



Cat. No. FMC-B12

# FMC MINIATURE CUBE PHOTOELECTRIC SENSOR



## INSTRUCTION SHEET

Thank you for selecting INNO for your requirement.

This sheet describes the procedure and precautions required for installing and operating the product.

Kindly read this sheet before operating or installing the product. Store the sheet for future reference.

### CAUTION FOR SAFETY

- ⓘ Please keep this sheet for review before use of unit.
- ⓘ Please observe the following:

**⚠ WARNING**  
Serious injury may occur if instructions are not followed

**⚠ CAUTION**  
Product failure or injury can occur if instructions are not followed

### ⚠ WARNING

- This is not a safety product and is not to be used with machinery that requires use of safety control.
- Do not disassemble or modify this unit. It may lead to electric shock/ fire.

Do not connect sensor to AC power supply.  
RISK OF EXPLOSION !



### ⚠ CAUTION

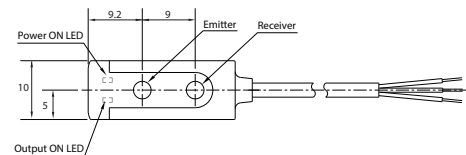
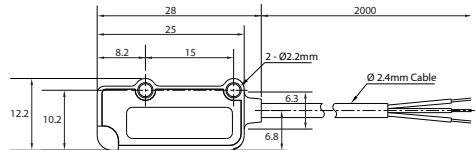
- This unit shall not be used outdoors.
- Do not use the unit in places where there is flammable or explosive gas.
- Please observe the rated specifications in Instruction Sheet.
- Do not use this unit beyond rated power and do not supply AC power at DC power type; do not connect without load.
- Please check the polarity of power and wrong wiring.
- Do not use this unit in places where there is vibration or impact.
- Do not use water or oil based detergent for cleaning the unit.
- Do not use excessive force to tighten the unit and do not hammer the unit.
- Please process it as industrial waste and dispose responsibly.

### ■ SPECIFICATIONS

\*For details on Customized/ Special Models contact Seller

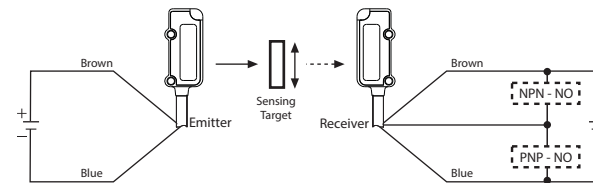
| Sensing Type              | Through Beam                                                                |                  |                  |                   | Diffuse Reflective                 |                  |                  |
|---------------------------|-----------------------------------------------------------------------------|------------------|------------------|-------------------|------------------------------------|------------------|------------------|
| Output Type               | NPN                                                                         | PNP              | NPN              | PNP               | NPN                                | PNP              |                  |
| *Models                   | Cable                                                                       | FMC-T-2MNO-2M    | FMC-T-2MPO-2M    | FMC-T-500NO-2M    | FMC-T-500PO-2M                     | FMC-D-50NO-2M    | FMC-D-50PO-2M    |
|                           | Junction Connector                                                          | FMC-T-2MNO-M12J3 | FMC-T-2MPO-M12J3 | FMC-T-500NO-M12J3 | FMC-T-500PO-M12J3                  | FMC-D-50NO-M12J3 | FMC-D-50PO-M12J3 |
| Sensing Distance          | 2 Meters                                                                    |                  | 500 mm           |                   | 50 mm                              |                  |                  |
| Sensing Area              | Opaque min. 5mm dia.                                                        |                  |                  |                   | 100 x 100mm (Opaque white) at 50mm |                  |                  |
| Light Source              | Infrared LED 940nm                                                          |                  |                  |                   |                                    |                  |                  |
| Response Time             | 1ms                                                                         |                  |                  |                   |                                    |                  |                  |
| Operation Mode            | Dark ON                                                                     |                  |                  | Light ON          |                                    |                  |                  |
| Supply Voltage            | 12 - 24 VDC (Ripple Max 10%)                                                |                  |                  |                   |                                    |                  |                  |
| Current Consumption       | max. 30mA                                                                   |                  |                  | max. 20mA         |                                    |                  |                  |
| Protection Circuits       | Reverse polarity protection; Output short circuit protection                |                  |                  |                   |                                    |                  |                  |
| Control Output            | NO - NPN or PNP open collector output (depending on model)                  |                  |                  |                   |                                    |                  |                  |
| Control Output Rating     | Load Voltage: max. 30 VDC; Load Current: max 100mA                          |                  |                  |                   |                                    |                  |                  |
| Operation Indication      | Power & Output: Red LEDs                                                    |                  |                  |                   |                                    |                  |                  |
| Shock Resistance          | 100 G- X,Y, Z three directions                                              |                  |                  |                   |                                    |                  |                  |
| Dielectric Strength       | 1000VAC at 50/60 Hz for 60 Sec.                                             |                  |                  |                   |                                    |                  |                  |
| Insulation Resistance     | min. 20MΩ at 500VDC                                                         |                  |                  |                   |                                    |                  |                  |
| Environmental Illuminance | Sunlight: 10,000 lux, Lamp: 3,000 lux                                       |                  |                  |                   |                                    |                  |                  |
| Ambient Temperature       | Operation: -15° ~ 45°C; Storage: -10° ~ 55°C (non-freezing; non-condensing) |                  |                  |                   |                                    |                  |                  |
| Ambient Humidity          | Operation: 35 ~ 85% RH; Storage: 35 ~ 95% RH (non-condensing)               |                  |                  |                   |                                    |                  |                  |
| Protection Class          | IP64                                                                        |                  |                  |                   |                                    |                  |                  |
| Weight                    | approx. 40g                                                                 |                  |                  |                   |                                    |                  |                  |
| Material                  | Housing: ABS, Lens: PMMA or Eqv.                                            |                  |                  |                   |                                    |                  |                  |

