Distance-settable Photoelectric Sensors
E3AS Series

OMRON

Achieving "innovations in distance" for reflective-type photoelectric sensors

IO-Link ECOLAB

Use reflective photoelectric sensors in entirely new ways.

Conventional reflective photoelectric sensors have issues that may limit their range of application, such as their short sensing distances, possible false detection due to the effect of workpiece colors, and their large sizes.
The E3AS-F Series adopts the TOF method, which effectively resolves these issues for increased versatility. E3AS-F Sensors can be used, for example, in high-mix conveyor lines carrying products of various colors and shapes, and assembly lines with restricted space for sensor installation.

Wide sensing range of 50 to 1,500 mm

Free users from selecting sensors depending on the sensing distance.

Stable detection for various workpieces

Reduce evaluation and adjustment time.

Compact body

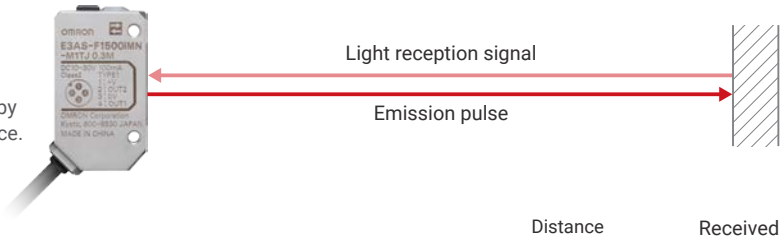
Eliminate restrictions on installing locations.

Actual size

TOF method to stably detect various workpieces

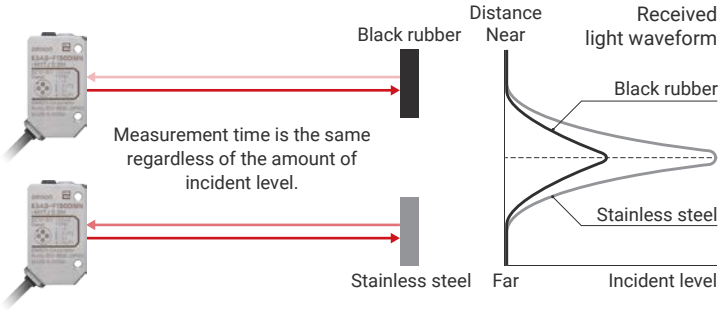
TOF method

In the TOF ("Time of Flight") method, the distance is calculated from the time elapsed between the light emission and its reception by the sensor, after it is reflected off the workpiece.



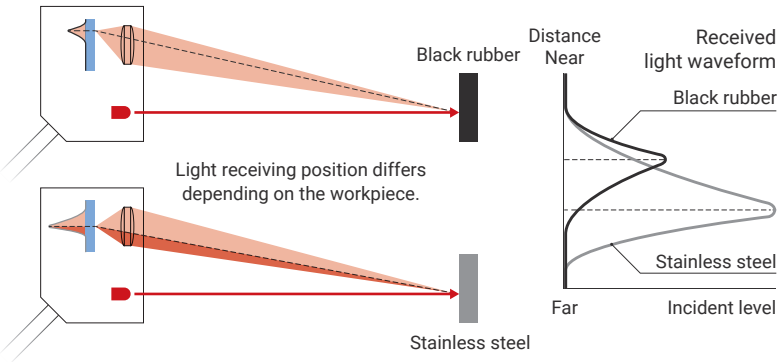
Why TOF method enables stable detection

In the TOF method, the distance is measured based on the elapsed time. Measurements therefore are not affected by changes in the color or material of the workpiece. This allows for stable detection without adjustment for each workpiece. This method also enables sensors to detect objects even when the incident level is small. This means that workpieces with low reflectivity, such as black rubber, can be detected from longer distances.



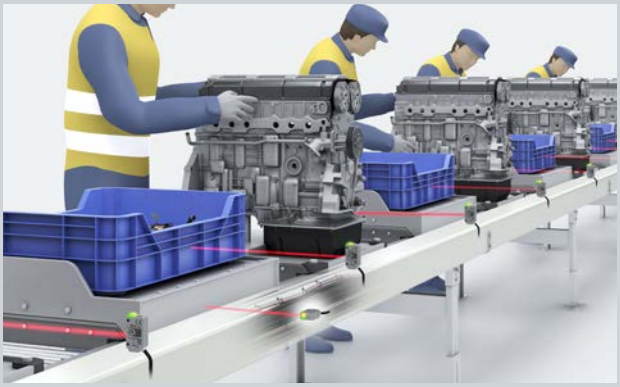
Why triangulation method needs adjustment

The distance is measured from the light receiving position in a triangulation method. The position varies due to changes in the received light waveform, which is affected by the reflectance properties (regular or diffuse) of the workpiece color or material. This means that the sensor needs to be adjusted for each workpiece. Workpieces with low reflectivity, such as black rubber, can only deliver a small amount of light, and thus can only be detected within shorter distances.



E3AS-F Application

Conveyor line P.4



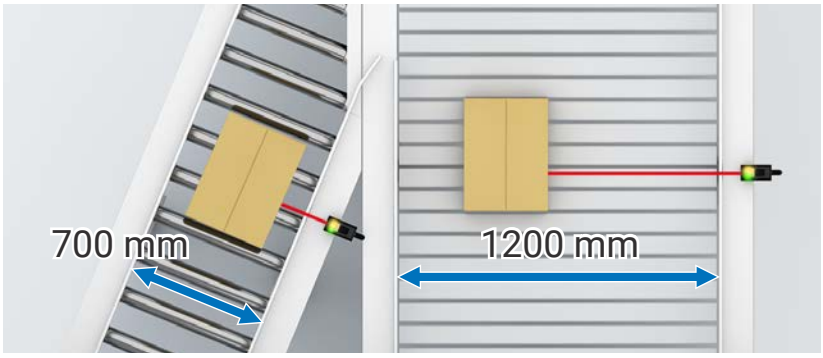
Engine assembly line P.6

Design diverging and converging conveyor lines with a

E3AS-F Sensors can detect workpieces by the set distance regardless of their colors or materials, reducing the time required for evaluation and adjustment of each workpiece. Compared to through-beam and retro-reflective models, they require half the work to install, significantly saving setup time.

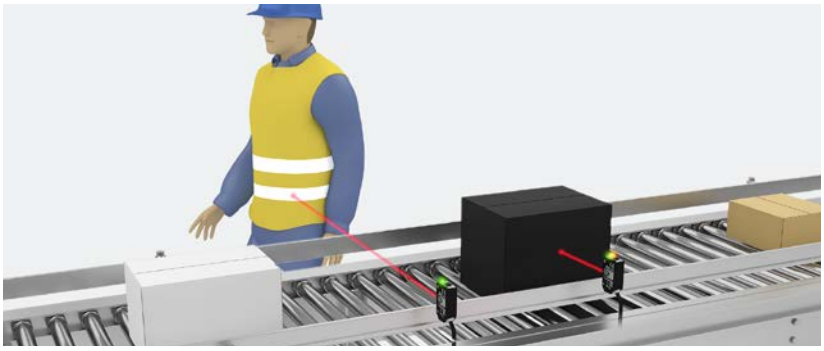
E3AS-F1□□□P

single model



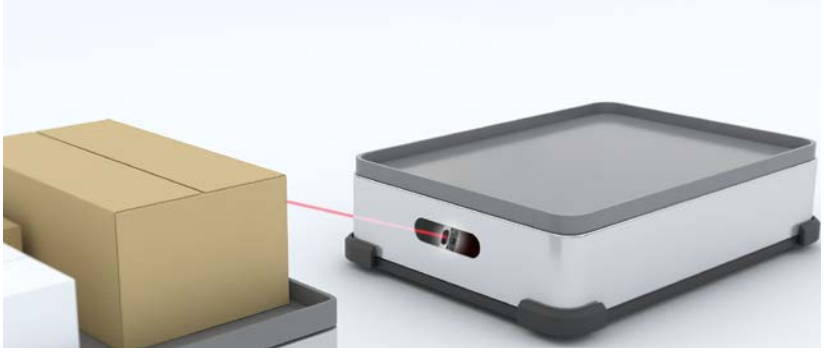
Wide sensing range for various conveyor line widths

Previously, users had to select sensors depending on the required sensing distance. With E3AS-F Sensors, which have a wide sensing range of 50 to 1,500 mm, there is no need to select a different sensor for each application.



TOF method enables detection of various workpieces on the conveyor line

With conventional photoelectric sensors, prior evaluation was required for each workpiece to be detected. E3AS-F Sensors detect workpieces varying in colors and materials by the set distance. This helps reduce evaluation and adjustment time. Also, they do not detect workers working near the line by mistake.

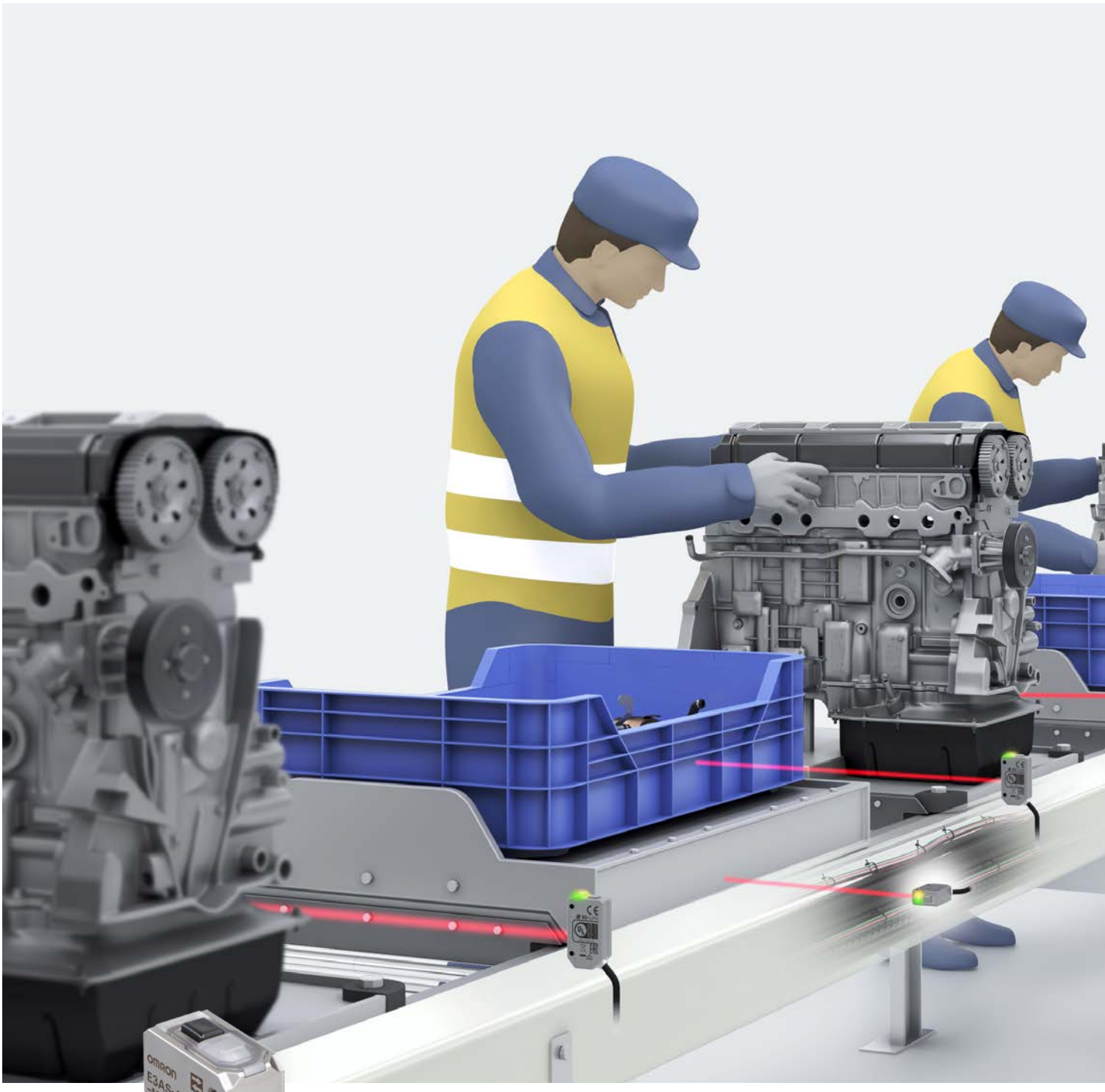


Small enough to be installed in AGVs

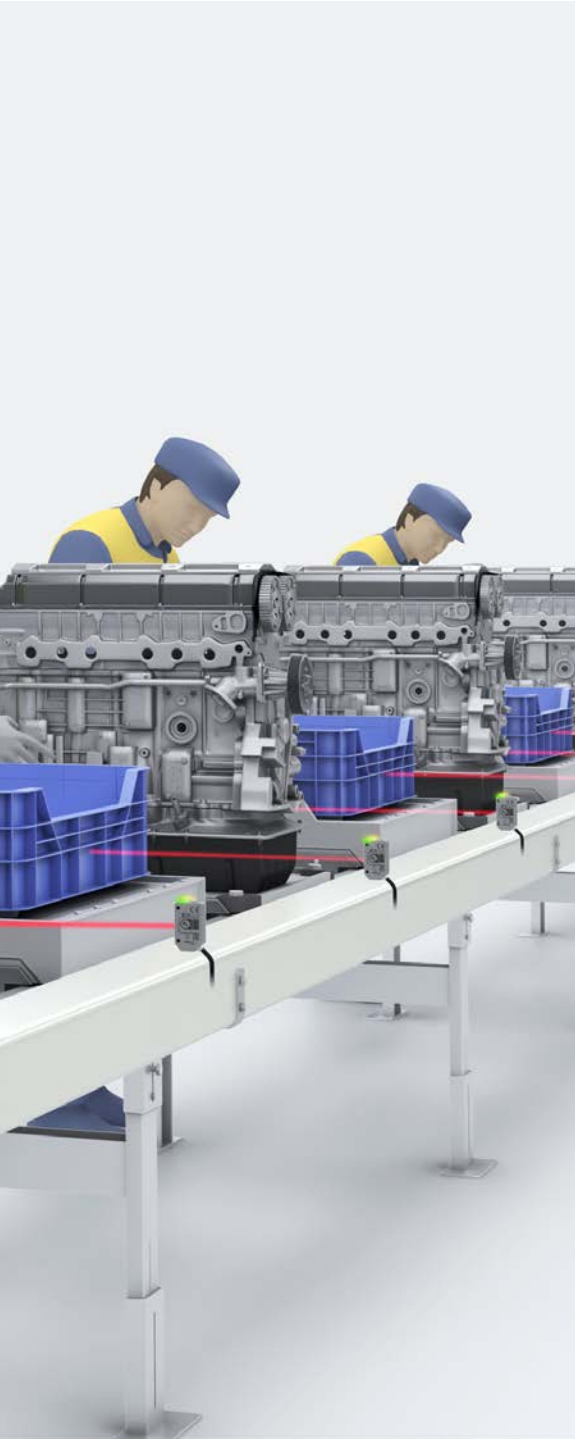
Because of their large sizes, conventional long-distance reflective sensors were limited in where they could be installed. E3AS-F Sensors have been significantly downsized, allowing them to be installed in various locations, providing more design flexibility.

