






# CM12 SERIES

## Thru-beam Mode (Stainless Steel Housing)

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
<p>LED Red 660nm</p>  <p>10m</p> <p>Thru-beam mode Sensing distance: 10m</p>	<p>2m Cable</p> 	<p>10-36V DC</p>	Emitter	<u>CM12S-T010MD-EX6C3L2</u>
			NPN Light-ON	<u>CM12S-T010MN-LX6C3U2</u>
			NPN Dark-ON	<u>CM12S-T010MN-DX6C3U2</u>
			PNP Light-ON	<u>CM12S-T010MP-LX6C3U2</u>
			PNP Dark-ON	<u>CM12S-T010MP-DX6C3U2</u>
	<p>Quick Disconnect (Pico-Style)</p> 	<p>10-36V DC</p>	Emitter	<u>CM12S-T010MD-EX6Q4LP</u>
			NPN Light-ON	<u>CM12S-T010MN-LX6Q4UP</u>
			NPN Dark-ON	<u>CM12S-T010MN-DX6Q4UP</u>
			PNP Light-ON	<u>CM12S-T010MP-LX6Q4UP</u>
			PNP Dark-ON	<u>CM12S-T010MP-DX6Q4UP</u>
	<p>Quick Disconnect (Euro-Style)</p> 	<p>10-36V DC</p>	Emitter	<u>CM12S-T010MD-EX6Q4LE</u>
			NPN Light-ON	<u>CM12S-T010MN-LX6Q4UE</u>
			NPN Dark-ON	<u>CM12S-T010MN-DX6Q4UE</u>
			PNP Light-ON	<u>CM12S-T010MP-LX6Q4UE</u>
			PNP Dark-ON	<u>CM12S-T010MP-DX6Q4UE</u>
	<p>6" Pigtail (Euro-Style)</p> 	<p>10-36V DC</p>	Emitter	<u>CM12S-T010MD-EX6P4LE</u>
			NPN Light-ON	<u>CM12S-T010MN-LX6P4UE</u>
			NPN Dark-ON	<u>CM12S-T010MN-DX6P4UE</u>
			PNP Light-ON	<u>CM12S-T010MP-LX6P4UE</u>
			PNP Dark-ON	<u>CM12S-T010MP-DX6P4UE</u>

**Note:**  
 Coming Soon : Part numbers with underline  
 In Preparation: Part numbers with a line through the middle

# CM12 SERIES

## Retroreflective Mode with Polarizing Filter (Stainless steel housing)

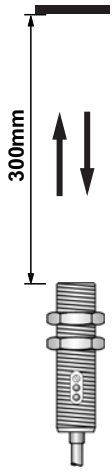
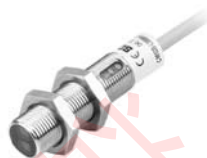
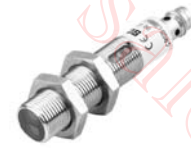


Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
Retro-reflective Mode with polarizing filter Sensing Distance: 1500mm (Note)	2m Cable	10-36V DC	NPN Light-ON	<u>CM12S-L1500N-LX6C3U2-PF</u>
			NPN Dark-ON	<u>CM12S-L1500N-DX6C3U2-PF</u>
			PNP Light-ON	<u>CM12S-L1500P-LX6C3U2-PF</u>
			PNP Dark-ON	<u>CM12S-L1500P-DX6C3U2-PF</u>
	Quick Disconnect (Pico-Style)	10-36V DC	NPN Light-ON	<u>CM12S-L1500N-LX6Q4UP-PF</u>
			NPN Dark-ON	<u>CM12S-L1500N-DX6Q4UP-PF</u>
			PNP Light-ON	<u>CM12S-L1500P-LX6Q4UP-PF</u>
			PNP Dark-ON	<u>CM12S-L1500P-DX6Q4UP-PF</u>
	Quick Disconnect (Euro-Style)	10-36V DC	NPN Light-ON	<u>CM12S-L1500N-LX6Q4UE-PF</u>
			NPN Dark-ON	<u>CM12S-L1500N-DX6Q4UE-PF</u>
			PNP Light-ON	<u>CM12S-L1500P-LX6Q4UE-PF</u>
			PNP Dark-ON	<u>CM12S-L1500P-DX6Q4UE-PF</u>
	6" Pigtail (Euro-Style)	10-36V DC	NPN Light-ON	<u>CM12S-L1500N-LX6P4UE-PF</u>
			NPN Dark-ON	<u>CM12S-L1500N-DX6P4UE-PF</u>
			PNP Light-ON	<u>CM12S-L1500P-LX6P4UE-PF</u>
			PNP Dark-ON	<u>CM12S-L1500P-DX6P4UE-PF</u>

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**Note:** Used with RE-6152 (supplied with sensor) reflector.  
 Coming Soon : Part numbers with underline  
 In Preparation: Part numbers with a line through the middle

# CM12 SERIES

## Diffuse Mode (Stainless Steel Housing)

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
<b>LED Red 660nm</b>   <b>300mm</b>  <b>Diffuse Mode</b> <b>Sensing Distance: 300mm</b>	<b>2m Cable</b>  	<b>10-36V DC</b>	NPN Light-ON	<u>GM12S-D0300N-LX6C3U2</u>
			NPN Dark-ON	<u>GM12S-D0300N-DX6C3U2</u>
			PNP Light-ON	<u>GM12S-D0300P-LX6C3U2</u>
			PNP Dark-ON	<u>GM12S-D0300P-DX6C3U2</u>
	<b>Quick Disconnect (Pico-Style)</b>  	<b>10-36V DC</b>	NPN Light-ON	<u>GM12S-D0300N-LX6Q4UP</u>
			NPN Dark-ON	<u>GM12S-D0300N-DX6Q4UP</u>
			PNP Light-ON	<u>GM12S-D0300P-LX6Q4UP</u>
			PNP Dark-ON	<u>GM12S-D0300P-DX6Q4UP</u>
	<b>Quick Disconnect (Euro-Style)</b>  	<b>10-36V DC</b>	NPN Light-ON	<u>GM12S-D0300N-LX6Q4UE</u>
			NPN Dark-ON	<u>GM12S-D0300N-DX6Q4UE</u>
			PNP Light-ON	<u>GM12S-D0300P-LX6Q4UE</u>
			PNP Dark-ON	<u>GM12S-D0300P-DX6Q4UE</u>
	<b>6" Pigtail (Euro-Style)</b>  	<b>10-36V DC</b>	NPN Light-ON	<u>GM12S-D0300N-LX6P4UE</u>
			NPN Dark-ON	<u>GM12S-D0300N-DX6P4UE</u>
			PNP Light-ON	<u>GM12S-D0300P-LX6P4UE</u>
			PNP Dark-ON	<u>GM12S-D0300P-DX6P4UE</u>

**Note:**  
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## CM12 SERIES

## Specifications

Item	Type	Thru-beam	Retro-reflective Mode (with polarizing filter)	Diffuse reflective
	Model No.	CM12S-T010M...	CM12S-L1500...-PF	CM12S-D0300...
Sensing range		10m	1500mm (Note)	300mm
Sensing object		—	3-way mirror	100x100mm white
Hysteresis	10% typ.			
Supply Voltage	10-36V DC			
Max. Ripple content	20%			
Output current	200mA max.			
No-load supply current	15mA typ.			
Output voltage drop	2.0V max. At 200mA			
Max. Switching frequency	1000Hz			
Short-circuit protection	Yes			
Reverse polarity protection	Yes			
Overload current protection	Yes			
Switching time(↑and ↓)	1ms			
Operation indicator	The yellow LED lights up when the output is switched on. The green LED lights up when sufficient light is available for reliable operation (approx.80% of the maximum operating distance).			
Sensitivity setting	The sensitivity can be adjusted by means of the built-in potentiometer(diffuse sensor; optional for other models). Turning clockwise increases the sensitivity.			
Protection	IP67(IEC)			
Ambient temperature	-25 to 55°C			
EMC	IEC 60947-5-2, Parts 7.2.6.1. 2. 3 or RFI>3V/m(in 30-1000MHZ), EFT>1KV, ESD>4KV(contact)			
Emitting element	LED red 660nm			
Cable	2m long cable			
Pigtail type	See Pigtail Series or our Cables & Connectors catalogue.			
Connecor type	M8 (Pico-style) 4pins or M12 (Euro-style) 4pins			
Housing Material	Stainless steel (Nickel-plated brass on request)			
Weight (cable/connector model)	200/65 g (Emitter and receiver)	100/20 g	100/20 g	

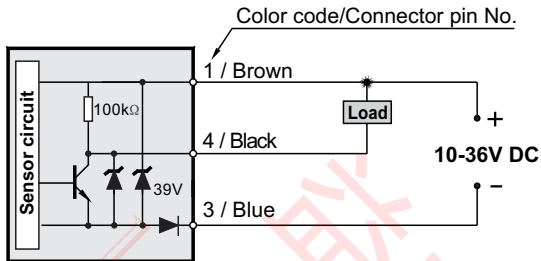
Note: Used with RE-6152 (supplied with sensor) reflector.

# CM12 SERIES

## Connection Diagrams

### NPN output type

#### I/O circuit diagram



#### Connector pin position

##### Euro-style



- 1. Brown (+)
- 2. Not used
- 3. Blue (-)
- 4. Black (Output)

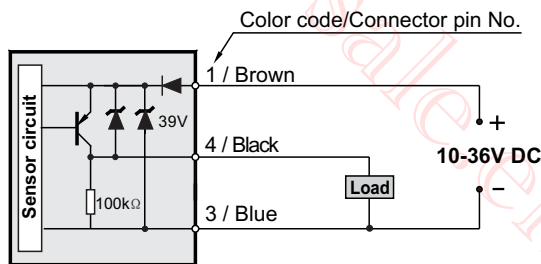
##### Pico-Style



- 1. Brown (+)
- 2. Not used
- 3. Blue (-)
- 4. Black (Output)

### PNP output type

#### I/O circuit diagram



#### Connector pin position

##### Euro-style



- 1. Brown (+)
- 2. Not used
- 3. Blue (-)
- 4. Black (Output)

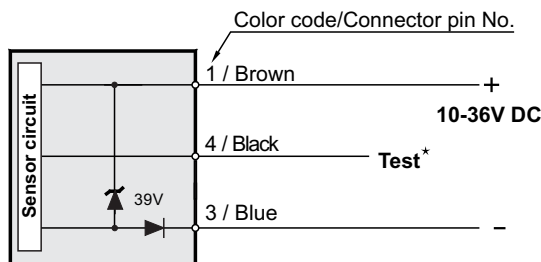
##### Pico-Style



- 1. Brown (+)
- 2. Not used
- 3. Blue (-)
- 4. Black (Output)

### Emitter of Thru-beam Mode

#### I/O circuit diagram



#### Connector pin position

##### Euro-style



- 1. Brown (+)
- 2. Not used
- 3. Blue (-)
- 4. Black (Test in)

##### Pico-Style



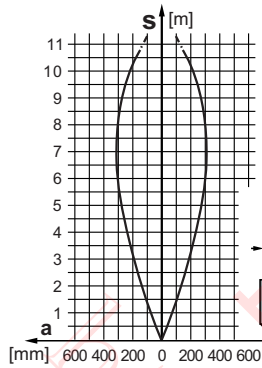
- 1. Brown (+)
- 2. Not used
- 3. Blue (-)
- 4. Black (Test in)

\*: Test(black wire)=0V, Emitter off.

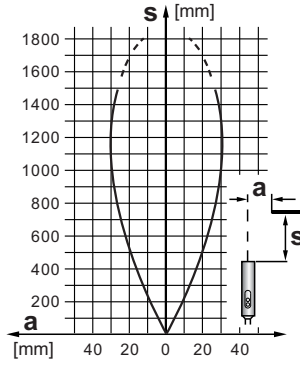
# CM12 SERIES

## Response Curve & Dimensions

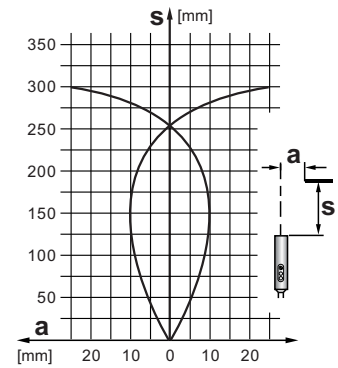
### Response Curve



**Thru-beam sensor**  
(Receiver only)



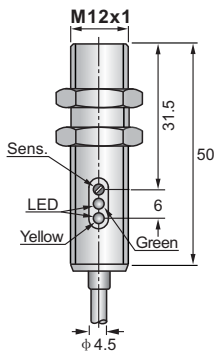
**Retro-reflective sensor**  
(with polarizing filter)



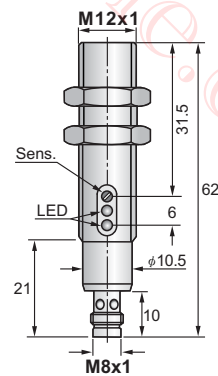
**Diffuse sensor**

### Dimensions (Unit: mm)

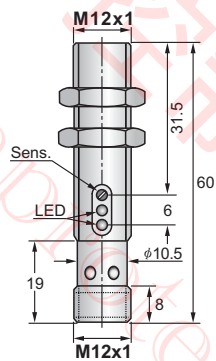
#### Cable Type



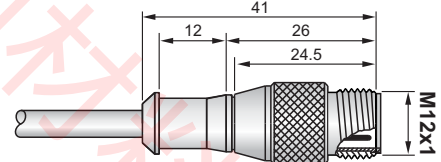
#### M8 (Pico-style) connector



#### M12 (Euro-style) connector

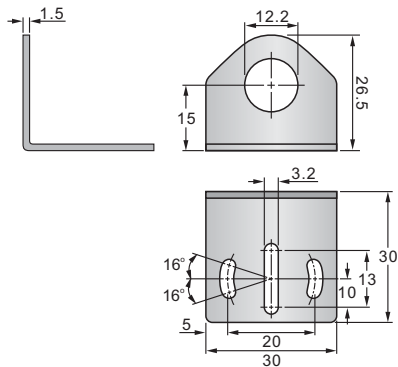


#### Pigtail\* Type



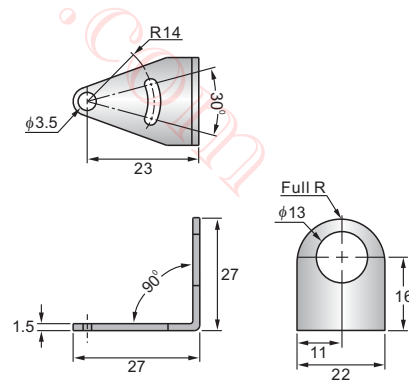
\*: Please see **Pigtail Series** or our **Cables & Connectors** catalogue for more information.

### MB-3026 (Mounting Bracket\*-optional)









\*: Please see **Accessories** (Universal Mounting Brackets Series).

### MB-2727 (Mounting Bracket\*-optional)



# CM18 SERIES

## Thru-beam Mode/ Polarized Retroreflective Mode (Stainless Steel Housing)

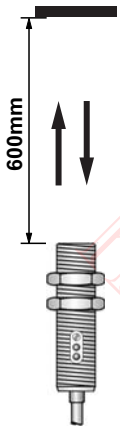



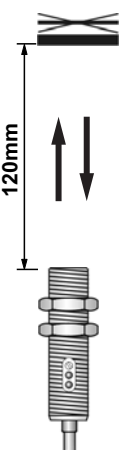



Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
<b>Thru-beam Mode</b> Sensing Distance: 20m LED red 660nm	2m Cable 	10-36V DC	Emitter	GM18S-T020MD-EX6G3L2
			NPN Light-ON	GM18S-T020MN-LX6G3U2
			NPN Dark-ON	GM18S-T020MN-DX6G3U2
			NPN L.O./D.O.	GM18S-T020MN-CX6G4U2
			PNP Light-ON	GM18S-T020MP-LX6G3U2
			PNP Dark-ON	GM18S-T020MP-DX6G3U2
	PNP L.O./D.O.	GM18S-T020MP-CX6G4U2		
	Quick Disconnect (Euro-Style) 	10-36V DC	Emitter	GM18S-T020MD-EX6Q4LE
			NPN Light-ON	GM18S-T020MN-LX6Q4UE
			NPN Dark-ON	GM18S-T020MN-DX6Q4UE
			NPN L.O./D.O.	GM18S-T020MN-CX6Q4UE
			PNP Light-ON	GM18S-T020MP-LX6Q4UE
			PNP Dark-ON	GM18S-T020MP-DX6Q4UE
	PNP L.O./D.O.	GM18S-T020MP-CX6Q4UE		
	6" Pigtail (Euro-Style) 	10-36V DC	Emitter	GM18S-T020MD-EX6P4LE
			NPN Light-ON	GM18S-T020MN-LX6P4UE
			NPN Dark-ON	GM18S-T020MN-DX6P4UE
			NPN L.O./D.O.	GM18S-T020MN-CX6P4UE
PNP Light-ON			GM18S-T020MP-LX6P4UE	
PNP Dark-ON			GM18S-T020MP-DX6P4UE	
PNP L.O./D.O.	GM18S-T020MP-CX6P4UE			
<b>Retro-reflective Mode</b> with polarizing filter Sensing distance: 2 m (Note) LED red 660nm	2m Cable 	10-36V DC	NPN Light-ON	GM18S-L2000N-LX6G3U2-PF
			NPN Dark-ON	GM18S-L2000N-DX6G3U2-PF
			NPN L.O./D.O.	GM18S-L2000N-CX6G4U2-PF
			PNP Light-ON	GM18S-L2000P-LX6G3U2-PF
			PNP Dark-ON	GM18S-L2000P-DX6G3U2-PF
			PNP L.O./D.O.	GM18S-L2000P-CX6G4U2-PF
	Quick Disconnect (Euro-Style) 	10-36V DC	NPN Light-ON	GM18S-L2000N-LX6Q4UE-PF
			NPN Dark-ON	GM18S-L2000N-DX6Q4UE-PF
			NPN L.O./D.O.	GM18S-L2000N-CX6Q4UE-PF
			PNP Light-ON	GM18S-L2000P-LX6Q4UE-PF
			PNP Dark-ON	GM18S-L2000P-DX6Q4UE-PF
			PNP L.O./D.O.	GM18S-L2000P-CX6Q4UE-PF
	6" Pigtail (Euro-Style) 	10-36V DC	NPN Light-ON	GM18S-L2000N-LX6P4UE-PF
			NPN Dark-ON	GM18S-L2000N-DX6P4UE-PF
			NPN L.O./D.O.	GM18S-L2000N-CX6P4UE-PF
			PNP Light-ON	GM18S-L2000P-LX6P4UE-PF
			PNP Dark-ON	GM18S-L2000P-DX6P4UE-PF
			PNP L.O./D.O.	GM18S-L2000P-CX6P4UE-PF

**Note:**  
 Used with RE-6152 (supplied with sensor) reflector.  
 In Preparation: Part numbers with a line through the middle



# CM18 SERIES

## Diffuse Mode/ Background Suppression Diffuse Mode (Stainless steel housing)

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
 <p>Diffuse mode Sensing distance: 600mm LED red 660nm</p>	2m Cable 	10-36V DC	NPN Light-ON	<u>GM18S-D0600N-LX6C3U2</u>
			NPN Dark-ON	<u>GM18S-D0600N-DX6C3U2</u>
			NPN L.O./D.O.	<u>GM18S-D0600N-CX6C4U2</u>
			PNP Light-ON	<u>GM18S-D0600P-LX6C3U2</u>
			PNP Dark-ON	<u>GM18S-D0600P-DX6C3U2</u>
			PNP L.O./D.O.	<u>GM18S-D0600P-CX6C4U2</u>
	Quick Disconnect (Euro-Style) 	10-36V DC	NPN Light-ON	<u>GM18S-D0600N-LX6Q4UE</u>
			NPN Dark-ON	<u>GM18S-D0600N-DX6Q4UE</u>
			NPN L.O./D.O.	<u>GM18S-D0600N-CX6Q4UE</u>
			PNP Light-ON	<u>GM18S-D0600P-LX6Q4UE</u>
			PNP Dark-ON	<u>GM18S-D0600P-DX6Q4UE</u>
			PNP L.O./D.O.	<u>GM18S-D0600P-CX6Q4UE</u>
	6" Pigtail (Euro-Style) 	10-36V DC	NPN Light-ON	<u>GM18S-D0600N-LX6P4UE</u>
			NPN Dark-ON	<u>GM18S-D0600N-DX6P4UE</u>
			NPN L.O./D.O.	<u>GM18S-D0600N-CX6P4UE</u>
			PNP Light-ON	<u>GM18S-D0600P-LX6P4UE</u>
			PNP Dark-ON	<u>GM18S-D0600P-DX6P4UE</u>
			PNP L.O./D.O.	<u>GM18S-D0600P-CX6P4UE</u>
 <p>Diffuse Mode with Background Suppression Sensing distance: 10...120mm LED red 660nm</p>	2m Cable 	10-36V DC	NPN Light-ON	<u>GM18S-D0420N-LX6C3U2-BS</u>
			NPN Dark-ON	<u>GM18S-D0420N-DX6C3U2-BS</u>
			NPN L.O./D.O.	<u>GM18S-D0420N-CX6C4U2-BS</u>
			PNP Light-ON	<u>GM18S-D0420P-LX6C3U2-BS</u>
			PNP Dark-ON	<u>GM18S-D0420P-DX6C3U2-BS</u>
			PNP L.O./D.O.	<u>GM18S-D0420P-CX6C4U2-BS</u>
	Quick Disconnect (Euro-Style) 	10-36V DC	NPN Light-ON	<u>GM18S-D0420N-LX6Q4UE-BS</u>
			NPN Dark-ON	<u>GM18S-D0420N-DX6Q4UE-BS</u>
			NPN L.O./D.O.	<u>GM18S-D0420N-CX6Q4UE-BS</u>
			PNP Light-ON	<u>GM18S-D0420P-LX6Q4UE-BS</u>
			PNP Dark-ON	<u>GM18S-D0420P-DX6Q4UE-BS</u>
			PNP L.O./D.O.	<u>GM18S-D0420P-CX6Q4UE-BS</u>
	6" Pigtail (Euro-Style) 	10-36V DC	NPN Light-ON	<u>GM18S-D0420N-LX6P4UE-BS</u>
			NPN Dark-ON	<u>GM18S-D0420N-DX6P4UE-BS</u>
			NPN L.O./D.O.	<u>GM18S-D0420N-CX6P4UE-BS</u>
			PNP Light-ON	<u>GM18S-D0420P-LX6P4UE-BS</u>
			PNP Dark-ON	<u>GM18S-D0420P-DX6P4UE-BS</u>
			PNP L.O./D.O.	<u>GM18S-D0420P-CX6P4UE-BS</u>

