Applications

M12 4-pin connector.

M8X1 mounting thread.

PR-21 Series Starts at

$60

MADE IN USA

ACCURACY IEC CLASS A (±0.15°C @ 0°C)

PR-21E-3-100-A-M6-0160-M12-1, $70.

✔ **All Welded 316L Stainless Steel Housing**

✔ **Available With or Without a Mounting Thread, M8x1 and M10x1 Mounting Threads Available**

✔ **Class A, Pt100 or Pt1000 4-Wire Platinum RTD Elements per IEC60751 Standard**

✔ **Integral 4-Pin M12 Connector for Easy Connection**

✔ **Fast Response Time (3.5 Seconds or Less 63% Response in Water)**

✔ **6 mm Diameter Standard (3 and 10 mm Dia Available)**

Probe length

Probe length

PR-21A-3-100-A-M6-0160-M12-1, $60.

PIN #3   PIN #2

KEYWAY

PIN #4   PIN #1

	PIN#1
	PIN#2
	PIN#3
	PIN#4

	PIN#1
	PIN#4
	PIN#2
	PIN#3

WIRING OPTION #2   WIRING OPTION #1

Probe diameter
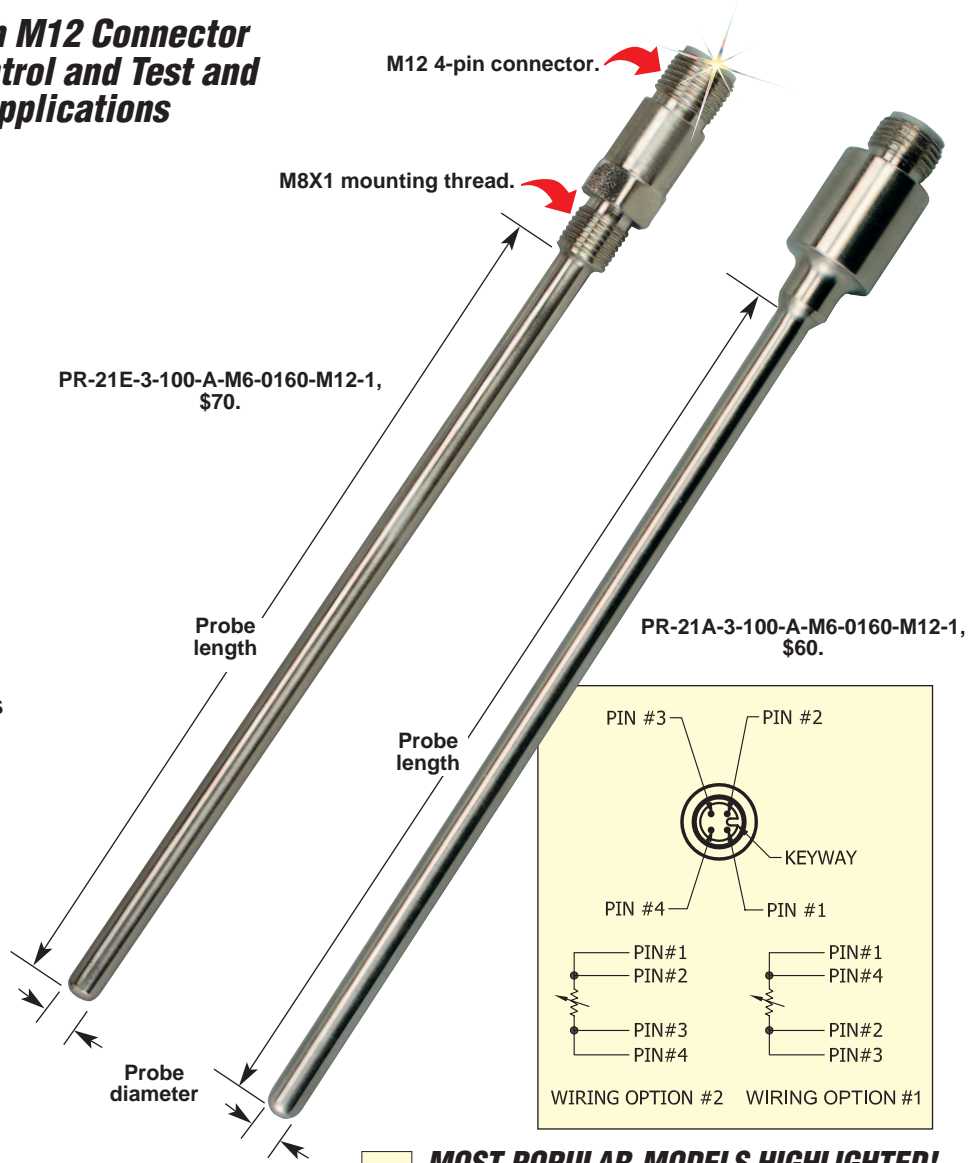
Metric

MOST POPULAR MODELS HIGHLIGHTED!

To Order *(Specify Model Number)*

Model Number	Price	Element	Length (mm)	Mounting Thread
PR-21A-3-100-A-M6-0160-M12-1	$60	Pt100, Class A	160	None
PR-21A-3-100-A-M6-0260-M12-1	64	Pt100, Class A	260	None
PR-21A-3-100-A-M6-0360-M12-1	68	Pt100, Class A	360	None
PR-21E-3-100-A-M6-0160-M12-1	70	Pt100, Class A	160	M8x1
PR-21E-3-100-A-M6-0260-M12-1	74	Pt100, Class A	260	M8x1
PR-21E-3-100-A-M6-0360-M12-1	78	Pt100, Class A	360	M8x1
PR-21F-3-100-A-M6-0160-M12-1	70	Pt100, Class A	160	M10x1
PR-21F-3-100-A-M6-0260-M12-1	74	Pt100, Class A	260	M10x1
PR-21F-3-100-A-M6-0360-M12-1	78	Pt100, Class A	360	M10x1

*For 1000 Ω, Class A elements, change **"100"** to **"1000"** in model number, no additional price.*

*For lengths longer than 360 mm, change **"0360"** in model number to required length in mm and add **$1** per 25 mm to price (example: 500 mm = **0500**, 425 mm = **0425**).*

*For 3 mm probe diameters, change **"M6"** in model number to **"M3"** for 3 mm, no additional cost.*

Ordering Example: PR-21A-3-100-A-M6-0260-M12-1,** 6 mm diameter probe, 260 mm long with Pt100, Class A element, no mounting thread, with M12 connector, **$64.

PR-21F-3-100-A-M6-0160-M12-1,** 6 mm diameter probe, 160 mm long with Pt100, Class A element, M10x1 mounting thread, with M12 connector, **$70.

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS **1-877-82-6 6342** ®
1-877-TC-OMEGA

DIN Rail Terminal Blocks
RTD, Feed Through, Sensor, Ground and Fuse Styles

✔ **Screw or Tension Spring Connection**
✔ **Full Line of Accessories-End Plates, Cross Connectors and Marking Tags**
✔ **Electrical Ratings from 20 to 175 A**
✔ **Fuse Blocks with LED Blown Fuse Indicators**

AVK Series Starts at
$0.48ea
for package of 100

$C\epsilon$ c**UL**us **RoHS**
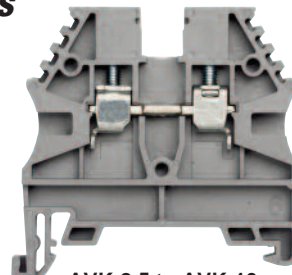
AVK-2.5 to AVK-10 feed through terminal block, AVK-2.5-50PK, $30 pkg of 50.
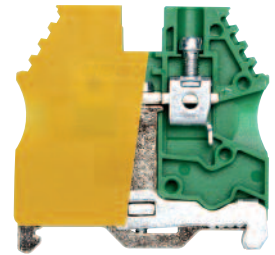
AVK-2.5/4T-10PK ground terminal block, $30 pkg of 10.

All models shown slightly smaller than actual size.

PIK/PUK RTD Sensor Block Series Starts at
$1⁵⁰
for package of 50

RTD

YBK Series Starts at
$0.56ea
for package of 50

For Full Product Selection Visit omega.com/terminal-blocks

ASK T-BLOCK Series Starts at
$2³⁰ea
for package of 20

UL $C\epsilon$ VDE
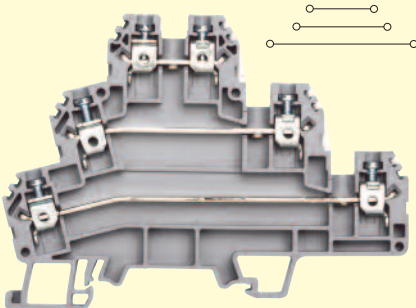
PUK-3-25PK three level feed through terminal, $60 for pack of 25.

$C\epsilon$ c**UL**us **RoHS**
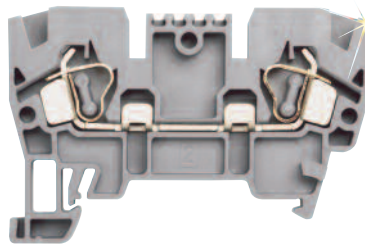
YBK-4-50PK, $28 for package of 50.
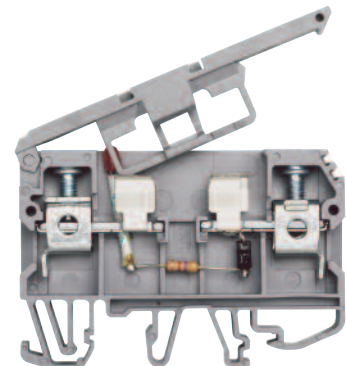
ASK-2LD-DC-10PK fuse terminal block with LED blown fuse indicator for 5 x 20 mm and 5 x 25 mm fuse, $48 for pack of 10.

AVAILABLE FOR FAST DELIVERY!

To Order (Specify Model Number)

Model No.	Price	Amps	AWG	Description
AVK-2.5-100PK	$48	20	26-12	Feed through terminal blocks, 100 per pack
AVK-35-10PK	60	115	10-2	Feed through terminal blocks, 10 per pack
AVK-2.5/4T-10PK	30	—	26-12	Grounding terminal blocks, 10 per pack
PIK-4N-50PK	75	32	26-12	Two level feed through terminal blocks, 50 per pack
PUK-2T-10PK	70	24	24-12	Two level feed through or 3-wire sensor terminal blocks with ground, 10 per pack
PUK-3-25PK	60	24	24-12	Three level feed through terminal blocks for RTD sensors, 25 per pack
YBK-4-50PK	28	26	22-10	Feed through tension clamp terminal blocks, 50 per pack
ASK-2LD-DC-10PK	48	6.3	26-8	24 Vdc fuse terminal blocks for 5 x 20 or 5 x 25 mm fuse, LED blown fuse indicator, 10 per pack
ASK-4LD-AC-10PK	65	6.3	26-8	110 Vac fuse terminal blocks for 1¼ x 11¼" fuse, LED blown fuse indicator, 10 per pack

Ordering Examples: AVK-2.5-100PK, package of 100 feed through terminal blocks for 26-12 AWG rated at 20 A, 5 mm wide, $48.
AVK-2.5/4T-10PK, package of 10 ground terminal blocks, rated at 20 A, for 26-12 AWG, $30.

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS **1-877-82-6 6342**® **1-877-TC-OMEGA**®

NEW

Thermocouple Terminal Blocks
DIN Rail Mounting and Audit Capable

DRTB-RAIL-3575, $9, sold separately.

DRTB Series
$8

MADE IN USA

For Complete Details Visit omega.com/drtb

PATENT PENDING
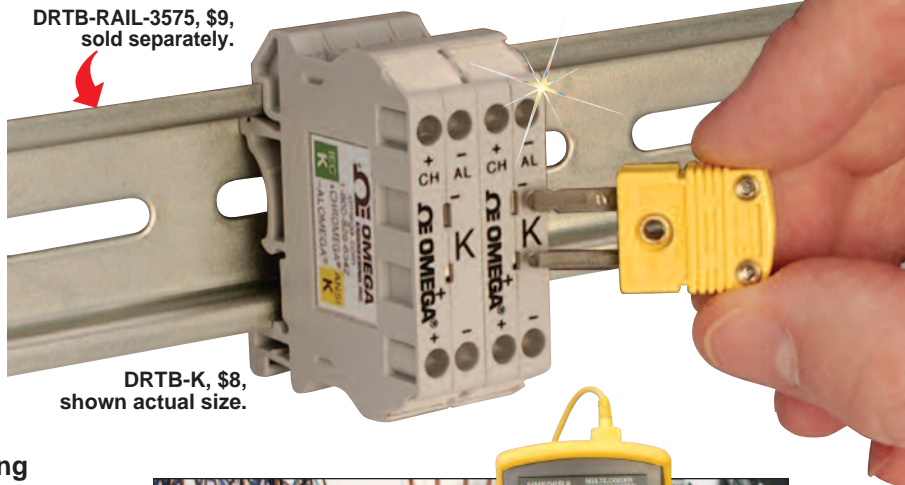
DRTB-K, $8, shown actual size.

- ✔ **Screw Type Terminal for Secure and Maintenance Free Connections**
- ✔ **Type K, J, T, E, N, R/S and U Calibrations**
- ✔ **Built in Miniature Female Thermocouple Connector for Auditing and Troubleshooting**
- ✔ **Fully Enclosed—No End Plates Required**
- ✔ **DIN Rail Mountable—Narrow 10.7 mm Width**
- ✔ **Identified with Calibration and "+, -" Connections**
- ✔ **Miniature Male SMPW Connector Included**
- ✔ **Free Screwdriver Included with Each Order**

The new DRTB Series thermocouple terminal blocks are manufactured with thermocouple-grade alloys to guarantee accurate readings. A built-in SMP-compatible female receptacle accepts a miniature thermocouple connector. The female connector allows the user to connect to a handheld meter for applications such as data collection, quality assurance compliance, capability studies and trouble shooting installation or repairs.

The plastic housing is made from gray polyamide 6.6 thermoplastic resin with a UL 94 V0 rating for 85°C. These thermocouple terminal blocks are fully enclosed and require no end plates. The screws and clamps are zinc plated, and together they provide an excellent vibration, maintenance free and corrosion resistant connection.

DRTB terminal blocks mount on standard 35 mm DIN rails or 32 mm G-type rails, and are identified with calibration type and positive (+) and negative (-) connections. Wire entry is funneled to allow quick wire insertion even with stranded wire.
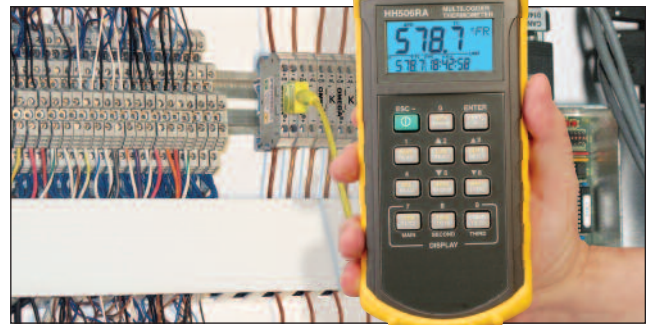
Shown with RECK1-10 cable, $18.50 and the HH506RA datalogger/thermometer, $165 with RS232C interface.

Specifications

Terminal Width: 10.7 mm (0.422")
Terminal Length/Height: 51 mm (2.008")/ 42.3 mm (1.666")
Installed Height to 35 x 7.5 mm/35 x 15 mm DIN Rail: 43.5 mm (1.713")/51 mm (2.009")
Maximum Wire Size: 12 AWG/2.5 mm^2
Stripping Length: 8 mm (0.31")
Torque in Nm (in-lb): 0.6 to 0.8 (5.3 to 7.1)
Temperature Rating: -40 to 85°C (-40 to 185°F)

AVAILABLE FOR FAST DELIVERY!

Discount Schedule	
1-10 ....**Net**	
11-49 ....**5%**	
50-99 ....**10%**	
100-999 ....**15%**	
1000-4999 ....**20%**	
5000 and over **25%**	

To Order *(Specify Model Number)*

Model No.	Price	Description
DRTB-(*)	**$8**	Thermocouple terminal block

*** Specify thermocouple calibration: K, J, T, E, R/S, N or U.**
For IEC color coded product insert an "I" after the calibration letter.

Accessories

Model No.	Price	Description
DRTB-RAIL-3575	**$9.00**	DIN rail, 35 mm x 7.5 mm (1.4 x 0.30") slotted, 2 m (6.6') length
DRTB-RAIL-3515	17.00	DIN rail, 35 mm x 15 mm (1.4 x 0.60") slotted, 2 m (6.6') length
REC(**)1-10	18.50	0.3 m L (1') retractable extension cable [expands to 1.5 m (5')] with 2 SMP miniature male connectors
REC(**)4-10	33.50	1.2 m L (4') retractable extension cable [expands to 6 m (20')] with 2 SMP miniature male connectors

**** Specify thermocouple calibration: J, K, T or E.**

Ordering Example: DRTB-K, Type K thermocouple terminal block for DIN rail mounting with **RECK1-10** Type K, 0.3 m L (1') retractable extension cable, $8 + 18.50 = **$26.50.**

Molded Case Circuit Breakers

Series G Starts at

$645

- ✔ **Small and Compact**
- ✔ **15 to 100 Amp Models Available**
- ✔ **Quality Thermal Magnetic Circuit Breakers**

Series G molded case circuit breakers provide increased performance in considerably less space than standard circuit breakers or comparable fusible devices. The "G" signifies global applications: Series G circuit breakers are marked with UL, CSA, CE, IEC and KEMA KEUR listings.

The EG frames are designed around space-saving footprints. Series G circuit breakers meet applicable UL 489 and IEC 60947-2 standards. The G family includes five frame sizes in ratings from 15 to 100 amperes. Series G interrupting capacity 15 to 18 kA at 415 and 480 Vac. Standard calibration is 40°C.

The flexibility and outstanding performance characteristics of the circuit breakers are made possible by the best contact designs in circuit breaker history. Our technology creates a high-speed "blow-open" action using the electromechanical forces produced by high-level fault currents.

These circuit breakers are operated by a toggle-type mechanism that is mechanically trip-free from the handle so that the contacts cannot be held closed against short circuit currents. Tripping due to overload or short circuits is clearly indicated by the position on the handle. This remarkably fast and dependable contact action is designed to enhance safety.

The quality, dependability and reliability of every circuit breaker is ensured by a thorough program of in-plant testing. Two calibration tests are conducted on every pole of every circuit breaker to verify the trip mechanism, operating mechanism, continuity and accuracy.

Circuit breakers are current limiting because of their high repulsion contact arrangement and use of state-of-the-art arc extinguishing technology.

Circuit Breakers have a toggle handle operating mechanism, which also serves as a switching position indicator. The indicator shows the positions of: ON, OFF and TRIPPED.

The toggle handle snaps into the TRIPPED position if the breaker is tripped by one of its overcurrent, short circuit, shunt or undervoltage releases. Before the circuit breaker can be reclosed following a trip-out, the toggle handle must be brought beyond the OFF position (RESET). The circuit breaker can then be reclosed.

As an additional switching position indicator for EG- Frame circuit breakers, there are two windows on the right and on the left of the toggle handle, in which the switching state is indicated by means of the colors red, green and white corresponding to the ON, OFF and TRIPPED positions respectively.

Specifications
Number of Poles: 3
Breaker Capacity (kA rms)
ac 50 to 60 Hz NEMA, UL, CSA:
   240 Vac: 25
   480 Vac: 18
IEC60947-2:
   Icu 220 to 240 Vac: 25
   Icu 380 to 425 Vac: 18
Ampere Range: 15 to 100 A
Trip Units: FT-FM (fixed thermal - fixed magnetic)
Dimensions:
139.7 H x 76.2 W x 76 mm D
(5.5 x 3.0 x 2.9")
Weight: 1.4 kg (3.1 lbs)
Utilization Category: A

ELECTRICAL CHARACTERISTICS
Maximum Rated Current: 100 A
Rated Insulation Voltage U,
According to IEC 60947-2:
   Main Conducting Paths: 690 Vac
   Auxiliary Circuits: 690 Vac

EGB3015FFG, $645, shown smaller than actual size.

Rated Impulse Withstand Voltage Uimp:
   Main Conducting Paths: 6 kV
   Auxiliary Circuits: 4 kV
Rated Operational Voltage Ue:
   IEC: 690 Vac
   NEMA: 600 Y/347 Vac
UL and CSA Listed: Yes
Permissible Ambient Temperature:
-20 to 70°C (-4 to 158°F)
Permissible Load for Various Ambient Temperatures Close to the Circuit Breaker, Related to the Rated Current of the Circuit Breaker:
Circuit Breakers for Plant Protection:

	Thermal overload release set to the lower value	Thermal overload release set to the upper value
At 40°C:	100%	100%
At 50°C:	96%	92%
At 55°C:	93%	87%
At 60°C:	91%	83%
At 70°C:	86%	73%

NEW

Circuit Breakers for Starter Combinations and Isolating Circuit Breakers:
   At 40°C: 100%
   At 50°C: 100%
   At 55°C: 96%
   At 60°C: 91%
   At 70°C: 86%
Rated Short Circuit Breaking Capacity (dc) Not for Circuit Breakers for Motor Protection (Time Constant = 10 rms):
2 Conducting Paths in Series:
   For EG up to 250 Vdc: 10 kA Max
NEMA (Time Constant = 8 rms)
2 Conducting Paths in Series:
250 Vdc 10 kA Max
Main Switch Characteristics According to IEC 60947-2 in Combination with Lockable Rotary Drives: Yes
Rated Short Circuit Breaking Capacity According to IEC 60947-2 (at AC 50/60 hz): Rated short circuit breaking capacity

Endurance (Operating Cycles): 10,000
Maximum Switching Frequency: 300 1/h
Conductor Cross Sections and Terminal Types for Main Conductors: Box terminals
Solid or Stranded: 2.5 to 95 mm^2
Finely Stranded with End Sleeve: 2.5 to 50/70 mm^2
Tightening Torque for Box Terminals: 5.6 Nm
Tightening Torque for Bus Bar Connection Pieces: 5.6 Nm
Conductor Cross Sections for Auxiliary Circuits with Terminal Connection or Terminal Strip
Solid or Finely Stranded with End Sleeve:
0.75 to 2.5 mm^2

EHMFS03, $575, shown smaller than actual size.

EHMVD12B, $105, attached to EG3015FFG, $645, shown smaller than actual size.

AVAILABLE FOR FAST DELIVERY!

