



Delta Industrial Automation

The Best Choice of **Drive**, **Motion**, **Control** Products

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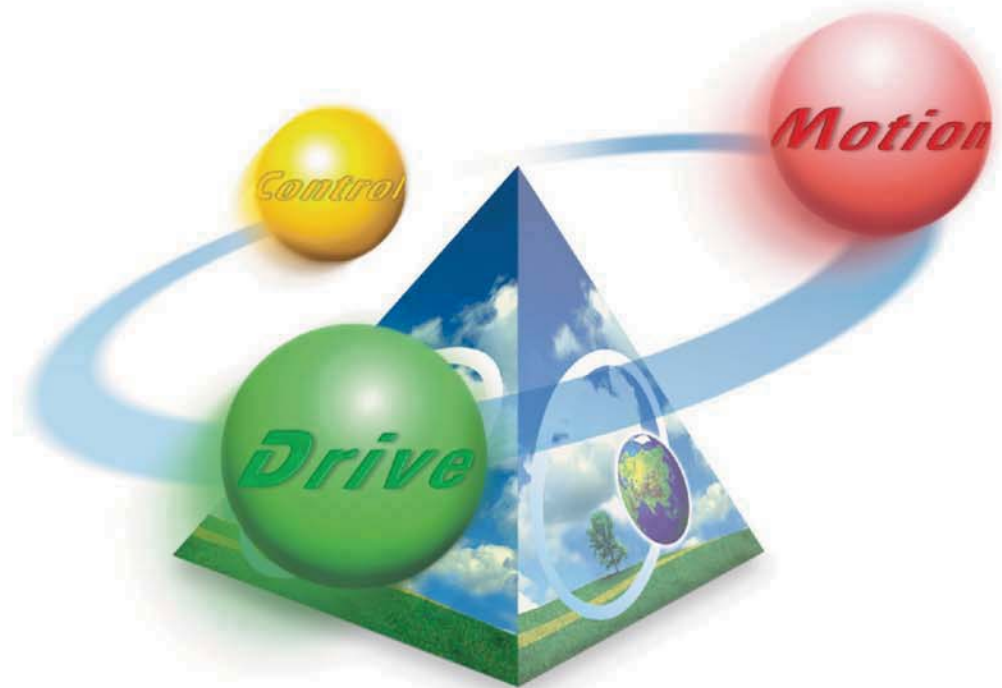
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ABOUT US

Delta Electronics, Inc. is the world's leading provider of switching power supplies, and a major source for power management, components, visual displays, networking products and industrial automation. Delta's strength in power electronics and extensive knowledge in control technology has made us a leader in the industrial automation marketplace. Today, Delta has manufacturing plants in Taiwan and China, as well as R&D centers, sales and service offices throughout the world.

With over 10 years of design and manufacturing knowledge of industrial automation, Delta believes that everyone should benefit from the technology advancement. For this reason we offer our customers Quality, Reliability, and Excellence in each product we sell. Our mission continues to be:

"To improve the living environment, through advanced automation technology, with value added innovation."

Milestone

- ▲ 1995: AC Motor Drive (General purpose A series)
- ▲ 1999: Small PLC (DVP-ES block type PLC).
- ▲ 2003: Optical Incremental Encoders (ES/EH series)
Temperature Controller (DTA series)
AC Servo Motor and Drive (ASDA-A series)
- ▲ 2004: Human Machine Interface (5.7", 7.5", 10.4" DOP-A series)
- ▲ 2005: AC Servo Motor (ECMA series, for ASDA-B)
- ▲ 2006: Timer/ Counter/ Tachometer (CTA series)
- ▲ 2007: Brushless DC Motor and Drive (BLDCM)
- ▲ 2008: Industrial Power Supply (PMC, CliQ series)
- ▲ 2009: Pressure Sensor (DPA series)



AC Motor Drive (P3-14)



BLDCM (P15-16)



AC Servo Motor&Drive (P17-26)



Encoder (P27-28)



PLC (P29-36)



HMI (P37-40)



Temperature Controller (P41-42)



Pressure Sensor (P43-44)



Industrial Fieldbus Solutions (P45-48)



Communication Module (P45-50)

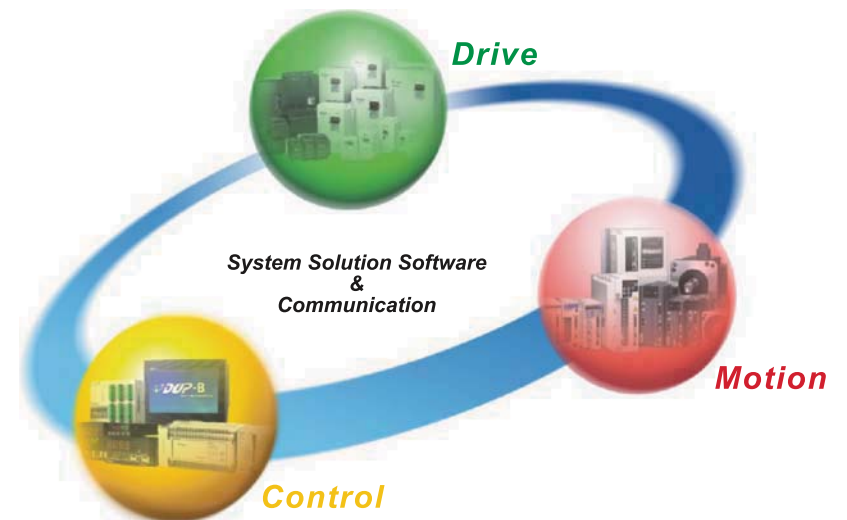


Delta IABU profile

Mission:

- ▲ Headquarter in Taoyuan (Taiwan)
- ▲ Start manufacturing AC Motor Drives since 1995
- ▲ Manufacturing & RD Centers in Taoyuan (Taiwan), Tainan (Taiwan), Wujiang (China)
- ▲ Number of Employees: 2933 (336 people in R&D)

Delta IABU (Industrial Automation Business Unit) began with the design and manufacturing of variable speed AC motor drives in 1995, focusing on Drive, Motion and Control (DMC) intergraded solution in industrial automation. We have currently hundreds of DMC products designed to meet the needs of all ODM/OEM customers and end-users.





Classical Field Oriented Control AC Motor Drive

C2000

Features

- ▲ Field oriented control with built-in PLC function
- ▲ Wide variety of applications
- ▲ Wide range of models to meet requirements
- ▲ Modular design for easy maintenance and many extensions
- ▲ Long-life design and life detection of important components
- ▲ Enhanced protections and adaptation to ambient conditions
- ▲ Complies with global safety standards, including CE, UL and cUL
- ▲ High-speed communication interface with built-in CANopen and MODBUS communication (optional cards for PROFIBUS-DP, DeviceNet, MODBUS TCP and EtherNet/IP)



reddot design award winner 2010



Standard Models (IP20/NEMA1)

Power Range: 230V 0.75~90kW, 460V 0.75~355kW

230V (kW)	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90
230V (HP)	1	2	3	5	7.5	10	15	20	25	30	40	50	60	75	100	125
Frame Size	A			B			C			D		E		F*		
460V (kW)	0.75	1.5	2.2	3.7	4.0	5.5	7.5	11	15	18.5	22	30	37	45	55	75
460V (HP)	1	2	3	5	5	7.5	10	15	20	25	30	40	50	60	75	100
Frame Size	A				B				C				D			
460V (kW)	90	110	132	160	185	220	280	315	355							
460V (HP)	125	150	175	215	250	300	375	425	475							
Frame Size	E		F*		G*		H*									



High Reliability, Easy to Use, A Combination of Intelligence and Versatility for Ultimate Performance

Delta Electronics, a leading brand of drive technology, has officially launched the most cost-effective VFD-C2000 series, a classical field oriented control AC motor drive. With 4 good CP values (high efficiency, high performance, low cost of maintenance and long product life), customers are able to raise the competition and save cost at the same time.

High-performance Variable-frequency Technology

1. Control bandwidth up to 600Hz
2. Speed/torque/position control mode
3. Dual rating design (Normal duty/heavy duty)
4. Outstanding 4-quadrant torque control/limit
5. 2 in 1 (induction motor and synchronous motor)*

*NOTE: Available in 2010 Q1

Versatile Driving Controls

1. Built-in safe stop function
2. Built-in PLC function
3. Built-in brake unit
4. Support of various network protocols
5. Synchronous position control

Environmental Adaptability

1. 50 °C operation temperature
2. Built-in DC reactor
3. Coated circuit boards
4. RFI filter
5. Global safety standards (CE/UL/cUL)

Modular Design

1. Hot-plugging digital keypad
2. I/O extension cards
3. Various PG (encoder) feedback cards
4. Network cards for fieldbus modules
5. Removable fan

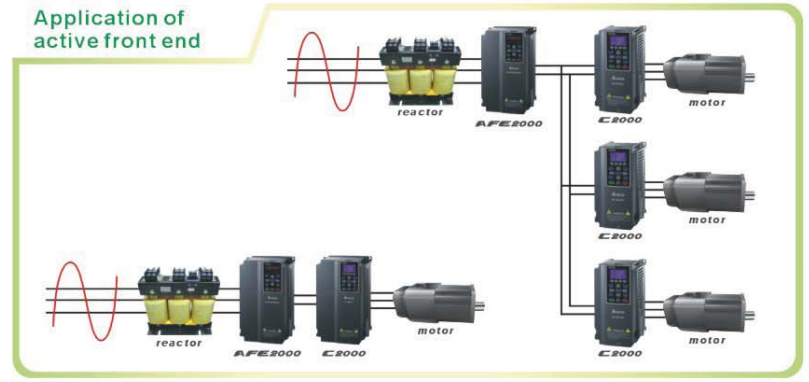


Applications





AFE2000 provides various power regenerative solutions to improve electric quality and save electric bill and comply with Delta's mission "To provide innovative, clean and efficient energy solutions for a better tomorrow".