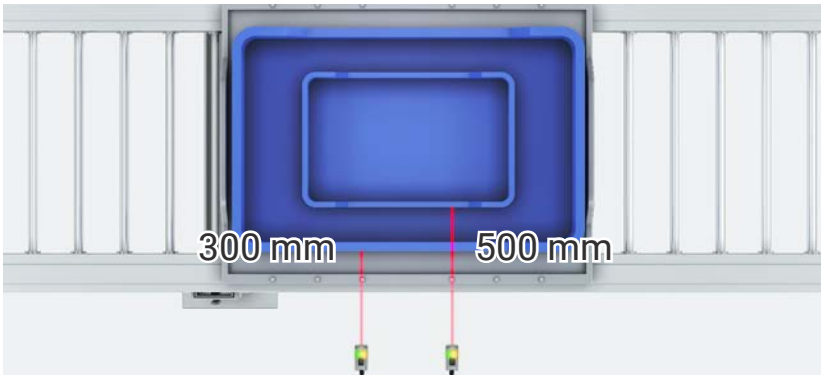
Free from installation restrictions on assembly lines

Previously, installing sensors in the assembly area ran the risk of their colliding with tools and workpieces, causing sensor failures or optical axis misalignment, both of which would lead to false detections. E3AS-F Sensors, with their long sensing distances, can detect objects from outside the assembly area, effectively reducing the frequency of line stoppages caused by unnecessary problems. Their compact size allows them to be installed in various locations.



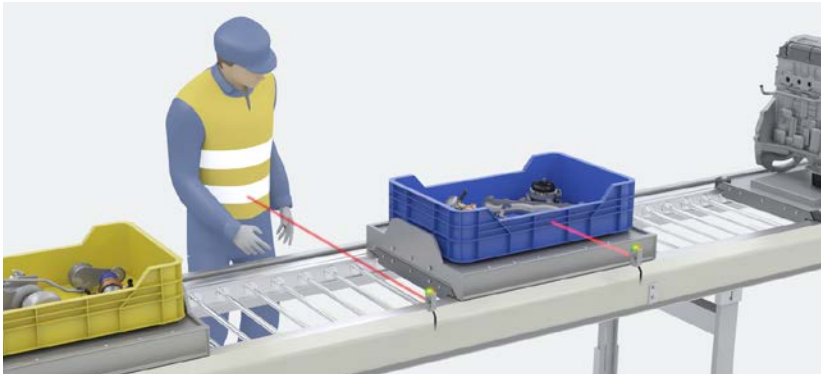
E3AS-F1□□□M





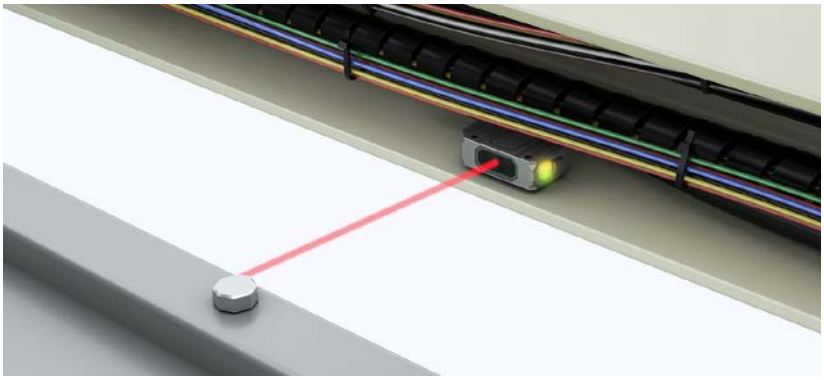
Wide sensing range to address changes in workpiece sizes

Conventional photoelectric sensors needed to be moved or replaced when the distance between the sensor and the workpiece changed. E3AS-F Sensors, with their 50 to 1,500 mm sensing range, can be used without replacement even if a new workpiece is added for detection.



TOF method to detect various workpieces

With conventional photoelectric sensors, prior evaluation was required for each workpiece to be detected. E3AS-F Sensors detect workpieces varying in colors and materials by the set distance, help reduce evaluation and adjustment time. They are unaffected by color variations that may be caused by workpiece contamination, and do not detect workers working near the line by mistake.



Small enough to be added to confined spaces

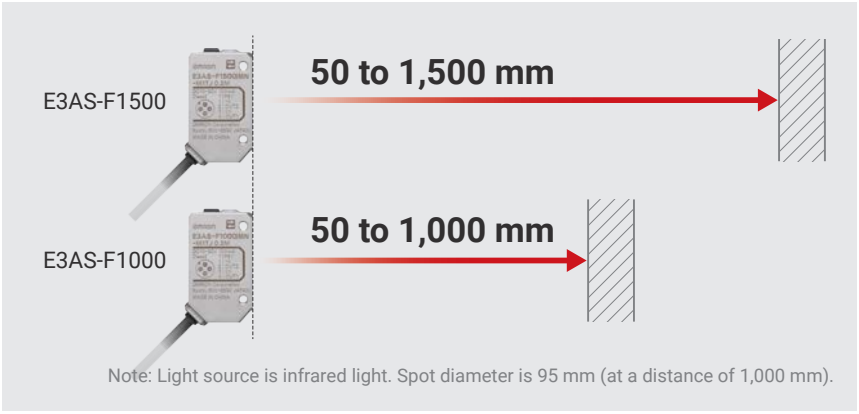
Conventional photoelectric sensors, because of their large sizes, could not be newly added to a line without modifying the line itself. E3AS-F Sensors can be installed in various locations, making sensor addition easier.

Reduce selection/commissioning time

Two types to choose from, according to installation environments

Offered in two types of cases: metal or resin. Their sensing ranges are the same.

Actual size W 11.4 x D 22 x H 37.9 mm



Note: Light source is infrared light. Spot diameter is 95 mm (at a distance of 1,000 mm).

Short-distance sensing models also available

Equipped with OMRON's unique light emitting element for stable detection of workpieces with low reflectivity. Ideal for detecting small, thin workpieces.

Distance-settable Photoelectric Sensors

E3AS-L Series

Sensing range **10 to 80 mm**
10 to 200 mm

One-touch teaching to prevent inconsistent settings

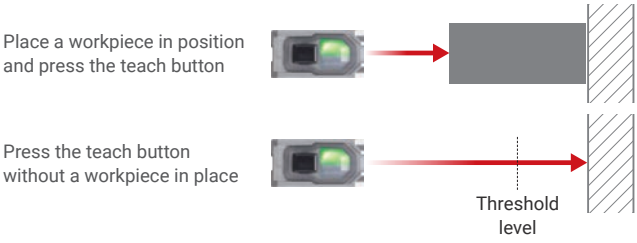
Anyone can easily and consistently set the optimal threshold level just by pressing the teaching button.

Background teaching

Set the threshold at approx. 85% of the distance between the sensor and the background (reference surface).

Two-point teaching

Sets the threshold at a value halfway between that when a workpiece is present and that when one is not. Settings can be done with the workpiece present first or in the reverse way.



Reduce sensor cleaning time and replacement frequency

Antifouling coating prevents contamination on the sensing surface Industry First *1 Patent Pending *2

Dirty sensing surface can cause false detection due to the principle of photoelectric sensors. E3AS Series with the antifouling coating on the sensing surface, which is the industry's first, prevents water droplets, oil, and dust from sticking to the sensing surface, and keeps the lens from fogging as well. Therefore, the coating prevents contamination on the sensing surface in environments where oil or dust scatters, or steam generates. False detection and cleaning frequency are also reduced.

Water

Cutting oil

Paper dust

Water vapor

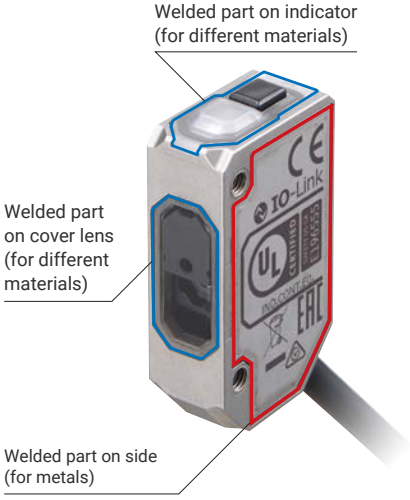
Laser welding technologies for different materials/metals for increased environmental resistance

The sensor case is made of stainless steel (SUS316L). OMRON's two unique technologies, laser welding technology for different materials and laser welding technology for metals, enhanced the sealing and adhesion between the stainless steel and resin.

IP69K High temperatures/ high water pressure

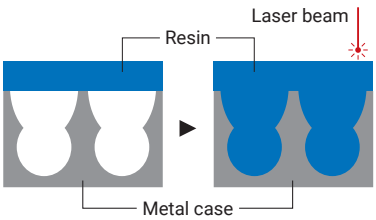
IP67G Oil resistance

ECOLAB Detergent resistance



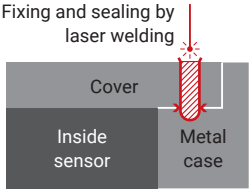
Laser welding technology for different materials Patented *2

It is a technology to weld different materials, resin and metal, using laser beams. Small holes are bored into the metal case, then melt the resin part by laser. The melted resin fills the holes for secure sealing and adhesion.



Laser welding technology for metals

The metal case and cover are welded by a laser beam to seal the gaps. This provides higher airtightness compared to adhesives, keeping out water, oil, and other substances to reduce failures.



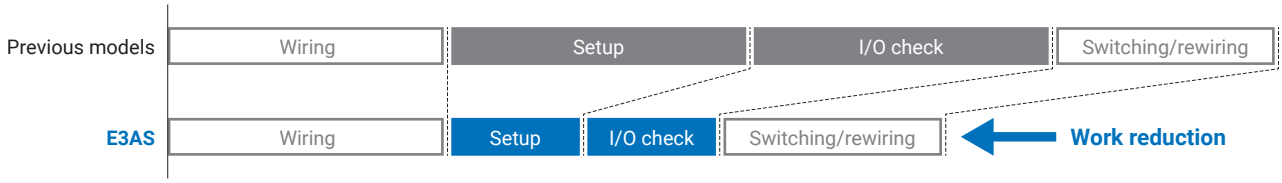
*1. Based on September 2019 OMRON investigation.

*2. "Patent pending" means that we applied for a patent in Japan, and "Patented" means that we obtained a patent in Japan. (As of August 2019)

Reduce commissioning and change overtime

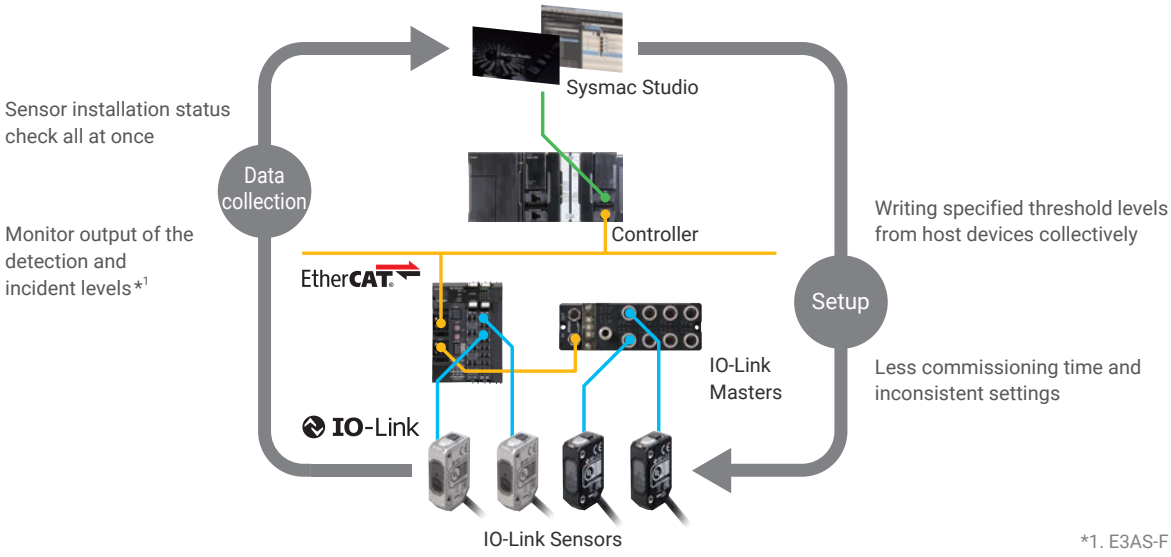
IO-Link dramatically reduces commissioning time

IO-Link enables batch-writing of sensor setting information, effectively reducing commissioning time and inconsistent settings. It also enables users to check sensor IDs, allowing them to efficiently perform I/O checks on the thousands of sensors installed on the line.



Setup Setting all sensors from a host device at the same time

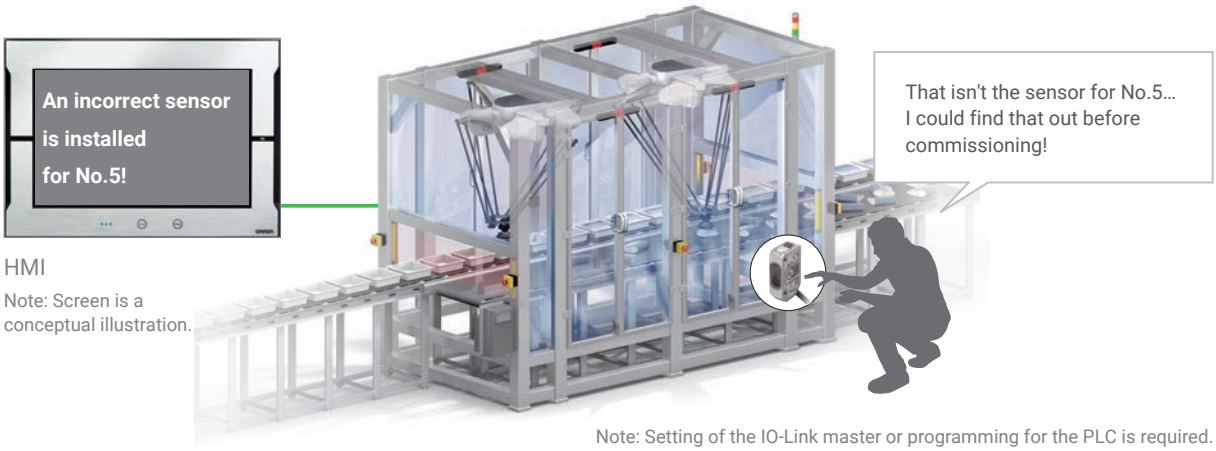
Sensor setting information can be batch-written, eliminating the need to set a large number of sensors one by one at sites.



*1. E3AS-F only

I/O check ID check prevents installation mistakes

Sensor IDs can be collectively checked, making it easy for users to check misconnected or unconnected sensors, and installation mistakes.



HMI

Note: Screen is a conceptual illustration.

Note: Setting of the IO-Link master or programming for the PLC is required.

MEMO

MEMO

Distance-settable Photoelectric Sensor TOF Laser Sensor

E3AS-F Series

Achieving “innovations in distance” for reflective-type photoelectric sensors Optimal sensing distance (50 to 1,500 mm) for use on conveyor lines

- TOF-type sensors for used with any type of conveyed workpiece
- Compact-sized body can be mounted anywhere (Metal case type (SUS316L), Plastic case type)
- Antifouling coating prevents contamination on the sensing surface
- Teaching method allows anyone to set optimal threshold values
- Manufactured using OMRON's proprietary laser sealing method (IP67/IP69K/IP67G *)
- Antifouling coatings reduce the cleaning frequency on the sensing surface

* Only for sensor units.

Refer to *Safety Precautions* on page 21.

