

Compact / Connector built-in type **PM-65** SERIES

Cable type	NPN output	Connector attached cable 1 m (3.28 ft), 2 m (6.56 ft), 3 m (9.84 ft), 5 m (16.40 ft)	Connector attached bending-resistant cable 1 m (3.28 ft), 2 m (6.56 ft), 3 m (9.84 ft), 5 m (16.40 ft)	Easy connection with a single touch using commercially-available connectors
	PNP output	Connector attached cable 1 m (3.28 ft), 2 m (6.56 ft), 3 m (9.84 ft), 5 m (16.40 ft)	Connector attached bending-resistant cable 1 m (3.28 ft), 2 m (6.56 ft), 3 m (9.84 ft), 5 m (16.40 ft)	
Built-in connector	PM-K65 PM-T65 PM-T65W PM-L65 PM-Y65 PM-F65 PM-F65W PM-R65 PM-R65W			

ORDER GUIDE

Type	Appearance (mm in)	Sensing range	Model No.	Output	Output operation
Compact / Connector built-in type	K type 	6 mm 0.236 in (fixed)	PM-K65	NPN open-collector transistor	Incorporated with 2 outputs: Light-ON / Dark-ON
			PM-K65-P	PNP open-collector transistor	
	T type 		PM-T65	NPN open-collector transistor	
			PM-T65-P	PNP open-collector transistor	
			PM-T65W	NPN open-collector transistor	
			PM-T65W-P	PNP open-collector transistor	
	L type 		PM-L65	NPN open-collector transistor	
			PM-L65-P	PNP open-collector transistor	
	Y type 		PM-Y65	NPN open-collector transistor	
			PM-Y65-P	PNP open-collector transistor	
	F type 		PM-F65	NPN open-collector transistor	
			PM-F65-P	PNP open-collector transistor	
			PM-F65W	NPN open-collector transistor	
			PM-F65W-P	PNP open-collector transistor	
	R type 		PM-R65	NPN open-collector transistor	
			PM-R65-P	PNP open-collector transistor	
			PM-R65W	NPN open-collector transistor	
			PM-R65W-P	PNP open-collector transistor	

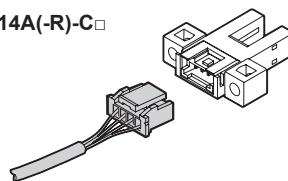
Note: "W" in the model No. indicates that the product is mounting-compatible with our conventional models **[PM-T53(B) / PM-□64(P)]**.

OPTIONS

Designation	Model No.	Description	
Connector attached cable	CN-14A-C1	Length: 1m 3.281 ft	0.2 mm ² 4-core cabtyre cable with connector on one end Cable outer diameter: ø3.7 mm ø0.146 in
	CN-14A-C2	Length: 2m 6.562 ft	
	CN-14A-C3	Length: 3m 9.843 ft	
	CN-14A-C5	Length: 5m 16.404 ft	
Connector attached cable (Bending-resistant cable)	CN-14A-R-C1	Length: 1m 3.281 ft	0.2 mm ² 4-core cabtyre cable with connector on one end Cable outer diameter: ø3.7 mm ø0.146 in
	CN-14A-R-C2	Length: 2m 6.562 ft	
	CN-14A-R-C3	Length: 3m 9.843 ft	
	CN-14A-R-C5	Length: 5m 16.404 ft	
Connector	CN-14A	Set of 10 housings and 40 contacts	

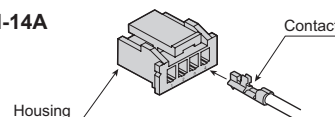
Connector attached cable

- **CN-14A(-R)-C□**



Connector

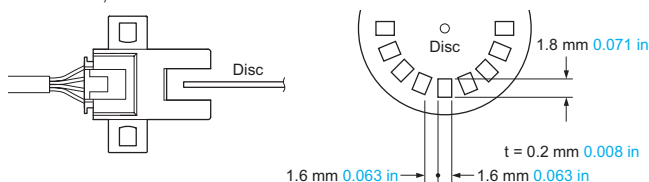
- **CN-14A**



SPECIFICATIONS

Item	Model No.	Type	Compact / Connector built-in type	
				Mounting-compatible with conventional model (Note 2)
		NPN output	PM-□65	PM-□65W
		PNP output	PM-□65-P	PM-□65W-P
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	<PNP output type> PNP 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) 	<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 3)	
Operation indicator			Orange LED (lights up under light received condition)	
Pollution degree			3	
Environmental resistance	Protection		IP40 (IEC)	
	Ambient temperature		-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 length			Extension up to total 100 m 328.084 ft is possible with 0.3 mm ² , or more, cable. (Note 4)	
Weight			Net weight: 3 g approx., Gross weight: 3 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) Mounting-compatible with our conventional models **[PM-T53(B) / PM-□64(P)]**
 3) The response frequency is the value when the disc, given in the figure below, is rotated.



- 4) 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.

Recommended connector

Contact: SPHD-001T-P0.5, Housing: PAP-04V-S (Manufactured by J.S.T. Mfg. Co., Ltd.)

Note: Contact the manufacturer for details of the recommended products.

Recommended crimping tool

Model No. : YC-610R (Manufactured by J.S.T. Mfg. Co., Ltd.)

Note: Contact the manufacturer for details of the recommended products.