Active Front End Unit

AFE2000

Main Functions and Features

- ▲ Replaces traditional brake resistor to reduce heat energy
- ▲ More than 95% energy regeneration feedback (obvious energy-saving effect)
- ▲ Input-side current THD =4% and power factor up to 99% in full-load operation
- ▲ Supports 4-quadrant operation of variable frequency and adjustable system when using with the AC motor drive
- ▲ Constant DC bus voltage: no influences from mains voltage fluctuation

Applications

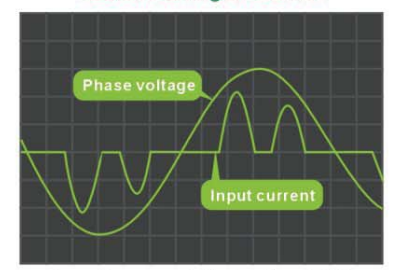
- ▲ Large-inertia load application: centrifuge equipment, dewatering machine and roving machine
- ▲ 4-quadrant load application: elevator and crane
- ▲ Quick brake application: machine tool and bag making machine
- ▲ Long-time feedback energy application: wind power and water power
- ▲ Parallel DC power supply application: auto storage and retrieval system



Supports all kinds of fieldbus and real-time monitor power status

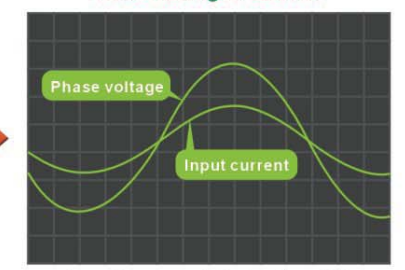


Before using AFE2000



Input current distortion 80%

After using AFE2000



Input current distortion 5%

Power Range	7.5kW 10HP	15kW 20HP	22kW 30HP	37kW 50HP	45kW 60HP	75kW 100HP
Frame B	230V/3-phase 480V/3-phase					
Frame C		230V/3-phase	480V/3-phase			
Frame D				230V/3-phase 480V/3-phase		



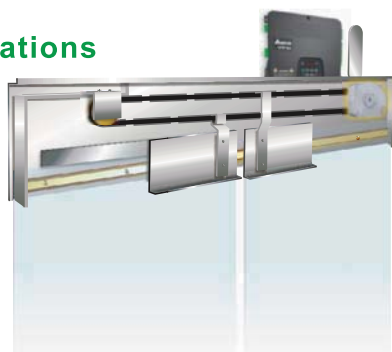
AC Motor Drive

VFD-DD

Features

- ▲ Simplifies elevator door control system
- ▲ Supports asynchronous and synchronous motors
- ▲ Safety protection
- ▲ Compact size
- ▲ Auto-tuning of elevator door width
- ▲ Starts auto-positioning after powered
- ▲ Fast re-open door curve
- ▲ Auto demo mode
- ▲ Supports door close error detection
- ▲ Power Range: 230V 1-phase 200W/400W

Applications



Elevator door machine



VFD-VL

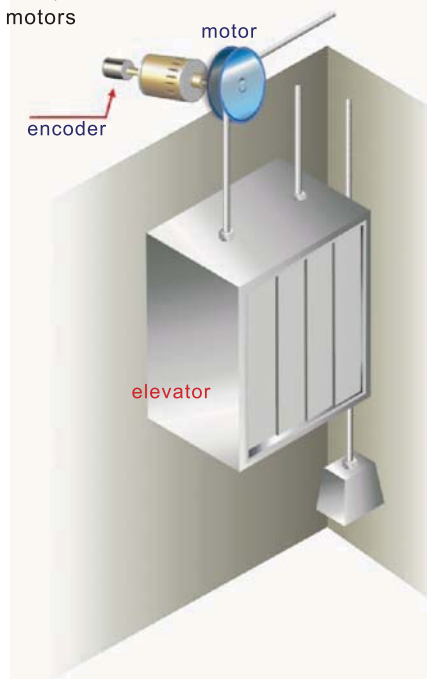
Safety. Comfort. Energy-saving

Elevator Drive

- ▲ Output frequency: 0~ 120Hz with 0.01Hz resolution
- ▲ 4-point adjustable V/f curve, Field-Oriented Control
- ▲ 5-point adjustable S curve
- ▲ Up to 150% holding torque at zero speed when using with speed feedback
- ▲ Flange & wall mounting
- ▲ Built-in brake unit
- ▲ Optional PG feedback card (for ABZ & Heidenhain encoder)
- ▲ RS-485, CANbus serial interface and PC software tools for applications
- ▲ Support for Emergency Power Supply (EPS) to operate at low voltage DC 48/96V
- ▲ Optional LCD copy keypad

Features

- ▲ High performance FOC (Field Oriented Control)
- ▲ Supports asynchronous and synchronous motors
- ▲ Auto-tuning parameters for IM/PM
- ▲ Advanced position detection for magnetic pole and auto-learning function
- ▲ Built-in control procedure of elevator start/stop operation



Power Range	750W 1HP	1.5kW 2HP	2.2kW 3HP	3.7kW 5HP	5.5kW 7.5HP	7.5kW 10HP	11kW 15HP	15kW 20HP	18.5kW 25HP	22kW 30HP	30kW 40HP	37kW 50HP	45kW 60HP	55kW 75HP	75kW 100HP
VFD-VL					230V/3-phase										
					460V/3-phase										



- Good Frequency Response
- Easy Refurbishment of Old Machines
- Keep Holding Pressure for a Long Time
- Low System Temperature
- Ultra Energy-saving
- Highly Accurate Repeatability

Hybrid Servo Drive VFD-VJ

Features

- ▲ Utilizes high-performance FOC control
- ▲ Supports asynchronous and synchronous motors
- ▲ More than 75% power-saving
- ▲ Reduces system temperature by 5-10°C
- ▲ Good system response

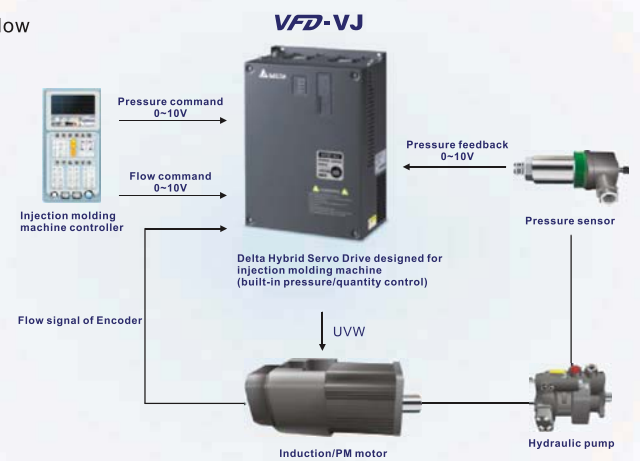


Specific drive particularly designed for injection molding machines

Power Range	750W 1HP	1.5kW 2HP	2.2kW 3HP	3.7kW 5HP	5.5kW 7.5HP	7.5kW 10HP	11kW 15HP	15kW 20HP	18.5kW 25HP	22kW 30HP	30kW 40HP	37kW 50HP	45kW 60HP	55kW 75HP	75kW 100HP
VFD-VJ					230V/3-phase										
					460V/3-phase										

Structure of a Hybrid Servo System

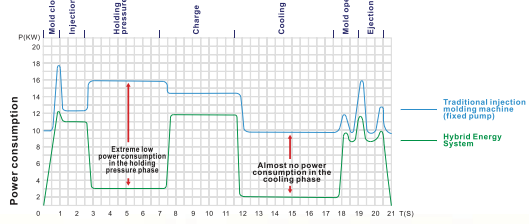
After getting the pressure and flow command from the injection molding machine, it performs PID calculation with actual pressure and speed feedback to drive the servo motor and hydraulic pump with a fast response time and high repeat accuracy.



Main Power Consumption of Traditional Injection Molding Machine

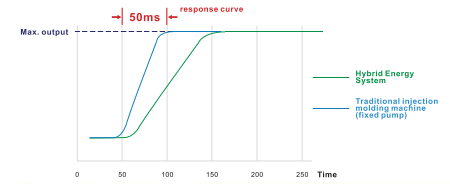
When using a hydraulic oil system, the power consumption is more than 75% of the whole injection system. Different pressures and flows are required during the process, including mold closing, injection, holding pressure and mold opening. When the flow and pressure requirements exceed the settings, the relief or proportional valve will be adjusted, resulting in a 40%-75% higher power consumption.