For the most recent information on models that have been certified for safety standards, refer to your OMRON website.

Ordering Information

Sensors [Refer to *Dimensions* on page 23.]

Metal case type

Infrared light

Connection method	Sensing distance (white paper)	Output	Model		
			NPN output	PNP output	PNP output
		IO-Link baud rate	---	COM2 (38.4 kbps)	COM3 (230.4 kbps)
Pre-wired (2 m) *1	50 mm – 1,500 mm		E3AS-F1500IMN 2M	E3AS-F1500IMD 2M	E3AS-F1500IMT 2M
M8 Connector			E3AS-F1500IMN M3	E3AS-F1500IMD M3	E3AS-F1500IMT M3
M8 Pre-wired Connector			E3AS-F1500IMN-M3J 0.3M	E3AS-F1500IMD-M3J 0.3M	E3AS-F1500IMT-M3J 0.3M
M12 Pre-wired Connector *2			E3AS-F1500IMN-M1TJ 0.3M	E3AS-F1500IMD-M1TJ 0.3M	E3AS-F1500IMT-M1TJ 0.3M
Pre-wired (2 m) *1	50 mm – 1,000 mm		E3AS-F1000IMN 2M	E3AS-F1000IMD 2M	E3AS-F1000IMT 2M
M8 Connector			E3AS-F1000IMN M3	E3AS-F1000IMD M3	E3AS-F1000IMT M3
M8 Pre-wired Connector			E3AS-F1000IMN-M3J 0.3M	E3AS-F1000IMD-M3J 0.3M	E3AS-F1000IMT-M3J 0.3M
M12 Pre-wired Connector *2			E3AS-F1000IMN-M1TJ 0.3M	E3AS-F1000IMD-M1TJ 0.3M	E3AS-F1000IMT-M1TJ 0.3M

Plastic case type

Connection method	Sensing distance (white paper)	Output	Model		
			NPN output	PNP output	PNP output
		IO-Link baud rate	---	COM2 (38.4 kbps)	COM3 (230.4 kbps)
Pre-wired (2 m) *1	50 mm – 1,500 mm		E3AS-F1500IPN 2M	E3AS-F1500IPD 2M	E3AS-F1500IPT 2M
M8 Connector			E3AS-F1500IPN M3	E3AS-F1500IPD M3	E3AS-F1500IPT M3
M8 Pre-wired Connector			E3AS-F1500IPN-M3J 0.3M	E3AS-F1500IPD-M3J 0.3M	E3AS-F1500IPT-M3J 0.3M
M12 Pre-wired Connector *2			E3AS-F1500IPN-M1TJ 0.3M	E3AS-F1500IPD-M1TJ 0.3M	E3AS-F1500IPT-M1TJ 0.3M
Pre-wired (2 m) *1	50 mm – 1,000 mm		E3AS-F1000IPN 2M	E3AS-F1000IPD 2M	E3AS-F1000IPT 2M
M8 Connector			E3AS-F1000IPN M3	E3AS-F1000IPD M3	E3AS-F1000IPT M3
M8 Pre-wired Connector			E3AS-F1000IPN-M3J 0.3M	E3AS-F1000IPD-M3J 0.3M	E3AS-F1000IPT-M3J 0.3M
M12 Pre-wired Connector *2			E3AS-F1000IPN-M1TJ 0.3M	E3AS-F1000IPD-M1TJ 0.3M	E3AS-F1000IPT-M1TJ 0.3M

*1. Models with 5-m cable length are also available with “5M” suffix. (Example: E3AS-F1500IMN 5M/E3AS-F1500IPN 5M)
*2. The Pre-wired Connector (M12) is Smartclick Connector.

Accessories (Sold Separately)

Sensor I/O Connectors (Sockets on One Cable End)

(Models for Connectors / Pre-wired Connectors)

A Sensor I/O Connector is not provided with the Sensor. It must be ordered separately as required.

Round Water-resistant Connectors XS3F-M8 series

Appearance	Cable specification	Cable diameter (mm)	Cable connection direction	Cable length (m)	Sensor I/O Connector model number
M8 Connector Straight type  Right-angle type 	PVC cable	5 dia.	Straight	2	**XS3F-M8PVC4S2M**
				5	**XS3F-M8PVC4S5M**
			Right-angle	2	**XS3F-M8PVC4A2M**
				5	**XS3F-M8PVC4A5M**

Note: 1. The XS3W (Socket and Plug on Cable Ends) is also available. Refer to *XS3W-M8/XS3F-M8 Series Datasheet* (Cat. No. G140).
2. The connectors will not rotate after they are connected.
3. The cable is fixed at an angle of 180° from the sensor emitter/receiver surface.

Round Water-resistant Connectors XS5 series

Appearance	Cable specification	Cable diameter (mm)	Cable connection direction	Cable length (m)	Sensor I/O Connector model number
M12 Smartclick Connector Straight type  Right-angle type 	PVC robot cable	6 dia.	Straight	2	**XS5F-D421-D80-F**
				5	**XS5F-D421-G80-F**
			Right-angle	2	**XS5F-D422-D80-F**
				5	**XS5F-D422-G80-F**

Note: 1. The XS5W (Socket and Plug on Cable Ends) is also available. Refer to *XS5* on your OMRON website for details.
2. The connectors will not rotate after they are connected.
3. The cable is fixed at an angle of 180° from the sensor emitter/receiver surface.

Mounting Brackets [Refer to *Dimensions* on page 24.]

A Mounting Bracket is not enclosed with the Sensor. Order a Mounting Bracket separately if required.

Appearance	Model (material)	Applicable Sensor E3AS series			
		Pre-wired	M8 Pre-wired Connector	M12 Pre-wired Smartclick Connector	M8 Connector
L-shaped Mounting Bracket 	E39-L201 (SUS304)	Yes	Yes	Yes	---
Horizontal Protective Cover Bracket 	E39-L202 (SUS304)	Yes	Yes	Yes	---
Rear Mounting Bracket 	E39-L203 (SUS304)	Yes	Yes	Yes	Yes *2
Robust Mounting Bracket 	E39-L204 (SUS304)	Yes	Yes	Yes	---
L-shaped Mounting Bracket 	E39-L211 (SUS304)	--- *1	--- *1	--- *1	Yes *3
Horizontal Protective Cover Bracket 	E39-L212 (SUS304)	--- *1	--- *1	--- *1	Yes *3
Robust Mounting Bracket 	E39-L214 (SUS304)	--- *1	--- *1	--- *1	Yes *3

*1. Can be used for Pre-wired models, M8 Pre-wired Connector models, and M12 Pre-wired Smartclick Connector models. However, confirm the bracket shape in advance.
*2. Confirm the installation environment and bracket shape of the Sensor I/O Connector to be connected.
*3. Use an L-shaped Sensor I/O Connector. Straight types cannot be installed.

Ratings and Specifications

Model	Sensing method	TOF (Time of flight)	
	Type	Metal case (□: M), Plastic case (□: P)	
	NPN output	E3AS-F1500I□N	E3AS-F1000I□N
	PNP output/ COM2	E3AS-F1500I□D	E3AS-F1000I□D
Item	PNP output/ COM3	E3AS-F1500I□T	E3AS-F1000I□T
Sensing distance		50 mm to the set distance (White paper or black paper 200 × 200 mm)	50 mm to the set distance (White paper or black paper 200 × 200 mm)
Setting range		100 to 1,500 mm (White paper 200 × 200 mm) 100 to 1,000 mm (Black paper 200 × 200 mm)	100 to 1,000 mm (White paper 200 × 200 mm) 100 to 500 mm (Black paper 200 × 200 mm)
Spot diameter (reference value)		95 mm dia. (at distance of 1,000 mm)	
Differential travel		15% max. of set distance (Set distance 200 mm min.)	
Reflectivity characteristic (black/white error)		10% max. of set distance (Set distance 200 mm min.)	
Light source (wavelength)		Infrared laser (940 nm) Class1 (IEC/EN60825-1:2014)	
Power supply voltage		10 to 30 VDC (including 10% ripple (p-p)), Class2	
Current consumption		30 mA max.	
Input/output	Control output	Load power supply voltage: 30 VDC max., Class2, Load current: 100 mA max. (Residual voltage: Load current of less than 10 mA: 1 V max. Load current of 10 to 100 mA: 2 V max.) Open-collector output (NPN/PNP output depending on model)	
	NPN	OUTPUT 1: NO (Normally open), OUTPUT 2: NC (Normally closed)	
	PNP/COM2 PNP/COM3	OUTPUT 1: NO (Normally open)/COM□, OUTPUT 2: NC (Normally closed)	
Protection circuits		Power supply reverse polarity protection, Output short-circuit protection, and Output reverse polarity protection	
Response time		Operate or reset: 150 ms max.	Operate or reset: 90 ms max.
Distance setting		Teaching method/IO-Link communications	
Ambient illumination (Receiver side)		Incandescent lamp: 3,000 lx max., Sunlight: 10,000 lx max.	
Ambient temperature range		Operating: -20 to 55°C, Storage: -40 to 70°C (with no icing or condensation)	
Ambient humidity range		Operating: 35% to 85%, Storage: 35% to 95% (with no condensation)	
Insulation resistance		20 MΩ min. at 500 VDC	
Dielectric strength		1,000 VAC, 50/60 Hz for 1 min	
Vibration resistance		10 to 55 Hz with a 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions	
Shock resistance		500 m/s^2 for 3 times each in X, Y, and Z directions	
Degree of protection		IP67 (IEC60529) and IP67G *1 (JIS C 0920 Annex 1), IP69K (ISO20653)	
Indicators		Operation indicator (orange), stability/communication indicator (green *2) *2. IO-Link mode: blinking	
Connection method		Pre-wired (standard cable length: 2 m), M8 Connector, M8 Pre-wired Connector (standard cable length: 0.3m), M12 Pre-wired Smartclick Connector (standard cable length: 0.3m)	
Weight (packed state/ Sensor only)	Pre-wired (2 m)	Metal case type: Approx. 135 g/approx. 90 g Plastic case type: Approx. 115 g/approx. 70 g	
	M8 Connector	Metal case type: Approx. 75 g/approx. 30 g Plastic case type: Approx. 60 g/approx. 15 g	
	M8 Pre-wired Connector (0.3m)	Metal case type: Approx. 85 g/approx. 40 g Plastic case type: Approx. 70 g/approx. 25 g	
	M12 Pre-wired Smartclick Connector (0.3m)	Metal case type: Approx. 95 g/approx. 50 g Plastic case type: Approx. 75 g/approx. 30 g	
Materials	Case	Metal case type: Main unit/mounting part/connector part Stainless steel (SUS316L) Plastic case type: Main unit Polybutylene terephthalate (PBT) /polycarbonate (PC), Mounting part/connector part Nickel-plated brass	
	Lens	Methacrylate resin (PMMA)	
	Display	Metal case type: Polyamide 11 (PA11) Plastic case type: Polyethersulfone (PES)	
Main IO-Link functions		Operation mode switching between NO and NC, execution of teaching (2-point teaching, Background teaching), setup of the threshold, timer function of the control output and timer time selecting, monitor output (Detection level, Incident light level), Restore Factory Settings, Key Lock (Unlock, Lock, Lock (No Button))	
IO-Link Communication specifications	IO-Link specification	Ver. 1.1	
	Baud rate	COM2 (38.4 kbps), COM3 (230.4 kbps)	
	Data length	PD size: 4 bytes, OD size: 1 byte (M-sequence type: TYPE_2_V)	
	Minimum cycle time	COM2: 3.5 ms, COM3: 1.2 ms	
Accessories		Instruction manual, compliance sheet, index list (attached for IO-Link type only) and FDA certification label Note: Mounting Brackets must be ordered separately.	

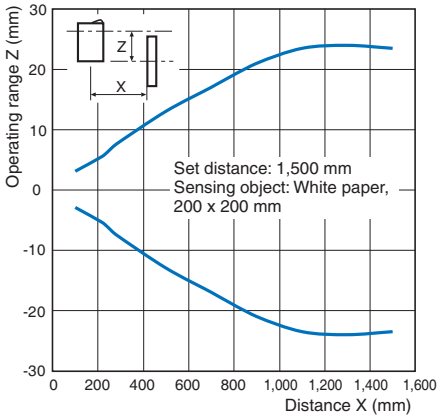
*1. The IP67G is the degree of protection which is defined according to the JIS (Japanese Industrial Standards).
The IP67 indicates the same level of protection as defined by the IEC, and the G indicates that a device has resistance to oil.

Engineering Data (Reference Value)

