

Cylindrical photoelectric sensors in M18 plastic or brass housings

E3F2

- Complete sensor portfolio in plastic and metal housing
- IP67, IP69K for highest water resistance
- High immunity against electro-magnetic noise and ambient light
- Special beam models
- High power LED to compensate for dirt and misalignment



Performance and portfolio variety

Sensing method	Shape	Plastic	Metal ¹	90° Optics	AC power supply ²
Through-beam		7 m	7 m	-	3 m
Retro-reflective		4 m	4 m	2 m	1 m
Diffuse-reflective		1 m	1 m	0.3 m	0.3 m
Diffuse-reflective (background suppression)		0.1 m	0.1 m		

¹SUS types see separate datasheet





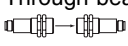
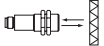

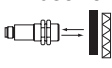

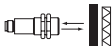
²AC-types see separate datasheet

L-on / D-on selectable by wiring M12 connector or pre-wired.



Selection Guide

Housing Material: Plastic

Sensing method	Sensing distance	Connection method				Order code	
					 *1	PNP output	NPN output
Through-beam 	7 m	-	-	2 m	-	E3F2-7B4 2M	E3F2-7C4 2M
		-	■	-	-	E3F2-7B4-P1	E3F2-7C4-P1
Retro-reflective with M.S.R.*2 	0.1 to 4 m (adjustable)*3	-	-	2 m	-	E3F2-R4B4-E 2M	E3F2-R4C4-E 2M
		-	■	-	-	E3F2-R4B4-P1-E	E3F2-R4C4-P1-E
Retro-reflective with M.S.R.*2 	0.1 to 2 m*4	-	-	2 m	-	E3F2-R2RB41-E 2M	E3F2-R2RC41-E 2M
		-	■	-	-	E3F2-R2RB41-P1-E	E3F2-R2RC41-P1-E
Diffuse-reflective 	0.1 m (fixed, wide-beam)	-	-	2 m	-	E3F2-DS10B4-N 2M	E3F2-DS10C4-N 2M
		-	■	-	-	E3F2-DS10B4-P1	E3F2-DS10C4-P1
	0.3 m (adjustable)	-	-	2 m	-	E3F2-DS30B4 2M	E3F2-DS30C4 2M
		-	■	-	-	E3F2-DS30B4-P1	E3F2-DS30C4-P1
	1 m (adjustable)	-	-	2 m	-	E3F2-D1B4 2M	E3F2-D1C4 2M
		-	■	-	-	E3F2-D1B4-P1	E3F2-D1C4-P1
Diffuse-reflective 	0.3 m (adjustable)	-	-	2 m	-	E3F2-DS30B41 2M	E3F2-DS30C41 2M
		-	■	-	-	E3F2-DS30B41-P1	E3F2-DS30C41-P1
Diffuse reflective (background suppression) 	0.1 m (fixed)	-	-	2 m	-	E3F2-LS10B4 2M	E3F2-LS10C4 2M
		-	■	-	-	E3F2-LS10B4-P1	E3F2-LS10C4-P1

*1. Pre-wired connectors are available on request. Please contact your OMRON representative.






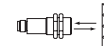

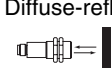

*2. Order reflector separately. Models with reflector included are also available. Please contact your OMRON representative.






*3. Measured with reflector E39-R1S

*4. Measured with reflector E39-R1

Note: Standard cable length is 2 m. Models provided with a 5 m long cable are available. When ordering, specify the cable length by adapting the length of the cable (e.g. E3F2-R4B4-E 5M). For other cable length please contact your OMRON sales representative.

