E3FA/B_-F2

Special family with inverted output logic

- Fully compatible with previous E3F2 family
- Simple installation due to compact format
- Wide variety of models



Ordering Information

Compositions	Canalan diatar : :	Oammaatian matter d	Model		
Sensor type	Sensing distance	Connection method	Plastic housing	Metal housing	
hrough-beam*1	\$\int 20 m	pre-wired	E3FA-TP11-F2 2M	E3FB-TP11-F2 2M	
)) 20 111	M12 connector	E3FA-TP21-F2	E3FB-TP21-F2	
etro-reflective with MSR inction ²	0.1 to 4 m	pre-wired	E3FA-RP11-F2 2M	E3FB-RP11-F2 2M	
	with E39-R1S	M12 connector	E3FA-RP21-F2	E3FB-RP21-F2	
iffuse-reflective	1100	pre-wired	E3FA-DP11-F2 2M	E3FB-DP11-F2 2M	
	100 mm	M12 connector	E3FA-DP21-F2	E3FB-DP21-F2	
	300 mm	pre-wired	E3FA-DP12-F2 2M	E3FB-DP12-F2 2M	
		M12 connector	E3FA-DP22-F2	E3FB-DP22-F2	
	1 m	pre-wired	E3FA-DP13-F2 2M	E3FB-DP13-F2 2M	
		M12 connector	E3FA-DP23-F2	E3FB-DP23-F2	
□		pre-wired	E3FA-DP14-F2 2M	E3FB-DP14-F2 2M	
	100 mm	M12 connector	E3FA-DP24-F2	E3FB-DP24-F2	
		pre-wired	E3FA-DP15-F2 2M	E3FB-DP15-F2 2M	
	300 mm	M12 connector	E3FA-DP25-F2	E3FB-DP25-F2	
	4	pre-wired	E3FA-DP16-F2 2M	E3FB-DP16-F2 2M	
	1 m	M12 connector	E3FA-DP26-F2	E3FB-DP26-F2	
GS	100	pre-wired	E3FA-LP11-F2 2M	E3FB-LP11-F2 2M	
ackground suppression)	100 mm	M12 connector	E3FA-LP21-F2	E3FB-LP21-F2	
- □ <u></u>	200 mm	pre-wired	E3FA-LP12-F2 2M	E3FB-LP12-F2 2M	
	200 11111	M12 connector	E3FA-LP22-F2	E3FB-LP22-F2	

^{*1} The set type includes the emitter and receiver.

OMRON 1

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

E3RA/B radial types (PNP output) [Refer to Dimensions on page 8.]

Red light

Sensor type	Sensing distance	Connection method	Model		
Sensor type	Sensing distance	Connection method	Plastic housing	Metal housing	
Retro-reflective with MSR function*1	0.44.0	pre-wired	E3RA-RP11-F2 2M	E3RB-RP11-F2 2M	
A N	0.1 to 3 m with E39-R1S	M12 connector	E3RA-RP21-F2	E3RB-RP21-F2	
Diffuse-reflective	1400	pre-wired	E3RA-DP11-F2 2M	E3RB-DP11-F2 2M	
Д≒	100 mm	M12 connector	E3RA-DP21-F2	E3RB-DP21-F2	
	300 mm	pre-wired	E3RA-DP12-F2 2M	E3RB-DP12-F2 2M	
A		M12 connector	E3RA-DP22-F2	E3RB-DP22-F2	

^{*1} The Reflector is sold separately. Select the Reflector model most suited to the application.

