KEYENCE

NEW **Digital Laser Optic Sensor**
LV Series

Laser Sensors

Including New Thrubeam Types

Solving Diverse Sensor Applications

L A S E R V I S U A L

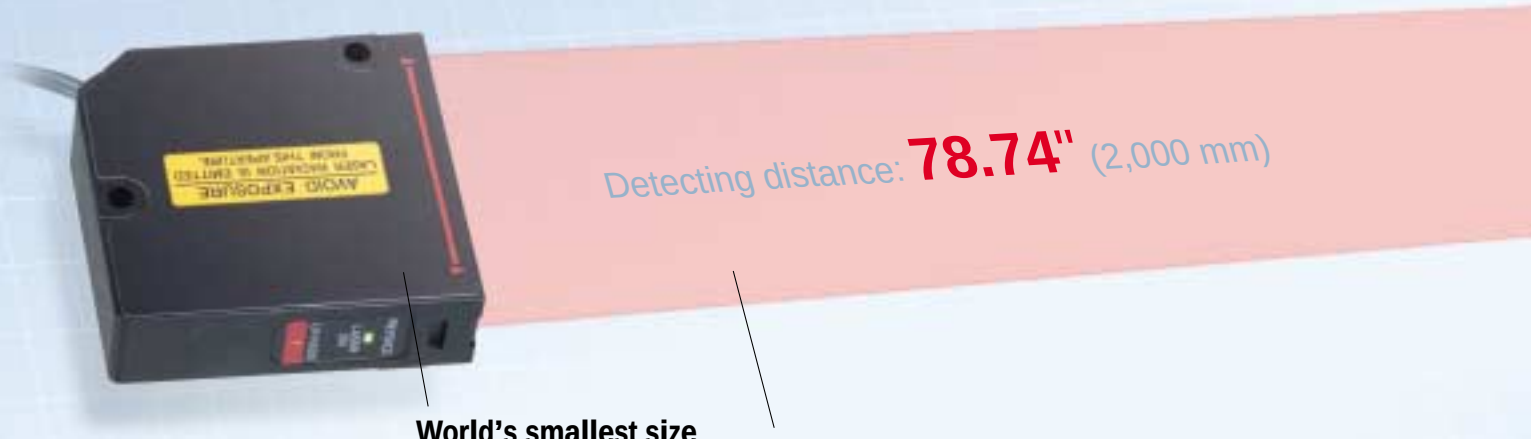
NEW

Wide Area Thrubeam Type
LV-H300/H100

Laser Optic Sensor PRODUCTS

CE

A thrubeam type has been added to the LV series of general-purpose laser optic sensors.



World's smallest size
The volume is reduced to a quarter of our previous model.

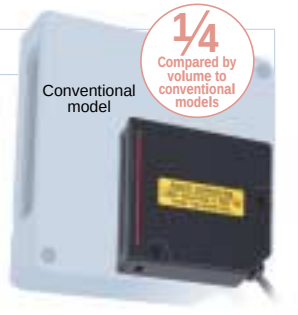
Linear area beam
Even when the detecting distance varies, the beam area width hardly changes.

Optical axis alignment is easy, and the detecting area can be clearly viewed.

Four strong points for easy operation.

1 World's smallest size

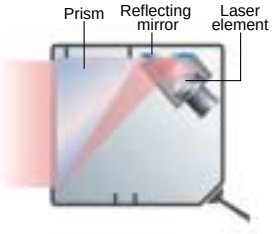
The optical system is drastically improved compared with previous products. As a result, a small size suitable for general-purpose sensors has been achieved for the first time ever. The volume is reduced to a quarter* of previous models.
* LV-H300T



2 Linear area beam (Transmitter)

Industry First

A new principle has been developed that uses a prism to provide a sharp linear beam. Wherever a target is passed, you will find that it is easily detected within the sensing area.
(Patent pending)

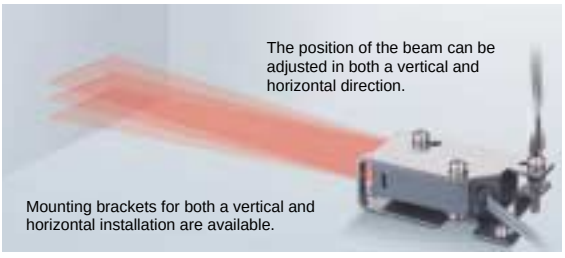


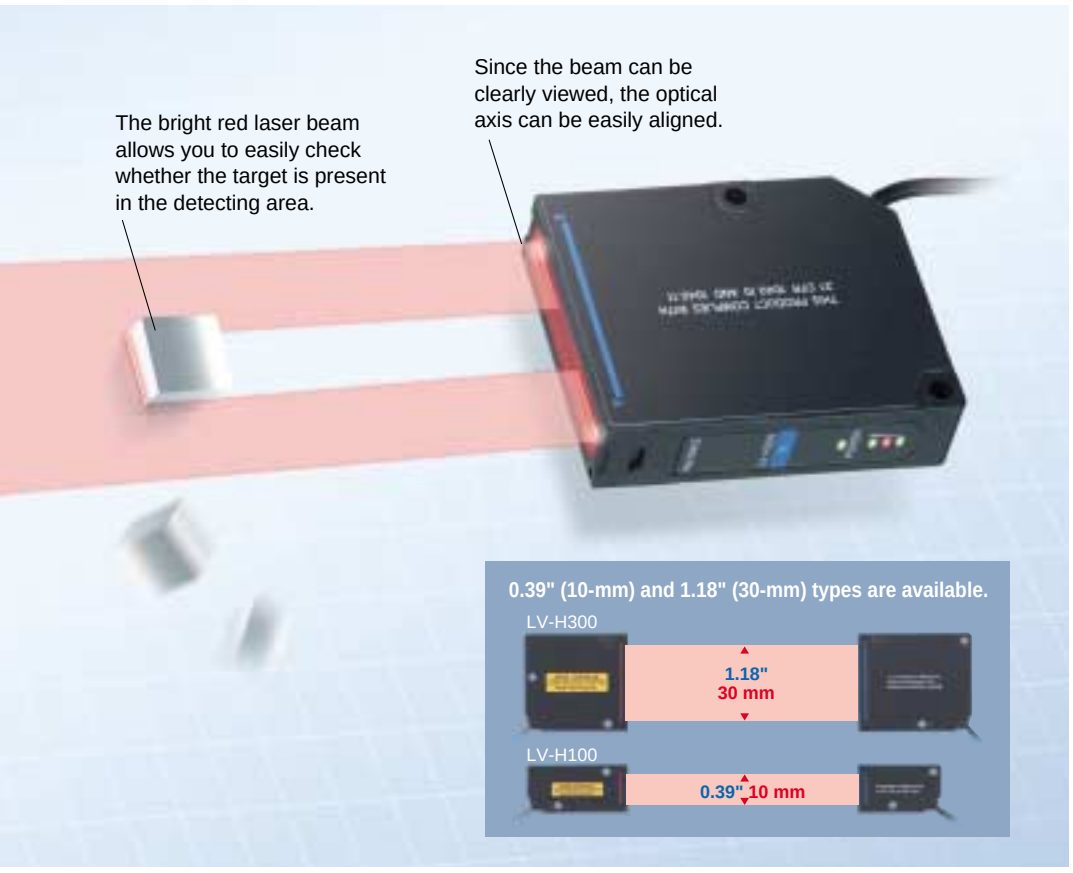
3 Light diffusion sheet (Receiver)

Industry First

A light diffusion sheet for beam confirmation is placed at the end of the receiver. Even while the sensor is being operated, you can visually confirm that the receiver receives the area beam.
(Patent pending)

4 The mounting bracket (optional) enables the position of the beam to be adjusted.





Industry leader in laser sensor development

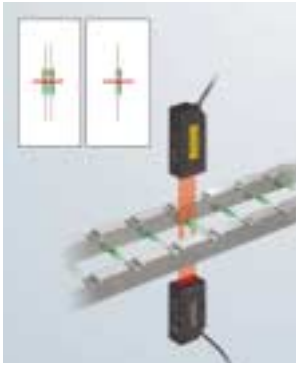
Both thrubeam and reflective sensor types boast an abundant lineup. The world s largest number of sensor head variations meets the needs of any site.

Applications (also given on the back cover)

Detection of loose workpieces

Loose workpieces are detected using the sensor's area beam. Since the beam is visible, setup can be easily performed.

Detection of double-fed workpieces



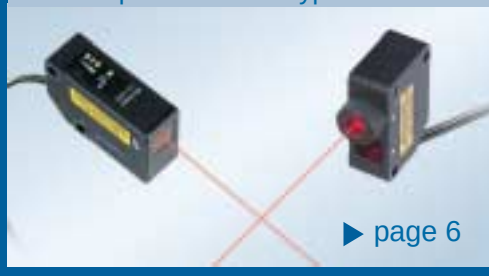
By using two outputs, presence/absence of a part can be determined as well as if a workpiece has been double-fed.

Detection of the drop of small components

The EDGE detection mode enables stable detection even in an environment that gradually becomes dirty. In addition, output time can be adjusted using the timer function.

Reflective Types Also Available!

For mounting in a limited area targeting only small parts.

