




Ultra-small / Cable type PM-25 SERIES

Cable type	NPN output	1 m 3.281 ft cable	3 m 9.843 ft cable	1 m 3.281 ft bending-resistant cable
Built-in connector	PNP output	1 m 3.281 ft cable	3 m 9.843 ft cable	1 m 3.281 ft bending-resistant cable







PM-K25




PM-L25



PM-U25

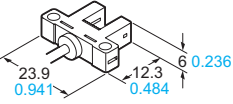
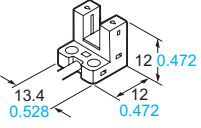
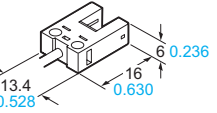
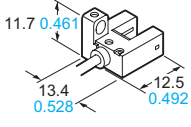
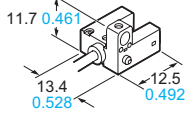


PM-F25



PM-R25

ORDER GUIDE

Type	Appearance (mm in)	Sensing range	Model No.	Cable length	Output	Output operation	
Ultra-small / Cable type	 <p>23.9 0.941, 12.3 0.484, 6 0.236</p>	6 mm 0.236 in (fixed)	PM-K25	1 m 3.281 ft	NPN open-collector transistor	Incorporated with 2 outputs: Light-ON / Dark-ON	
			PM-K25-R	1 m 3.281 ft, bending-resistant cable			
			PM-K25-C3	3 m 9.843 ft			
			PM-K25-P	1 m 3.281 ft	PNP open-collector transistor		
	L type		 <p>13.4 0.528, 12 0.472</p>	PM-L25	1 m 3.281 ft		NPN open-collector transistor
				PM-L25-R	1 m 3.281 ft, bending-resistant cable		
				PM-L25-C3	3 m 9.843 ft		
	U type		 <p>13.4 0.528, 16 0.630, 6 0.236</p>	PM-U25	1 m 3.281 ft		NPN open-collector transistor
				PM-U25-R	1 m 3.281 ft, bending-resistant cable		
				PM-U25-C3	3 m 9.843 ft		
	F type		 <p>11.7 0.461, 13.4 0.528, 12.5 0.492</p>	PM-F25	1 m 3.281 ft		NPN open-collector transistor
				PM-F25-R	1 m 3.281 ft, bending-resistant cable		
				PM-F25-C3	3 m 9.843 ft		
				PM-F25-P	1 m 3.281 ft		PNP open-collector transistor
	R type		 <p>11.7 0.461, 13.4 0.528, 12.5 0.492</p>	PM-R25	1 m 3.281 ft		NPN open-collector transistor
				PM-R25-R	1 m 3.281 ft, bending-resistant cable		
PM-R25-C3		3 m 9.843 ft					
PM-R25-P		1 m 3.281 ft		PNP open-collector transistor			

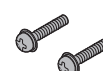
Note: The suffix "R" in the model No. indicates a bending-resistant cable type. The suffix "C3" indicates a 3 m 9.843 ft cable length type.

OPTIONS

Designation	Model No.	Description
Mounting screw	MS-M2	Mounting screw with washers for the ultra-small type sensor (50 pcs. lot). It can mount securely as it is spring washer attached.