F : CM18 SERIES

Note:

Coming Soon : Part numbers with underline  
 In Preparation: Part numbers with a line through the middle



## CM18 SERIES

## Specifications

Item	Type Model No.	Thru-beam Mode	Diffuse Mode		Retro-reflective Mode (with polarizing filter)
			Standard Type	With background suppression	
		CM18S-T020M...	CM18S-D0600...	CM18S-L0120...-BS	CM18S-L2000...-PF
Sensing range		20m	600mm	10-120mm	2m (Note)
Sensing object		—	200x200mm white	100x100mm white	3-way mirror
Hysteresis		10% typ.			
Supply Voltage		10-36V DC			
Max. ripple content		20%			
Output current		200mA max.			
No-load supply current		15mA typ.			
Output voltage drop		2.0V max. At 200mA			
Max. Switching frequency		1000Hz (Diffuse mode with background suppression sensor is 500 Hz)			
Short-circuit protection		Yes			
Reverse polarity protection		Yes			
Overload current protection		Yes			
Switching time(↑and↓)		0.5ms (Diffuse mode with background suppression sensor is 1ms)			
Operation indicator		The yellow LED lights up when the output is switched on. The green LED lights up when sufficient light is available for reliable operation (approx.80% of the maximum operating distance).			
Sensitivity setting		The sensitivity can be adjusted by means of the built-in potentiometer(diffuse sensor; optional for other models). Turning clockwise increases the sensitivity.			
Protection		IP67(IEC)			
Ambient temperature		-25 to +55°C			
EMC		IEC 60947-5-2, Parts 7.2.6.1. 2. 3 or RFI>3V/m(in 30-1000MHZ), EFT>1KV, ESD>4KV(contact)			
Emitting element		LED red 660nm	LED red 660nm	LED red 660nm	LED red polarized 660nm
Housing Material		Stainless Steel (Nickel-plated brass on request)			
Cable		Standard 2m long (other length on request)			
Connection type		M12 (Euro-style) 4pin			
Pigtail type		See Pigtail Series or our Cables & Connectors catalogue.			
Weight (cable/connector model)		230/80g (receiver and emitter)	121/53g	121/53g	121/53g

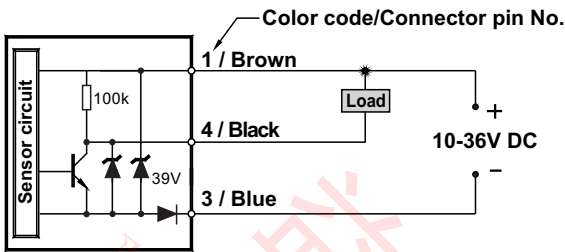
Note: Used with RE-6152 (supplied with sensor) reflector.

# CM18 SERIES

## Connection Diagrams

### NPN output type

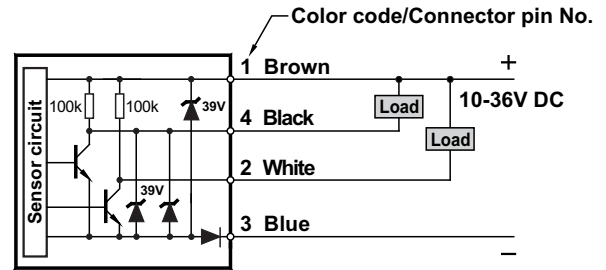
#### NPN Light-ON or Dark-ON output I/O circuit diagram



#### Connector pin position (Euro-style)



#### NPN changeover outputs I/O circuit diagram

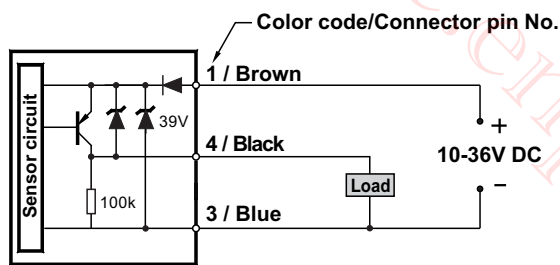


#### Connector pin position (Euro-style)

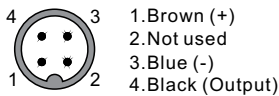


### PNP output type

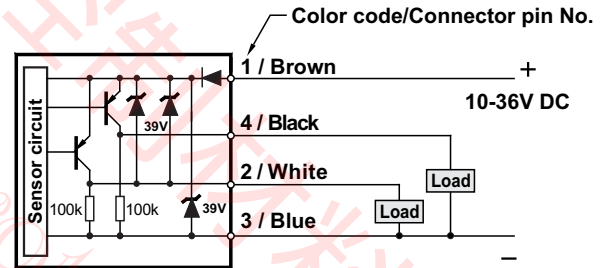
#### PNP Light-ON or Dark-ON output I/O circuit diagram



#### Connector pin position (Euro-style)



#### PNP changeover outputs I/O circuit diagram

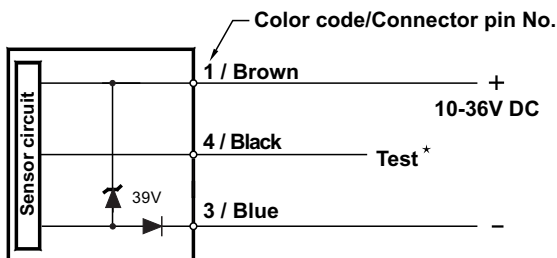


#### Connector pin position (Euro-style)



### Emitter of Thru-beam Mode

#### I/O circuit diagram



#### Connector pin position (Euro-style)

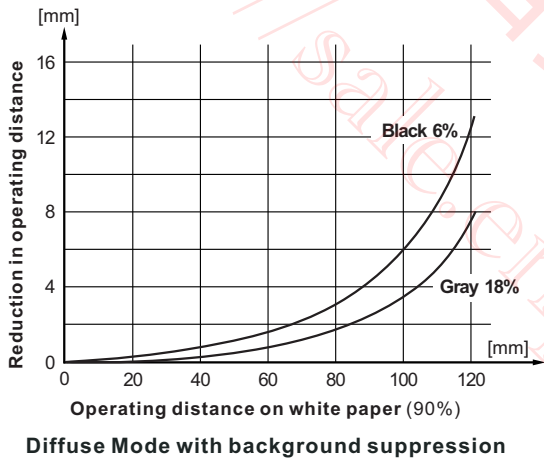
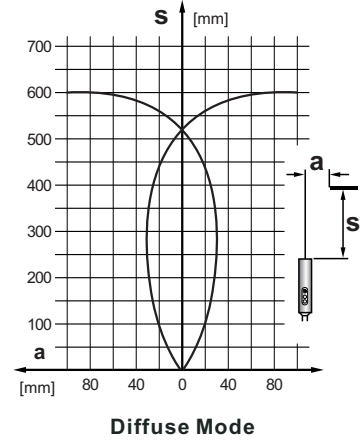
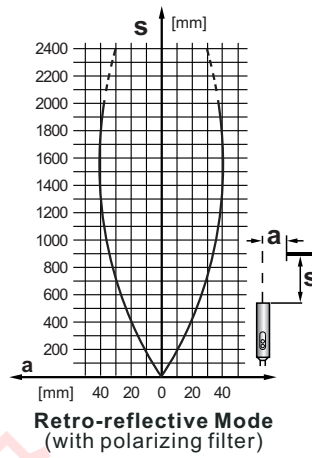
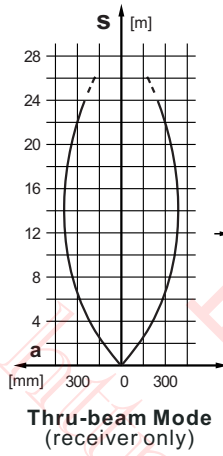


\* : Test(black wire)=0V, Emitter off.

# CM18 SERIES

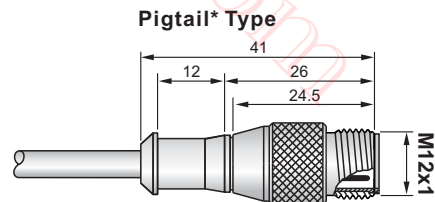
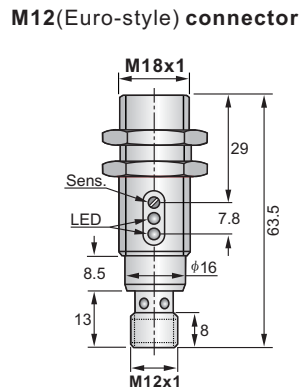
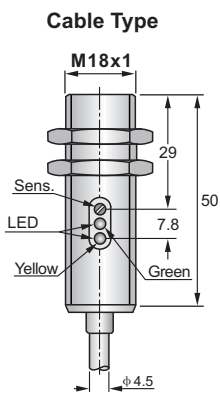
## Response Curve & Dimensions

### Response Curve



F: CM18 SERIES

### Dimensions (Unit: mm)

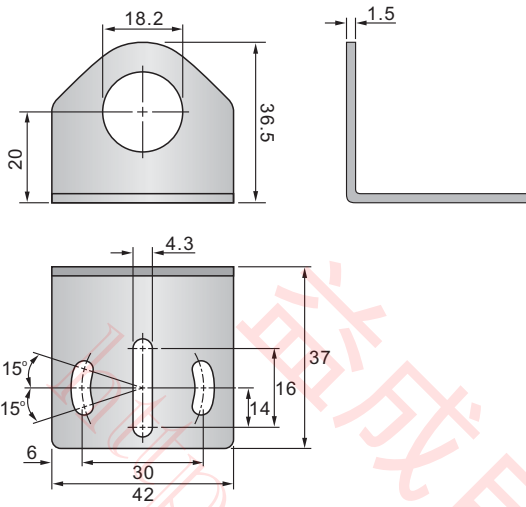


\*: Please see **Pigtail Series** or our **Cables & Connectors** catalogue for more information.

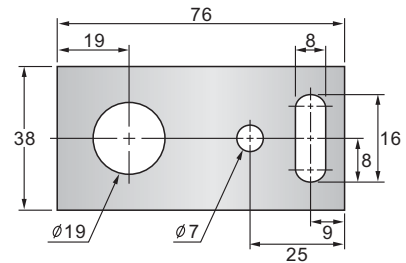
# CM18 SERIES

## Mounting Bracket's \* Dimensions (Unit: mm)

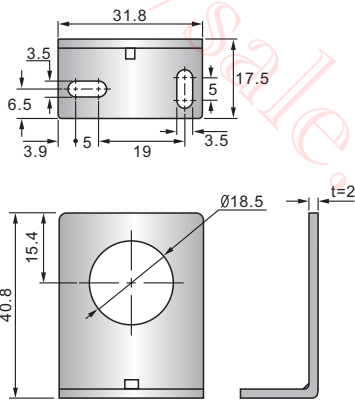
**MB-4237 (optional)**



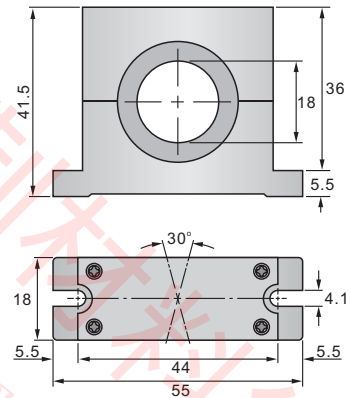
**MB-7638 (optional)**



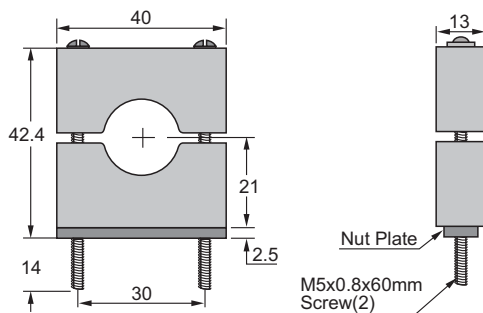
**MB-4032 (optional)**



**MB-5542 (optional)**

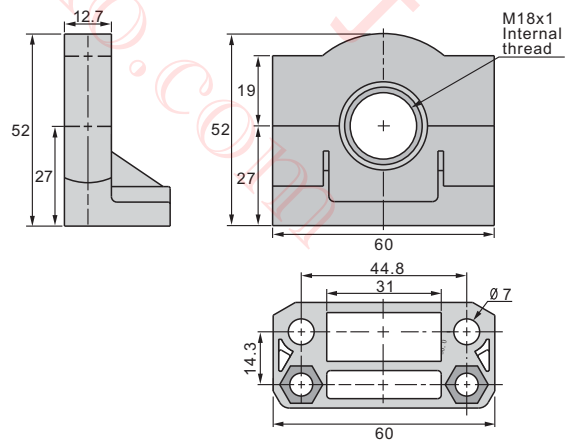


**MB-4240 (optional)**



18mm split clamp bracket

**MB-6052 (optional)**









Mounting Bracket to Provide 360° Rotation

\*: Please see **Accessories** (Universal Mounting Brackets Series).

# D30 SERIES







## Thru-beam Mode (Plastic Housing)

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
Infrared: 880nm	Cable (2m PVC) 	10-30V DC (1ms on/off)	Emitter	<u>D30P-T200MD-EX9G2L2-A</u>
			NPN/PNP	<u>D30P-T200MD-CX9C4U2-A</u>
		12-240V DC /24-240V AC (1ms on/off)	Emitter (2-wire)	<u>D30P-T200MC-EX9G2L2-A</u>
			SPST Solid-state Light-ON (2-wire)	<u>D30P-T200MC-LX9C2U2-A</u>
	Quick Disconnect (Mini Style) 	10-30V DC (1ms on/off)	Emitter	<u>D30P-T200MD-EX9Q3LN-A</u>
			NPN/PNP	<u>D30P-T200MD-CX9Q4UN-A</u>
		12-240V DC /24-240V AC (1ms on/off)	Emitter (2-wire)	<u>D30P-T200MC-EX9Q3LN-A</u>
			SPST Solid-state Light-ON (2-wire)	<u>D30P-T200MC-LX9Q3UN-A</u>
Thru-beam mode Sensing distance: 200m	Cable (2m PVC) 	10-30V DC (1.5ms on/off)	Emitter	<u>D30P-T200MD-EX9C2L2-B</u>
			NPN/PNP	<u>D30P-T200MD-CX9C4U2-B</u>
		12-240V DC /24-240V AC (1.5ms on/off)	Emitter (2-wire)	<u>D30P-T200MC-EX9G2L2-B</u>
			SPST Solid-state Light-ON (2-wire)	<u>D30P-T200MC-LX9C2U2-B</u>
	Quick Disconnect (Mini Style) 	10-30V DC (1.5ms on/off)	Emitter	<u>D30P-T200MD-EX9Q3LN-B</u>
			NPN/PNP	<u>D30P-T200MD-CX9Q4UN-B</u>
		12-240V DC /24-240V AC (1.5ms on/off)	Emitter (2-wire)	<u>D30P-T200MC-EX9Q3LN-B</u>
			SPST Solid-state Light-ON (2-wire)	<u>D30P-T200MC-LX9Q3UN-B</u>
Thru-beam mode Sensing distance: 200m	Cable (2m PVC) 	10-30V DC (2.3ms on/off)	Emitter	<u>D30P-T200MD-EX9C2L2-C</u>
			NPN/PNP	<u>D30P-T200MD-CX9C4U2-C</u>
		12-240V DC /24-240V AC (2.3ms on/off)	Emitter (2-wire)	<u>D30P-T200MC-EX9G2L2-C</u>
			SPST Solid-state Light-ON (2-wire)	<u>D30P-T200MC-LX9C2U2-C</u>
	Quick Disconnect (Mini Style) 	10-30V DC (2.3ms on/off)	Emitter	<u>D30P-T200MD-EX9Q3LN-C</u>
			NPN/PNP	<u>D30P-T200MD-CX9Q4UN-C</u>
		12-240V DC /24-240V AC (2.3ms on/off)	Emitter (2-wire)	<u>D30P-T200MC-EX9Q3LN-C</u>
			SPST Solid-state Light-ON (2-wire)	<u>D30P-T200MC-LX9Q3UN-C</u>
12-240V DC /24-240V AC (2.3ms on/off)	SPST Solid-state Dark-ON (2-wire)	<u>D30P-T200MC-DX9C2U2-C</u>		
	SPST Solid-state Dark-ON (2-wire)	<u>D30P-T200MC-DX9Q3UN-C</u>		

Note:  
 Coming Soon : Part numbers with underline  
 In Preparation: Part numbers with a line through the middle

# D30 SERIES

## Thru-beam Mode (Brass Housing)

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number	
Infrared: 880nm	Cable (2m PVC) 	10-30V DC (1ms on/off)	Emitter	<u>D30B-T200MD-EX9G2L2-A</u>	
			NPN/PNP	<u>D30B-T200MD-CX9G4U2-A</u>	
		12-240V DC /24-240V AC (1ms on/off)	Emitter (2-wire)	<u>D30B-T200MC-EX9G2L2-A</u>	
			SPST Solid-state Light-ON (2-wire)	<u>D30B-T200MC-LX9G2U2-A</u>	
	Quick Disconnect (Mini Style) 	10-30V DC (1ms on/off)	Emitter	<u>D30B-T200MD-EX9Q3LN-A</u>	
			NPN/PNP	<u>D30B-T200MD-CX9Q4UN-A</u>	
		12-240V DC /24-240V AC (1ms on/off)	Emitter (2-wire)	<u>D30B-T200MC-EX9Q3LN-A</u>	
			SPST Solid-state Light-ON (2-wire)	<u>D30B-T200MC-LX9Q3UN-A</u>	
	200m ↑ 200m	Cable (2m PVC) 	10-30V DC (1.5ms on/off)	Emitter	<u>D30B-T200MD-EX9G2L2-B</u>
				NPN/PNP	<u>D30B-T200MD-CX9G4U2-B</u>
12-240V DC /24-240V AC (1.5ms on/off)			Emitter (2-wire)	<u>D30B-T200MC-EX9G2L2-B</u>	
			SPST Solid-state Light-ON (2-wire)	<u>D30B-T200MC-LX9G2U2-B</u>	
Quick Disconnect (Mini Style) 		10-30V DC (1.5ms on/off)	Emitter	<u>D30B-T200MD-EX9Q3LN-B</u>	
			NPN/PNP	<u>D30B-T200MD-CX9Q4UN-B</u>	
		12-240V DC /24-240V AC (1.5ms on/off)	Emitter (2-wire)	<u>D30B-T200MC-EX9Q3LN-B</u>	
			SPST Solid-state Light-ON (2-wire)	<u>D30B-T200MC-LX9Q3UN-B</u>	
Thru-beam mode Sensing distance: 200m		Cable (2m PVC) 	10-30V DC (2.3ms on/off)	Emitter	<u>D30B-T200MD-EX9G2L2-G</u>
				NPN/PNP	<u>D30B-T200MD-CX9G4U2-G</u>
	12-240V DC /24-240V AC (2.3ms on/off)		Emitter (2-wire)	<u>D30B-T200MC-EX9G2L2-G</u>	
			SPST Solid-state Light-ON (2-wire)	<u>D30B-T200MC-LX9G2U2-G</u>	
	Quick Disconnect (Mini Style) 	10-30V DC (2.3ms on/off)	Emitter	<u>D30B-T200MD-EX9Q3LN-G</u>	
			NPN/PNP	<u>D30B-T200MD-CX9Q4UN-G</u>	
		12-240V DC /24-240V AC (2.3ms on/off)	Emitter (2-wire)	<u>D30B-T200MC-EX9Q3LN-G</u>	
			SPST Solid-state Light-ON (2-wire)	<u>D30B-T200MC-LX9Q3UN-G</u>	
	12-240V DC /24-240V AC (2.3ms on/off)	SPST Solid-state Dark-ON (2-wire)	<u>D30B-T200MC-DX9G2U2-G</u>		
		SPST Solid-state Dark-ON (2-wire)	<u>D30B-T200MC-DX9Q3UN-G</u>		