Small-Spot Reflective Type

▶ page 6

Wide Area Reflective Type

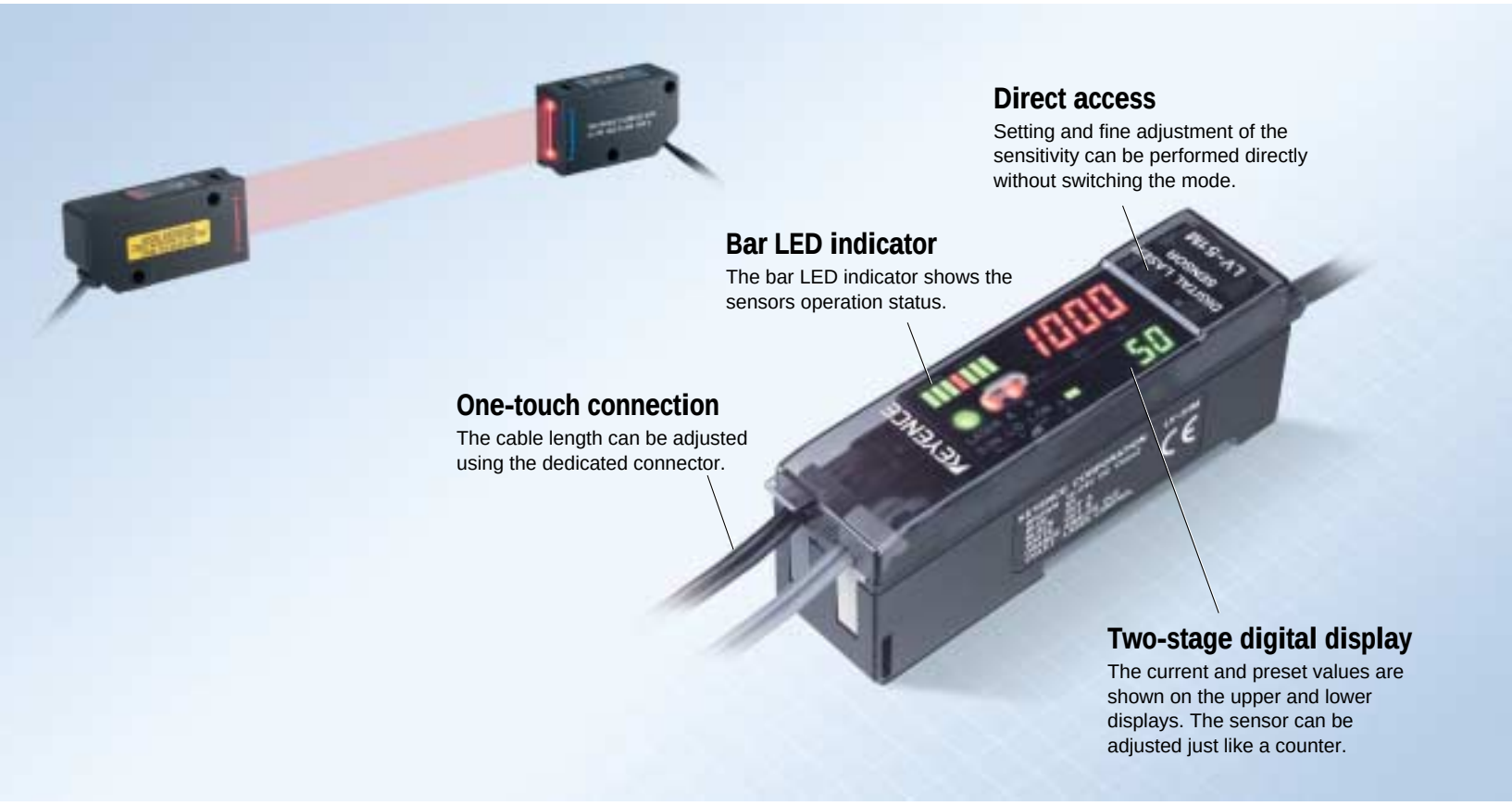
▶ page 7

Long Distance Retro-Reflective Type

▶ page 8

Definite Reflective Type

▶ page 9



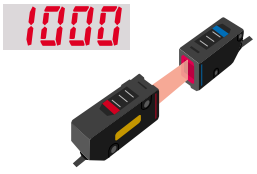
New Amplifier LV-51M
Ideal for Laser Thrubeam Sensors

Thrubeam type amplifier units LV-51M/52

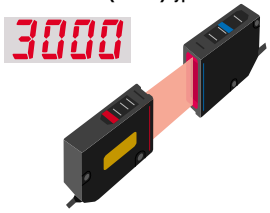
Setting of reference light intensity

This function allows you to select and set the light intensity to be displayed. For example, the light intensity can be displayed according to the detection width of the sensor head.

When the 0.39" (10-mm) type is used



When the 1.18" (30-mm) type is used



You can also select whether the received or interrupted light intensity should be displayed. The table shown below shows the light intensity displayed when the 0.39" (10-mm) type is used.

Status	Displays received light intensity (A-10)	Displays interrupted light intensity (b-10)
When entire area beam is received	1000	0
When half the area beam is interrupted	500	500
When entire area beam is interrupted	0	1000

Equipped with two outputs.

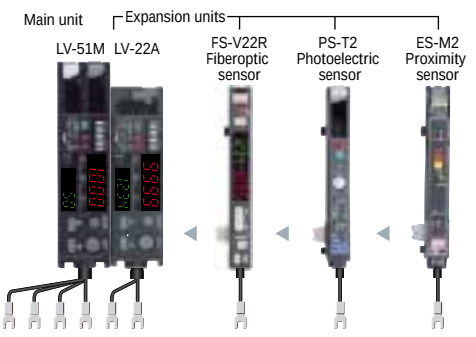
Since the preset values can be set to two levels, the applications are expanded.

Analog output for monitoring

The LV-51M provides monitor output according to the received light level*.

* FINE mode (Setting of reference light intensity: OFF)

Compatible with the wire saving one line system

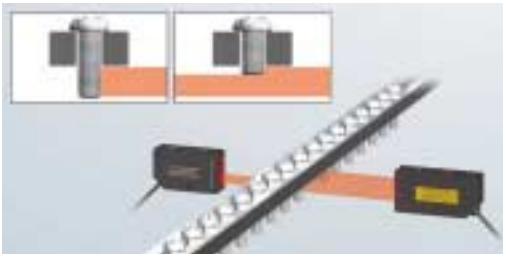


Wide & Linear Area Beam Expands Sensor Applications

Detection of sagging or breakage of wire rod

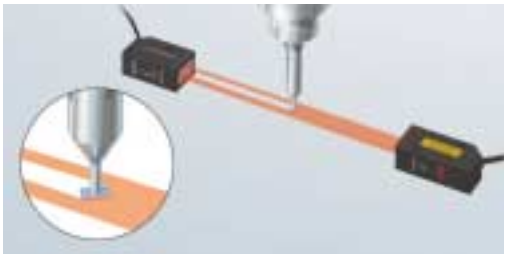
The linear area beam allows you to visually check whether the wire rod is present within the detecting area.

Differentiation of workpiece length



Differences in the screw length are differentiated based on the difference in the interrupted light intensity. Using two outputs enables you to detect the presence/absence of screws, in addition to differentiation of the length.

Detection of small components

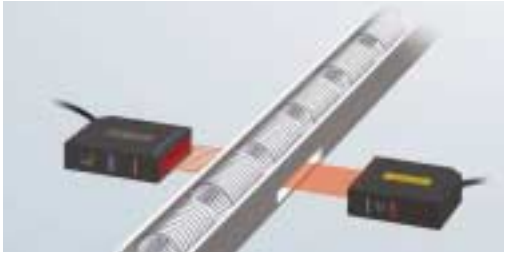


The visible beam enables you to easily adjust the sensor position. In addition, even if the target position varies, the sensors area beam can still perform detection.

Differentiation of workpiece thickness

The sensor differentiates between large and small diameter workpieces. By using two outputs, you can detect both the presence/absence of workpieces and differentiate between large and small diameter workpieces.

Detection of workpiece with apertures (spring)



The sensor’s area beam ensures stable detection even if the workpiece has apertures.

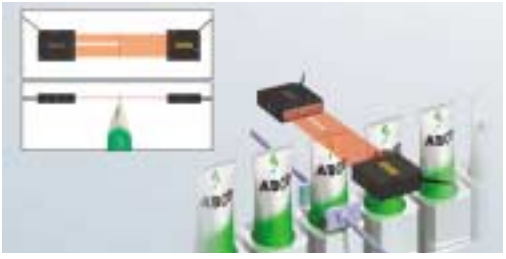
Detection of incorrectly assembled components

The sensor checks whether the component is incorrectly assembled. The visible laser spot allows for easy set-up even if the target is a thin component.

Differentiation between front and back faces of workpiece

The sensor detects a reversed workpiece based on the difference in the interrupted light intensity. The visible area beam spot simplifies setup even when the clearance is small.

Detection of cutting failure

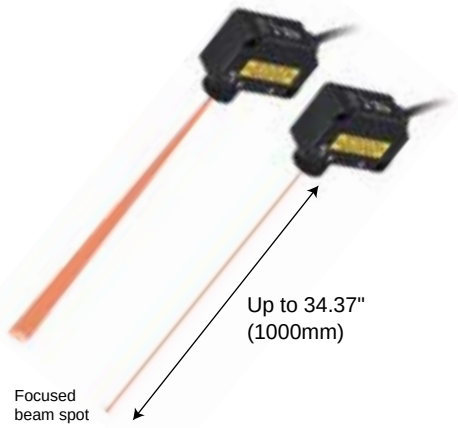


The sensor with a 30-mm wide area beam reliably detects workpieces with a part left uncut.

Small-Spot Reflective Type

LV-H32 Long-distance, adjustable beam spot

The flexible beam spot can be focused on a small target.



