E3S-C

CSM_E3S-C_DS_E_9_2

Water- and Oil-resistant Photoelectric Sensor with Metal Housing Used for Long-range Sensing

- Excellent resistance against the water and oil. Easy application in locations with oil mist.
- Long-range sensing up to 30 m with Through-beam models.
- Shock resistance rated at 1,000m/s^2.
- Product lineup includes metal M12 pre-wired connector models.
- NPN/PNP selector switch output.

Be sure to read *Safety Precautions* on page 7.

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 8.)

Red light / Infrared light

Sensing method	Appearance	Connection method	Sensing distance	Model
Through-beam (Emitter + Receiver) *	Horizontal	Pre-wired	30 m	**E3S-CT11 2M** Emitter E3S-CT11-L 2M Receiver E3S-CT11-D 2M
		Pre-wired Connector (M12)		**E3S-CT11-M1J 0.3M** Emitter E3S-CT11-L-M1J 0.3M Receiver E3S-CT11-D-M1J 0.3M
	Vertical	Pre-wired		**E3S-CT61 2M** Emitter E3S-CT61-L 2M Receiver E3S-CT61-D 2M
		Pre-wired Connector (M12)		**E3S-CT61-M1J 0.3M** Emitter E3S-CT61-L-M1J 0.3M Receiver E3S-CT61-D-M1J 0.3M
Retro-reflective	Horizontal	Pre-wired	3 m	**E3S-CR11 2M**
		Pre-wired Connector (M12)		**E3S-CR11-M1J 0.3M**
	Vertical	Pre-wired		**E3S-CR61 2M**
		Pre-wired Connector (M12)		**E3S-CR61-M1J 0.3M**
Diffuse-reflective	Horizontal	Pre-wired	700 mm	**E3S-CD11 2M**
			2 m	**E3S-CD12 2M**
		Pre-wired Connector (M12)	700 mm	**E3S-CD11-M1J 0.3M**
			2 m	**E3S-CD12-M1J 0.3M**
	Vertical	Pre-wired	700 mm	**E3S-CD61 2M**
			2 m	**E3S-CD62 2M**
		Pre-wired Connector (M12)	700 mm	**E3S-CD61-M1J 0.3M**
			2 m	**E3S-CD62-M1J 0.3M**

* Through-beam Sensors are normally sold in sets that include both the Emitter and Receiver.

Accessories (Order Separately)

Slits (A Slit is not provided with Through-beam Sensors. Order a Slit separately if required.) (Refer to *Dimensions* on page 10.)

Slit width	Sensing distance	Minimum detectable object (reference value)	Model	Quantity	Remarks
0.5 mm × 11 mm	1.8 m	0.5-mm dia.	**E39-S61**	1 set each for Emitter and Receiver (8 Slits total)	(Snap-in Long Slit) Can be used with the E3S-CT□1(-M1J) Through-beam Sensor. Refer to page 10.
1 mm × 11 mm	3.5 m	1-mm dia.			
2 mm × 11 mm	7 m	2-mm dia.			
4 mm × 11 mm	15 m	2.6-mm dia.			

Reflectors (A Reflector is required for each Retro-reflective Sensor.)

The E39-R1 Reflector is provided with the Sensor. Order other Reflectors separately if required. (Refer to *Dimensions* on *E39-L/E39-S/E39-R*.)

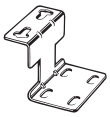
Name	Sensing distance		Model	Quantity	Remarks
	Rated value	Reference value			
Reflectors	3 m	---	**E39-R1**	1	Provided with the E3S-CR□1 (-M1J) Retro-reflective Sensor.
	---	4 m	**E39-R2**	1	---
Small Reflectors	---	1.5 m	**E39-R3**	1	---
	---	750 mm	**E39-R4**	1	---
Tape Reflectors	---	700 mm (50 mm)*	**E39-RS1**	1	Enables MSR function.
	---	1,100 mm (100 mm)*	**E39-RS2**	1	
	---	1,400 mm (100 mm)*	**E39-RS3**	1	

Note: 1. If you use any Reflector other than the enclosed Reflector, make sure that the stability indicator lights properly when you set the Sensor.
2. Refer to *Reflectors* on *E39-L/E39-S/E39-R* for details.

* Values in parentheses indicate the minimum distance required between the Sensor and Reflector.

Mounting Brackets

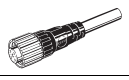
Some Mounting Brackets are provided with the Sensor. Order other Mounting Brackets separately if required. (Refer to *Dimensions* on *E39-L/E39-S/E39-R*.)

Appearance	Model	Quantity	Remarks
	E39-L102	1	Provided with Horizontal Models.
	E39-L103	1	Provided with Vertical Models.
	**E39-L85**	1	Mounting bracket for changing from E3S-□□□□□42/44 to E3S-C Vertical Models.
	E39-L86	1	Mounting bracket for changing from E3S-□□□□□43 to E3S-C Vertical Models.
	E39-L87	1	---

Note: 1. When using a Through-beam Sensor, order one Connector for the Receiver and one for the Emitter.
2. Refer to *Mounting Brackets* on *E39-L/F39-L/E39-S/E39-R* for details.

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

(Models with Pre-wired Connectors: A Connector is not provided with the Sensor. Be sure to order a Connector separately.) (Refer to *Dimensions* on *XS2*.)

Cable	Appearance	Cable type		Model
Fire-retardant, robot cable	Straight 	2 m	3-wire	**XS2F-D421-DC0-F**
		5 m		**XS2F-D421-GC0-F**
	L-shape	2 m		**XS2F-D422-DC0-F**
		5 m		**XS2F-D422-GC0-F**

Note: 1. When using a Through-beam Sensor, order one Connector for the Receiver and one for the Emitter.
2. For details on Sensor I/O Connectors and cables such as vibration-proof robot cables, refer to *Introduction to Sensor I/O Connectors/Sensor Controllers*.