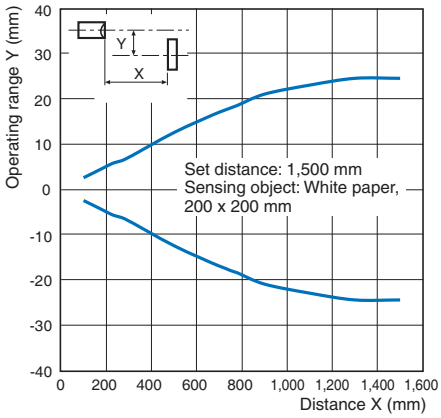
Operating Range

E3AS-F1500□

Z directions

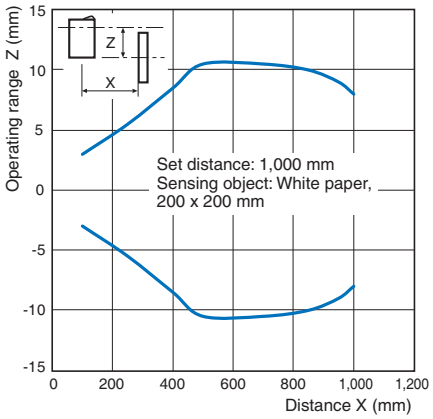


Y directions

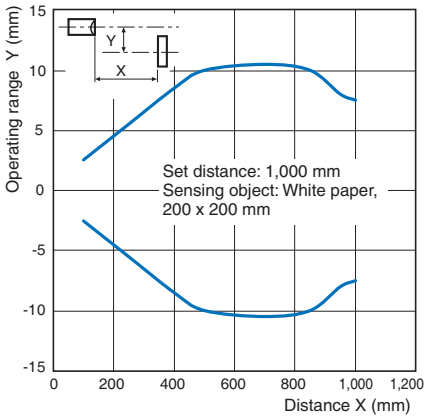


E3AS-F1000□

Z directions

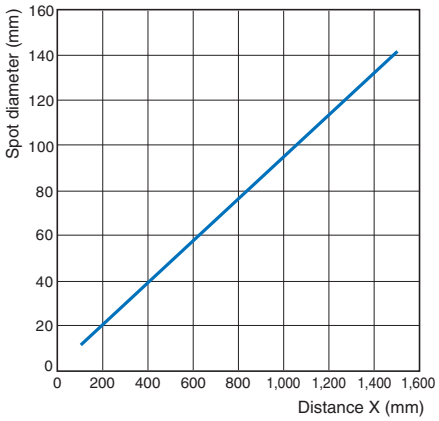


Y directions



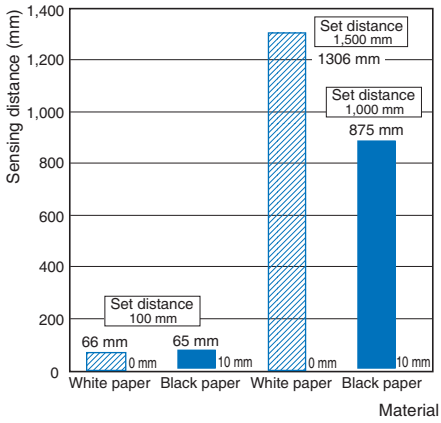
Spot Diameter vs. Sensing Distance

E3AS-F1500□
E3AS-F1000□

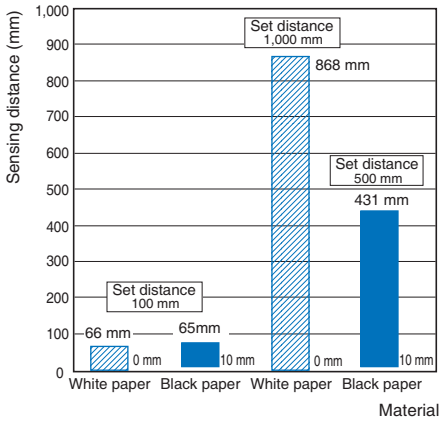


Close-range Characteristics

E3AS-F1500□

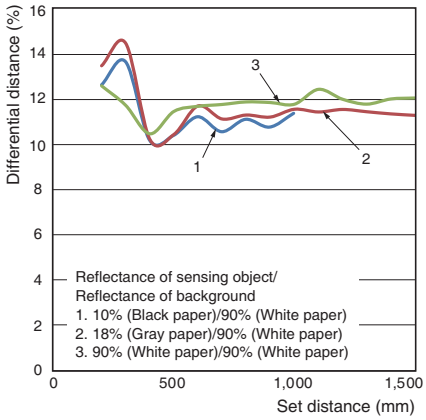


E3AS-F1000□

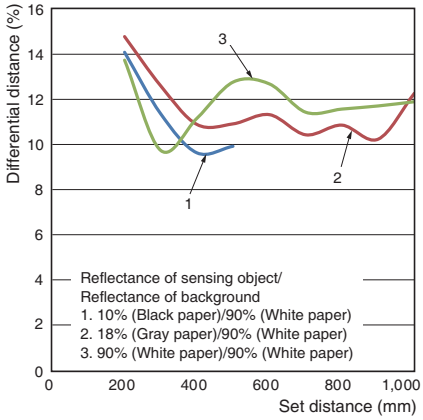


Differential distance for each sensing object Vs. Distance

E3AS-F1500□



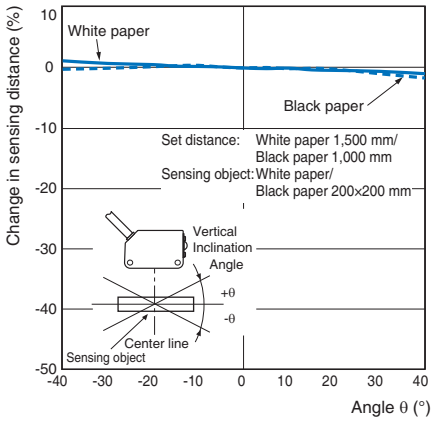
E3AS-F1000□



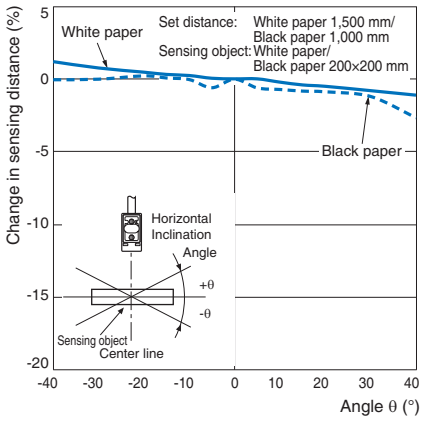
Sensing Object Angle Characteristics

E3AS-F1500□

Vertical

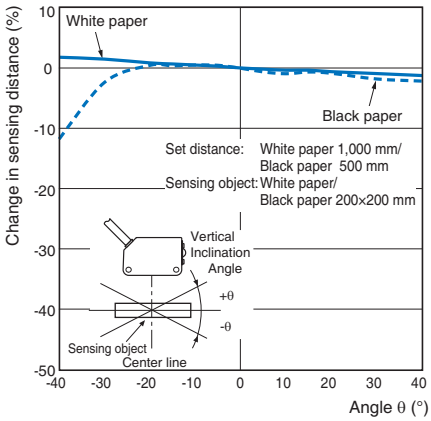


Horizontal

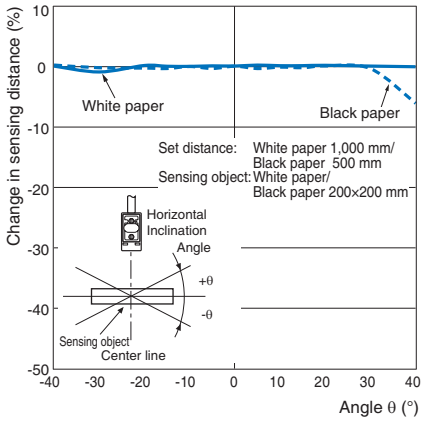


E3AS-F1000□

Vertical

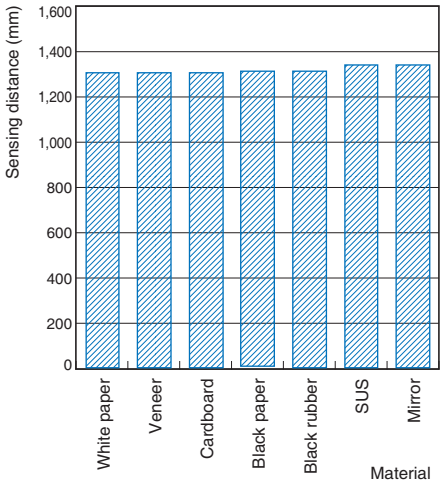


Horizontal

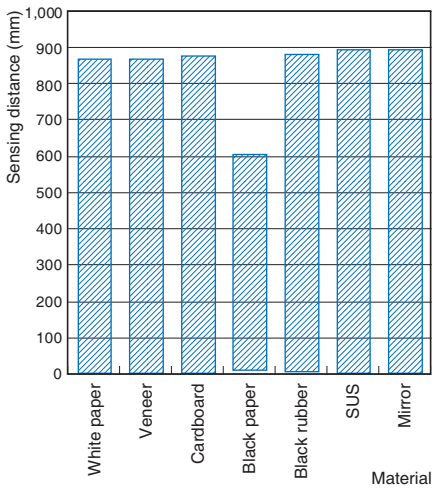


Sensing Distance vs. Sensing Object Material

E3AS-F1500□
(Set Distance of 1,500 mm using White Paper)

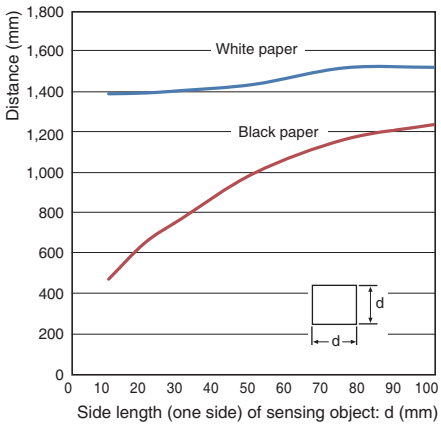


E3AS-F1000□
(Set Distance of 1,000 mm using White Paper)

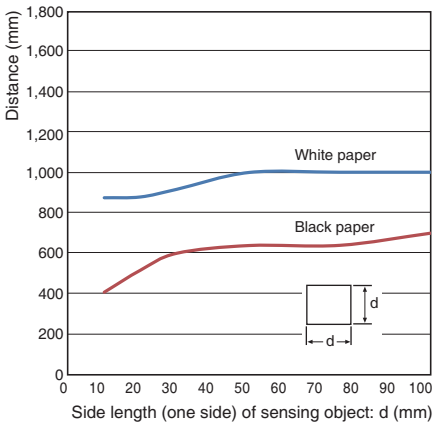


Sensing Object Size vs. Sensing Distance

E3AS-F1500□

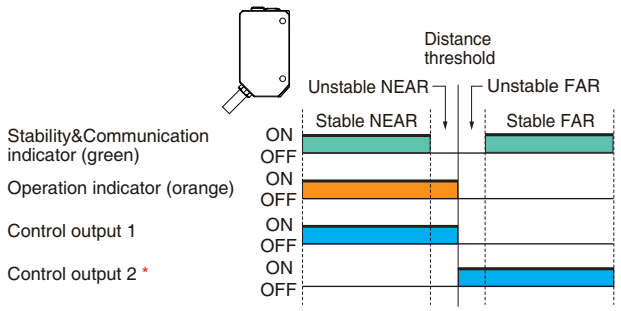
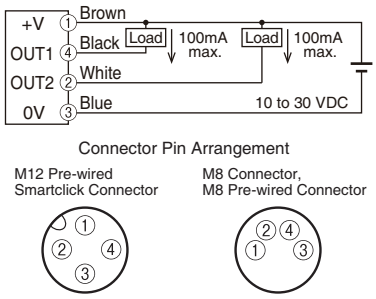


E3AS-F1000□



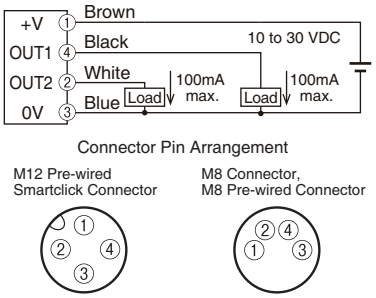
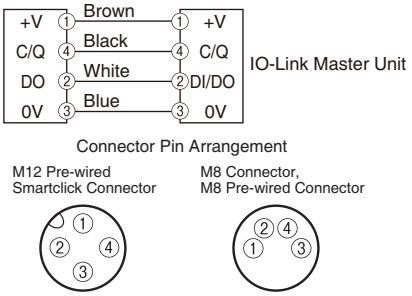
I/O Circuit Diagrams/ Timing Charts

NPN Output

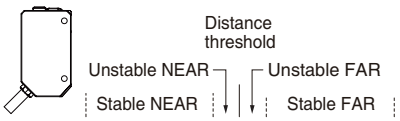
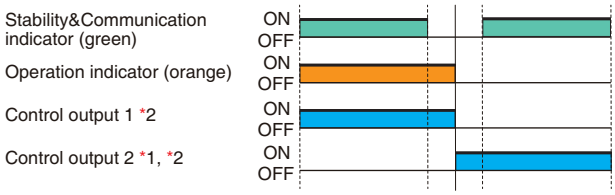
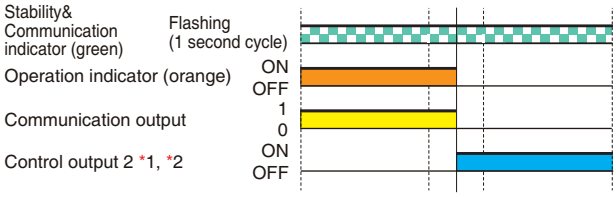
Model	Timing chart	Output circuit
E3AS-F1500I□N□ E3AS-F1000I□N□		

* The initial value of control output 2 is reverse of control output 1.

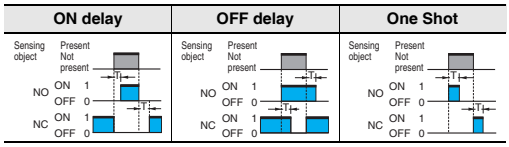
PNP Output

Model	Output circuit	
	Standard I/O mode (SIO mode) *1	IO-Link Communication mode (COM mode) *2
E3AS-F1500I□D□ E3AS-F1500I□T□ E3AS-F1000I□D□ E3AS-F1000I□T□		

*1. Standard I/O mode is used as PNP ON/OFF output.
*2. IO-Link Communication mode is used for communications with the IO-Link Master. C/Q performs IO-Link communications. Sensor output DO performs ON/OFF output.

	Timing charts
Output mode	
Standard I/O mode (SIO mode)	
IO-Link Communication mode (COM mode)	

*1. The initial value of control output 2 is reverse of control output 1.
*2. The timer function of the control output can be set up by the IO-Link communications. (It is able to select ON delay, OFF delay, or one-shot function and select a timer time of 1 to 9,999 ms (T).)

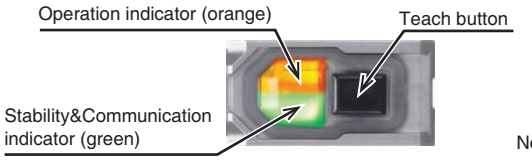


Please contact your OMRON sales representative regarding the IO-Link setup file (IODD file).

Note: Shown above are the factory settings. Refer to the index list for the default settings at time of shipment from factory.
PNP/COM output logic can be reversed by IO-Link communication.
The operation indicator (orange) lights up when control output 1 is ON or communication output is 1.

Nomenclature

E3AS-F1500□
E3AS-F1000□



Note: The indicators work differently depending on sensor status.

Safety Precautions

Be sure to read the precautions for all models in the website at: http://www.ia.omron.com/.

Warning Indications

⚠ WARNING	**Warning level** Indicates a potentially hazardous situation which, if not avoided, will result in minor or moderate injury, or may result in serious injury or death. Additionally there may be significant property damage.
⚠ CAUTION	**Caution level** Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or in property damage.
Precautions for Safe Use	Supplementary comments on what to do or avoid doing, to use the product safely.
Precautions for Correct Use	Supplementary comments on what to do or avoid doing, to prevent failure to operate, malfunction or undesirable effect on product performance.

Meaning of Product Safety Symbols

	**General prohibition** Indicates the instructions of unspecified prohibited action
	**Caution, explosion** Indicates the possibility of explosion under specific conditions
	**Laser Caution** Indicates information related to laser safety

⚠ WARNING

This product is not designed or rated for ensuring safety of persons either directly or indirectly. Do not use it for such purpose.

⚠ CAUTION

Never use the product with an AC power supply. Otherwise, explosion may result.

To safely use laser products

⚠ WARNING

Do not expose your eyes to the laser beam either directly or indirectly (i.e., after reflection from a mirror or shiny surface). The laser beam has a high power density and exposure may result in loss of sight.

Laser safety measures for laser equipment are stipulated in Japan and other countries. For usage in Japan and for export to other countries combined with other products, follow the instructions described below categorized in three cases respectively.

1. **Usage in Japan**
   The JIS C6802:2014 standard stipulates the safety precautions that users must take according to the class of the laser product. This product is classified into Class 1 defined by this standard.
2. **Usage in U.S.**
   When this product is installed in a device and exported to the U.S., it is subjected to the U.S. FDA (Food and Drug Administration) laser regulations. This product is classified into Class 1 by the IEC 60825-1:2007 standard according to the provisions of Laser Notice No. 50 of the FDA standard. This product is already reported to CDRH (Center for Devices and Radiological Health).
   Accession Number: 1920014-000
   Because the product is small, we can not attach an FDA certification label on the main body, so we enclose it in the packing box. When exporting a device equipped with the product to the U.S., attach an FDA certification label near the sensor mounting of customer equipment.

FDA certification label

3. **Usage in China**
   This product is classified into Class 1 by the IEC60825-1:2007 standard.
4. **Usage in a country other than U.S. and China.**
   This product is classified into Class 1 by the IEC60825-1:2014 standard.

Precautions for Safe Use

The following precautions must be observed to ensure safe operation.

(1) Do not reverse the power supply connection or connect to an AC current.
(2) Do not short the load.
(3) Be sure that before making supply the supply voltage is less than the maximum rated supply voltage (30 VDC).
(4) Do not use the product in environments subject to flammable or explosive gases.
(5) Do not use the product under a chemical or an oil environment without prior evaluation.
(6) Do not attempt to modify the product.