Ratings and Specifications

Straight type (E3FA/E3FB)

	Sensi	ng method	Through-beam	Retro-reflective with MSR function			
Model	PNP	Pre-wired	E3F□-TP11-F2 2M	E3F□-RP11-F2 2M			
Item	output	M12 Connector	E3F□-TP21-F2	E3F□-RP21-F2			
Sensing di			20 m	0.1 to 4 m (with E39-R1S)			
Spot diame	eter (refere	nce value)	-	_			
Standard s	ensing ob	ject	Opaque: 7 mm dia.min.	Opaque: 75 mm dia.min.			
Differential	travel		-	_			
Directional	angle		2° min.				
Light source	ce (wavele	ngth)	Red LED (624 nm) Red LED (624 nm)				
Power sup	ply voltage)	10 to 30 VDC (include voltage ripple of 10%(p-p) ma	ax.)			
Current co	nsumption	1	40 mA max. (Emitter 25 mA max. Receiver 15 mA max.)	25 mA max.			
Control out	<u> </u>		PNP (open collector) Load current: 100 mA max. (Residual voltage: 3 V r	nax.), Load power supply voltage: 30 VDC max.			
Operation I	mode		Light-ON/Dark-ON selectable by wiring				
Indicator			Operation indicator (orange) Stability indicator (green) Power indicator (green): only Emitter of Through-beam				
Protection	circuits		Power supply reverse polarity protection, Output short-circuit protection, and Output reverse polarity protection				
Response	time		0.5 ms				
Sensitivity	adjustmer	nt	One-turn adjuster				
Ambient illu	ımination (Receiver side)	1 '				
Ambient te	mperature	range	Operating: -25 to 55°C/ Storage: -30 to 70°C (with no icing or condensation)				
Ambient hu	umidity rar	nge	Operating: 35 to 85%/ Storage: 35 to 95% (with no condensation)				
Insulation	resistance		20 MΩ min. at 500 VDC				
Dielectric s	trength		1,000 VAC at 50/60 Hz for 1 min. between current-carrying parts and case				
Vibration re	esistance		Destruction: 10 to 55 Hz, 1.5 mm double amplitude for 2 hours each in X, Y and Z directions				
Shock resis	stance		Destruction: 500 m/s² 3 times each in X, Y and Z directions				
Degree of protection			IEC: IP67, DIN 40050-9: IP69K*1				
Weight (packed Pre-wired cable (2M)		d cable (2M)	E3FA: Approx. 110 g/ Approx. 50 g, respectively, E3FB: Approx. 175 g/ Approx. 65 g, respectively	E3FA: Approx. 60 g/ Approx. 50 g, E3FB: Approx. 95 g/ Approx. 65 g			
state/only sensor) Connector		or	E3FA: Approx. 30 g/ Approx. 10 g, respectively, E3FB: Approx. 85 g/ Approx. 20 g, respectively	E3FA: Approx. 20 g/ Approx. 10 g, E3FB: Approx. 50 g/ Approx. 20 g			
Case			E3FA: ABS, E3FB: Nickel-brass				
Material	Lens and	Display	PMMA				
wateriai	Adjuster		POM				
	Nut		E3FA: POM, E3FB: Nickel-brass				
Accessorie	es		Instruction sheet M18 nuts (4 pcs)	Instruction sheet M18 nuts (2 pcs)			

^{*1} IP69K Degree of Protection Specifications

The Begit of Friedman Specification Stipulated by DIN 40050 Part 9 of the German standards.

The test item is sprayed with 80°C water from a nozzle of a specified shape at a water pressure of 80 to 100 bar. The amount of

water is 14 to 16 liters per minute.

The distance between the test item and the nozzle is 10 to 15 cm. The water is discharged at angles of 0°, 30°, 60°, and 90° from the horizontal plane for 30 seconds at each angle while the test item is rotated horizontally.



E3FA/B_-F2

Straight type (E3FA/E3FB)