Note:  
 Coming Soon : Part numbers with underline  
 In Preparation: Part numbers with a line through the middle  
 — J-02 —

J : D30 SERIES



## Specifications

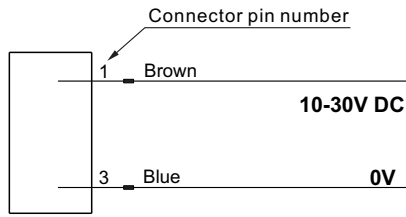
Supply Voltage and Current	Emitters: 12 to 240V AC (50/60 Hz) or 10 to 30V DC at 20 mA, 10 % maximum ripple DC Receivers: 10 to 30V DC at 10 mA maximum (exclusive of load); 10% maximum ripple AC/DC Receivers: 24 to 240V AC (50/60 Hz)
Supply Protection Circuitry	Protected against reverse polarity and transient voltages
Output Configuration	DC Receivers: PNP (sourcing) or NPN (sinking) output. Selection of sourcing or sinking configuration depends upon receiver's power supply hookup polarity. AC/DC Receivers: Solid-state switch
Output Rating	DC Receivers: 250 mA continuous Output saturation voltage (PNP &NPN configuration) less than 1 volt at 10mA and 2 volts at 250mA Off-state leakage current less than 10 microamps AC/DC Receivers: Maximum steady-state load capability is 500mA Inrush capability 10amps for 1 second (non-repeating) Off-state leakage current less than 1.7 mA rms On-state voltage drop less than 3.5 volts rms across a 500mA load; less than 5 volts rms across a 15 mA load
Output Protection Circuitry	Short circuit protected
Output Response Time	10 milliseconds on/off
Repeatability	" A " frequency units: 1 ms " B " frequency units: 1.5 ms " C " frequency units: 2.3 ms
Indicators	Internal red LED lights whenever the DC receiver sees its modulated light source, or whenever the AC receiver's output is conducting. Emitters have red "power on" indicator LED. All indicators are visible through the lens or from side of the sensor.
Construction	30 mm diameter tubular threaded brass and plastic housing, fully epoxy-encapsulated, positive sealing at both ends, quad-ring sealed acrylic.
Environmental Rating	Exceeds NEMA 6P and IEC IP67 standards
Connections	PVC-jacketed 2 m (6.5 ft) cables Mini-style quick disconnect (QD) fitting are available
Operating Temperature	Temperature:-40°C to +70°C Maximum relative humidity: 90% at 50°C (non-condensing)
EMC	IEC 60947-5-2, Parts 7.2.6.1. 2. 3 or RFI>3V/m (in 30-1000MHz), EFT>1KV, ESD>4KV (contact)
Voltage Withstand Ability	IEC 60947-5-2, Part 8.3.3.4 or 1500VAC for one min, between all supply terminals connected together and enclosure
Insulation Resistance	>20M $\Omega$ , with 1500V AC megger between all supply terminals connected together and enclosure
Vibration Resistance	IEC 60947-5-2, Part 7.4.2 or 10-55Hz, 1.0mm amplitude in x , y and z directions for 30 min
Shock Resistance	IEC 60947-5-2, Part 7.4.1 or 30g, 11ms in x , y and z directions for six time each



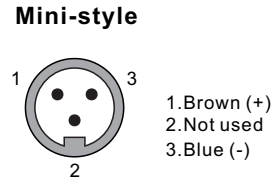
# D30 SERIES

## Connection Diagrams

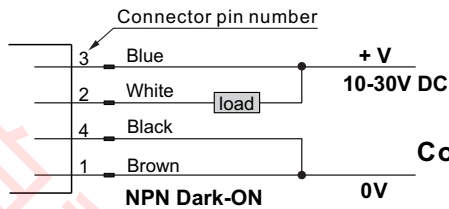
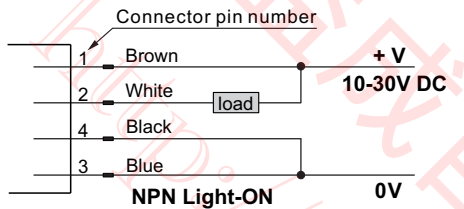
### Emitter (DC)



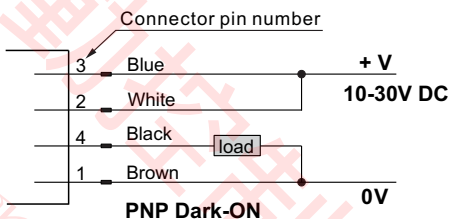
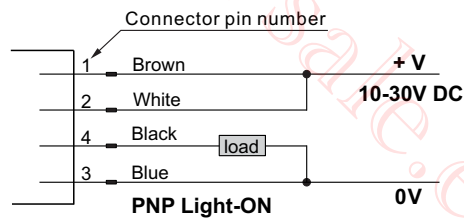
#### Connector pin position



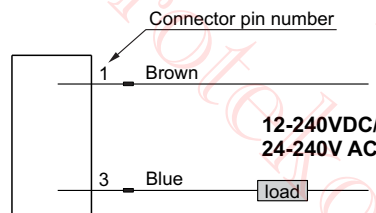
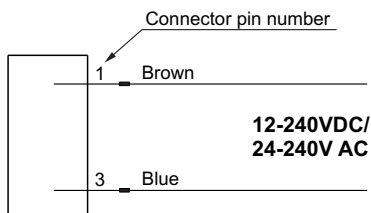
### NPN/PNP output



#### Connector pin position



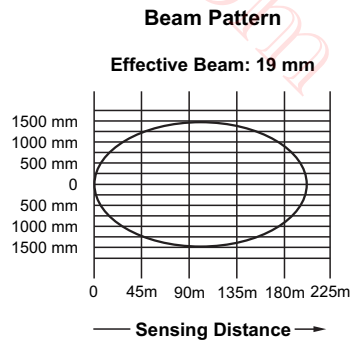
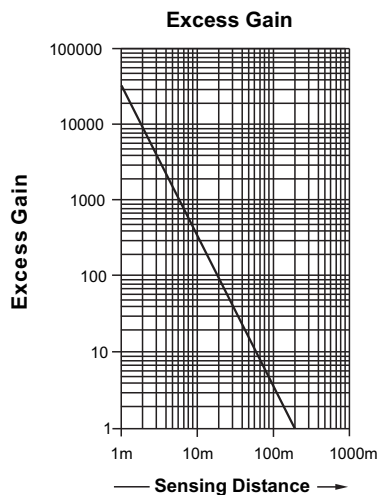
### Emitter (AC/DC) Receiver (AC/DC)



#### Connector pin position



### Sensing Fields (Typical)

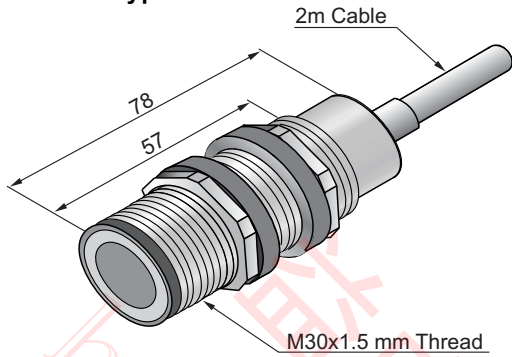


# D30 SERIES

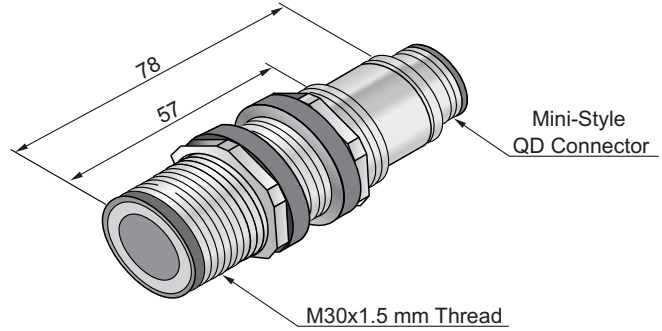
## Dimensions (Unit: mm)

### Sensor Type

Cable Type

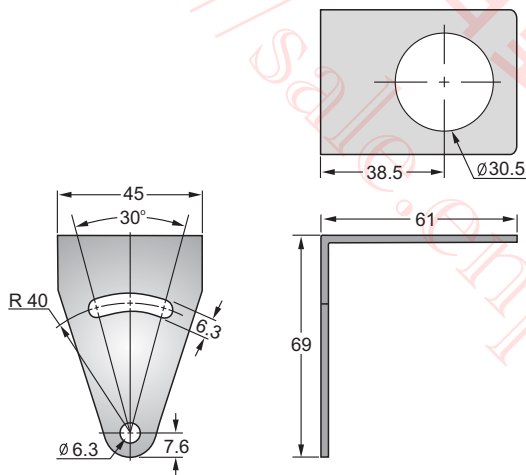


Mini-style connector Type

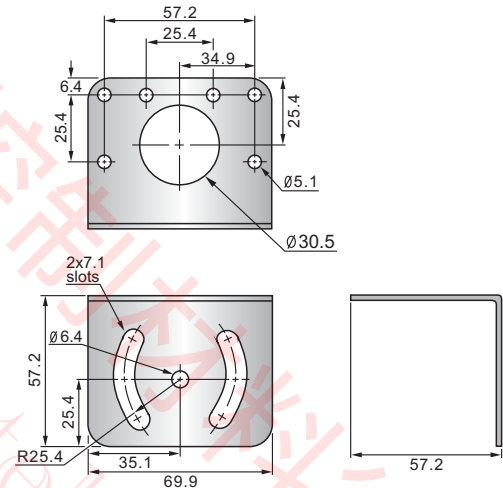


### Mounting Bracket's \* Dimensions

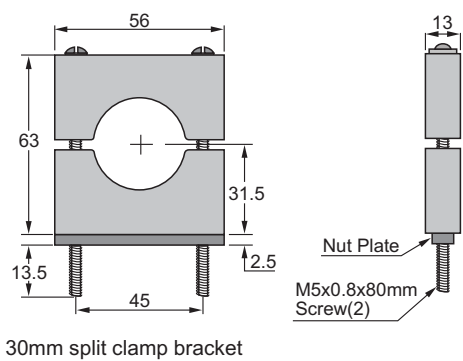
MB-6961 (optional)



MB-7057 (optional)

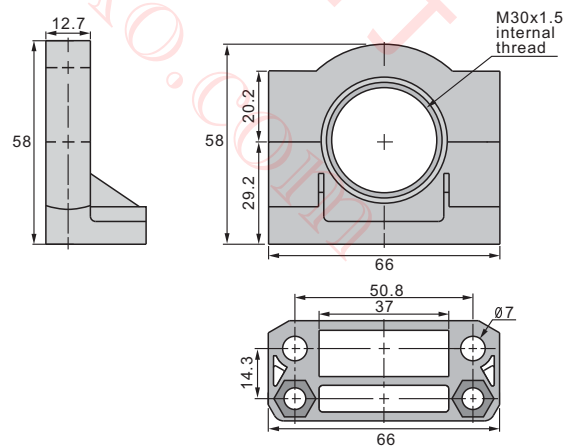


MB-6356 (optional)



30mm split clamp bracket

MB-6658 (optional)










Mounting Bracket to Provide 360° Rotation

\*: Please see **Accessories** (Universal Mounting Brackets Series).

# EM18 SERIES

## Thru-beam Mode







Sensing Mode	Housing Material	Connection	Supply Voltage	Output Mode	Part Number	
 <p>Infrared LED</p> <p>20m</p> <p>Thru-beam Mode Sensing Distance: 20 m</p>	Plastic Housing	 <p>2m Cable</p>	10-30V DC	Emitter	<u>EM18P-T020MD-EX9C3L2</u>	
				NPN	<u>EM18P-T020MN-CX9C4U2</u>	
				PNP	<u>EM18P-T020MP-CX9C4U2</u>	
				NPN/PNP	<u>EM18P-T020MD-CX9C4U2</u>	
		24-240V AC	Emitter (2-wire)	<u>EM18P-T020MA-EX9C2L2</u>		
			Light-ON(2-wire)	<u>EM18P-T020MA-LX9C2U2</u>		
			Dark-ON (2-wire)	<u>EM18P-T020MA-DX9C2U2</u>		
			Emitter	<u>EM18P-T020MD-EX9Q4LE</u>		
		10-30V DC (Euro-style)	 <p>Quick Disconnect</p>	10-30V DC (Euro-style)	NPN	<u>EM18P-T020MN-CX9Q4UE</u>
					PNP	<u>EM18P-T020MP-CX9Q4UE</u>
					NPN/PNP	<u>EM18P-T020MD-CX9Q4UE</u>
					Emitter (2-wire)	<u>EM18P-T020MA-EX9Q3LM</u>
	24-240V AC (Micro-style)	Quick Disconnect	24-240V AC (Micro-style)	Light-ON(2-wire)	<u>EM18P-T020MA-LX9Q3UM</u>	
				Dark-ON (2-wire)	<u>EM18P-T020MA-DX9Q3UM</u>	
				Emitter	<u>EM18P-T020MD-EX9P4LE</u>	
				NPN	<u>EM18P-T020MN-CX9P4UE</u>	
	10-30V DC (Euro-style)	 <p>6" Pigtail</p>	10-30V DC (Euro-style)	PNP	<u>EM18P-T020MP-CX9P4UE</u>	
				NPN/PNP	<u>EM18P-T020MD-CX9P4UE</u>	
				Emitter (2-wire)	<u>EM18P-T020MA-EX9P3LM</u>	
				Light-ON(2-wire)	<u>EM18P-T020MA-LX9P3UM</u>	
	24-240V AC (Micro-style)	6" Pigtail	24-240V AC (Micro-style)	Dark-ON (2-wire)	<u>EM18P-T020MA-DX9P3UM</u>	
				Emitter	<u>EM18B-T020MD-EX9C3L2</u>	
				NPN	<u>EM18B-T020MN-CX9C4U2</u>	
				PNP	<u>EM18B-T020MP-CX9C4U2</u>	
24-240V AC	 <p>2m Cable</p>	24-240V AC	NPN/PNP	<u>EM18B-T020MD-CX9C4U2</u>		
			Emitter (2-wire)	<u>EM18B-T020MA-EX9C2L2</u>		
			Light-ON(2-wire)	<u>EM18B-T020MA-LX9C2U2</u>		
			Dark-ON (2-wire)	<u>EM18B-T020MA-DX9C2U2</u>		
10-30V DC (Euro-style)	 <p>Quick Disconnect</p>	10-30V DC (Euro-style)	Emitter	<u>EM18B-T020MD-EX9Q4LE</u>		
			NPN	<u>EM18B-T020MN-CX9Q4UE</u>		
			PNP	<u>EM18B-T020MP-CX9Q4UE</u>		
			NPN/PNP	<u>EM18B-T020MD-CX9Q4UE</u>		
24-240V AC (Micro-style)	Quick Disconnect	24-240V AC (Micro-style)	Emitter (2-wire)	<u>EM18B-T020MA-EX9Q3LM</u>		
			Light-ON(2-wire)	<u>EM18B-T020MA-LX9Q3UM</u>		
			Dark-ON (2-wire)	<u>EM18B-T020MA-DX9Q3UM</u>		
			Emitter	<u>EM18B-T020MD-EX9P4LE</u>		
10-30V DC (Euro-style)	 <p>6" Pigtail</p>	10-30V DC (Euro-style)	NPN	<u>EM18B-T020MN-CX9P4UE</u>		
			PNP	<u>EM18B-T020MP-CX9P4UE</u>		
			NPN/PNP	<u>EM18B-T020MD-CX9P4UE</u>		
			Emitter (2-wire)	<u>EM18B-T020MA-EX9P3LM</u>		
24-240V AC (Micro-style)	6" Pigtail	24-240V AC (Micro-style)	Light-ON(2-wire)	<u>EM18B-T020MA-LX9P3UM</u>		
			Dark-ON (2-wire)	<u>EM18B-T020MA-DX9P3UM</u>		

Note:  
 Coming Soon : Part numbers with underline  
 In Preparation: Part numbers with a line through the middle

G: EM18 SERIES

# EM18 SERIES

## Diffuse Mode (Sn=100 mm)

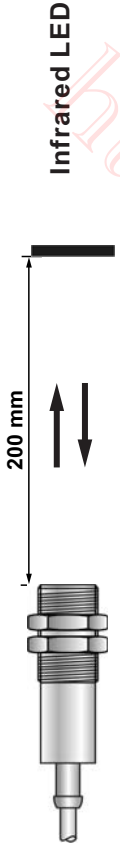





Sensing Mode	Housing Material	Connection	Supply Voltage	Output Mode	Part Number
Infrared LED 100 mm Diffuse Mode Sensing Distance: 100 mm	Plastic Housing	 2m Cable	10-30V DC	NPN	<u>EM18P-D0100N-CX9C4U2</u>
				PNP	<u>EM18P-D0100P-CX9C4U2</u>
				NPN/PNP	<u>EM18P-D0100D-CX9C4U2</u>
			24-240V AC	Light-ON (2-wire)	<u>EM18P-D0100A-LX9C2U2</u>
				Dark-ON (2-wire)	<u>EM18P-D0100A-DX9C2U2</u>
		 Quick Disconnect	10-30V DC (Euro-style)	NPN	<u>EM18P-D0100N-CX9Q4UE</u>
				PNP	<u>EM18P-D0100P-CX9Q4UE</u>
				NPN/PNP	<u>EM18P-D0100D-CX9Q4UE</u>
			24-240V AC (Micro-style)	Light-ON (2-wire)	<u>EM18P-D0100A-LX9Q3UM</u>
				Dark-ON (2-wire)	<u>EM18P-D0100A-DX9Q3UM</u>
	Brass Housing	 6" Pigtail	10-30V DC (Euro-style)	NPN	<u>EM18P-D0100N-CX9P4UE</u>
				PNP	<u>EM18P-D0100P-CX9P4UE</u>
				NPN/PNP	<u>EM18P-D0100D-CX9P4UE</u>
			24-240V AC (Micro-style)	Light-ON (2-wire)	<u>EM18P-D0100A-LX9P3UM</u>
				Dark-ON (2-wire)	<u>EM18P-D0100A-DX9P3UM</u>
		 2m Cable	10-30V DC	NPN	<u>EM18B-D0100N-CX9C4U2</u>
				PNP	<u>EM18B-D0100P-CX9C4U2</u>
				NPN/PNP	<u>EM18B-D0100D-CX9C4U2</u>
			24-240V AC	Light-ON (2-wire)	<u>EM18B-D0100A-LX9C2U2</u>
				Dark-ON (2-wire)	<u>EM18B-D0100A-DX9C2U2</u>
 Quick Disconnect	10-30V DC (Euro-style)	NPN	<u>EM18B-D0100N-CX9Q4UE</u>		
		PNP	<u>EM18B-D0100P-CX9Q4UE</u>		
		NPN/PNP	<u>EM18B-D0100D-CX9Q4UE</u>		
	24-240V AC (Micro-style)	Light-ON (2-wire)	<u>EM18B-D0100A-LX9Q3UM</u>		
		Dark-ON (2-wire)	<u>EM18B-D0100A-DX9Q3UM</u>		
 6" Pigtail	10-30V DC (Euro-style)	NPN	<u>EM18B-D0100N-CX9P4UE</u>		
		PNP	<u>EM18B-D0100P-CX9P4UE</u>		
		NPN/PNP	<u>EM18B-D0100D-CX9P4UE</u>		
	24-240V AC (Micro-style)	Light-ON (2-wire)	<u>EM18B-D0100A-LX9P3UM</u>		
		Dark-ON (2-wire)	<u>EM18B-D0100A-DX9P3UM</u>		

Note:  
 Coming Soon : Part numbers with underline  
 In Preparation: Part numbers with a line through the middle

