



NO: PH-180
DATE: July 2013

PRODUCT: E3FN Photoelectric Sensor
TYPE: Discontinuation Notice

E3FN Cylindrical Photoelectric Sensors will be Discontinued March 2014; Replace with E3FA Models

Product Discontinuation	Recommended Replacement
E3FN series	E3FA series
E3FN-P18KDR1-WP-B/CL	E3FA-DN/P11
E3FN-P18KDR3T-WP-B/CL	E3FA-DN/P12
E3FN-P18KR2-WP-B/CD	E3FA-RN/P11

Caution on Applying Recommended Replacement

1. Pay attention to the Load current & Residual voltage (For details, please see "Characteristics").
2. Light-on or Dark-on is fixed with E3FN series. Light-on or Dark-on operation can be selected by wiring with E3FA series.
3. The light source is different: E3FN series uses an infrared LED, and E3FA series uses a Red LED. Please pay attention to the detection function.
4. The body length is different.

Affected Parts

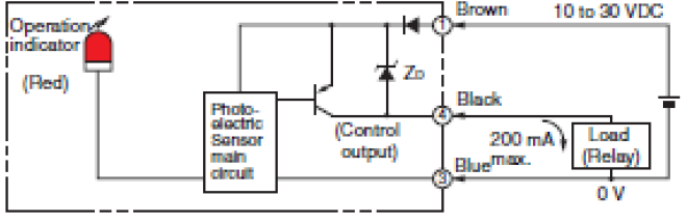
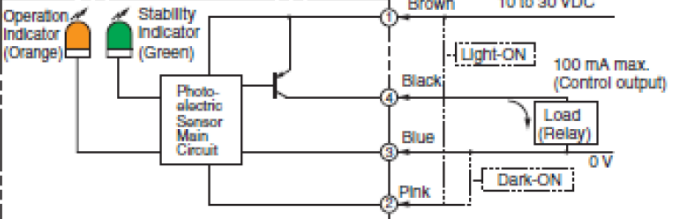
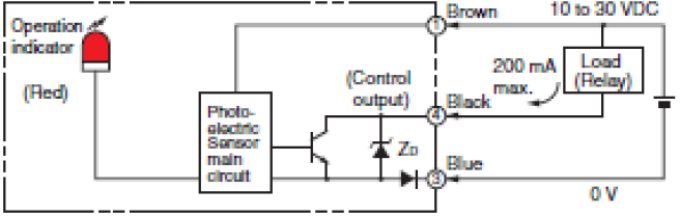
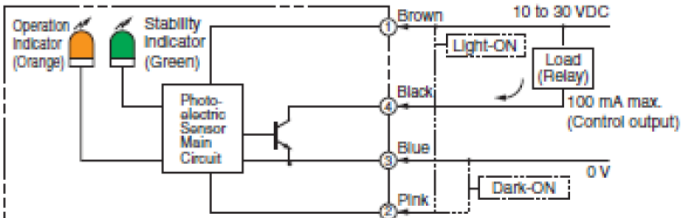
Product discontinuation	Recommended replacement
E3FN-P18KDR1-WP-BL 2M	E3FA-DP11 2M
E3FN-P18KDR1-WP-CL 2M	E3FA-DN11 2M
E3FN-P18KDR3T-WP-BL 2M	E3FA-DP12 2M
E3FN-P18KDR3T-WP-CL 2M	E3FA-DN12 2M
E3FN-P18KR2-WP-BD 2M	E3FA-RP11 2M
E3FN-P18KR2-WP-CD 2M	E3FA-RN11 2M

For a detailed comparison of changes, see tables below.

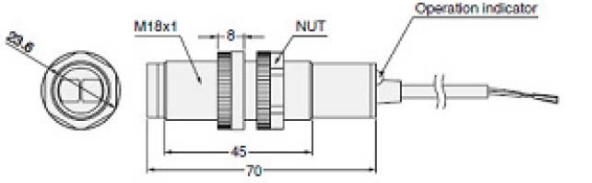
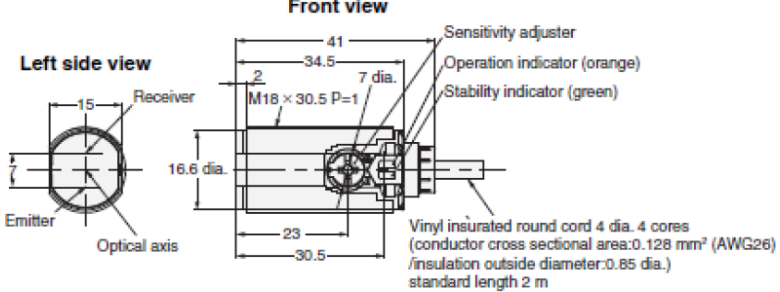
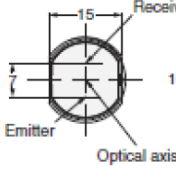
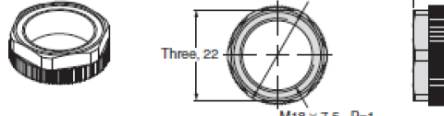
Body Color

