

Thank you very much for purchasing Panasonic products. Please read this Instruction Manual carefully and thoroughly for the correct and optimum use of this product. Kindly keep this manual in a convenient place for quick reference.

Photoelectric Sensor Micro-photosensor
PM2 Series

BMJE-PM2 No.0099-40V



- Never use this product as a sensing device for personnel protection.
- In case of using sensing devices for personnel protection, use products which meet standards, such as OSHA, ANSI or IEC etc., for personnel protection applicable in each region or country.

1 SPECIFICATIONS

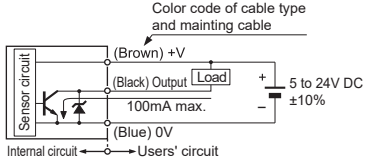
Model No.	Type	Top sensing		Front sensing		L type (Top sensing)	
	Connector type	PM2-LH10	PM2-LH10B	PM2-LF10	PM2-LF10B	PM2-LL10	PM2-LL10B
Item	Cable type	PM2-LH10-C1	PM2-LH10B-C1	PM2-LF10-C1	PM2-LF10B-C1	PM2-LL10-C1	PM2-LL10B-C1
Sensing range	2.5 to 8mm (Convergent point 5mm) with white non-glossy paper (15×15mm) (Note 1)						
Supply voltage	5 to 24V DC±10% Ripple P-P 5% or less						
Current consumption	Average: 25mA or less, Peak: 80mA or less						
Output	NPN open-collector transistor						
	<ul style="list-style-type: none"> • Maximum sink current: 100mA • Applied voltage: 30V DC or less (between output and 0V) • Residual voltage: 1V or less (at 100mA sink current), 0.4V or less (at 16mA sink current) 						
	Output operation	Light-ON	Dark-ON	Light-ON	Dark-ON	Light-ON	Dark-ON
Over current protection	Incorporated						
Response time	0.8ms or less						
Ambient temperature	-10 to +55°C (No dew condensation or icing allowed), Storage: -25 to +80°C						
Ambient humidity	45 to 85% RH, Storage: 45 to 85% RH						
Cable	0.2mm ² 3-core cabtyre cable, 1m long (Cable type only) (Note 2)						
Material	Enclosure: Polycarbonate, Terminal part (Connector type only): HSM (Ag plated) Cable fixing part (Cable type only): PBT						

Notes: 1) Take care that, depending on the product, the sensing range may extend to 12.5mm maximum with white non-glossy paper.
2) The cable cannot be extended.

2 CAUTIONS

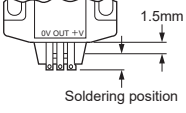
- This product has been developed / produced for industrial use only.
- A reverse supply protection circuit and output short-circuit protection circuit are not incorporated. Since wrong wiring may cause malfunction, make sure to check the terminal arrangement, cable wiring and power supply area before wiring.
- Make sure that the power supply is off while wiring.
- Verify that the supply voltage variation is within the rating.
- If power is supplied from a commercial switching regulator, ensure that the frame ground (F.G.) terminal of the power supply is connected to an actual ground.
- Do not use during the initial transient time (50ms) after the power supply is switched on.
- Do not run the wires together with high-voltage lines or power lines or put them in the same raceway. This can cause malfunction due to induction.
- For the connector type, the cable length must be 2m, or less, with 0.3mm², or more, cable. If the cable is extended for more than 2m, connect a capacitor of 10µF approx. between +V and 0V terminals. Further, the cable type cannot be extended.
- Avoid dust, dirt, and steam.
- Take care that the sensor does not come in direct contact with water, oil, grease, or organic solvents, such as, thinner etc.
- Take care that the sensor is not directly exposed to fluorescent lamp from a rapid-starter lamp or a high frequency lighting device, as it may affect the sensing performance.
- If there is a reflective object (conveyor, etc.) in the background, since it may affect the sensing, use by keeping enough distance from the reflective object.

3 I/O CIRCUIT DIAGRAMS



4 SOLDERING (Connector type only)

- If soldering is done directly on the terminals, strictly adhere to the conditions given below.
Soldering temperature: 260°C or less
Soldering time: 10 sec. or less
Soldering position: 1.5mm, or more, away from the sensor body.



5 MOUNTING

- When fixing the sensor with screws, use M3 screws and the tightening torque should be 0.49N · m or less. Furthermore, use small, round type plain washers (ø6mm).

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Please visit o te for inquiries and about our sales network.

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