Mounting screw

- MS-M2

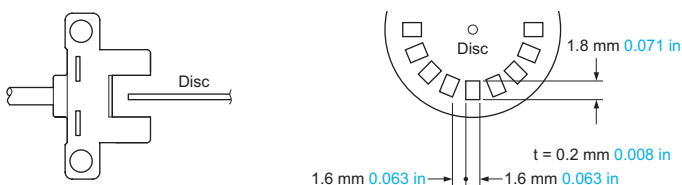


M2 (length 10 mm 0.394 in) screw with a spring washer

SPECIFICATIONS

Item	Model No.	Type	Ultra-small / Cable type		
			Bending-resistant cable		3 m 9.843 ft cable
			PM-□25	PM-□25-R	PM-□25-C3
Sensing range		6 mm 0.236 in (fixed)			
Minimum sensing object		0.8 × 1.2 mm 0.031 × 0.047 in opaque object			
Hysteresis		0.05 mm 0.002 in or less			
Repeatability		0.01 mm 0.0004 in or less			
Supply voltage		5 to 24 V DC ±10 % Ripple P-P 10 % or less			
Current consumption		15 mA or less			
Output		<NPN output type> NPN open-collector transistor <ul style="list-style-type: none"> • Maximum sink current: 50 mA • Applied voltage: 30 V DC or less (between output and 0 V) • Residual voltage: 2 V or less (at 50 mA sink current) 1 V or less (at 16 mA sink current) 		<PNP output type> PNP open-collector transistor <ul style="list-style-type: none"> • Maximum source current: 50 mA • Applied voltage: 30 V DC or less (between output and + V) • Residual voltage: 2 V or less (at 50 mA source current) 1 V or less (at 16 mA source current) 	
Output operation		Incorporated with 2 outputs: Light-ON / Dark-ON			
Short-circuit protection		Incorporated			
Response time		Under light received condition: 20 μs or less Under light interrupted condition: 80 μs or less (Maximum response frequency: 3 kHz) (Note 2)			
Operation indicator		Orange LED (lights up under light received condition)			
Pollution degree		3			
Environmental resistance	Protection	IP64 (IEC)			
	Ambient temperature (Note 3, 4)	-25 to +55 °C -13 to +131 °F (No dew condensation or icing allowed), Storage: -30 to +80 °C -22 to +176 °F			
	Ambient humidity	5 to 85 % RH, Storage: 5 to 95 % RH			
	Ambient illuminance	Fluorescent light: 1,000 lx at the light-receiving face			
	Voltage withstandability	1,000 V AC for one min. between all supply terminals connected together and enclosure			
	Insulation resistance	20 MΩ, or more, with 250 V DC megger between all supply terminals connected together and enclosure			
	Vibration resistance	10 to 2,000 Hz frequency, 1.5 mm 0.059 in double amplitude (maximum acceleration 196 m/s ²) in X, Y and Z directions for two hours each			
	Shock resistance	15,000 m/s ² acceleration (1,500 G approx.) in X, Y and Z directions three times each			
Emitting element		Infrared LED (Peak emission wavelength: 855 nm 0.034 mil, non-modulated)			
Material		Enclosure: PBT, Display section: Polycarbonate			
Cable		0.09-mm ² 4-core cabtyre cable, PVC, 1 m 3.281 ft long	0.1-mm ² 4-core bending-resistant cabtyre cable, PVC, 1 m 3.281 ft long (Note 5, 6)	0.09-mm ² 4-core cabtyre cable, PVC, 3 m 9.843 ft long	
Cable extension		Extension up to total 100 m 328.084 ft is possible with 0.3 mm ² , or more, cable. (Note 7)			
Weight		Net weight: 10 g approx., Gross weight: 15 g approx.		Net weight: 30 g approx., Gross weight: 35 g approx.	

Notes: 1) Where measurement conditions have not been specified precisely, the conditions used were an ambient temperature of +23 °C +73.4 °F.
 2) The response frequency is the value when the disc, given in the figure below, is rotated.



- 3) In case the PM-25 series is used at an ambient temperature of +50 °C +122 °F, or more, make sure to mount it on a metal body.
- 4) Note that the cable of PM-□25-R loses its flexibility when the ambient temperature decreases to about -10 °C +14 °F.
- 5) The cable of PM-□25-R is a bending-resistant cable usable on a moving base. When the sensor is mounted on a moving base, secure the sensor cable joint at the unit in place so that stress is not applied to it.
- 6) When storing PM-□25-R, make sure that the cable does not come into contact with the sensing section or operation indicator.
- 7) If the cable is extended to 20 m 65.617 ft or longer, confirm that the supply voltage at the end of the cable attached to the sensor is 4.5 V or higher.