Product discontinuation	Recommended replacement
Light green	Black
	

Wiring Diagram

Product discontinuation Model E3FN series	Recommended replacement Model E3FA series
<p>PNP E3FN-P18KDR1-WP-BL, E3FN-P18KDR3T-WP-BL E3FN-P18KR2-WP-BD</p> 	<p>PNP E3FA-DP11, E3FA-DP12 E3FA-RP11</p> 
<p>NPN E3FN-P18KDR1-WP-CL, E3FN-P18KDR3T-WP-CL E3FN-P18KR2-WP-C</p> 	<p>NPN E3FA-DN11, E3FA-DN12 E3FA-RN11</p> 


Dimensions

Product discontinuation Model E3FN series	Recommended replacement Model E3FA series
	<p>Front view</p>  <p>Left side view</p>  <p>Attached nut</p>  <p>For E3FA/E3RA</p> <p>Vinyl insulated round cord 4 dia. 4 cores (conductor cross sectional area: 0.128 mm² (AWG26) / insulation outside diameter: 0.85 dia.) standard length 2 m</p>

Characteristics

Item	Product discontinuation Model E3FN series	Recommended replacement Model E3FA series
Sensing distance	E3FN-P18KDR1-WP-B/CL: 100 mm	E3FA-DN/P11: 100 mm
	E3FN-P18KDR3T-WP-B/CL: 300 mm	E3FA-DN/P12: 300 mm
	E3FN-P18KR2-WP-B/CD: 2 m	E3FA-RN/P11: 0.1 to 4 m
Power supply voltage	10 to 30 VDC	10 to 30 VDC
Output type	PNP or NPN open collector	PNP or NPN open collector
Control output	Load current: 200 mA max. Residual voltage: 2.0 V max.	Load current: 100 mA max. Residual voltage: 3.0 V max.
Current consumption	20 mA max	25 mA max.
Light source	Infrared LED	Red LED (624 nm)
Indicator	Operation indicator (red)	Operation indicator (orange) Stability indicator (green)
Response time	10 ms max.	0.5 ms
Operation mode	Light-ON or Dark-ON fixed	Light-ON/Dark-ON selectable by wiring
Protection circuits	Reversed power supply polarity protection, Output short-circuit protection, Reversed output polarity protection	Reversed power supply polarity protection, Output short-circuit protection and Reversed output polarity protection
Ambient temperature range	-25°C to 55°C	Operating: -25 to 55°C
Degree of protection	IEC60529: IP67, EN60947-5-2: EMC	IEC: IP67, DIN 40050-9: IP69K
Materials	Case: ABS Cable holder: PC Lens: PC	Case and Nut: ABS Adjuster: POM Lens and Display: PMMA

Operation Method

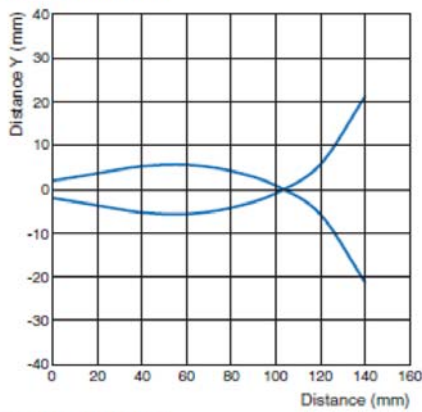
Product discontinuation Model E3FN series	Recommended replacement Model E3FA series
Sensitivity adjustment No adjuster	Sensitivity adjustment One-turn adjuster 

Operation Ratings

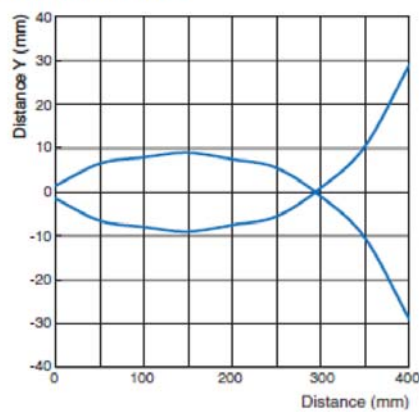
Product discontinuation
Model E3FN series

Operating Range (typical)