Power-consumption curve during injection molding

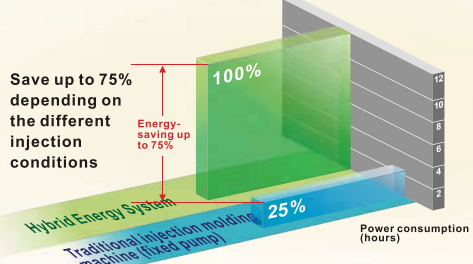


Good Frequency Response

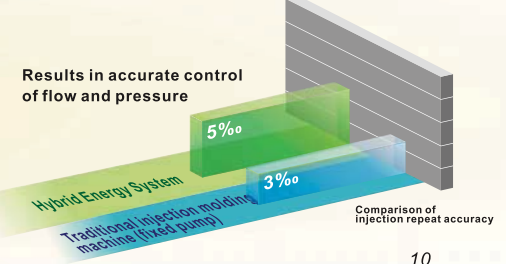
Frequency response time is up to 50ms



Ultra Energy-saving



Highly Accurate Repeatability





AC Motor Drive

VFD-E/EL

New Generation - Micro-type and Multi-function AC Drive

- ▲ Output frequency: 0.1~600Hz
- ▲ Modular & compact design
- ▲ Built-in PLC function
- ▲ Built-in EMI filter (230V 1-phase / 460V 3-phase)
- ▲ RFI-switch for IT mains
- ▲ Easy DC BUS sharing
- ▲ Complete protection
- ▲ 3-point adjustable V/f curve
- ▲ Side-by-side installation
- ▲ DIN rail mounting
- ▲ Built-in PID feedback control (designed for constant pressure pump)



Power Range	200W 0.25HP	400W 0.5HP	750W 1HP	1.5kW 2HP	2.2kW 3HP	3.7kW 5HP	5.5kW 7.5HP	7.5kW 10HP	11kW 15HP	15kW 20HP	18.5kW 25HP	22kW 30HP
VFD-E	115V 1-phase											
	230V 1-phase											
	230V 3-phase											
	460V 3-phase											
VFD-EL	115V 1-phase											
	230V 1-phase											
	230V 3-phase											
	460V 3-phase											



Features

- ▲ Built-in RS-485, compatible with Modbus communication (baud rate up to 38400 bps)
- ▲ Built-in EMI filter (230V 1-phase and 460V 3-phase), reduce electromagnetic interference to comply with EN61800-3(IEC)
- ▲ Compact size to save space; easy to install into electrical box by using DIN rail to prevent from drilling
- ▲ Built-in PLC function with program capacity: 500 steps, I/O points: 6 inputs (X) , 2 outputs (Y), instructions: 28 basic instructions and 17 application instructions

Built-in PLC Function

Easy to write PLC program without additional PLC



Side-by-side Installation (40°C)

High-efficiency cooling and flexible space



Easy Maintenance

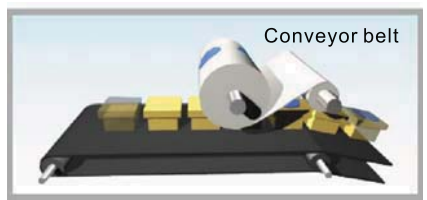
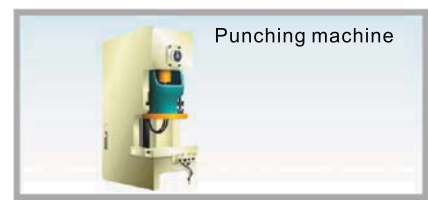
Removable cooling fan for easy maintenance



Various communication modules



Applications





Drive

AC Motor Drive

VFD-VE

High Performance Field Oriented Control Drive

- ▲ Output frequency: 0~ 600Hz
- ▲ 4-point adjustable V/f curve, Sensorless Vector Control, Field-Oriented Control
- ▲ Position/Speed/Torque control mode
- ▲ Sensorless Vector Control 150% torque at 0.5Hz
- ▲ Up to 150% holding torque at zero speed when using with speed feedback function
- ▲ Overload: 150% for 1 minute and 200% for 2 seconds
- ▲ Dynamic/Static auto-tuning for motor parameters and auto-tuning for load inertia
- ▲ Excellence torque limit in all 4 quadrants operation
- ▲ Dual RS-485 port, fieldbus and PC software tools for applications

Features

- ▲ Built-in constant tension control
- ▲ Built-in spindle positioning for tool changing
- ▲ Compatible with high-speed spindle
- ▲ Able to drive the servo pump of injection machine to save energy
- ▲ Provides pulse and analog command tracing for rigid tapping



VFD-B

General Purpose Drive

- ▲ Output frequency: 0-400Hz and power range: 0.75-75kW
- ▲ Adjustable V/f curve and vector control
- ▲ 16-step speed control and 15-step preset speed process control
- ▲ Built-in PID feedback control
- ▲ Auto torque boost & slip compensation
- ▲ Compatible with Modbus (baud rate up to 38400 bps)
- ▲ Optional communication modules (DN-02, LN-01, PD-01)



VFD-F

Fan and Pump Applications Drive

- ▲ Output frequency: 0.1 ~ 120 Hz and power range: 0.75-220kW
- ▲ Adjustable V/f curve
- ▲ 16-step speed control and 15-step preset speed process control
- ▲ Built-in PID feedback control
- ▲ Time/ fix amount circulation control
- ▲ Compatible with Modbus (baud rate up to 38400 bps)
- ▲ Optional communication modules (DN-02, LN-01, PD-01)



VFD-M

Sensorless Vector Control Micro Drive

- ▲ Output frequency: 0.1~400Hz
- ▲ Adjustable V/f curve and vector control
- ▲ Carrier frequency up to 15kHz
- ▲ Auto torque boost & slip compensation
- ▲ Built-in PID feedback control
- ▲ Compatible with Modbus (baud rate up to 38400 bps)
- ▲ Holding torque function at zero speed
- ▲ Built-in sleep/revival function
- ▲ Optional communication modules (DN-02, LN-01, PD-01)



VFD-S

Small and Easy Used Drive

- ▲ Output frequency: 1.0 ~ 400 Hz and power range: 0.2-2.2kW
- ▲ Adjustable V/f curve
- ▲ Carrier frequency up to 10 kHz
- ▲ Built-in PID feedback control
- ▲ Compatible with Modbus (baud rate up to 38400 bps)
- ▲ Restart function for momentary power failure or fault
- ▲ Built-in sleep/revival function
- ▲ Optional communication modules (DN-02, LN-01, PD-01)





Brushless DC Drive

BLD-E1

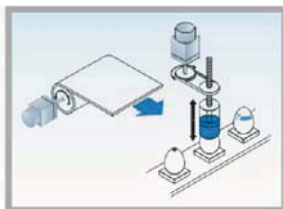
High Performance Brushless DC Drive

- ▲ Broad Power Range (200W to 3.7kW)
- ▲ Wide adjustable speed range: 0 to 4000RPM (ratio of adjustable speed up to 1:50)
- ▲ External terminals for multi-step speed (up to 15-step speed)
- ▲ High-performance permanent-magnet material: higher efficiency than the conventional AC variable frequency system.
- ▲ Closed-loop speed control: high performance algorithm, quick start/stop, good tracing function and quick response
- ▲ Large start-up torque, strong overload capability, smooth operation and low noise
- ▲ System design, convenient to adjust speed and hold the rated torque at low speed
- ▲ Full protections: protections of overheat, over current, phase loss and leakage current

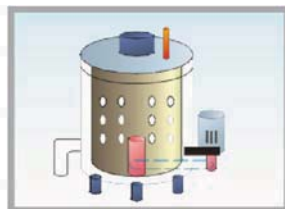
Applications



Conveyor belt



Stamping machine



Centrifuge equipment



iBLM-A

High Performance Brushless DC Motor

- ▲ Power range: 250-750W
- ▲ Speed range: 150-1750rpm
- ▲ Square-wave PWM control mode, feedback signal of Hall sensor
- ▲ Easy maintenance, low noise and electromagnetic interference and high performance
- ▲ Various constant speed/torque/flow control
- ▲ Integrated driver with digital I/O and RS-485 communication
- ▲ Over-current/ over-voltage/ overload protections



IBLM-A1 For dryer drum

IBLM-A3 For indoor HVAC

IBLM-A2 For dryer blower

IBLM-A5 For outdoor HVAC

- Higher Efficiency Ⓢ
- Various Applications Ⓢ
- Easy Installation and Maintenance Ⓢ
- Built-in Modbus ASCII Ⓢ
- Programmable Controls Ⓢ
- Moisture-Resistant Ⓢ

Applications

The ECM motor is the most popular in the high reliable and efficient applications, including HVAC air-conditioning & heating, blower, air filter, washer, dryer, medical equipment and other industries.





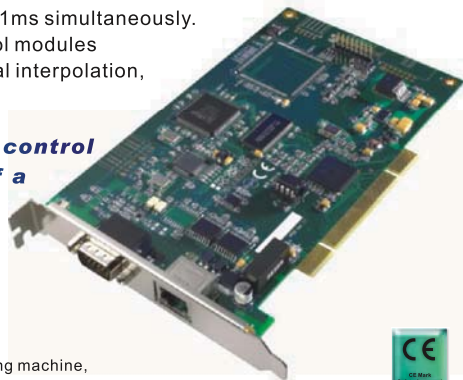
Delta Motion Control Card

DMCNET™

Delta Motion Control Network

PCI-DMC-A01 DMCNET motion control card provides high performance multi-axis extension function which is able to control max. 12 units of ASDA-A2-F series AC servo drives within 1ms simultaneously. In addition, it supports various motion control modules (linear interpolation, arc interpolation, helical interpolation, continuous interpolation) as well.

Completed DMCNET™ Delta motion control network meet the requirements of a wide variety of applications.