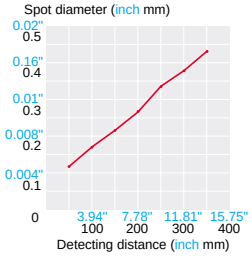
The beam spot can be focused on a small target.

Regardless of the detecting distance you can adjust the beam spot diameter according to the target size by turning the focus ring.

The ultra-high power laser enables a detecting distance of 39.37" (1000 mm).

Making the best use of the high power laser, the LV-H32 provides a detecting distance of up to 39.37" (1000 mm). It enables stable detection even with a black target that reflects the laser beam less.

Spot diameter (Typical)

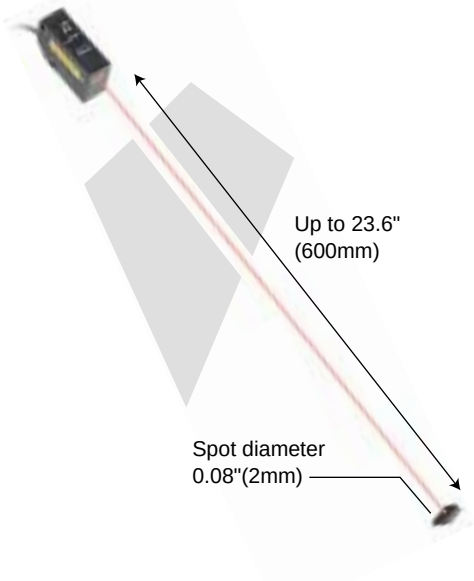


Specifications

Type		Long-distance, adjustable beam spot
Model		LV-H32
Detecting distance	**FINE**	1.18" to 9.84" 30 to 250 mm
	TURBO	1.18" to 19.69" 30 to 500 mm
	SUPER	1.18" to 39.37" 30 to 1000 mm
Spot diameter		ø0.03" 0.8 mm max. (Detecting distance: 11.31" 300 mm max.)

LV-H35 Straight beam, coaxial reflective

A small beam spot can reach the target in a narrow space event at a detecting distance up to 24"(600mm)



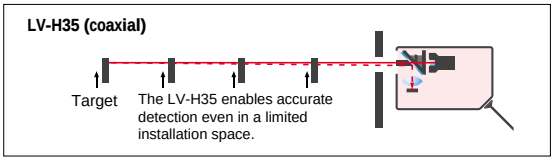
Constant beam spot diameter

The LV-H35 retains a constant beam spot diameter regardless of the sensor installation position. This simplifies system design and setup significantly by eliminating the need of considering the sensor-to-target distance.

Cannon hole transmitter

The LV-H35 provides the coaxial structure for the transmitter to emit a laser beam from the metallic pipe and the receiver located around the transmitter to receive the reflected beam. (Patent pending)

The LV-H35 enables highly accurate detection regardless of the installation conditions.

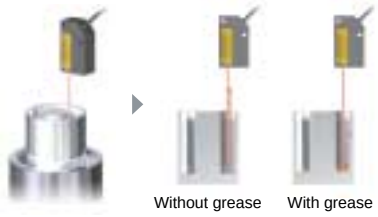


Specifications

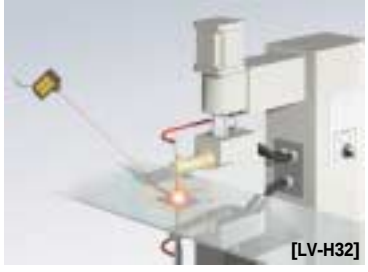
Type		Straight beam, coaxial reflective
Model		LV-H35
Detecting distance	**FINE**	5.91" 150 mm
	TURBO	11.81" 300 mm
	SUPER	23.62" 600 mm
Spot diameter		Approx. 0.08" 2 mm

Ideal for these applications

Detecting the presence/absence of grease in a component (aiming at a target)



With conventional reflective sensors, the reflected beam does not enter the receiver. However, the LV-H35 has a coaxial structure, enabling the reflected beam to be received.



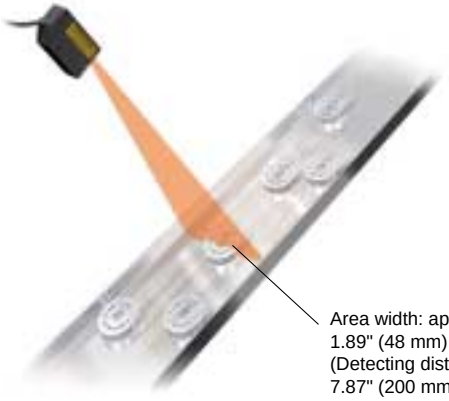
Detection of the presence/ absence of a part (spot welding)

Checking for part pickup with a suction head

Wide Area Reflective Type

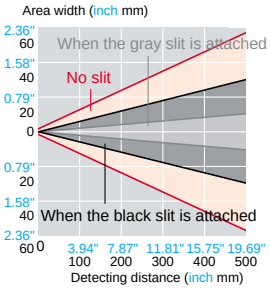
LV-H42 Long-distance, area detection

The high-powered sensor can be installed at a long distance from targets.



Area width: approx. 1.89" (48 mm)
(Detecting distance: 7.87" (200 mm))

Detecting distance vs. Area width (Typical)



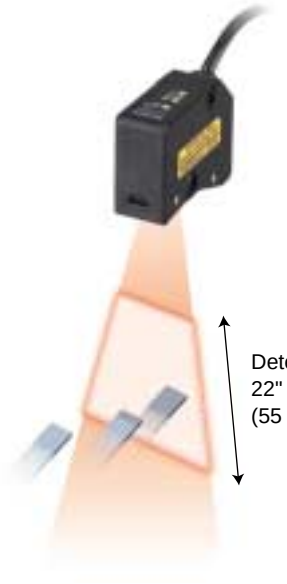
Lens attachment

Model: LV-L01 (Optional accessory)

With the lens attachment, the LV-H42 can ignore variations in target shape and position in the direction of the laser line.

LV-H47 Area detection, definite-reflective

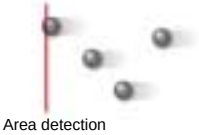
The area detection sensor enables stable and highly accurate detection.



Detecting range: 22" to 33" (55 to 85mm)

The area detection sensor enables stable detection, even when targets have variations in shape.

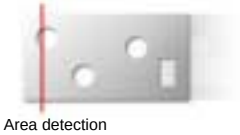
Detection is stable even if the target position varies.



Area detection

With the definite detection area, the LV-H47 can ignore any influence of background conditions.

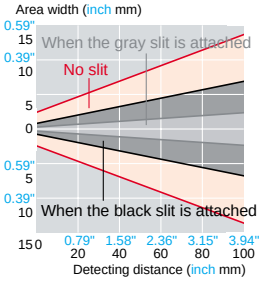
No detection error occurs, even if the target has apertures.



Area detection

The width of the detecting area can be changed with the slit.

Detecting distance vs. Area width (Typical)

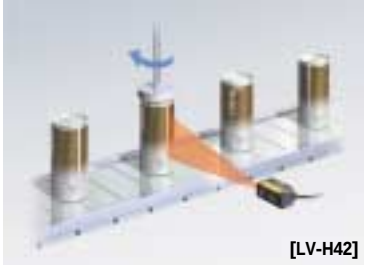


Lens attachment

Model: LV-L02
(Optional accessory)
The LV-H47 can ignore variations in target shape and position in the direction of the laser line.

[LV-H42]

Detecting the number of workpieces remaining in a parts feeder



[LV-H42]

Positioning of a seam on cans

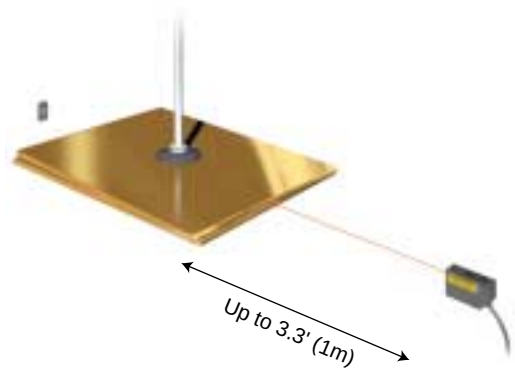
[LV-H42]

Verification of adhesive application

Long Distance Retro-Reflective Type

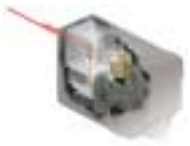
LV-H62 Straight beam, retro-reflective

The high-performance sensor allows easy optical axis alignment.

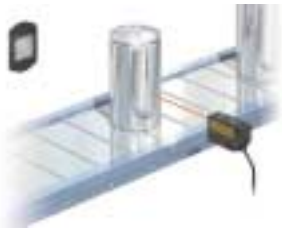


With the single-lens structure, the LV-H62 retains a 0.06" (1.5 mm) beam spot diameter at a detecting distance of up to 3.3' (1 m).

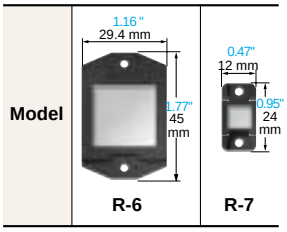
Using a retro-reflective structure, the LV-H62 allows easy optical axis alignment. With its small beam spot of 0.06" (1.5 mm) diameter, the LV-H62 can detect small targets reliably without being affected by surrounding objects.



The LV-H62 incorporates the P.R.O. function, which can cancel the influence of the beam reflected by targets having specular surfaces.