Precautions for Correct Use

(1) Do not hit the product using a hammer for installation.
(2) The product must be installed with the specified torque or less. For M8 connector, the proper tightening torque is from 0.3 to 0.4 N·m. For M12 connector, the proper tightening torque is from 0.39 to 0.49 N·m. In case of M12 smartclick connector, manually tighten the connector.
(3) Do not use the product in any atmosphere or environment that exceeds the ratings.
(4) Output pulses may occur when the power supply is turned OFF. We recommend that you turn OFF the power supply to the load or load line first.
(5) Use an extension cable less than 100 m long for Standard I/O mode and less than 20 m for IO-Link Communication mode.
(6) Do not pull on the cable with excessive strength.
(7) Please wait for at least 500 ms after turning on the product's power until it is available for use.
(8) Though this is type IP67, do not use in the water, rain or outdoors.
(9) If the Sensor wiring is placed in the same conduits or ducts as high-voltage or high-power lines, inductive noise may cause malfunction or damage. Wire the cables separately or use a shielded cable.
(10) Do not use the product in locations subject to direct sunlight.
(11) Do not use the product where humidity is high and dew condensation may occur.
(12) Do not use the product where corrosive gases may exist.
(13) If high-pressure washing water and so on hits the teach button, it might lead to malfunctioning. So, consider use of the key lock function.
(14) Do not apply high-pressure washing water directly to the sensor's light emitting / receiving surface from a short distance. As the antifouling feature may be impaired, keep a sufficient distance from the light emitting / receiving surface.
(15) Do not use the product at a location subject to shock or vibration.
(16) To use a commercially available switching regulator, FG (frame ground) must be grounded.
(17) Do not use organic solvents (e.g. paint thinner and alcohol) for cleaning. Otherwise optical properties and protective structure may deteriorate.
(18) Be sure to check the influence caused by surrounding environments such as background objects and LED lighting before using the product.
(19)  Please dispose in accordance with applicable regulations.

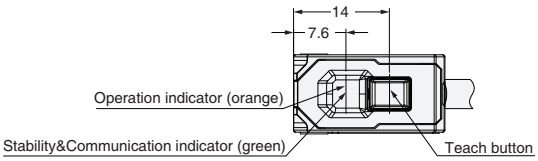
Dimensions

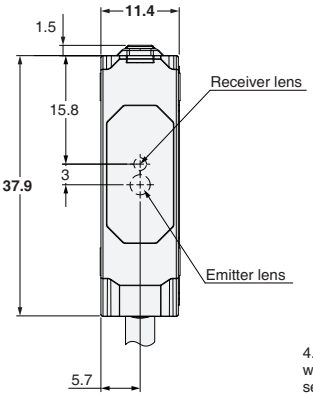
(Unit: mm)
Tolerance class IT16 applies to dimensions in this data sheet unless otherwise specified.

Sensors

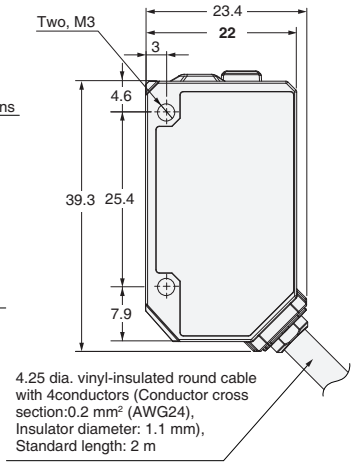
Pre-wired Models/Pre-wired Connector Models

E3AS-F1500□ (-M1TJ/-M3J)
E3AS-F1000□ (-M1TJ/-M3J)



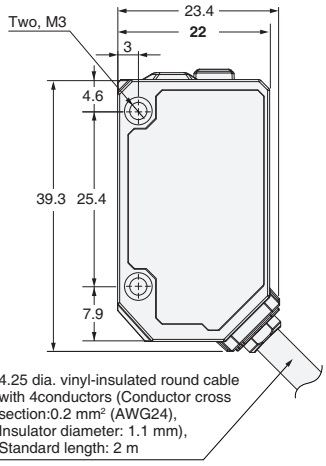


Metal case type



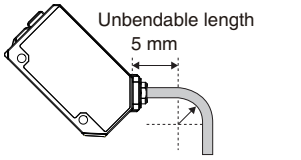
4.25 dia. vinyl-insulated round cable with 4conductors (Conductor cross section:0.2 mm² (AWG24), Insulator diameter: 1.1 mm), Standard length: 2 m

Plastic case type

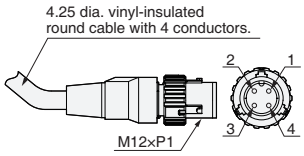


4.25 dia. vinyl-insulated round cable with 4conductors (Conductor cross section:0.2 mm² (AWG24), Insulator diameter: 1.1 mm), Standard length: 2 m

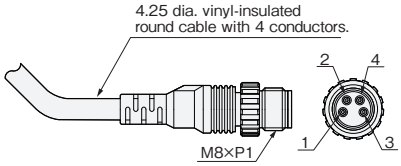
Minimum bending radius/unbendable length of cord



M12 Pre-wired Smartclick Connector type
E3AS-F1500□-M1TJ/E3AS-F1000□-M1TJ

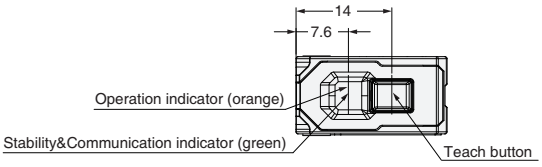


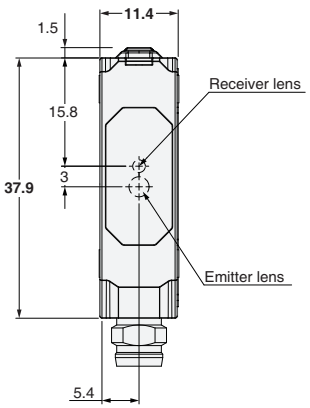
M8 Pre-wired connector type
E3AS-F1500□-M3J/E3AS-F1000□-M3J

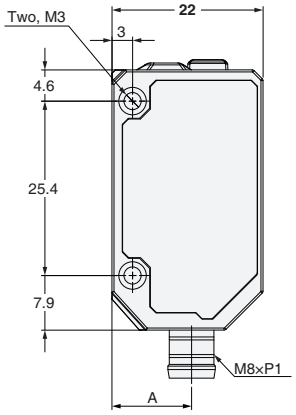


Connector Models

E3AS-F1500□ M3
E3AS-F1000□ M3





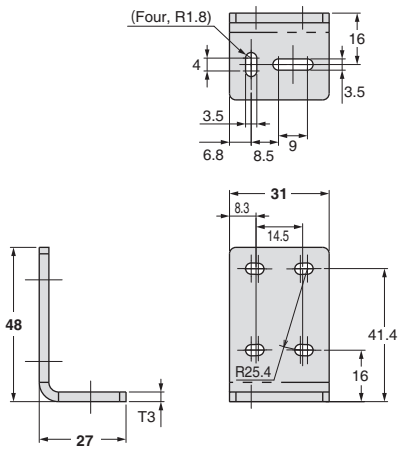


A:
Metal case type (E3AS-F□M□ M3) :9.6m
Plastic case type (E3AS-F□P□ M3) :11.6

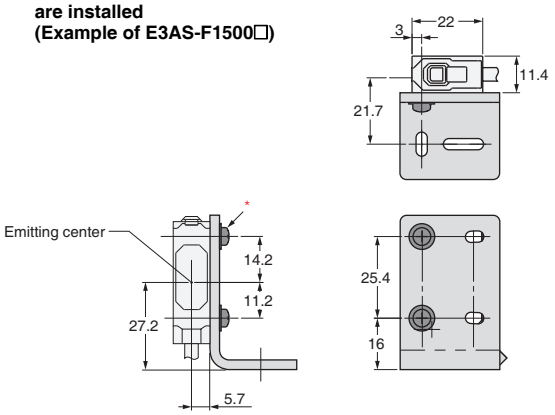
Accessories (Sold Separately)

Mounting Brackets

E39-L201

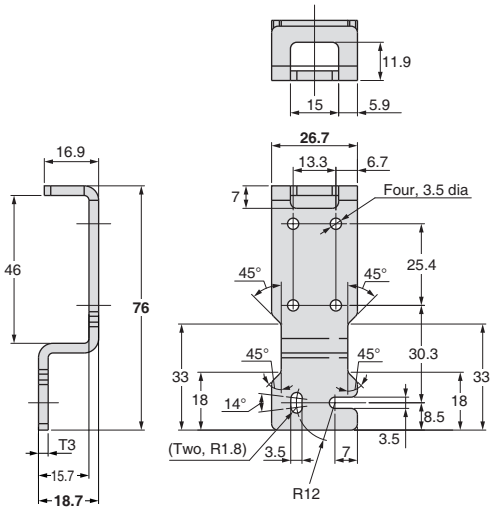


Photoelectric Sensor Accessory are installed (Example of E3AS-F1500□)

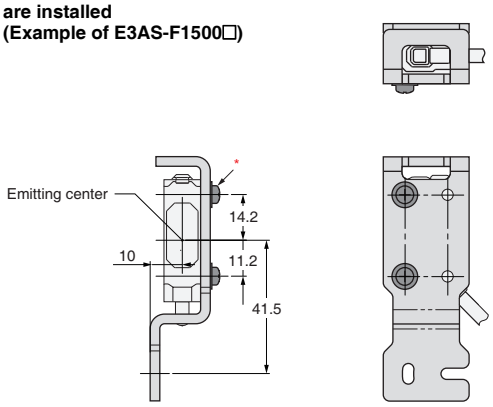


Material: Stainless steel (SUS304)
* Accessories
2-M3-L12 Cross Recessed Pan Head Screws (Attached to SW+JIS W)

E39-L202

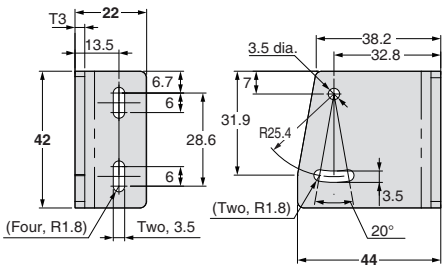


Photoelectric Sensor Accessory are installed (Example of E3AS-F1500□)

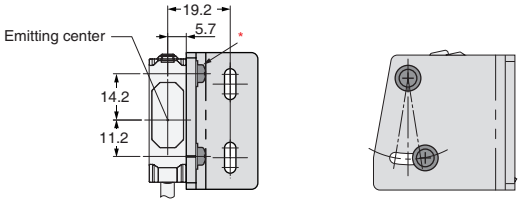


Material: Stainless steel (SUS304)
* Accessories
2-M3-L12 Cross Recessed Pan Head Screws (Attached to SW+JIS W)

E39-L203

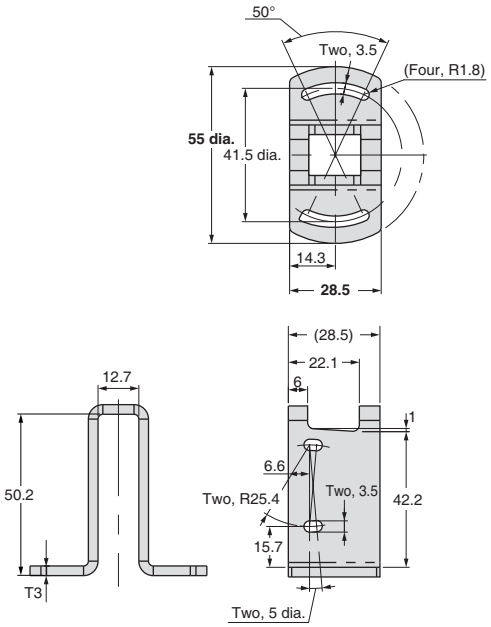


Photoelectric Sensor Accessory are installed (Example of E3AS-F1500□)

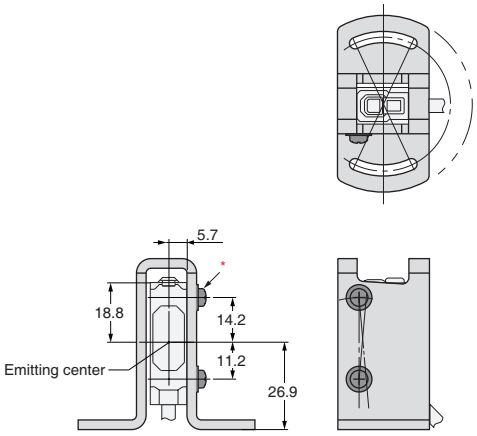


Material: Stainless steel (SUS304)
* Accessories
2-M3-L12 Cross Recessed Pan Head Screws (Attached to SW+JIS W)

E39-L204

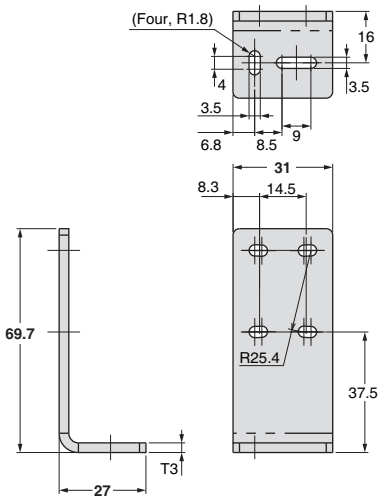


Photoelectric Sensor Accessory are installed (Example of E3AS-F1500☐)

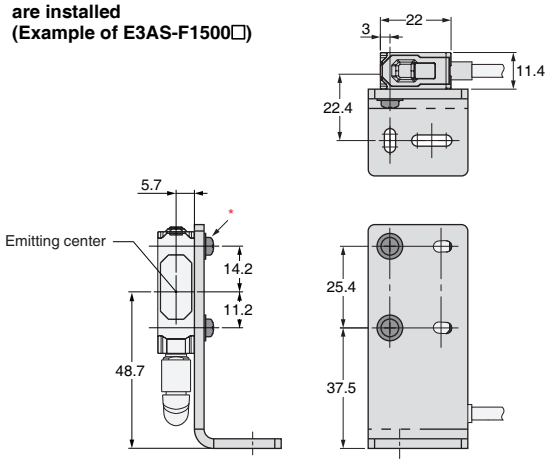


Material: Stainless steel (SUS304)
* Accessories
2-M3-L12 Cross Recessed Pan Head Screws (Attached to SW+JIS W)

E39-L211

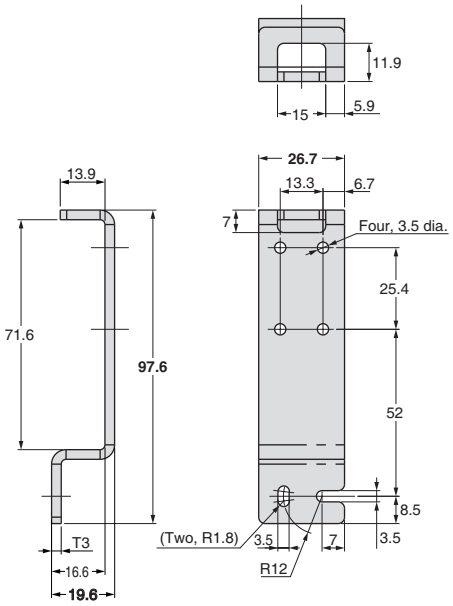


Photoelectric Sensor Accessory are installed (Example of E3AS-F1500☐)

