

Miniature Photoelectric Sensor

Flat Type

FMF



SALIENT FEATURES

- ◆ 1m Sensing
- ◆ Visible Red LED
- ◆ Ultra Slim Housing
- ◆ IP-64, Shock Resistant
- ◆ Power & Output Indication



Model Number Legend

FMF - □ - □□ - □

1 2 3 4 5

1. Series

FMF

2. Type

T: Through Beam

D: Diffuse Reflective

3. Sensing Distance

30: 30 mm

1M: 1 Meter

4. Output

NO: NPN - NO

PO: PNP - NO

5. Connection

2M: 2m Cable

#. Accessories included

Mounting Screws : 1 Set

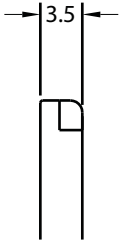
Example:

FMF-T-1MPO-2M

FMF Series - Through Beam Type - 1 meter Sensing Distance, PNP NO Output - 2m Cable

NOTE: Contact us for models not shown in catalogue.

Product Highlights



◆ **Ultra Slim!!!**

Upto 30% slim than competing models. Only 3.5mm thickness.

◆ **Red LED**

Red LED is provided to make alignment and focusing easier.



◆ **Diffuse to Retro-reflective**

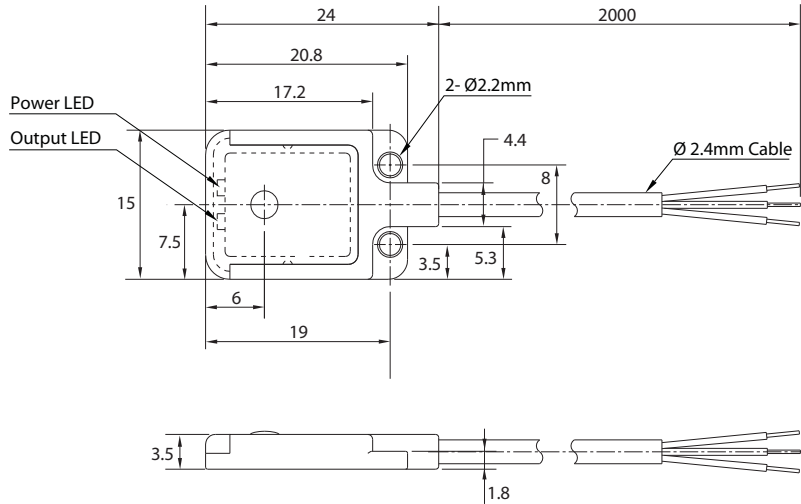
FMF-D models work as retro-reflective with an addition of a reflector. This increases the sensing distance of the sensor. Eg., V-61 reflector increases the sensing distance of the sensor to 200mm from 30mm.

Ratings and Specifications

Sensing Type	Through Beam		Diffuse Reflective	
	NPN	PNP	NPN	PNP
Output Type	NPN	PNP	NPN	PNP
Models	FMF-T-1MNO-2M	FMF-T-1MPO-2M	FMF-D-30NO-2M	FMF-D-30PO-2M
Sensing Distance	1 Meter		30 mm	
Sensing Area	Opaque min. 5mm dia.		100 x 100mm (white) at 50mm	
Light Source	Red LED (602nm)			
Response Time	max. 0.5ms			
Operation Mode	Dark ON		Light ON	
Supply Voltage	12 - 24 VDC (Ripple Max 10%)			
Current Consumption	max. 20mA		max. 15mA	
Protection Circuits	Reverse polarity protection; Output short circuit protection			
Control Output	NO - NPN or PNP open collector output (depending on model)			
Control Output Rating	max 100mA at 24VDC			
Operation Indication	Power: Green; Output: Red LEDs			
Shock Resistance	20 G- X,Y, Z three directions			
Vibration Resistance	1.5mm amplitude 10-1000Hz for 1 hour in X, Y, Z directions			
Dielectric Strength	1000VAC at 50/60 Hz for 60 Sec.			
Insulation Resistance	min. 20MΩ at 500VDC			
Environmental Illuminance	Sunlight: 10,000 lux, Lamp: 5,000 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	aprox. 40g		aprox. 20g	
Material	Housing: ABS, Lens: Acrylic			