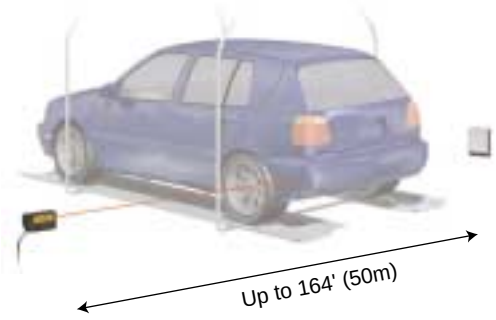


Selectable reflector (Typical)



LV-H67 High-power, retro-reflective

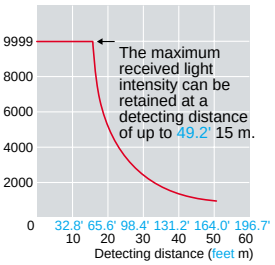
The LV-H67 provides high power, even though it has a retro-reflective structure.



Ultra-high power laser with a maximum detecting distance of 164' (50 m).

Making the best use of laser sensor features, the LV-H67 provides ultra-high power. With its bright beam spot and digital display amplifier, the LV-H67 enables stable detection even at a long distance.

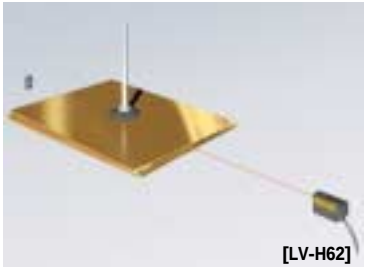
Received light intensity vs. Detecting distance (Typical)



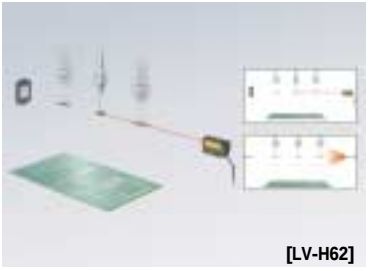
The bright beam spot allows easy optical axis alignment, even at a long distance.

The bright beam spot makes optical axis alignment easy because the laser beam on a target can be checked visually.

Ideal for these applications



Detecting two copper plates being transferred



Detecting a small target

Detecting a protruding pin

Definite Reflective Type

LV-H37 Ultra-small beam spot

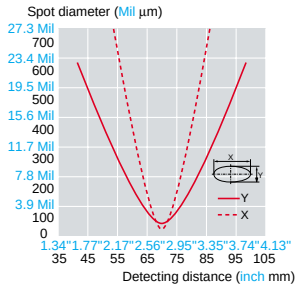
Ultra-small of 2.0 Mil (50 m)

Ultra-small beam spot

The LV-H37 is ideal for minute target detection. The supplied magnifying glass allows easy setup of the sensor.

The supplied magnifying glass enables users to check the beam spot position.

Spot diameter (Typical)



Specifications

Type	Ultra-small beam spot, reflective
Model	LV-H37
Detecting distance	2.76" ±0.59" 70 ±15 mm
Minimum spot diameter	Approx. 2.0 Mil 50 µm

A Compact Standard Amplifier for Reflective Type Sensors

LV-21A(P)/22A(P) LV Series amplifier unit

The digital display amplifiers provide various easy-to-use support functions.

Dual digital display function

Since the LV-21A(P)/22A(P) can display the current value and preset value simultaneously, the sensor conditions can be checked at a glance. This also makes fine adjustment easy.

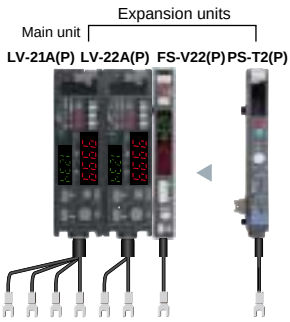
80-µs high-speed mode (FINE mode)

Using a high-speed A/D converter, the FINE mode enables a high-speed response of 80 µs. Up to 6250 targets can be detected per second.

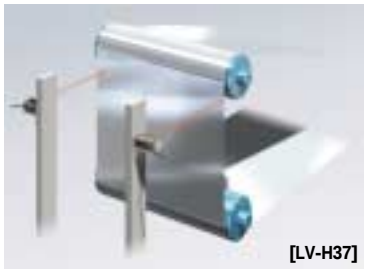
16-bit high-precision, high-power mode (SUPER mode)

The SUPER mode provides a resolution of 16 bits, offering both high power and high resolution.

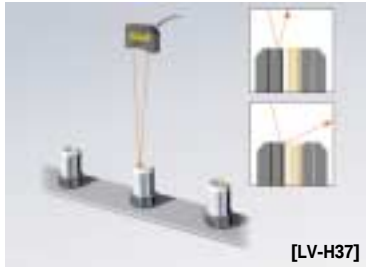
Simplified one-line connection method



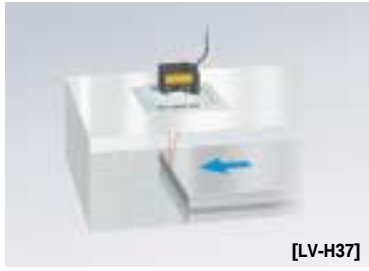
General-purpose Digital Laser Optic Sensor Amplifier Unit LV-21A(P)/22A(P)



Detecting the misalignment of an aluminum-evaporated sheet



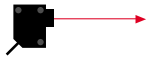
Detecting the chamfer of valve components



Positioning through a glass

Specifications

Sensor head

Model	Sensor head	LV-H100 NEW	LV-H300 NEW	LV-H35	LV-H37	LV-H32
	Amplifier	LV-51M, 51MP, 52, 52P		LV-21A/21AP, 22A/22AP, 20A, 11A,		
Shape						
Light source		Visible red semiconductor laser, Wavelength: 650 nm, 3 mW max., Pulse duration 3.5 ms				
FDA Class [1.]		Class II				
IEC Class [1.]		Class 2				
Detecting distance	FINE	78.74" 2000 mm	78.74" 2000 mm	5.91" 150 mm	2.76" ±0.59" 70 ±15 mm	1.18" to 9.84" 30 to 250 mm
	TURBO			11.81" 300 mm		1.18" to 19.69" 30 to 500 mm
	SUPER			23.62" 600 mm		1.18" to 39.37" 30 to 1000 mm
Beam spot shape		Area width: approx. 0.39" 10 mm Smallest detectable object: 0.003" 0.1 mm dia. opaque material (Detecting distance: 19.69" 500 mm max.)	Area width: approx. 1.18" 30 mm Smallest detectable object: 0.01" 0.3 mm dia. opaque material (Detecting distance: 19.69" 500 mm max.)	Spot diameter: approx. 0.08" 2 mm	Spot diameter: approx. 2.0 Mil 50 µm (Detecting distance: 2.76" 70 mm)	Spot diameter: approx. 0.03" 0.8 mm max. (Detecting distance: 11.81" 300 mm max.)
Indicator		Laser ON alarm indicator: Green LED,Label indicator: Green x 2, Red x 1 (label indicator displays excess gain from 90 to 110%.)				
Ambient light		Incandescent light: 10,000 lux max. Sunlight: 20,000 lux max.				
Ambient temperature		-10 to +55°C (14 to 131°F), No condensation				
Relative humidity		35 to 85%, No condensation				
Vibration		10 to 55 Hz, 0.06" 1.5-mm double amplitude in X, Y, and Z directions: 2 hours per direction				
Materials		Case: Reinforced glass plastic, Lens cover: Polyarylate (Glass for transmitter of LV-H37, LV-H100, LV-H300 only, Acryl for transmitter of LV-H32/H35),				
Weight (incl. 6.6' 2-m cable)		Approx. 80 g	Approx. 100 g	Approx. 45 g		

Model	Sensor head	LV-H67	LV-H62	LV-H47	LV-H42	LV-H41
	Amplifier	LV-21A/21AP, 22A/22AP, 20A, 11A,				
Shape						
Light source		Visible red semiconductor laser, Wavelength: 650 nm, 3 mW max., Pulse duration 3.5 ms				
FDA Class [1.]		Class II				Class I
IEC Class [1.]		Class 2				Class 1
Detecting distance	FINE	65.6' 20 m	6.6' 2 m	2.17' to 3.35" 55 to 85 mm	9.84" 250 mm [2.]	
	TURBO	98.4' 30 m	16.4' 5 m		19.69" 500 mm [3.]	
	SUPER	98.4' 30 m [6.]	23.0' 7 m		39.37" 1000 mm [4.]	
Beam spot shape		Spot diameter: approx. 0.06" 1.5 mm (Detecting distance: 3.3' 1 m max.)		Area width: approx. 0.79" to 0.98" 20 to 25 mm (Detecting distance: 2.17" to 3.35" 55 to 85 mm) (without slit)	Area width: approx.1.46" 37 mm [5.] Thickness: 0.04" 1 mm max. (Detecting distance: 5.91" 150 mm)	Area width: approx. 1.50" 38 mm [5.] Thickness: 0.05" 1.3 mm max. (Detecting distance: 5.91" 150 mm)
Indicator		Laser ON alarm indicator: Green LED, Label indicator: Green x 2, Red x 1 (label indicator displays excess gain from 90 to 110%.)				
Ambient light		Incandescent light: 10,000 lux max. Sunlight: 20,000 lux max.				
Ambient temperature		-10 to +55°C (14 to 131°F), No condensation				
Relative humidity		35 to 85%, No condensation				
Vibration		10 to 55 Hz, 0.06" 1.5-mm double amplitude in X, Y, and Z directions: 2 hours per direction				
Materials		Case: Reinforced glass plastic, Lens cover: Polyarylate (Glass for transmitter of LV-H47 only, Acrylic for LV-H62/H67), Slit (black/grey): Polyacetal (including with LV-H41/H42)				
Weight (incl. 6.6' 2-m cable)		Approx. 45 g				