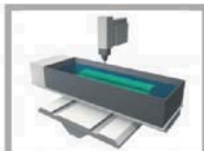


Applications

Electronic components, printing machine, woodworking machine, discharge machine, adhesive machine, tube bending machine



17 Woodworking Machine



Discharge Machine



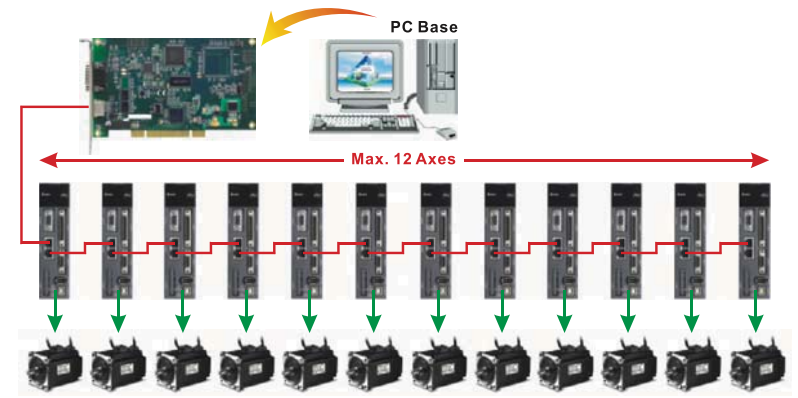
Adhesive Machine



Tube Bending Machine

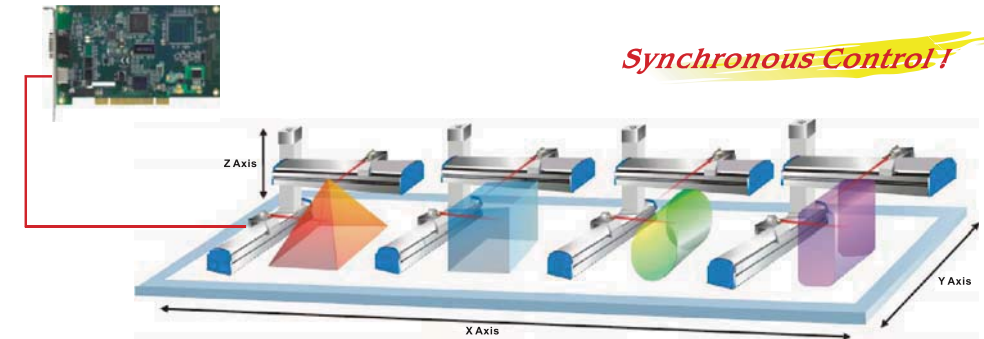
Powerful Extension Function

Synchronous Communication Network: One motion control card can control up to 12-axis servo motors within 1ms synchronously.



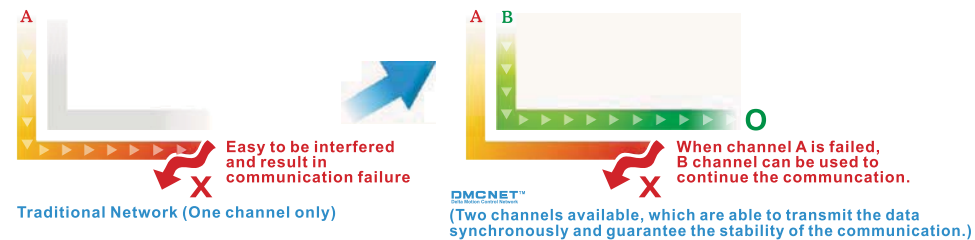
Varied Motion Control

3-axis linear interpolation, 2-axis arc interpolation, 3-axis helical interpolation and continuous interpolation can be implemented at the same time.



Secure Communication Support

Not only Master-Slave handshake function, the built-in data transmission format designed for communication support also can avoid ineffective communication and ensure the stability of data transmission when interference occurs.





AC Servo Motor and Drive

ASDA-A2

High Performance Type for Motion Control and Network Communication Applications

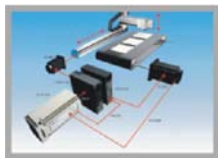
Power Range: 0.1kW~7.5kW

- ▲ Input Power: AC 200V~230V, 1-phase/3-phase or 3-phase
- ▲ 20-bit resolution incremental encoder and up to 1kHz frequency response for high precision and high speed application.
- ▲ Full closed-loop control (capable of reading second feedback signals).
- ▲ Unique built-in electronic cam (E-CAM) function.
- ▲ Flexible internal position mode (Pr Mode).
- ▲ Slim design and compact size. Various extension functions.

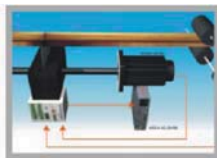


Applications

Filling and bottling equipment, feeding machine, lathe, electric discharge machines (EDM), printing equipment, woodworking machine, wire cutting machine, packaging machine, textile equipment



19 Carving Machine



Cutting Machine



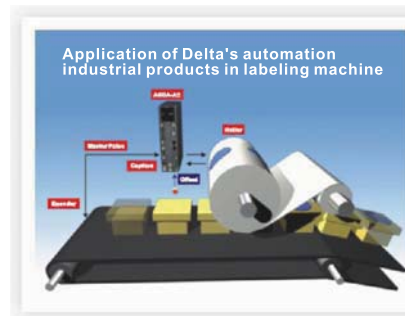
Feeding Machine



High-speed Label Inserting Machine

Full Closed-loop Control (capable of reading second feedback signals)

- ▲ Built-in position feedback interface (CN5) is able to read second feedback signals from motor encoder and send the current position back to the servo drive to form a full closed-loop so that high accuracy position control can be accomplished.
- ▲ Reduce the effects of mechanical imperfections such as backlash and flexibility to ensure the position precision at machine edges.



Unique Built-in Electronic Cam (E-CAM)

- ▲ Up to 720 E-CAM points.
- ▲ Smooth interpolation between points can be completed automatically to yield a flexible programming.
- ▲ ASDA-A2-Soft configuration software provides electronic cam (E-CAM) profile editing function.
- ▲ Applicable for rotary knife and flying shear applications.

Flexible Internal Position Mode (Pr Mode)

- ▲ ASDA-A2-Soft configuration software provides internal parameter editing function for user-defining the path of each axis.
- ▲ 64 internal position settings are offered for continuous motion control.
- ▲ Internal position and speed between two points and acceleration & deceleration commands can be changed freely. The destination position can be even changed in the middle of operation.
- ▲ 5 control modes are available: homing mode, program jump mode, parameter write-in mode, speed mode and position mode.



Supports CANopen Motion Control



... 127 maximum



Motion

AC Servo Motor and Drive

ASDA-B2



Standard Type for General Purpose Applications

Power Range: 0.1kW~3kW

▲ Meet high precision positioning control requirements of general-purpose machine tools for the market

- Built-in Position / Speed / Torque modes (speed and torque modes can be controlled via internal parameters or external voltage)
- Provides pulse input (up to 4Mpps) and analog voltage commands
- Three groups of notch filters are provided to optimize the operation of mechanical system automatically.

▲ Offer easy-to-install solution for the convenience of machine replacement

- Motor sizing software is offered for the customers to conduct the estimation of the equipment conveniently.
- ASDA-Soft configuration software (tuning software) is provided for the customers to meet the performance requirements quickly.
- Easy-to-use digital keypad is ideal for setting parameters and monitoring the servo drive and motor directly.
- The optional configurations of servo motor, such as brake and oil seal, etc. is available to satisfy various kinds of demands in the industry

▲ Reduce equipment maintenance and cost variance

- Friction compensation and motor protection, etc. advanced functions are available.
- Control circuit and main power circuit are separated so that the safety is increased and the maintenance is much easier.
- 400W and above servo drives provide built-in regenerative resistors to save the wiring and cost.

NEW



Bar Feeder

Transporting and Conveying Equipment

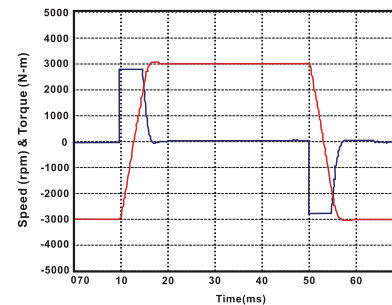
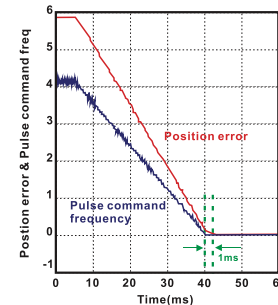
Electric Discharge Machine (EDM)

Cutting Machine

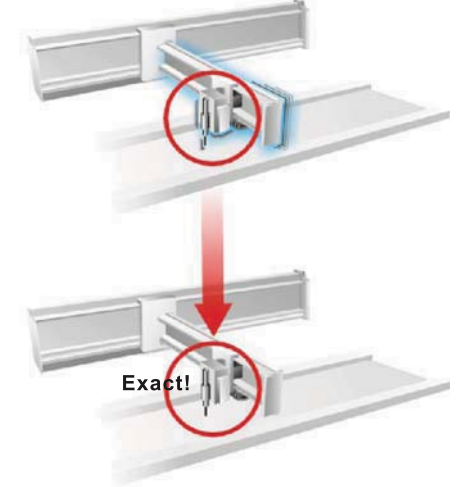


High Precision Positioning Control

- ▲ High-resolution encoder with 17-bit (160,000 p/rev) is equipped as a standard feature which satisfies the application needs of high precision positioning and stable rotation at low speed.



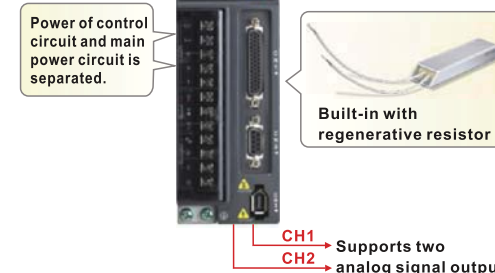
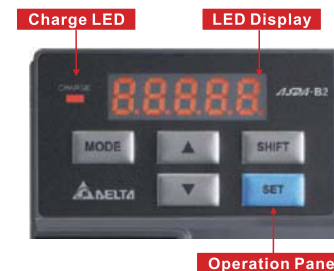
- ▲ Three groups of auto notch filters are provided to suppress the mechanical resonance efficiently and make the system operate more smoothly.



Easy-to-Use and Cost-Saving

- ▲ Existing power cables and encoder cables for ASDA-B series can be used still. There is no need to purchase new accessories. Connecting the same size of ECMA series servo motor, it is convenient for the current customer to upgrade to ASDA-B2 series directly.
- ▲ Easy-to-use digital keypad is ideal for setting parameters and monitoring the servo drive and motor directly.

- ▲ All models can be assembled with screw connectors. No need to remove the connector. Save time and money.
- ▲ 400W and above servo drives provide built-in with regenerative resistor. Simplify wiring and minimize space.