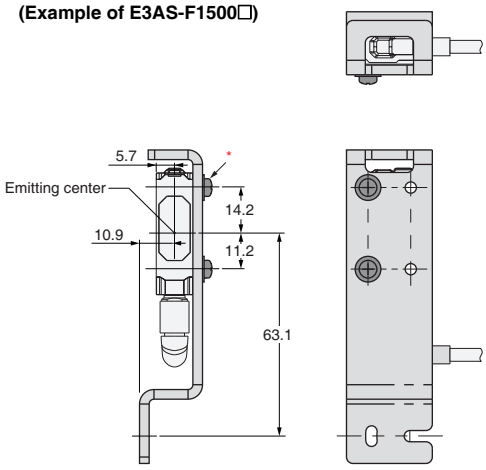


Material: Stainless steel (SUS304)
* Accessories
2-M3-L12 Cross Recessed Pan Head Screws (Attached to SW+JIS W)

E39-L212

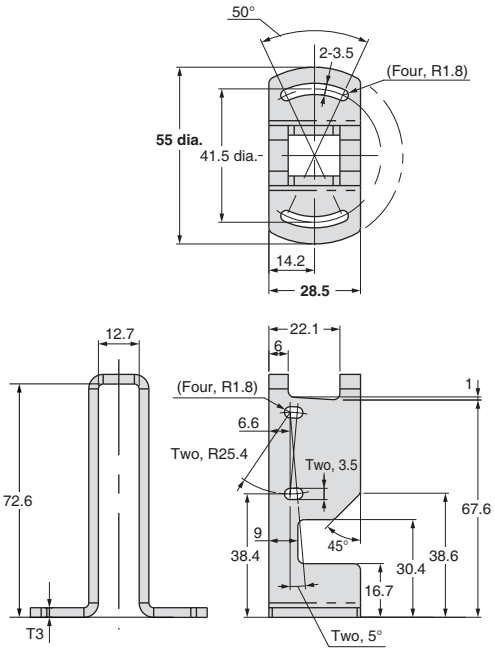


Photoelectric Sensor Accessory are installed (Example of E3AS-F1500☐)

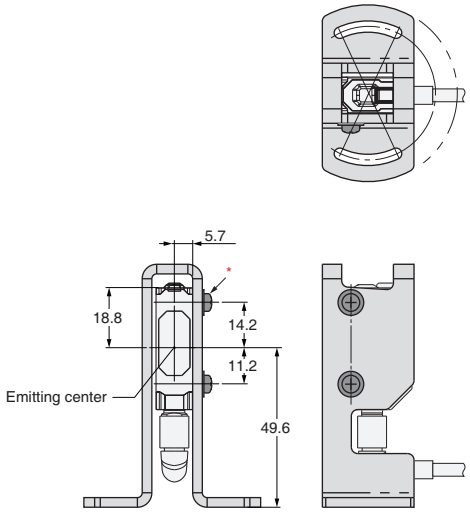


Material: Stainless steel (SUS304)
* Accessories
2-M3-L12 Cross Recessed Pan Head Screws (Attached to SW+JIS W)

E39-L214



Photoelectric Sensor Accessory are installed (Example of E3AS-F1500☐)



Material: Stainless steel (SUS304)
* Accessories
2-M3-L12 Cross Recessed Pan Head Screws (Attached to SW+JIS W)

Distance-settable Photoelectric Sensor

E3AS-L Series

Reflective sensor with a triangular method detects low-reflective workpieces more accurately

- Equipped with OMRON's proprietary light emitting element for stable detection of low-reflective workpieces
- Antifouling coating prevents contamination on the sensing surface
- Teaching method allows anyone to set optimal threshold values
- Manufactured using OMRON's proprietary laser sealing method (IP67/IP69K/IP67G *)

* Only for sensor units.

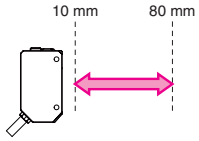
Refer to *Safety Precautions* on page 34.

For the most recent information on models that have been certified for safety standards, refer to your OMRON website.

Ordering Information

Sensors [Refer to *Dimensions* on page 35.]

Red light

Connection method	Sensing distance (white paper)	Output	Model		
			NPN output	PNP output	PNP output
		IO-Link baud rate	---	COM2 (38.4 kbps)	COM3 (230.4 kbps)
Pre-wired (2 m) *1			E3AS-L200MN 2M	E3AS-L200MD 2M	E3AS-L200MT 2M
M8 Connector			E3AS-L200MN M3	E3AS-L200MD M3	E3AS-L200MT M3
M8 Pre-wired Connector			E3AS-L200MN-M3J 0.3M	E3AS-L200MD-M3J 0.3M	E3AS-L200MT-M3J 0.3M
M12 Pre-wired Connector *2			E3AS-L200MN-M1TJ 0.3M	E3AS-L200MD-M1TJ 0.3M	E3AS-L200MT-M1TJ 0.3M
Pre-wired (2 m) *1			E3AS-L80MN 2M	E3AS-L80MD 2M	E3AS-L80MT 2M
M8 Connector			E3AS-L80MN M3	E3AS-L80MD M3	E3AS-L80MT M3
M8 Pre-wired Connector			E3AS-L80MN-M3J 0.3M	E3AS-L80MD-M3J 0.3M	E3AS-L80MT-M3J 0.3M
M12 Pre-wired Connector *2			E3AS-L80MN-M1TJ 0.3M	E3AS-L80MD-M1TJ 0.3M	E3AS-L80MT-M1TJ 0.3M

*1. Models with 5-m cable length are also available with “5M” suffix. (Example: E3AS-L200MN 5M)
*2. The Pre-wired Connector (M12) is Smartclick Connector.

Accessories (Sold Separately)

Sensor I/O Connectors (Sockets on One Cable End)

(Models for Connectors / Pre-wired Connectors)

A Sensor I/O Connector is not provided with the Sensor. It must be ordered separately as required.

Round Water-resistant Connectors XS3F-M8 series

Appearance	Cable specification	Cable diameter (mm)	No. of cable cores (Poles)	Cable connection direction	Cable length (m)	Sensor I/O Connector model number
M8 Connector Straight type  Right-angle type 	PVC cable	5 dia.	4	Straight	2	**XS3F-M8PVC4S2M**
					5	**XS3F-M8PVC4S5M**
				Right-angle	2	**XS3F-M8PVC4A2M**
					5	**XS3F-M8PVC4A5M**

Note: 1. The XS3W (Socket and Plug on Cable Ends) is also available. Refer to *XS3W-M8/XS3F-M8 Series Datasheet* (Cat. No. G140).
2. The connectors will not rotate after they are connected.
3. The cable is fixed at an angle of 180° from the sensor emitter/receiver surface.

Round Water-resistant Connectors XS5 series

Appearance	Cable specification	Cable diameter (mm)	Cable connection direction	Cable length (m)	Sensor I/O Connector model number
M12 Smartclick Connector Straight type  Right-angle type 	PVC robot cable	6 dia.	Straight	2	**XS5F-D421-D80-F**
				5	**XS5F-D421-G80-F**
			Right-angle	2	**XS5F-D422-D80-F**
				5	**XS5F-D422-G80-F**

Note: 1. The XS5W (Socket and Plug on Cable Ends) is also available. Refer to *XS5* on your OMRON website for details.
2. The connectors will not rotate after they are connected.
3. The cable is fixed at an angle of 180° from the sensor emitter/receiver surface.

Mounting Brackets [Refer to *Dimensions* on page 36.]

A Mounting Bracket is not enclosed with the Sensor. Order a Mounting Bracket separately if required.

Appearance	Model (material)	Applicable Sensor E3AS series			
		Pre-wired	M8 Pre-wired Connector	M12 Pre-wired Smartclick Connector	M8 Connector
L-shaped Mounting Bracket 	E39-L201 (SUS304)	Yes	Yes	Yes	---
Horizontal Protective Cover Bracket 	E39-L202 (SUS304)	Yes	Yes	Yes	---
Rear Mounting Bracket 	E39-L203 (SUS304)	Yes	Yes	Yes	Yes *2
Robust Mounting Bracket 	E39-L204 (SUS304)	Yes	Yes	Yes	---
L-shaped Mounting Bracket 	E39-L211 (SUS304)	--- *1	--- *1	--- *1	Yes *3
Horizontal Protective Cover Bracket 	E39-L212 (SUS304)	--- *1	--- *1	--- *1	Yes *3
Robust Mounting Bracket 	E39-L214 (SUS304)	--- *1	--- *1	--- *1	Yes *3

*1. Can be used for Pre-wired models, M8 Pre-wired Connector models, and M12 Pre-wired Smartclick Connector models. However, confirm the bracket shape in advance.
*2. Confirm the installation environment and bracket shape of the Sensor I/O Connector to be connected.
*3. Use an L-shaped Sensor I/O Connector. Straight types cannot be installed.

E3AS-L Series

Ratings and Specifications

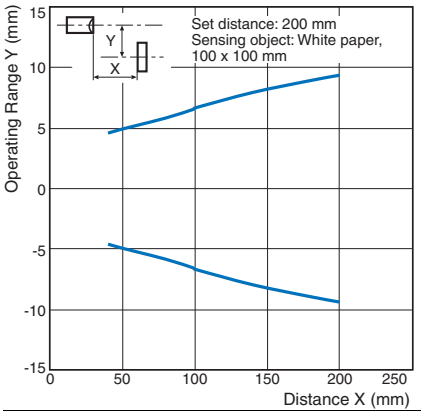
Item		Sensing method	Distance-settable	
Model		NPN output	E3AS-L200MN	E3AS-L80MN
		PNP output/ COM2	E3AS-L200MD	E3AS-L80MD
		PNP output/ COM3	E3AS-L200MT	E3AS-L80MT
Sensing distance			10 mm to the set distance (White paper or black paper 100 × 100 mm)	
Setting range			40 to 200 mm (White paper or black paper 100 × 100 mm)	20 to 80 mm (White paper or black paper 100 × 100 mm)
Spot diameter (reference value)			25 × 25 mm at distance of 200 mm	4 mm dia. (at distance of 80 mm)
Differential travel			10% max. of set distance	White paper: 2% max. of set distance Black paper: 5% max. of set distance
Reflectivity characteristic (black/white error)			10% max. of set distance	5% max. of set distance
Light source (wavelength)			Red LED (624 nm)	Red LED (650 nm)
Power supply voltage			10 to 30 VDC (including 10% ripple (p-p)), Class2	
Current consumption			35 mA max.	
Input/output	Control output		Load power supply voltage: 30 VDC max., Class2, Load current: 100 mA max. (Residual voltage: Load current of less than 10 mA: 1 V max. Load current of 10 to 100 mA: 2 V max.) Open-collector output (NPN/PNP output depending on model)	
		NPN	OUTPUT 1: NO (Normally open), OUTPUT 2: NC (Normally closed)	
		PNP/COM2 PNP/COM3	OUTPUT 1: NO (Normally open)/COM□, OUTPUT 2: NC (Normally closed)	
Protection circuits			Power supply reverse polarity protection, Output short-circuit protection, and Output reverse polarity protection	
Response time			Operate or reset: 1 ms max.	
Distance setting			Teaching method/IO-Link communications	
Ambient illumination (Receiver side)			Incandescent lamp: 3,000 lx max., Sunlight: 10,000 lx max.	
Ambient temperature range			Operating: -25 to 55°C, Storage: -40 to 70°C (with no icing or condensation)	
Ambient humidity range			Operating: 35% to 85%, Storage: 35% to 95% (with no condensation)	
Insulation resistance			20 MΩ min. at 500 VDC	
Dielectric strength			1,000 VAC, 50/60 Hz for 1 min	
Vibration resistance			10 to 55 Hz with a 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions	
Shock resistance			500 m/s^2 for 3 times each in X, Y, and Z directions	
Degree of protection			IP67 (IEC60529) and IP67G *1 (JIS C 0920 Annex 1), IP69K (ISO20653)	
Indicators			Operation indicator (orange), Stability & Communication indicator (green *2) *2. IO-Link Communication mode: blinking	
Connection method			Pre-wired (standard cable length: 2 m), M8 Connector, M8 Pre-wired Connector (standard cable length: 0.3m), M12 Pre-wired Smartclick Connector (standard cable length: 0.3m)	
Weight (packed state/ Sensor only)	Pre-wired (2 m)		Approx. 135 g/approx. 90 g	
	M8 Connector		Approx. 75 g/approx. 30 g	
	M8 Pre-wired Connector (0.3 m)		Approx. 85 g/approx. 40 g	
	M12 Pre-wired Smartclick Connector (0.3m)		Approx. 95 g/approx. 50 g	
Materials	Case		Stainless steel (SUS316L)	
	Lens		Methacrylate resin (PMMA)	
	Display		Polyamide 11 (PA11)	
Main IO-Link functions			Operation mode switching between NO and NC, execution of teaching (2-point teaching, Background teaching), setup of the threshold, timer function of the control output and timer time selecting, Restore Factory Settings, Key Lock (Unlock, Lock, Lock (No Button))	
IO-Link Communication specifications	IO-Link specification		Ver. 1.1	
	Baud rate		COM2 (38.4 kbps), COM3 (230.4 kbps)	
	Data length		PD size: 1 byte, OD size: 1 byte (M-sequence type: TYPE_2_1)	
	Minimum cycle time		COM2: 3.5 ms, COM3: 1.2 ms	
Accessories			Instruction manual, compliance sheet and index list (attached for IO-Link type only), Note: Mounting Brackets must be ordered separately.	

*1. The IP67G is the degree of protection which is defined according to the JIS (Japanese Industrial Standards).
The IP67 indicates the same level of protection as defined by the IEC, and the G indicates that a device has resistance to oil.

