

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

Cable type

Built-in connector

NPN output










Connector attached cable
1 m 2.5 m 5 m 10 m 15 m
3 m 4.5 m 9 m 13.5 m 18 m

PNP output

Connector attached cable
1 m 2.5 m 5 m 10 m 15 m
3 m 4.5 m 9 m 13.5 m 18 m

Connector attached bending-resistant cable
1 m 2.5 m 5 m 10 m 15 m
3 m 4.5 m 9 m 13.5 m 18 m

**Easy connection with a single touch
using commercially-available connectors**

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		

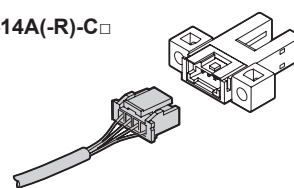
Note: "W" in the model No. indicates that the product is mounting-compatible with our conventional models [PM-T53(B) / PM-□64(P)].

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	

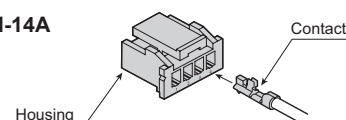
Connector attached cable

- **CN-14A(-R)-C□**



Connector

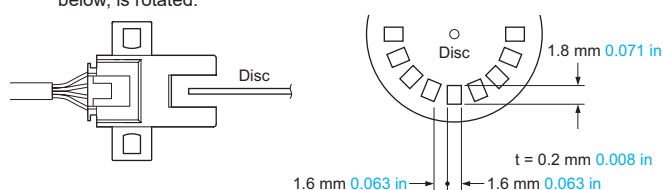
- **CN-14A**



SPECIFICATIONS

		Type	Compact / Connector built-in type	
				Mounting-compatible with conventional model (Note 2)
Item	Model No.	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 <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 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.