To Order *(Specify Model Number)*

Model No.	Price	Description
EGB3015FFG	**$645**	EG 3P 15 A 18kA @ 415 and 480V fixed thermal, fixed magnetic
EGB3020FFG	645	EG 3P 20 A 18kA @ 415 and 480V fixed thermal, fixed magnetic
EGB3030FFG	645	EG 3P 30 A 18kA @ 415 and 480V fixed thermal, fixed magnetic
EGB3050FFG	645	EG 3P 50 A 18kA @ 415 and 480V fixed thermal, fixed magnetic
EGB3060FFG	645	EG 3P 60 A 18kA @ 415 and 480V fixed thermal, fixed magnetic
EGB3100FFG	765	EG 3P 100 A 18kA @ 415 and 480V fixed thermal, fixed magnetic

Accessories

Model No.	Price	Description
EHMFS03	**$575**	Frame flex shaft handle 0.91 m (3') NEMA 1, 3R
EHMVD12B	105	Universal rotary handle 305 mm (12") black, NEMA 1, 12

Comes complete with operators manual.
Ordering Example: *EGB3015FFG, 15 A circuit breaker,* **EHMVD12B,** *variable depth handle, $645 + 105 =* **$750.**

Industrial Control Transformers

"C" Transformers Start at

$46

1 YEAR WARRANTY · UL · CSA

✔ **Epoxy Encapsulated Coils**
✔ **Laminations of High Quality Silicon Steel to Minimize Core Losses and Optimize Performance**
✔ **Copper Magnet Wire for High Quality, Efficient Operation**

Transformers provide stepped down voltages to machine tool control devices enabling control circuits to be isolated from all power and lighting circuits. This allows the use of grounded or ungrounded circuits that are independent of the power or lighting grounds; greater safety is afforded the operator. The control transformer line is particularly adaptable on applications where compact construction is demanded.
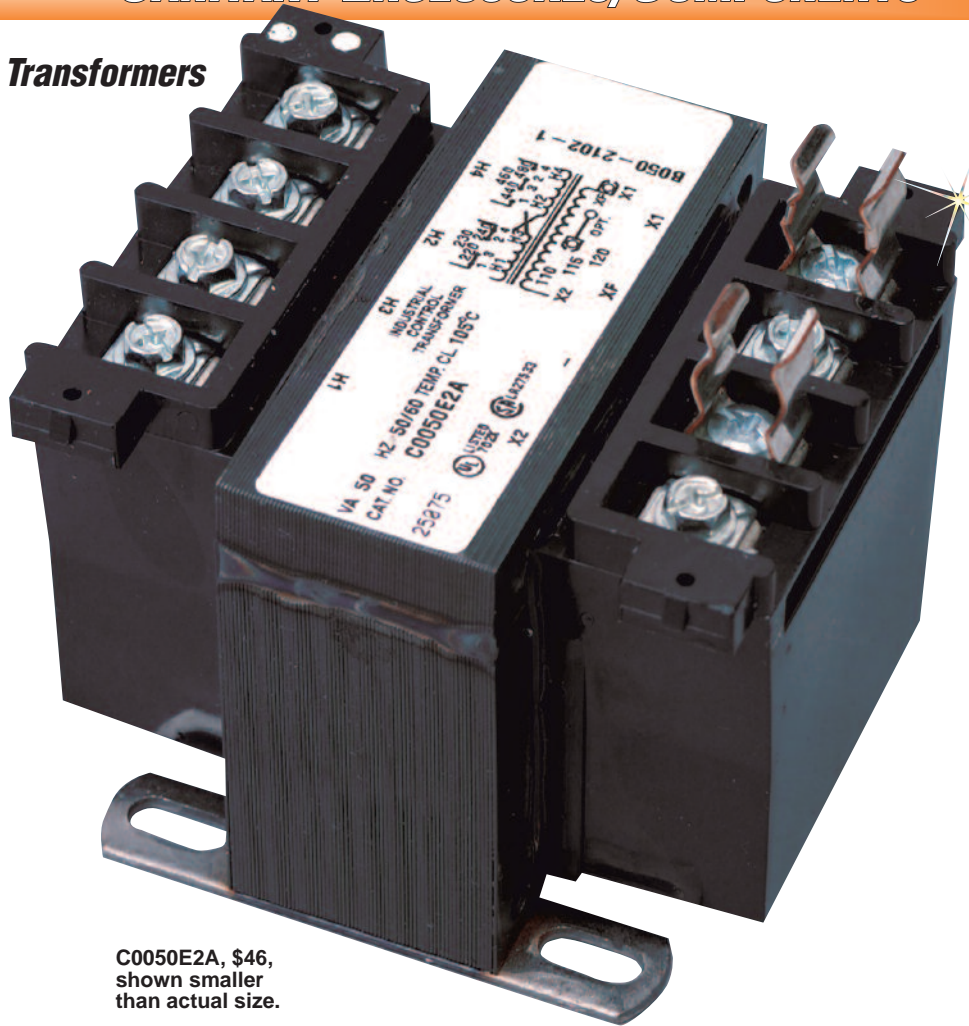
C0050E2A, $46, shown smaller than actual size.

Model No.	VA	Dimensions: mm (in)			Weight kg (lb)	Wiring Diagram
		Height	Width	Depth		
C0050E2A	50	65 (2.56)	76 (3)	76 (3)	1.2 (2.6)	1
C0075E2A	75	65 (2.56)	76 (3)	89 (3.5)	1.6 (3.5)	1
C0100E2A	100	73 (2.875)	86 (3.375)	86 (3.375)	1.9 (4.2)	1
C0150E2A	150	81 (3.187)	95 (3.75)	102 (4)	3 (6.7)	1
C0200E2A	200	97 (3.812)	114 (4.5)	102 (4)	3.9 (8.5)	1
C0250E2A	250	97 (3.812)	114 (4.5)	111 (4.375)	10 (4.5)	1
C0300E2A	300	97 (3.812)	114 (4.5)	121 (4.75)	5.1 (11.3)	1
C0500E2A	500	121 (4.75)	133 (5.25)	140 (5.5)	8.7 (19.2)	1
C0050E2AFB	50	100 (3.937)	76 (3)	76 (3)	1.3 (2.8)	1
C0075E2AFB	75	100 (3.937)	76 (3)	89 (3.5)	1.7 (3.7)	1
C0100E2AFB	100	108 (4.25)	86 (3.375)	86 (3.375)	2.0 (4.4)	1
C0150E2AFB	150	116 (4.562)	95 (3.75)	102 (4)	3.1 (6.9)	1
C0200E2AFB	200	132 (5.187)	114 (4.5)	102 (4)	3.9 (8.7)	1
C0250E2AFB	250	132 (5.187)	114 (4.5)	111 (4.375)	4.6 (10.2)	1
C0300E2AFB	300	132 (5.187)	114 (4.5)	121 (4.75)	5.2 (11.5)	1
C0350E2AFB	350	132 (5.187)	114 (4.5)	133 (5.25)	6.3 (13.8)	1
C0500E2AFB	500	156 (6.125)	133 (5.25)	140 (5.5)	8.8 (19.4)	1
C0050E5E	50	65 (2.56)	76 (3)	83 (3.25)	1.5 (3.4)	2
C0100E5E	100	81 (3.187)	95 (3.75)	143 (5.625)	2.7 (5.9)	2
C0150E5E	150	81 (3.187)	95 (3.75)	111 (4.375)	3.6 (7.9)	2

Sanitary product line continues to expand, visit **omega.com/sanitary** for details!

HOTLINE **1-877-82-6 6342**®
TO SANITARY PRODUCTS **1-877-TC-OMEGA**

NEW®
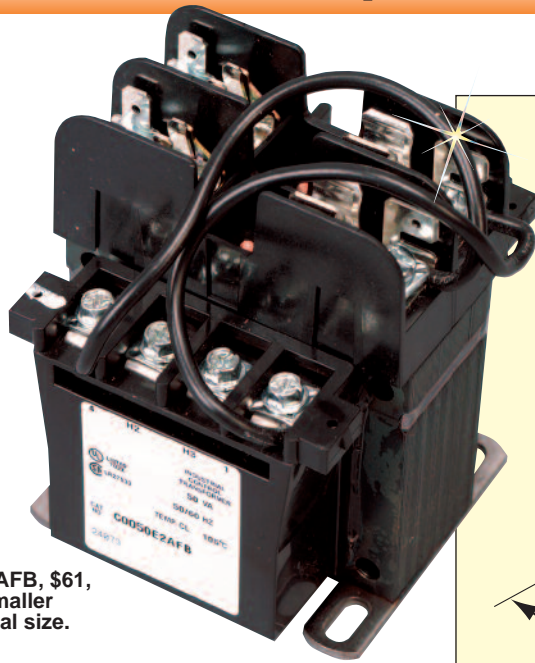
C0050E2AFB, $61,
shown smaller
than actual size.
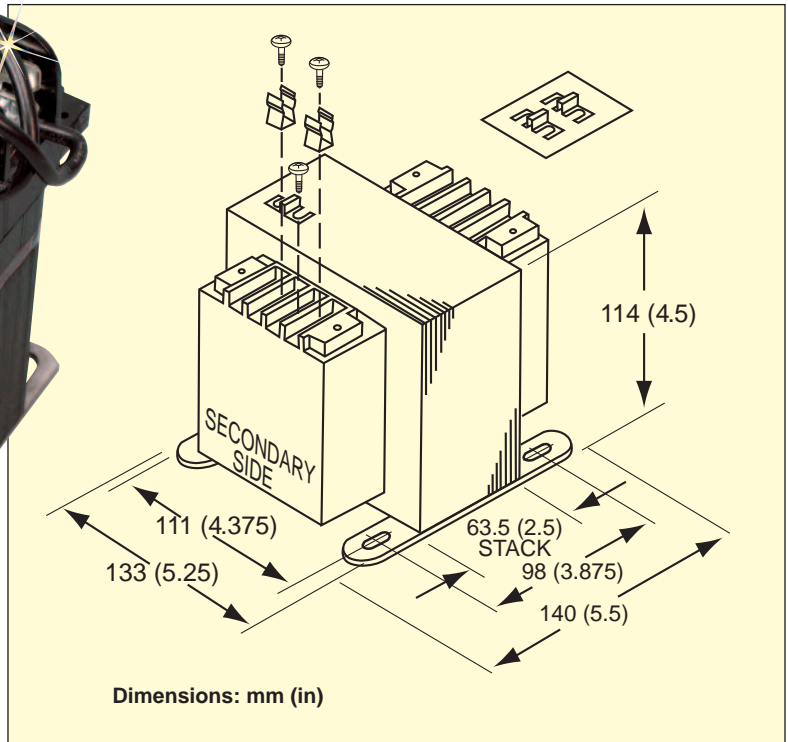
Single-Phase Transformers
How to Select Single-Phase Units
1. Determine the primary (source) voltage
   (the voltage presently available).
2. Determine the secondary (load) voltage
   (the voltage needed at the load).
3. Determine the VA load:
   Select a transformer rating equal to or
   greater than the load VA.

VA = Load Volts x Load Amps

Wiring Diagram 1

Wiring Diagram 2

Dimensions: mm (in)

☐ *MOST POPULAR MODELS HIGHLIGHTED!*

To Order *(Specify Model Number)*

Industrial Control Transformers CPT

Model No.	Price	Description
C0050E2A	$46	50 VA, 240/480 to 120 Vac
C0075E2A	55	75 VA, 240/480 to 120 Vac
C0100E2A	59	100 VA, 240/480 to 120 Vac
C0150E2A	70	150 VA, 240/480 to 120 Vac
C0200E2A	87	200 VA, 240/480 to 120 Vac
C0250E2A	100	250 VA, 240/480 to 120 Vac
C0300E2A	107	300 VA, 240/480 to 120 Vac
C0500E2A	147	500 VA, 240/480 to 120 Vac
C0050E5E	65	50 VA, 208/230/450 to 24/115 Vac
C0100E5E	79	100 VA, 208/230/450 to 24/115 Vac
C0150E5E	100	150 VA, 208/230/450 to 24/115 Vac

Transformers with Primary Fuse Block

Model No.	Price	Description
C0050E2AFB	$61	50 VA, 240/480 to 120 Vac
C0075E2AFB	70	75 VA, 240/480 to 120 Vac
C0100E2AFB	76	100 VA, 240/480 to 120 Vac
C0150E2AFB	87	150 VA, 240/480 to 120 Vac
C0200E2AFB	102	200 VA, 240/480 to 120 Vac
C0250E2AFB	117	250 VA, 240/480 to 120 Vac
C0300E2AFB	123	300 VA, 240/480 to 120 Vac
C0350E2AFB	132	350 VA, 240/480 to 120 Vac
C0500E2AFB	162	500 VA, 240/480 to 120 Vac

Comes complete with instruction sheet.
Ordering Examples: C0050E2A,** 50 VA control transformer, **$46.
C0050E2AFB,** 50 VA control transformer with primary fuse block, **$61.
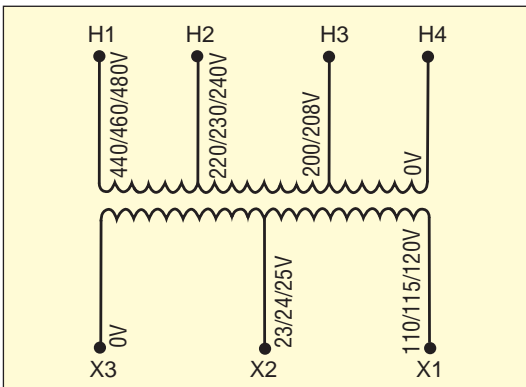
Standard Terminal Block Relays

**XRU1D Series
Starts at**
$15

C **UL** US C E

✔ **Pluggable Relay Allows for Field Replacement**
✔ **Functional Plug-In Bridges**
✔ **Screw Connections**
✔ **LED Status Indication**
✔ **DIN Rail Mount**
✔ **Only 6.2 mm (0.24") Wide**
✔ **All Common Input Voltages Between 24 Vdc to 120 Vac**
✔ **NEMA 6 (IP67) Protection**
✔ **Environmentally Friendly, Cadmium-Free Contact**
✔ **Easy, Cost-Effective and Replacement Using Engagement Lever**

The XR Series Terminal Block Relays are ideal for applications that require a high switching capacity and long electrical service life. The relays are plug-in interfaces that connect to basic terminal blocks. The XR Series

For Complete Details Visit omega.com/ xru1d-relays

XRU1D120U, $21, shown actual size.

utilizes screw technology, as well as offers quick system wiring, superior safety features, clear labeling and a high level of modularity.

Application Description
Used in automation systems, electromechanical relays guarantee a safe connection between process I/O and electronic controls. The following functions are covered by relay coupling elements:

✔ **Electrical Isolation Between the Input and Output Circuits**
✔ **Independence of the Type of Switching Current (AC and DC)**
✔ **High Short-Term Overload Resistance in the Event of Short Circuits or Voltage Peaks**
✔ **Low Switching Losses**
✔ **Ease of Operation**

AVAILABLE FOR FAST DELIVERY!

To Order *(Specify Model Number)*

Model No.	Price	Description
XRU1D120U	$21	1PDT relay, 120 Vac/110 Vdc coil voltage
XRU1D24	15	1PDT relay, 24 Vdc coil voltage
XRU1D24U	17	1PDT relay, 24 Vac/Vdc coil voltage

Ordering Examples: XRU1D120U, 1PDT relay 120 Vac/110 Vdc coil voltage, $21.
XRU1D24, 1PDT relay, 24 Vdc coil voltage, $15.

Replacement Relays and Accessories

Model No.	Price	Description
XRR1D120U	$10.25	Replacement relay for XRU1D120U
XRR1D24	7.00	Replacement relay for XRU1D24 and XRU1D24U
XRAPLCESK-5PK	125.00	Power terminal block, 5 pack
XRAATPBK-5PK	10.50	Black end cover, 5 pack
XRAFBST2RD-10PK	14.00	2-position red snap in jumper, 10 pack
XRAFBST2BU-10PK	14.00	2-position blue snap in jumper, 10 pack
XRAFBST2GY-10PK	14.00	2-position gray snap in jumper, 10 pack
XRAFBST500RD-5PK	110.00	80-position red snap in jumper, 5 pack
XRAFBST500BU-5PK	110.00	80-position blue snap in jumper, 5 pack
XRAFBST500GY-5PK	110.00	80-position gray snap in jumper, 5 pack

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE 1-877-82-6 6 342®
TO SANITARY PRODUCTS 1-877-TC-OMEGA

DIN Rail Fuse Holders

ASK Fuse Holder Series Starts at

4^{25}

CE CSA UL

✔ **DIN Rail Mounted Fuse Holders**
✔ **1, 2, and 3-Pole Models**
✔ **Models With Blown Fuse Indication**
✔ **600V, 32 A (ASK 4)**
✔ **600V, 50 A (ASK 6)**

MEN10-10PK 10A fuses, $23/pkg of 10, shown smaller than actual size.

For Complete Details Visit omega.com/fuse

The ASK Series of DIN rail mounted fuse holders provides circuit protection for any industrial control system. Two standard fuse styles are supported: 14 x 51 mm (ASK 6) and (1.5 x $1\frac{3}{32}$") (ASK 4).

ASK-6-1, $8, shown smaller than actual size.

MOST POPULAR MODELS HIGHLIGHTED!

To Order *(Specify Model Number)*

Model No.	Price	Description
ASK-4-1	$4.25	DIN rail fuse holder, 10 x 38 mm (0.39 x 1.50") fuses, 1 pole, no indicator light
ASK-4-1I	10.00	DIN rail fuse holder, 10 x 38 mm (0.39 x 1.50") fuses, 1 pole, with indicator light
ASK-4-2I	18.00	DIN rail fuse holder, 10 x 38 mm (0.39 x 1.50") fuses, 2 pole, with indicator light
ASK-6-1	8.00	DIN rail fuse holder, 14 x 51 mm (0.55 x 2.01") fuses, 1 pole, no indicator light
ASK-6-1I	19.00	DIN rail fuse holder, 14 x 51 mm (0.55 x 2.01") fuses, 1 pole, with indicator light
ASK-6-3I	59.00	DIN rail fuse holder, 14 x 51 mm (0.55 x 2.01") fuses, 3 pole, with indicator light

Ordering Examples: ASK-4-1, DIN rail mount fuse holder for 10 x 38 mm (0.39 x 1.50") fuses, 1 pole, $4.25.
ASK-6-3I, DIN rail mount fuse holder for 14 x 51 mm (0.55 x 2.01") fuses, 3 pole, with indicator light, $59.

Supplementary Protectors

WMS Series Starts at

$25

For Complete Details Visit omega.com/wms-series

RU CE CSA

✔ **1, 2, 3 Pole Models**
✔ **1 to 30 Amp Ranges**
✔ **3 Different Trip Curves to Choose From**

Application Description
Cutler-Hammer supplementary protectors are ideal for providing protection in a multitude of applications, including:

✔ Motor control circuits
✔ Control power transformers
✔ Relays
✔ Contactor coils
✔ PLC I/O points
✔ Lighting circuits
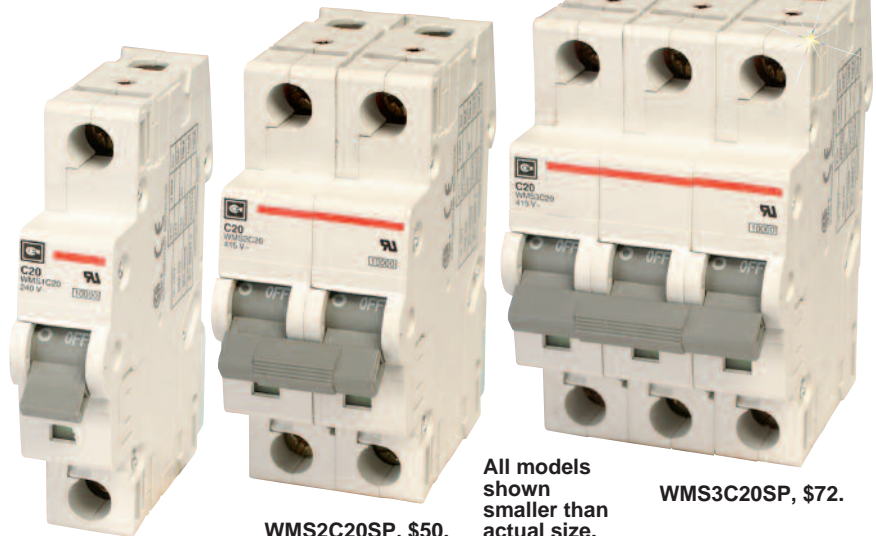
WMS1C20SP, $25.

WMS2C20SP, $50.

All models shown smaller than actual size.

WMS3C20SP, $72.

MOST POPULAR MODELS HIGHLIGHTED!

To Order *(Specify Model Number)*

1-Pole					
Ampere Rating	Model No. Curve B	Price	Model No. Curve C	Price	Model No. Curve D	Price
10	WMS1B10SP	$25	WMS1C10SP	$25	WMS1D10SP	$25
15	WMS1B15SP	25	WMS1C15SP	25	WMS1D15SP	25
20	WMS1B20SP	25	WMS1C20SP	25	WMS1D20SP	25
30	WMS1B30SP	25	WMS1C30SP	25	WMS1D30SP	25

Ordering Example: WMS1B10SP, 1 pole 10 A supplementary protector trip curve B, $25.

Definite Purpose Contactors

**C25 Series
Starts at**

$26⁵⁰

$\mathsf{C}\ \mathsf{CE}\ \mathsf{CSA}\ \mathsf{RU}\ \mathsf{RoHS}$

- ✔ **Open Style with Metal Mounting Plate**
- ✔ **1-, 2- and 3-Pole Models**
- ✔ **25 to 75 A Capacity**
- ✔ **Kits for Side Auxiliary Contact**
- ✔ **NEMA 1 Enclosure Available**

Cutler-Hammer® definite purpose (DP) contactors are designed to improve control of refrigeration, air conditioning, ventilation and resistance heating applications. The complete line offers everything from compact DPs to the smallest 50 ampere DP contactor in the world an average of 20% smaller than the competition. Always looking for new ways to improve the customer experience, the 50 mm (2") DP contactor with an innovative sealed housing is designed to keep out contaminants and lower noise. Building on that success, the new series of Compact DPs are now available in a sleek new sealed design. Continuing to innovate and upgrade products, Eaton offers the perfect definite purpose solution for your HVACR applications.

New Compact Models Definite Purpose Contactors

The new 30 ampere, single- and double-pole, Type C25 compact DP contactors feature a compact, efficient design with a low VA coil and straight through wiring. These devices are economically priced, UL recognized/CSA certified, are current rated and hp/kW rated with magnet coils rated Class F, 155°C (311°F) [most are Class B, 130°C (266°F)] and designed with low VA current ratings for less energy consumption. With the ability to be mounted vertically, horizontally or tabletop, the new series of compact DPs will meet all your definite purpose application needs.

C25CNB130A, $26.50
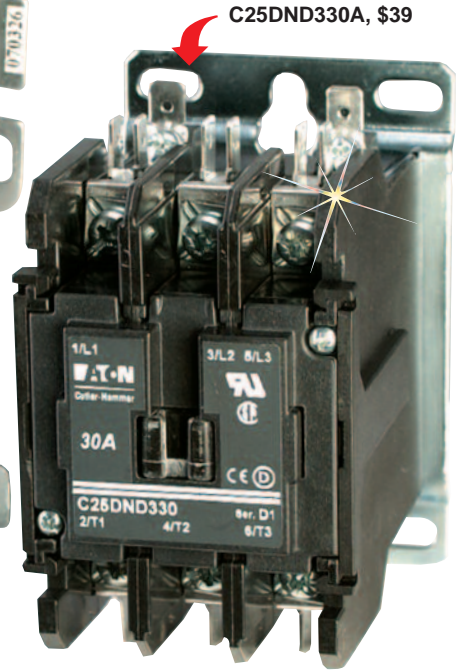
C25DND330A, $39
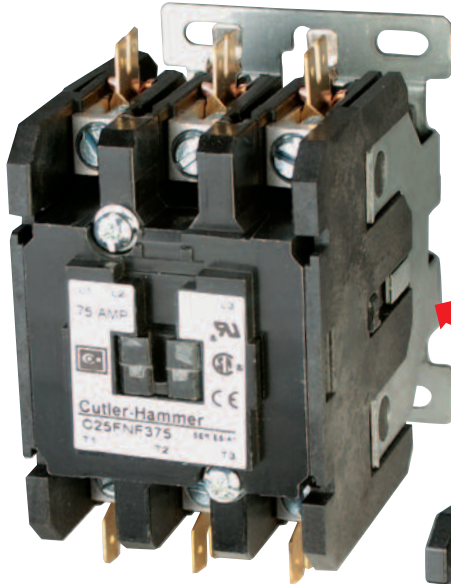
C25FNF375B, $126
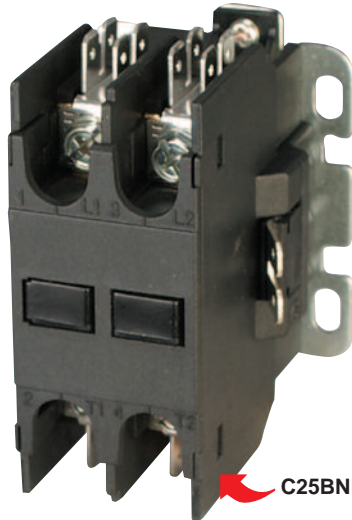
C25DNJ350A, $84
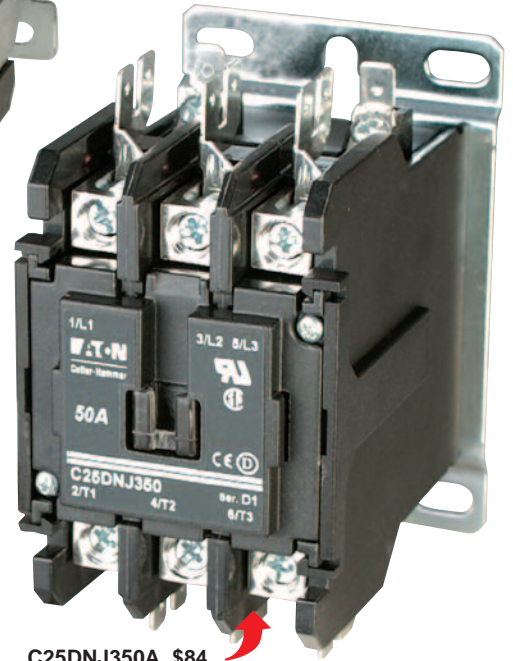
C25BNB230A, $31.50

All models shown smaller than actual size.