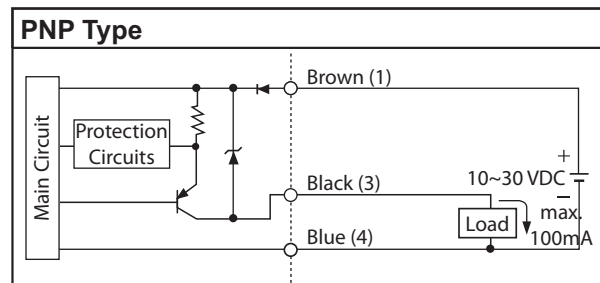
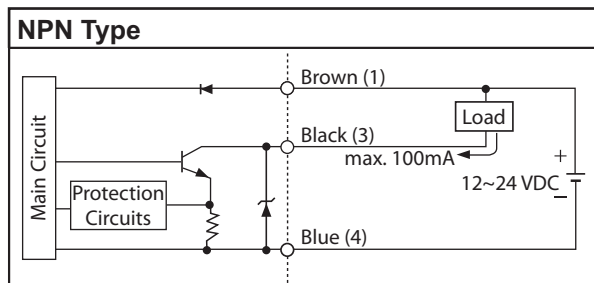
Sensor Dimension Drawing

FMF

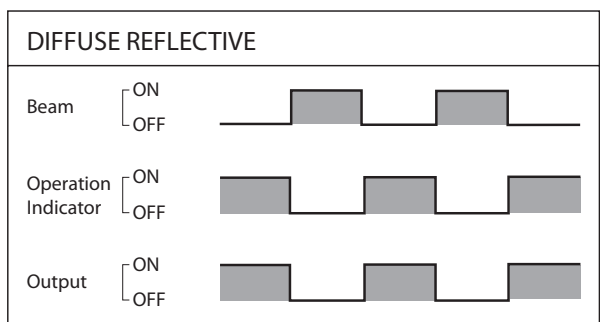
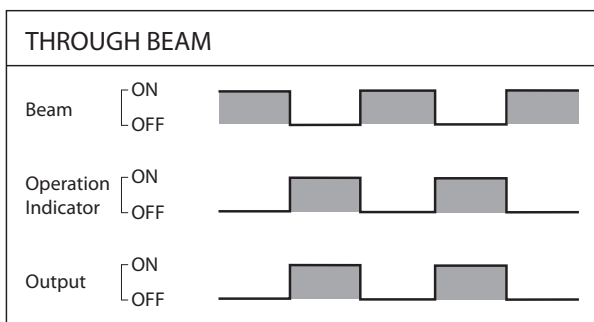


All dimensions are in mm

Control Output Diagram



Operation Type



Proximity Sensors

Photoelectric Sensors

Measurement Sensors

Vision & Safety Sensors

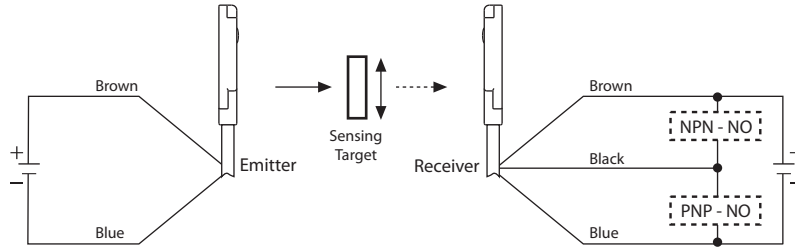
Control

Weighing

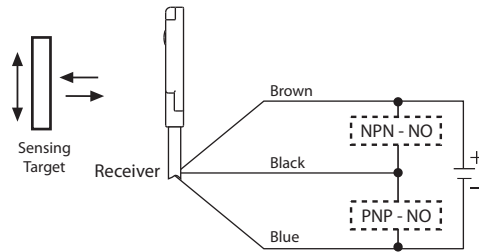
Automation

Components

◆ Through Beam



◆ Diffuse Reflective



Brown : DC 10~30V
 Black : Control Output
 Blue : 0V

Exclusively Represented by:

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Cat. No. FMF-B12

Miniature Photoelectric Sensor

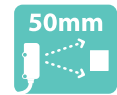
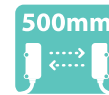
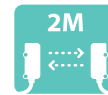
Side-view Cube Type

FMC



SALIENT FEATURES

- ◆ Compact ABS Housing
- ◆ 50, 500, 2000mm sensing
- ◆ IP-64, Shock Resistant - 100G
- ◆ Through beam & Diffuse Types
- ◆ Power & Output Indication LEDs



Model Number Legend

FMC - - - -

1 2 3 4 5

1. Series

FMC

2. Type

T: Through Beam

D: Diffuse Reflective

3. Sensing Distance

50: 50 mm

500: 500 mm

2M: 2 Meter

4. Output

NO: NPN - NO

PO: PNP - NO

5. Connection

2M: 2m Cable

M12J3: M12 Junction Connector with 0.3m extension

#. Accessories included

Mounting Screws : 1 Set

Example:

FMC-T-50PO-2M

FMC Series - Through Beam Type - 50mm Sensing Distance, PNP NO Output - 2m Cable

NOTE:

Contact us for models not shown in catalogue.

Connector cables are sold separately; look in CC series catalogue for the same (www.inno.sg/cc).

- Sensing
- Photoelectric Sensors
- Weighting
- Automation
- Power Supplies
- Switching
- Tower Lamps
- Cables & Electrodes
- Accessories

Product Highlights



◆ **Ultra Compact!!!**

The FMC series realizes the need for compact, yet durable photo-electric sensors for use in the automotive, electronics and fab industries.

The sensors compact dimension make mounting in tight spaces easy.

◆ **Shock-proof**

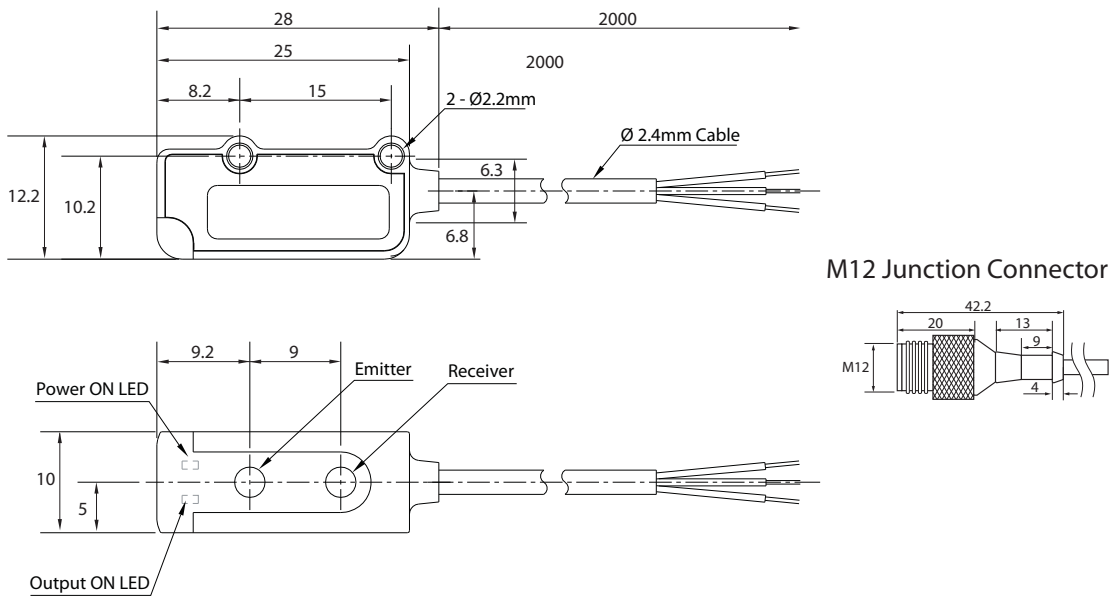
The sensor housing is made of ABS with a PC or PMMA lens. The SMD soldered components in the sensor is rated for use in harsh environments with high levels of vibration and shock. The FMC series have a shock rating of 100Gs.

Ratings and Specifications

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) 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		aprox. 40g (per piece, ie. Through Beam models aprox. 80g)					
Material		Housing: ABS, Lens: PMMA or Eqv.					