ASDA



ASDA-A+

Advanced Type

Power Range: 4.5kW, 5.5kW, 7.5kW

- ▲ Input Power: AC 200V ~ 230V, 3-phase
- ▲ Max. Torque of ECMA Series Servo Motor: 57.29 N·m~119.36 N·m
- ▲ Features 20-bit high resolution incremental encoder
- ▲ Provides high-speed line receiver pulse input (4Mpps) for motion controller
- ▲ Supports Modbus communication protocol (Interface: RS-485/RS-422/RS-232)



AC Servo Motor and Drive

ASDA-AB

Advanced Type

Power Range: 0.1kW~3kW

- ▲ Input Power: AC 200V~230V, 1-phase/3-phase or 3-phase
- ▲ Input Power: AC 100V~120V, 1-phase (100W, 200W, 400W)
- ▲ Built-in Position / Speed / Torque modes.
- ▲ Provides internal position mode for single axis control
- ▲ Provides four special functions for various applications (Feed step control, homing, auto-running control, and position teaching)
- ▲ Supports Modbus communication protocol (Interface: RS-485/RS-422/RS-232)

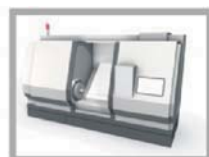


Applications

Cutting control of machining center, rotary indexing machine, sealing machine, shearing machine, feeding machine, carving machine, lathe, cutting machine, high-speed winding machine, testing / inspecting machine, SMT machine



Cutting machine



Lathe

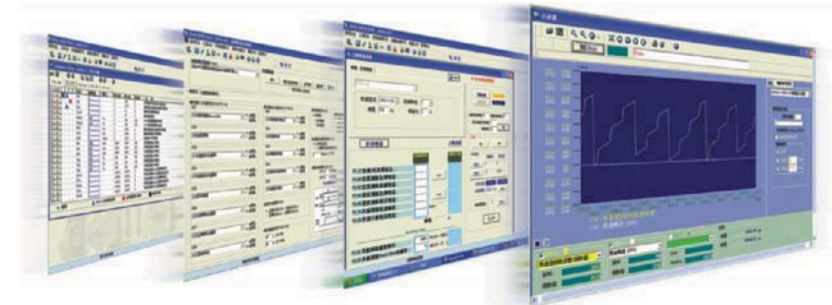


Bar Feeder



Sawing Machine

ASDA-Soft





Motion

AC Servo Motor and Drive

ECMA

Standard Type

Power Range: 0.1kW~7.5kW

- ▲ Permanent magnet motor
- ▲ Resolution of Incremental Encoder: 2,500 ppr / 17-bit / 20-bit
- ▲ Max. Torque: 0.96 N·m~119.36 N·m
- ▲ Speed Range: 1000 r/min~5,000 r/min
- ▲ Options: Brake, Oil seal
- ▲ IP Degree: IP65 (including military connector)

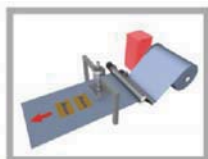


Applications

Machine tool, multi-function rotary table, carving machine, filling and sealing machine, feeding machine, lathe, high-speed winding machine, testing and inspection equipment, cutting machine, SMT pick & place machine



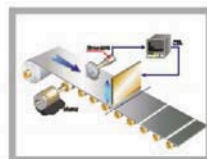
Adhesive Machine / Coating Machine



Printing Machine



Auto Bottling Machine



Fixed Length Cutting Machine

ASDA-A

Advanced Type

Power Range: 0.1kW~3kW

- ▲ Input Power: AC 200V~230V, 1-phase/3-phase or 3-phase
- ▲ Built-in Position / Speed / Torque modes
- ▲ Provides internal position mode (8 internal memorized position settings)
- ▲ Provides four special functions for various applications (feed step control, homing, auto-running control, and position teaching).
- ▲ Supports Modbus communication protocol (Interface: RS-485/RS-422/RS-232)



ASDA-B

Standard Type

Power Range: 0.1kW~2kW

- ▲ Input Power: AC 200V~230V, 1-phase/3-phase or 3-phase
- ▲ Built-in Position / Speed / Torque modes
- ▲ External digital keypad offers memory unit, capable of storing many parameters
- ▲ Provides convenient and easy-to-use gain tuning function (upon software or set by external digital keypad)
- ▲ Supports Modbus communication protocol (Interface: RS-485/RS-232)





Motion

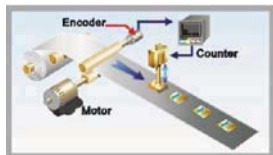
Rotary Optical Encoder

ROE

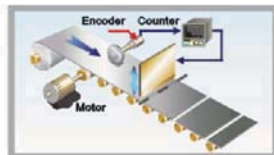
Delta Rotary Optical Encoder series provides two types of encoders, one is "standard type" and the other is "special type". The "standard type" encoders are divided into incremental type and absolute type which both are designed for the applications of hoist & crane, elevator, conveyor, textile machine, and storage equipment, etc. The "special type" encoders are designed for the applications on servo motor and CNC machine tool, etc. high precision equipment.

Applications

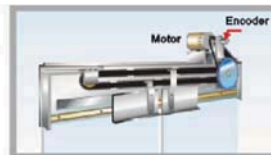
Label printing machine, detecting machine, elevator, auto bottling machine, fixed length cutting machine, elevator door



Label Printing Machine



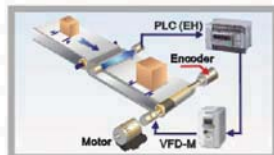
Fixed Length Cutting Machine



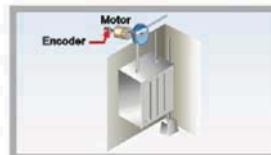
Elevator Door



Auto Bottling Machine



Detecting Machine



Elevator

ES/EH/ETA

Incremental Type

- ▲ ES series: solid shaft with outer diameter of 36.6mm and 50mm
- ▲ EH series: hollow shaft with outer diameter of 36.6mm, 38.7mm and 50mm
- ▲ ET series: through shaft with outer diameter of 100mm
- ▲ Light and compact, high reliability, incremental type encoders
- ▲ Resolution: 100~5,000 ppr
- ▲ Output type: open collector, voltage output, line driver and push pull
- ▲ Power voltage range: 5~24V
- ▲ Responsiveness: 300kHz max.



AS/AH

Absolute Type

- ▲ AS series: solid shaft with outer diameter of 50mm
- ▲ AH series: hollow shaft with outer diameter of 50mm
- ▲ Output signal: Gray Code
- ▲ Resolution: 5~10-bit
- ▲ Output type: voltage output, open collector
- ▲ Power voltage range: 5~12V
- ▲ Responsiveness: 20kHz max.



MH/MT

Servo Motor Commutation Type

- ▲ MH series: hollow shaft with outer diameter of 38.7mm
- ▲ MT series: through shaft with outer diameter of 38.7mm
- ▲ Resolution: 2,500 ppr
- ▲ Output type: line driver
- ▲ Power voltage range: 5V
- ▲ Responsiveness: 300kHz max.



CS

CNC Spindle Type

- ▲ CS series: solid shaft with frame size of 68x68mm
- ▲ Resolution: 1,024~2,500 ppr
- ▲ Output type: line driver
- ▲ Power voltage range: 7~24V
- ▲ Responsiveness: 300kHz max.





Control

Programmable Logic Controller

DVP-EH2

High Performance MPU

- ▲ MPU points: 16/20/32/40/48/64/80
- ▲ Max. I/O points: 512
- ▲ Program capacity: 16k steps
- ▲ Program execution speed: 0.24 μ s (basic instruction)
- ▲ Built-in RS-232 & RS-485 ports, compatible with standard Modbus ASCII/RTU protocol
- ▲ Data register: 10k words
- ▲ File register: 10k words
- ▲ High-speed pulse output: 20-point and 30-point models support 2 points (Y0, Y2) of 200kHz pulse output; 40 points models support 4 points (Y0, Y2, Y4, Y6) of 200kHz pulse output.
- ▲ Supports max. 4 200kHz hardware high-speed counters
- ▲ DVP32EH2-L supports left-side high-speed module extension.



Applications

29 High-speed 3-axis servo welding machine, high-speed cutting machine, TFT production line

DVP-ES2/EX2

Standard Sequential Control MPU / Integrated Analog I/O MPU

- ▲ MPU points: 16/20/24/32/40/60
- ▲ Max. I/O points: 256
- ▲ Program capacity: 16k steps
- ▲ Program execution speed: 0.54 μ s
- ▲ Built-in 1 RS-232 and 2 RS-485 ports, compatible with standard Modbus ASCII/RTU protocol. Can be master or slave.
- ▲ Data register: 10k words
- ▲ Built-in 8 points of high-speed input (2 points for 100kHz, 6 points for 10kHz); supports U/D, U/D Dir, CW/CCW, A/B counting modes
- ▲ Built-in 4 points of high-speed pulse output (2 points for 100kHz, 2 points for 10kHz); supports Pulse, Pulse Dir, A/B, CW/CCW modes

Applications

Packaging machine, spinning machine



reddot design award
winner 2010



DVP-PM

Professional Motion Control MPU

- ▲ MPU points: 16
- ▲ Max. I/O points: 512
- ▲ Program capacity: 64k steps
- ▲ Built-in RS-232 & RS-485 ports, compatible with standard Modbus ASCII/RTU protocol
- ▲ Data register: 10k words
- ▲ File register: 10k words
- ▲ 2 axes of linear/arc interpolation motion control
- ▲ 3 axes of linear/arc/helix interpolation
- ▲ Max. pulse output: 500kHz
- ▲ Compatible with G-Code/M-Code
- ▲ Built-in 2 A/B phase differential signal outputs
- ▲ Supports MPG input
- ▲ Supports electronic cam (2,048 points) and flying shear application