	Sensing method		Diffuse-reflective						
Model	PNP output	Pre-wired	E3F□-DP11-F2 2M	E3F□-DP12-F2 2M	E3F□-DP13-F2 2M	E3F□-DP14-F2 2M	E3F□-DP15-F2 2M	E3F□-DP16-F2 2M	
Item	output	M12 Connector	E3F□-DP21-F2	E3F□-DP22-F2	E3F□-DP23-F2	E3F□-DP24-F2	E3F□-DP25-F2	E3F□-DP26-F2	
Sensing di	stance		100 mm (white paper: 300 × 300 mm)	300 mm (white paper: 300 × 300 mm)	1 m (white paper: 300 × 300 mm)	100 mm (white paper: 300 × 300 mm)	300 mm (white paper: 300 × 300 mm)	1 m (white paper: 300 × 300 mm)	
Spot diameter (reference value)		40 × 45 mm Sensing distance of 100 mm	40 × 50 mm Sensing distance of 300 mm	120 × 150 mm Sensing distance of 1 m	40 × 45 mm Sensing distance of 100 mm	40 × 50 mm Sensing distance of 300 mm	120 × 150 mm Sensing distance of 1 m		
Standard s	ensing obj	ject			-				
Differential	travel		20% max.						
Directional	angle				-	_			
Light source	ce (wavele	ngth)	Red LED (624 ni	m)		Infrared LED (85	0 nm)		
Power sup	ply voltage)	10 to 30 VDC (in	clude voltage ripp	le of 10%(p-p) ma	ax.)			
Current co	nsumption	1	25 mA max.						
Control output			PNP (open collector) Load current: 100 mA max. (Residual voltage: 3 V max.), Load power supply voltage: 30 VDC max.						
Operation	mode		Light-ON/Dark-ON selectable by wiring						
Indicator			Operation indicator (orange) Stability indicator (green)						
Protection	circuits		Power supply reverse polarity protection, Output short-circuit protection, and Output reverse polarity protection						
Response	time		0.5 ms						
Sensitivity			One-turn adjuster						
Ambient illu	ımination (Receiver side)	Incandescent lamp: 3,000 lx max./ Sunlight: 10,000 lx max.						
Ambient te			Operating: -25 to 55°C/ Storage: -30 to 70°C (with no icing or condensation)						
Ambient hu	•	•	Operating: 35 to 85%/ Storage: 35 to 95% (with no condensation)						
Insulation	resistance		20 MΩ min. at 500 VDC						
Dielectric s	strength		1,000 VAC at 50/60 Hz for 1 min. between current-carrying parts and case						
Vibration re	esistance		Destruction: 10 to 55 Hz, 1.5 mm double amplitude for 2 hours each in X, Y and Z directions						
Shock resi			Destruction: 500 m/s ² 3 times each in X, Y and Z directions						
Degree of protection		IEC: IP67, DIN 40050-9: IP69K*1							
Weight (packed Pre-wired cable (2M)			E3FA: Approx. 60 g/ Approx. 50 g, E3FB: Approx. 95 g/ Approx. 65 g						
state/only sensor) Connector			E3FA: Approx. 20 g/ Approx. 10 g, E3FB: Approx. 50 g/ Approx. 20 g						
	Case		E3FA: ABS, E3FB: Nickel-brass						
Material	Lens and	Display	PMMA						
ivialti iai	Adjuster		POM						
	Nut		E3FA: POM, E3	FB: Nickel-brass					
Accessorie	es		Instruction sheet M18 nuts (2 pcs)						

^{*1} IP69K Degree of Protection Specifications

1P69K is a protection specification stipulated by DIN 40050 Part 9 of the German standards.

The test item is sprayed with 80°C water from a nozzle of a specified shape at a water pressure of 80 to 100 bar. The amount of water is 14 to 16 liters per minute.

The distance between the test item and the nozzle is 10 to 15 cm. The water is discharged at angles of 0°, 30°, 60°, and 90° from the horizontal plane for 30 seconds at each angle while the test item is rotated horizontally.



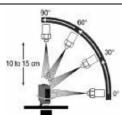
Straight type (E3FA/E3FB)