1. Use LV-20A/21A/22A/21AP/22AP for FDA Class II and IEC Class 2, and use LV-11A for FDA Class I and IEC Class 1. 2. Slit black: 5.91" 150 mm, Slit gray: 3.94" 100 mm
3. Slit black: 11.81" 300 mm, Slit gray: 7.87" 200 mm 4. Slit black: 23.62" 600 mm, Slit gray: 15.75" 400 mm 5. Slit black: approx. 0.75" 19 mm, Slit gray: approx. 0.28" 7 mm 6. Use OP-42198: 164' 50 m

Amplifier

Model	NPN	LV-51M NEW	LV-52 NEW
	PNP	LV-51MP NEW	LV-52P NEW
Main unit/expansion unit		Main unit	Expansion unit (1 line)
Response time	FINE	80 µs	
	TURBO	500 µs	
	SUPER	4 ms	
Operation mode		LIGHT-ON/DARK-ON (switch selectable)	
Control output		NPN open-collector x 2 ch, 100 mA max. (40 V max.), residual voltage 1 V max., PNP open-collector x 2 ch, 100 mA max (30 V max.), residual voltage 1 V max.	
Monitor output		1 to 4 V voltage output, 1 to 4 V is output according to 0 to 3000 displayed in the FINE mode. Load resistance: 20 kΩ or more (LV-51M/51MP only)	
Protection circuit		Reverse polarity protection, over-current protection, surge absorber	
Power voltage		12 to 24 VDC ±10% max., Ripple (P-P): 10% max. (The power for LV-52/52P is supplied from the main unit.)	
Power consumption		1.5 W max. (12V: 125 mA max, 24V: 62.5 mA max)	
Ambient temperature		-10 to +55°C (14 to 131°F), No condensation [1.]	
Relative humidity		35 to 85%, No condensation	
Materials		Main body & cover: Polycarbonate	

1. To connect several units they must be mounted on a DIN rail (metal DIN rail). Make sure that output current is 20 mA. max.
With several units connected, the allowable ambient temperature range varies as follows. 2 to 5 units connected: -10 to +50°C (14 to 122°F), 6 to 7 units connected: -10 to + 45°C (14 to 113°F).

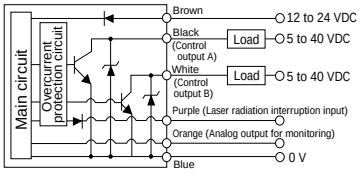
Model		LV-21A/21AP	LV-22A/22AP	LV-20A	LV-11A
FDA Class [1.]		Class II			Class I
IEC Class [1.]		Class 2			Class 1
Main unit/expansion unit		Main unit	Expansion unit (1 line)	Expansion unit (0 line)	Main unit
Response time	FINE	80 µs		280 µs to 4.7 ms [2.]	500 µs
	TURBO	500 µs			2 ms
	SUPER	4 ms			8 ms
Operation mode		LIGHT-ON/DARK-ON (switch selectable)			
Output mode selection		1. A, B: L. ON; 2. A: L. ON, B: D. ON; 3. A, B: D. ON; 3-way slide SW			
Output		Red LED x 2ch			
Output mode selection (light intensity monitor, setting monitor)		Digital LED monitor 4 digits + 1/2, red 7-segment LED and green 7-segment LED Received light intensity (0 to 9999), Excess gain (0 to 9999)%, Set-up value display (0 to 9999) Negative values can be displayed when the display shift function is used. Peak hold and bottom hold switching			
Bar LED monitor		Orange x 1, green x 6 (orange also used for tuning indicator) Laser ON alarm indicator Green LED			
Detection modes		STANDARD 1, STANDARD 2, UP edge, DOWN edge, separate settings for ch A/B			
Current value shift		±9999 variable, separate settings for ch A/B			
Timer function		OFF DELAY/ON DELAY/ONE SHOT, separate settings for ch A/B, timer 1 to 9999 ms variable			
Laser emission stop input		Non-voltage input, stop during laser radiation, input time: 20 ms min.			
Control output		NPN open-collector x 2 ch, max. 100 mA (40 V max.), residual voltage 1 max. [3.] LV-21AP/22AP: PNP open-collector x 2 ch, max. 100 mA (30 V max.), residual voltage 1 max.			
Protection circuit		Reverse-polarity protection, overcurrent protection, surge absorber			
Power voltage		12 to 24V DC ±10% max., Ripple (P–P) 10% max. [4.]			
Power consumption		1.5 W max. (current consumption: 12V: 125 mA, 24V: 62.5 mA)			
Ambient temperature [5.]		-10 to +55°C (14 to 131°F), No condensation			
Relative humidity		35 to 85%, No condensation			
Vibration		10 to 55 Hz, 0.06" 1.5-mm double-amplitude in X, Y, and Z directions: 2 hours per direction			
Materials		Main body & cover: Polycarbonate			
Weight (incl. 6.6' 2-m cable)		Approx. 120 g	Approx. 75 g	Approx. 35 g	Approx. 120 g

1. Use LV-H32H35//H42H47//H62/H67 for FDA Class II and IEC Class 2, and use LV-H41 for FDA Class I and IEC Class 1.
2. For use with FS-R0 as main unit 3. No control output cable for LV-20A 4. The power for LV-20A/22A/22AP is supplied from the main unit.
5. With several units connected, the allowable ambient temperature range varies as follows. 3 to 5 units connected: -10 to +50°C (14 to 122°F), 6 to 7 units connected: -10 to +45°C (14 to 113°F)

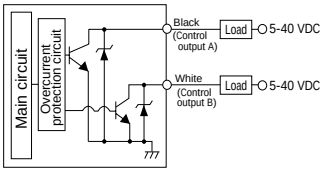
Note: To connect several units they must be mounted on a DIN rail (metal DIN rail). Make sure that output current is 20 mA. max. Note also that the expansion unit (LV-20A/22A/22AP) cannot be used as it is.

Input/Output Circuits

LV-51M

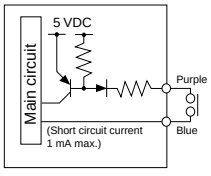


LV-52

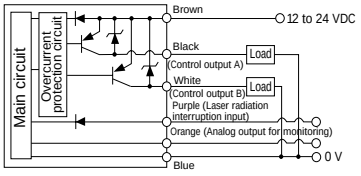


Laser radiation interruption
LV-51M/51MP

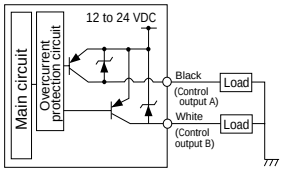
LV-51M



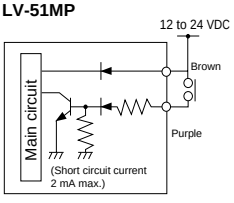
LV-51MP



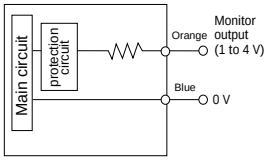
LV-52P



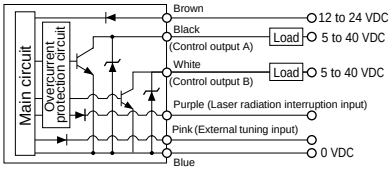
LV-51MP



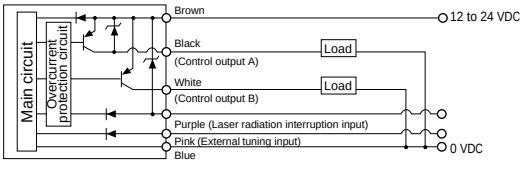
Analog output circuit
for monitoring
(LV-51M/51MP only)



LV-21A/11A

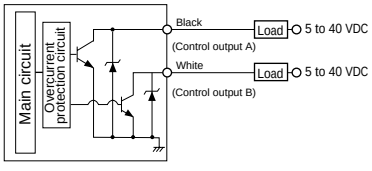


LV-21AP

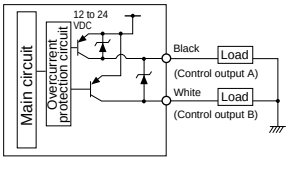


Laser radiation interruption
LV21A/11A/21AP only

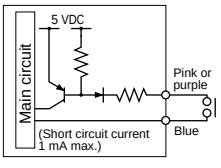
LV-22A



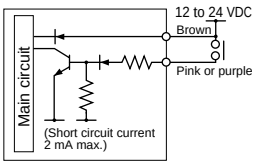
LV-22AP



LV-21A/11A



LV-21AP

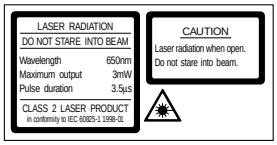


Warning

The LV Series conforms to the FDA standard for Class II and IEC standard for Class 2 laser products.

FDA Class II [LV-H67/H62/H35/H37/H32/H47/H42/H100/H300]

IEC Class 2 [LV-H67/H62/H35/H37/H32/H47/H42/H100/H300]



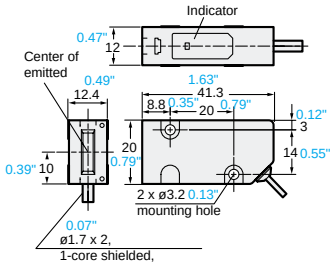
Dimensions

Sensor head

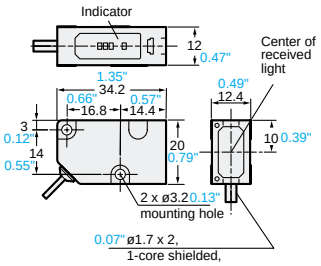
Unit: mm Inch

NEW

LV-H100 (transmitter)



LV-H100 (receiver)



LV-B101 (Mounting bracket for LV-H100, Brackets for the transmitter and receiver make up a single set.)

