

Cylindrical Photoelectric Sensor

E3FN

High quality at exceptional cost

- Cylindrical shape



Ordering Information

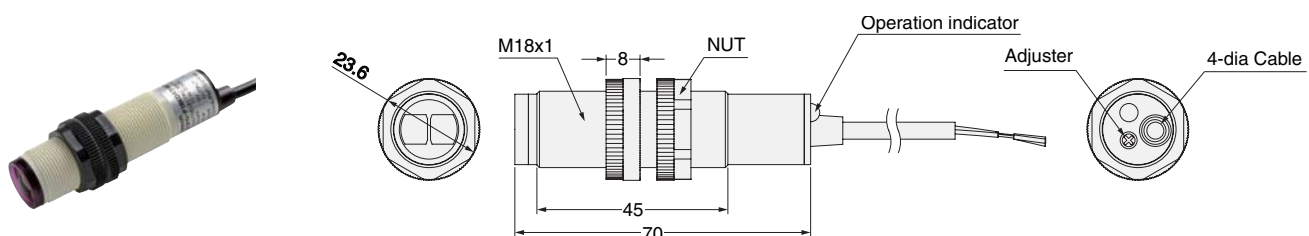
Sensing method	Appearance	Connection method	Sensing distance	Model	
				PNP output	NPN output
Diffuse-reflective		Pre-wired (* m)	100 mm	E3FN-P18KDR1-WP-BL	E3FN-P18KDR1-WP-CL
			300 mm	E3FN-P18KDR3T-WP-BL	E3FN-P18KDR3T-WP-CL
Retro-reflective			2 m	E3FN-P18KR2-WP-BD	E3FN-P18KR2-WP-CD

Ratings and Specifications

Item	Model	Sensing method		Diffuse-reflective		Retro-reflective
		PNP output	NPN output	E3FN-P18KDR1-WP-BL	E3FN-P18KDR3T-WP-BL	E3FN-P18KR2-WP-BD
				E3FN-P18KDR1-WP-CL	E3FN-P18KDR1-WP-CL	E3FN-P18KR2-WP-CD
Sensing distance			100 mm		300 mm	2 m
Size			M18 Cylindrical shape			
Power supply voltage			10 to 30 VDC			
Output type			PNP or NPN open collector			
Control output			Load current: 200 mA max.			
			Residual voltage: Load current of 200 mA with cable length of 2 m: 2.0 V max.			
Current consumption			20 mA max.			
Light source			Infrared LED			
Response time			10 ms max.			
Protection circuits			Reversed power supply polarity protection, Output short-circuit protection, Reversed output polarity protection			
Ambient temperature range			-25°C to 55°C (with no icing or condensation)			
Ambient humidity range			Operating: 35% to 85%, Storage: 35% to 95% (with no icing or condensation)			
Degree of protection			IEC60529: IP67, EN60947-5-2: EMC			
Materials			Case: ABS, Cable holder: PC, Lens: PC			
Connection method			Pre-wired cable			

Dimensions

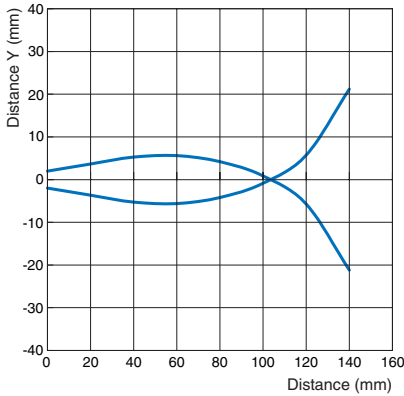
(Unit: mm)
Tolerance class IT16 applies to dimensions in this data sheet unless otherwise specified.



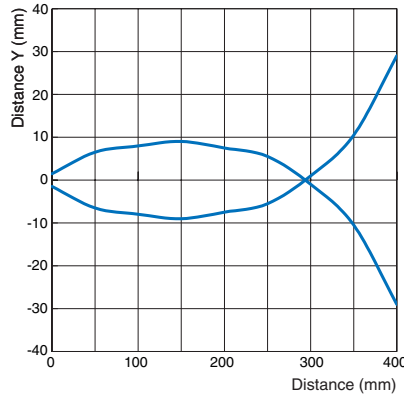
Engineering Data (Typical)

Operating Range (typical)

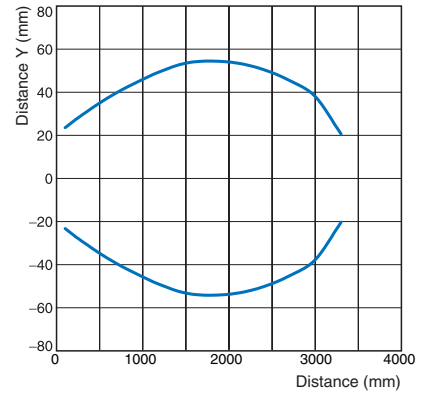
E3FN-P18KDR1



E3FN-P18KDR3T

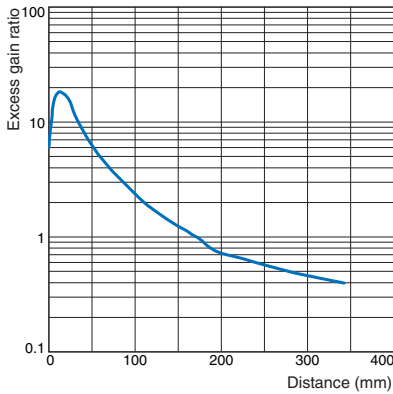


E2FN-P18KR2

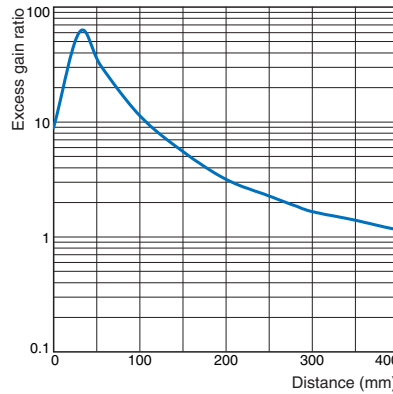


Excess Gain Ratio vs. Set Distance (Typical)

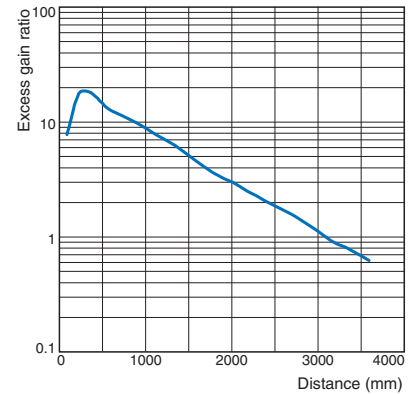
E3FN-P18KDR1



E3FN-P18KDR3T



E2FN-P18KR2



I/O Circuit Diagrams

Operation mode	Timing charts	Output circuit	
		PNP Output	NPN Output
Light-ON	Incident Interrupt		
	Operation indicator on		
Dark-ON	Incident Interrupt		
	Operation indicator on		

This document provides information mainly for selecting suitable models. Please read the Instruction Sheet carefully for information that the user must understand and accept before purchase, including information on warranty, limitations of liability, and precautions.

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