






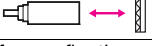

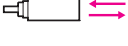






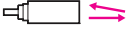


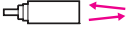
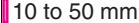

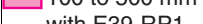

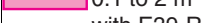
E3FA/E3RA/E3FB/E3RB

Ordering Information



Sensors (E3FA Plastic housing) [Refer to Dimensions on page 16.]

 Red light  Infrared light

Sensor type	Sensing distance	Connection method	Model	
			NPN output	PNP output
Through-beam *1. 	 20 m	pre-wired	set E3FA-TN11 2M Emitter E3FA-TN11-L 2M Receiver E3FA-TN11-D 2M	set E3FA-TP11 2M Emitter E3FA-TP11-L 2M Receiver E3FA-TP11-D 2M
		M12 connector	set E3FA-TN21 Emitter E3FA-TN21-L Receiver E3FA-TN21-D	set E3FA-TP21 Emitter E3FA-TP21-L Receiver E3FA-TP21-D
	 15 m	pre-wired	set E3FA-TN12 2M Emitter E3FA-TN12-L 2M Receiver E3FA-TN12-D 2M	set E3FA-TP12 2M Emitter E3FA-TP12-L 2M Receiver E3FA-TP12-D 2M
		M12 connector	set E3FA-TN22 Emitter E3FA-TN22-L Receiver E3FA-TN22-D	set E3FA-TP22 Emitter E3FA-TP22-L Receiver E3FA-TP22-D
Retro-reflective with MSR function *2. 	 0.1 to 4 m with E39-R1S	pre-wired	E3FA-RN11 2M	E3FA-RP11 2M
		M12 connector	E3FA-RN21	E3FA-RP21
Coaxial Retro-reflective with MSR function *2. 	 0 to 500 mm with E39-R1S	pre-wired	E3FA-RN12 2M	E3FA-RP12 2M
		M12 connector	E3FA-RN22	E3FA-RP22
Diffuse-reflective 	 100 mm	pre-wired	E3FA-DN11 2M	E3FA-DP11 2M
		M12 connector	E3FA-DN21	E3FA-DP21
	 300 mm	pre-wired	E3FA-DN12 2M	E3FA-DP12 2M
		M12 connector	E3FA-DN22	E3FA-DP22
	 1 m	pre-wired	E3FA-DN13 2M	E3FA-DP13 2M
		M12 connector	E3FA-DN23	E3FA-DP23
	 100 mm	pre-wired	E3FA-DN14 2M	E3FA-DP14 2M
		M12 connector	E3FA-DN24	E3FA-DP24
	 300 mm	pre-wired	E3FA-DN15 2M	E3FA-DP15 2M
		M12 connector	E3FA-DN25	E3FA-DP25
	 1 m	pre-wired	E3FA-DN16 2M	E3FA-DP16 2M
		M12 connector	E3FA-DN26	E3FA-DP26
BGS (background suppression) 	 100 mm	pre-wired	E3FA-LN11 2M	E3FA-LP11 2M
		M12 connector	E3FA-LN21	E3FA-LP21
	 200 mm	pre-wired	E3FA-LN12 2M	E3FA-LP12 2M
		M12 connector	E3FA-LN22	E3FA-LP22
Limited distance reflective 	 10 to 50 mm	pre-wired	E3FA-VN11 2M	E3FA-VP11 2M
		M12 connector	E3FA-VN21	E3FA-VP21
Transparent detected with P-opaqing function *2. 	 100 to 500 mm with E39-RP1	pre-wired	E3FA-BN11 2M	E3FA-BP11 2M
		M12 connector	E3FA-BN21	E3FA-BP21
Transparent detected with P-opaqing function *2. 	 0.1 to 2 m with E39-RP1	pre-wired	E3FA-BN12 2M	E3FA-BP12 2M
		M12 connector	E3FA-BN22	E3FA-BP22

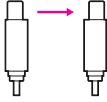

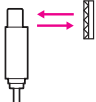

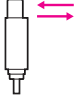



*1. The set type includes the emitter and receiver.

*2. The Reflector is sold separately. Select the Reflector model most suited to the application.



Sensors (E3RA Plastic housing) [Refer to Dimensions on page 16.]