G: EM18 SERIES

# EM18 SERIES

## Diffuse Mode (Sn=200 mm)







Sensing Mode	Housing Material	Connection	Supply Voltage	Output Mode	Part Number
Diffuse Mode Sensing Distance: 200 mm 	Plastic Housing	 2m Cable	10-30V DC	NPN	<u>EM18P-D0200N-CX9C4U2</u>
				PNP	<u>EM18P-D0200P-CX9C4U2</u>
				NPN/PNP	<u>EM18P-D0200D-CX9C4U2</u>
			24-240V AC	Light-ON (2-wire)	<u>EM18P-D0200A-LX9C2U2</u>
				Dark-ON (2-wire)	<u>EM18P-D0200A-DX9C2U2</u>
				Light-ON (2-wire)	<u>EM18P-D0200A-LX9Q3UM</u>
		 Quick Disconnect	10-30V DC (Euro-style)	NPN	<u>EM18P-D0200N-CX9Q4UE</u>
				PNP	<u>EM18P-D0200P-CX9Q4UE</u>
				NPN/PNP	<u>EM18P-D0200D-CX9Q4UE</u>
			24-240V AC (Micro-style)	Light-ON (2-wire)	<u>EM18P-D0200A-LX9Q3UM</u>
				Dark-ON (2-wire)	<u>EM18P-D0200A-DX9Q3UM</u>
				Light-ON (2-wire)	<u>EM18P-D0200A-LX9P3UM</u>
	Brass Housing	 2m Cable	10-30V DC	NPN	<u>EM18B-D0200N-CX9C4U2</u>
				PNP	<u>EM18B-D0200P-CX9C4U2</u>
				NPN/PNP	<u>EM18B-D0200D-CX9C4U2</u>
			24-240V AC	Light-ON (2-wire)	<u>EM18B-D0200A-LX9C2U2</u>
				Dark-ON (2-wire)	<u>EM18B-D0200A-DX9C2U2</u>
				Light-ON (2-wire)	<u>EM18B-D0200A-LX9Q3UM</u>
		 Quick Disconnect	10-30V DC (Euro-style)	NPN	<u>EM18B-D0200N-CX9Q4UE</u>
				PNP	<u>EM18B-D0200P-CX9Q4UE</u>
				NPN/PNP	<u>EM18B-D0200D-CX9Q4UE</u>
			24-240V AC (Micro-style)	Light-ON (2-wire)	<u>EM18B-D0200A-LX9Q3UM</u>
				Dark-ON (2-wire)	<u>EM18B-D0200A-DX9Q3UM</u>
				Light-ON (2-wire)	<u>EM18B-D0200A-LX9P3UM</u>
 6" Pigtail	10-30V DC (Euro-style)	NPN	<u>EM18B-D0200N-CX9P4UE</u>		
		PNP	<u>EM18B-D0200P-CX9P4UE</u>		
		NPN/PNP	<u>EM18B-D0200D-CX9P4UE</u>		
	24-240V AC (Micro-style)	Light-ON (2-wire)	<u>EM18B-D0200A-LX9P3UM</u>		
		Dark-ON (2-wire)	<u>EM18B-D0200A-DX9P3UM</u>		
		Light-ON (2-wire)	<u>EM18B-D0200A-LX9P3UM</u>		

Note:  
 Coming Soon : Part numbers with underline  
 In Preparation: Part numbers with a line through the middle

G: EM18 SERIES

# EM18 SERIES

## Diffuse Mode (Sn=400mm)

Sensing Mode	Housing Material	Connection	Supply Voltage	Output Mode	Part Number
Infrared LED 400 mm Diffuse Mode Sensing Distance: 400 mm	Plastic Housing	 2m Cable	10-30V DC	NPN	<u>EM18P-D0400N-CX9C4U2</u>
				PNP	<u>EM18P-D0400P-CX9C4U2</u>
				NPN/PNP	<u>EM18P-D0400D-CX9C4U2</u>
			24-240V AC	Light-ON (2-wire)	<u>EM18P-D0400A-LX9C2U2</u>
				Dark-ON (2-wire)	<u>EM18P-D0400A-DX9C2U2</u>
		 Quick Disconnect	10-30V DC (Euro-style)	NPN	<u>EM18P-D0400N-CX9Q4UE</u>
				PNP	<u>EM18P-D0400P-CX9Q4UE</u>
				NPN/PNP	<u>EM18P-D0400D-CX9Q4UE</u>
			24-240V AC (Micro-style)	Light-ON (2-wire)	<u>EM18P-D0400A-LX9Q3UM</u>
				Dark-ON (2-wire)	<u>EM18P-D0400A-DX9Q3UM</u>
	 6" Pigtail	10-30V DC (Euro-style)	NPN	<u>EM18P-D0400N-CX9P4UE</u>	
			PNP	<u>EM18P-D0400P-CX9P4UE</u>	
			NPN/PNP	<u>EM18P-D0400D-CX9P4UE</u>	
		24-240V AC (Micro-style)	Light-ON (2-wire)	<u>EM18P-D0400A-LX9P3UM</u>	
			Dark-ON (2-wire)	<u>EM18P-D0400A-DX9P3UM</u>	
	Brass Housing	 2m Cable	10-30V DC	NPN	<u>EM18B-D0400N-CX9C4U2</u>
				PNP	<u>EM18B-D0400P-CX9C4U2</u>
				NPN/PNP	<u>EM18B-D0400D-CX9C4U2</u>
			24-240V AC	Light-ON (2-wire)	<u>EM18B-D0400A-LX9C2U2</u>
				Dark-ON (2-wire)	<u>EM18B-D0400A-DX9C2U2</u>
 Quick Disconnect		10-30V DC (Euro-style)	NPN	<u>EM18B-D0400N-CX9Q4UE</u>	
			PNP	<u>EM18B-D0400P-CX9Q4UE</u>	
			NPN/PNP	<u>EM18B-D0400D-CX9Q4UE</u>	
		24-240V AC (Micro-style)	Light-ON (2-wire)	<u>EM18B-D0400A-LX9Q3UM</u>	
			Dark-ON (2-wire)	<u>EM18B-D0400A-DX9Q3UM</u>	
 6" Pigtail	10-30V DC (Euro-style)	NPN	<u>EM18B-D0400N-CX9P4UE</u>		
		PNP	<u>EM18B-D0400P-CX9P4UE</u>		
		NPN/PNP	<u>EM18B-D0400D-CX9P4UE</u>		
	24-240V AC (Micro-style)	Light-ON (2-wire)	<u>EM18B-D0400A-LX9P3UM</u>		
		Dark-ON (2-wire)	<u>EM18B-D0400A-DX9P3UM</u>		






Note:  
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G: EM18 SERIES



# EM18 SERIES

## Retroreflective Mode with Polarizing Filter (Sn=2m)








Sensing Mode	Housing Material	Connection	Supply Voltage	Output Mode	Part Number
Retro-reflective Mode with Polarizing Filter Sensing Distance: 2 m (Note)	Plastic Housing	 2m Cable	10-30V DC	NPN	EM18P-L2000N-CX6G4U2-PF
				PNP	EM18P-L2000P-CX6G4U2-PF
				NPN/PNP	EM18P-L2000D-CX6G4U2-PF
			24-240V AC	Light-ON (2-wire)	EM18P-L2000A-LX6G2U2-PF
				Dark-ON (2-wire)	EM18P-L2000A-DX6G2U2-PF
				Light-ON (2-wire)	EM18P-L2000A-LX6G2U2-PF
		 Quick Disconnect	10-30V DC (Euro-style)	NPN	EM18P-L2000N-CX6Q4UE-PF
				PNP	EM18P-L2000P-CX6Q4UE-PF
				NPN/PNP	EM18P-L2000D-CX6Q4UE-PF
			24-240V AC (Micro-style)	Light-ON (2-wire)	EM18P-L2000A-LX6Q3UM-PF
				Dark-ON (2-wire)	EM18P-L2000A-DX6Q3UM-PF
				Light-ON (2-wire)	EM18P-L2000A-LX6Q3UM-PF
	Brass Housing	 2m Cable	10-30V DC (Euro-style)	NPN	<u>EM18P-L2000N-CX6P4UE-PF</u>
				PNP	EM18P-L2000P-CX6P4UE-PF
				NPN/PNP	EM18P-L2000D-CX6P4UE-PF
			24-240V AC (Micro-style)	Light-ON (2-wire)	EM18P-L2000A-LX6P3UM-PF
				Dark-ON (2-wire)	EM18P-L2000A-DX6P3UM-PF
				Light-ON (2-wire)	EM18P-L2000A-LX6P3UM-PF
		 Quick Disconnect	10-30V DC (Euro-style)	NPN	EM18B-L2000N-CX6G4U2-PF
				PNP	EM18B-L2000P-CX6G4U2-PF
				NPN/PNP	EM18B-L2000D-CX6G4U2-PF
			24-240V AC (Micro-style)	Light-ON (2-wire)	EM18B-L2000A-LX6G2U2-PF
				Dark-ON (2-wire)	EM18B-L2000A-DX6G2U2-PF
				Light-ON (2-wire)	EM18B-L2000A-LX6G2U2-PF
 6" Pigtail	10-30V DC (Euro-style)	NPN	EM18B-L2000N-CX6Q4UE-PF		
		PNP	EM18B-L2000P-CX6Q4UE-PF		
		NPN/PNP	EM18B-L2000D-CX6Q4UE-PF		
	24-240V AC (Micro-style)	Light-ON (2-wire)	EM18B-L2000A-LX6Q3UM-PF		
		Dark-ON (2-wire)	EM18B-L2000A-DX6Q3UM-PF		
		Light-ON (2-wire)	EM18B-L2000A-LX6Q3UM-PF		

Note: Used with RE-6152 (supplied with sensor) reflector.  
 Coming Soon : Part numbers with underline  
 In Preparation: Part numbers with a line through the middle



# EM18 SERIES

## Retroreflective Mode (Sn=3m)

Sensing Mode	Housing Material	Connection	Supply Voltage	Output Mode	Part Number
 <p><b>Retro-reflective Mode</b> Sensing Distance: 3 m (Note)</p>	<b>Plastic Housing</b>	 2m Cable	10-30V DC	NPN	<u>EM18P-L3000N-CX9C4U2</u>
				PNP	<u>EM18P-L3000P-CX9C4U2</u>
				NPN/PNP	<u>EM18P-L3000D-CX9C4U2</u>
			24-240V AC	Light-ON (2-wire)	<u>EM18P-L3000A-LX9C2U2</u>
				Dark-ON (2-wire)	<u>EM18P-L3000A-DX9C2U2</u>
		 Quick Disconnect	10-30V DC (Euro-style)	NPN	<u>EM18P-L3000N-CX9Q4UE</u>
				PNP	<u>EM18P-L3000P-CX9Q4UE</u>
				NPN/PNP	<u>EM18P-L3000D-CX9Q4UE</u>
			24-240V AC (Micro-style)	Light-ON (2-wire)	<u>EM18P-L3000A-LX9Q3UM</u>
				Dark-ON (2-wire)	<u>EM18P-L3000A-DX9Q3UM</u>
	<b>Brass Housing</b>	 6" Pigtail	10-30V DC (Euro-style)	NPN	<u>EM18P-L3000N-CX9P4UE</u>
				PNP	<u>EM18P-L3000P-CX9P4UE</u>
				NPN/PNP	<u>EM18P-L3000D-CX9P4UE</u>
			24-240V AC (Micro-style)	Light-ON (2-wire)	<u>EM18P-L3000A-LX9P3UM</u>
				Dark-ON (2-wire)	<u>EM18P-L3000A-DX9P3UM</u>
		 2m Cable	10-30V DC	NPN	<u>EM18B-L3000N-CX9C4U2</u>
				PNP	<u>EM18B-L3000P-CX9C4U2</u>
				NPN/PNP	<u>EM18B-L3000D-CX9C4U2</u>
			24-240V AC	Light-ON (2-wire)	<u>EM18B-L3000A-LX9C2U2</u>
				Dark-ON (2-wire)	<u>EM18B-L3000A-DX9C2U2</u>
 Quick Disconnect	10-30V DC (Euro-style)	NPN	<u>EM18B-L3000N-CX9Q4UE</u>		
		PNP	<u>EM18B-L3000P-CX9Q4UE</u>		
		NPN/PNP	<u>EM18B-L3000D-CX9Q4UE</u>		
	24-240V AC (Micro-style)	Light-ON (2-wire)	<u>EM18B-L3000A-LX9Q3UM</u>		
		Dark-ON (2-wire)	<u>EM18B-L3000A-DX9Q3UM</u>		
 6" Pigtail	10-30V DC (Euro-style)	NPN	<u>EM18B-L3000N-CX9P4UE</u>		
		PNP	<u>EM18B-L3000P-CX9P4UE</u>		
		NPN/PNP	<u>EM18B-L3000D-CX9P4UE</u>		
	24-240V AC (Micro-style)	Light-ON (2-wire)	<u>EM18B-L3000A-LX9P3UM</u>		
		Dark-ON (2-wire)	<u>EM18B-L3000A-DX9P3UM</u>		

**Note:** Used with RE-6152 (supplied with sensor) reflector.  
 Coming Soon : Part numbers with underline  
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G: EM18 SERIES

## EM18 SERIES

## Specifications (DC)

Item	Model No.	Type	Retroreflective		Diffuse Mode		
		Thru-beam		with polarizing filters			
		EM18x-T020Mx-xX9xxxx	EM18x-L3000x-xX9xxxx	EM18x-L2000x-xX6xxxx-PF	EM18x-D0100x-xX9xxxx	EM18x-D0200x-xX9xxxx	EM18x-D0400x-xX9xxxx
Sensing Range		20m	3m (Note)	2m (Note)	100mm	200mm	400mm
Sensing Object		Opaque object of $\phi$ 8mm or more	3-way mirror		200x200mm White paper		
Hysteresis		20% or less of operation distance					
Supply Voltage		10 to 30V DC, Ripple P-P 10% or less					
Current Consumption		30mA or less					
Output		<NPN> output type> NPN open-collector transistor <ul style="list-style-type: none"> <li>• Applied voltage: 30V DC or less</li> <li>• Maximum sink current: 200mA</li> <li>• Voltage drop: 2.5V or less</li> </ul>			<PNP> output type> PNP open-collector transistor <ul style="list-style-type: none"> <li>• Applied voltage: 30V DC or less</li> <li>• Maximum sink current: 200mA</li> <li>• Voltage drop: 2.5V or less</li> </ul>		
Output Operation		Selectable either Light-ON Dark-ON by the control input wire					
Short-circuit Protection		Yes					
Reverse Polarity Protection		Yes					
Overload Current Protection		Yes					
Response Time		1.5ms					
Operation Indicator		Red LED (light up when the output is activated), Thru-beam sensor is provided it on the receiver					
Pollution Degree		3(Industrial environment)					
Protection		IP67(IEC)					
Ambient Temperature		-25°C to +55°C					
Ambient Humidity		35 to 85% RH,Storage:35 to 85% RH					
EMC		IEC 60947-5-2, Parts 7.2.6.1.2.3 or RFI>3V/m( in 30-1000MHZ), EFT>1KV, ESD>4KV (contact)					
Voltage Withstand Ability		IEC 60947-5-2, Part 7.4.2 or 1500V AC for one min, between all supply terminals connected together and enclosure					
Insulation Resistance		>20M $\Omega$ , with 1500V AC megger between all supply terminals connected together and enclosure					
Vibration Resistance		IEC 60947-5-2, Part 7.4.2 or 10-55Hz, 1.0mm amplitude in x, y and z directions for 30 min					
Shock Resistance		IEC 60947-5-2, Part 7.4.1 or 30g, 11ms in x, y and z directions for six time each					
Emitting Element		Infrared LED (modulated)		Red LED (modulated)		Infrared LED (modulated)	
Housing Material		Plastic housing: PBT		Metal housing: Nickel-plated brass			
Cable		2m or 9m 5.8 $\phi$ (Plastic Housing:4 $\phi$ ) 4X0.5 (Emitter :3X0.5) PVC.					
Connector		Euro-style quick connector(M12x1 thread)					
Pigtail Type		See Pigtail Series or our Cables & Connectors catalogue					

Note: Used with RE-6152 (supplied with sensor) reflector.

## EM18 SERIES

## Specifications (AC)

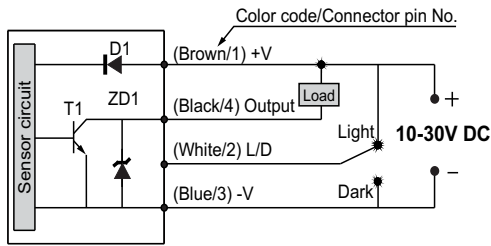
Item	Type Model No.	Thru-beam Mode			Diffuse Mode		Retroreflective	
		EM18x-T020MC-xxxxxx	EM18x-D0100C-xX9xxUx	EM18x-D0200C-xX9xxUx	EM18x-D0400C-xX9xxUx	EM18x-L3000C-xX9xxUx	EM18x-L2000C-xX6xxUx-PF	with polarizing filters
Sensing Range		20 m	100mm	200mm	400mm	3m (Note)	2m (Note)	
Sensing Object		100x100mm White paper				3-way mirror		
Hysteresis		20% or less of operation distance						
Supply Voltage		24~240V AC						
Current Consumption		30mA or less						
Output		SPST solid-state switch, 2-wire hookup ● Applied voltage: 24 ~ 240V AC ● Max Load current: 300mA ● Voltage drop: 10V or less						
Output Operation		Selectable either Light-ON Dark-ON by type number						
Short-circuit Protection		Yes						
Reverse Polarity Protection		Yes						
Overload Current Protection		Yes						
Response Time		15ms						
Operation Indicator		Red LED (light up when the output is activated), Thru-beam sensor is provided it on the receiver						
Pollution Degree		3(Industrial environment)						
Protection		IP67(IEC)						
Ambient Temperature		-25°C to +55°C						
Ambient Humidity		35 to 85% RH, Storage: 35 to 85% RH						
EMC		IEC 60947-5-2, Parts 7.2.6.1.2.3 or RFI>3V/m( in 30-1000MHZ), EFT>1KV, ESD>4KV (contact)						
Voltage Withstand Ability		IEC 60947-5-2, Part 8.3.3.4 or 1500V AC for one min, between all supply terminals connected together and enclosure						
Insulation Resistance		>20M $\Omega$ , with 1500V AC megger between all supply terminals connected together and enclosure						
Vibration Resistance		IEC60947-5-2, Part 7.4.2 or 10-55Hz, 1.0mm amplitude in x, y and z directions for 30 min						
Shock Resistance		IEC 60947-5-2, part 7.4.1 or 30g, 11ms in x, y and z directions for six time each						
Emitting Element		Infrared LED (modulated)					Red LED (modulated)	
Housing Material		Plastic Housing: PBT		Metal Housing: Nickel-plated brass				
Cable		2m or 9m 5.8 $\phi$ (Plastic Housing: 4 $\phi$ ) 4X0.5 (Emitter :3X0.5) PVC.						
Connector		3 pins Micro-style quick connector(1/2"-20UNF thread)						
Pigtail Type		See Pigtail Series or our Cables & Connectors catalogue						

Note: Used with RE-6152 (supplied with sensor) reflector.

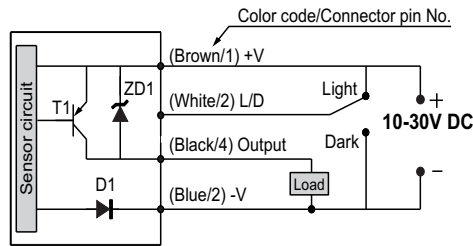
# EM18 SERIES

## Connection Diagrams

### NPN output type      PNP output type



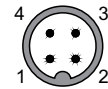
Symbol    D1: Reverse polarity protection diode  
 ZD1: Surge absorption zener diode  
 T1: NPN output transistor



Symbol    D1: Reverse polarity protection diode  
 ZD1: Surge absorption zener diode  
 T1: PNP output transistor

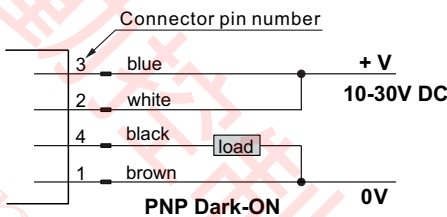
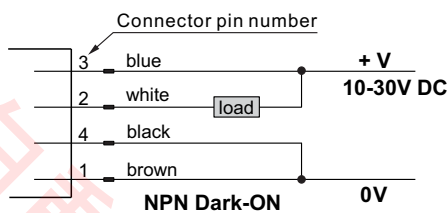
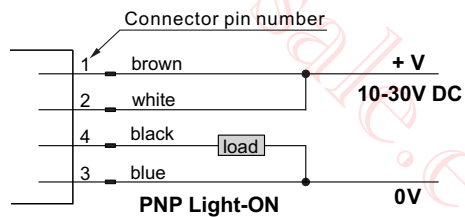
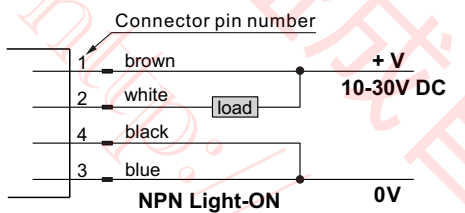
#### Connector pin position

##### Euro-style



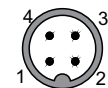
- 1. Brown
- 2. White
- 3. Blue
- 4. Black

### NPN/PNP output type



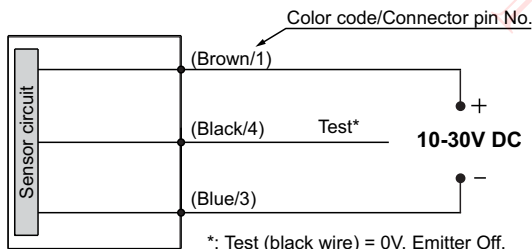
#### Connector pin position

##### Euro-style



- 1. Brown
- 2. White
- 3. Blue
- 4. Black

### Emitter of Thru-beam Mode (DC)



\*: Test (black wire) = 0V, Emitter Off.