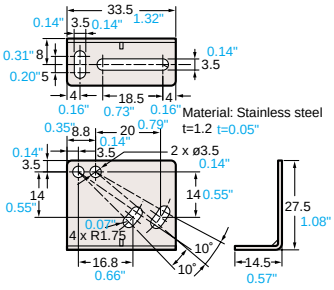


Plate nut for transmitter

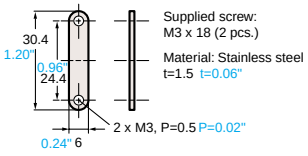
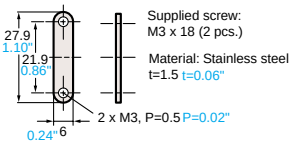


Plate nut for receiver



LV-B102 (Mounting bracket for LV-H100, Brackets for the transmitter and receiver make up a single set.)

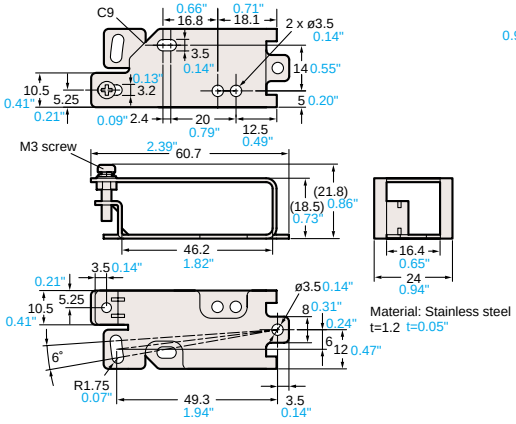


Plate nut for transmitter

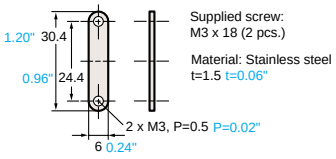
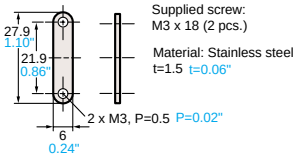
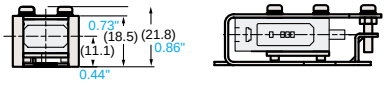


Plate nut for receiver

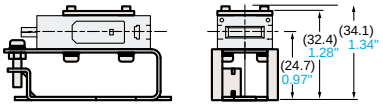


When the transmitter of the LV-H100 is mounted (Inside)

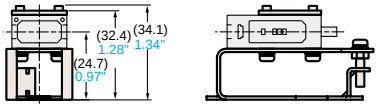
When the receiver of the LV-H100 is mounted (Inside)



When the transmitter of the LV-H100 is mounted (Outside)

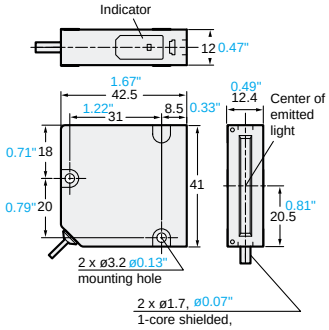


When the receiver of the LV-H100 is mounted (Outside)

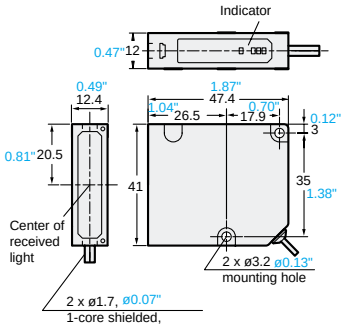


NEW

LV-H300 (transmitter)



LV-H300 (receiver)



LV-B301 (Mounting bracket for LV-H300, Brackets for the transmitter and receiver make up a single set.)

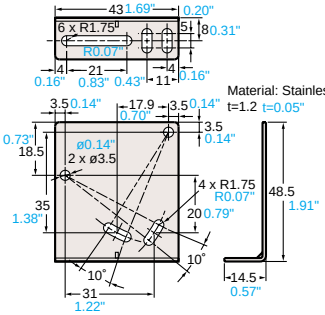


Plate nut for transmitter

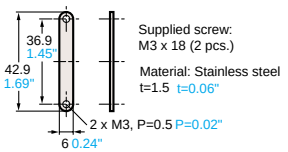
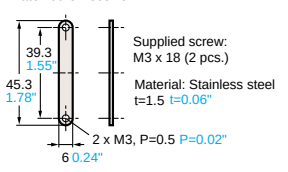


Plate nut for receiver



Unit: mm Inch

LV-B302
(Mounting bracket for LV-H300, Brackets for the transmitter and receiver make up a single set.)

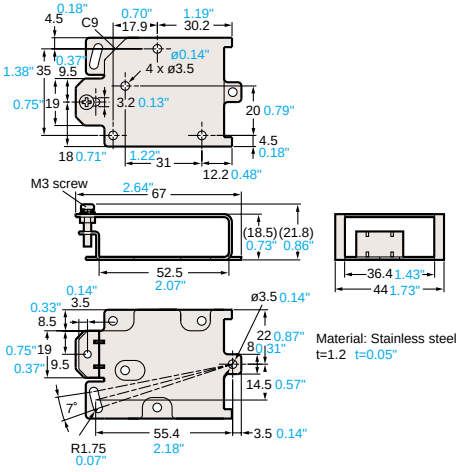


Plate nut for transmitter

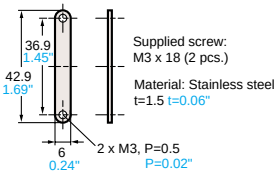
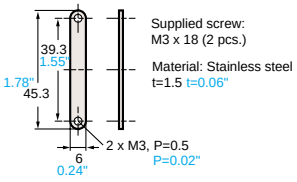
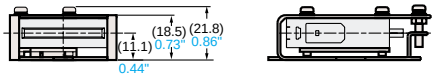


Plate nut for receiver

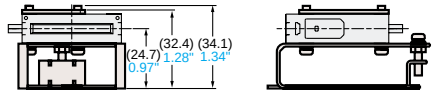


When the transmitter of the LV-H300 is mounted (Inside)

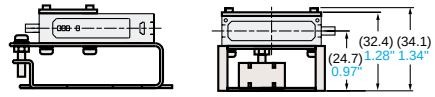


When the receiver of the LV-H300 is mounted (Inside)

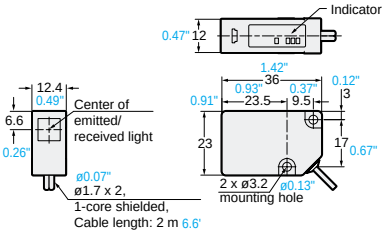
When the transmitter of the LV-H300 is mounted (Outside)



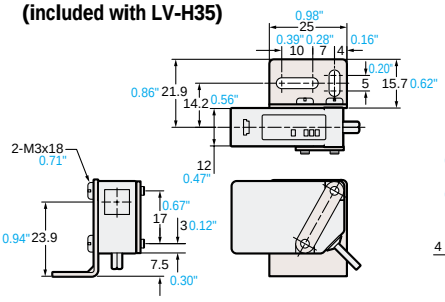
When the receiver of the LV-H300 is mounted (Outside)



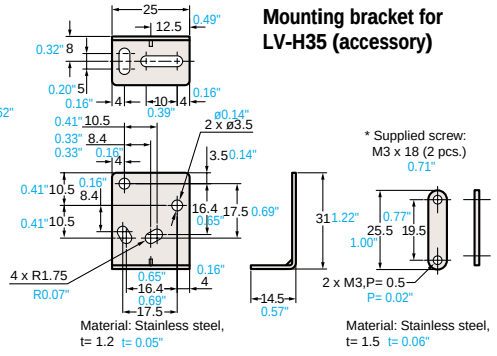
LV-H35



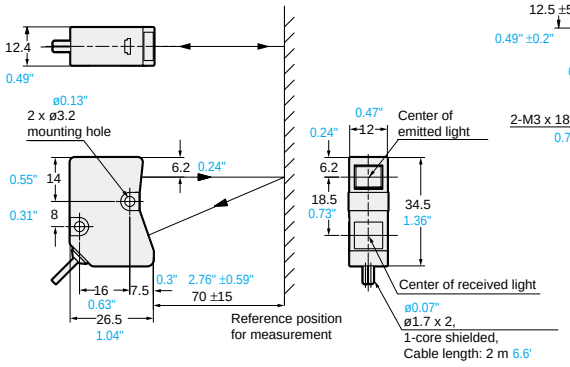
When the mounting bracket is attached (included with LV-H35)



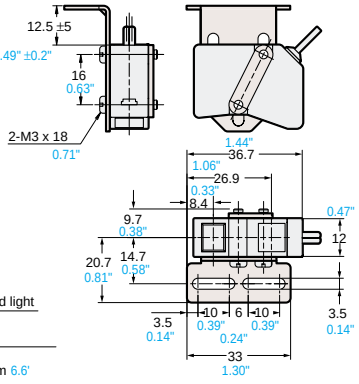
Mounting bracket for LV-H35 (accessory)