 Red light

Sensor type	Sensing distance	Connection method	Model	
			NPN output	PNP output
Through-beam *1. 	 15 m	pre-wired	set E3RA-TN11 2M Emitter E3RA-TN11-L 2M Receiver E3RA-TN11-D 2M	set E3RA-TP11 2M Emitter E3RA-TP11-L 2M Receiver E3RA-TP11-D 2M
		M12 connector	set E3RA-TN21 Emitter E3RA-TN21-L Receiver E3RA-TN21-D	set E3RA-TP21 Emitter E3RA-TP21-L Receiver E3RA-TP21-D
Retro-reflective with MSR function *2. 	 0.1 to 3 m with E39-R1S	pre-wired	E3RA-RN11 2M	E3RA-RP11 2M
		M12 connector	E3RA-RN21	E3RA-RP21
Diffuse-reflective 	 100 mm	pre-wired	E3RA-DN11 2M	E3RA-DP11 2M
		M12 connector	E3RA-DN21	E3RA-DP21
	 300 mm	pre-wired	E3RA-DN12 2M	E3RA-DP12 2M
		M12 connector	E3RA-DN22	E3RA-DP22
	 700 mm	pre-wired	E3RA-DN13 2M	E3RA-DP13 2M
		M12 connector	E3RA-DN23	E3RA-DP23

*1. The set type includes the emitter and receiver.







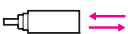



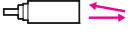


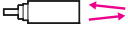


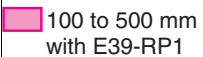

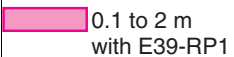
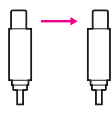

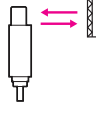

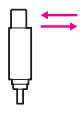



*2. The Reflector is sold separately. Select the Reflector model most suited to the application.

E3FA/E3RA/E3FB/E3RB



Sensors (E3FB/E3RB Metal housing) [Refer to Dimensions on page 17.]

 Red light



Sensor type	Sensing distance	Connection method	Model	
			NPN output	PNP output
Through-beam *1. 	 20 m	pre-wired	set E3FB-TN11 2M Emitter E3FB-TN11-L 2M Receiver E3FB-TN11-D 2M	set E3FB-TP11 2M Emitter E3FB-TP11-L 2M Receiver E3FB-TP11-D 2M
		M12 connector	set E3FB-TN21 Emitter E3FB-TN21-L Receiver E3FB-TN21-D	set E3FB-TP21 Emitter E3FB-TP21-L Receiver E3FB-TP21-D
Retro-reflective with MSR function *2. 	 0.1 to 4 m with E39-R1S	pre-wired	E3FB-RN11 2M	E3FB-RP11 2M
		M12 connector	E3FB-RN21	E3FB-RP21
Coaxial Retro-reflective with MSR function *2. 	 0 to 500 mm with E39-R1S	pre-wired	E3FB-RN12 2M	E3FB-RP12 2M
		M12 connector	E3FB-RN22	E3FB-RP22
Diffuse-reflective 	 100 mm	pre-wired	E3FB-DN11 2M	E3FB-DP11 2M
		M12 connector	E3FB-DN21	E3FB-DP21
	 300 mm	pre-wired	E3FB-DN12 2M	E3FB-DP12 2M
		M12 connector	E3FB-DN22	E3FB-DP22
	 1 m	pre-wired	E3FB-DN13 2M	E3FB-DP13 2M
		M12 connector	E3FB-DN23	E3FB-DP23
BGS (background suppression) 	 100 mm	pre-wired	E3FB-LN11 2M	E3FB-LP11 2M
		M12 connector	E3FB-LN21	E3FB-LP21
	 200 mm	pre-wired	E3FB-LN12 2M	E3FB-LP12 2M
		M12 connector	E3FB-LN22	E3FB-LP22
Limited distance reflective 	 10 to 50 mm	pre-wired	E3FB-VN11 2M	E3FB-VP11 2M
		M12 connector	E3FB-VN21	E3FB-VP21
Transparent detected with P-opaqing function *2. 	 100 to 500 mm with E39-RP1	pre-wired	E3FB-BN11 2M	E3FB-BP11 2M
		M12 connector	E3FB-BN21	E3FB-BP21
Transparent detected with P-opaqing function *2. 	 0.1 to 2 m with E39-RP1	pre-wired	E3FB-BN12 2M	E3FB-BP12 2M
		M12 connector	E3FB-BN22	E3FB-BP22
Through-beam *1. 	 15 m	pre-wired	set E3RB-TN11 2M Emitter E3RB-TN11-L 2M Receiver E3RB-TN11-D 2M	set E3RB-TP11 2M Emitter E3RB-TP11-L 2M Receiver E3RB-TP11-D 2M
		M12 connector	set E3RB-TN21 Emitter E3RB-TN21-L Receiver E3RB-TN21-D	set E3RB-TP21 Emitter E3RB-TP21-L Receiver E3RB-TP21-D
Retro-reflective with MSR function *2. 	 0.1 to 3 m with E39-R1S	pre-wired	E3RB-RN11 2M	E3RB-RP11 2M
		M12 connector	E3RB-RN21	E3RB-RP21
Diffuse-reflective 	 100 mm	pre-wired	E3RB-DN11 2M	E3RB-DP11 2M
		M12 connector	E3RB-DN21	E3RB-DP21
	 300 mm	pre-wired	E3RB-DN12 2M	E3RB-DP12 2M
		M12 connector	E3RB-DN22	E3RB-DP22
	 700 mm	pre-wired	E3RB-DN13 2M	E3RB-DP13 2M
		M12 connector	E3RB-DN23	E3RB-DP23