### ■ DIMENSIONS

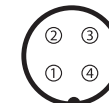


### ■ CONNECTION DIAGRAM

#### ◆ Through Beam

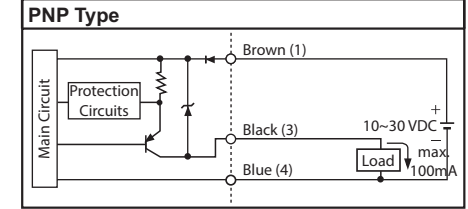
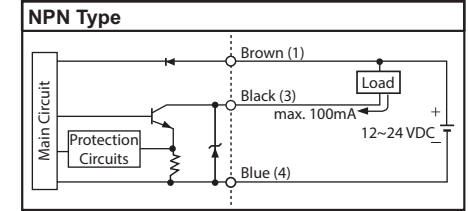


#### ◆ M12 Jn. Connector



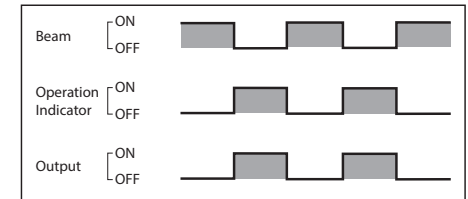
- Brown (1) : DC 10~30V
- Blue (2) : 0V
- Black (3) : Control Output

### ■ OUTPUT CIRCUIT DIAGRAM

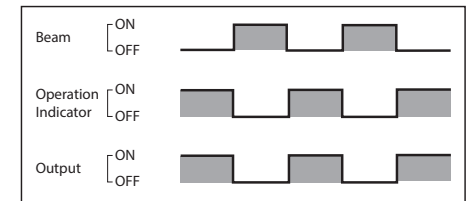


### ■ OPERATION TYPE

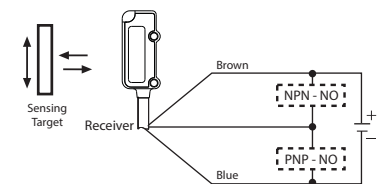
#### ◆ Through Beam



#### ◆ Diffuse Reflective



#### ◆ Diffuse Reflective



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