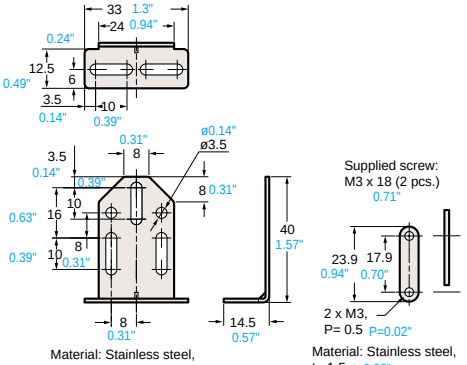
LV-H37



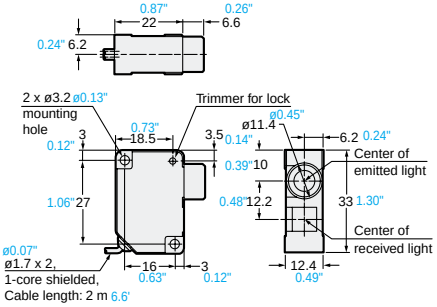
When the mounting bracket is attached (included with LV-H37)



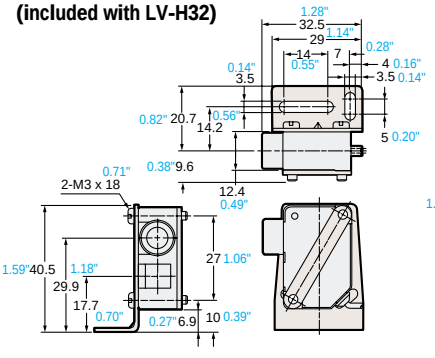
Mounting bracket for LV-H37 (accessory)



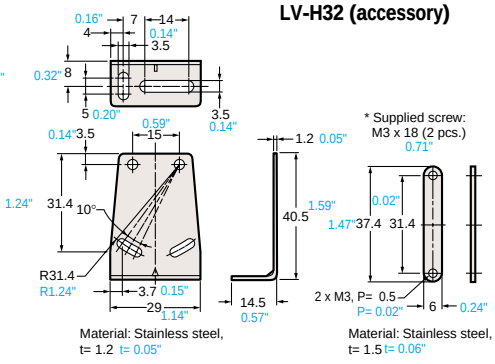
LV-H32



When the mounting bracket is attached (included with LV-H32)

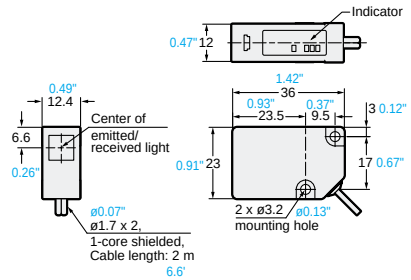


Mounting bracket for LV-H32 (accessory)

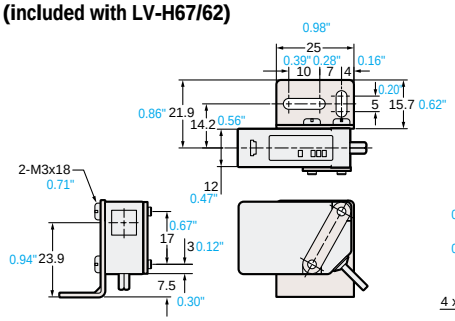


Unit: mm Inch

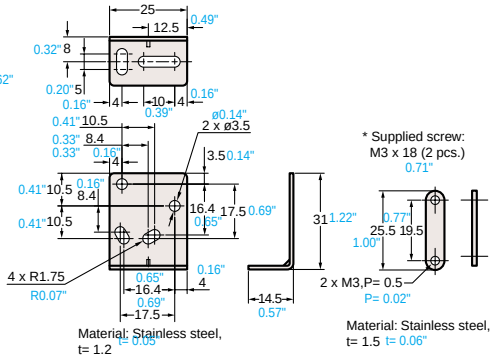
LV-H67/62



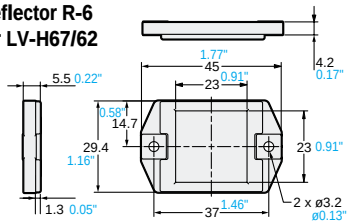
When the mounting bracket is attached (included with LV-H67/62)



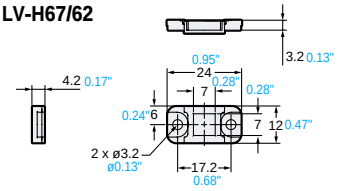
Mounting bracket for LV-H67/62 (accessory)



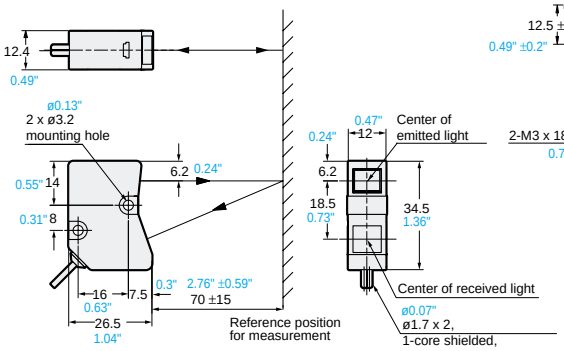
Reflector R-6 for LV-H67/62



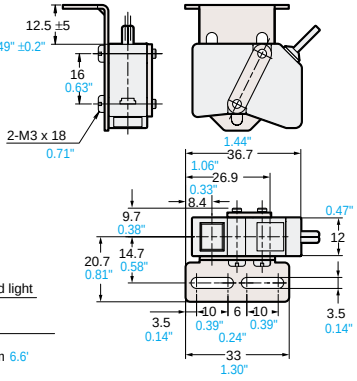
Reflector R-7 for LV-H67/62



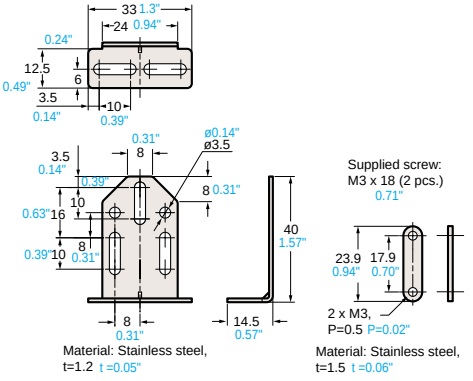
LV-H47



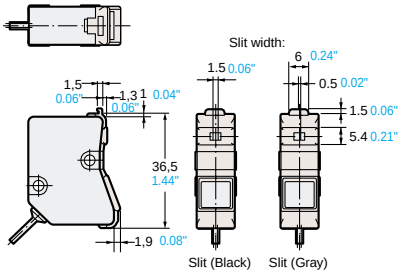
When the mounting bracket is attached (included with LV-H47)



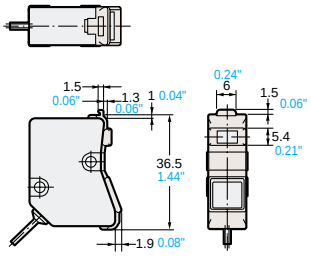
Mounting bracket for LV-H47 (accessory)



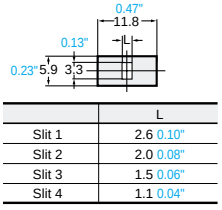
When slit (accessory) is attached



LV-H47 with LV-L02

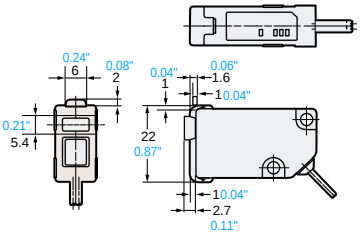


Slit seal (included with LV-L02/01)

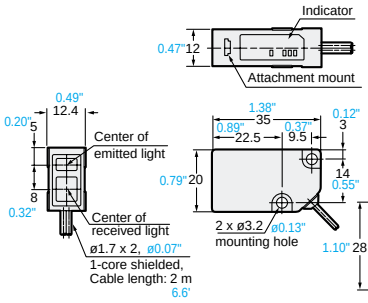


	L
Slit 1	2.6 0.10"
Slit 2	2.0 0.08"
Slit 3	1.5 0.06"
Slit 4	1.1 0.04"

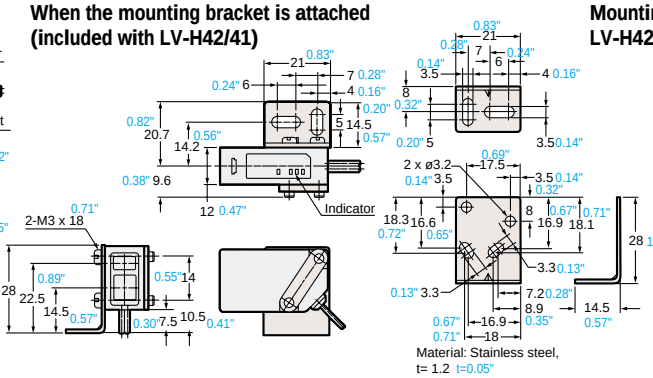
LV-H42/41 with LV-L01



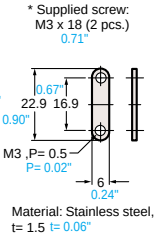
LV-H42/41



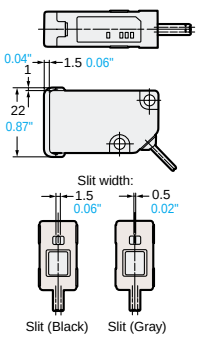
When the mounting bracket is attached (included with LV-H42/41)



Mounting bracket for LV-H42/41 (accessory)