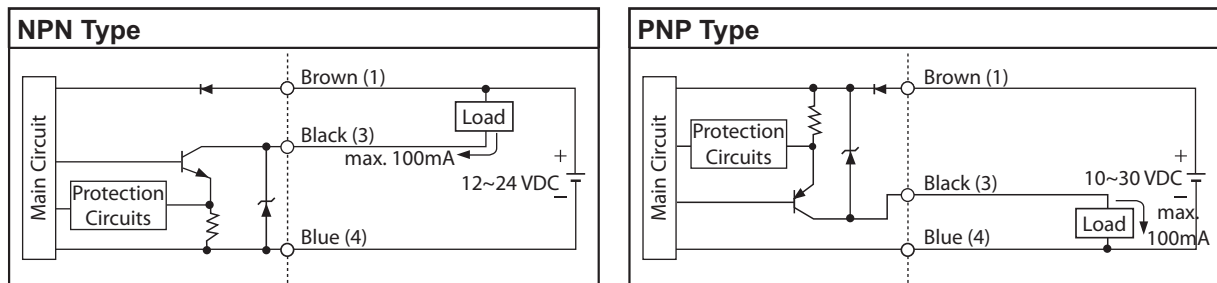
Sensor Dimension Drawing

FMC

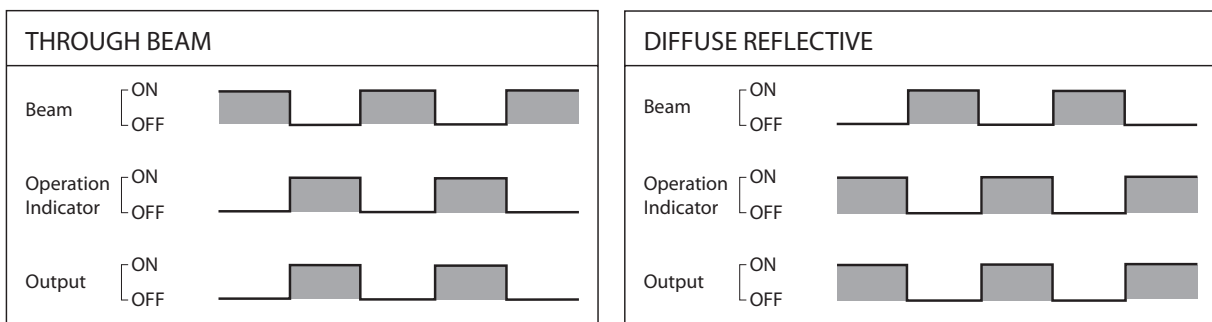


All dimensions are in mm

Control Output Diagram



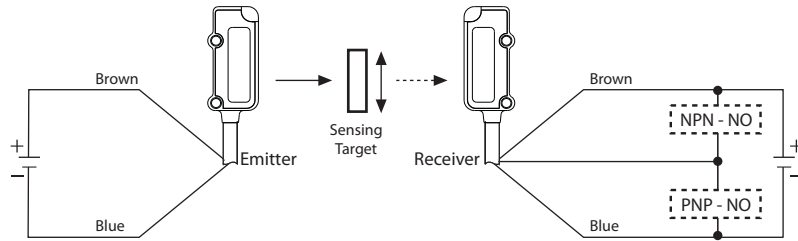
Operation Type



Connection

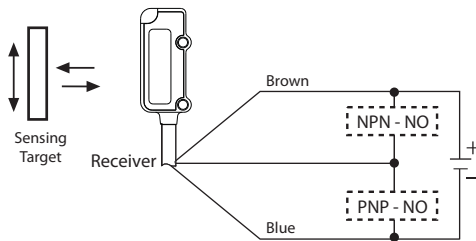
• Cable Type

◆ Through Beam



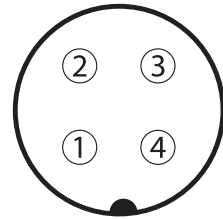
Brown (1) : DC 10~30V
 Blue (2) : 0 V
 Black (3) : Control Output

◆ Diffuse Reflective



• M12 Junction Connector

◆ All Types



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