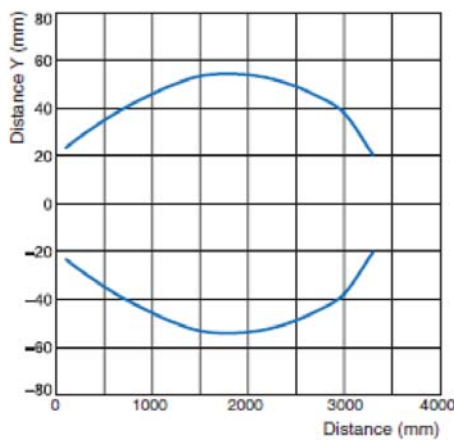
E3FN-P18KDR1



E3FN-P18KDR3T



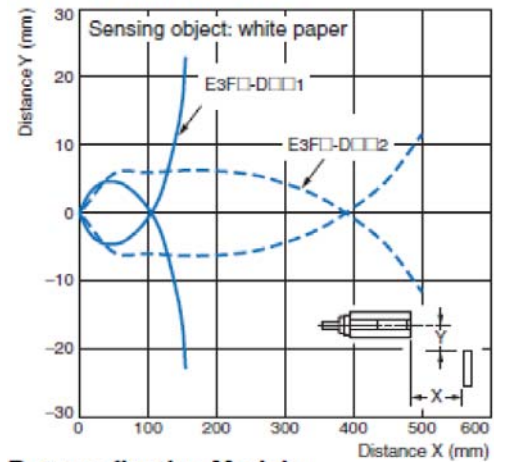
E3FN-P18KR2



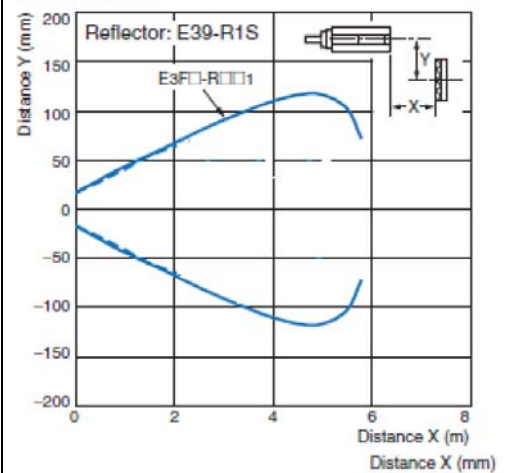
Recommended replacement
Model E3FA series

Operating Range

Diffuse-reflective Models
E3F□-D□□1, E3F□-D□□2



Retro-reflective Models
E3F□-R□□1

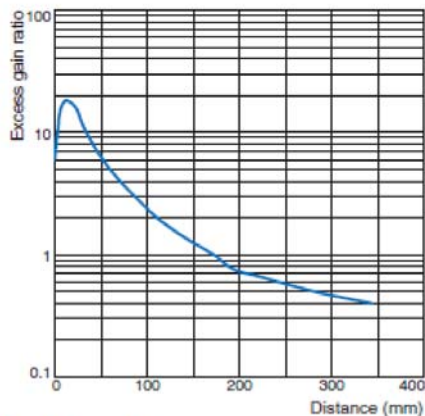


Product discontinuation
Model E3FN series

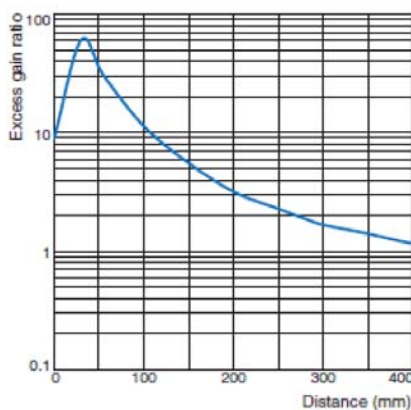
Recommended replacement
Model E3FA series

Excess Gain Ratio vs. Set Distance (Typical)

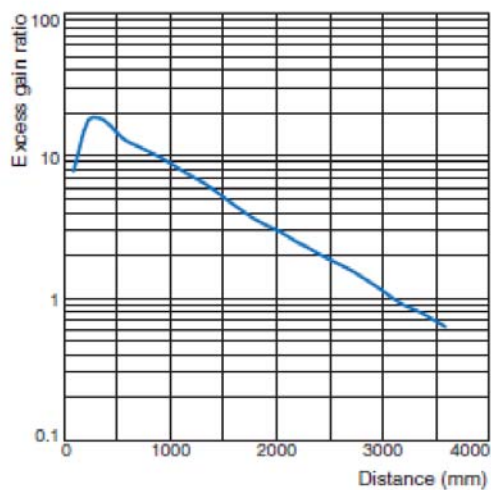
E3FN-P18KDR1



E3FN-P18KDR3T

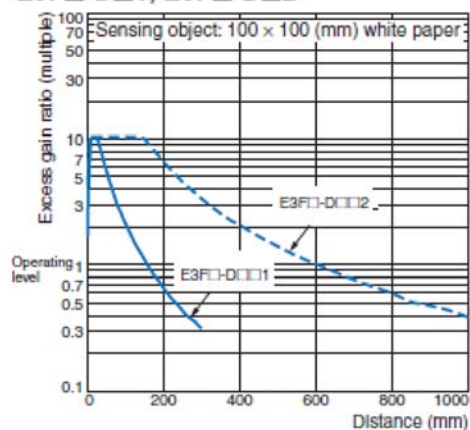


E3FN-P18KR2



Excess Gain vs. Distance

Diffuse reflective Models
E3F□-D□1, E3F□-D□2



Retro-reflective Models

E3F□-R□1