Applications

2-axis servo positioning control, carving machine, die bonder





Programmable Logic Controller

DVP-SV

Left-Side High-Speed Extendable MPU

- ▲ MPU points: 28
- ▲ Max. I/O points: 512
- ▲ Program capacity: 16k steps
- ▲ Program execution speed: 0.24μs (basic instruction)
- ▲ Built-in RS-232 & RS-485 ports, compatible with standard Modbus ASCII/RTU protocol
- ▲ Data register: 10k words
- ▲ File register: 10k words
- ▲ High-speed pulse output: 4 points (Y0, Y2, Y4, Y6) of 200kHz pulse output
- ▲ Built-in 4 200kHz hardware high-speed counters



Applications

2-axis servo positioning control, cutting machine, main hoist of crane

DVP-SS2

2nd-Generation Slim Standard MPU

- ▲ MPU points: 14 (8DI/6DO)
- ▲ Max. I/O points: 480
- ▲ Program capacity: 8k steps; Device D: 5k words, compatible with program of the existing DVP-SS MPU
- ▲ Program execution speed: 0.35 ~ 1μs (basic instruction), 3.4μs (MOV instruction)
- ▲ Built-in 1 RS-232 port & 1 RS-485 port, compatible with standard Modbus ASCII/RTU protocol. Can be master or slave.
- ▲ Supports 4 10kHz high-speed pulse outputs
- ▲ Max. 8 points of high-speed input and external interruption input (4 points for 20kHz, 4 points for 10kHz)



DVP-SA2

2nd-Generation Slim Advanced MPU

- ▲ MPU points: 12 (8DI/4DO)
- ▲ Max. I/O points: 480 (left-side high-speed module extendable)
- ▲ Program capacity: 16k steps; Device D: 10k words, compatible with program of the existing DVP-SA MPU
- ▲ Program execution speed: 0.35 ~ 1μs (basic instruction), 3.4μs (MOV instruction)
- ▲ Built-in 1 RS-232 port & 2 RS-485 ports, compatible with standard Modbus ASCII/RTU protocol. Can be master or slave
- ▲ Supports 4 high-speed pulse outputs (2 for 100kHz, 2 for 10kHz)
- ▲ Max. 8 points of high-speed input and external interruption input (3 points for 100kHz, 5 points for 10kHz, 1 A/B phase input for max. 50kHz)



DVP-SX2

2nd-Generation Slim Analog I/O MPU

- ▲ MPU points: 20 (8DI/6DO, 4AI/2AO)
- ▲ Max. I/O points: 480 (left-side high-speed module extendable)
- ▲ Program capacity: 16k steps; Device D: 10k words, compatible with program of the existing DVP-SX MPU
- ▲ Program execution speed: 0.35 ~ 1μs (basic instruction), 3.4μs (MOV instruction)
- ▲ Built-in 1 RS-232 port & 1 RS-485 port, compatible with standard Modbus ASCII/RTU protocol. Can be master or slave
- ▲ Built-in mini USB for program upload/download and monitoring
- ▲ Supports 4 high-speed pulse outputs (2 for 100kHz, 2 for 10kHz)
- ▲ Max. 8 points of high-speed input and external interruption input (2 points for 100kHz, 6 points for 10kHz)





Programmable Logic Controller

DVP-ES/EX

Standard Sequential Control MPU / Integrated Analog I/O MPU

- ▲ MPU points: ES: 14/24/32/40/60
EX: 20 (8DI/6DO, 4AI/2AO)
- ▲ Max. I/O points: ES: 256
EX: 238
- ▲ Program capacity: 4k steps
- ▲ Built-in RS-232 & RS-485 ports, compatible with standard Modbus ASCII/RTU protocol
- ▲ Supports 2 points (Y0, Y1) of 10kHz independent high-speed pulse output
- ▲ Built-in 4 points of high-speed counter



Applications

Packaging machine, spinning machine, landscape fountain



DVP-SS

Slim Standard MPU

- ▲ MPU points: 14
- ▲ Max. I/O points: 238
- ▲ Program capacity: 4k steps
- ▲ Built-in RS-232 & RS-485 ports, compatible with standard Modbus ASCII/RTU protocol
- ▲ Supports 2 points (Y0, Y1) of 10kHz independent high-speed pulse output
- ▲ Built-in 4 points of high-speed counter

DVP-SA

Slim Advanced MPU

- ▲ MPU points: 12
- ▲ Max. I/O points: 236
- ▲ Program capacity: 8k steps
- ▲ Built-in RS-232 & RS-485 ports, compatible with standard Modbus ASCII/RTU protocol
- ▲ Supports 1 point (Y0) of 50kHz & 1 point (Y1) of 10kHz pulse output
- ▲ Built-in 6 points of high-speed counter



DVP-SX

Slim Analog I/O MPU

- ▲ MPU points: 10 (4DI/2DO, 2AI/2AO)
- ▲ Max. I/O points: 230
- ▲ Program capacity: 8k steps
- ▲ Built-in RS-232 & RS-485 ports, compatible with standard Modbus ASCII/RTU protocol
- ▲ Supports 1 point (Y0) of 50kHz and 1 point (Y1) of 10kHz pulse output
- ▲ Built-in 4 points of high-speed counter



DVP-SC

Slim Motion Control MPU

- ▲ MPU points: 12
- ▲ Max. I/O points: 236
- ▲ Program capacity: 8k steps
- ▲ Built-in RS-232 & RS-485 ports, compatible with standard Modbus ASCII/RTU protocol
- ▲ Supports 2 points (Y10, Y11) of 200kHz high-speed pulse output
- ▲ Built-in 2 points of 100kHz high-speed counter





Industrial Power Supply

Delta is the world's largest power supply manufacturer. The state-of-the-art design of DVP, DPR and PMC series power supplies is made to withstand harsh industrial environment. The products offer a nominal output voltage of DC 12V/24V, a wide temperature range from -20°C to +75°C, and a minimum holdup time of 20ms. The rugged, ultra-compact case material is shock and vibration resistant according to IEC 60068-2. The power supply provides overvoltage, overload and thermal protection. The wide input voltage ranges 85 ~ 264VAC (1 phase) and 320 ~ 575VAC (3 phase), and the multiple output terminals are for fast wiring and easy installation.



DC24V DIN-Rail Power Supply

DVPPS01

▲ 24W, DC24V, 1 phase

DVPPS02

▲ 48W, DC24V, 1 phase

DRP024V060W1AZ

▲ 60W, DC24V, 1 phase



DRP024V060W1AA

▲ 60W, DC24V, 1 phase

DRP024V120W1AA

▲ 120W, DC24V, 1 phase

DRP024V240W1AA

▲ 240W, DC24V, 1 phase

DRP024V480W1AA

▲ 480W, DC24V, 1 phase



DRP024V060W3AA

▲ 60W, DC24V, 3 phase

DRP024V120W3AA

▲ 120W, DC24V, 3 phase

DRP024V240W3AA

▲ 240W, DC24V, 3 phase

DRP024V480W3AA

▲ 480W, DC24V, 3 phase



DC12V DIN-Rail Power Supply

DRP012V015W1AZ

▲ 15W, DC12V, 1 phase

DRP012V030W1AZ

▲ 30W, DC12V, 1 phase

DRP012V060W1AA

▲ 60W, DC12V, 1 phase

DRP012V100W1AA

▲ 100W, DC12V, 1 phase



DC24V Panel Mount Aluminum-Case Power Supply

PMC-24V035W1AA

▲ 35W, DC24V, 1 phase

PMC-24V050W1AA

▲ 50W, DC24V, 1 phase

PMC-24V100W1AA

▲ 100W, DC24V, 1 phase

PMC-24V150W1AA

▲ 150W, DC24V, 1 phase



DC12V Panel Mount Aluminum-Case Power Supply

PMC-12V035W1AA

▲ 35W, DC12V, 1 phase

PMC-12V050W1AA

▲ 50W, DC12V, 1 phase

PMC-12V100W1AA

▲ 100W, DC12V, 1 phase





Human Machine Interface

DUP-B

High Color and Wide Screen

- ▲ LCD size: 5.6", 7", 10.1"
- ▲ Display color: 65,536 colors TFT
- ▲ Resolution: 320 x 234 / 480 x 234 / 1027 x 600 pixels
- ▲ Supports SD Card
- ▲ Supports USB Client for high-speed upload and download
- ▲ Supports USB host for direct connection with USB flash drive, printer and mouse
- ▲ Supports Ethernet
- ▲ Supports Audio Output



Applications

All kinds of industrial monitoring systems, e.g. HVAC, printing machine, exposure machine 37 and product line monitoring equipment, etc.