169

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE
TO SANITARY
PRODUCTS
1-877-82-66342®
1-877-TC-OMEGA

NEW®

☐ *MOST POPULAR MODELS HIGHLIGHTED!*

To Order *(Specify Model Number)*

Compact Models

Model No.	Price	Description	Termination
C25CNB130A	$26.50	1-pole 30 A contactor w/shunt 120 Vac coil	Binding head screw and quick connect terminals (side by side)
C25CNB130T	26.50	1-pole 30 A contactor w/shunt 24 Vac coil	Binding head screw and quick connect terminals (side by side)
C25BNB230A	31.50	2-pole 30 A contactor 120 Vac coil	Binding head screw and quick connect terminals (side by side)
C25BNB230B	31.50	2-pole 30 A contactor 240 Vac coil	Binding head screw and quick connect terminals (side by side)
C25BNB230T	31.50	2-pole 30 A contactor 24 Vac coil	Binding head screw and quick connect terminals (side by side)
C25BNF240A	42.50	2-pole 40 A contactor 120 Vac coil	Box lugs (Posidrive Setscrew) and quick connect terminals (side by side)
C25BNF240B	42.50	2-pole 40 A contactor 240 Vac coil	Box lugs (Posidrive Setscrew) and quick connect terminals (side by side)
C25BNF240T	42.50	2-pole 40 A contactor 24 Vac coil	Box lugs (Posidrive Setscrew) and quick connect terminals (side by side)

Ordering Example: C25BNB230A, 2-pole, 30 A contactor with 120 Vac coil, $31.50.

Standard Models

Model No.	Price	Description	Termination
C25DND325A	$36.00	3-pole 25 A contactor 120 Vac coil	Screw/pressure plate and quick connect terminals (side by side)
C25DND325B	36.00	3-pole 25 A contactor 240 Vac coil	Screw/pressure plate and quick connect terminals (side by side)
C25DND330A	39.00	3-pole 30 A contactor 120 Vac coil	Screw/pressure plate and quick connect terminals (side by side)
C25DND330B	39.00	3-pole 30 A contactor 240 Vac coil	Screw/pressure plate and quick connect terminals (side by side)
C25DND330T	39.00	3-pole 30 A contactor 24 Vac coil	Screw/pressure plate and quick connect terminals (side by side)
C25DNF340A	47.50	3-pole 40 A contactor 120 Vac coil	Box lugs (Posidrive Setscrew) and quick connect terminals (side by side)
C25DNF340B	47.50	3-pole 40 A contactor 240 Vac coil	Box lugs (Posidrive Setscrew) and quick connect terminals (side by side)
C25DNF340T	47.50	3-pole 40 A contactor 24 Vac coil	Box lugs (Posidrive Setscrew) and quick connect terminals (side by side)
C25DNJ350A	84.00	3-pole 50 A contactor 120 Vac coil	Box lugs (Posidrive Setscrew) and quick connect terminals (side by side)
C25DNJ350B	84.00	3-pole 50 A contactor 240 Vac coil	Box lugs (Posidrive Setscrew) and quick connect terminals (side by side)
C25DNJ350T	84.00	3-pole 50 A contactor 24 Vac coil	Box lugs (Posidrive Setscrew) and quick connect terminals (side by side)
C25FNF375A	126.00	3-pole 75 A contactor 120 Vac coil	Box lugs (Posidrive Setscrew) and quick connect terminals (side by side)
C25FNF375B	126.00	3-pole 75 A contactor 240 Vac coil	Box lugs (Posidrive Setscrew) and quick connect terminals (side by side)
C25FNF375T	126.00	3-pole 75 A contactor 24 Vac coil	Box lugs (Posidrive Setscrew) and quick connect terminals (side by side)

Accessories

Model No.	Price	Description
C320KG1	$8.70	1 NO side auxiliary contact kit
C320KG3	14.50	1 NO-1NC side auxiliary contact kit
C799B18	33.00	NEMA 1 enclosure for 25 to 50 A, 2- and 3-pole models

Ordering Example: C25FNF375B, 3-pole, 75 A contactor with 240 Vac coil, $126.

NEW®

Power Supplies
1 to 10 Amp Models

For Details and Information Visit omega.com/power-supplies

ELC-PS Series
Starts at
$36

CE

- ✔ Universal AC Input (100 to 240 Vac)
- ✔ 24 Vdc Output
- ✔ Protections: Short Circuit/ Overload (AutoRecovery)
- ✔ UL 508 (Industrial Control Equipment) Approved
- ✔ DIN Rail Mount

☐ *MOST POPULAR MODEL HIGHLIGHTED!*

To Order *(Specify Model Number)*

Model No.	Price	Description
ELC-PS01	$36	DIN rail power supply, 24 Vdc, 1 A
ELC-PS02	71	DIN rail power supply, 24 Vdc, 2 A

Ordering Example: ELC-PS01, DIN rail power supply, 24 Vdc, 1 A, $36.

Visit **omega.com/elc-ps** for additional product selections.

ELC-PS01, $36, shown smaller than actual size.

DR Series
Starts at
$144

CE

- ✔ Universal AC Input (85 to 264 Vac)
- ✔ DC Compatible Input (120 to 370 Vdc)
- ✔ Protections: Short Circuit/Overload/ Over Voltage/Over Temp
- ✔ UL 508 (Industrial Control Equipment) Approved
- ✔ Built-In EMI Filter and Low Ripple Noise

To Order *(Specify Model Number)*

Model No.	Price	Description
DR-75-24	$144	DIN rail power supply, 24 Vdc, 3.125 A
DR-120-24	168	DIN rail power supply, 24 Vdc, 5 A
DR-240-24	229	DIN rail power supply, 24 Vdc, 10 A

Ordering Example: DR-75-24, DIN rail power supply, 24 Vdc, 3.125 A, $144.

DR-120-24, $168, shown smaller than actual size.

Visit **omega.com/dr_series** for additional product selections.

Stepper Drive Power Supplies

- ✔ Universal Input Voltage Range from 85 to 265 Vac
- ✔ 24 Vdc (6.3 A), 48 Vdc (6.7 A)
- ✔ Built-In Active PFC Filter, PF>0.95, Conforms to EN61000-3-2
- ✔ Peak Current For Motor Application

OMPS Series
Starts at
$180

2 YEAR WARRANTY   RoHS

To Order *(Specify Model Number)*

Model No.	Price	Description
OMPS150A24	$180	24V, 6.3 A power supply with active PFC filter
OMPS300A48	266	48V, 6.7 A power supply with active PFC filter

Ordering Example: OMPS150A24, 24V, 6.3 A power supply with active PFC filter, $180.

OMPS150A24, $180, shown smaller than actual size.

Visit **omega.com/omps** for additional product selections.

Sanitary product line continues to expand, visit **omega.com/sanitary** for details!

HOTLINE 1-877-82-6 6 342®
TO SANITARY PRODUCTS 1-877-TC-OMEGA

Hook-Up Wire
PVC Insulation—UL 1007/1569, CSA TR-64

HW3000 Series Starts at
$24
100' Spool

For Our Complete Selection Visit omega.com/ hook-up-wire

HW3051-3-100, $29, shown close to actual size.

CSA c **UL** **RoHS**

↳ **Operating Temperature:**
  ↳ **-40 to 105°C (-40 to 221°F)**
    ↳ **UL AWM 1569**
  ↳ **-40 to 90°C (-40 to 194°F)**
    ↳ **CSA TR-64**
  ↳ **-40 to 80°C (-40 to 176°F)**
    ↳ **UL AWM 1007**
↳ **300V Voltage Rating**
↳ **Color-Coded PVC Insulation**
↳ **UL AWM Styles 1007 and 1569**

Color Chart	
1	White
2	Black
3	Red
4	Green
5	Yellow
6	Blue
7	Brown
8	Orange
9	Gray
10	Violet

Visit **omega.com/hw3000** for additional product selections.

Stranded or solid tinned copper conductor.

MOST POPULAR MODELS HIGHLIGHTED!

To Order *(Specify Model Number)*

PVC Insulation UL 1007/1569, CSA TR-64

Model No.	100'	Price 1000'	AWG No.	Wire Type	Insulation Thickness mm (in)	Nominal OD mm (in)
HW3049-(*)-(**)	$26	$114	26	7/34	0.41 (0.016)	1.3 (0.051)
HW3051-(*)-(**)	29	134	22	7/30	0.41 (0.016)	1.7 (0.065)
HW3050/1-(*)-(**)	24	105	24	Solid	0.41 (0.016)	1.4 (0.057)
HW3057/1-(*)-(**)	65	298	16	Solid	0.41 (0.016)	2.4 (0.095)

* Specify color by entering color code from color chart above. *** Specify length* ***"-100"*** *or* ***"-1000"***.
Ordering Example: HW3051-3-100, *30 m (100') spool of 22 AWG stranded (7 x 30), hook-up wire with PVC installation, red,* **$29.**

TFE Insulated Hook-Up Wire

Visit **omega.com/hw5800** for additional product selections.

HW5800 Series Starts at
$38
100' Spool

↳ **Resistance to Most Chemicals**
↳ **-60 to 200°C (-76 to 392°F) (UL: 105°C) Operating Temperature**
↳ **600 Volt (UL: Voltage Not Specified) Voltage Rating**
↳ **Color-Coded, Extruded TFE Insulation**
↳ **UL AWM Style 1213**
↳ **MIL-W-16878E Type E**

HW5851-5-100, $44, shown smaller than actual size.

UL **RoHS**

To Order *(Specify Model Number)*

MIL-W-16878E (Type E), 200°C (392°F)/600V UL 1213, 105°C (221°F)/Voltage Not Specified RoHS Compliant

Model No.	Price 100'	Price 1000'	AWG No.	Wire Type	Insulation Thickness mm (in)	Nominal OD mm (in)
HW5851-(*)-(**)	$44	$177	30	7/38	0.25 (0.010)	0.81 (0.032)
HW5855-(*)-(**)	58	354	22	19/34	0.25 (0.010)	1.30 (0.051)
HW5857-(*)-(**)	131	810	18	19/30	0.25 (0.010)	1.78 (0.070)

* Specify color by entering color code from Color Chart above. *** Specify length* ***"-100"*** *or* ***"-1000"***.
Ordering Example: HW5851-5-100, *30 m (100') spool of 30 AWG stranded (7 x 38), hook-up wire with TFE insulation, yellow,* **$44.**

Air Preparation Products for Compressed Air Systems

Oil Removing (Coalescing) Filters

F72C-2AD-AE0
$95

UL RoHS

F72C-2AD-AE0, $95, shown smaller than actual size.

✔ **High Efficiency Oil and Particle Removal**
✔ **Quick Release Bayonet Bowl**
✔ **Standard Visual Service Life Indicator Turns from Green to Red When the Filter Element Needs to be Replaced**
✔ **Modular Installations with Excelon 72, 73 and 74 Series Can be Made to Suit Particular Applications**

F73C-3AD-AD0, $131, shown smaller size.

Singular or Modular Installation for Complete System

Select Components to Build a Complete Air Preparation Modular Unit.

For Complete Selection and Specifications Visit omega.com/air-prep

Lockout Valves

UL RoHS

T72T-2AA-P1N
$33

✔ **Valves can be Locked in the Closed Position Only**
✔ **Excelon® 3-Port/2-Position Lockout Valves Help Conform to OSHA Lockout Regulations in USA Market**

T72T-2AA-P1N, $33, shown smaller than actual size.

Pressure Relief Valves

V72G-2AK-NMG
$50

UL RoHS

✔ **Push to Lock Adjusting Knob with Tamper Resistant Accessory**
✔ **Helps Protect Air Operated Equipment from Over Pressure by Retarding Excessive Pressure Build Up**

V72G-2AK-NMG, $50, shown smaller than actual size.

☐ *MOST POPULAR MODELS HIGHLIGHTED!*

To Order *(Specify Model Number)*

Model No.	Price	Description
V72G-2AK-NMG	$50	Pressure relief valve with $\frac{1}{4}$" port, 0.3 to 10 bar (5 to 150 psig)
V74G-4AK-NMG	78	Pressure relief valve with $\frac{1}{2}$" port, 0.3 to 10 bar (5 to 150 psig)
F72C-2AD-AE0	95	Oil removing (coalescing) filter with $\frac{1}{4}$" port
F73C-3AD-AD0	131	Oil removing (coalescing) filter with $\frac{3}{8}$" port
F74C-4AD-AD0	164	Oil removing (coalescing) filter with $\frac{1}{2}$" port
T72T-2AA-P1N	33	3-port/2-position $\frac{1}{4}$" ported lockout valve
T74T-4AA-P1N	47	3-port/2-position $\frac{1}{2}$" ported lockout valve

Ordering Examples: V72G-2AK-NMG, pressure relief valve with $\frac{1}{4}$" port, PTF threads, 5 to 150 psig adjustment range, with pressure gauge, $50.
F74C-4AD-AD0, coalescing filter (oil removing) with $\frac{1}{2}$" port, service indicator, automatic drain and PTF threads, $164.

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-6 6 3 4 2® 1-877-TC-OMEGA

SIGNAL50 Warning Tower Lights
Assembled Stacklights or Components

WTL-L2B24D3D5D4, $175.

WTL-L2B24Y4, $175.

Basic Systems Start At

$70

1 YEAR WARRANTY (UL) C€

Visit omega.com/stacklights For Our Complete Line of Warning Lights

All models shown smaller than actual size.

✔ **Available as Assembled Stacklights or Components**
✔ **Six Lens Colors**
✔ **Variety of Lamp Types and Voltages**
✔ **Single and Dual Bi-Tonal Audible Alarms**
✔ **Multiple Mounting Options**
✔ **Up to Five Levels of Light or Audible Signaling Conditions**
✔ **Interchangeability of Light Option with Same Light Module**

WTL-VB24D3D4, $110.

WTL-SNB120D4, $70.

Visit omega.com/omsl_series For Additional Product Selections

☐ **MOST POPULAR MODELS HIGHLIGHTED!**

To Order *(Specify Model Number)*

Model No.	Price	Levels	Color*	Description
WTL-SNB24D4	**$70**	Single	R	24 Vac/dc surface mount ½ NPT base with steady light module and incandescent bulb
WTL-SNB120D4	70	Single	R	120 Vac surface mount ½ NPT base with steady light module and incandescent bulb
WTL-SNB24F4	100	Single	R	24 Vac/dc surface mount ½ NPT base with flashing light module and incandescent bulb
WTL-L2B24Y4	175	Single	R	24 Vac/dc 25 cm pole mount base with steady light module and LED bulb
WTL-SNB120D3D4	105	Two	G/R	120 Vac surface mount ½ NPT base with steady light module and incandescent bulbs
WTL-SNB24D3D4	105	Two	G/R	24 Vac/dc surface mount ½ NPT base with steady light module and incandescent bulbs
WTL-VB24D3D4	110	Two	G/R	24 Vac/dc vertical mount base with steady light module and incandescent bulbs
WTL-SNB120D3D5D4	140	Three	G/A/R	24 Vac/dc surface mount ½ NPT base with steady light module and incandescent bulbs
WTL-L2B24D3D5D4	175	Three	G/A/R	24 Vac/dc 25 cm pole mount base with steady light module and incandescent bulbs

* *R=Red, G=Green, A=Amber*

Ordering Examples: WTL-SNB24D4, *assembled single tier stack light for 24 Vac/dc with surface mounting base with ½ NPT center thread or screw connection, red lens with steady light module and incandescent bulb, $70.*

WTL-L2B24D3D5D4, *assembled 3-tier stack light for 24 Vac/Vdc with 25 cm pole mounting base, green-amber-red lens with steady light module and incandescent bulbs, $175.*

Medium Viscosity Drum Pumps

**FPUD4 Pump Tubes
Starts at**
$664

**FPUD400 Pump Motors
Starts at**
$370

MADE IN USA · 1 YEAR WARRANTY · CE · RoHS

✔ **Pump Tube and Motor Supplied Separately for Maximum Flexibility**
✔ **CPVC, 316 SS or Sanitary Polished 316 SS Pump Tubes**
✔ **TEFC or Air Driven Motors**
✔ **For Fluids up to 2000 cps Viscosity and 1.8 Specific Gravity**

FPUD431 pump motor, $627.

FPUD411, 115 Vac motor, $822, shown smaller than actual size.

The OMEGA® FPUD400 Series drum pumps can empty a wide variety of containers in various applications. The pump tube and motor are supplied separately in modular construction for maximum flexibility.

Available motor types are 115 or 230 Vac powered, continuous duty, totally-enclosed, fan-cooled (TEFC) motors; and air driven motors.

All Vac powered units include 3.6 m (12'), three-wire cord, built-in ON/OFF switch; and circuit breaker with manual reset. The FPUD411 includes a wall plug.

The FPUD431 air motor has a ¼" female NPT fitting for hooking up to a customer-supplied air hose, and includes a flow-regulating valve and muffler. An optional air lubricator/filter assembly is also available when your air source is not filtered and lubricated.

When pumping flammable or combustible materials, or in explosive environments, use an air motor with a stainless steel tube and the FPUD34-SK static protection kit to avoid sparks produced by static electricity discharge.

CAUTION: DO NOT USE THE FPUD431 AIR MOTOR WITHOUT THE FPUD34-SK STATIC PROTECTION KIT

Performance Curves

Electric Motor Performance Curve — Feet of head (water), Flow rate (GPM)

Air Motor (FPUD431) — Discharge Head (FT.), Flow Rate (G.P.M.) Water
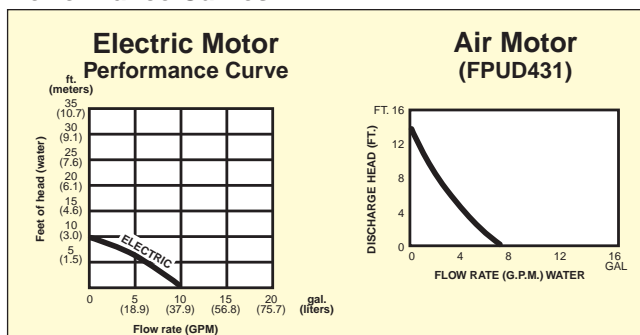
The FPUD4-SNT40 sanitary pump tube features a polished 316 SS tube and shaft, a graphite-filled seal, and pure PTFE internals. It has an ACME sanitary nut connection so the tube can be easily removed for cleaning.

FPUD4 Series pump tubes are rated up to 65°C (150°F) (SS and sanitary tubes), or 82°C (180°F) (CPVC tubes), 2000 cps viscosity (2000 cps air motor; 400 cps electric motor) and 1.8 specific gravity. All tube assemblies have graphite-PTFE seals with PTFE internals, and feature 25 mm (1") ID hose connection on the outlet.

Refer to performance curves above for flow rate vs. discharge head data.

Accessories for FPUD400 Series pump tubes

FPUD4-SDA-P, $98.

FPUD4-SDA-S, $251.

FPUD4-SS, $90.

FPUD4-PS, $80.

FPUD34-SK, anti-static protection kit, $476.
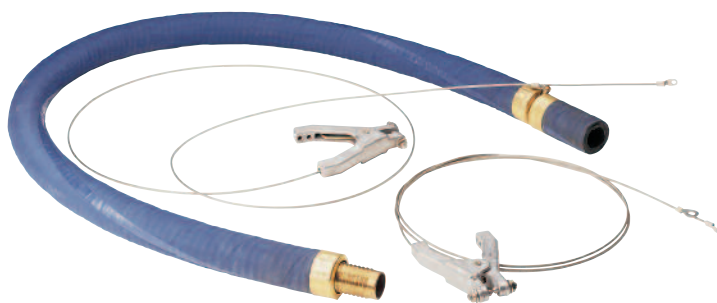
FPUD431 pump motor, $303.

Pump Motor

AVAILABLE FOR FAST DELIVERY!

To Order *(Specify Model Number)*

Model No.	Price	HP	RPM	Power	Phase	Hz	Type	Wt. kg (lb)
FPUD411	$822	¼	3450	115 Vac	1	50/60	TEFC	8.1 (18)
FPUD421	857	¼	3450	230 Vac	1	50/60	IP54	8.1 (18)
FPUD431	370	½	6000	Air 80 psi @ 25 cfm	N/A	N/A	Air	1.8 (4)

Accessories for Pump Motor

Model No.	Price	Description
FPUD345-FL	$237	Filter-lubricator assembly for FPUD431
FPUD34-SK	476	Anti-static kit for FPUD431

Pump Tube

Model No.	Price	Max Flow GPM	Max Head Ft.	Tube OD	Tube Length m (ft)	Shipping Weight kg (lb)
CPVC with Inconel® Shaft						
FPUD4-C27	$771	17	32	1⅝"	0.7 (2.25)	2.7 (6)
FPUD4-C40	814	17	32	1⅝"	1.0 (3.33)	3.15 (7)
FPUD4-C48	906	17	32	1⅝"	1.2 (4.0)	3.6 (8)
316 SS With 316 SS Shaft						
FPUD4-S27	$664	17	32	1½"	0.7 (2.25)	3.6 (8)
FPUD4-S40	689	17	32	1½"	1.0 (3.33)	4.1 (9)
FPUD4-S48	770	17	32	1½"	1.2 (4.0)	5.0 (11)
Sanitary Polished 316 SS						
FPUD4-SNT40	$1444	17	32	1½"	0.9 (3.0)	5.9 (13)

Accessories for Pump Tubes

Model No.	Price	Description
FPUD4-SDA-P	$98	51 mm (2") IPS polypro drum adaptor for FPUD4-S Series
FPUD4-SDA-S	251	51 mm (2") IPS 316 stainless steel drum adaptor
FPUD4-SDA-GS	65	51 mm (2") IPS galvanized steel drum adaptor for FPUD4-S Series
FPUD4-PS	80	PVC/Polypro inlet strainer for CPVC tube
FPUD4-SS	90	316 SS inlet strainer for SS tubes

Comes complete with operator's manual. AC pump motors include integral power cords. Power cords for 115 Vac models include grounded wall plugs.

Ordering Examples: FPUD411,** 115 Vac motor and, **FPUD4-S40** 316 SS pump tube, $822 + 689 = **$1511.

FPUD431,** 80 psi air motor, **FPUD34-SK,** anti-static kit and **FPUD4-C40** CPVC 1⅝" pump tube, $370 + 476 + 814 = **$1660.

FPUD4-SNT40, sanitary pump tube, $1444.

FPUD4-C40, CPVC pump tube, $814.

FPUD4-S40, 316 SS pump tube, $689.

All shown smaller than actual size.

Recommended Reference Book: Analytical Chemistry for Technicians, **CH-5752, $93.** Visit **omega.com/bobi** for Additional Books.