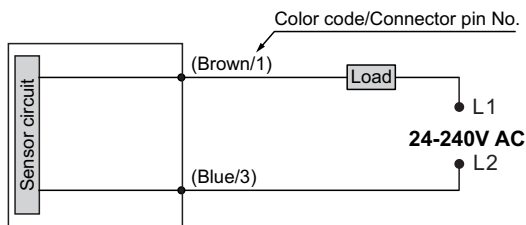
#### Connector pin position

##### Euro-style



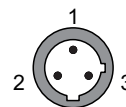
- 1. Brown (+)
- 2. White (Not used)
- 3. Blue (-)
- 4. Black (Test\*)

### Receiver of Thru-beam Mode, Retroreflective & Diffuse reflective sensors (AC)



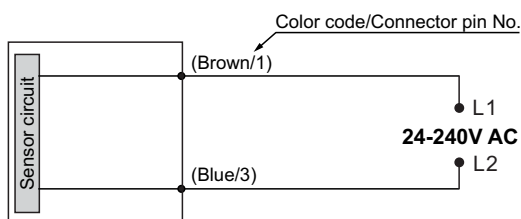
#### Connector face view

##### Micro-style



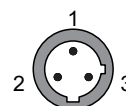
- 1. Brown(L1)
- 2. Not used
- 3. Blue (L2)

### Emitter of Thru-beam Mode (AC)



#### Connector face view

##### Micro-style



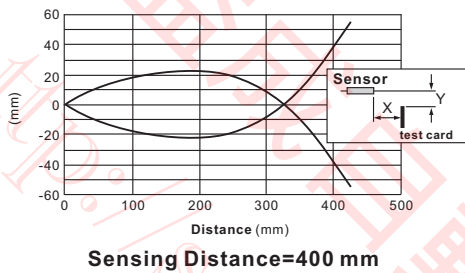
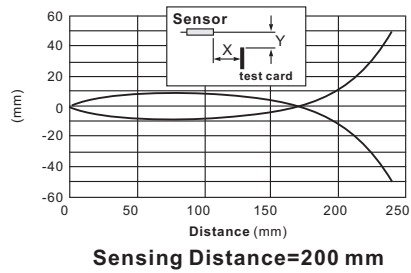
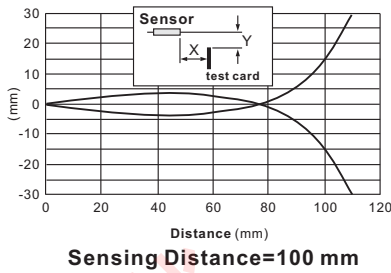
- 1. Brown(L1)
- 2. Not used
- 3. Blue (L2)

G: EM18 SERIES

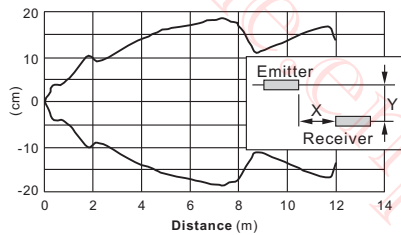
# EM18 SERIES

## Sensing Characteristics (Typical)

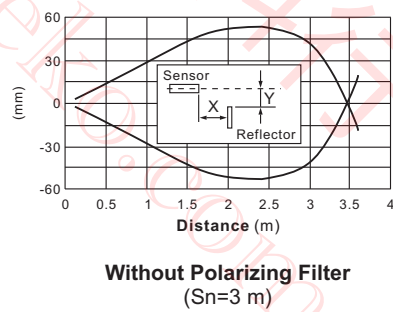
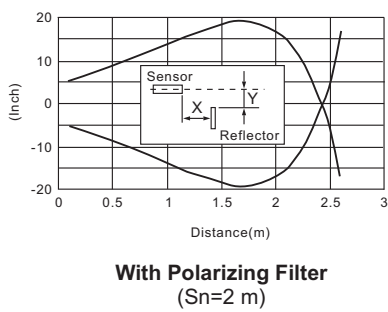
### Diffuse Mode Sensor



### Thru-beam Mode Sensor



### Retroreflective Mode Sensor



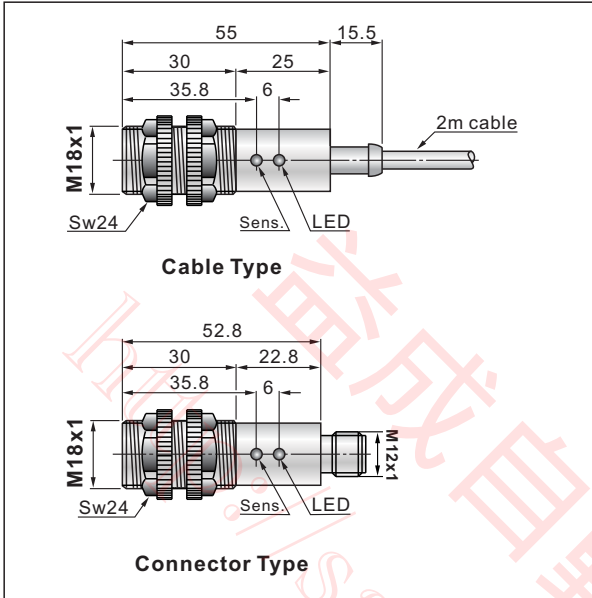
G: EM18 SERIES

# EM18 SERIES

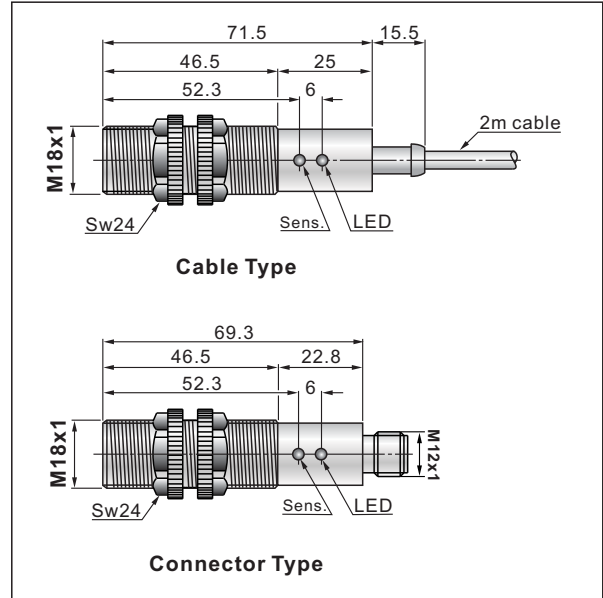
## Dimensions (Unit: mm)

### Plastic Housing Type Sensor

**DC type Sensor**

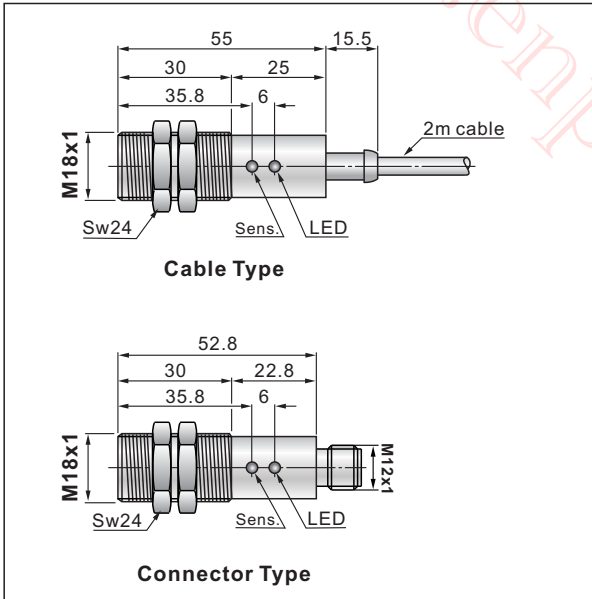


**AC/DC type Sensor**

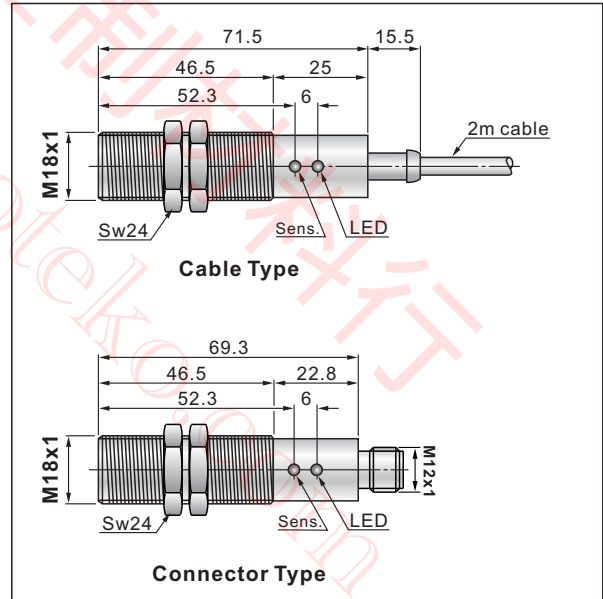


### Brass Housing Type Sensor

**DC type Sensor**

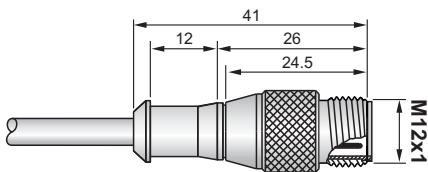


**AC/DC type Sensor**



G: EM18 SERIES

### Pigtail\* Type

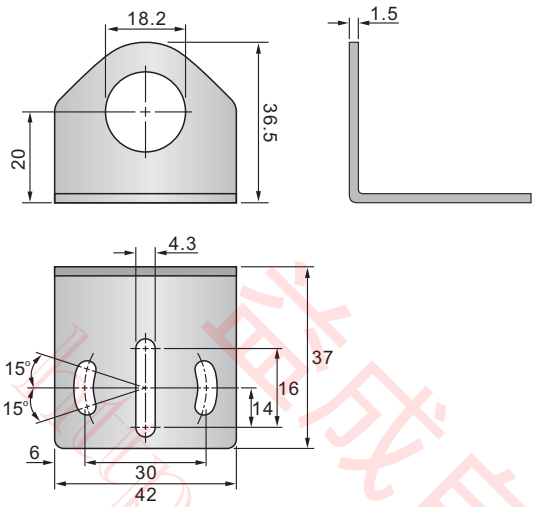


\*: Please see **Pigtail Series** or our **Cables & Connectors** catalogue for more information.

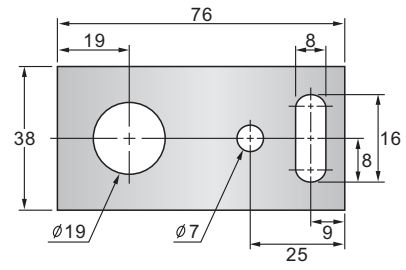
# EM18 SERIES

## Mounting Bracket's \* Dimensions (Unit: mm)

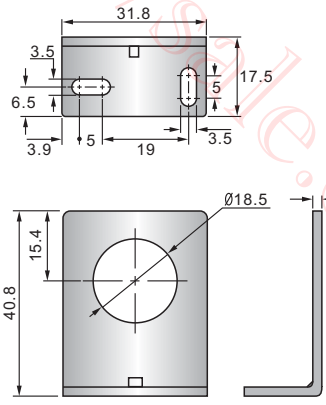
**MB-4237 (optional)**



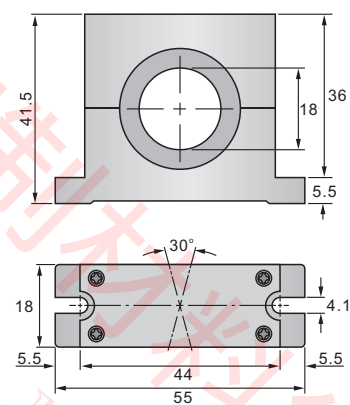
**MB-7638 (optional)**



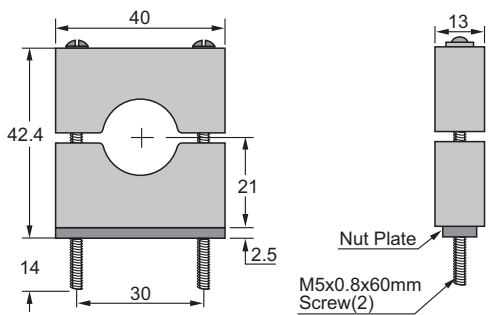
**MB-4032 (optional)**



**MB-5542 (optional)**

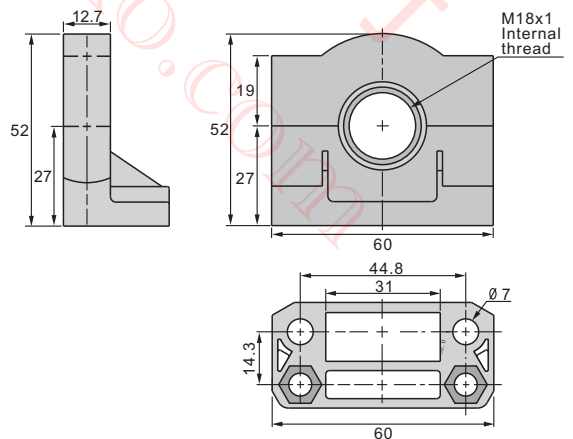


**MB-4240 (optional)**



18mm split clamp bracket  
Black reinforced thermoplastic polyester

**MB-6052 (optional)**



Mounting Bracket to Provide 360° Rotation



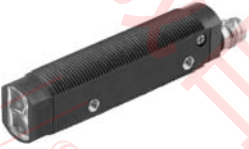



\*: Please see **Accessories** (Universal Mounting Brackets Series).

G: EM18 SERIES



# FM18 SERIES

## Opposed Mode (Standard Range)





Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number	
<p>Light Source : Infrared 880nm</p>  <p>Opposed Mode Sensing Distance:3m</p>	2m Cable	10-30V DC	Emitter	<u>FM18-T3000D-EX9C3L2</u>	
			10-30V DC	NPN	<u>FM18-T3000N-CX9C4U2</u>
				PNP	<u>FM18-T3000P-CX9C4U2</u>
				NPN/PNP	<u>FM18-T3000D-CX9C4U2</u>
		M8(Pico-style) 4pins connector		10-30V DC	Emitter
		10-30V DC	NPN		<u>FM18-T3000N-CX9Q4UP</u>
			PNP		<u>FM18-T3000P-CX9Q4UP</u>
			NPN/PNP		<u>FM18-T3000D-CX9Q4UP</u>
			M12(Euro-style) 4pins connector	10-30V DC	Emitter
		10-30V DC	NPN		<u>FM18-T3000N-CX9Q4UE</u>
			PNP		<u>FM18-T3000P-CX9Q4UE</u>
			NPN/PNP		<u>FM18-T3000D-CX9Q4UE</u>
			M8(Pico-style) 4pins pigtail (6")	10-30V DC	Emitter
		10-30V DC	NPN		<u>FM18-T3000N-CX9P4UP</u>
			PNP		<u>FM18-T3000P-CX9P4UP</u>
			NPN/PNP		<u>FM18-T3000D-CX9P4UP</u>
M12 (Euro-style) 4pins pigtail (6")			10-30V DC	Emitter	<u>FM18-T3000D-EX9P4LE</u>
	10-30V DC	NPN		<u>FM18-T3000N-CX9P4UE</u>	
		PNP		<u>FM18-T3000P-CX9P4UE</u>	
		NPN/PNP		<u>FM18-T3000D-CX9P4UE</u>	

Note:  
 Coming Soon : Part numbers with underline  
 In Preparation: Part numbers with a line through the middle  
 — H-01 —

H: FM18 SERIES

# FM18 SERIES

## Opposed Mode (Standard Range)



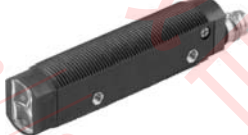



Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
<p>Light Source : Infrared 880nm</p>  <p>Opposed Mode Sensing Distance: 3m</p>	<p>2m Cable</p> 	24~240V AC	Emitter (2-wire)	<u>FM18-T3000A-EX9C2L2</u>
			SPST Solid-state Light-ON (3-wire)	<u>FM18-T3000A-LX9C3U2</u>
			SPST Solid-state Dark-ON (3-wire)	<u>FM18-T3000A-DX9C3U2</u>
		12~240V DC/ 24~240V AC	Emitter (2-wire)	<u>FM18-T3000G-EX9C2L2</u>
			SPST Solid-state Light-ON (2-wire)	<u>FM18-T3000G-LX9C2U2</u>
			SPST Solid-state Dark-ON (2-wire)	<u>FM18-T3000G-DX9C2U2</u>
	<p>Micro Style 3 Pins QD</p> 	24~240V AC	Emitter (2-wire)	<u>FM18-T3000A-EX9Q3LM</u>
			SPST Solid-state Light-ON (3-wire)	<u>FM18-T3000A-LX9Q3UM</u>
			SPST Solid-state Dark-ON (3-wire)	<u>FM18-T3000A-DX9Q3UM</u>
		12~240V DC/ 24~240V AC	Emitter (2-wire)	<u>FM18-T3000G-EX9Q3LM</u>
			SPST Solid-state Light-ON (2-wire)	<u>FM18-T3000G-LX9Q3UM</u>
			SPST Solid-state Dark-ON (2-wire)	<u>FM18-T3000G-DX9Q3UM</u>
<p>Micro Style 3 Pins 6" Pigtail</p> 	24~240V AC	Emitter (2-wire)	<u>FM18-T3000A-EX9P3LM</u>	
		SPST Solid-state Light-ON (3-wire)	<u>FM18-T3000A-LX9P3UM</u>	
		SPST Solid-state Dark-ON (3-wire)	<u>FM18-T3000A-DX9P3UM</u>	
	12~240V DC/ 24~240V AC	Emitter (2-wire)	<u>FM18-T3000G-EX9P3LM</u>	
		SPST Solid-state Light-ON (2-wire)	<u>FM18-T3000G-LX9P3UM</u>	
		SPST Solid-state Dark-ON (2-wire)	<u>FM18-T3000G-DX9P3UM</u>	

Note:  
 Coming Soon : Part numbers with underline  
 In Preparation: Part numbers with a line through the middle  
 — H-02 —

H: FM18 SERIES

# FM18 SERIES

## Opposed Mode (Long Range)





Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
<p>Light Source: infrared 880nm</p>  <p>Opposed Mode Sensing Distance:30m</p>	<p>2m Cable</p> 	<p>10-30V DC</p>	Emitter	<u>FM18-T030MD-EX9C3L2</u>
			NPN	<u>FM18-T030MN-GX9C4U2</u>
			PNP	<u>FM18-T030MP-GX9C4U2</u>
			NPN/PNP	<u>FM18-T030MD-GX9C4U2</u>
	<p>M8(Pico-style) 4pins connector</p> 	<p>10-30V DC</p>	Emitter	<u>FM18-T030MD-EX9Q4LP</u>
			NPN	<u>FM18-T030MN-GX9Q4UP</u>
			PNP	<u>FM18-T030MP-GX9Q4UP</u>
			NPN/PNP	<u>FM18-T030MD-GX9Q4UP</u>
	<p>M12(Euro-style) 4pins connector</p> 	<p>10-30V DC</p>	Emitter	<u>FM18-T030MD-EX9Q4LE</u>
			NPN	<u>FM18-T030MN-GX9Q4UE</u>
			PNP	<u>FM18-T030MP-GX9Q4UE</u>
			NPN/PNP	<u>FM18-T030MD-GX9Q4UE</u>
	<p>M8(Pico-style) 4pins pigtail (6")</p> 	<p>10-30V DC</p>	Emitter	<u>FM18-T030MD-EX9P4LP</u>
			NPN	<u>FM18-T030MN-GX9P4UP</u>
			PNP	<u>FM18-T030MP-GX9P4UP</u>
			NPN/PNP	<u>FM18-T030MD-GX9P4UP</u>
<p>M12 (Euro-style) 4pins pigtail (6")</p> 	<p>10-30V DC</p>	Emitter	<u>FM18-T030MD-EX9P4LE</u>	
		NPN	<u>FM18-T030MN-GX9P4UE</u>	
		PNP	<u>FM18-T030MP-GX9P4UE</u>	
		NPN/PNP	<u>FM18-T030MD-GX9P4UE</u>	