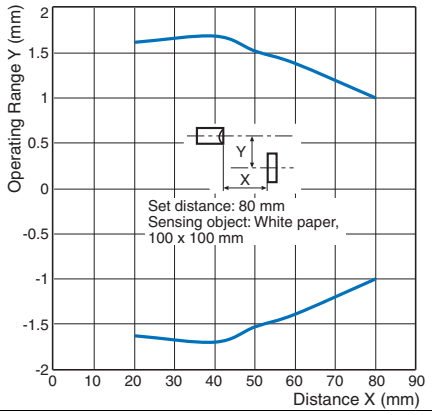
Engineering Data (Reference Value)

Operating Range

E3AS-L200

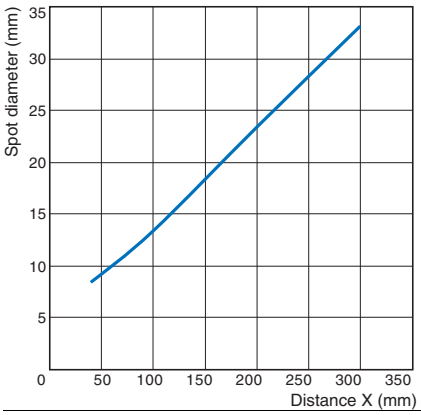


E3AS-L80

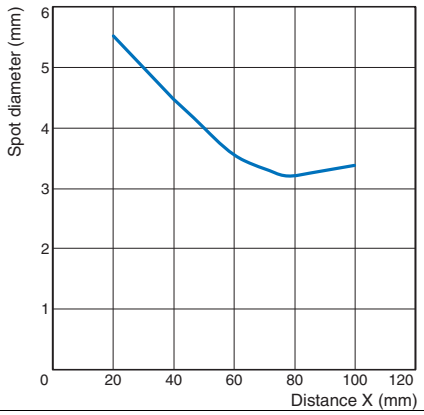


Spot Diameter vs. Sensing Distance

E3AS-L200

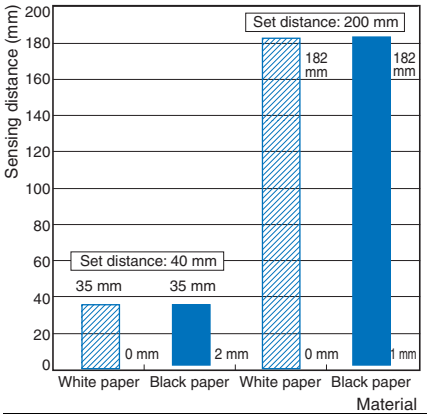


E3AS-L80

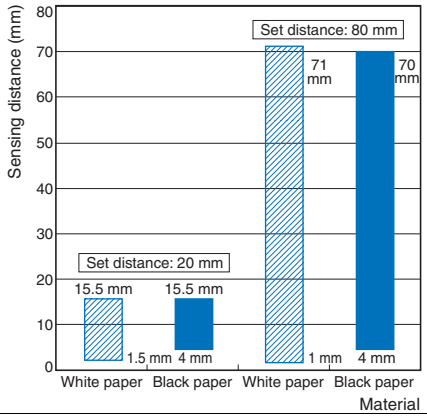


Close-range Characteristics

E3AS-L200

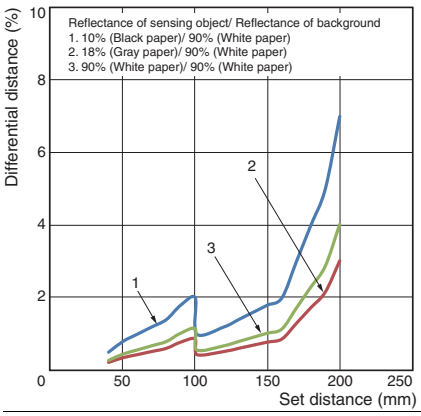


E3AS-L80

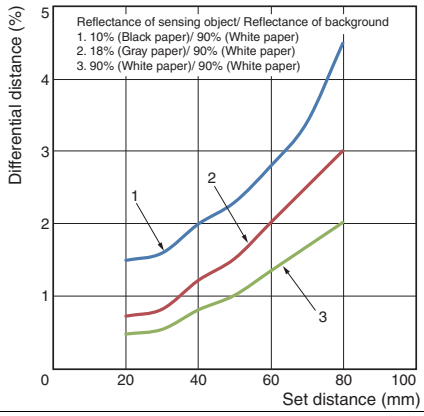


Differential distance for each sensing object Vs. Distance

E3AS-L200



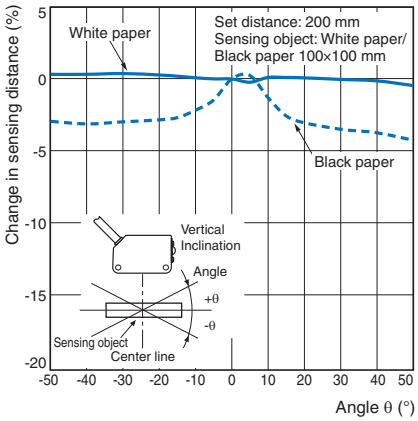
E3AS-L80



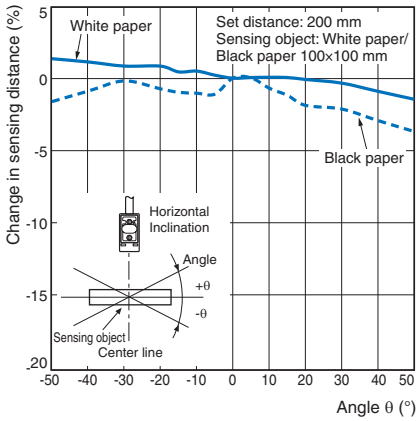
Sensing Object Angle Characteristics

E3AS-L200

Vertical

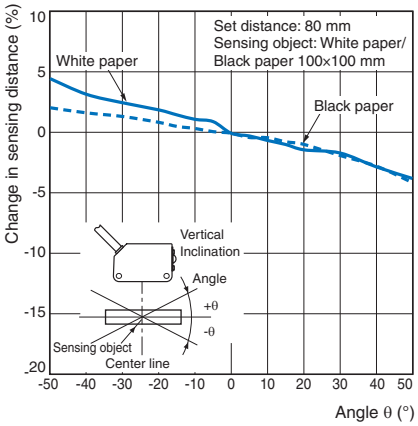


Horizontal

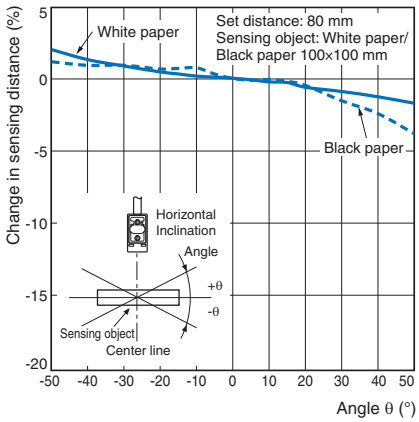


E3AS-L80

Vertical

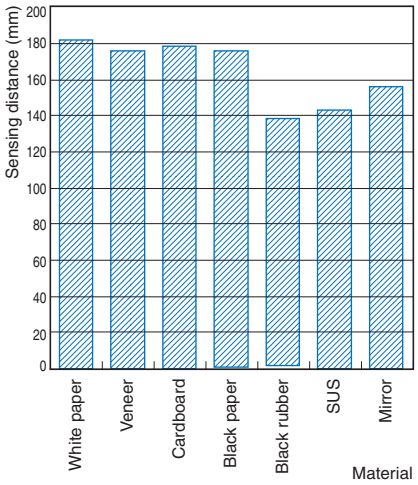


Horizontal

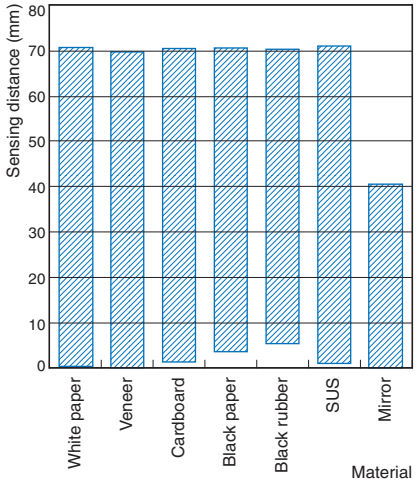


Sensing Distance vs. Sensing Object Material

E3AS-L200
(Set Distance of 200 mm using White Paper)

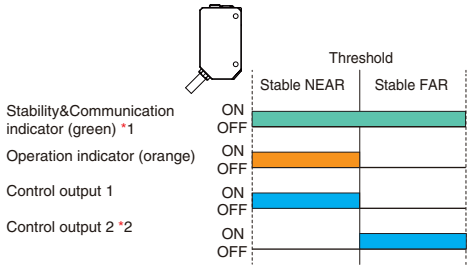
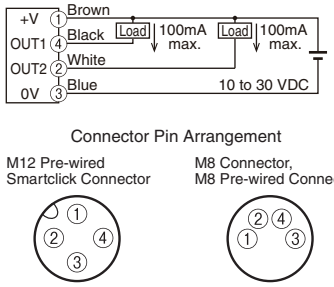


E3AS-L80
(Set Distance of 80 mm using White Paper)



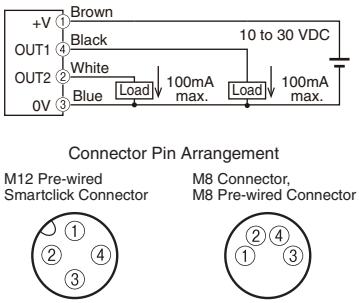
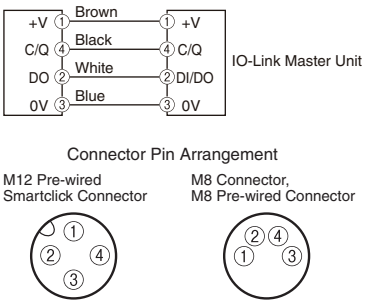
I/O Circuit Diagrams/ Timing Charts

NPN Output

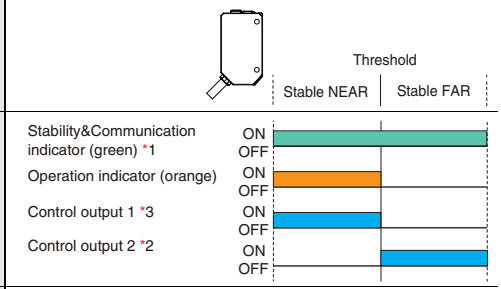
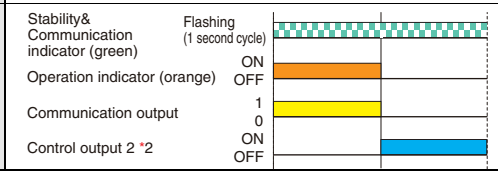
Model	Timing chart	Output circuit
E3AS-L□N		

*1. Turns off when there is insufficient margin for incident light. In that case, place the workpiece closer to ensure sufficient receiving light intensity.
*2. The initial value of control output 2 is reverse of control output 1.

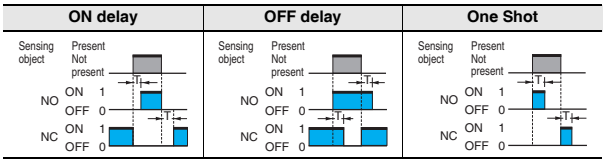
PNP Output

Model	Output circuit	
	Standard I/O mode (SIO mode) *1	IO-Link Communication mode (COM mode) *2
E3AS-L□D E3AS-L□T		

*1. Standard I/O mode is used as PNP ON/OFF output.
*2. IO-Link Communication mode is used for communications with the IO-Link Master. C/Q performs IO-Link communications. Sensor output DO performs ON/OFF output.

Output mode	Timing charts
Standard I/O mode (SIO mode)	
IO-Link Communication mode (COM mode)	

*1. Turns off when there is insufficient margin for incident light. In that case, place the workpiece closer to ensure sufficient receiving light intensity.
*2. The initial value of control output 2 is reverse of control output 1.
*3. The timer function of the control output 2 can be set up by the IO-Link communications. (It is able to select ON delay, OFF delay, or one-shot function and select a timer time of 1 to 9,999 ms (T).)

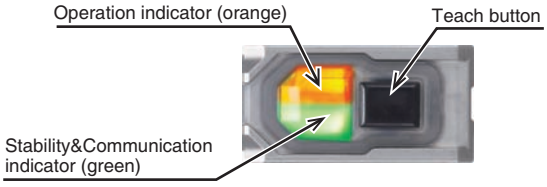


Please contact your OMRON sales representative regarding the IO-Link setup file (IODD file).

Note: Shown above are the factory settings. Refer to the index list for the default settings at time of shipment from factory.
PNP/COM output logic can be reversed by IO-Link communication.
The operation indicator (orange) lights up when control output 1 is ON or communication output is 1.

Nomenclature

E3AS-L200
E3AS-L80



Note: The indicators work differently depending on sensor status.

Safety Precautions

Be sure to read the precautions for all models in the website at: http://www.ia.omron.com/.

Warning Indications

⚠ WARNING	**Warning level** Indicates a potentially hazardous situation which, if not avoided, will result in minor or moderate injury, or may result in serious injury or death. Additionally there may be significant property damage.
⚠ CAUTION	**Caution level** Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or in property damage.
Precautions for Safe Use	Supplementary comments on what to do or avoid doing, to use the product safely.
Precautions for Correct Use	Supplementary comments on what to do or avoid doing, to prevent failure to operate, malfunction or undesirable effect on product performance.

Meaning of Product Safety Symbols

	**General prohibition** Indicates the instructions of unspecified prohibited action
	**Caution, fire** Indicates the possibility of fires under specific conditions
	**General Caution** Indicates unspecified general alert
	**Caution, explosion** Indicates the possibility of explosion under specific conditions

⚠ WARNING

This product is not designed or rated for ensuring safety of persons either directly or indirectly.
Do not use it for such purpose.

Do not use the product with voltage in excess of the rated voltage.
Excess voltage may result in malfunction or fire.

⚠ CAUTION

Its component may be damaged and/or degree of protection may be degraded.
Please do not apply high pressure water intensively at one place during cleaning.

Never use the product with an AC power supply.
Otherwise, explosion may result.

Precautions for Safe Use

The following precautions must be observed to ensure safe operation.

(1) Do not reverse the power supply connection or connect to an AC current.
(2) Do not short the load.
(3) Be sure that before making supply the supply voltage is less than the maximum rated supply voltage (30 VDC).
(4) Do not use the product in environments subject to flammable or explosive gases.
(5) Do not use the product under a chemical or an oil environment without prior evaluation.
(6) Do not attempt to modify the product.

Precautions for Correct Use

(1) Do not hit the product using a hammer for installation.
(2) The product must be installed with the specified torque or less. For M8 connector, the proper tightening torque is from 0.3 to 0.4 N·m. For M12 connector, the proper tightening torque is from 0.39 to 0.49 N·m. In case of M12 smartclick connector, manually tighten the connector.
(3) Do not use the product in any atmosphere or environment that exceeds the ratings.
(4) Output pulses may occur when the power supply is turned OFF. We recommend that you turn OFF the power supply to the load or load line first.
(5) Use an extension cable less than 100 m long for Standard I/O mode and less than 20 m for IO-Link Communication mode.
(6) Do not pull on the cable with excessive strength.
(7) Please wait for at least 100 ms after turning on the product's power until it is available for use.
(8) Though this is type IP67, do not use in the water, rain or outdoors.
(9) If the Sensor wiring is placed in the same conduits or ducts as high-voltage or high-power lines, inductive noise may cause malfunction or damage. Wire the cables separately or use a shielded cable.
(10) Do not use the product in locations subject to direct sunlight.
(11) Do not use the product where humidity is high and dew condensation may occur.
(12) Do not use the product where corrosive gases may exist.
(13) If high-pressure washing water and so on hits the teach button, it might lead to malfunctioning. So, consider use of the key lock function.
(14) Do not apply high-pressure washing water directly to the sensor's light emitting / receiving surface from a short distance. As the antifouling feature may be impaired, keep a sufficient distance from the light emitting / receiving surface.
(15) Do not use the product at a location subject to shock or vibration.
(16) To use a commercially available switching regulator, FG (frame ground) must be grounded.
(17) Do not use organic solvents (e.g. paint thinner and alcohol) for cleaning. Otherwise optical properties and protective structure may deteriorate.
(18) Be sure to check the influence caused by surrounding environments such as background objects and LED lighting before using the product.
(19)  Please dispose in accordance with applicable regulations.