OMEGAFLEX® Peristaltic Pump

FPU500

$125

MADE IN USA • 2 YEAR WARRANTY

✔ **Stainless Steel Rotor Assembly**
✔ **Ideal for Use in Sterile, Corrosive, or General Operating Environments**
✔ **Flow Rates from 1.0 to 2280 mL/Min (36 GPH)**
✔ **Mounts Directly onto OMEGAFLEX Motor or Compatible Pump Motor**
✔ **Easily Stackable Mounting for Multichannel Pumping**
✔ **Three-Roller Geometry Reduces Pulsation and Improves Priming**
✔ **Polysulfone Housing for Durability and Chemical Resistance**

The FPU500 Series peristaltic pumps from OMEGA offer exceptional simplicity, ease of use, and variable flow capability. A motor turns the pump's rollers, which squeeze fluid through precision-bore tubing in a wave-like motion. The fluid does not come into contact with the pump; only the outside wall of the tubing does. This makes these pumps ideal for use in sterile, corrosive, or general fluid flow operating environments.

The pump is self-priming and non-siphoning. When one section of the tube fatigues, simply move the tube along to an unused section and continue pumping. No tools are required to load the tube. A precision-molded tubing cavity provides the proper occlusion for the recommended tubing. A tube clamp holds the tubing securely in place. Tubing is easily changed without removing the pump.

One pump can be used for many different applications, or you can mount two pumps onto the motor. The pumps work with a wide variety of OMEGAFLEX® plastic tubing. Vinyl, FKM, Tygon, silicone, Santoprene, and Norprene® tubing can be purchased in a broad range of sizes. The standard rotor assembly is made of stainless steel.

The FPU500 pump can be purchased with an optional adaptor plate that can be used to mount the pump to a motor other than the FPU5-MT pump motor. The pump comes standard with 2 short mounting screws, used to mount one pump at a time. If you need to stack two pumps, order long mounting screws.
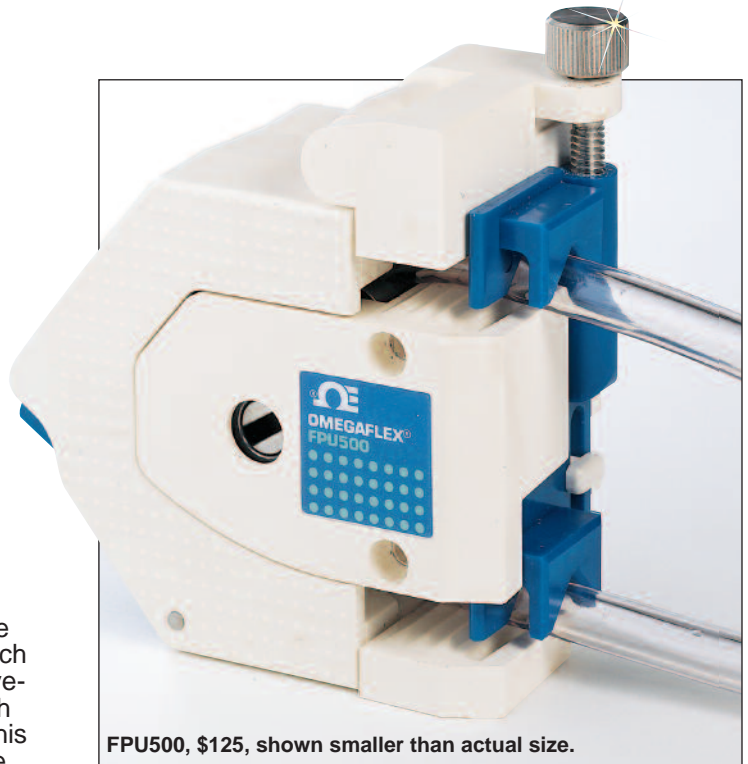
FPU500, $125, shown smaller than actual size.

Specifications

Maximum Back Pressure: 20 psi
Maximum RPM to Prime: 100 RPM
Tube Wall: 1.6 mm ($\frac{1}{16}$")
Fluid Temperature Range: -46 to 149°C (-50 to 300°F)
Dimensions, Pump: 102 H x 102 W x 57 mm D (4 x 4 x 2¼")
Optional Mounting Plate: 76 H x 64 W x 3.2 mm D (3 x 2½ x ⅛")
Weight, Pump: 408 g (14.4 oz)
Optional Mounting Plate: 91 g (32 oz)
Maximum Tubing Size: 8 mm (⁵⁄₁₆")
Maximum Tube Durometer: 65 Shore A

Tube Wall (in.)	Tubing Size (in.)	mL/Rev.	Max. Flowrate @ 600 RPM, mL/min
$\frac{1}{16}$	$\frac{1}{32}$	0.05	30
$\frac{1}{16}$	$\frac{1}{16}$	0.22	132
$\frac{1}{16}$	$\frac{1}{8}$	0.9	540
$\frac{1}{16}$	$\frac{3}{16}$	1.9	1140
$\frac{1}{16}$	$\frac{1}{4}$	3.0	1800
$\frac{1}{16}$	$\frac{5}{16}$	3.8	2280

Changing Tubing Is a Snap! Just Follow These Four Easy Steps:

Step 1: Snap Open with Easy Push-Button Release

Step 2: Loop Tubing Over Rollers. No Need to Thread!

Step 3: Push to Close
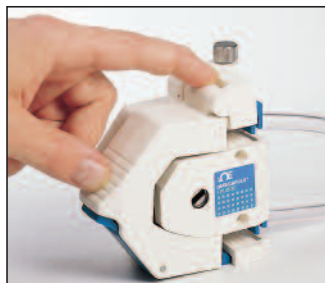
Step 4: Tighten Screw to Secure Tubing
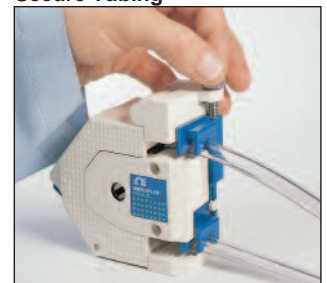
OMEGAFLEX® Pump Motor

FPU5-MT Series

$975

MADE IN USA

2 YEAR WARRANTY
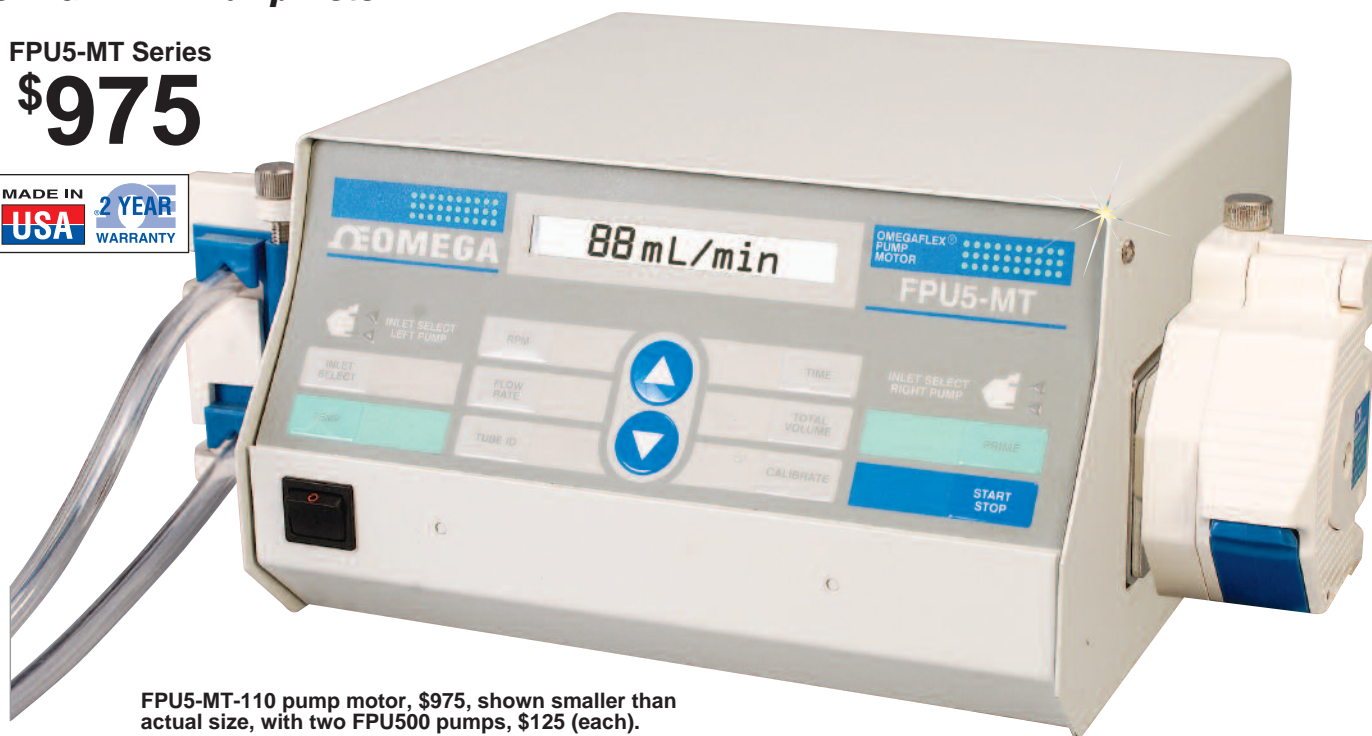
FPU5-MT-110 pump motor, $975, shown smaller than actual size, with two FPU500 pumps, $125 (each).

✔ **Digital Display of Flow Rate, RPM, Total Volume, Fluid Temperature (°C or °F), Flow Duration, or Tube ID**

✔ **Flow Rate 1.0 to 2280 mL/Min (10 to 600 RPM) Reversible**

✔ **Easy-to-Read Display**

✔ **Rear Panel Type K SMP Female Thermocouple Input**

✔ **Tachometer Feedback, ±0.5% Speed Control**

✔ **Accepts Two Pumps, One on Each Side or Two Stacked Together**

✔ **Membrane Keypad for Easy Calibration**

✔ **Remote Control Capabilities**
  • **Aux. In: Remote Start/Stop**
  • **Aux. Out: Remote Monitor**

✔ **Built-In Electronic Braking and Reversing for Fast Stops and Directional Changes**

✔ **Accepts Metric or English Tube Sizes**

✔ **Displays Information in English, French, Spanish, German, or Italian**

The OMEGAFLEX® FPU5-MT pump motor offers microprocessor control and a digital display, and is designed to be fully compatible with OMEGA's FPU500 pump. No mounting plate is needed, just two mounting screws. A $\frac{1}{10}$ HP (75 W) motor provides flow rates of up to 2280 mL/minute. The user enters values and controls all operations through a convenient membrane keypad. A dot matrix LCD provides for easy viewing. Calibrating the unit is easy with the user-friendly control software. Simply select a tubing size and the desired flow rate, and the pump motor locks in the required RPM. Select nominal calibration

values stored in ROM (read only memory) or calibrate via gravimetric or flowmeter measurements. Fluid temperature may be displayed (using an optional thermocouple probe). The last flow settings are stored in memory when the drives are shut off.

Specifications

Motor: Reversible, $\frac{1}{10}$ HP (75 W), 90 Vdc
Display: 16-character dot matrix LCD, 9 mm H ($\frac{3}{8}$") characters
Power: 90 to 130 Vac, 1.5 A; 190 to 260 Vac, 0.8 A
Line Cord: 1.8 m (6') with U.S. standard plug on 115 Vac units; European plug on 230 Vac units
Housing: Painted sheet metal with rubber feet; units are stackable
Dimensions: 152 H x 254 W x 254 mm D (6 x 10 x 10")
Weight: 8.2 kg (18 lb)

AVAILABLE FOR FAST DELIVERY!

To Order *(Specify Model Number)*		
Model No.	**Price**	**Description**
FPU500	**$125**	Peristaltic pump
FPU5-MT-110	975	Pump motor (110 Vac)
FPU5-MT-220	975	Pump motor (220 Vac)
Accessories		
FPU500-AP	$30	Adaptor plate
FPU500-LMS	5	Long mounting screws (2)
FPU500-SMS	5	Short mounting screws (2)
FPU500-RA	75	Replacement rotor assembly

Comes complete with operator's manual.

***Ordering Example: FPU5-MT-110**, pump motor and, **FPU500**, peristaltic pump, $975 + 125 = **$1100**.*

Recommended Reference Book:
Chemical Process Equipment, **CM-0490, $175.**
Visit **omega.com/bobi** for Additional Books.

Thermocouple Terminal Blocks
DIN Rail Mounting and Audit Capable

DRTB Series
$8
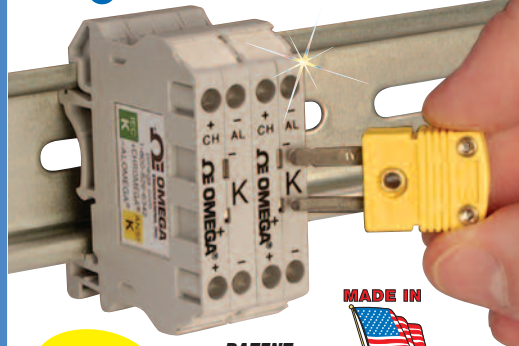
See Page 162

PATENT PENDING

MADE IN USA
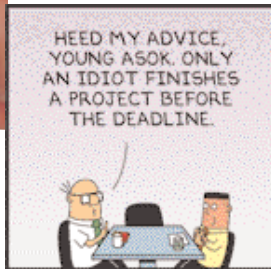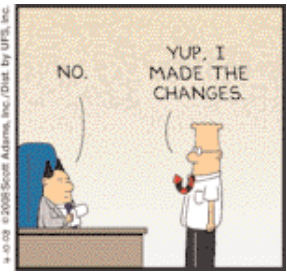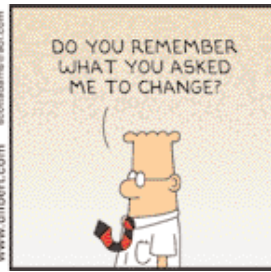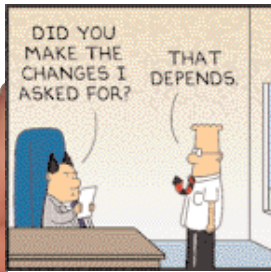
SIGNAL50 Warning Tower Lights
Assembled Stacklights or Components

Basic Systems Start at
$70

See Page 174
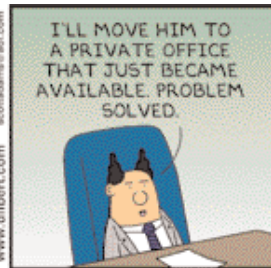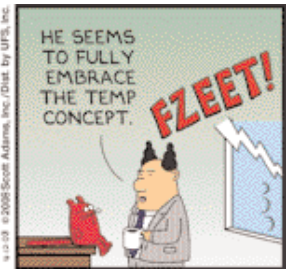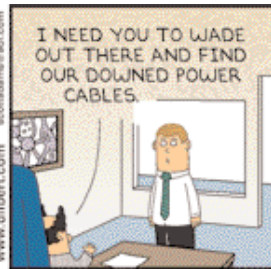
Medium Viscosity Drum Pumps

FPUD400 Pump Motors Start at
$370

MADE IN USA

See Page 175

Dilbert © United Feature Syndicate

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For Sales and Service, Call Toll-Free:
1-800-82-66342®
1-800-TC-OMEGA
U.S.A. and Canada

Sales: FAX (Toll-Free)
1-877-FAX-OMEG(A)
24 HOURS

OMEGAFLEX®
Natural Latex, Gum Rubber Tubing

**TYGR Series
Starts at**

$19

50' Length

MADE IN
USA

OMEGAFLEX latex tubing features superior flexibility and elasticity, maintaining its shape memory even after repeated stretching. No coagulants or fillers are added to the tubing, which minimizes migration into your fluid. This natural latex tubing has 0.87% trace sulphur.

Specifications*

Hardness, Shore A: 35 ±5
Specific Gravity: 0.95
Tensile Strength: 3500 psi
Elongation at Break: 750%
Brittle Temperature: -57°C (-70°F)
Service Temperature: -54 to 82°C (-65 to 180°F)

***** *Values listed are typical. Field testing should be done to find the actual values for the application.*

Note: Contact Sales for color options seen here. 4000' minimum on colors.

MOST POPULAR MODELS HIGHLIGHTED!

To Order *(Specify Model Number)*

Model No.	Price	Std Length	Wall	OD	ID	lb/100 ft Length	psi @70°F
TYGR-18116-100	$37	100'	1/32"	1/8"	1/16"	1.00	15
TYGR-18116-50	19	50'	1/32"	1/8"	1/16"	1.00	15
TYGR-31618-100	37	100'	1/32"	3/16"	1/8"	1.50	10
TYGR-31618-50	19	50'	1/32"	3/16"	1/8"	1.50	10
TYGR-1418-100	47	100'	1/16"	1/4"	1/8"	2.00	15
TYGR-1418-50	24	50'	1/16"	1/4"	1/8"	2.00	15
TYGR-516316-100	48	100'	1/16"	5/16"	3/16"	2.50	12
TYGR-516316-50	24	50'	1/16"	5/16"	3/16"	2.50	12
TYGR-38316-100	69	100'	3/32"	3/8"	3/16"	4.25	15
TYGR-38316-50	35	50'	3/32"	3/8"	3/16"	4.25	15
TYGR-716316-100	94	100'	1/8"	7/16"	3/16"	6.00	17
TYGR-716316-50	48	50'	1/8"	7/16"	3/16"	6.00	17
TYGR-3814-100	56	100'	1/16"	3/8"	1/4"	3.25	10
TYGR-3814-50	28	50'	1/16"	3/8"	1/4"	3.25	10
TYGR-71614-100	74	100'	3/32"	7/16"	1/4"	5.00	12
TYGR-71614-50	37	50'	3/32"	7/16"	1/4"	5.00	12
TYGR-1214-100	100	100'	1/8"	1/2"	1/4"	7.00	15
TYGR-1214-50	50	50'	1/8"	1/2"	1/4"	7.00	15
TYGR-5814-50	103	50'	3/16"	5/8"	1/4"	12.00	18
TYGR-716516-100	62	100'	1/16"	7/16"	5/16"	4.00	8
TYGR-716516-50	31	50'	1/16"	7/16"	5/16"	4.00	8
TYGR-12516-100	87	100'	3/32"	1/2"	5/16"	6.00	11
TYGR-12516-50	44	50'	3/32"	1/2"	5/16"	6.00	11
TYGR-916516-50	68	50'	1/8"	9/16"	5/16"	8.50	13
TYGR-1116516-50	119	50'	3/16"	11/16"	5/16"	13.00	16
TYGR-1238-100	84	100'	1/16"	1/2"	3/8"	9.00	7
TYGR-91638-50	60	50'	3/32"	9/16"	3/8"	7.00	10
TYGR-5838-50	80	50'	1/8"	5/8"	3/8"	9.00	12
TYGR-111612-50	82	50'	3/32"	11/16"	1/2"	9.50	8
TYGR-3412-50	96	50'	1/8"	3/4"	1/2"	12.00	10
TYGR-134-50	153	50'	1/8"	1"	3/4"	17.00	7

Note: Minimum continuous length: 6 feet.
Ordering Examples: TYGR-1418-50, 50' of tubing, 1/4" OD x 1/8" ID, **$24.**
TYGR-1214-50, 50' of tubing, 1/2" OD x 1/4" ID, **$50.**

Stainless Tube and Spiral Sanitary Mixers

**FMX9600 Series
Starts at**

$149

MADE IN USA | RoHS

Inset to show detail.

**FMX9604, $149,
shown actual size.**

**FMX9611, $227,
shown actual size.**

The FMX9600 Series spiral mixers are designed for high-pressure applications such as two component adhesives and sealants. The mixers consist of a series of left and right hand spiral elements which have been "edge-sealed" into a tube. The spiral tube mixer is available in four diameters and with 21 to 32 elements. The elements have been nicrobrazed along their complete length and cannot be removed from the tube. Consider the advantages of this all-stainless steel assembly: the moderate price offers significant savings over competitive mixers, the contour of the elements ensures that the mixer flushes clean with less solvent, and the tube mixers are manufactured with heavy walled tubing, which resists warpage during furnace cleaning and increases the life of the mixer.

Specifications
Elements: 316 stainless steel, non-removable
Housing: 304 stainless steel with plain ends

MOST POPULAR MODELS HIGHLIGHTED!

To Order *(Specify Model Number)*

		Element		Housing				
Model No.	Price	Diameter mm (in)	Mixing Elements	Length cm (in)	Outside Dia. mm (in)	Pressure Limitation psi@300°F	bar@150°C	L Factor to Calc. Pressure Drop
FMX9603	$156	2.87 (0.113)	27	19.05 (7.50)	4.75 (0.187)	6900	476	3.180
FMX9604	149	4.75 (0.187)	21	17.78 (7.00)	6.35 (0.250)	4200	290	0.540
FMX9605	165	4.75 (0.187)	27	23.50 (9.25)	6.35 (0.250)	4200	290	0.700
FMX9608	168	7.42 (0.292)	27	35.56 (14.00)	9.53 (0.375)	3600	248	0.110
FMX9611	227	10.62 (0.418)	32	62.87 (24.75)	12.70 (0.500)	2800	193	0.077

Comes complete with plain ends. The elements are edge sealed to the housing to handle the mixing of high pressure or highly viscous materials. Elements are 316 SS and the housing is 304 SS.
Ordering Examples: FMX9604, *spiral mixer, 4.75 mm (0.187") diameter,* **$149.**
FMX9611, *spiral mixer, 10.62 mm (0.418") diameter,* **$227.**

Recommended Reference Book: Pump Handbook, **ME-0341, $150.** Visit **omega.com/bobi** for Additional Books.

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Sanitary product line continues to expand, visit **omega.com/sanitary** for details!

**HOTLINE
TO SANITARY
PRODUCTS** 1-877-82-66342®
1-877-TC-OMEGA

NEW

Benchtop Weight Scale

WSB-8150, $495,
shown smaller
than actual size.

WSB-8000 Series
All Models
$495

1 YEAR WARRANTY **CE**

✔ **Auto Calibration**
✔ **Easy-to-Read Black LCD Display with Backlight**
✔ **Overload Protection for Load-Cell**
✔ **Audible Beep Alert Upon Reaching Preset Target Weight**
✔ **Low-Battery and Charging Status Signal**
✔ **RS232 Interface with Windows® Software and Cable**

Each WSB-8000 Series benchtop scales feature a 6-key programming pad for easy set up. The conversion from kg to lbs, auto tare and auto zero are all easily done with individual buttons. The WSB-8000 is also light weight and durable with a large, stainless steel tray. Other features like overload protection and audible beep at preset target weight make the WSB-8000 a great choice for the classroom or laboratory. Other standard features include an RS232 interface and an easy-to-read backlit display. Low-battery and charging status are indicated on the display to help make sure your scale is always ready to use.

Specifications
Capacity:
WSB-8015: 1.5 kg (3.3 lb)
WSB-8030: 3 kg (6.6 lb)
WSB-8060: 6 kg (13.2 lb)
WSB-8150: 15 kg (33 lb)
Division:
WSB-8015: 0.1 g (0.004 oz)
WSB-8030: 0.2 g (0.007 oz)
WSB-8060: 0.5 g (0.017 oz)
WSB-8150: 1 g (0.035 oz)

Platter: 260 x 205 mm (10 x 8")
Display: LCD 25.4 mm (1") H, 6-digit
Power: Rechargeable battery 6 Vdc/4.5 A and 110 Vac power cord (included)
Battery Life: 150 hours when fully charged

MOST POPULAR MODEL HIGHLIGHTED!

To Order *(Specify Model Number)*

Model No.	Price	Description
WSB-8015	$495	Weigh scale, 1.5 kg (3.3 lb) capacity and 0.1 g (0.004 oz) resolution
WSB-8030	495	Weigh scale, 3 kg (6.6 lb) capacity and 0.2 g (0.007 oz) resolution
WSB-8060	495	Weigh scale, 6 kg (13.2 lb) capacity and 0.5 g (0.017 oz) resolution
WSB-8150	495	Weigh scale, 15 kg (33 lb) capacity and 1 g (0.035 oz) resolution

Comes complete with 1.8 m (6') communication cables and Windows software, 6 Vdc battery, 110 Vac power cord, and operator's manual.