Sensing method		ng method	BGS (Background suppression)				
Model	PNP	Pre-wired	E3F□-LP11-F2 2M	E3F□-LP12-F2 2M			
Item	output	M12 Connector	E3F□-LP21-F2	E3F□-LP22-F2			
	Sensing distance		100 mm	200 mm			
Sensing di			(white paper:				
			300 × 300 mm)	300 × 300 mm)			
Spot diame	eter (refer	ence value)	$10 \times 10 \text{ mm}$ $10 \times 15 \text{ mm}$ Sensing distance of 100 mm Sensing distance of 200 mm				
Standard s	ensing ob	ject					
Differentia	l travel		20% max.				
Directiona	l angle			_			
Light sour	ce (wavele	ength)	Red LED (624 nm)				
Power sup	ply voltag	е	10 to 30 VDC (include voltage ripple of 10	%(p-p) max.)			
Current co	nsumptio	n	25 mA max.				
Control ou	tput		PNP (open collector) Load current: 100 mA max. (Residual volta	age: 3 V max.), Load power supply voltage: 30 VDC max.			
Operation	mode		Light-ON/Dark-ON selectable by wiring				
Indicator			Operation indicator (orange) Stability indicator (green)				
Protection	circuits		Power supply reverse polarity protection, Output short-circuit protection, and Output reverse polarity protection				
Response			0.5 ms				
Sensitivity		nt	Fixed				
Ambient ill	umination		Incandescent lamp: 3,000 lx max./ Sunlight: 10,000 lx max.				
Ambient te	mperature	e range	Operating: -25 to 55°C/ Storage: -30 to 70°C (with no icing or condensation)				
Ambient h			Operating: 35 to 85%/ Storage: 35 to 95% (with no condensation)				
Insulation	-		20 MΩ min. at 500 VDC				
Dielectric s	strength		1,000 VAC at 50/60 Hz for 1 min. between current-carrying parts and case				
Vibration r	esistance		Destruction: 10 to 55 Hz, 1.5 mm double amplitude for 2 hours each in X, Y and Z directions				
Shock resi	stance		Destruction: 500 m/s ² 3 times each in X, Y and Z directions				
Degree of protection		 	IEC: IP67, DIN 40050-9: IP69K*1 *				
Weight (packed	Pre-wire	d cable (2M)	E3FA: Approx. 60 g/ Approx. 50 g, E3FB: Approx. 95 g/ Approx. 65 g				
state/only sensor)	Connect	or	E3FA: Approx. 20 g/ Approx. 10 g, E3FB: Approx. 50 g/ Approx. 20 g				
Case			E3FA: ABS, E3FB: Nickel-brass				
		d Display	PMMA				
Material	Adjuster		POM				
	Nut		E3FA: POM, E3FB: Nickel-brass				
Accessories			Instruction sheet M18 nuts (2 pcs)				

¹ IP69K Degree of Protection Specifications IP69K is a protection specification stipulated by DIN 40050 Part 9 of the German standards. The test item is sprayed with 80°C water from a nozzle of a specified shape at a water pressure of 80 to 100 bar. The amount of water is 14 to 16 liters per minute.

The distance between the test item and the nozzle is 10 to 15 cm. The water is discharged at angles of 0°, 30°, 60°, and 90° from

the horizontal plane for 30 seconds at each angle while the test item is rotated horizontally.



E3FA/B_-F2

Radial type (E3RA/E3RB)