TP05 / TP08

Multi-Function 5-Line / 8-Line Text Panel

- ▲ 3.8" STN LCD
- ▲ Resolution: 160 x 80 dots (TP05 series), 240 x 128 dots (TP08 series)
- ▲ Built-in 1,024KB flash memory
- ▲ 24 user-defined function keys available
- ▲ Supports RS-232 / RS-422 / RS-485 communication ports
- ▲ Supports recipe and marco functions



TP04-BL-C

Numeric Entry 4-Line Display Text Panel

- ▲ 4.1" STN LCD
- ▲ User-defined function keys available
- ▲ Built-in RS-232 Modbus ASCII / RTU mode
- ▲ Supports password protection function
- ▲ User-defined boot screen available
- ▲ Built-in real-time clock



TP04G-AL-C / TP04G-AL2

New-Generation 4-Line Display Text Panel

- ▲ 4.1" STN LCD
- ▲ User-defined function keys available
- ▲ Supports RS-232 / RS-422 / RS-485 communication ports (TP04G-AL2)
- ▲ Supports password protection function
- ▲ User-defined boot screen available
- ▲ Built-in real-time clock



TP02 / TP04

Simple 2-Line / 4-Line Display Text Panel

- ▲ STN LCD Size: 72 x 22mm (TP02 series), 3" (TP04 series)
- ▲ Resolution: 160 x 32 dots (TP02 series), 128 x 64 dots (TP04 series)
- ▲ Built-in 256KB flash memory
- ▲ TP02 series provides 16 user-defined function keys
- ▲ TP04 series provides 12 user-defined function keys
- ▲ TP02 series offers built-in RS-232 and RS-485/RS-422 communication ports
- ▲ TP04 series offers built-in RS-232 and RS-485/RS-422 communication ports
- ▲ Supports password protection function





Human Machine Interface

DOP-AS

Simple and Compact

- ▲ LCD size: 3.5", 3.8", 5.7"
- ▲ Display color: 8 shades of blue STN, 256 colors STN, 65,536 colors TFT
- ▲ Resolution: 320x240 pixels
- ▲ Supports USB host for direct connection with USB flash drive, printer and mouse



Applications

All kinds of industrial monitoring systems, e.g. HVAC, printing machine, exposure machine and product line monitoring equipment, etc.

DOP-A

Standard Series

- ▲ LCD size: 5.7", 8.0", 10.4"
- ▲ Display color: 8 shades of blue STN, 16 shades of gray FSTN, 256 colors STN, 65,536 colors TFT
- ▲ Resolution: 320x240/ 640x480 pixels
- ▲ Supports USB Client for high-speed upload and download



DOP-AE

Advanced Series

- ▲ LCD size: 5.7", 8", 10.4"
- ▲ Display color: 8 shades of blue STN, 256 colors STN, 16 shades of gray FSTN, 65,536 colors TFT
- ▲ Resolution: 320x240/ 640x480 pixels
- ▲ Supports USB Client for high-speed upload and download
- ▲ Supports USB host for direct connection with USB flash drive, printer and mouse
- ▲ Provides extension slot for extension modules



DOP Extension Module

Various kinds of optional extension modules enhance the functionality of human machine interface.

DOP-EXIO28RAE



Digital I/O Extension Module
28 points (16 DI / 12 DO)

DOP-EXIO14RAE



Digital I/O Extension Module
14 points (8 DI / 6 DO)

DOP-EXLNHJ1AE



Ethernet Extension Module

DOP-EXPM110



Printer Extension Module



Temperature Controller

DTA

Standard Model

- ▲ Sensor type: thermocouple and RTD
- ▲ Control output: relay, current and voltage pulse output
- ▲ Control mode: ON-OFF, PID, manual
- ▲ Supports PID auto-tuning
- ▲ 2 alarm outputs, with 12 alarm modes



DTB

Advanced Model

- ▲ Sensor type: thermocouple, RTD, linear voltage /current input
- ▲ Control output: relay, current, voltage pulse and linear voltage
- ▲ Control mode: ON-OFF, PID, manual, PID programmable
- ▲ Supports PID auto-tuning and valve control
- ▲ Built-in RS-485 communication and supports Modbus ASCII and RTU protocol



Applications

41 Blower coil pipe in central air-conditioning system, heating system

DTC

Modular & Extendable Model

- ▲ Control mode: ON-OFF, PID, manual, PID programmable
- ▲ 2 outputs for auto-tuning 2 sets of PID parameters
- ▲ Connectable to various thermocouples (B, E, J, K, L, N, R, S, T, U, TXK), platinum RTD (PT100, JPT100), analog current (0 ~ 20mA, 4 ~ 20mA) and linear voltage (0 ~ 5V, 0 ~ 10V)
- ▲ Max. 2 alarm switches and each with 12 alarm modes
- ▲ LED status display
- ▲ °C or °F temperature display
- ▲ Built-in RS-485 communication interface (Modbus ASCII, RTU, baud rate: 2,400 ~ 38,400)
- ▲ Sampling time of thermocouple/ platinum RTD: 0.4 second/ time; sampling time of analog input: 0.15 second/ time
- ▲ Programmable control is able to set up 64 sets of temperature and control time.
- ▲ 3 levels of password protection, wire saving, synchronous communication protocol setting, ID auto setup



DTD

Cost-Effective

- ▲ Offering PID, ON-OFF, manual and PID programmable control, for multiple applications.
- ▲ Built-in various input sensors
- ▲ One alarm output with 8 modes.
- ▲ Supports analog input
- ▲ The key-locking function enhances safety
- ▲ Waterproof panel (IP66)



DTE

Multi-Channel Modular Model

- ▲ Fast sampling frequency
- ▲ 4 control modes
- ▲ Reduces size and development cost
- ▲ Supports various temperature sensors and CT
- ▲ Output type: relay, voltage, current
- ▲ I/O extendable through extension cards
- ▲ Supports Modbus ASCII/RTU protocol
- ▲ Portable display/parameter setup
- ▲ Brand-new monitoring software
- ▲ Programmable control available





Control

Pressure Sensor

DPA

New-Generation Multi-Function Small Type

- ▲ Energy-saving mode
- ▲ Easy code display
- ▲ 3 sets of color display
- ▲ Various unit conversion functions
- ▲ Various output modes available
- ▲ Fast zero reset
- ▲ Analog output function
- ▲ Parameter copy function
- ▲ Safety control function
- ▲ Response time setup function

NEW

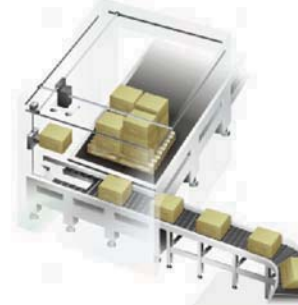


Applications

Machine processing industry, solar industry, food packaging industry, semiconductor industry, electronic component industry, and automatic distribution industry.

• Food Packaging Industry

Drink, cans suction & packaging



• Solar Energy Industry

TurnKey Module Lines suction



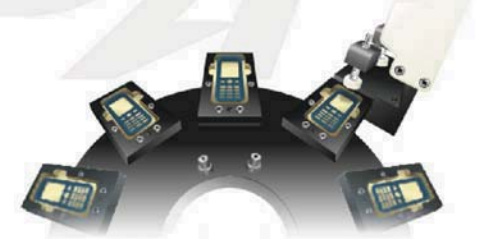
• Electronic Component Industry

IC component suction & confirm



• Automatic Assembly Industry

Automatic component assembly & confirm



DTV Valve Controller

Accurate Valve Control

- ▲ Single key for switching between auto and manual mode.
- ▲ Additional digit left-shifting key, making parameter settings faster and handier.
- ▲ Displaying output percentage for the user to acquire the openness of the valve immediately.
- ▲ Control methods are designed entirely for the features of electronic valve.
- ▲ 2 alarm outputs with 17 modes
- ▲ Supports Modbus ASCII/RTU protocol



GTA Timer/ Counter/ Tachometer

3-in-1 Design

- ▲ Mixed timer/ counter functions
- ▲ 6-digit, dual line LCD display
- ▲ Max. speed of counter: 10Kcps
- ▲ NPN or PNP signal input available at input terminal
- ▲ Pre-scale function
- ▲ Counting type: 1-stage, 2-stage, batch, total, dual



Applications

Label printer, cut-to-length machine



Industrial Fieldbus Solutions

Delta offers a variety of master, slave and remote I/O modules as well as converters for different industrial networks requiring vast and high-speed data transmission in terms of their applications in high-interference industrial environment, complex motion control and remote monitoring.

Master/Slave Communication Module

DVPEN01-SL

Ethernet Master Module

- ▲ Supports standard Modbus TCP protocol
- ▲ Max. baud rate: 100Mbps
- ▲ Number of Modbus TCP connections
 - Client: 32
 - Server: 16
- ▲ Smart data exchange
- ▲ RTU mapping
- ▲ Simple firewall
- ▲ E-mail alarm



DVP-FPMC

Communication Card for DVP-PM MPU

- ▲ Complies with CANopen DS301 V4.0.2 Sync, PDO, SDO and NMT
- ▲ Supports CANopen DSP402 V2.1 126 asynchronous axes through SDO
- ▲ Supports CANopen DSP402 V2.1 4 synchronous axes
- ▲ Built-in commands for DELTA ASDA-A2 servo system control
- ▲ PLCopen Like Function Block
- ▲ As Ethernet/CANopen communication card

NEW



DVPCOPM-SL

CANopen Master Module

- ▲ Supports CANopen protocol
- ▲ Connectable to 110 slaves
- ▲ Max. baud rate: 600kbps
- ▲ Max. network length: 100m
- ▲ Synchronization / interpolation available



DVPPF01-S

PROFIBUS DP Slave Module for DVP-S MPU

- ▲ Supports PROFIBUS DP protocol
- ▲ Max. baud rate: 12Mbps
- ▲ RS-485 serial port connectable to max. 16 devices



DVPDNET-SL

DeviceNet Master Module

- ▲ Supports DeviceNet protocol
- ▲ Connectable to 63 slaves
- ▲ Max. baud rate: 500kbps
- ▲ Max. network length: 500m
- ▲ RTU mapping



DVPDT01-S

DeviceNet Slave Module for DVP-S MPU

- ▲ Supports DeviceNet protocol
- ▲ For DVP-S series PLC only
- ▲ Max. baud rate: 500kbps





Remote Communication Module

RTU-EN01

Ethernet Remote Communication Module

- ▲ Supports Modbus TCP Slave
- ▲ Connectable to 8 DVP-S series analog I/O modules
- ▲ Connectable to 256 points of digital I/O modules
- ▲ RS-485 port is connectable to max. 32 standard Modbus slaves
- ▲ Smart PLC if-then function
- ▲ Smart Monitor
- ▲ Supports webpage setup & on-line monitoring
- ▲ Virtual COM serial port available