*1. The set type includes the emitter and receiver.

*2. The Reflector is sold separately. Select the Reflector model most suited to the application.

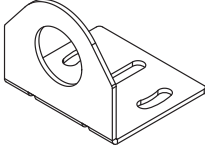

Reflectors *[Refer to Dimensions on page 18.]*

Reflectors required for Retro-reflective Sensors: A Reflector is not provided with the Sensor. Be sure to order a Reflector separately.

Sensor	Sensing distance	Appearance	Model	Quantity	Remarks
E3FA-R□1 E3FB-R□1	0.1 to 4 m		E39-R1S	1	for E3FA-R□, E3RA-R□, E3FB-R□ and E3RB-R□
E3FA-R□2 E3FB-R□2	0 to 500 mm				
E3FA-B□1 E3FB-B□1	100 to 500 mm		E39-RP1	1	for E3FA-B□ and E3FB-B□
E3FA-B□2 E3FB-B□2	0.1 to 2 m				



Mounting brackets *[Refer to Dimensions on page 18.]*

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

Sensor	Appearance	Model (Material)	Quantity	Remarks
all types		E39-L183 (SUS304)	1	Mounting bracket
E3FA-□ E3RA-□		E39-L182 (POM)	1	Flush mounting bracket

Sensor I/O connectors

Models for Connectors: A Connector is not provided with the Sensor. Be sure to order a Connector separately.

Sensor	Size	Cable	Appearance	Cable type	Model
M12 connector types	M12	Standard	Straight 	2 m	XS2F-M12PVC4S2M
				5 m	XS2F-M12PVC4S5M
			Angle 	2 m	XS2F-M12PVC4A2M
				5 m	XS2F-M12PVC4A5M

Model Number Legend

E3□-□□□□-(□)□
 1 2 3 4 5 6 7

1. Series name

FA: Cylindrical, Straight type, Plastic housing
 RA: Cylindrical, Radial type, Plastic housing
 FB: Cylindrical, Straight type, Metal housing
 RB: Cylindrical, Radial type, Metal housing

2. Sensing method

T: Through-beam
 R: Retro-reflective with MSR function
 D: Diffuse-reflective
 L: Background suppression
 V: Limited distance reflective
 B: Transparent detected with P-opaquing function

3. Output

P: PNP
 N: NPN

4. Connection

1: Cable
 2: Connector, M12, 4-pin

5. Difference of sensing distance, difference of light source

Sequential number

6. Emitter/Receiver

D: Receiver
 L: Emitter

7. Cable length

Blank: Connector type

e.g., E3FA-TP11 2M;

Cylindrical, Straight type, Plastic housing/ Through-beam/ PNP/ Cable/ Difference of Sensing distance/ Cable length of 2M

E3RA-TN12-D;

Cylindrical, Radial type, Plastic housing/ Through-beam/ NPN/ Connector, M12, 4-pin/ Difference of Sensing distance/ Receiver/ Connector type

E3FA-VP12;

Cylindrical, Straight type, Plastic housing/ Limited distance reflective/ PNP/ Connector, M12, 4-pin/ Difference of Sensing distance/ Connector type