Ordering Examples: WSB-8030, *benchtop scale 0 to 3 kg (6.6 lb) capacity, 0.2 kg (0.007 oz) resolution and RS232 communications,* **$495.**

WSB-8015, *weigh scale 0 to 1.5 kg (3.3 lb) capacity, 0.1 g (0.004 oz) resolution and RS232 communications,* **$495.**

Handheld Salinity Meter

CDH45
$99

1 YEAR WARRANTY · NIST · C€

Standard

✔ **Dual Display: Salinity and Temperature**
✔ **Salinity Range: 0.1 to 10%**
✔ **Automatic Temperature Compensation**
✔ **Average Calculation, Interval Measuring, Gram Conversion**
✔ **Highly Accurate Temperature Sensor**
✔ **Handheld, Lightweight Design**
✔ **Auto Power-Off Function**

The CDH45 is designed for low-concentration salinity measurement. Applications include water monitoring, seawater-prepared food solutions, breeding ponds, aquariums, and holding tanks.

Specifications

Polarity: Automatic, positive implied, negative polarity indication
Power: 3 "AAA" batteries (included)
Low-Battery Indicator: The "+−" is displayed
Operating Temp: 0 to 50°C (32 to 122°F) @ <75% RH
Storage Temp: -20 to 60°C (-4 to 140°F) @ 0 to 80% RH with batteries removed
Reference Conditions: 18 to 28°C, <75% RH
Dimensions: 167 H x 48 W x 24 mm D (6.5 x 3.0 x 1.5")
Weight: 330 g (0.6 lb) with probe and batteries
RELATIVE SALINITY
  Range: 0.1 to 10%
  Temperature Compensation:
  -5 to 60°C (23 to 140°F), automatic
  Accuracy:
  0 to 0.9% (±0.1)
  1.0 to 1.9% (±0.2)
  2.0 to 2.9% (±0.3)
  3.0 to 4.9% (±0.5)
  5.0 to 7.9% (±1.0)
  8.0 to 10.0% (±1.5, depending on measuring technique)
Probe Cable Length: 0.8 m (34")
Probe Length: 177 mm (7.0")
TEMPERATURE
  Sensor: Thermistor temperature sensor
  Range: -20 to 60°C (-4 to 140°F)
  Resolution: 0.1°C (0.1°F)
  Accuracy:
  ±0.5°C (±1°F): 0 to 45°C (3 to 113°F)
  ±1°C (±2°F): -20 to 0°C, 45 to 60°C (4 to 32°F, 113 to 140°F)

pH SOLUTIONS®

Integral Probe Included!

CDH45, $99, shown smaller than actual size.

IN STOCK FOR FAST DELIVERY!

To Order *(Specify Model Number)*

Model No.	Price	Description
CDH45	**$99**	Salinity meter with integral probe
MN2400	**3**	Replacement "AAA" battery (3 required)

Comes complete with 3 "AAA" batteries, probe, NIST calibration certificate, and operator's manual.
Ordering Example: CDH45, salinity meter, **$99.**

Recommended Reference Book: Groundwater Science, **GE-2519, $84.** Visit **omega.com/bobi** for Additional Books.
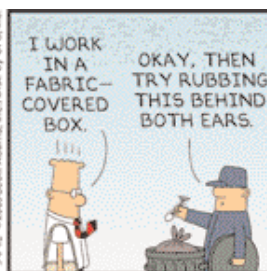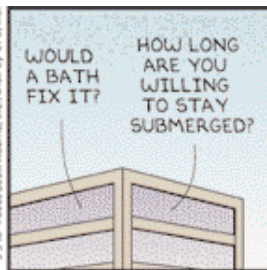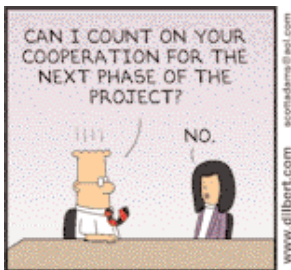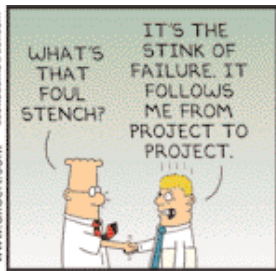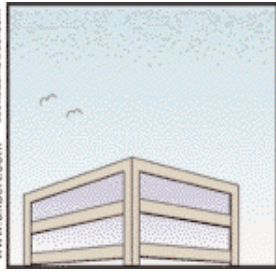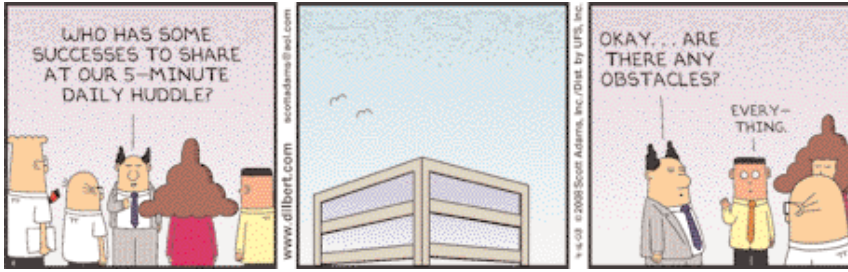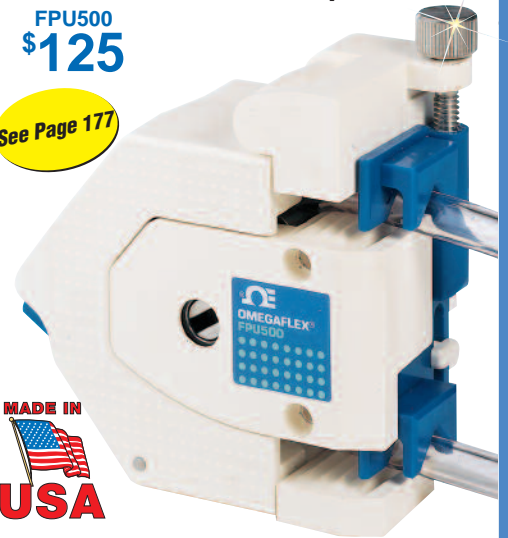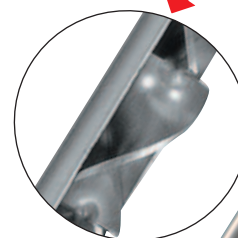
Conductivity Transmitters

**CDTX-90 Series
Starts at**

$576

MADE IN USA · 1 YEAR WARRANTY · CE
Electronics Only

- ✔ **Display in µS, mS, kΩ, MΩ, ppm (TDS)**
- ✔ **Simulate Function**
- ✔ **Programmable Temperature Compensation**
- ✔ **Relay Options**
- ✔ **Dual Output Option Allows Temperature and Process Signal Transmission**
- ✔ **2 x 16 Character Dot Matrix LCD**
- ✔ **Chemical Resistant Enclosure and Self-Healing Window**
- ✔ **Large Pushbuttons**
- ✔ **Clearly Marked Terminal Labels**

Applications
- ✔ **RO/DI System Control**
- ✔ **Rinse Tank Control**
- ✔ **Cooling Tower, Scrubber or Blowdown Control**
- ✔ **Environmental Study (TDS)**
- ✔ **Desalination Monitor**
- ✔ **Water Quality Monitoring**
- ✔ **Leak Detection**
- ✔ **Chemical Concentration**

The CDTX-90 Series conductivity/ resistivity transmitter is designed for broad application and ease of setup and use. The unit can be used for conductance, resistance, or TDS signal transmission and display. Mounting can be accomplished in several options best tailored to your application requirements. Full microprocessor based electronics allow wide operating range, and long term signal stability due to the elimination or potentiometers, jumpers and dip switches.

Specifications
GENERAL
Compatible Electrodes: CDCE-90-X Series conductivity/resistivity electrodes (see omega.com/cdtx90)
Accuracy: ±2% of reading
Enclosure:
　Rating: NEMA 4X (IP65) front
　Case: PBT
　Window: Polyurethane coated polycarbonate
　Keypad: Sealed 4-key silicone rubber
　Weight: 325 g (12 oz)
Display: Alphanumeric 2 x 16 LCD; user selected contrast, 5 levels

Conductivity/Resistivity
62.50 µS
25.0 °C
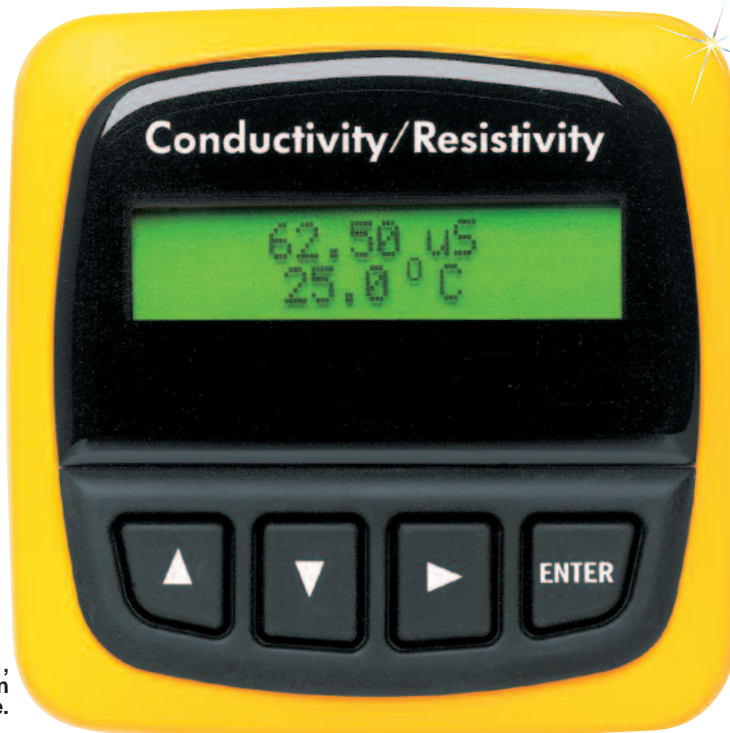
CDTX-90-1, $576, shown actual size.

ENVIRONMENTAL
Operating Temperature:
-10 to 70°C (14 to 158°F)
Storage Temperature:
-15 to 80°C (5 to 176°F)
Relative Humidity:
0 to 95% non-condensing
Standards and Approvals:
CSA, CE, UL listed
ELECTRICAL
Sensor Input Range:
Conductance: 0.055 to 400,000 µS
Resistivity: 10 kΩ to 18.2 MΩ
TDS: 0.023 to 200,000 ppm
Temperature:
Pt1000, -25 to 120°C (-13 to 248°F)
Current Output: 4 to 20 mA, isolated, fully adjustable and reversible
Power: 12 to 24 Vdc ±5% regulated

Max Loop Impedance:
　50 Ω max @ 12V
　325 Ω max @ 18V
　600 Ω max @ 24V
Update Rate: 0.5 seconds
Accuracy: ±0.03 mA @ 25°C
RELAY OUTPUT
Mechanical SPDT Contacts:
Hi, Lo, Pulse, Off
Maximum Voltage Rating:
5 A @ 30 Vdc, or 5 A @ 250 Vac resistive load
Hysteresis: User Adjustable Max 400 pulses/min
Open Collector Output:
Hi, Lo, Pulse, Off, Open collector, optically isolated, 50 mA max, sink, 30 Vdc max; pull-up voltage; max 400 pulses/min

Installation
The transmitter is available in a panel mount or a field version. Select the universal mount kit FP90UM to mount the transmitter on a surface near the sensor.

1. Panel Mount

2. Universal Mount

FP90UM Kit
CDTX-90-XP
CDTX-90-X
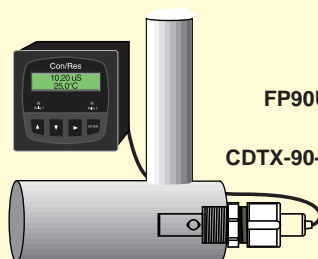
All Panel mount transmitters CDTX-90-XP include a mounting bracket and gasket for a NEMA 4X (IP65) watertight panel installation. Panel mount transmitters fit into a standard ¼ DIN panel cutout.

The Universal Mount Kit FP90UM can be ordered separately and includes a conduit base, locking ring, and universal adaptor for mounting the transmitter on a pipe, wall, or other stationary surface.

Dimensions

Dimensions: mm (inches)

Panel Mount

96 (3.8)

96 (3.8)

Optional Rear Cover FP90-4X

41 (1.6)

56 (2.2)

97 (3.8)

Panel Output
92 x 92
(+0.8, -0)
3.6 x 3.6
(+0.031, -0)

Universal Mount

96 (3.8)

96 (3.8)

106 (4.18)

82 (3.23)
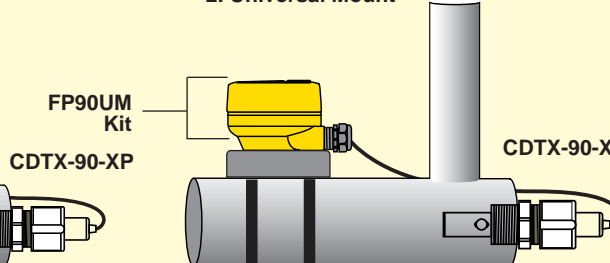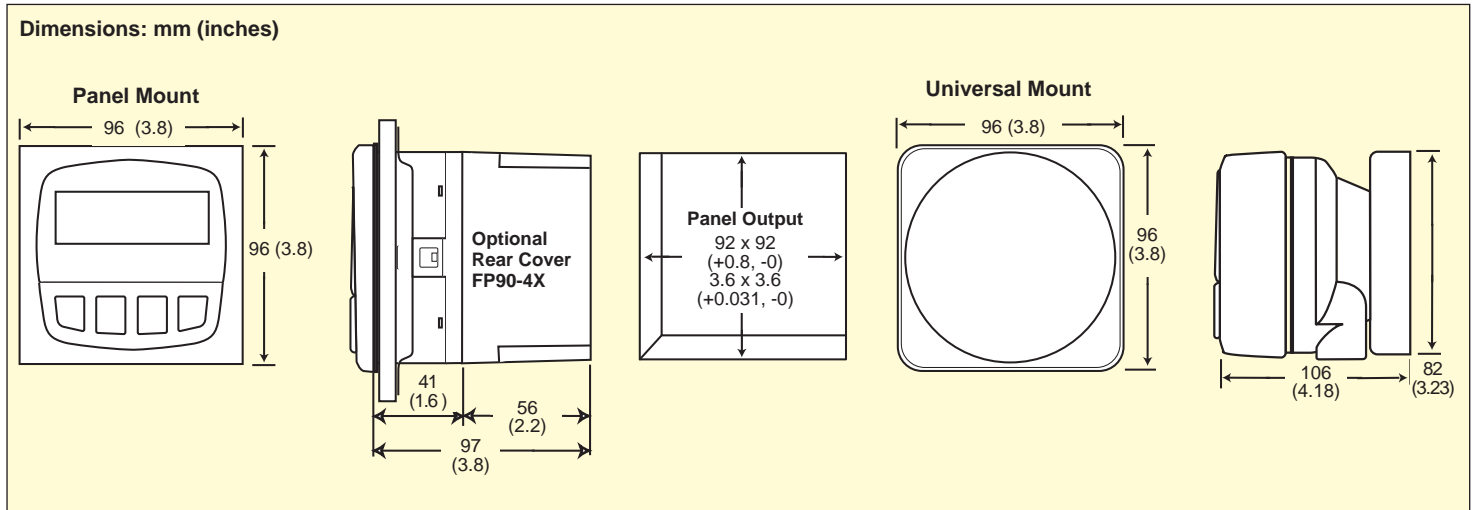
All panel mount transmitters CDTX-90P include a mounting bracket and gasket for a NEMA 4X (IP65) watertight panel installation. Panel mount transmitters fit into a standard ¼ DIN panel cutout. The Universal Mount Kit FP90UM can be ordered separately and includes a conduit base, locking ring, and universal adaptor for mounting the transmitter on a pipe wall or other stationary surface.

☐ *MOST POPULAR MODELS HIGHLIGHTED!*

To Order *(Specify Model Number)*

Model No.	Price	Description	Mounting	Outputs
CDTX-90-1	**$576**	Conductivity/resistivity transmitter	Field mount*	4 to 20 mA and open collector output
CDTX-90-2	675	Conductivity/resistivity transmitter	Field mount*	4 to 20 mA and dual relays
CDTX-90-3	757	Conductivity/resistivity transmitter	Field mount*	4 to 20 mA and dual open collector output
CDTX-90-1P	576	Conductivity/resistivity transmitter	Panel mount	4 to 20 mA and open collector output
CDTX-90-2P	675	Conductivity/resistivity transmitter	Panel mount	4 to 20 mA and dual relays
CDTX-90-3P	757	Conductivity/resistivity transmitter	Panel mount	4 to 20 mA and dual open collector output

** Field mount transmitters require **FP90UM** universal mounting kit, sold separately, **$47.***

Accessories

Model No.	Price	Fitting	Cell Constant	Material
CDCE-90S-001-S15	**$607**	1.5" sanitary	0.01	316 SS
CDCE-90S-1-S15	607	1.5" sanitary	1	316 SS
CDCE-90S-001-S20	718	2.0" sanitary	0.01	316 SS
CDCE-90S-1-S20	718	2.0" sanitary	1	316 SS

Model No.	Price	Description
FP90UM	**$50**	Universal mounting kit
FP90-4X	45	NEMA 4X (IP65) rear cover (panel mount)
FPM-5000-LTCK	40	Liquid-tight kit for rear cover
FP90RC	17	RC filter (for relay use)
PSU-93	40	Unregulated power supply

Comes complete with operator's manual.
*Additional cells available, visit **omega.com/cdtx90***

** For extended cable add suffix **"-100"** to model number and **$100** to price.*
Ordering Examples: CDTX-90-1P, panel mount conductivity transmitter,
CDCE-90-1, conductivity cell, and **PSU-93** power supply,
$576 + 298 + 40 = **$914.**
CDTX-90-1, field mount conductivity transmitter, **FP90UM** universal
mounting kit, **CDCE-90-1,** conductivity cell, and **PSU-93,** power supply,
$576 + 50 + 298 + 40 = **$964.**
CDCE-90-1, conductivity cell, K = 1 cell constant, ¾ NPT fitting, **$298.**
CDCE-90-20, conductivity cell, K = 20 cell constant, ¾ NPT fitting, **$624.**
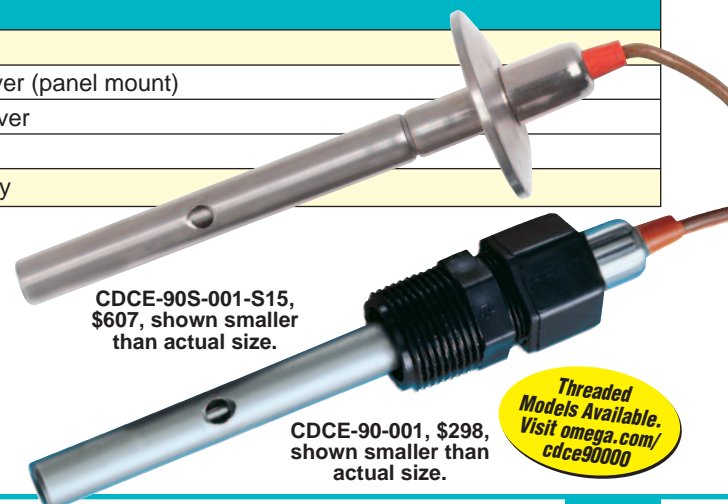
CDCE-90S-001-S15, $607, shown smaller than actual size.

CDCE-90-001, $298, shown smaller than actual size.

Threaded Models Available. Visit omega.com/ cdce90000

Handheld Refractometers

RFH Series Starts at

$93

1 YEAR WARRANTY **RoHS**

✔ **Metal Body**
✔ **Rubber Hand Grip Blocks Hand Heat**
✔ **Calibration Screen**
✔ **Cushioned Rubber Eyepiece**
✔ **Prism Mounted in High-Impact Plastic**

OMEGA's RFH Series refractometers are instruments that determine the concentration of an aqueous solution by measuring its refractive index. All water-based solutions can make light bend. The bending of light increases at a rate proportional to the increasing solution concentration. The handheld refractometer is a precise optical instrument. It is small, light, needs only a few drops of solution to take a measurement and is very user friendly. Refractometers are used throughout the food, agriculture, chemical, and manufacturing industries. Our analog and digital refractometers are among the finest optical instruments in the world. We offer a complete line of refractometers that are suitable for all applications: Brix (Brix Scale = number of grams of cane sugar dissolved in 100 mL of distilled water), alcohol, propylene glycol, protein in serum, salinity, specific gravity, industrial fluids, refractive index (nD), along with many other scales that provide the user with limitless flexibility.

The RFH101 thru RFH107 and the RFH112 thru RFH114 are ideal for monitoring sugar concentrations in foods and beverages. Some common applications are controlling ripeness of fruit in the field and measuring fruit juices, wine, honey, soft drinks, and industrial fluids.

The RFH200 Series is ideal for the measurement of salinity, saltwater, and brine, and for food processing and canning applications.

The specialty refractometers have a wide range of applications, from ethylene and propylene glycol to proteins.

RFH500COT, $99, shown smaller than actual size.

RFH211ATC, $99, shown smaller than actual size.

RFH505RI, $329, shown smaller than actual size.

RFH104, $93, shown smaller than actual size.

All RFH series refractometers come complete with carrying case, cleaning cloth, suction tube, screwdriver, distilled water, and operator's manual.
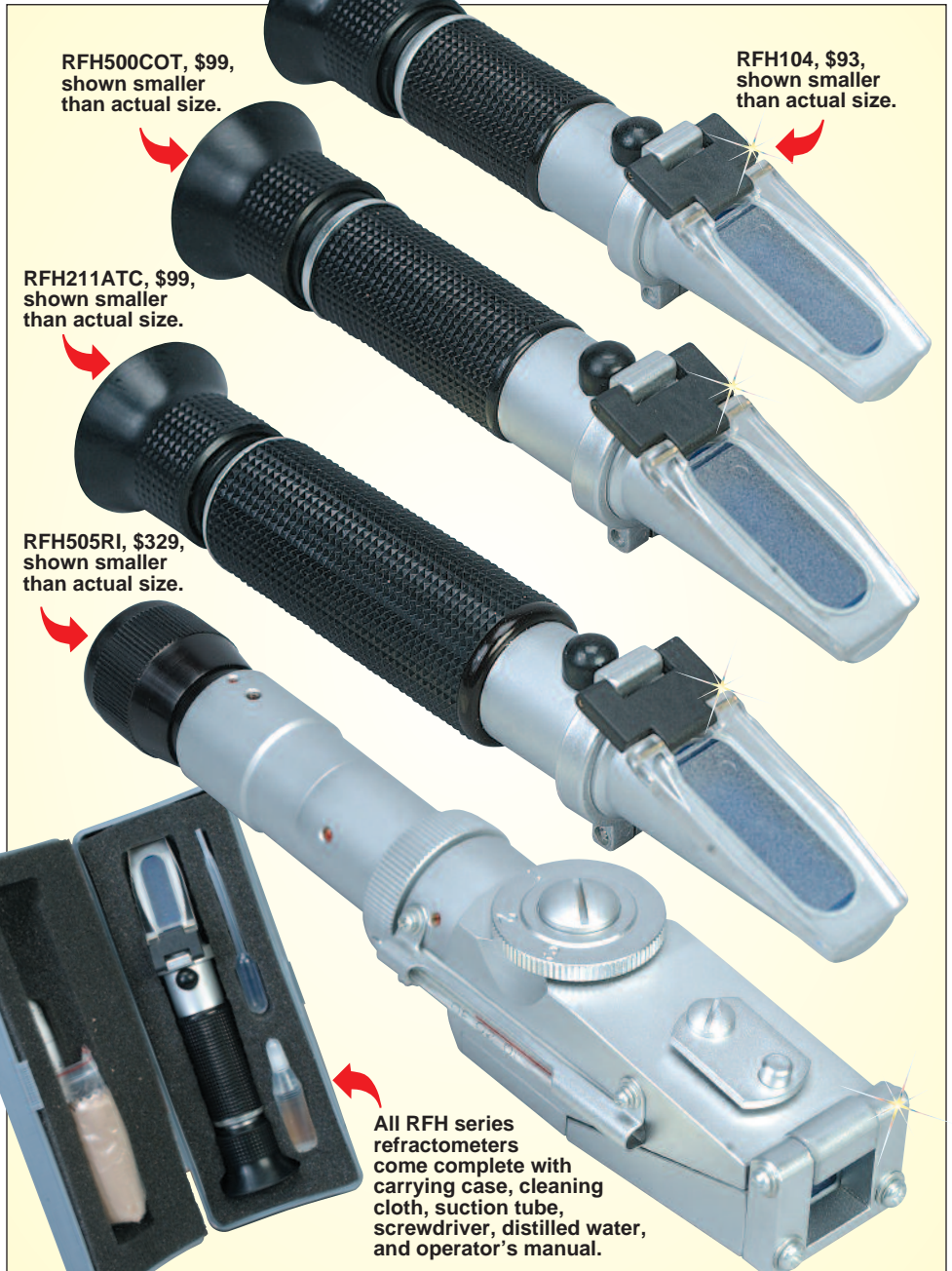
Handheld Salinity Refractometers

MOST POPULAR MODELS HIGHLIGHTED!