Note:  
 Coming Soon : Part numbers with underline  
 In Preparation: Part numbers with a line through the middle  
 — H-03 —

H: FM18 SERIES

# FM18 SERIES

## Opposed Mode (Long Range)



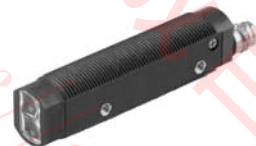



Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
<p>Light Source : Infrared 880nm</p>  <p>Opposed Mode Sensing Distance: 30m</p>	<p>2m Cable</p> 	24~240V AC	Emitter (2-wire)	<u>FM18-T030MA-EX9C2L2</u>
			SPST Solid-state Light-ON (3-wire)	<u>FM18-T030MA-LX9C3U2</u>
			SPST Solid-state Dark-ON (3-wire)	<u>FM18-T030MA-DX9C3U2</u>
		12~240V DC/ 24~240V AC	Emitter (2-wire)	<u>FM18-T030MC-EX9C2L2</u>
			SPST Solid-state Light-ON (2-wire)	<u>FM18-T030MC-LX9C2U2</u>
			SPST Solid-state Dark-ON (2-wire)	<u>FM18-T030MC-DX9C2U2</u>
	<p>Micro Style 3 Pins QD</p> 	24~240V AC	Emitter (2-wire)	<u>FM18-T030MA-EX9Q3LM</u>
			SPST Solid-state Light-ON (3-wire)	<u>FM18-T030MA-LX9Q3UM</u>
			SPST Solid-state Dark-ON (3-wire)	<u>FM18-T030MA-DX9Q3UM</u>
		12~240V DC/ 24~240V AC	Emitter (2-wire)	<u>FM18-T030MC-EX9Q3LM</u>
			SPST Solid-state Light-ON (2-wire)	<u>FM18-T030MC-LX9Q3UM</u>
			SPST Solid-state Dark-ON (2-wire)	<u>FM18-T030MC-DX9Q3UM</u>
<p>Micro Style 3 Pins 6" Pigtail</p> 	24~240V AC	Emitter (2-wire)	<u>FM18-T030MA-EX9P3LM</u>	
		SPST Solid-state Light-ON (3-wire)	<u>FM18-T030MA-LX9P3UM</u>	
		SPST Solid-state Dark-ON (3-wire)	<u>FM18-T030MA-DX9P3UM</u>	
	12~240V DC/ 24~240V AC	Emitter (2-wire)	<u>FM18-T030MC-EX9P3LM</u>	
		SPST Solid-state Light-ON (2-wire)	<u>FM18-T030MC-LX9P3UM</u>	
		SPST Solid-state Dark-ON (2-wire)	<u>FM18-T030MC-DX9P3UM</u>	

Note:  
 Coming Soon : Part numbers with underline  
 In Preparation: Part numbers with a line through the middle  
 — H-04 —

H: FM18 SERIES

# FM18 SERIES

## Opposed Mode (For plastic detection)






Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
<p>Light Source : red light 650nm For plastic detection</p>  <p>Opposed Mode Sensing Distance:300mm</p>	<p>2m Cable</p> 	10-30V DC	Emitter	<u>FM18-T0300D-EX6C3L2-PD</u>
			NPN	<u>FM18-T0300N-CX6C4U2-PD</u>
			PNP	<u>FM18-T0300P-CX6C4U2-PD</u>
			NPN/PNP	<u>FM18-T0300D-CX6C4U2-PD</u>
	<p>M8(Pico-style) 4pins connector</p> 	10-30V DC	Emitter	<u>FM18-T0300D-EX6Q4LP-PD</u>
			NPN	<u>FM18-T0300N-CX6Q4UP-PD</u>
			PNP	<u>FM18-T0300P-CX6Q4UP-PD</u>
			NPN/PNP	<u>FM18-T0300D-CX6Q4UP-PD</u>
	<p>M12(Euro-style) 4pins connector</p> 	10-30V DC	Emitter	<u>FM18-T0300D-EX6Q4LE-PD</u>
			NPN	<u>FM18-T0300N-CX6Q4UE-PD</u>
			PNP	<u>FM18-T0300P-CX6Q4UE-PD</u>
			NPN/PNP	<u>FM18-T0300D-CX6Q4UE-PD</u>
	<p>M8(Pico-style) 4pins pigtail (6")</p> 	10-30V DC	Emitter	<u>FM18-T0300D-EX6P4LP-PD</u>
			NPN	<u>FM18-T0300N-CX6P4UP-PD</u>
			PNP	<u>FM18-T0300P-CX6P4UP-PD</u>
			NPN/PNP	<u>FM18-T0300D-CX6P4UP-PD</u>
<p>M12 (Euro-style) 4pins pigtail (6")</p> 	10-30V DC	Emitter	<u>FM18-T0300D-EX6P4LE-PD</u>	
		NPN	<u>FM18-T0300N-CX6P4UE-PD</u>	
		PNP	<u>FM18-T0300P-CX6P4UE-PD</u>	
		NPN/PNP	<u>FM18-T0300D-CX6P4UE-PD</u>	

Note:  
 Coming Soon : Part numbers with underline  
 In Preparation: Part numbers with a line through the middle  
 — H-05 —

H: FM18 SERIES

# FM18 SERIES

## Opposed Mode (For plastic detection)

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
<p>Light Source : red light 650nm For plastic detection</p>  <p>↑</p>  <p>Opposed Mode Sensing Distance: 300mm</p>	<p>2m Cable</p> 	24~240V AC	Emitter (2-wire)	<u>FM18-T0300A-EX6C2L2-PD</u>
			SPST Solid-state Light-ON (3-wire)	<u>FM18-T0300A-LX6C3U2-PD</u>
			SPST Solid-state Dark-ON (3-wire)	<u>FM18-T0300A-DX6C3U2-PD</u>
		12~240V DC/ 24~240V AC	Emitter (2-wire)	<u>FM18-T0300C-EX6C2L2-PD</u>
			SPST Solid-state Light-ON (2-wire)	<u>FM18-T0300C-LX6C2U2-PD</u>
			SPST Solid-state Dark-ON (2-wire)	<u>FM18-T0300C-DX6C2U2-PD</u>
	<p>Micro Style 3 Pins QD</p> 	24~240V AC	Emitter (2-wire)	<u>FM18-T0300A-EX6Q3LM-PD</u>
			SPST Solid-state Light-ON (3-wire)	<u>FM18-T0300A-LX6Q3UM-PD</u>
			SPST Solid-state Dark-ON (3-wire)	<u>FM18-T0300A-DX6Q3UM-PD</u>
		12~240V DC/ 24~240V AC	Emitter (2-wire)	<u>FM18-T0300C-EX6Q3LM-PD</u>
			SPST Solid-state Light-ON (2-wire)	<u>FM18-T0300C-LX6Q3UM-PD</u>
			SPST Solid-state Dark-ON (2-wire)	<u>FM18-T0300C-DX6Q3UM-PD</u>
<p>Micro Style 3 Pins 6" Pigtail</p> 	24~240V AC	Emitter (2-wire)	<u>FM18-T0300A-EX6P3LM-PD</u>	
		SPST Solid-state Light-ON (3-wire)	<u>FM18-T0300A-LX6P3UM-PD</u>	
		SPST Solid-state Dark-ON (3-wire)	<u>FM18-T0300A-DX6P3UM-PD</u>	
	12~240V DC/ 24~240V AC	Emitter (2-wire)	<u>FM18-T0300C-EX6P3LM-PD</u>	
		SPST Solid-state Light-ON (2-wire)	<u>FM18-T0300C-LX6P3UM-PD</u>	
		SPST Solid-state Dark-ON (2-wire)	<u>FM18-T0300C-DX6P3UM-PD</u>	

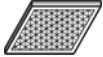

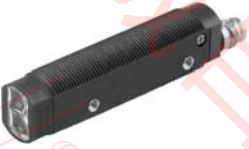



Note:  
 Coming Soon : Part numbers with underline  
 In Preparation: Part numbers with a line through the middle  
 — H-06 —

H: FM18 SERIES



# FM18 SERIES

## Retroreflective Mode



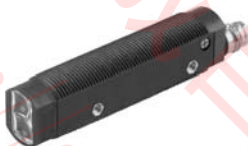



Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
<p><b>Light Source:</b> Red light 650nm</p>  <p><b>Retro-reflective Mode</b> Sensing Distance: 5m (Note)</p>	<p>2m Cable</p> 	10-30V DC	NPN	<u>FM18-L5000N-CX6C4U2</u>
			PNP	<u>FM18-L5000P-CX6C4U2</u>
			NPN/PNP	FM18-L5000D-CX6C4U2
		24~240V AC	SPST Solid-state Light-ON (3-wire)	<u>FM18-L5000A-LX6G3U2</u>
			SPST Solid-state Dark-ON (3-wire)	FM18-L5000A-DX6G3U2
		12~240V DC/ 24~240V AC	SPST Solid-state Light-ON (2-wire)	<u>FM18-L5000C-LX6G2U2</u>
			SPST Solid-state Dark-ON (2-wire)	FM18-L5000C-DX6G2U2
		<p>M8(Pico-style) 4pins connector</p> 	10-30V DC	NPN
	PNP			<u>FM18-L5000P-CX6Q4UP</u>
	NPN/PNP			FM18-L5000D-CX6Q4UP
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	<p>M12 Quick Disconnect</p> 	10-30V DC (Euro-style)	NPN	<u>FM18-L5000N-CX6Q4UE</u>
			PNP	<u>FM18-L5000P-CX6Q4UE</u>
			NPN/PNP	FM18-L5000D-CX6Q4UE
		24~240V AC (Micro-style)	SPST Solid-state Light-ON (3-wire)	<u>FM18-L5000A-LX6Q3UM</u>
			SPST Solid-state Dark-ON (3-wire)	FM18-L5000A-DX6Q3UM
		12~240V DC/ 24~240V AC (Micro-style)	SPST Solid-state Light-ON (2-wire)	<u>FM18-L5000C-LX6Q3UM</u>
			SPST Solid-state Dark-ON (2-wire)	FM18-L5000C-DX6Q3UM
<p>M8(Pico-style) 4pins pigtail(6")</p> 		10-30V DC	NPN	<u>FM18-L5000N-CX6P4UP</u>
	PNP		<u>FM18-L5000P-CX6P4UP</u>	
	NPN/PNP		FM18-L5000D-CX6P4UP	
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<p>M12 Pigtail (6")</p> 	10-30V DC (Euro-style)	NPN	<u>FM18-L5000N-CX6P4UE</u>	
		PNP	<u>FM18-L5000P-CX6P4UE</u>	
		NPN/PNP	FM18-L5000D-CX6P4UE	
	24~240V AC (Micro-style)	SPST Solid-state Light-ON (3-wire)	<u>FM18-L5000A-LX6P3UM</u>	
		SPST Solid-state Dark-ON (3-wire)	FM18-L5000A-DX6P3UM	
	12~240V DC/ 24~240V AC (Micro-style)	SPST Solid-state Light-ON (2-wire)	<u>FM18-L5000C-LX6P3UM</u>	
SPST Solid-state Dark-ON (2-wire)		FM18-L5000C-DX6P3UM		

Note: Used with RE-6152 (supplied with sensor) reflector.  
 Coming Soon : Part numbers with underline  
 In Preparation: Part numbers with a line through the middle



# FM18 SERIES

## Retroreflective Mode with Polarizing Filter




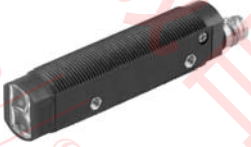



Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number	
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Light Source: red light 650nm</p>  <p style="writing-mode: vertical-rl; transform: rotate(180deg);">Retro-reflective Mode with Polarizing Filter Sensing Distance: 2m (Note)</p>	<p>2m Cable</p> 	10-30V DC	NPN	<b>FM18-L2000N-CX6C4U2-PF</b>	
			PNP	<b>FM18-L2000P-CX6C4U2-PF</b>	
			NPN/PNP	<b>FM18-L2000D-CX6C4U2-PF</b>	
		24~240V AC	SPST Solid-state Light-ON (3-wire)	<b>FM18-L2000A-LX6C3U2-PF</b>	
			SPST Solid-state Dark-ON (3-wire)	<b>FM18-L2000A-DX6C3U2-PF</b>	
		12~240V DC/ 24~240V AC	SPST Solid-state Light-ON (2-wire)	<b>FM18-L2000G-LX6C2U2-PF</b>	
			SPST Solid-state Dark-ON (2-wire)	<b>FM18-L2000G-DX6C2U2-PF</b>	
		<p>M8(Pico-style) 4pins connector</p> 	10-30V DC	NPN	<b>FM18-L2000N-CX6Q4UP-PF</b>
				PNP	<b>FM18-L2000P-CX6Q4UP-PF</b>
				NPN/PNP	<b>FM18-L2000D-CX6Q4UP-PF</b>
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	<p>M12 Quick Disconnect</p> 		10-30V DC (Euro-style)	NPN	<b>FM18-L2000N-CX6Q4UE-PF</b>
				PNP	<b>FM18-L2000P-CX6Q4UE-PF</b>
				NPN/PNP	<b>FM18-L2000D-CX6Q4UE-PF</b>
		24~240V AC (Micro-style)	SPST Solid-state Light-ON (3-wire)	<b>FM18-L2000A-LX6Q3UM-PF</b>	
			SPST Solid-state Dark-ON (3-wire)	<b>FM18-L2000A-DX6Q3UM-PF</b>	
		12~240V DC/ 24~240V AC (Micro-style)	SPST Solid-state Light-ON (2-wire)	<b>FM18-L2000G-LX6Q3UM-PF</b>	
	SPST Solid-state Dark-ON (2-wire)		<b>FM18-L2000G-DX6Q3UM-PF</b>		
	<p>M8(Pico-style) 4pins pigtail (6")</p> 	10-30V DC	NPN	<b>FM18-L2000N-CX6P4UP-PF</b>	
			PNP	<b>FM18-L2000P-CX6P4UP-PF</b>	
			NPN/PNP	<b>FM18-L2000D-CX6P4UP-PF</b>	
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<p>M12 Pigtail (6")</p> 		10-30V DC (Euro-style)	NPN	<b>FM18-L2000N-CX6P4UE-PF</b>	
			PNP	<b>FM18-L2000P-CX6P4UE-PF</b>	
			NPN/PNP	<b>FM18-L2000D-CX6P4UE-PF</b>	
	24~240V AC (Micro-style)	SPST Solid-state Light-ON (3-wire)	<b>FM18-L2000A-LX6P3UM-PF</b>		
		SPST Solid-state Dark-ON (3-wire)	<b>FM18-L2000A-DX6P3UM-PF</b>		
	12~240V DC/ 24~240V AC (Micro-style)	SPST Solid-state Light-ON (2-wire)	<b>FM18-L2000G-LX6P3UM-PF</b>		
SPST Solid-state Dark-ON (2-wire)		<b>FM18-L2000G-DX6P3UM-PF</b>			

Note: Used with RE-6152 (supplied with sensor) reflector.  
 Coming Soon : Part numbers with underline  
 In Preparation: Part numbers with a line through the middle

H : FM18 SERIES

# FM18 SERIES



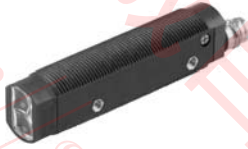



## Diffuse Mode (Sensing Distance=380mm)

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number	
<b>Light Source:</b> infrared 880nm    <b>Diffuse Mode</b> Sensing Distance: 380mm  	<b>2m Cable</b>  	10-30V DC	NPN	<u>FM18-D0380N-CX9C4U2</u>	
			PNP	<u>FM18-D0380P-CX9C4U2</u>	
			NPN/PNP	<u>FM18-D0380D-CX9C4U2</u>	
		24~240V AC	SPST Solid-state Light-ON (3-wire)	<u>FM18-D0380A-LX9C3U2</u>	
			SPST Solid-state Dark-ON (3-wire)	<u>FM18-D0380A-DX9C3U2</u>	
		12~240V DC/ 24~240V AC	SPST Solid-state Light-ON (2-wire)	<u>FM18-D0380C-LX9C2U2</u>	
			SPST Solid-state Dark-ON (2-wire)	<u>FM18-D0380C-DX9C2U2</u>	
		<b>M8(Pico-style) 4pins connector</b>  	10-30V DC	NPN	<u>FM18-D0380N-CX9Q4UP</u>
				PNP	<u>FM18-D0380P-CX9Q4UP</u>
	NPN/PNP			<u>FM18-D0380D-CX9Q4UP</u>	
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<b>M12 Quick Disconnect</b>  	10-30V DC (Euro-style)	NPN	<u>FM18-D0380N-CX9Q4UE</u>		
		PNP	<u>FM18-D0380P-CX9Q4UE</u>		
		NPN/PNP	<u>FM18-D0380D-CX9Q4UE</u>		
	24~240V AC (Micro-style)	SPST Solid-state Light-ON (3-wire)	<u>FM18-D0380A-LX9Q3UM</u>		
		SPST Solid-state Dark-ON (3-wire)	<u>FM18-D0380A-DX9Q3UM</u>		
	12~240V DC/ 24~240V AC (Micro-style)	SPST Solid-state Light-ON (2-wire)	<u>FM18-D0380C-LX9Q3UM</u>		
SPST Solid-state Dark-ON (2-wire)		<u>FM18-D0380C-DX9Q3UM</u>			
<b>M8(Pico-style) 4pins pigtail(6")</b>  	10-30V DC	NPN	<u>FM18-D0380N-CX9P4UP</u>		
		PNP	<u>FM18-D0380P-CX9P4UP</u>		
		NPN/PNP	<u>FM18-D0380D-CX9P4UP</u>		
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<b>M12 Pigtail (6")</b>  	10-30V DC (Euro-style)	NPN	<u>FM18-D0380N-CX9P4UE</u>		
		PNP	<u>FM18-D0380P-CX9P4UE</u>		
		NPN/PNP	<u>FM18-D0380D-CX9P4UE</u>		
	24~240V AC (Micro-style)	SPST Solid-state Light-ON (3-wire)	<u>FM18-D0380A-LX9P3UM</u>		
		SPST Solid-state Dark-ON (3-wire)	<u>FM18-D0380A-DX9P3UM</u>		
	12~240V DC/ 24~240V AC (Micro-style)	SPST Solid-state Light-ON (2-wire)	<u>FM18-D0380C-LX9P3UM</u>		
SPST Solid-state Dark-ON (2-wire)		<u>FM18-D0380C-DX9P3UM</u>			

Note:  
 Coming Soon : Part numbers with underline  
 In Preparation: Part numbers with a line through the middle

# FM18 SERIES

## Diffuse Mode (Sensing Distance=300mm)

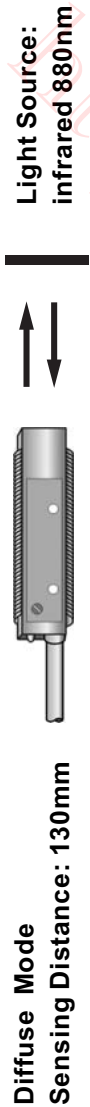

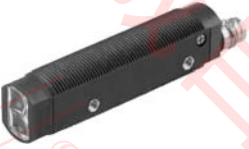



Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
Light Source: infrared 880nm    Diffuse Mode Sensing Distance: 300mm	2m Cable  	10-30V DC	NPN	<u>FM18-D0300N-CX9C4U2</u>
			PNP	<u>FM18-D0300P-CX9C4U2</u>
			NPN/PNP	<u>FM18-D0300D-CX9C4U2</u>
		24~240V AC	SPST Solid-state Light-ON (3-wire)	<u>FM18-D0300A-LX9C3U2</u>
			SPST Solid-state Dark-ON (3-wire)	<u>FM18-D0300A-DX9C3U2</u>
			SPST Solid-state Light-ON (2-wire)	<u>FM18-D0300C-LX9C2U2</u>
	12~240V DC/ 24~240V AC	SPST Solid-state Light-ON (2-wire)	<u>FM18-D0300C-LX9C2U2</u>	
		SPST Solid-state Dark-ON (2-wire)	<u>FM18-D0300C-DX9C2U2</u>	
		SPST Solid-state Dark-ON (2-wire)	<u>FM18-D0300C-DX9C2U2</u>	
	M8(Pico-style) 4pins connector  	10-30V DC	NPN	<u>FM18-D0300N-CX9Q4UP</u>
			PNP	<u>FM18-D0300P-CX9Q4UP</u>
			NPN/PNP	<u>FM18-D0300D-CX9Q4UP</u>
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M12 Quick Disconnect  	10-30V DC (Euro-style)	NPN	<u>FM18-D0300N-CX9Q4UE</u>	
		PNP	<u>FM18-D0300P-CX9Q4UE</u>	
		NPN/PNP	<u>FM18-D0300D-CX9Q4UE</u>	
	24~240V AC (Micro-style)	SPST Solid-state Light-ON (3-wire)	<u>FM18-D0300A-LX9Q3UM</u>	
		SPST Solid-state Dark-ON (3-wire)	<u>FM18-D0300A-DX9Q3UM</u>	
	12~240V DC/ 24~240V AC (Micro-style)	SPST Solid-state Light-ON (2-wire)	<u>FM18-D0300C-LX9Q3UM</u>	
SPST Solid-state Dark-ON (2-wire)		<u>FM18-D0300C-DX9Q3UM</u>		
M8(Pico-style) 4pins pigtail(6")  	10-30V DC	NPN	<u>FM18-D0300N-CX9P4UP</u>	
		PNP	<u>FM18-D0300P-CX9P4UP</u>	
		NPN/PNP	<u>FM18-D0300D-CX9P4UP</u>	
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M12 Pigtail (6")  	10-30V DC (Euro-style)	NPN	<u>FM18-D0300N-CX9P4UE</u>	
		PNP	<u>FM18-D0300P-CX9P4UE</u>	
		NPN/PNP	<u>FM18-D0300D-CX9P4UE</u>	
	24~240V AC (Micro-style)	SPST Solid-state Light-ON (3-wire)	<u>FM18-D0300A-LX9P3UM</u>	
		SPST Solid-state Dark-ON (3-wire)	<u>FM18-D0300A-DX9P3UM</u>	
	12~240V DC/ 24~240V AC (Micro-style)	SPST Solid-state Light-ON (2-wire)	<u>FM18-D0300C-LX9P3UM</u>	
SPST Solid-state Dark-ON (2-wire)		<u>FM18-D0300C-DX9P3UM</u>		