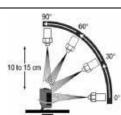
Sensing method		ing method	Retro-reflective with MSR function	Diffuse-reflective			
Model	PNP	Pre-wired E3R□-RP11-F2 2M	E3R□-RP11-F2 2M	E3R□-DP11-F2 2M	E3R□-DP12-F2 2M		
Item	output	M12 Connector	E3R□-RP21-F2	E3R□-DP21-F2	E3R□-DP22-F2		
Sensing distance Spot diameter (reference value)			0.1 to 3 m (with E39-R1S)	100 mm (white paper: 300 × 300 mm)	300 mm (white paper: 300 × 300 mm)		
		ence value)	_	35 × 40 mm Sensing distance of 100 mm	40 × 45 mm Sensing distance of 300 mm		
Standard s	ensing ob	oject	Opaque: 75 mm dia.min.	Opaque:			
Differentia	l travel		I	20% max.			
Directiona	l angle		2° min.		_		
Light sour	ce (wavele	ength)	Red LED (624 nm)				
Power sup			10 to 30 VDC (include voltage	ripple of 10%(p-p) max.)			
Current co			25 mA max.				
Control ou	-		PNP (open collector) Load current: 100 mA max. (Residual voltage: 2 V max.), Load power supply voltage: 30 VDC max.				
Operation mode			Light-ON/Dark-ON selectable by wiring				
Indicator			Operation indicator (orange) Stability indicator (green) Power indicator (green): only Emitter of Through-beam				
Protection	circuits		Power supply reverse polarity protection, Output short-circuit protection, and Output reverse polarity protection				
Response	time		0.5 ms				
Sensitivity	adjustme	nt	One-turn adjuster				
Ambient ill (Receiver s		1	Incandescent lamp: 3,000 lx max./ Sunlight: 10,000 lx max.				
Ambient te	mperatur	e range	Operating: -25 to 55°C/ Storage: -30 to 70°C (with no icing or condensation)				
Ambient h	umidity ra	nge	Operating: 35 to 85%/ Storage: 35 to 95% (with no condensation)				
Insulation	resistance	9	20 MΩ min. at 500 VDC				
Dielectric s	strength		1,000 VAC at 50/60 Hz for 1 min. between current-carrying parts and case				
Vibration r	esistance		Destruction: 10 to 55 Hz, 1.5 mm double amplitude for 2 hours each in X, Y and Z directions				
Shock resi	stance		Destruction: 500 m/s ² 3 times each in X, Y and Z directions				
Degree of	protection	1	IEC: IP67, DIN 40050-9: IP69K*1 *				
Weight (packed Pre-wired cable (2M)			E3RA: Approx. 60 g/ Approx. 50 g, E3RB: Approx. 95 g/ Approx. 65 g				
state/only sensor) Connector			E3RA: Approx. 20 g/ Approx. 10 g, E3RB: Approx. 50 g/ Approx. 20 g				
	Case		E3RA: ABS, E3RB: Nickel-bra	ss			
Material	Lens and	d Display	PMMA				
waterial	Adjuster		POM				
	Nut		E3RA: POM, E3RB: Nickel-bra	ass			
Accessorie	es		Instruction sheet M18 nuts (2 pcs)				

¹ IP69K Degree of Protection Specifications
IP69K is a protection specification stipulated by DIN 40050 Part 9 of the German standards.

The test item is sprayed with 80°C water from a nozzle of a specified shape at a water pressure of 80 to 100 bar. The amount of

water is 14 to 16 liters per minute.

The distance between the test item and the nozzle is 10 to 15 cm. The water is discharged at angles of 0°, 30°, 60°, and 90° from the horizontal plane for 30 seconds at each angle while the test item is rotated horizontally.



Output circuit diagram

PNP Output

Model	Operation mode	Timing charts	Operation selector	Output circuit		
E3F□-TP□ E3F□-RP□ E3F□-DP□ E3R□-RP□ E3R□-DP□	Light-ON	Light incident Light interrupted Operation indicator ON (orange) OFF Output transistor OFF Load Operate (e.g., relay) Reset (Between blue and black leads)	Connect the pink wire (Pin(2)) to the brown (Pin(1)) or open the pink wire (Pin(2))	Through-beam Receivers, Retro-reflective Models, Diffuse-reflective Models. Operation Indicator (Orange) Stability Indicator (Orange) Brown 10 to 30 VDC Indicator (Orange) Black (Control output)		
	Dark-ON	Light incident Light interrupted Operation indicator ON (orange) OFF Output transistor OFF Load Operate (e.g., relay) Reset (Between blue and black leads)	Connect the pink wire (Pin(2)) to the blue (Pin(3))	Blue Load (Relay) Gircuit Dark-ON 0		
	Through-beam Emitter					
		Poindindi	icator	T10 to 30 VDC		
E2E□ I D□	Light-ON	Operation indicator ON (orange) OFF Output transistor ON OFF Load (e.g., relay) Operate Reset (Between blue and black leads)	Connect the pink wire (Pin(2)) to the brown (Pin(1)) or open the pink wire (Pin(2))	Background suppression. Operation Stability indicator (Orange) Photogetectric Black (Control output)		
E3F□-LP□	Dark-ON	Operation indicator ON OFF Output transistor ON OFF Load Operate (e.g., relay) Operate (Between blue and black leads)	Connect the pink wire (Pin(2)) to the blue (Pin(3))	Sensor Main Circuit Blue Load (Relay) O V Pink Dark-ON		