To Order *(Specify Model Number)*

Model No.	Price	Scale	Accuracy/ Range	Resolution	ATC	Description/Applications	Dimensions mm (in)	Weight g (lb)
RFH201	$93	Salinity	0 to 10%	1.00%		Seawater and brine	30 x 40 x 190 (1.2 x 1.6 x 7.5)	185 (0.40)
RFH211ATC	99	Salinity	0 to 10%, 1.00 to 1.07 sp gr	1%, 0.001 sp gr	10 to 30°C 50 to 86°F	Salinity or density and solutions with ATC	30 x 40 x 190 (1.2 x 1.6 x 7.5)	200 (0.44)
RFH202	93	Salinity	0 to 28%	0.20%		Food processing, canning and seawater	30 x 40 x 190 (1.2 x 1.6 x 7.5)	175 (0.39)

Comes complete with cleaning cloth, suction tube, screwdriver, carrying case, distilled water and operator's manual.
***Ordering Example:** RFH211ATC, refractometer for seawater density and solutions with ATC, $99.*

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-6 6 342®
1-877-TC-OMEGA

SANITARY LABORATORY INSTRUMENTS

Handheld refractometers work on the critical angle principle by which lenses and prisms project a shadow line onto a small glass reticle inside the instrument, which is then viewed by the user through a magnifying eyepiece.

Handheld Brix Refractometers

Model No.	Price	Scale	Range	Accuracy/Resolution	ATC	Description/Applications	Dimensions mm (in)	Weight g (lb)
RFH101	$93	Brix	0 to 10%	0.1%		Low-concentration juices and industrial fluids	30 x 40 x 190 (1.2 x 1.6 x 7.5)	155 (0.34)
RFH111ATC	99	Brix	0 to 10%	0.1%	10 to 30°C 50 to 86°F	Low-concentration juices and industrial fluids with ATC	30 x 40 x 190 (1.2 x 1.6 x 7.5)	155 (0.34)
RFH102	93	Brix	0 to 18%	0.2%		Fruit juices, soft drinks, grape wine and industrial fluids	30 x 40 x 170 (1.2 x 1.6 x 6.7)	185 (0.40)
RFH112ATC	99	Brix	0 to 18%	0.2%	10 to 30°C 50 to 86°F	Fruit juices, soft drinks and industrial fluids with ATC	30 x 40 x 170 (1.2 x 1.6 x 6.7)	185 (0.40)
RFH103	93	Brix	0 to 32%	0.2%		Fruit juices, soft drinks and industrial fluids	30 x 40 x 170 (1.2 x 1.6 x 6.7)	185 (0.40)
RFH113ATC	99	Brix	0 to 32%	0.2%	10 to 30°C 50 to 86°F	Fruit juices, soft drinks and industrial fluids with ATC	30 x 40 x 170 (1.2 x 1.6 x 6.7)	200 (0.44)
RFH104	93	Brix	28 to 62%	0.2%		Concentrated fruit juices	30 x 40 x 150 (1.2 x 1.6 x 5.9)	160 (0.35)
RFH114ATC	99	Brix	28 to 62%	0.2%	10 to 30°C 50 to 86°F	Concentrated fruit juices and canned foods that use a sugar infusion with ATC	30 x 40 x 150 (1.2 x 1.6 x 5.9)	160 (0.35)
RFH105	93	Brix	45 to 82%	0.5%		Concentrated fruit juices, condensed milk, liquid sugar and jam	26 x 40 x 150 (1.0 x 1.6 x 5.9)	160 (0.35)
RFH106	93	Brix	58 to 90%	0.5%		Honey, jam and marmalade	30 x 40 x 160 (1.2 x 1.6 x 6.3)	175 (0.39)
RFH107	329	Brix	0 to 90%	0.1%		Fruit juices, soft drinks and industrial fluids	40 x 40 x 160 (1.6 x 1.6 x 6.3)	180 (0.40)

Comes complete with cleaning cloth, suction tube, screwdriver and operator's manual.
***Ordering Example:** RFH101, refractometer for low-concentration juices and industrial fluids, **$93**.*

Specialty Refractometers

Model No.	Price	Scale	Range	Accuracy/Resolution	ATC	Description/Applications	Dimensions mm (in)	Weight g (lb)
RFH109B	$99	nD	1.43 to 1.52	0.001		Handheld refractive index measurement	26 x 40 x 125 (1.0 x 1.6 x 4.9)	175 (0.39)
RFH312ATC	99	sp gr; RI	0 to 12 g/dl, sp gr: 1.0 to 1.050, Refractive Index: 1.330 to 1.360 RI	0.001	10 to 30°C 50 to 86°F	Measures the specific gravity and refractive index of urine, blood serum, plasma, albumen and protein with ATC	30 x 40 x 160 (1.2 x 1.6 x 6.3)	175 (0.39)
RFH401	93	sp gr; °F	sp gr: 1.15 to 1.3, -60 to 32°F	0.01 sp gr; 2°F	10 to 30°C 50 to 86°F	Measures the freezing points of ethylene and propylene glycol coolants and specific gravity of battery fluid	40 x 40 x 160 (1.6 x 1.6 x 6.3)	180 (0.40)
RFH402	93	sp gr; °C	sp gr: 1.15 to 1.3, -50 to 0°C	0.01 sp gr; 1°C	10 to 30°C 50 to 86°F	Measures the freezing points of ethylene and propylene glycol coolants and specific gravity of battery fluid	40 x 40 x 160 (1.6 x 1.6 x 6.3)	180 (0.40)
RFH500COT	99	nD	1.333 to 1.384	0.01		Oil, water, coolants, cleaning solutions, fire extinguishers, chromating solutions, plating and acid baths, anodizing solutions	26 x 40 x 170 (1.0 x 1.6 x 6.7)	175 (0.39)
RFH505RI	329	nD	1.333 to 1.520	0.001		Measures mineral oil left in a compressor when changing to polyol ester.	30 x 40 x 190 (1.2 x 1.6 x 7.5)	600 (1.32)

Comes complete with cleaning cloth, suction tube, screwdriver, carrying case and operator's manual.
***Ordering Example:** RFH401, refractometer for ethylene and propylene glycol coolants, **$93**.*

Handheld Digital Refractometers

**DRFHUP-320,
$525, shown close
to actual size.**

✔ **Powers Off after
3 Minutes of Non-Use**
✔ **°C/°F Conversion**
✔ **Low-Voltage Alarm**
✔ **Automatic Temperature
Compensation**
✔ **Temperature and
Refraction Measurements**
✔ **Easy Pushbutton
Calibration**

All water-based solutions can make light bend, a process known as refraction. The rate at which light bends is in direct proportion to the solution concentration. A refractometer is an instrument that measures the concentration of an aqueous solution by calculating its refractive index. Refractometers are used throughout the food, agriculture, chemical, and manufacturing industries.

OMEGA DRFH450 Series handheld digital refractometers are lightweight, precise optical instruments that can determine the refractive index in only a few drops of solution. These refractometers are suitable for a wide range of measurement applications, including Brix scale, alcohol, propylene glycol, protein in serum, salinity, Baumé scale, industrial fluids, and specific gravity.

**DRFH450
All Models**
$**525**

1 YEAR WARRANTY

Specifications
Dimensions:
185 L x 59 W x 45 mm D
(7.3 x 2.3 x 1.8")
Weight: 230 g (0.5 lb)
Power: 9V battery
(included)
**Temperature
Measurement:**
0 to 40°C (32 to 104°F)
Temperature Accuracy:
±1°C (2°F)
Temperature Resolution:
0.1°C/°F
**Temperature
Compensation Range:**
0 to 35°C (32 to 90°F)
Storage Temperature:
-10 to 50°C (14 to 122°F)
Readings per Battery: About 1500

**DRFHUP-320 in case, $525,
shown smaller than actual size.**

☐ *MOST POPULAR
MODELS HIGHLIGHTED!*

To Order *(Specify Model Number)*

Model No.	Price	Scale	Range	Accuracy	Resolution
DRFH45-121	$525	Brix or reference index	0 to 45% or 1.333 to 1.410	±0.2%	0.1
DRFH450	525	Brix	0 to 45%	±0.2%	0.1
DRFHUP-320	525	Urine SP G. or serum P	1.000 to 1.050 or 0 to 12 g/dL	±0.001 or 0.1	0.001 or 0.1

Comes complete with suction tube, carrying case, 9V battery and operator's manual.
Ordering Example: DRFH450, *digital refractometer for Brix range 0 to 45% with ATC,* **$525.**

Portable Low-Cost Temperature Relative Humidity Data Logger
Part of the NOMAD® Family

OM-62

$99

MADE IN USA *1 YEAR WARRANTY*

✔ **Measure Temperature, Relative Humidity and Dew Point Simultaneously**
✔ **Temperature and Humidity Alarm with Visual Indication on Demand**
✔ **User Selectable Stop on Memory Full or Memory Rollover for Continuous Recording**
✔ **PC or Push Button Recording Control**
✔ **USB Interface**
✔ **Compact, Light Weight, Easy-to-Use**

The OM-62 temperature/relative humidity data logger is an easy-to-use, versatile device which can be used for a wide range of logging applications. The OM-62 is capable of sampling as fast as once per second or as slow as every 18 hours.

A total of 43,344 temperature measurements can be stored in the data logger memory if only temperature is measured, or 21,672 measurements for temperature and humidity.

In addition to measuring temperature and relative humidly, the easy-to-use Windows software included with the OM-62 data logger calculates and displays the dew point temperature. The software is a full-featured program that allows you to set up all data logger functions including sampling rate, logging duration, start mode, logging mode, and high and low temperature and relative humidity alarm values.

Windows software displays data in graphical or tabular format.

OM-62, $99.
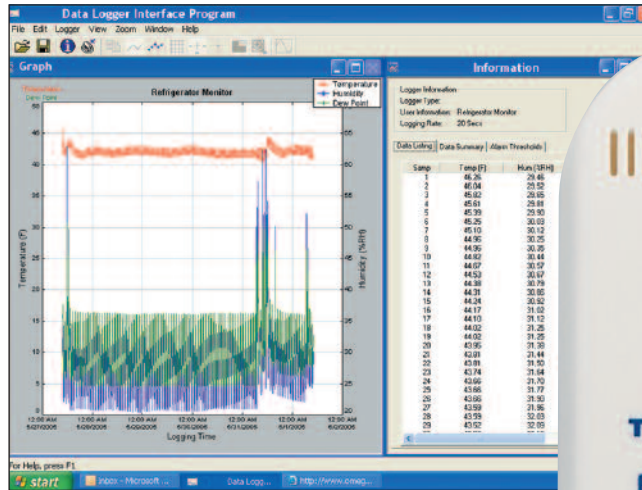
Once data has been logged, the program then allows you to download data from the logger, plot the data and export the data to an ASCII text or Excel file format for further analysis.

Specifications
Temperature Measurement Range: -40 to 70°C (-40 to 158°F)
Temperature Sensor: Internal digital sensor
Relative Humidity Range: 0 to 99% RH, non-condensing
Relative Humidity Sensor: Polymer capacitive
Temperature Accuracy: ±0.5°C (±1°F)
Temperature Resolution: ±0.01°C (±0.01°F)
Relative Humidity Accuracy: ±2% RH from 10 to 90% RH
Relative Humidity Resolution: 0.01% RH
Temperature and Relative Humidity Alarms: Programmable high and low alarm thresholds, for both temperature and humidity
Sampling Rate: User selectable, 1 second to 18 hours, in 1 second increments

Data Storage: 43,344 for temperature only; 21,672 for temperature and humidity
Recording Mode: User selectable; stop on memory full or continuous recording with memory rollover
Recording Start: Push button, computer controlled, or up to 6 week delayed start
PC Interface: USB
Calibration: Single point offset calibration available through software for both temperature and humidity
Time Accuracy: ±100 ppm @ 75°F
Power: 3V lithium battery (included)
Battery Life: 6 years typical
Storage Temperature: -40 to 70°C (-40 to 158°F)
Dimensions: 76 H x 40 W x 15 mm D (3.0 x 1.6 x 0.6")
Compatibility: Windows 98/2000/XP/VISTA
Weight: 28 g (1 oz)

AVAILABLE FOR FAST DELIVERY!

To Order *(Specify Model Number)*

Model No.	Price	Description
OM-62	**$99**	Temperature relative humidity data logger

Comes complete with Windows software on CD ROM, 3V lithium battery and USB interface cable.
Ordering Example: OM-62, *temperature relative humidity data logger,* **$99.**

The Mini NOMAD® Series Miniature RFID Data Loggers and Readers
Economical, Fast, Accurate *Wireless* Data Retrieval and Storage

Weather Resistant!

OM-84 Matchbook™ Series Starts at
$90
5-Pack

✔ **Each Package of Tags Comes with a Certificate Stating NIST-Traceability (No Points)**
✔ **Ideal Solution for Cold Chain Monitoring**
✔ **Factory Replaceable Batteries**
✔ **Accurate Up to ±0.5°C (1°F)**
✔ **Wireless RFID Technology**
✔ **Store Up to 10,000 Individual Readings**
✔ **Save Stored Data From Each Logger Into Your Computer with Included Software**
✔ **Low Power Operation and Sleep Mode**
✔ **Pre-Packaged for Moderate High Volume Discounts**

PATENTS PENDING

Write-On-Window!
OMEGA's miniature RFID data loggers feature a unique write-on-window built into every unit. This provides an easy way to add your own tracking or shipment number to each unit for easy identification after retrieval from deployment!

The OM-84, $90, features a miniature, water resistant NEMA design and a factory replaceable battery.

Shown actual size.

OM-80-RD1, reader, $195, shown reading, downloading and storing data from an OM-84-TMP, temperature data logger, $90 (sold in packs of 5).
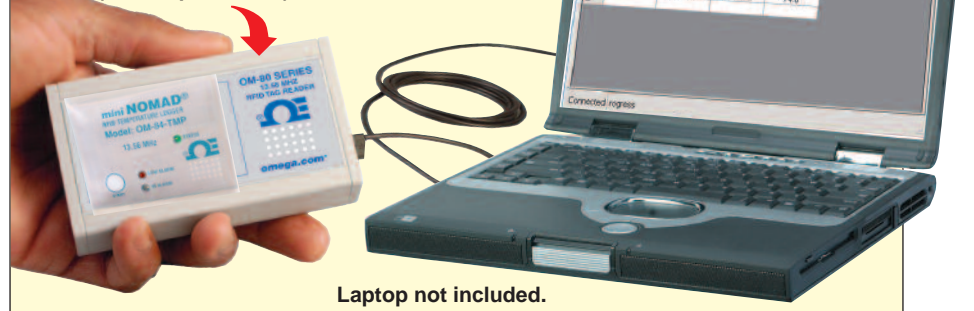
Laptop not included.

OMEGA's OM-80 Series of data loggers have been engineered to provide an economical and reliable solution for cold chain environmental monitoring. The lower cost OM-84 features a miniature weather-resistant design with a factory replaceable battery.

Operates over a wide range of temperatures from -40 to 60°C (-40 to 140°F) making them ideal for most remote data logging applications inside shipping containers. Built-in LEDs display high and low alarm verification indicating that measured temperatures have remained within the user programmable alarm window throughout deployment. An internal solid-state precision temperature sensor provides accurate readings up to ±0.5°C.

Save Money!

Factory Battery Replacement Service *Did you know that you can recycle your OM-84 data loggers that have dead batteries? Send them back to OMEGA and we will install a fresh battery, reseal the package, check operation and send the unit back to you, all for a small fee. It's cheaper than buying a new one! This option is only available for Model OM-84 units and requires that you send back a minimum of 25 units. Please contact our Customer Service Department to request an RMA number. Visit* **omega.com/rfid** *for more information.*

Miniature RFID Data Loggers

"Deploy multiple units for better zone profiling… All for less than the cost of one standard data logger"

Record the temperature during transport! The OM-84 is perfect, with its compact size. Just turn it on, drop it in place and go.

Simply place the data logger on the OM-80-RD1 reader, and download the data to your PC.

Laptop not included.

Specifications

PRELIMINARY SPECIFICATIONS

(Please visit **omega.com/rfid** for the latest features and specifications)

Temperature Measurement Range: -40 to 60°C (-40 to 140°F)

Accuracy: ±0.5°C from 0 to 50°C (±1°C below 0°C or above 50°C)

Resolution: 0.1°C or °F

Storage Temperature: -40 to 85°C (-40 to 185°F)

Ambient Pressure Range 8 to 20 psi; exceeding these limits may damage the unit

Wireless Operation

Read/Write Wireless Range: Up to 50 mm

Power

OM-84-TMP: Lithium/manganese dioxide 3 volt coin cell (factory replaceable only)

Shelf Life: Up to 3 years (non-activated) with proper storage

Usage Life: Up to 2 years (after activation)

Memory: Up to 10,000 rdgs (eg: 208 days at 1 rdg/30 min)

Recording Programmable Interval: From 1 sec to 9 hrs, 6 min, 7 sec

Data Logging Start Time: Alarm clock or delayed start, selectable by user

Operation Status Indicator: LED blinks green when the unit is activated

Alarm Status Indicator: LED blinks red when the unit exceeds high or low alarm set point

Activation: Push-button on surface of device

Temperature Alarm: Programmable temperature alarm with high and low limits, selectable in software

Dimensions:

OM-84: 61 L x 43 W x 6.4 mm H (2.4 x 1.7 x 0.25")

▭ MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Model No.	Price	Description
OM-84-TMP-5	$90	Water resistant temperature logger, package of 5
OM-84-TMP-20	342	Water resistant temperature logger, package of 20
OM-84-TMP-50	810	Water resistant temperature logger, package of 50
OM-84-TMP-100	1530	Water resistant temperature logger, package of 100
OM-84-TMP-KIT*	297	Water resistant temperature logging kit: 5 loggers, benchtop reader, software, cable, case, marker
OM-80-RD1	195	Benchtop reader with software and USB cable
SC-HH500	12	Reader carrying case

* Comes complete with data loggers, benchtop reader unit, USB cable, software program on CD-ROM, permanent marker, easy operating instructions and batteries.

Ordering Examples: OM-84-TMP-5, *temperature data logger (5-pack),* **OM-80-RD1,** *benchtop USB reader with cable and software, and* **SC-HH500** *reader carrying case,* $90 + 195 + 12 = **$297.**

OM-84-TMP-KIT, *temperature logging kit,* **$297.**

Portable Data Loggers with USB Interface

**OM-EL-USB Series
Starts at**
$63

1 YEAR WARRANTY CE

✔ **Temperature, Temperature/RH/Dew Point, Voltage, and Current Models**
✔ **Data Logger Plugs Directly into Computers USB Port for Easy Setup and Data Download (No USB Cable Required)**
✔ **User-Programmable Alarm Thresholds with LED Indicators**
✔ **Bright Red, Green, and Orange LED Indication**
✔ **Low-Battery Warning**
✔ **IP67 Protection**

The OM-EL-USB Series of data loggers includes models for temperature, temperature/relative humidity, voltage, and current measurement. The user can easily set up the data logger and download the stored data by plugging the module into a PCs USB port and running the easy-to-use Windows software. Software-selectable setup parameters include logging rate, start time, high/low alarm settings, and temperature units (°C or °F). Data can then be graphed, printed, and exported to other applications such as Excel. Each data logger is supplied complete with a long-life lithium battery. Built-in LED indicators show data logger status. OM-EL-USB Series data loggers are protected against moisture to IP67 standards when the protective cap is fitted.

Specifications
Memory: 16,000 temperature readings
Logging Interval: 10 sec to 12 h
Operating Temperature Range: 35 to 80°C (-31 to 176°F)
Alarm Thresholds: High/low alarm thresholds selectable in software

Start Date/Time: Selectable in software
Status Indicators (LEDs): Red, green and orange
Software: Windows 98/2000/XP/VISTA (32-bit)/ WIN 7 (32-bit)
Power: ½ "AA" 3.6V lithium battery (included)
Battery Life: 1 year (at 25°C and 1 minute logging interval)
Weight: 43 g (1.5 oz)
Dimensions: See dimensional drawing

OM-EL-USB-1, $63, shown actual size.

Dimensions mm (in)
Side View
27 (1.06)
End View
Internal Temperature Sensor Location
Front View
20.5 (0.81)
94 (3.70)
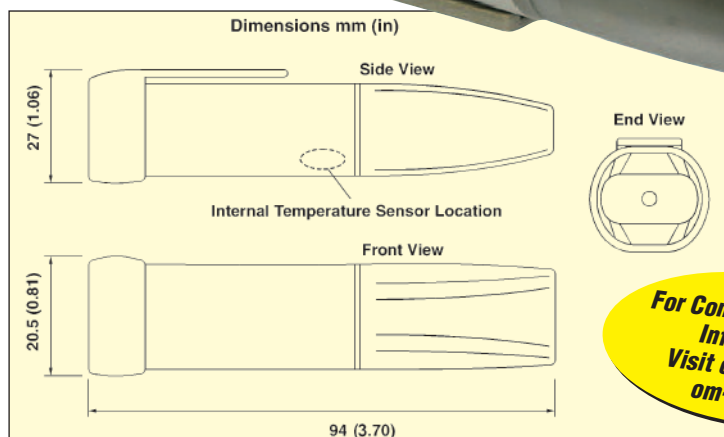
For Complete Product Information Visit omega.com/ om-el-usb-1

AVAILABLE FOR FAST DELIVERY!

To Order *(Specify Model Number)*

Model No.	Price	Description
OM-EL-USB-1	**$63**	Temperature data logger with USB interface, temperature range, -35 to 80°C (-31 to 176°F)
OM-EL-USB-2	82	Temperature/RH/dew point data logger with USB interface, humidity range, 0 to 100% RH
OM-EL-USB-2-PLUS	110	High accuracy temperature/RH/dew point data logger with USB interface, temperature range, -35 to 80°C (-31 to 176°F), humidity range, 0 to 100% RH
OM-EL-USB-3	75	Voltage data logger with USB interface, 0 to 30 Vdc
OM-EL-USB-4	75	Current data logger with USB interface, 4 to 20 mA
OM-EL-BATT	4	Replacement 3.6V lithium battery

Comes complete with Windows software on CD-ROM, operator's manual and 3.6V lithium battery. Data logger plugs directly into computer's USB port (no USB cable required).
***Ordering Example: OM-EL-USB-1**, temperature data logger with USB interface, $63.*

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-6 6 3 42® 1-877-TC-OMEGA®

Portable Data Logger

OM-SQ2010
Starts at
$1540

1 YEAR WARRANTY **NIST** CE
Optional†

- ✔ **4 to 8 Universal Analog Inputs (Current, Voltage, Resistance, Temperature) Plus 8 Digital Inputs**
- ✔ **16 Derived/Calculated Channels**
- ✔ **2 Alarm Outputs and 2 Pulse Counter Inputs (1 at 64 KHz, 1 at 100 Hz)**
- ✔ **0.1% Accuracy**
- ✔ **Up to 1.8 Million Readings**
- ✔ **Large Easy-to-Read Graphical Display**
- ✔ **Includes Windows® Software for Data Logger Setup and Data Transfer to PC**
- ✔ **USB Connectivity**
- ✔ **RS232 Output For Modem and Wireless Connection (Via Interface Modules)**

The OM-SQ2010 is a versatile general purpose data logger with 4 to 8 analog input channels to measure current, voltage, resistance and temperature, plus 8 digital channels to automatically trigger or stop logging. An RS232 port is included, allowing connection to modems and other networking devices.