Note:  
 Coming Soon : Part numbers with underline  
 In Preparation: Part numbers with a line through the middle  
 — H-10 —

H : FM18 SERIES

# FM18 SERIES





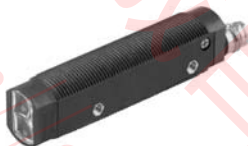



## Diffuse Mode (Sensing Distance=130mm)

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number	
<p>Light Source: infrared 880nm</p>  <p>Diffuse Mode Sensing Distance: 130mm</p>	<p>2m Cable</p> 	10-30V DC	NPN	<u>FM18-D0130N-CX9C4U2</u>	
			PNP	<u>FM18-D0130P-CX9C4U2</u>	
			NPN/PNP	<u>FM18-D0130D-CX9C4U2</u>	
		24~240V AC	SPST Solid-state Light-ON (3-wire)	<u>FM18-D0130A-LX9C3U2</u>	
			SPST Solid-state Dark-ON (3-wire)	<u>FM18-D0130A-DX9C3U2</u>	
			12~240V DC/ 24~240V AC	SPST Solid-state Light-ON (2-wire)	<u>FM18-D0130C-LX9C2U2</u>
				SPST Solid-state Dark-ON (2-wire)	<u>FM18-D0130C-DX9C2U2</u>
		<p>M8(Pico-style) 4pins connector</p> 	10-30V DC	NPN	<u>FM18-D0130N-CX9Q4UP</u>
				PNP	<u>FM18-D0130P-CX9Q4UP</u>
	NPN/PNP			<u>FM18-D0130D-CX9Q4UP</u>	
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	<p>M12 Quick Disconnect</p> 		10-30V DC (Euro-style)	NPN	<u>FM18-D0130N-CX9Q4UE</u>
				PNP	<u>FM18-D0130P-CX9Q4UE</u>
				NPN/PNP	<u>FM18-D0130D-CX9Q4UE</u>
		24~240V AC (Micro-style)	SPST Solid-state Light-ON (3-wire)	<u>FM18-D0130A-LX9Q3UM</u>	
			SPST Solid-state Dark-ON (3-wire)	<u>FM18-D0130A-DX9Q3UM</u>	
		12~240V DC/ 24~240V AC (Micro-style)	SPST Solid-state Light-ON (2-wire)	<u>FM18-D0130C-LX9Q3UM</u>	
			SPST Solid-state Dark-ON (2-wire)	<u>FM18-D0130C-DX9Q3UM</u>	
		<p>M8(Pico-style) 4pins pigtail(6")</p> 	10-30V DC	NPN	<u>FM18-D0130N-CX9P4UP</u>
				PNP	<u>FM18-D0130P-CX9P4UP</u>
	NPN/PNP			<u>FM18-D0130D-CX9P4UP</u>	
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<p>M12 Pigtail (6")</p> 	10-30V DC (Euro-style)		NPN	<u>FM18-D0130N-CX9P4UE</u>	
			PNP	<u>FM18-D0130P-CX9P4UE</u>	
			NPN/PNP	<u>FM18-D0130D-CX9P4UE</u>	
	24~240V AC (Micro-style)		SPST Solid-state Light-ON (3-wire)	<u>FM18-D0130A-LX9P3UM</u>	
		SPST Solid-state Dark-ON (3-wire)	<u>FM18-D0130A-DX9P3UM</u>		
	12~240V DC/ 24~240V AC (Micro-style)	SPST Solid-state Light-ON (2-wire)	<u>FM18-D0130C-LX9P3UM</u>		
		SPST Solid-state Dark-ON (2-wire)	<u>FM18-D0130C-DX9P3UM</u>		

Note:  
 Coming Soon : Part numbers with underline  
 In Preparation: Part numbers with a line through the middle

# FM18 SERIES

## Convergent Mode (Sensing Distance=16mm, Infrared Light)

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
Light Source: Infrared 880nm     Convergent Mode Sensing Distance: 16mm	2m Cable  	10-30V DC	NPN	<u>FM18-C0016N-CX9C4U2</u>
			PNP	<u>FM18-C0016P-CX9C4U2</u>
			NPN/PNP	<u>FM18-C0016D-CX9C4U2</u>
		24~240V AC	SPST Solid-state Light-ON (3-wire)	<u>FM18-C0016A-LX9C3U2</u>
			SPST Solid-state Dark-ON (3-wire)	<u>FM18-C0016A-DX9C3U2</u>
			SPST Solid-state Light-ON (2-wire)	<u>FM18-C0016C-LX9C2U2</u>
	12~240V DC/ 24~240V AC	SPST Solid-state Light-ON (2-wire)	<u>FM18-C0016C-LX9C2U2</u>	
		SPST Solid-state Dark-ON (2-wire)	<u>FM18-C0016C-DX9C2U2</u>	
	M8(Pico-style) 4pins connector  	10-30V DC	NPN	<u>FM18-C0016N-CX9Q4UP</u>
			PNP	<u>FM18-C0016P-CX9Q4UP</u>
			NPN/PNP	<u>FM18-C0016D-CX9Q4UP</u>
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M12 Quick Disconnect  	10-30V DC (Euro-style)	NPN	<u>FM18-C0016N-CX9Q4UE</u>	
		PNP	<u>FM18-C0016P-CX9Q4UE</u>	
		NPN/PNP	<u>FM18-C0016D-CX9Q4UE</u>	
	24~240V AC (Micro-style)	SPST Solid-state Light-ON (3-wire)	<u>FM18-C0016A-LX9Q3UM</u>	
		SPST Solid-state Dark-ON (3-wire)	<u>FM18-C0016A-DX9Q3UM</u>	
	12~240V DC/ 24~240V AC (Micro-style)	SPST Solid-state Light-ON (2-wire)	<u>FM18-C0016C-LX9Q3UM</u>	
SPST Solid-state Dark-ON (2-wire)		<u>FM18-C0016C-DX9Q3UM</u>		
M8(Pico-style) 4pins pigtail(6")  	10-30V DC	NPN	<u>FM18-C0016N-CX9P4UP</u>	
		PNP	<u>FM18-C0016P-CX9P4UP</u>	
		NPN/PNP	<u>FM18-C0016D-CX9P4UP</u>	
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M12 Pigtail (6")  	10-30V DC (Euro-style)	NPN	<u>FM18-C0016N-CX9P4UE</u>	
		PNP	<u>FM18-C0016P-CX9P4UE</u>	
		NPN/PNP	<u>FM18-C0016D-CX9P4UE</u>	
	24~240V AC (Micro-style)	SPST Solid-state Light-ON (3-wire)	<u>FM18-C0016A-LX9P3UM</u>	
		SPST Solid-state Dark-ON (3-wire)	<u>FM18-C0016A-DX9P3UM</u>	
	12~240V DC/ 24~240V AC (Micro-style)	SPST Solid-state Light-ON (2-wire)	<u>FM18-C0016C-LX9P3UM</u>	
SPST Solid-state Dark-ON (2-wire)		<u>FM18-C0016C-DX9P3UM</u>		





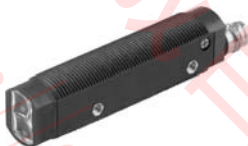



Note:  
 Coming Soon : Part numbers with underline  
 In Preparation: Part numbers with a line through the middle  
 — H-12 —

H : FM18 SERIES



# FM18 SERIES

## Convergent Mode (Sensing Distance=16mm,Red Light)



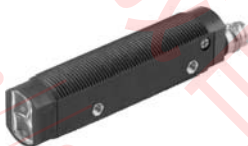



Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
<b>Light Source:</b> Red light 650nm   	2m Cable 	10-30V DC	NPN	<u>FM18-C0016N-CX6C4U2</u>
			PNP	<u>FM18-C0016P-CX6C4U2</u>
			NPN/PNP	<u>FM18-C0016D-CX6C4U2</u>
		24~240V AC	SPST Solid-state Light-ON (3-wire)	<u>FM18-C0016A-LX6C3U2</u>
			SPST Solid-state Dark-ON (3-wire)	<u>FM18-C0016A-DX6C3U2</u>
			SPST Solid-state Light-ON (2-wire)	<u>FM18-C0016C-LX6C2U2</u>
	12~240V DC/ 24~240V AC	SPST Solid-state Light-ON (2-wire)	<u>FM18-C0016C-LX6C2U2</u>	
		SPST Solid-state Dark-ON (2-wire)	<u>FM18-C0016C-DX6C2U2</u>	
		SPST Solid-state Dark-ON (2-wire)	<u>FM18-C0016C-DX6C2U2</u>	
	M8(Pico-style) 4pins connector 	10-30V DC	NPN	<u>FM18-C0016N-CX6Q4UP</u>
			PNP	<u>FM18-C0016P-CX6Q4UP</u>
			NPN/PNP	<u>FM18-C0016D-CX6Q4UP</u>
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M12 Quick Disconnect 	10-30V DC (Euro-style)	NPN	<u>FM18-C0016N-CX6Q4UE</u>	
		PNP	<u>FM18-C0016P-CX6Q4UE</u>	
		NPN/PNP	<u>FM18-C0016D-CX6Q4UE</u>	
	24~240V AC (Micro-style)	SPST Solid-state Light-ON (3-wire)	<u>FM18-C0016A-LX6Q3UM</u>	
		SPST Solid-state Dark-ON (3-wire)	<u>FM18-C0016A-DX6Q3UM</u>	
	12~240V DC/ 24~240V AC (Micro-style)	SPST Solid-state Light-ON (2-wire)	<u>FM18-C0016C-LX6Q3UM</u>	
SPST Solid-state Dark-ON (2-wire)		<u>FM18-C0016C-DX6Q3UM</u>		
M8(Pico-style) 4pins pigtail(6") 	10-30V DC	NPN	<u>FM18-C0016N-CX6P4UP</u>	
		PNP	<u>FM18-C0016P-CX6P4UP</u>	
		NPN/PNP	<u>FM18-C0016D-CX6P4UP</u>	
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M12 Pigtail (6") 	10-30V DC (Euro-style)	NPN	<u>FM18-C0016N-CX6P4UE</u>	
		PNP	<u>FM18-C0016P-CX6P4UE</u>	
		NPN/PNP	<u>FM18-C0016D-CX6P4UE</u>	
	24~240V AC (Micro-style)	SPST Solid-state Light-ON (3-wire)	<u>FM18-C0016A-LX6P3UM</u>	
		SPST Solid-state Dark-ON (3-wire)	<u>FM18-C0016A-DX6P3UM</u>	
	12~240V DC/ 24~240V AC (Micro-style)	SPST Solid-state Light-ON (2-wire)	<u>FM18-C0016C-LX6P3UM</u>	
SPST Solid-state Dark-ON (2-wire)		<u>FM18-C0016C-DX6P3UM</u>		

Note:  
 Coming Soon : Part numbers with underline  
 In Preparation: Part numbers with a line through the middle  
 — H-13 —

H: FM18 SERIES

# FM18 SERIES

## Convergent Mode (Sensing Distance=16mm, Green Light)

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number	
<p><b>Light Source:</b> Green light 525nm</p>  <p><b>Convergent Mode</b> Sensing Distance: 16mm Spot size at focus: 1.0mm</p>	<p>2m Cable</p> 	10-30V DC	NPN	<u>FM18-C0016N-CX5C4U2</u>	
			PNP	<u>FM18-C0016P-CX5C4U2</u>	
			NPN/PNP	<u>FM18-C0016D-CX5C4U2</u>	
		24~240V AC	SPST Solid-state Light-ON (3-wire)	<u>FM18-C0016A-LX5C3U2</u>	
			SPST Solid-state Dark-ON (3-wire)	<u>FM18-C0016A-DX5C3U2</u>	
		12~240V DC/ 24~240V AC	SPST Solid-state Light-ON (2-wire)	<u>FM18-C0016C-LX5C2U2</u>	
			SPST Solid-state Dark-ON (2-wire)	<u>FM18-C0016C-DX5C2U2</u>	
		<p>M8(Pico-style) 4pins connector</p> 	10-30V DC	NPN	<u>FM18-C0016N-CX5Q4UP</u>
				PNP	<u>FM18-C0016P-CX5Q4UP</u>
	NPN/PNP			<u>FM18-C0016D-CX5Q4UP</u>	
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	<p>M12 Quick Disconnect</p> 	10-30V DC (Euro-style)	NPN	<u>FM18-C0016N-CX5Q4UE</u>	
			PNP	<u>FM18-C0016P-CX5Q4UE</u>	
			NPN/PNP	<u>FM18-C0016D-CX5Q4UE</u>	
		24~240V AC (Micro-style)	SPST Solid-state Light-ON (3-wire)	<u>FM18-C0016A-LX5Q3UM</u>	
			SPST Solid-state Dark-ON (3-wire)	<u>FM18-C0016A-DX5Q3UM</u>	
12~240V DC/ 24~240V AC (Micro-style)		SPST Solid-state Light-ON (2-wire)	<u>FM18-C0016C-LX5Q3UM</u>		
		SPST Solid-state Dark-ON (2-wire)	<u>FM18-C0016C-DX5Q3UM</u>		
<p>M8(Pico-style) 4pins pigtail(6")</p> 		10-30V DC	NPN	<u>FM18-C0016N-CX5P4UP</u>	
			PNP	<u>FM18-C0016P-CX5P4UP</u>	
	NPN/PNP		<u>FM18-C0016D-CX5P4UP</u>		
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<p>M12 Pigtail (6")</p> 	10-30V DC (Euro-style)	NPN	<u>FM18-C0016N-CX5P4UE</u>		
		PNP	<u>FM18-C0016P-CX5P4UE</u>		
		NPN/PNP	<u>FM18-C0016D-CX5P4UE</u>		
	24~240V AC (Micro-style)	SPST Solid-state Light-ON (3-wire)	<u>FM18-C0016A-LX5P3UM</u>		
		SPST Solid-state Dark-ON (3-wire)	<u>FM18-C0016A-DX5P3UM</u>		
	12~240V DC/ 24~240V AC (Micro-style)	SPST Solid-state Light-ON (2-wire)	<u>FM18-C0016C-LX5P3UM</u>		
		SPST Solid-state Dark-ON (2-wire)	<u>FM18-C0016C-DX5P3UM</u>		



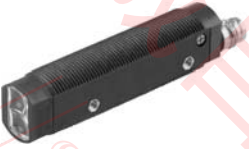



H : FM18 SERIES

**Note:**  
 Coming Soon : Part numbers with underline  
 In Preparation: Part numbers with a line through the middle  
 — H-14 —



# FM18 SERIES

## Convergent Mode (Sensing Distance=43mm, Infrared Light)



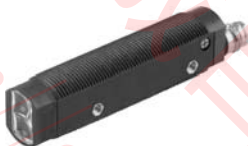



Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number	
<b>Light Source:</b> Infrared 880nm 	<b>2m Cable</b> 	10-30V DC	NPN	<u>FM18-C0043N-CX9C4U2</u>	
			PNP	<u>FM18-C0043P-CX9C4U2</u>	
			NPN/PNP	<u>FM18-C0043D-CX9C4U2</u>	
		24~240V AC	SPST Solid-state Light-ON (3-wire)	<u>FM18-C0043A-LX9C3U2</u>	
			SPST Solid-state Dark-ON (3-wire)	<u>FM18-C0043A-DX9C3U2</u>	
		12~240V DC/ 24~240V AC	SPST Solid-state Light-ON (2-wire)	<u>FM18-C0043C-LX9C2U2</u>	
			SPST Solid-state Dark-ON (2-wire)	<u>FM18-C0043C-DX9C2U2</u>	
		<b>M8(Pico-style) 4pins connector</b> 	10-30V DC	NPN	<u>FM18-C0043N-CX9Q4UP</u>
				PNP	<u>FM18-C0043P-CX9Q4UP</u>
	NPN/PNP			<u>FM18-C0043D-CX9Q4UP</u>	
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<b>M12 Quick Disconnect</b> 	10-30V DC (Euro-style)	NPN	<u>FM18-C0043N-CX9Q4UE</u>		
		PNP	<u>FM18-C0043P-CX9Q4UE</u>		
		NPN/PNP	<u>FM18-C0043D-CX9Q4UE</u>		
	24~240V AC (Micro-style)	SPST Solid-state Light-ON (3-wire)	<u>FM18-C0043A-LX9Q3UM</u>		
		SPST Solid-state Dark-ON (3-wire)	<u>FM18-C0043A-DX9Q3UM</u>		
	12~240V DC/ 24~240V AC (Micro-style)	SPST Solid-state Light-ON (2-wire)	<u>FM18-C0043C-LX9Q3UM</u>		
		SPST Solid-state Dark-ON (2-wire)	<u>FM18-C0043C-DX9Q3UM</u>		
	<b>M8(Pico-style) 4pins pigtail(6")</b> 	10-30V DC	NPN	<u>FM18-C0043N-CX9P4UP</u>	
			PNP	<u>FM18-C0043P-CX9P4UP</u>	
NPN/PNP			<u>FM18-C0043D-CX9P4UP</u>		
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<b>M12 Pigtail (6")</b> 	10-30V DC (Euro-style)	NPN	<u>FM18-C0043N-CX9P4UE</u>		
		PNP	<u>FM18-C0043P-CX9P4UE</u>		
		NPN/PNP	<u>FM18-C0043D-CX9P4UE</u>		
	24~240V AC (Micro-style)	SPST Solid-state Light-ON (3-wire)	<u>FM18-C0043A-LX9P3UM</u>		
		SPST Solid-state Dark-ON (3-wire)	<u>FM18-C0043A-DX9P3UM</u>		
	12~240V DC/ 24~240V AC (Micro-style)	SPST Solid-state Light-ON (2-wire)	<u>FM18-C0043C-LX9P3UM</u>		
		SPST Solid-state Dark-ON (2-wire)	<u>FM18-C0043C-DX9P3UM</u>		

Note:  
 Coming Soon : Part numbers with underline  
 In Preparation: Part numbers with a line through the middle  
 — H-15 —