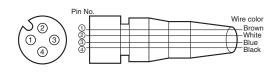
Connector Pin Arrangement

M12 Connector Pin Arrangement



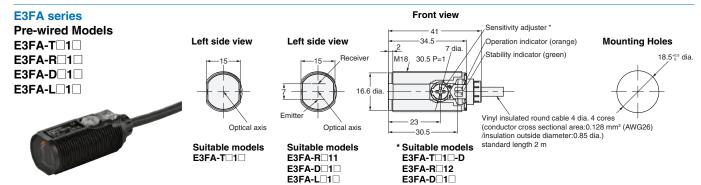
Connectors (Sensor I/O connectors)

M12 4-wire Connectors



Classification	Wire color Connector pin No		Application
DC	Brown	1	Power supply (+V)
	White	2	L/on · D/on selectable
	Blue	3	Power supply (0 V)
	Black	4	Output

Sensors (E3FA/E3RA Plastic housing)





M12 Connector Models

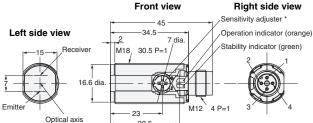
E3FA-T 2 E3FA-R 2 E3FA-D 2 E3FA-L 2







Suitable models E3FA-T□2□



dels Suitable models E3FA-R□21 E3FA-D□2□

E3FA-L□2□

* Suitable models = 3FA-T 2 - D = 3FA-R 22 = 25FA-D 2

Terminal No.	Specification
1	+V
2	L/on · D/on selectable
3	0V
4	Output

Mounting Holes

Mounting Holes

Mounting Holes

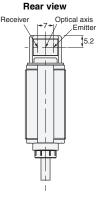
18.5^{+0.5} dia.

18.5¹⁰⁵ dia.

E3RA series

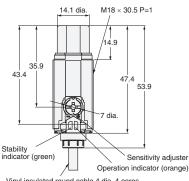
Pre-wired Models E3RA-R□11 E3RA-D□1□





Suitable models E3RA-R□11 E3RA-D□1□

Front view



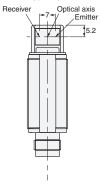
Vinyl insulated round cable 4 dia. 4 cores (conductor cross sectional area:0.128 mm² (AWG26) /insulation outside diameter:0.85 dia.) standard lenoth 2 m

E3RA series

M12 Connector Models E3RA-R□21 E3RA-D□2□

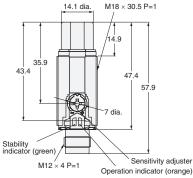


Rear view



Suitable models E3RA-R□21 E3RA-D□2□

Front view



Bottom view



Terminal No.	Specification
1	+V
2	L/on · D/on selectable
3	0V
4	Output

Sensors (E3FB/E3RB Metal housing)

E3FB series

Pre-wired Models

E3FB-T□11

E3FB-R□1□

E3FB-D□1□



Left side view



Suitable models E3FB-T□11

Left side view

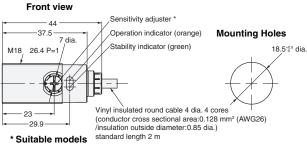


E3FB-D□1□ E3FB-L 1

Suitable models E3FB-R□11

E3FB-T□11-D

E3FB-R□12 E3FB-D 1



E3FB series

M12 Connector Models

E3FB-T□21

E3FB-R□2□

E3FB-D□2□

E3FB-L□2□



Left side view

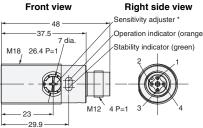


Suitable models E3FB-T□21

Left side view



Suitable models E3FB-R□21 E3FB-D□2□ E3FB-L□2□



* Suitable models E3FB-T□21-D E3FB-R□22 E3FB-D□2□

. vv	
orange)	Mounting Holes
een)	18.5 ^{+0.5} dia.
_	

Terminal No.	Specification
1	+V
2	L/on · D/on selectable
3	0V
4	Output

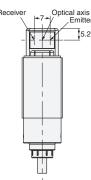
E3RB series

Pre-wired Models E3RB-R□11

E3RB-D□1□

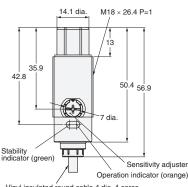


Rear view



Suitable models E3RB-R□11 E3RB-D□1□

Front view



Vinyl insulated round cable 4 dia. 4 cores (conductor cross sectional area:0.128 mm² (AWG26) insulation outside diameter:0.85 dia.) standard length 2 m