This is a portable data logger which is also suitable for benchtop and fixed installations. The unit is easily programmed via the four integral push buttons and large graphical display or via the included Windows® software. The OM-SQ2010 is able to fulfill many routine data logging needs, including more demanding applications requiring up to ten readings per second on one channel.

Comprehensive Software Configuration

The OM-SQ-SOFT software (supplied with the OM-SQ2010 series data loggers) allows logger configuration, data download and data export while giving the user full

For Complete Product Information Visit omega.com/om-sq2010

OM-SQ2010 data logger, $1540, shown smaller than actual size.

control over the OM-SQ2010. The optional OM-SQ-SOFT-PLUS software gives the user access to many advanced data analysis and data archiving/transfer features. The optional OM-SQ-SOFT-PLUS software lets you quickly and easily analyze the data from your OM-SQ2010 data logger in a familiar windows explorer style interface. Data can be displayed with 2 different auto scaling Y-axis. This is particularly useful when displaying widely varying data from different sensors on one graph.

You can also zoom in on areas of interest, use a cursor to pick out exact values, times and dates, get a statistical summary of your data, set high and low alarm thresholds and, using the calculation function, you can create new virtual channels from existing channels.

The OM-SQ-SOFT-PLUS software also incorporates a report generation facility, which allows you to create custom report templates consisting of a title page with descriptive text, headers and footers, graphs, tabular list of data, statistics and data logger setup information.

Templates can be setup with any of these combinations and saves time when preparing similar presentations of data.

OMEGACARE℠ Extended Warranty Program

OMEGACARE℠ extended warranty program is available for models shown on this page. Ask your sales respresentative for full details when placing an order. OMEGACARE℠ covers parts, labor and equivalent loaners.

AVAILABLE FOR FAST DELIVERY!

To Order *(Specify Model Number)*

Model No.	Price	Description
OM-SQ2010	$1540	Portable handheld data logger including carrying case, 2 C cell batteries, input terminal blocks, 4 current shunts, screw driver, USB cable and OM-SQ-SOFT software
OM-SQ2010-KIT	1740	Same as OM-SQ2010 plus OM-SQ-SOFT-PLUS software and 120 Vac adaptor
OM-SQ-SOFT-PLUS	293	OM-SQ2010 PLUS software

Comes complete with operator's manual.

† To order data logger with calibration certificate, add suffix "-CAL" to model number and add $258 to the price.

Ordering Example: OM-SQ2010-KIT portable data logger kit includes data logger, carrying case, 2 C cell batteries, 3 input terminal blocks, 4 current shunts, screw driver, USB cable, 120 Vac adaptor and OM-SQ-SOFT-PLUS software and OCW-1, OMEGACARE℠ 1-year extended warranty for OM-SQ2010-KIT (adds 1 year to standard 1 year warranty), $1740 + 150 = $1890.

Portable Handheld Data Logger

OM-2041
$**792**

OM-2041, $792.

2 YEAR WARRANTY C€

✔ **Input Signals: K, E, J, T, 0 to 5 V, and 0 to 20 mA (Process Signals Need Input Adaptor)**
✔ **Simultaneous 4-Channel Measurement and Display**
✔ **High/Low Alarms for Each Channel**
✔ **Computation: Maximum/Minimum/Average**
✔ **Logging Method: Log Mode and Tag Mode**
✔ **Data Processable Through a Personal Computer**
✔ **NEMA 3 Protection**
✔ **"AA" Battery Power Supply**

The handy OM-2041 is a palm-size data logger capable of storing up to 10,000 data records per channel. Powered by either "AA" batteries or an AC adaptor, the OM-2041 works equally well as a portable or a fixed-location logger.

With the exclusive software, recording/recalling of data and programming of logging parameters can be done directly with the logger or through a personal computer.

Specifications
MEASURING RANGE
Thermocouple:
  K: -200.0 to 1370.0°C (-328.0 to 2498.0°F)
  E: -200.0 to 700.0°C (-328.0 to 1292.0°F)
  J: -200 to 700.0°C (-328.0 to 1292.0°F)
  T: -200.0 to 400.0°C (-328.0 to 752.0°F)
DC Voltage: 0 to 5 V (scale -9999 to 9999)
DC Current: 0 to 20 mA (scale -9999 to 9999)
ACCURACY RATING
Thermocouple:
  100°C or More: (±0.1% of measuring value +0.3°C)
  100°C or Less: (±0.1% of measuring value +0.6°C)
  DC Voltage: (±0.1% of measuring value +0.2% of range)
Reference Junction Compensation Accuracy:
±0.4°C (at ambient temperature 15 to 35°C);
±0.7°C (at ambient temp. -10 to 15, 35 to 50°C)
Temperature Drift: ±0.01%/°C of measuring range
Allowable Signal Source Resistance:
100 Ω (burnout over upper limit)
Input Resistance: DC voltage inputs over 1 MΩ
Withstand Voltage Between Channels: 400 Vac
Measuring Cycle: 1 second/4 channels
Logging Interval:
1 second to 30 seconds (1 second steps);
1 minute to 24 hours (1 minute steps)
Logging Data:
  Log Mode: 10,000 data records/channel
  Tag Mode: 5500 data records/channel
Display: LCD with backlight
Dot-matrix 128 x 64 dot (view area 41 x 29 mm)

Operation Key: 18-key including numeric key
Logging Method:
  Log Mode: Logging data per cycle (20 points) in log area
  Tag Mode: Logging data (20 points), then press the trigger in tag area
Display Contents: Measured value, alarm, maximum/minimum/average value, computation value, etc.
Other Functions: Clock (year, month, day/hour, minute, second), auto power-off, reading correction, backlight, buzzer, residual battery, residual memory, alarm, calculation, key lock, etc.

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE 1-877-82-6 6 342®
TO SANITARY PRODUCTS 1-877-TC-OMEGA

Communications: RS232C or USB
Power Supply: 4 "AA" batteries (included) or AC adaptor (100 to 240 Vac)
Battery Life: 500 hours or longer (at 25°C, 1-minute interval)
Backup Battery: Backup log data, setting and clock by lithium battery
Backup Battery Life: 5 years or longer (at 25°C)
Dimensions: 159 H x 70 W x 33 mm D (6.2 x 2.7 x 1.3") excluding protrusions
Weight: Approx 300 g (10.5 oz) including batteries
Casing Material: Nylon ABS (antibacterial)
Ambient Temperature: -10 to 50°C (14 to 122°F)
Ambient Humidity: 10 to 80% RH (no condensation)
CE Approval: EN-61326, Class B (battery operation)
Protection: NEMA 3
Accessories: 4 "AA" batteries, wall-mount holder (included)

OMEGACARE℠ extended warranty program is available for models shown on this page. Ask your sales representative for full details when placing an order. OMEGACARE℠ covers parts, labor and equivalent loaners.

MOST POPULAR MODEL HIGHLIGHTED!

To Order *(Specify Model Number)*

Model No.	Price	Description
OM-2041-USB	$792	4-channel handheld data logger with USB port
OM-2041-C2	792	4-channel handheld data logger with C2 port
OM-SPT-USB	50	Software with USB cable
OM-SPN-C2	50	Software with RS232C cable

Accessories

Model No.	Price	Description
OM-9407	$60	Current input adaptor
OM-9408	55	Voltage input adaptor
OM-AC	50	AC adaptor

Comes complete with operator's manual, beaded wire Type K probe for each input, wall mount holder, and 4 "AA" batteries.

Ordering Example: OM-2041-USB,** 4-channel handheld data logger, **$792.** OCW-3, OMEGACARE℠ extends standard 2-year warranty to 5 years **($198),** $792 + 198 = **$990.

Recommended Reference Book:
Computer Networks, **CS-2220, $101.**
Visit **omega.com/bobi** for Additional Books.

General Purpose Miniature Probes with Miniature Connectors

All Models
$**29**

MADE IN USA

ANSI color code shown

To order IEC color code visit omega.com

MEETS OR EXCEEDS
SPECIAL LIMITS OF ERROR **(SLE)**
AND **EN 60584-2: Tolerance Class 1**

Must-Have Accessory!
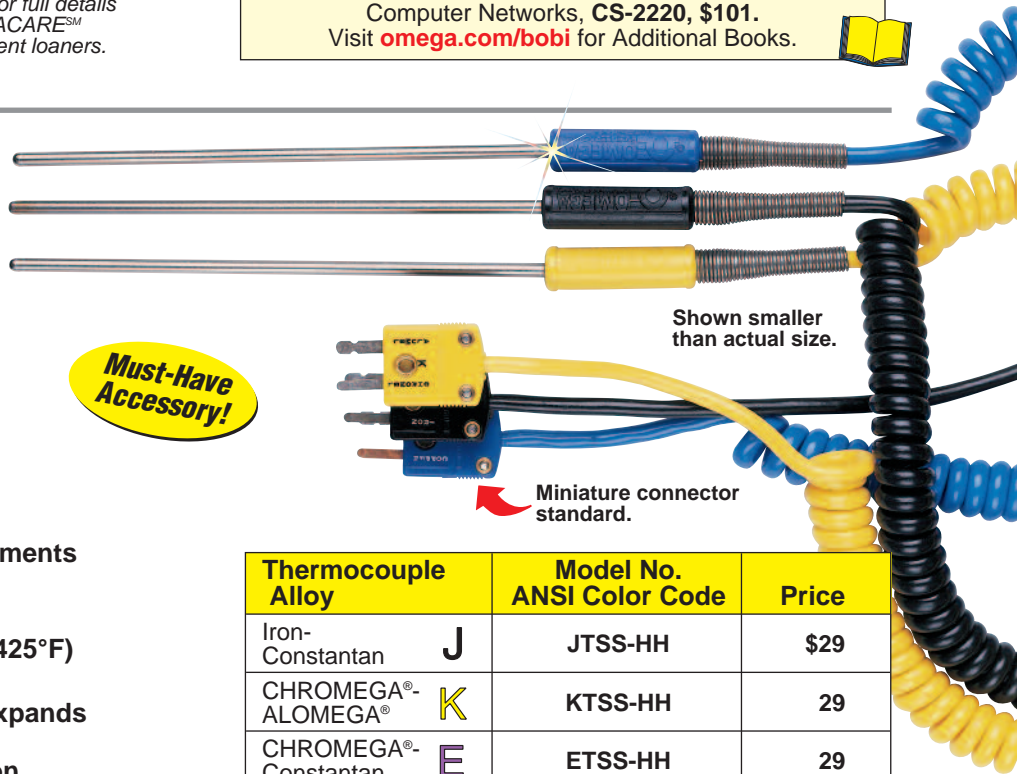
Shown smaller than actual size.

Miniature connector standard.

✔ **Works Great with Handheld Instruments**
✔ **150 mm (6") Length Standard†**
✔ **3.2 mm (⅛") OD 304 SS Sheath**
✔ **Molded Junction Rated to 220°C (425°F)**
✔ **Color-Coded to Calibration**
✔ **300 mm (12") Retractable Cable Expands to 1.2 m (48")**
✔ **SMPW Male Connector Termination**

The molded miniature probe works with most handheld thermocouple meters. Its color-coded retractable cable will stretch from 300 mm (12") to 1.2 m (48"). Grounded junction probes are suited for applications involving benchtop meters or oscillating machines. Calibration codes J, K, T, and E are available.

Thermocouple Alloy		Model No. ANSI Color Code	Price
Iron-Constantan	J	JTSS-HH	$29
CHROMEGA®-ALOMEGA®	K	KTSS-HH	29
CHROMEGA®-Constantan	E	ETSS-HH	29
Copper-Constantan	T	TTSS-HH	29

Note: *Hot end junction grounded.*
† *Other lengths are available, consult Sales department.*
Ordering Example: KTSS-HH,** Type K thermocouple probe, 150 mm (6") long, 3.2 mm (⅛") dia with 1' of RSC cable (which stretches to 5') with a molded, miniature male thermocouple connector, **$29.

Compact Portable Data Logger

RDXL120 Series Starts at

$2750

1 YEAR WARRANTY CE

For Complete Details Visit omega.com/rdxl120

RDXL122-D, $3250.

✔ **All Channel Adopt Universal Insulated Input**
✔ **Easy-to-Read Screen Display**
✔ **Data Can Be Saved at Max Speed of 100 ms**
✔ **Acquire Large Amounts of Data**
✔ **Set Temperature and Voltage Independently for Each Channel**
✔ **Easy-to-Read Wide View TFT LCD (Even Outdoors)**
✔ **Measures Temperature Changes Reliably**
✔ **Employs Compact Flash and SD Cards**
✔ **USB Memory Enables Support For a Data Copy Function**
✔ **Supports Remote Data Acquisition**

The channels in the analog input part adopt insulated inputs, which means that temperature (thermocouple/ resistance temperature detector) and voltage can be set differently for each channel. Eleven types of thermocouples, Pt100 and JPt100 temperature-measuring resistors, and a voltage up to 50V range are supported.

The analog inputs are wired from the left, while the power and communication lines are wired from the right. This design makes the RDXL120 a suitable option in a narrow space.

Wiring is easy, since the terminal block can be removed easily with a single action. The accessory lithium ion battery enables up to 7 hours of operation (typical). Resistance to impact is improved by the use of a rubber boot, which is removable after the trigger).

Standard Supplied Software

D-TOOL software allows you to show data in waveforms and perform CSV conversion.

Main Function:
- Waveform display of measured binary data
- Enlarged view of waveforms along X/Y-axes
- Display of respective data taken at two points (measured value, measurement time) and the result of inter-channel calculation (B - A)
- Copy function (clipboard copy)
- Conversion to CSV for storage (skipping, saving of data between cursors)
- File division
- Settings and creation of setting files
- Windows® 2000, Windows XP supported environment

Specifications

Real-Time Measurement Data Acquisition Functions:
 Communication Interface: Ethernet USB, RS232, RS485

Measurement Acquisition Period:
1, 2, 5, 10, 20, and 30 seconds, 1, 2, 5, 10, 20, 30 minutes

Display Section

Display Unit: 3.5" TFT color LCD (320 x 240 pixels)

Display Color:
 Trend/Bar Graphs: Selectable from 16 colors (red, green, blue, bluish purple, brown, orange, yellowish green, light blue, reddish purple, gray, lime, blue green, dark blue, yellow, olive, purple)
 Background Color: Selectable from white and black (waveform display area)

Update Interval: Max approx 1 sec (measurement interval)

Alarm Functions (Alarm Output):
 Alarm Type: Hi (high limit), lo (low limit), window-in (within specified upper/lower range), window-out (outside specified upper/lower range) (only hi and lo are available for logic inputs)
 Alarm Delay Time Number of Measurements: 0 to 36,000

Sanitary product line continues to expand, visit **omega.com/sanitary** for details!

HOTLINE TO SANITARY PRODUCTS **1-877-82-66342®**
1-877-TC-OMEGA

Display: Alarm status is displayed in the status display area and measured values are displayed in red when an alarm occurs (selectable from non-hold and hold-type)

Hysteresis: ON/OFF switchable (0.5% of span fixed, common to all channels) 4 channels (not insulated)
Buzzer: ON/OFF switchable when being output
Recording: Up to 120 sets of latest information can be recorded
Output Format: Open collector, 5V pull-up resistor (100 kΩ)
Contact Capacity: 5 to 40V, 100 mA

Filter Functions (Analog Input): Selectable from among OFF, 50 and 60 Hz

Average Functions (Analog Input): Moving average calculation ON/OFF, selectable from 1, 2, 5, 10 and 20 times

Automatic Measurement Functions: The setting file (AUTORUN.SET) saved in the CF card, SD card or USB memory is loaded automatically, and recording starts according to the contents of the file

Communications Functions: 2 simultaneous communications are possible such as LAN and RS485, LAN and RS232, ethernet (10BASE-T/100BASE-TX), USB running Windows® 2000 or XP on personal computer with USB port, RS232, RS485, serial communication MODBUS® protocol, standard protocol—transmission medium: LAN, USB, RS232 and RS485

Power Supply Section

Operating Voltage Range: 90 to 132, 180 to 264 Vac

Rated Supply Frequency: 50/60 Hz

Battery: Dedicated lithium ion battery (2400 mAh, 7.4V)

Battery Operation: Can be charged on the main unit only; the instrument runs on the AC adaptor when both battery and AC adaptor are used

Charging Function: The battery can be charged while the instrument is in use; charging takes approximately 8 hours

Standard Accessories:
Terminal Block: 8 channels (95052) or 16 channels (95053, 95055)
AC Adaptor: 100 to 240 Vac
Rubber Boot: Impact-protection (93036)
Screwdriver: For push-lock screws on the terminal block
CD-ROM: Standard software, USB driver, instruction manual, communication function manual, quick manual

General Specifications

Location for Use: Indoor, at an altitude of 2000 m (6561.6') or less

Operating Temperature/Humidity Range: 0 to 50°C (32 to 122°F) [0 to 40°C (32 to 104°F) if battery is used], 5 to 85% RH (no condensation)

Storage Temperature/Humidity Range: -20 to 60°C (-4 to 140°F), 90% RH or less (no condensation)

Insulation Resistance:
Between Each Input Terminal and Frame: 20 MΩ or higher (500 Vdc)
Between Input Terminals (Except for Terminal b): 20 MΩ or higher (100 Vdc)
Between Each Input Terminal and Digital Input/Output: 20 MΩ or higher (100 Vdc)

Withstanding Voltage:
Between Each Input Terminal and Frame: 350 Vp-p (50/60 Hz), 1 min
Between Input Terminals (Except for Terminal b): 350 Vp-p (50/60 Hz), 1 min
Between Each Input Terminal and Digital Input/Output: 350 Vp-p (50/60 Hz), 1 min

Internal Memory: 16 MB
Dimensions: Approx 155 W x 155 H x 55 mm D (6 x 6 x 2.2") (without projecting parts and rubber boot)
Weight: Approx 800 g (1.8 lb) (without battery and rubber boot)

OMEGACARESM **Extended Warranty Program**

*OMEGACARE*SM *extended warranty program is available for models shown on this page. Ask your sales representative for full details when placing an order. OMEGACARE*SM *covers parts, labor and equivalent loaners.*

AVAILABLE FOR FAST DELIVERY!

To Order *(Specify Model Number)*

Model No.	Price	Description
RDXL121-D	$2750	8-channel plug in terminals
RDXL122-D	3250	16-channel plug in terminals

Accessories

Model No.	Price	Description
RDXL900	$412	Data logging software
RDXL-91011	85	3 m (10') RS232 cable
RDXL-94009	211	Replacement lithium ion battery
RDXL-91029	118	3 m (10') digital I/O cable
RCC-1000	40	Rugged carrying case
OM-3000-SC	15	Soft carrying case
RDXL-93039	170	Stand
RDXL-93936	42	Replacement rubber boot
RDXL-95052	510	Terminal block (8-channel plug in)
RDXL-95053	1000	Terminal block (16-channel plug in)

Comes complete with operator's manual, lithium battery, rubber boot, AC adaptor and CD-ROM standard software.
Ordering Examples: *RDXL121-D, 8-channel data logger,* **RDXL900,** *data logging software, $2750 + 412 =* **$3162.**
OCW-3, *OMEGACARE*SM *extends standard 1-year warranty to a total of 4 years* **($350),** *$3162 + 350 =* **$3512.**

RDXL121-D, side view, shown smaller than actual size.

NEW®

Data Logger with Optional Thermal Shield
Part of the NOMAD® Family

OM-CP-HITEMP-150
Starts at
$499

MADE IN USA · 5 YEAR WARRANTY · NIST Optional† · CE

OM-CP-HITEMP-150, $499, shown smaller than actual size.

✔ **Operating Temperature Range: -40 to 150°C (-40 to 302°F)**
✔ **Optional Thermal Shield for Operation up to 250°C (482°F)**
✔ **Submersible to 70 m (230')**
✔ **Programmable Start Time**
✔ **Real-Time Operation**

For Complete Specifications Visit omega.com/om-cp-hitemp-150

OM-CP-HITEMP-150 data logger, $449, shown inside optional OM-CP-HITEMP-150-TS thermal shield, $99.

AVAILABLE FOR FAST DELIVERY!

To Order *(Specify Model Number)*

Model No.	Price	Description
OM-CP-HITEMP-150	$499	High temperature submersible temperature data logger [-40 to 150°C (-40 to 302°F)]
OM-CP-HITEMP-150-CERT†	559	High temperature submersible temperature data logger and NIST calibration certificate [-40 to 150°C (-40 to 302°F)]
OM-CP-HITEMP-150-TSK	549	OM-CP-HITEMP-150 data logger with thermal shield
OM-CP-HITEMP-150-TSK-CERT†	609	OM-CP-HITEMP-150 data logger with thermal shield and NIST calibration certificate
OM-CP-HITEMP-150-TS	99	Thermal shield for OM-CP-HITEMP-150 data logger (included with OM-CP-HITEMP-150-TSK)
OM-CP-IFC110	99	Windows software and 1.2 m (4') RS232 cable with DB9F termination
OM-CP-IFC200	119	Windows software and 3.7 m (12') USB interface cable
OM-CP-BAT108	99	Replacement 3.9V lithium battery

Operator's manual is included with the OM-CP-IFC110 Windows software and RS232 cable (software is required to operate the data logger and is sold separately).
Ordering Example: OM-CP-HITEMP-150-TSK, *data logger with thermal shield and* **OM-CP-IFC110,** *Windows software and 1.2 m (4') RS232 cable, $549 + 99 =* **$648.**

For Complete Specifications Visit omega.com/om-cp-hitemp-150fp

High Temperature Data Logger with Flexible Probe
Part of the NOMAD® Family

OM-CP-HITEMP-150FP
Starts at
$499

MADE IN USA · 5 YEAR WARRANTY · NIST Optional†

✔ **High Temperature Range [-40 to 150°C (-40 to 302°F)]**
✔ **Includes 102 mm (4") Stainless Steel Probe with Flexible Cable**
✔ **Rugged and Reusable**
✔ **Programmable Start Time**
✔ **Real-Time Operation**
✔ **Easy-To-Use Software**

OM-CP-HITEMP-150FP, $499, shown smaller than actual size.

AVAILABLE FOR FAST DELIVERY!

To Order *(Specify Model Number)*

Model No.	Price	Description
OM-CP-HITEMP-150FP	$499	High temperature data logger with flexible probe [-40 to 150°C (-40 to 302°F)]
OM-CP-HITEMP-150FP-CERT†	559	High temperature data logger with flexible probe and NIST calibration certificate [-40 to 150°C (-40 to 302°F)]
OM-CP-IFC110	99	Windows software and 1.2 m (4') RS232 cable with DB9F termination
OM-CP-IFC200	119	Windows software and 3.7 m (12') USB interface cable
OM-CP-BAT108	99	Replacement 3.9V lithium battery

Operator's manual is included with the OM-CP-IFC110 Windows software and RS232 cable, (software is required to operate the data logger and sold separately).
Ordering Example: OM-CP-HITEMP-150FP, *extended range temperature data logger and* **OM-CP-IFC110,** *Windows software with RS232 cable, $499 + 99 =* **$598.**

Sanitary product line continues to expand, visit omega.com/sanitary for details!

**HOTLINE TO SANITARY PRODUCTS 1-877-82-6 6 3 4 2®
1-877-TC-OMEGA**

USE THE CRS DATA-BASE TO SIZE THE MARKET. — THAT DATA IS WRONG.