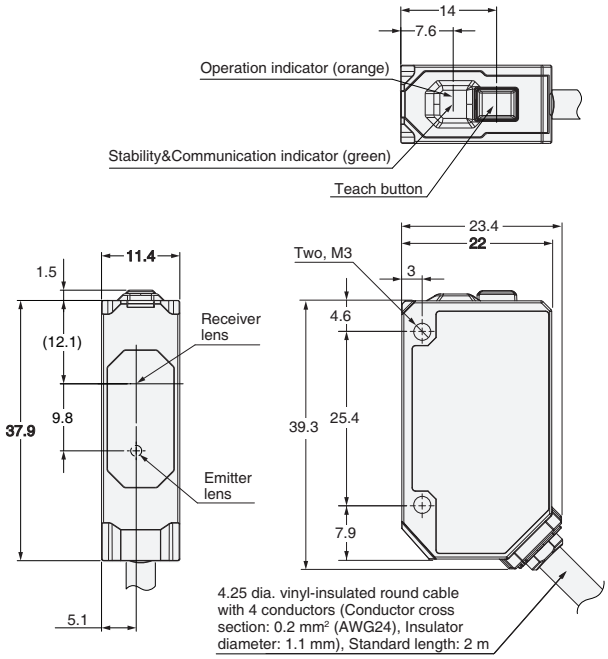
Dimensions

(Unit: mm)
Tolerance class IT16 applies to dimensions in this data sheet unless otherwise specified.

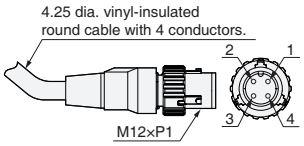
Sensors

Pre-wired Models/Pre-wired Connector Models

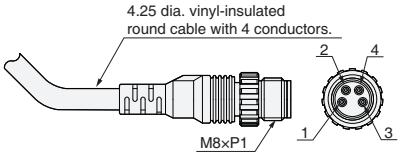
E3AS-L200□ (-M1TJ/-M3J)
E3AS-L80□ (-M1TJ/-M3J)



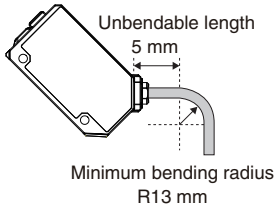
M12 Pre-wired Smartclick Connector type
E3AS-L200□-M1TJ/E3AS-L80□-M1TJ



M8 Pre-wired connector type
E3AS-L200□-M3J/E3AS-L80□-M3J

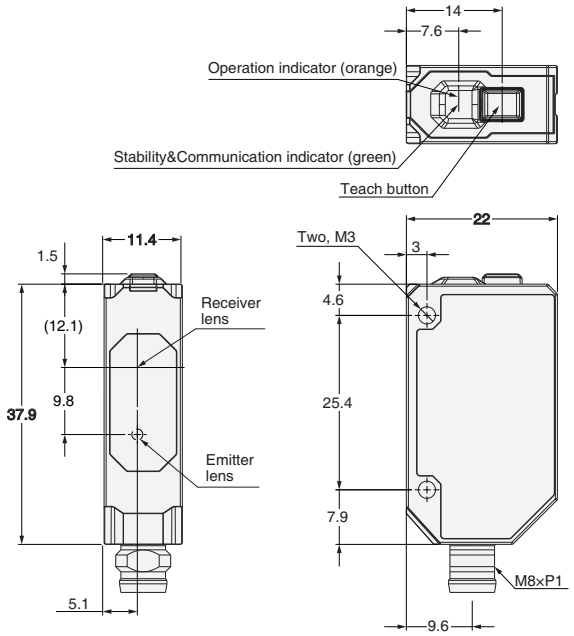


Minimum bending radius/unbendable length of cord



Connector Models

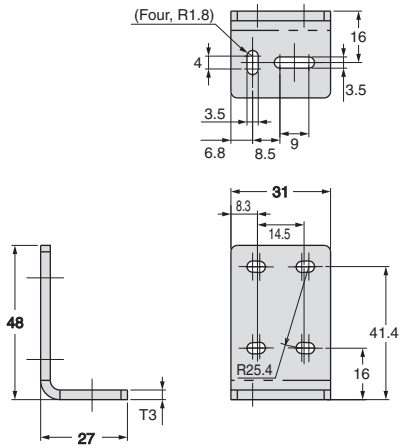
E3AS-L200□ M3
E3AS-L80□ M3



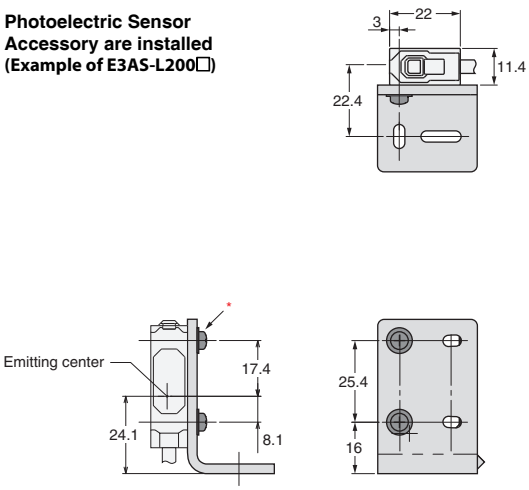
Accessories (Sold Separately)

Mounting Brackets

E39-L201

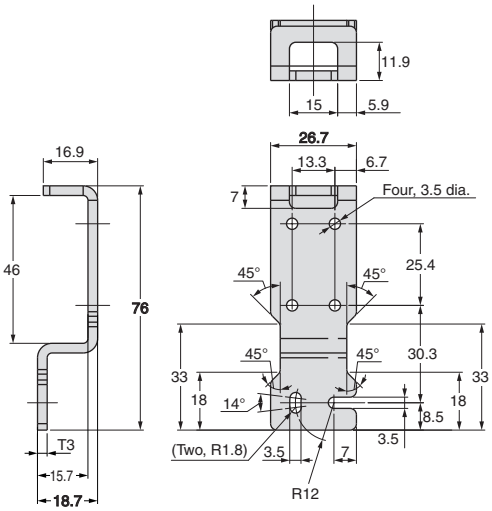


Photoelectric Sensor Accessory are installed (Example of E3AS-L200☐)

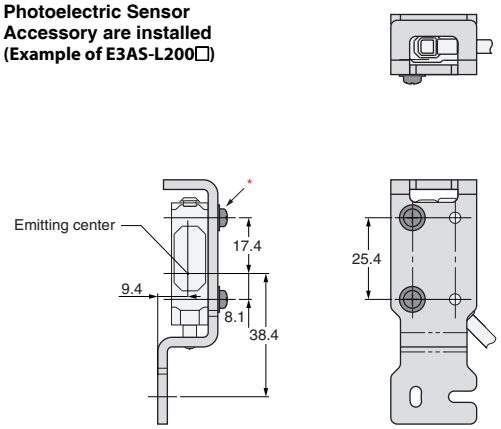


Material: Stainless steel (SUS304)
* Accessories
2-M3-L12 Cross Recessed Pan Head Screws (Attached to SW+JIS W)

E39-L202

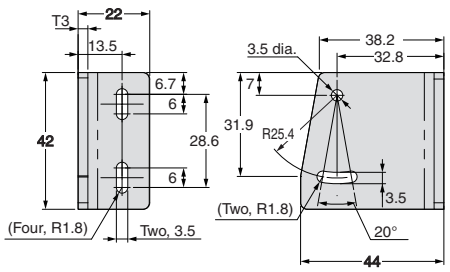


Photoelectric Sensor Accessory are installed (Example of E3AS-L200☐)

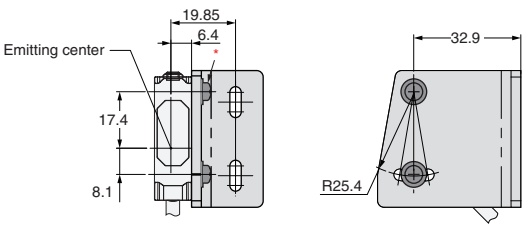


Material: Stainless steel (SUS304)
* Accessories
2-M3-L12 Cross Recessed Pan Head Screws (Attached to SW+JIS W)

E39-L203

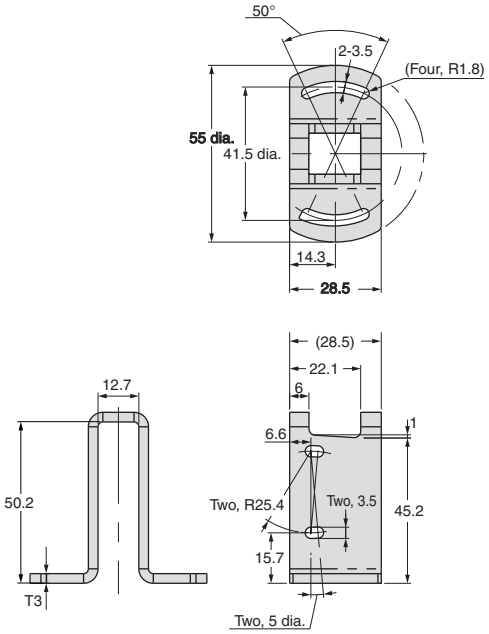


Photoelectric Sensor Accessory are installed (Example of E3AS-L200☐)

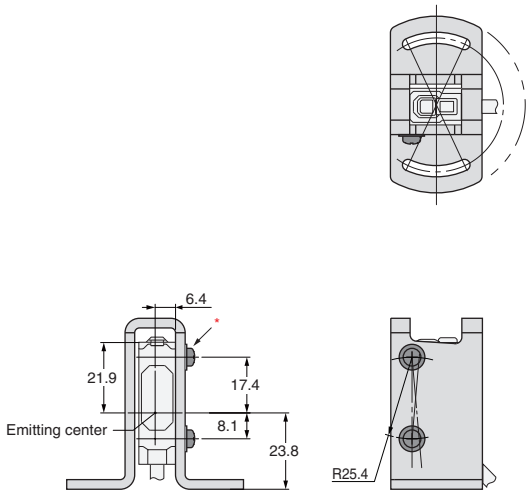


Material: Stainless steel (SUS304)
* Accessories
2-M3-L12 Cross Recessed Pan Head Screws (Attached to SW+JIS W)

E39-L204

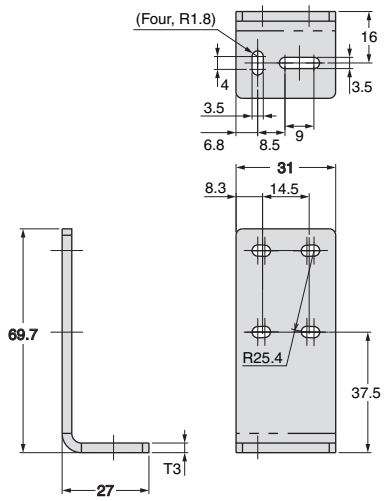


Photoelectric Sensor Accessory are installed (Example of E3AS-L200☐)

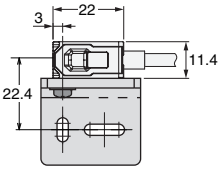


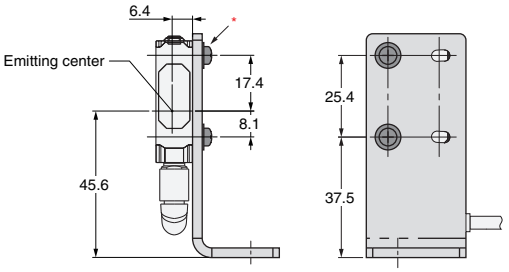
Material: Stainless steel (SUS304)
* Accessories
2-M3-L12 Cross Recessed Pan Head Screws (Attached to SW+JIS W)

E39-L211



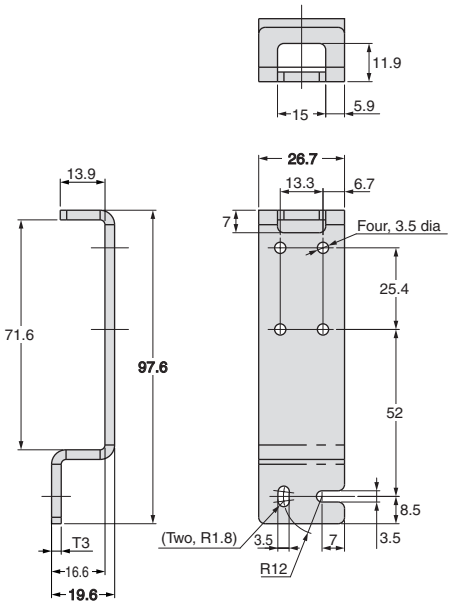
Photoelectric Sensor Accessory are installed (Example of E3AS-L200☐)



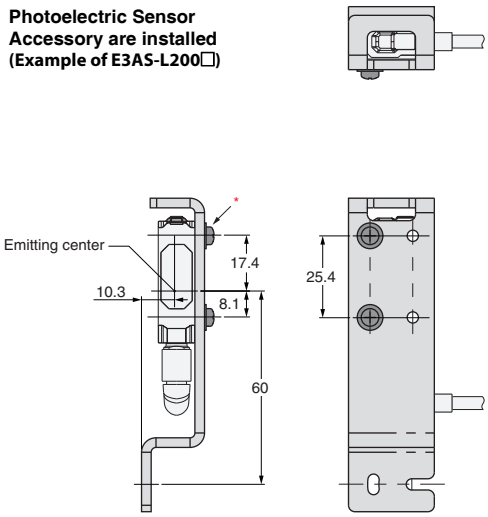


Material: Stainless steel (SUS304)
* Accessories
2-M3-L12 Cross Recessed Pan Head Screws (Attached to SW+JIS W)

E39-L212

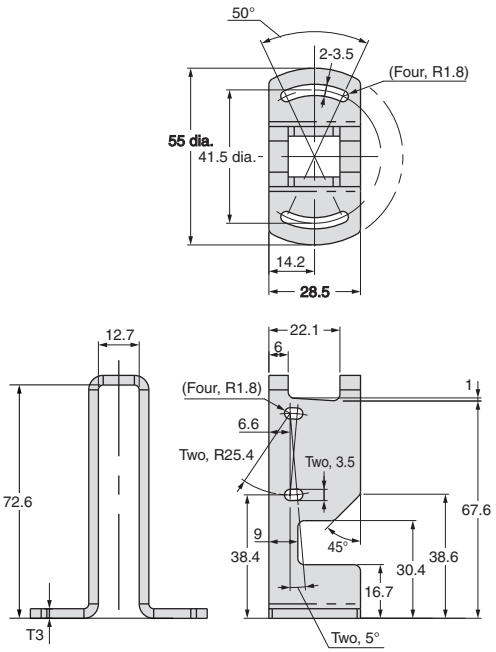


Photoelectric Sensor Accessory are installed (Example of E3AS-L200□)

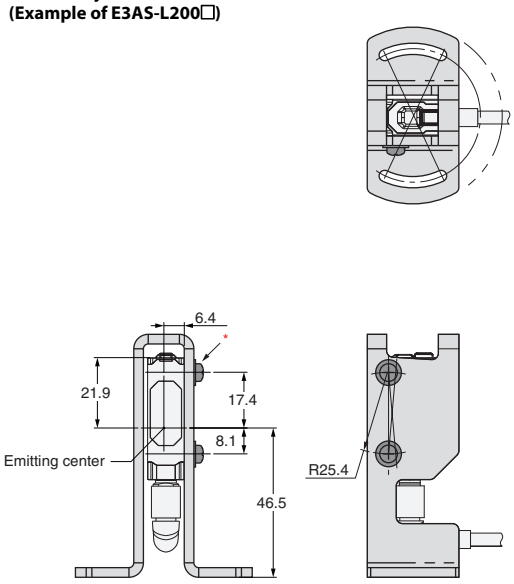


Material: Stainless steel (SUS304)
* Accessories
2-M3-L12 Cross Recessed Pan Head Screws (Attached to SW+JIS W)

E39-L214



Photoelectric Sensor Accessory are installed (Example of E3AS-L200□)



Material: Stainless steel (SUS304)
* Accessories
2-M3-L12 Cross Recessed Pan Head Screws (Attached to SW+JIS W)

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