RTU-PD01

PROFIBUS DP Remote Communication Module

- ▲ Supports PROFIBUS DPV0 cyclic data transmission
- ▲ Auto-detection of baud rate and diagnosis
- ▲ Max. baud rate: 12Mbps
- ▲ Connectable to 8 DVP-S series analog I/O modules
- ▲ Connectable to 256 points of digital I/O modules
- ▲ RS-485 port is connectable to 16 standard Modbus slaves
- ▲ Supports max. 100 bytes of I/O data output & 100 bytes of I/O data input



RTU-DNET

DeviceNet Remote Communication Module

- ▲ Supports DeviceNet protocol
- ▲ Connectable to 8 DVP-S series analog I/O modules
- ▲ Connectable to 256 points of digital I/O modules
- ▲ Max. baud rate: 500kbps

RTU-485

RS-485 Remote Communication Module

- ▲ Supports Modbus protocol
- ▲ Connectable to 8 DVP-S series analog I/O modules
- ▲ Connectable to 256 points of digital I/O modules
- ▲ Max. baud rate: 115.2kbps





Control

Communication Converter

IFD 6500 USB to RS-485 Converter

- ▲ Max. baud rate: 115.2kbps
- ▲ No external power supply required
- ▲ Auto-detects the direction of data flow
- ▲ Portable USB device

IFD 6503 USB to CAN Converter

- ▲ Able to extract CAN message (including standard frame & extended frame), decode and display according to DeviceNet/CANopen protocol
- ▲ Able to filter by set conditions
- ▲ Able to send CAN messages (single message by manual mode, max. 8 messages by auto mode)
- ▲ Max. baud rate: 1Mbps
- ▲ Portable USB device



IFD 6530 USB to RS-485 Converter

- ▲ Offers 9V power supply for parameter storage and page editing through KPC-CC01 (VFD-C2000 keypad)
- ▲ Max. baud rate: 115.2kbps
- ▲ No external power supply required
- ▲ Auto-detects the direction of data flow
- ▲ Portable USB device

IFD 8500

RS-232 to RS-422/RS-485 Isolated Converter



IFD 8510

RS-232 to RS-422/RS-485 Isolated Repeater

- ▲ Extends the communication distance of RS-422/485 to 1.2km and connectable to 32 RS-485 devices



IFD 8520

RS-232 to RS-422/RS-485 Addressable Isolated Converter

- ▲ Able to connect the equipment with RS-232 interface to RS-422/485 by setting up correct Modbus address



IFD 9502

DeviceNet to Modbus Converter

- ▲ Complies with DeviceNet format
- ▲ Connectable to all Delta's industrial automation products
- ▲ Isolation in all RS-485 channels (including power supply)
- ▲ Passed full compatibility test



IFD 9503

CANopen to Modbus Converter

- ▲ Complies with CANopen format
- ▲ Connectable to all Delta's industrial automation products
- ▲ Isolation in all RS-485 channels (including power supply)
- ▲ Passed full compatibility test



IFD 9506

Modbus TCP to Modbus Converter

- ▲ Isolation in all RS-485 channels (including power supply)
- ▲ Supports Modbus TCP protocol
- ▲ Smart monitoring
- ▲ Supports webpage setup & on-line monitoring
- ▲ Virtual COM serial port available
- ▲ E-mail alarm



IFD 9507

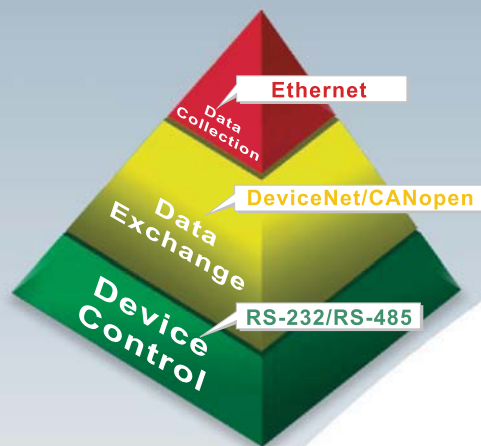
EtherNet/IP to Modbus Converter

- ▲ Isolation in all RS-485 channels (including power supply)
- ▲ Supports EtherNet/IP protocol
- ▲ Smart monitoring
- ▲ Supports webpage setup & on-line monitoring
- ▲ Virtual COM serial port available
- ▲ E-mail alarm



Industrial Fieldbus Solutions

Flexible & Highly-Efficient Network Environment!



Delta's industrial network products offer the users stable, fast and accurate solutions.

Ethernet

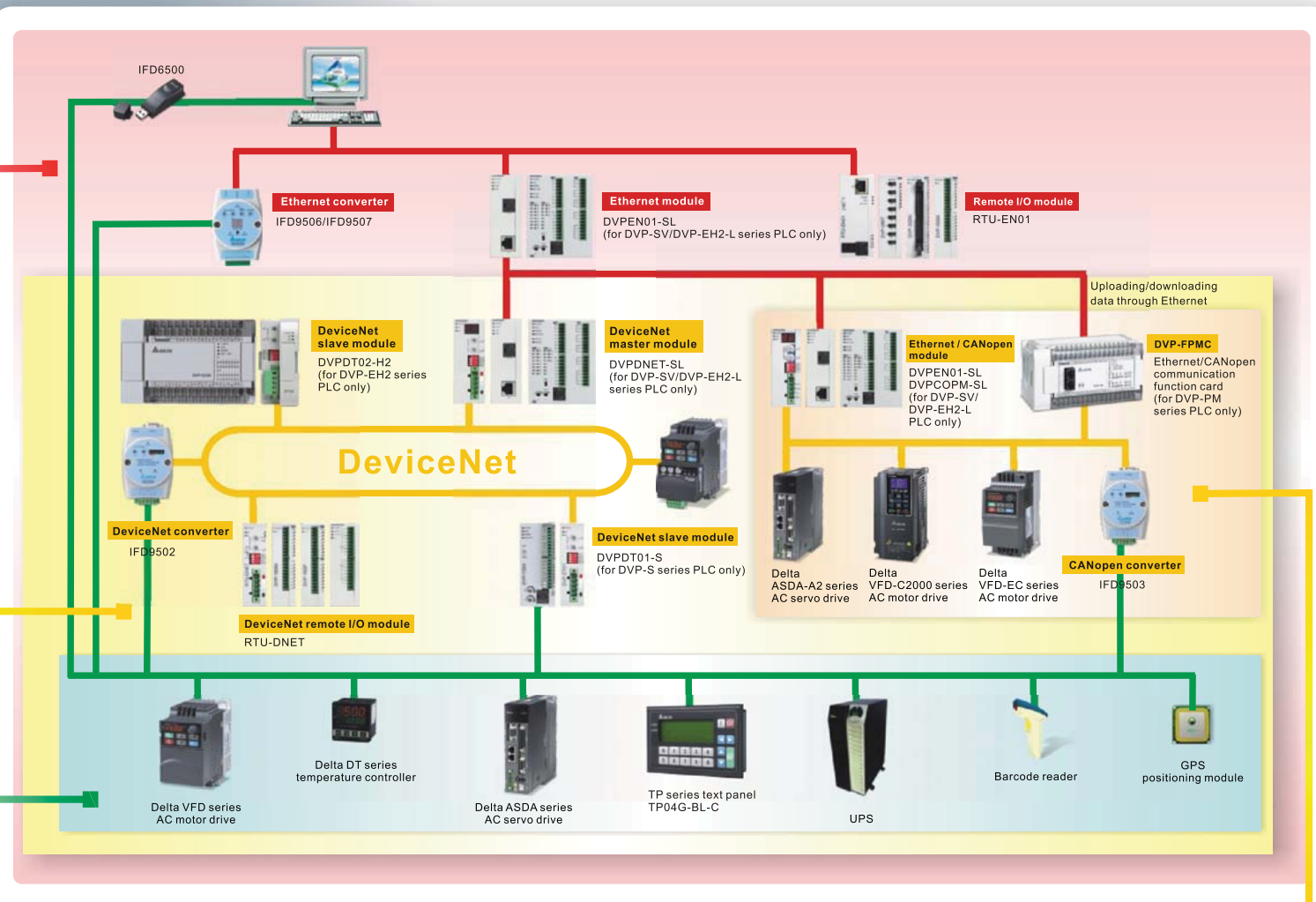
All of Delta's Ethernet communication products provide 10/100Mbps transmission speed, web browsers, all kinds of software tools and highly efficient on-site monitoring functions for remote users.

DeviceNet

All of Delta's DeviceNet communication products offer maximum 500kbps transmission speed, PLC master station, slave station, remote I/O module and converter. They can all be integrated through DeviceNet, realizing standard and wiring-saving applications in complicated industrial environment of high interference.

RS-485

All of Delta's industrial automation products are built-in with RS-485 communication interface, support Modbus communication and can be easily integrated with devices of other brands.



Remote I/O

Delta's industrial network products specific for remote I/O application support DeviceNet, Ethernet and RS-485, satisfying all kinds of users' demands in terms of cost and efficiency.

Gateway

Delta currently offers the following industrial network converters: RS-485 to RS-232, USB to RS-485, DeviceNet to RS-485/232, CANopen to RS-485/232, Ethernet to RS-232/485 (Modbus TCP, EtherNet/IP).

CANopen

All of Delta's CANopen communication products offer maximum 1Mbps communication speed. For the motion control solution, there are CANopen master stations with 301 and 402 protocols and ASDA-A2 series AC servo drives built-in with CANopen, which are able to easily realize complicated and multi-axis high-speed motion control.



Global Operation

▲ Factory 2 ■ Branch Office 33 ● R&D Center 4 ❁ Distributor 460

Sales Channels of Delta Industrial Automation throughout 74 Countries in the World