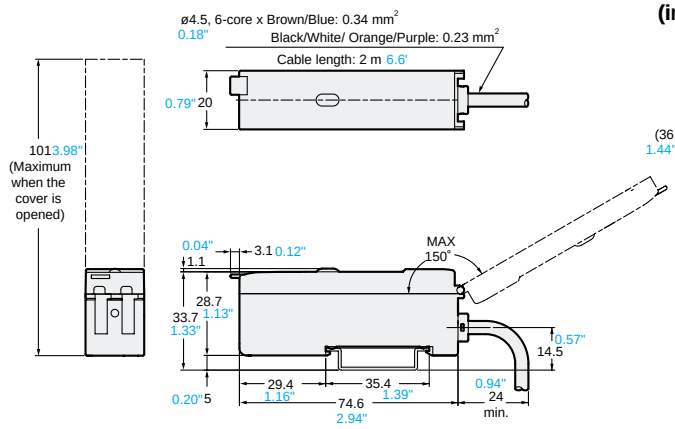
When slit (accessory) is attached



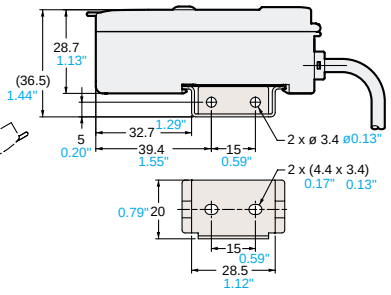
Amplifier

Unit: mm Inch

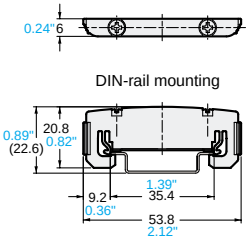
LV-51M/51MP NEW



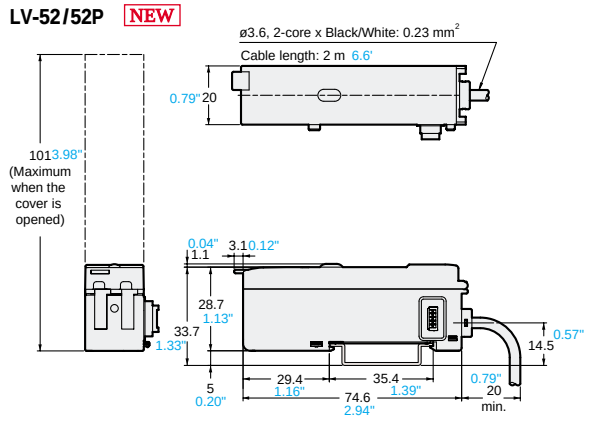
When mounting bracket is attached (included with LV-51M,51MP)



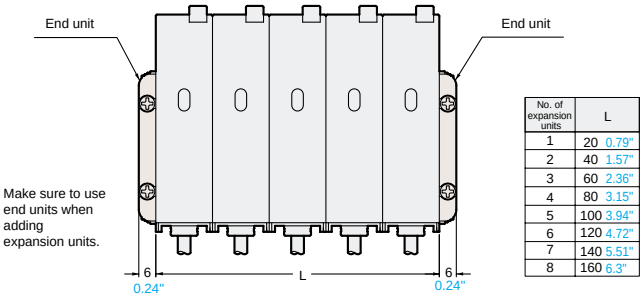
End unit (included with LV-52 /52P)



LV-52/52P NEW

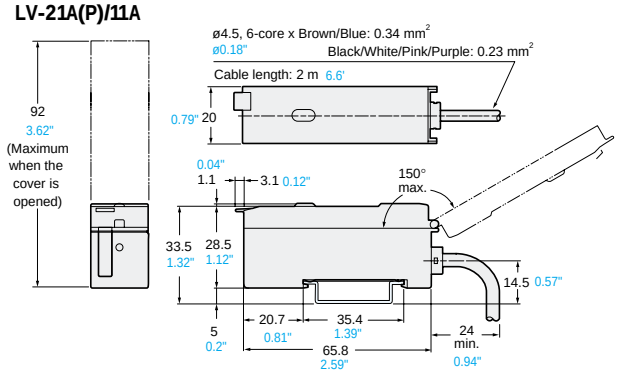


When several units are connected:

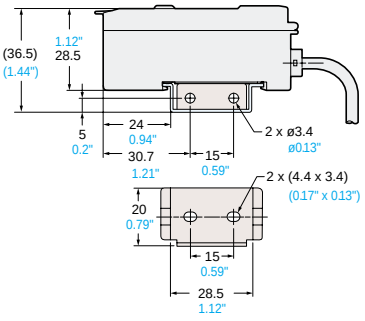


No. of expansion units	L
1	20 0.79"
2	40 1.57"
3	60 2.36"
4	80 3.15"
5	100 3.94"
6	120 4.72"
7	140 5.51"
8	160 6.3"

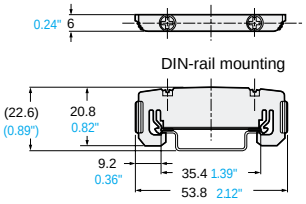
LV-21A(P)/11A



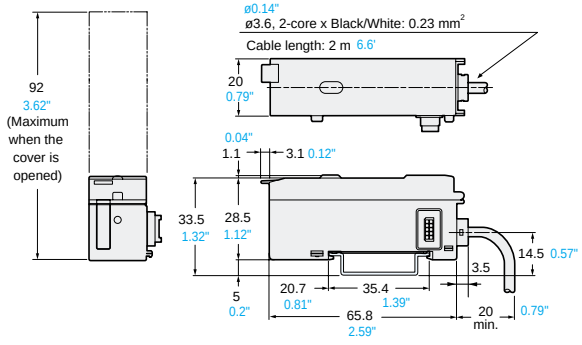
When the mounting bracket (included with LV-21A(P)/11A) is attached:



End unit (included with LV-22A(P))

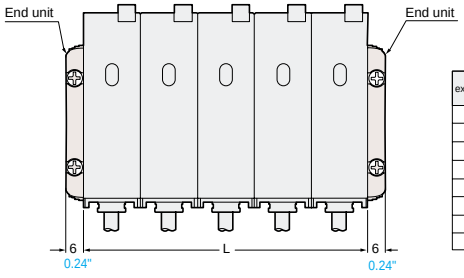


LV-22A(P)/20A



* LV-20A has no output wire.

When several units are connected:



Make sure to use end units when adding expansion units.

No. of expansion units	L
1	20 0.79"
2	40 1.57"
3	60 2.36"
4	80 3.15"
5	100 3.94"
6	120 4.72"
7	140 5.51"
8	160 6.3"

More Solutions for Differentiating, Gauging and Measuring Applications

Laser Thrubeam Measuring Sensors and Micrometers

For High-Precision Measurement

High-Speed, High-Accuracy CCD Micrometer LS7000 Series

- Excellent repeatability 0.06 µm 0.002 Mil
- High speed 2400 samples/second
- Maintenance free design
- Easy set-up, target viewer

Checking the width and edge of a glass plate

Measuring the eccentricity of a roller

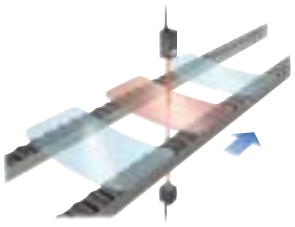
Measuring the dimensions of extruded covered wire

For Accurate Differentiating

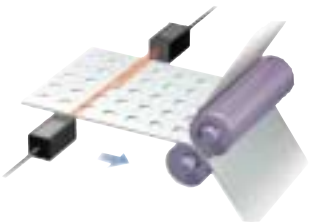
Digital Display Laser Thrubeam Sensors LX2-V Series

- Ultra high repeatability from 5 µm 0.2 Mil
- Parallel laser beam
- High sampling speed of 80µs
- Built-in digital display
- Extremely cost-effective

Detection of colored bottles



Detection of different glass colors



Detection of incorrectly positioned tablets

Visit our website for other Keyence products at www.keyence.com

Specifications are subject to change without notice.

KEYENCE

KEYENCE CORPORATION OF AMERICA
Corporate Office
50 Tice Blvd., Woodcliff Lake, NJ 07677
Phone:201-930-0100 Fax:201-930-0099
E-mail:keyence@keyence.com

Boston
Phone:781-453-2244
Fax:781-453-2255

New Jersey
Phone:201-474-1480
Fax:201-474-1481

Pennsylvania
Phone:610-382-1310
Fax:610-382-1320

Virginia
Phone:804-327-9522
Fax:804-327-9180

Charlotte
Phone:704-423-0070
Fax:704-423-0066

Nashville
Phone:615-986-0113
Fax:615-986-0114

Atlanta
Phone:770-951-1222
Fax:770-951-1958

Tampa
Phone:813-998-9886
Fax:813-998-9887

Cleveland
Phone:216-464-7530
Fax:216-464-7540

Columbus
Phone:614-799-3400
Fax:614-799-3401

Cincinnati
Phone:513-554-1227
Fax:513-554-1229

Michigan
Phone:734-591-9922
Fax:734-591-1722

Indianapolis
Phone:317-843-2616
Fax:317-843-2647

Chicago
Phone:847-969-0001
Fax:847-969-0453

Minneapolis
Phone:952-924-9779
Fax:952-249-9143

St. Louis
Phone:314-275-9174
Fax:314-275-9175

Texas
Phone:972-733-6790
Fax:972-733-6791

Denver
Phone:303-756-5242
Fax:303-756-8301

Phoenix
Phone:602-225-2400
Fax:602-225-2425

Portland
Phone:503-699-0500
Fax:503-699-8400

Northern California
Phone:925-225-1550
Fax:925-225-1440

Los Angeles
Phone:562-552-9980
Fax:562-552-9981