THEN USE THE SIBS DATA-BASE. — THAT DATA IS ALSO WRONG.

CAN YOU AVERAGE THEM? — SURE. I CAN MULTIPLY THEM TOO.

I DIDN'T HAVE ANY ACCURATE NUMBERS SO I JUST MADE UP THIS ONE. — $4,629,873

STUDIES HAVE SHOWN THAT ACCURATE NUMBERS AREN'T ANY MORE USEFUL THAN THE ONES YOU MAKE UP. — HOW MANY STUDIES SHOWED THAT? — EIGHTY-SEVEN.

THE COMPANY DECIDED TO INVEST A BILLION DOLLARS BASED ON YOUR STUPID, MADE-UP NUMBERS.

YOU'VE CRUSHED MY DREAMS OF A BETTER TOMORROW. NOW MY LIFE IS A COLD, WET SLIDE TO OBLIVION.

I FINALLY MADE A DIFFERENCE AT WORK. — HOW MANY VICTIMS?

I CUT THE QUALITY CONTROL BUDGET TO FREE UP FUNDS TO INCREASE OUR SALES FORCE.

SO YOUR STRATEGY IS TO SELL A LARGER VOLUME OF DEFECTIVE PRODUCTS?

THE QUALITY WILL BE FINE. THE TESTS WILL JUST TAKE LONGER. — SO... IT'S AN ANTIQUE THING?

I NEED SOMEONE TO MAKE TEN COPIES OF THIS DOCUMENT.

IS THERE ANY RISK THAT PERFORMING THIS TASK WILL MAKE ME APPEAR LESS VALUABLE?

I NEED SOMEONE TO TELL COPY BOY TO GET TO WORK.

Dilbert © United Feature Syndicate

The Mini NOMAD® Series
Miniature RFID Data Loggers and Readers
Economical, Fast, Accurate
Wireless Data Retrieval and Storage

OM-84 Matchbook™ Series Starts at
$90
5-Pack

MADE IN USA

Weather Resistant!

mini NOMAD® RFID TEMPERATURE LOGGER
Model: OM-84-TMP
13.56 MHz

See Page 191

Portable Data Loggers with USB Interface

OM-EL-USB Series Starts at
$63

See Page 193

Portable Low-Cost Temperature Relative Humidity Data Logger
Part of the NOMAD® Family

See Page 190
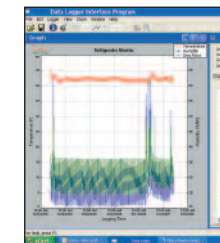
Windows software displays data in graphical or tabular format.

OM-62 Temperature/ Humidity Data Logger
ΩE OMEGA

MADE IN USA

For Sales and Service, Call Toll-Free:
1-800-82-66342®
1-800-TC-OMEGA
U.S.A. and Canada

Sales: FAX (Toll-Free)
1-877-FAX-OMEG(A)
24 HOURS

200

Ultra Low Temperature Data Logger

OM-CP-CRYO-TEMP
Starts at
$199

MADE IN USA | **5 YEAR WARRANTY** | **NIST** Optional† | **C E**

✔ **Ultra Low Operating Temperature: -86°C (-122°F)**
✔ **Programmable Alarm and Warning Ranges With Alarm Delay**
✔ **LED Status Indicators for Instant Alarm Notification**
✔ **Magnetic Start**

The OM-CP-CRYO-TEMP ultra low temperature data logger records temperatures as low as -86°C (-122ºF). The OM-CP-CRYO-TEMP can be used in a broad line of applications such as monitoring blood plasma, vaccines, pharmaceutical, frozen foods and shipping containers.This stand-alone device does not require any additional probes. The enclosure is designed with a handle for easy attachment and is IP64 splash resistant.

It utilizes a USB docking station (sold separately), to communicate with a personal computer or laptop. The OM-CP-CRYO-TEMP provides date and time stamped temperature readings. Our easy-to-use Windows® software does the rest.

The user can view the data in graphical or tabular form. High and low alarm limits and high and low warning limits can be programmed through the software.

Specifications
Temperature Sensor: NTC Thermistor
Temperature Measurement Range: -86 to 35°C (-122 to 95°F) recommended, may be used up to 55°C (131°F)
Temperature Resolution: 0.1°C
Calibrated Accuracy: ±1.0°C
Specified Accuracy Range: -80 to 0°C (-122 to 32°F)

OM-CP-CRYO-TEMP, $199, shown actual size.

OM-CP-IFC300 docking station, 2 m (6.6') USB cable and Windows® software, $70, sold separately and required to operate data logger. Shown actual size.

For Complete Specifications Visit omega.com/ om-cp-cryo-temp

Readings: 32,767
Recording Interval: 5 seconds to 30 minutes, selectable in software
Start Modes: Immediate start, delay start or manual start with magnetic switch
Programmable Start Delay: Up to 30 days from PC launch or manual start
Temperature Alarm: Software programmable high and low alarm limits, high and low warning limits; each setpoint may be individually enabled or disabled
Alarm Delay: Software programmable time delay for warning/alarm limits; logger will not indicate out of range status until the temperature has been out of range for a set period of time
Status Indicators:
   Green: Blinks to indicate safe conditions during logging
   Yellow: Blinks to indicate warn limits have been exceeded
   Red: Blinks to indicate alarm criteria (limits/delay) have been exceeded
Password Protection: An optional password may be programmed into the device to restrict access to configuration options; data may be read out without the password
Calibration: Digital calibration is available to the user through software

Calibration Date: Automatically recorded within device
Power: 3.6V lithium battery (included), factory replaceable only
Battery Life:
   2 Years: Typical @ 25°C (77°F), 1 min reading intervals
   1 Year: Typical @ -80°C (176°F), 1 min reading intervals
Time Accuracy: ±2 minutes/month max at 20 to 30°C (68 to 86°F); ±5 minutes/month max at -80°C (176°F)
Data Format: Date and time stamped °C, °F, K, °R
Computer Interface: USB docking station to PC; 38,400 baud
Software: WIN98/NT/2000/XP/VISTA 32-bit, (VISTA 32-bit version only; VISTA 64-bit is not supported)
Operating Environment: -86 to 35°C (-122 to 95°F) may be used up to 55°C (131°F); 0 to 100% RH
Dimensions: 83 H x 54 W x 11 mm D (3.3 x 2.1 x 0.4")
Ingress Protection/IP Rating: IP64 (splash resistant, not submersible)
Enclosure: ABS plastic, white, polycarbonate labeling
Weight: 40 g (1.4 oz)

AVAILABLE FOR FAST DELIVERY!

To Order *(Specify Model Number)*

Model No.	Price	Description
OM-CP-CRYO-TEMP	$199	Ultra-low temperature data logger
OM-CP-CRYO-TEMP-CERT†	259	Ultra-low temperature data logger with NIST calibration certificate
OM-CP-IFC300	70	Windows software, docking station and 2 m (6.6') USB interface cable

Operator's manual is included with the OM-CP-IFC300 Windows software, docking station and USB cable, (required to operate the data logger and sold separately).

Ordering Example: OM-CP-CRYO-TEMP,** ultra-low temperature data logger and **OM-CP-IFC300,** Windows software with docking station and USB cable, $199 + 70 = **$269.

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-6 6 3 4 2® 1-877-TC-OMEGA

NEW

High Temperature Data Logger with Integral Rigid or Flexible Probe
Part of the NOMAD® Family

OM-CP-TEMP1000P, $399, shown smaller than actual size.

OM-CP-TEMP1000FP, $649, shown smaller than actual size.

For Complete Specifications Visit omega.com/om-cp-temp1000fp

For Complete Specifications Visit omega.com/om-cp-temp1000p

OM-CP-TEMP1000P
Starts at
$399

OM-CP-TEMP1000FP
Starts at
$649

MADE IN USA | **5 YEAR WARRANTY** | **NIST** Optional† | CE

✔ **Rugged Stainless Steel Construction**
✔ **Memory Size: 32,767 Readings**
✔ **Programmable Start Time**
✔ **Optional Thermal Shield Allows Operation Up to 260°C (500°F)**

OM-CP-THERMOVAULT1000-P, high temperature data logging system with OM-CP-TEMP1000P data logger enclosed in thermal shield, $1499.
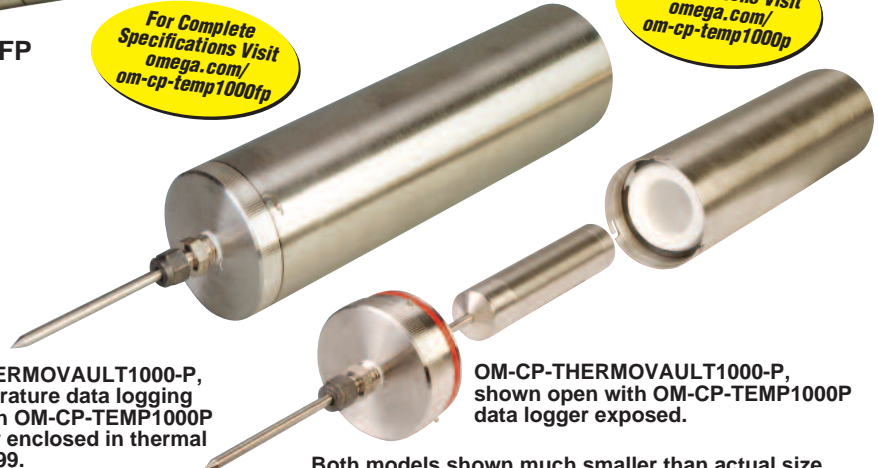
OM-CP-THERMOVAULT1000-P, shown open with OM-CP-TEMP1000P data logger exposed.

Both models shown much smaller than actual size.

AVAILABLE FOR FAST DELIVERY!

To Order (Specify Model Number)

Model No.	Price	Description
OM-CP-TEMP1000P	**$399**	Temperature data logger with 178 mm (7") long integral probe
OM-CP-TEMP1000FP	649	Temperature data logger with 305 mm (12") (flexible) integral probe
OM-CP-TEMP1000P-CERT†	459	Temperature data logger with 178 mm (7") long integral probe and NIST calibration certificate
OM-CP-TEMP1000FP-CERT†	709	Temperature data logger with 305 mm (12") (flexible) integral probe; NIST calibration certificate
OM-CP-TEMP1000P-1	399	Temperature data logger with 25 mm (1") long integral probe
OM-CP-TEMP1000P-1-CERT†	399	Temperature data logger with 25 mm (1") long integral probe and NIST calibration certificate
OM-CP-TEMP1000P-12	399	Temperature data logger with 305 mm (12") long integral probe
OM-CP-TEMP1000P-12-CERT†	399	Temperature data logger with 305 mm (12") long integral probe and NIST calibration certificate
OM-CP-THERMOVAULT1000-P	1499	High temperature data logging system with OM-CP-TEMP1000P data logger enclosed in thermal shield
OM-CP-THERMOVAULT1000-FP	1599	High temperature data logging system with OM-CP-TEMP1000FP data logger enclosed in thermal shield
OM-CP-THERMOVAULT1000-P-CERT†	1519	High temperature data logging system with OM-CP-TEMP1000P data logger enclosed in thermal shield and NIST calibration certificate
OM-CP-THERMOVAULT1000-FP-CERT†	1659	High temperature data logging system with OM-CP-TEMP1000FP data logger enclosed in thermal shield and NIST calibration certificate
OM-CP-IFC110	99	Windows software and 1.2 m (4') RS232 cable with DB9F termination
OM-CP-IFC200	119	Windows software and 3.7 m (12') USB interface cable
OM-CP-BAT102	10	Replacement 3.6V lithium battery

Operator's manual and RS232 cable are included with the OM-CP-IFC110 Windows software (software is required to operate the data logger and is sold separately). The entire data logger/probe assembly is not submersible.

Ordering Examples: OM-CP-TEMP1000P-CERT, *temperature data logger with 178 mm (7") long integral probe with NIST calibration certificate and* **OM-CP-IFC110,** *Windows software and RS232 cable, $399 + 99 =* **$558.**

OM-CP-TEMP1000FP-CERT, *temperature data logger with 305 mm (12") flexible probe with NIST calibration certificate and* **OM-CP-IFC110,** *Windows software and RS232 cable, $709 + 99 =* **$808.**

Miniature Temperature and Humidity Data Loggers
Part of the NOMAD® Family

OM-CP-MICROTEMP Series
Starts at
$199

MADE IN USA | 5 YEAR WARRANTY | NIST | CE

Optional†

OM-CP-MICROTEMP data logger, $199, shown actual size.
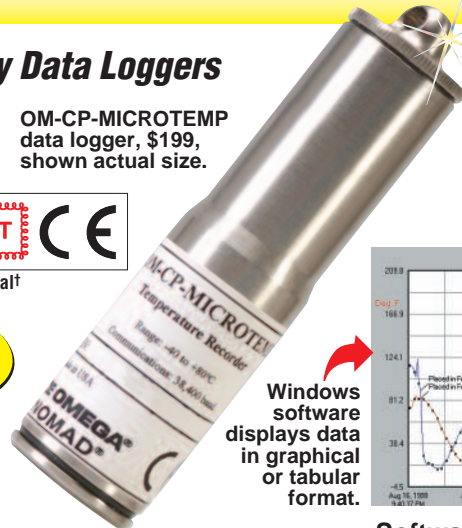
OM-CP-MICRORHTEMP data logger, $299, shown actual size.

For Complete Specifications Visit omega.com/om-cp-microtemp

✔ **Miniature Size**
✔ **Real-Time Operation**
✔ **Programmable Start Time**
✔ **OM-CP-MICROTEMP Temperature Only, Submersible Up to 46 m (151')**
✔ **OM-CP-MICRORHTEMP Temperature and Relative Humidity, Not Submersible**

The OM-CP-MICROTEMP and OM-CP-MICRORHTEMP are miniature, submersible, self contained temperature and temperature/humidity data loggers. These data loggers are small enough to fit down the neck of a beverage bottle. Applications include pharmaceuticals, biomedical research, food processing and transport. Data retrieval is simple. Simply connect the data logger to an available COM port and the easy-to-use Windows software does the rest.

Windows software displays data in graphical or tabular format.

Specifications
Temperature Sensor: Internal semiconductor
Temperature Range:
  OM-CP-MICROTEMP:
  -40 to 80°C (-40 to 176°F)
  OM-CP-MICRORHTEMP:
  0 to 50°C (32 to 122°F)
Temp Accuracy: ±0.5°C (0.9°F) 0 to 50°C (32 to 122°F)
Temp Resolution: 0.1°C (0.2°F)
OM-CP-MICRORHTEMP:
  Humidity Sensor: Semiconductor
  Humidity Accuracy: 3% RH
  Humidity Resolution: 0.95% RH
  Humidity Range: 0 to 95% RH non-condensing
  Calibrated Accuracy: ±3% RH (±2% RH typical @ 25°C)
  Response Time: 90% change in 60 seconds in slow moving air
  Accuracy Range: 10 to 80% RH, 10 to 40°C
Alarm: Programmable high and low limits; alarm is activated when temperature reaches or exceeds set limits
Memory:
  OM-CP-MICROTEMP: 32,767 readings per channel; software-configurable memory wrap

OM-CP-MICRORHTEMP: 16,383 readings per channel
Reading Interval: 1 reading every 2 seconds to 1 every 12 hours
Start Time: Software programmable start time and date (up to 6 months in advance)
Power (Included):
  OM-CP-MICROTEMP: 3.6V lithium battery
  OM-CP-MICRORHTEMP: 2 to 1.55V R1154W battery
Battery Life: 1 year typical (15-minute reading rate, 25°C)
Computer Interface: PC serial or USB (interface cable required); 38,400 baud

Software:
WIN98/NT/2000/XP/VISTA 32-bit (VISTA 32-bit version only; VISTA 64-bit is not supported)
Submersion Depth (OM-CP-MICROTEMP Only): Up to 46 m (150')
Dimensions:
  OM-CP-MICROTEMP:
  66 L x 18 mm Dia. (2.6 x 0.7")
  OM-CP-MICRORHTEMP:
  15 L x 38 mm Dia. (0.60 x 1.5")
Weight:
  OM-CP-MICROTEMP: 50 g (1.8 oz)
  OM-CP-MICRORHTEMP: 30 g (1 oz)
Material: 316L SS (food grade)

AVAILABLE FOR FAST DELIVERY!

To Order (Specify Model Number)

Model No.	Price	Description
OM-CP-MICROTEMP	$199	Miniature submersible temperature data logger
OM-CP-MICRORHTEMP	299	Miniature temperature and humidity data logger (not submersible)
OM-CP-MICROTEMP-CERT†	259	Miniature submersible temperature data logger with NIST calibration certificate
OM-CP-MICRORHTEMP-CERT†	359	Miniature temperature and humidity data logger with NIST calibration certificate (not submersible)
OM-CP-IFC102	99	Windows software and 1.2 m (4') RS232 cable with DB9F termination
OM-CP-IFC202	119	Windows software and 3.7 m (12') USB interface cable
OM-CP-BAT107	10	Replacement 3.6V lithium battery for OM-CP-MICROTEMP
OM-CP-BAT104	5	Replacement 3V lithium battery, (logger requires 2) for OM-CP-MICRORH-TEMP loggers with serial numbers lower than M30000
OM-CP-BAT106	5	Replacement 1.55V silver oxide coin cell (logger requires 2) for OM-CP-MICRORH-TEMP loggers with serial numbers M30000 and higher

Operator's manual and interface cable are included with the OM-CP-IFC102 and OM-CP-IFC202 Windows software (required to operate the data logger and sold separately).

Ordering Examples: OM-CP-MICROTEMP-CERT, *miniature temperature data logger with NIST calibration certificate,* **OM-CP-IFC102,** *Windows software with RS232 cable,* *$259 + 99 =* **$358.**

OM-CP-MICRORHTEMP-CERT, *miniature temperature and humidity data logger with NIST calibration certificate and* **OM-CP-IFC102** *Windows software with RS232 cable,* *$359 + 99 =* **$458.**

Sanitary product line continues to expand, visit omega.com/sanitary for details!

HOTLINE TO SANITARY PRODUCTS 1-877-82-6 6 3 4 2®
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Precision RTD Temperature Data Logger
Part of the NOMAD® Family

OM-CP-RTDTEMP2000
Starts at
$499

MADE IN USA | **5 YEAR WARRANTY** | **NIST**
Optional†

✔ **Large, Backlit LCD Display**
✔ **Front Keypad with Lock Feature**
✔ **High Speed Download**
✔ **Real-Time Operation**
✔ **NIST Traceable Calibration**
✔ **Min/Max and Average Statistics**
✔ **User Replaceable Battery and External Power**

The OM-CP-RTDTEMP2000 is a battery powered precision RTD temperature recorder, with a LCD display. It is perfect for applications requiring precise temperature readings.

The 8-button keypad and large LCD provide convenient access to current data and recorder setup. Additionally, memory and battery levels, external power status, and sampling and recording status are shown on the LCD.

NIST traceable calibration is available for users needing to meet regulatory requirements. Creating permanent records, performing data calculations, and the graphing of data is quick and easy: Simply connect the interface cable to an available USB or serial port and with a few clicks of the mouse, data is downloaded and ready for review or export to Excel.

OM-CP-RTDTEMP2000 data logger, $499, shown smaller than actual size.

For Complete Specifications Visit omega.com/ om-cp-rtdtemp2000

Specifications

TEMPERATURE PROBE
Measurement Range: -200 to 850°C (-328 to 1562°F)
Input Type: 100 Ω Pt RTD, a = 0.00385
Input Connection: 2, 3, or 4-wire scew terminal block
Resolution: 0.01°C
Probe Calibrated Accuracy: ±0.05°C (-200 to 260°C) ±0.3°C (260 to 850°C)
Specified Accuracy Range: -200 to 850°C (-328 to 1562°F)

DOT-MATRIX LCD
Dimensions: 63 L x 35 mm W (2.5 x 1.375")
Text: Configurable channel text size
Indicators: Power, status, memory
Backlight: Configurable w/auto shut-off and contrast adjustment
Start/Stop Time: Software programmable start time and date, up to six months in advance; programmable stop time
Memory: 174,762 total readings; software configurable memory wrap
Reading Rate: 1 reading every 2 seconds to 1 every 24 hours
Calibration: Digital calibration through software
Calibration Date: Automatically recorded within device

Battery Type: 9V lithium battery (included), user replaceable; optional AC adaptor
Battery Life: 1 year battery life at 1 min reading rate with display off; 30 days typical with continuous LCD and no backlight usage
Data Format: Date and time stamped °C, °F, K, °R
Time Accuracy: ±1 minute/month (at 20 to 30°C)
Computer Interface: PC serial or USB (interface cable required); 115,200 baud
Software: WIN98/NT/2000/XP/VISTA 32-bit (VISTA 32-bit version only; VISTA 64-bit is not supported)
Operating Environment: -20 to 60°C (-4 to 140°F) 0 to 95% RH non-condensing
Dimensions: 122 L x 84 W x 32 mm D (4.8 x 3.3 x 1.25")
Weight: 440 g (16 oz)
Enclosure: Black anodized aluminum

AVAILABLE FOR FAST DELIVERY!

To Order *(Specify Model Number)*

Model No.	Price	Description
OM-CP-RTDTEMP2000	$499	Precision temperature data logger
OM-CP-RTDTEMP2000-CERT†	559	Precision temperature data logger with NIST calibration certificate
OM-CP-IFC110	99	Windows software and 1.2 m (4') RS232 cable with DB9F termination
OM-CP-IFC200	119	Windows software and 3.7 m (12') USB interface cable
OM-CP-BAT103	20	Replacement 9V lithium battery
OM-CP-110-PWR-2000	13	110 Vac power adaptor
OM-CP-220-PWR-2000	13	220 Vac power adaptor

Comes complete with operator's manual and 9V lithium battery.
Ordering Example: OM-CP-RTDTEMP2000-CERT,** precision temperature data logger with NIST calibration certificate and **OM-CP-IFC110,** Windows software and RS-232 cable with DB9F termination, $559 + 99 = **$658.

Subject Index

Warranty/Disclaimer

How to Order

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Send order confirmations to:

OMEGA ENGINEERING, INC.

P.O. BOX 4047

STAMFORD, CT 06907-0047 USA

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Written orders are welcomed. If you are familiar with our products and do not need to consult with a salesperson, send or FAX your written orders to:

OMEGA ENGINEERING, INC.

P.O. Box 4047

Stamford, CT 06907-0047 USA

FAX: (203) 359-7700

or e-mail your order to:
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  intlsales@omega.com (international orders)

For fast, efficient processing of your order, please include:

  Purchase Order Number
  Billing and Shipping Addresses
  Part No. and Description of Items Ordered
  Telephone Number of Requisitioner

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We are pleased to extend the terms of Net 30 days to all customers pending credit review and approval. OMEGA welcomes new accounts which can be processed on COD, Credit Card or Prepayment terms prior to credit evaluation. All shipments will be F.O.B. Stamford CT.

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The prices of goods sold are those in effect at the time of sale. The prices listed are those in effect at the time of publication and are subject to change without notice. Please contact OMEGA's Sales Department for current prices. OMEGA will be pleased to furnish quotations either by mail, telephone, FAX, or e-mail upon request.

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Many items have quantity discount schedules. For large quantities and for products which do not have discount schedules listed, please consult the Sales Department.

CREDIT CARDS

OMEGA is pleased to honor major credit cards for your ordering convenience: VISA, MasterCard and American Express.

MINIMUM BILLING

The minimum billing is $10.

SHIPMENTS

Domestic and international orders are shipped via UPS. Other qualified carriers are available upon request.

PAYMENTS BY CHECK

OMEGA Engineering, Inc.
P.O. Box 405369
Atlanta, GA 30384-5369 USA

PAYMENTS BY TRANSFER

Email: credit@omega.com or
call (203) 359-7718

ADDITIONAL PAYMENT INFORMATION

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Antenna connection for wireless option.

Consult Engineering to Order!

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Charting and Data Logging Software Included FREE with Wireless Option

Standard integral pressure sensor.

DPG409-500G-W, $795, shown smaller than actual size.

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