Housing material: Metal (Nickel plated brass)

Sensing method	Sensing distance	Connection method				Order code	
					 *1	PNP output	NPN output
Through-beam 	7 m	-	-	2 m	-	E3F2-7B4-M 2M	E3F2-7C4-M 2M
		-	■	-	-	E3F2-7B4-M1-M	E3F2-7C4-M1-M
Retro-reflective with M.S.R.*2 	0.1 to 4 m (adjustable)*3	-	-	2 m	-	E3F2-R4B4-M-E 2M	E3F2-R4C4-M-E 2M
		-	■	-	-	E3F2-R4B4-M1-M-E	E3F2-R4C4-M1-M-E
Retro-reflective with M.S.R.*2 	0.1 to 2 m*4	-	-	2 m	-	E3F2-R2RB41-M-E 2M	E3F2-R2RC41-M-E 2M
		-	■	-	-	E3F2-R2RB41-M1-M-E	E3F2-R2RC41-M1-M-E
Diffuse-reflective 	0.1 m (fixed, wide-beam)	-	-	2 m	-	E3F2-DS10B4-M 2M	E3F2-DS10C4-M 2M
		-	■	-	-	E3F2-DS10B4-M1-M	E3F2-DS10C4-M1-M
	0.3 m (adjustable)	-	-	2 m	-	E3F2-DS30B4-M 2M	E3F2-DS30C4-M 2M
		-	■	-	-	E3F2-DS30B4-M1-M	E3F2-DS30C4-M1-M
	1 m (adjustable)	-	-	2 m	-	E3F2-D1B4-M 2M	E3F2-D1C4-M 2M
		-	■	-	-	E3F2-D1B4-M1-M	E3F2-D1C4-M1-M
Diffuse-reflective 	0.3 m (adjustable)	-	-	2 m	-	E3F2-DS30B41-M 2M	E3F2-DS30C41-M 2M
		-	■	-	-	E3F2-DS30B41-M1-M	E3F2-DS30C41-M1-M

Sensing method	Sensing distance	Connection method				Order code	
					 *1	PNP output	NPN output
Diffuse-reflective (background suppression) 	0.1 m (fixed)	-	-	2 m	-	E3F2-LS10B4-M 2M	E3F2-LS10C4-M 2M
		-	■	-	-	E3F2-LS10B4-M1-M	E3F2-LS10C4-M1-M

- *1. Pre-wired connectors are available on request. Please contact your OMRON representative.
- *2. Order reflector separately. Models with reflector E39-R1S included are available. Please contact your OMRON representative.
- *3. with reflector E39-R1S
- *4. with reflector E39-R1

Note: Standard cable length is 2 m. Models provided with a 5 m long cable are available. When ordering, specify the cable length by adapting the length of the cable (e.g. E3F2-R4B4-E 5M). For other cable length please contact your OMRON sales representative.





Accessories (Order Separately)

Name	Sensing distance (typical) ^{*1}	Remark	Order code
Reflectors	3 m [100 mm] (axial types) 2 m [100 mm] (radial types)	60 x 40 mm	E39-R1
	4 m [100 mm] (axial types) 2 m [100 mm] (radial types)	60 x 40 mm	E39-R1S
	5 m [100 mm] (axial types) 2.5 m [100 mm] (radial types)	∅ 84 mm	E39-R7
	6 m [100 mm] (axial types) 3 m [100 mm] (radial types)	100 x 100 mm	E39-R8
	5 m [100 mm] (axial types) 2.5 m [100 mm] (radial types)	80 x 80 mm	E39-R40
Tape Reflectors	0.7 m [150 mm] (axial types)	35 x 10 mm	E39-RS1
	1.1 m [150 mm] (axial types)	35 x 40 mm	E39-RS2
	1.4 m [150 mm] (axial types)	80 x 70 mm	E39-RS3
Lens Cap			E39-F31
Mounting Bracket		screw mount	Y92E-B18

*1. Values in parentheses indicate the minimum required distance between the sensor and reflector.

For detailed information about Accessories, refer to the main chapter "Accessories" at the end of the document.

Sensor I/O Connectors

Cord	Shape	Cable type	Order code
Standard	Straight 	2 m	Four-wire type XS2F-D421-D80-A XS2F-D421-G80-A XS2F-D422-D80-A XS2F-D422-G80-A
		5 m	
	L-shaped 	2 m	
		5 m	
Vibration-proof robot cable	Straight 	2 m	XS2F-D421-D80-R
		5 m	XS2F-D421-G80-R
	L-shaped 	2 m	XS2F-D422-D80-R
		5 m	XS2F-D422-G80-R