Mounting Holes



E3RB series

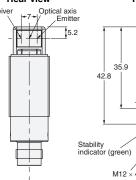
M12 Connector Models

E3RB-R□21

E3RB-D□2□

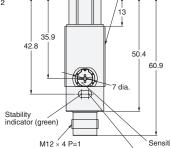


Rear view



Suitable models E3RB-R□21 E3RB-D□2□

Front view 14.1 dia. $M18\times26.4\ P{=}1$



Bottom view



' dia.	++
<u> </u>	
`Sensitivity adjuster	
Operation indicator (orange)	

Mounting Holes

18.5^{+0.5} dia.

Terminal No. Specification L/on · D/on selectable 3 ٥V Output

E3FA/B -F2

Safety Precautions

Refer to Warranty and Limitations of Liability.



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





Never use the product with an AC power supply.

Do not use the product with voltage in excess of the rated voltage.



Do not use the product with incorrect wiring.

Otherwise, explosion, fire, malfunction may result.



Precautions for Safe Use

Be sure to follow the safety precautions below for added safety.

- Do not use the sensor under the environment with explosive, flammable or corrosive gas.
- 2. Do not use the sensor under the oil or chemical environment.
- 3. Do not use the sensor in the water, rain or outdoors.
- 4. Do not use the sensor in the environment where humidity is high and condensation may occur.

- Do not use the sensor under the environment under the other conditions in excess of rated.
- 6. Do not use the sensor in place that is exposed by direct sunlight.
- Do not use the sensor in place where the sensor may receive direct vibration or shock.
- 8. Do not use the thinner, alcohol, or other organic solvents.
- 9. Never disassemble, repair nor tamper with the sensor.
- 10.Please process it as industrial waste.

Precautions for Correct Use

- Laying Sensor wiring in the same conduit or duct as high-voltage wires or power lines may result in malfunction or damage due to conduit or use shielded cable.
- 2. Do not pull on the cable with excessive force.
- If a commercial switching regulator is used, ground the FG (frame ground) terminal.
- 4. The sensor will be available 100 ms after the power supply is tuned ON. Start to use the sensor 100 ms or more after turning ON the power supply. If the load and the sensor are connected to separate power supplies, be sure to turn ON the sensor first.
- 5. Output pulses may be generated even when the power supply is OFF. Therefore, it is recommended to first turn OFF the power supply for the load or the load line.
- 6. The sensor must be mounted using the provided nuts. The proper tightening torque range of E3FA/E3RA plastic housing series is between 0.4 and 0.5 N°m. The proper tightening torque of E3FB/ E3RB metal housing series is 20 N°m max..

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

OMRON Corporation Industrial Automation Company

Tokyo, JAPAN

Contact: www.ia.omron.com

Regional Headquarters
OMRON EUROPE B.V.
Sensor Business Unit
Carl-Benz-Str. 4, D-71154 Nufringen, Germany
Tel: (49) 7032-811-199

OMRON ASIA PACIFIC PTE. LTD.
No. 438A Alexandra Road # 05-05/08 (Lobby 2),

Alexandra Technopark, Singapore 119967 Tel: (65) 6835-3011/Fax: (65) 6835-2711 OMRON ELECTRONICS LLC
One Commerce Drive Schaumburg,

IL 60173-5302 U.S.A. Tel: (1) 847-843-7900/Fax: (1) 847-843-7787

OMRON (CHINA) CO., LTD.

Room 2211, Bank of China Tower, 200 Yin Cheng Zhong Road, PuDong New Area, Shanghai, 200120, China Tel: (86) 21-5037-2222/Fax: (86) 21-5037-2200 Authorized Distributor:

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