H: FM18 SERIES

# FM18 SERIES

## Convergent Mode (Sensing Distance=43mm,Red Light)







Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
<b>Light Source:</b> Red light 650nm 	<b>2m Cable</b> 	10-30V DC	NPN	<u>FM18-C0043N-CX6C4U2</u>
			PNP	<u>FM18-C0043P-CX6C4U2</u>
			NPN/PNP	<u>FM18-C0043D-CX6C4U2</u>
		24~240V AC	SPST Solid-state Light-ON (3-wire)	<u>FM18-C0043A-LX6C3U2</u>
			SPST Solid-state Dark-ON (3-wire)	<u>FM18-C0043A-DX6C3U2</u>
			SPST Solid-state Light-ON (2-wire)	<u>FM18-C0043C-LX6C2U2</u>
	12~240V DC/ 24~240V AC	SPST Solid-state Light-ON (2-wire)	<u>FM18-C0043C-LX6C2U2</u>	
		SPST Solid-state Dark-ON (2-wire)	<u>FM18-C0043C-DX6C2U2</u>	
		—	—	
	<b>M8(Pico-style) 4pins connector</b> 	10-30V DC	NPN	<u>FM18-C0043N-CX6Q4UP</u>
			PNP	<u>FM18-C0043P-CX6Q4UP</u>
			NPN/PNP	<u>FM18-C0043D-CX6Q4UP</u>
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<b>M12 Quick Disconnect</b> 	10-30V DC (Euro-style)	NPN	<u>FM18-C0043N-CX6Q4UE</u>	
		PNP	<u>FM18-C0043P-CX6Q4UE</u>	
		NPN/PNP	<u>FM18-C0043D-CX6Q4UE</u>	
	24~240V AC (Micro-style)	SPST Solid-state Light-ON (3-wire)	<u>FM18-C0043A-LX6Q3UM</u>	
		SPST Solid-state Dark-ON (3-wire)	<u>FM18-C0043A-DX6Q3UM</u>	
		SPST Solid-state Light-ON (2-wire)	<u>FM18-C0043C-LX6Q3UM</u>	
12~240V DC/ 24~240V AC (Micro-style)	SPST Solid-state Light-ON (2-wire)	<u>FM18-C0043C-LX6Q3UM</u>		
	SPST Solid-state Dark-ON (2-wire)	<u>FM18-C0043C-DX6Q3UM</u>		
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<b>Convergent Mode</b> Sensing Distance: 43mm Spot size at focus: 1.3mm	<b>M8(Pico-style) 4pins pigtail(6")</b> 	10-30V DC	NPN	<u>FM18-C0043N-CX6P4UP</u>
			PNP	<u>FM18-C0043P-CX6P4UP</u>
			NPN/PNP	<u>FM18-C0043D-CX6P4UP</u>
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<b>M12 Pigtail (6")</b> 	10-30V DC (Euro-style)	NPN	<u>FM18-C0043N-CX6P4UE</u>	
		PNP	<u>FM18-C0043P-CX6P4UE</u>	
		NPN/PNP	<u>FM18-C0043D-CX6P4UE</u>	
	24~240V AC (Micro-style)	SPST Solid-state Light-ON (3-wire)	<u>FM18-C0043A-LX6P3UM</u>	
		SPST Solid-state Dark-ON (3-wire)	<u>FM18-C0043A-DX6P3UM</u>	
		SPST Solid-state Light-ON (2-wire)	<u>FM18-C0043C-LX6P3UM</u>	
12~240V DC/ 24~240V AC (Micro-style)	SPST Solid-state Light-ON (2-wire)	<u>FM18-C0043C-LX6P3UM</u>		
	SPST Solid-state Dark-ON (2-wire)	<u>FM18-C0043C-DX6P3UM</u>		
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**Note:**  
 Coming Soon : Part numbers with underline  
 In Preparation: Part numbers with a line through the middle  
 — H-16 —

H : FM18 SERIES

# FM18 SERIES

## Glass Fiber Optic with Opposed Mode (Infrared Light)







Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number	
<b>Light Source:</b> Infrared 880nm    <b>Glass Fiber Optic Opposed Mode Sensing Distance: (Note)</b>	<b>2m Cable</b>  	10-30V DC	NPN	<b>FM18-TGFN-CX9C4U2</b>	
			PNP	<b>FM18-TGFP-CX9C4U2</b>	
			NPN/PNP	<b>FM18-TGFD-CX9C4U2</b>	
		24~240V AC	SPST Solid-state Light-ON (3-wire)	<b>FM18-TGFA-LX9C3U2</b>	
			SPST Solid-state Dark-ON (3-wire)	<b>FM18-TGFA-DX9C3U2</b>	
		12~240V DC/ 24~240V AC	SPST Solid-state Light-ON (2-wire)	<b>FM18-TGFC-LX9C2U2</b>	
			SPST Solid-state Dark-ON (2-wire)	<b>FM18-TGFC-DX9C2U2</b>	
		<b>M8(Pico-style) 4pins connector</b>  	10-30V DC	NPN	<b>FM18-TGFN-CX9Q4UP</b>
				PNP	<b>FM18-TGFP-CX9Q4UP</b>
				NPN/PNP	<b>FM18-TGFD-CX9Q4UP</b>
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	<b>M12 Quick Disconnect</b>  	10-30V DC (Euro-style)	NPN	<b>FM18-TGFN-CX9Q4UE</b>	
			PNP	<b>FM18-TGFP-CX9Q4UE</b>	
			NPN/PNP	<b>FM18-TGFD-CX9Q4UE</b>	
		24~240V AC (Micro-style)	SPST Solid-state Light-ON (3-wire)	<b>FM18-TGFA-LX9Q3UM</b>	
			SPST Solid-state Dark-ON (3-wire)	<b>FM18-TGFA-DX9Q3UM</b>	
		12~240V DC/ 24~240V AC (Micro-style)	SPST Solid-state Light-ON (2-wire)	<b>FM18-TGFC-LX9Q3UM</b>	
			SPST Solid-state Dark-ON (2-wire)	<b>FM18-TGFC-DX9Q3UM</b>	
		<b>M8(Pico-style) 4pins pigtail(6")</b>  	10-30V DC	NPN	<b>FM18-TGFN-CX9P4UP</b>
				PNP	<b>FM18-TGFP-CX9P4UP</b>
				NPN/PNP	<b>FM18-TGFD-CX9P4UP</b>
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<b>M12 Pigtail (6")</b>  	10-30V DC (Euro-style)	NPN	<b>FM18-TGFN-CX9P4UE</b>		
		PNP	<b>FM18-TGFP-CX9P4UE</b>		
		NPN/PNP	<b>FM18-TGFD-CX9P4UE</b>		
	24~240V AC (Micro-style)	SPST Solid-state Light-ON (3-wire)	<b>FM18-TGFA-LX9P3UM</b>		
		SPST Solid-state Dark-ON (3-wire)	<b>FM18-TGFA-DX9P3UM</b>		
	12~240V DC/ 24~240V AC (Micro-style)	SPST Solid-state Light-ON (2-wire)	<b>FM18-TGFC-LX9P3UM</b>		
		SPST Solid-state Dark-ON (2-wire)	<b>FM18-TGFC-DX9P3UM</b>		

Note: Coming Soon : Part numbers with underline  
 In Preparation: Part numbers with a line through the middle  
 Depends on fiber optic used (Please see our **Glass Fiber & Plastic Fiber** catalogue for detail information).

H: FM18 SERIES

# FM18 SERIES

## Glass Fiber Optic with Opposed Mode (Red Light)

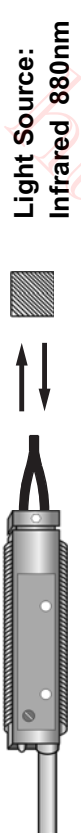





Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
<p>Light Source: Red light 650nm</p>  <p>Glass Fiber Optic Opposed Mode Sensing Distance (Note)</p>	<p>2m Cable</p> 	10-30V DC	NPN	<b>FM18-TGFN-CX6C4U2</b>
			PNP	<b>FM18-TGFP-CX6C4U2</b>
			NPN/PNP	<b>FM18-TGFD-CX6C4U2</b>
		24~240V AC	SPST Solid-state Light-ON (3-wire)	<b>FM18-TGFA-LX6C3U2</b>
			SPST Solid-state Dark-ON (3-wire)	<b>FM18-TGFA-DX6C3U2</b>
		12~240V DC/ 24~240V AC	SPST Solid-state Light-ON (2-wire)	<b>FM18-TGFC-LX6C2U2</b>
			SPST Solid-state Dark-ON (2-wire)	<b>FM18-TGFC-DX6C2U2</b>
		<p>M8(Pico-style) 4pins connector</p> 	10-30V DC	NPN
	PNP			<b>FM18-TGFP-CX6Q4UP</b>
	NPN/PNP			<b>FM18-TGFD-CX6Q4UP</b>
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	<p>M12 Quick Disconnect</p> 	10-30V DC (Euro-style)	NPN	<b>FM18-TGFN-CX6Q4UE</b>
			PNP	<b>FM18-TGFP-CX6Q4UE</b>
			NPN/PNP	<b>FM18-TGFD-CX6Q4UE</b>
		24~240V AC (Micro-style)	SPST Solid-state Light-ON (3-wire)	<b>FM18-TGFA-LX6Q3UM</b>
			SPST Solid-state Dark-ON (3-wire)	<b>FM18-TGFA-DX6Q3UM</b>
12~240V DC/ 24~240V AC (Micro-style)		SPST Solid-state Light-ON (2-wire)	<b>FM18-TGFC-LX6Q3UM</b>	
		SPST Solid-state Dark-ON (2-wire)	<b>FM18-TGFC-DX6Q3UM</b>	
<p>M8(Pico-style) 4pins pigtail(6")</p> 		10-30V DC	NPN	<b>FM18-TGFN-CX6P4UP</b>
	PNP		<b>FM18-TGFP-CX6P4UP</b>	
	NPN/PNP		<b>FM18-TGFD-CX6P4UP</b>	
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<p>M12 Pigtail (6")</p> 	10-30V DC (Euro-style)	NPN	<b>FM18-TGFN-CX6P4UE</b>	
		PNP	<b>FM18-TGFP-CX6P4UE</b>	
		NPN/PNP	<b>FM18-TGFD-CX6P4UE</b>	
	24~240V AC (Micro-style)	SPST Solid-state Light-ON (3-wire)	<b>FM18-TGFA-LX6P3UM</b>	
		SPST Solid-state Dark-ON (3-wire)	<b>FM18-TGFA-DX6P3UM</b>	
	12~240V DC/ 24~240V AC (Micro-style)	SPST Solid-state Light-ON (2-wire)	<b>FM18-TGFC-LX6P3UM</b>	
		SPST Solid-state Dark-ON (2-wire)	<b>FM18-TGFC-DX6P3UM</b>	

H : FM18 SERIES

Note: Coming Soon : Part numbers with underline  
 In Preparation: Part numbers with a line through the middle  
 Depends on fiber optic used (Please see our Glass Fiber & Plastic Fiber catalogue for detail information).  
 — H-18 —

# FM18 SERIES

## Glass Fiber Optic with Diffuse Mode (Infrared Light)

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
<p>Light Source: Infrared 880nm</p>  <p>Glass Fiber Optic Diffuse Mode Sensing Distance (Note)</p>	<p>2m Cable</p> 	10-30V DC	NPN	<b>FM18-DGFN-CX9C4U2</b>
			PNP	<b>FM18-DGFP-CX9C4U2</b>
			NPN/PNP	<b>FM18-DGFD-CX9C4U2</b>
		24~240V AC	SPST Solid-state Light-ON (3-wire)	<b>FM18-DGFA-LX9C3U2</b>
			SPST Solid-state Dark-ON (3-wire)	<b>FM18-DGFA-DX9C3U2</b>
		12~240V DC/ 24~240V AC	SPST Solid-state Light-ON (2-wire)	<b>FM18-DGFC-LX9C2U2</b>
			SPST Solid-state Dark-ON (2-wire)	<b>FM18-DGFC-DX9C2U2</b>
		<p>M8(Pico-style) 4pins connector</p> 	10-30V DC	NPN
	PNP			<b>FM18-DGFP-CX9Q4UP</b>
	NPN/PNP			<b>FM18-DGFD-CX9Q4UP</b>
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	<p>M12 Quick Disconnect</p> 	10-30V DC (Euro-style)	NPN	<b>FM18-DGFN-CX9Q4UE</b>
			PNP	<b>FM18-DGFP-CX9Q4UE</b>
			NPN/PNP	<b>FM18-DGFD-CX9Q4UE</b>
		24~240V AC (Micro-style)	SPST Solid-state Light-ON (3-wire)	<b>FM18-DGFA-LX9Q3UM</b>
			SPST Solid-state Dark-ON (3-wire)	<b>FM18-DGFA-DX9Q3UM</b>
12~240V DC/ 24~240V AC (Micro-style)		SPST Solid-state Light-ON (2-wire)	<b>FM18-DGFC-LX9Q3UM</b>	
		SPST Solid-state Dark-ON (2-wire)	<b>FM18-DGFC-DX9Q3UM</b>	
<p>M8(Pico-style) 4pins pigtail(6")</p> 		10-30V DC	NPN	<b>FM18-DGFN-CX9P4UP</b>
	PNP		<b>FM18-DGFP-CX9P4UP</b>	
	NPN/PNP		<b>FM18-DGFD-CX9P4UP</b>	
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<p>M12 Pigtail (6")</p> 	10-30V DC (Euro-style)	NPN	<b>FM18-DGFN-CX9P4UE</b>	
		PNP	<b>FM18-DGFP-CX9P4UE</b>	
		NPN/PNP	<b>FM18-DGFD-CX9P4UE</b>	
	24~240V AC (Micro-style)	SPST Solid-state Light-ON (3-wire)	<b>FM18-DGFA-LX9P3UM</b>	
		SPST Solid-state Dark-ON (3-wire)	<b>FM18-DGFA-DX9P3UM</b>	
	12~240V DC/ 24~240V AC (Micro-style)	SPST Solid-state Light-ON (2-wire)	<b>FM18-DGFC-LX9P3UM</b>	
		SPST Solid-state Dark-ON (2-wire)	<b>FM18-DGFC-DX9P3UM</b>	







Note: Coming Soon : Part numbers with underline  
 In Preparation: Part numbers with a line through the middle  
 Depends on fiber optic used (Please see our Glass Fiber & Plastic Fiber catalogue for detail information).

H: FM18 SERIES



# FM18 SERIES

## Glass Fiber Optic with Diffuse Mode (Red Light)

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number	
<p>Light Source: Red light 650nm</p>  <p>Glass Fiber Optic Diffuse Mode Sensing Distance (Note)</p>	<p>2m Cable</p> 	10-30V DC	NPN	<b>FM18-DGFN-CX6C4U2</b>	
			PNP	<b>FM18-DGFP-CX6C4U2</b>	
			NPN/PNP	<b>FM18-DGFD-CX6C4U2</b>	
		24~240V AC	SPST Solid-state Light-ON (3-wire)	<b>FM18-DGFA-LX6C3U2</b>	
			SPST Solid-state Dark-ON (3-wire)	<b>FM18-DGFA-DX6C3U2</b>	
		12~240V DC/ 24~240V AC	SPST Solid-state Light-ON (2-wire)	<b>FM18-DGFC-LX6C2U2</b>	
			SPST Solid-state Dark-ON (2-wire)	<b>FM18-DGFC-DX6C2U2</b>	
		<p>M8(Pico-style) 4pins connector</p> 	10-30V DC	NPN	<b>FM18-DGFN-CX6Q4UP</b>
				PNP	<b>FM18-DGFP-CX6Q4UP</b>
				NPN/PNP	<b>FM18-DGFD-CX6Q4UP</b>
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	<p>M12 Quick Disconnect</p> 	10-30V DC (Euro-style)	NPN	<b>FM18-DGFN-CX6Q4UE</b>	
			PNP	<b>FM18-DGFP-CX6Q4UE</b>	
			NPN/PNP	<b>FM18-DGFD-CX6Q4UE</b>	
		24~240V AC (Micro-style)	SPST Solid-state Light-ON (3-wire)	<b>FM18-DGFA-LX6Q3UM</b>	
			SPST Solid-state Dark-ON (3-wire)	<b>FM18-DGFA-DX6Q3UM</b>	
		12~240V DC/ 24~240V AC (Micro-style)	SPST Solid-state Light-ON (2-wire)	<b>FM18-DGFC-LX6Q3UM</b>	
			SPST Solid-state Dark-ON (2-wire)	<b>FM18-DGFC-DX6Q3UM</b>	
		<p>M8(Pico-style) 4pins pigtail(6")</p> 	10-30V DC	NPN	<b>FM18-DGFN-CX6P4UP</b>
				PNP	<b>FM18-DGFP-CX6P4UP</b>
	NPN/PNP			<b>FM18-DGFD-CX6P4UP</b>	
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<p>M12 Pigtail (6")</p> 	10-30V DC (Euro-style)	NPN	<b>FM18-DGFN-CX6P4UE</b>		
		PNP	<b>FM18-DGFP-CX6P4UE</b>		
		NPN/PNP	<b>FM18-DGFD-CX6P4UE</b>		
	24~240V AC (Micro-style)	SPST Solid-state Light-ON (3-wire)	<b>FM18-DGFA-LX6P3UM</b>		
		SPST Solid-state Dark-ON (3-wire)	<b>FM18-DGFA-DX6P3UM</b>		
	12~240V DC/ 24~240V AC (Micro-style)	SPST Solid-state Light-ON (2-wire)	<b>FM18-DGFC-LX6P3UM</b>		
		SPST Solid-state Dark-ON (2-wire)	<b>FM18-DGFC-DX6P3UM</b>		







H : FM18 SERIES

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 — H-20 —



# FM18 SERIES

## Glass Fiber Optic with Retroreflective Mode






Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number	
<p>Light Source: Infrared 880nm</p>  <p>Glass Fiber Optic Retro-reflective Mode Sensing Distance (Note)</p>	<p>2m Cable</p> 	10-30V DC	NPN	<u>FM18-LGFN-CX9C4U2</u>	
			PNP	<u>FM18-LGFP-CX9C4U2</u>	
			NPN/PNP	<u>FM18-LGFD-CX9C4U2</u>	
		24~240V AC	SPST Solid-state Light-ON (3-wire)	<u>FM18-LGFA-LX9C3U2</u>	
			SPST Solid-state Dark-ON (3-wire)	<u>FM18-LGFA-DX9C3U2</u>	
		12~240V DC/ 24~240V AC	SPST Solid-state Light-ON (2-wire)	<u>FM18-LGFC-LX9C2U2</u>	
			SPST Solid-state Dark-ON (2-wire)	<u>FM18-LGFC-DX9C2U2</u>	
		<p>M8(Pico-style) 4pins connector</p> 	10-30V DC	NPN	<u>FM18-LGFN-CX9Q4UP</u>
				PNP	<u>FM18-LGFP-CX9Q4UP</u>
				NPN/PNP	<u>FM18-LGFD-CX9Q4UP</u>
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	<p>M12 Quick Disconnect</p> 	10-30V DC (Euro-style)	NPN	<u>FM18-LGFN-CX9Q4UE</u>	
			PNP	<u>FM18-LGFP-CX9Q4UE</u>	
			NPN/PNP	<u>FM18-LGFD-CX9Q4UE</u>	
		24~240V AC (Micro-style)	SPST Solid-state Light-ON (3-wire)	<u>FM18-LGFA-LX9Q3UM</u>	
			SPST Solid-state Dark-ON (3-wire)	<u>FM18-LGFA-DX9Q3UM</u>	
		12~240V DC/ 24~240V AC (Micro-style)	SPST Solid-state Light-ON (2-wire)	<u>FM18-LGFC-LX9Q3UM</u>	
SPST Solid-state Dark-ON (2-wire)			<u>FM18-LGFC-DX9Q3UM</u>		
<p>M8(Pico-style) 4pins pigtail(6")</p> 		10-30V DC	NPN	<u>FM18-LGFN-CX9P4UP</u>	
			PNP	<u>FM18-LGFP-CX9P4UP</u>	
			NPN/PNP	<u>FM18-LGFD-CX9P4UP</u>	
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<p>M12 Pigtail (6")</p> 	10-30V DC (Euro-style)	NPN	<u>FM18-LGFN-CX9P4UE</u>		
		PNP	<u>FM18-LGFP-CX9P4UE</u>		
		NPN/PNP	<u>FM18-LGFD-CX9P4UE</u>		
	24~240V AC (Micro-style)	SPST Solid-state Light-ON (3-wire)	<u>FM18-LGFA-LX9P3UM</u>		
		SPST Solid-state Dark-ON (3-wire)	<u>FM18-LGFA-DX9P3UM</u>		
	12~240V DC/ 24~240V AC (Micro-style)	SPST Solid-state Light-ON (2-wire)	<u>FM18-LGFC-LX9P3UM</u>		
		SPST Solid-state Dark-ON (2-wire)	<u>FM18-LGFC-DX9P3UM</u>		

Note: Coming Soon : Part numbers with underline  
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 — H-21 —

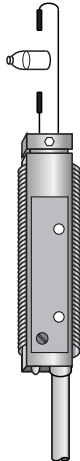
H: FM18 SERIES

# FM18 SERIES

## Glass Fiber Optic with Opposed Mode (Translucent material detector)

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number	
<b>Glass Fiber Optic (Special mode)</b> <b>Opposed Mode</b> (Translucent material sensors) <b>Sensing Distance (Note)</b>	<b>2m Cable</b> 	10-30V DC	NPN	<u>FM18-TGFN-CX6C4U2-L</u>	
			PNP	<u>FM18-TGFP-CX6C4U2-L</u>	
			NPN/PNP	<u>FM18-TGFD-CX6C4U2-L</u>	
		24~240V AC	SPST Solid-state Light-ON (3-wire)	<u>FM18-TGFA-LX6G3U2-L</u>	
			SPST Solid-state Dark-ON (3-wire)	<u>FM18-TGFA-DX6G3U2-L</u>	
		12~240V DC / 24~240V AC	SPST Solid-state Light-ON (2-wire)	<u>FM18-TGFC-LX6G2U2-L</u>	
			SPST Solid-state Dark-ON (2-wire)	<u>FM18-TGFC-DX6G2U2-L</u>	
		<b>M8(Pico-style) 4pins connector</b> 	10-30V DC	NPN	<u>FM18-TGFN-CX6Q4UP-L</u>
				PNP	<u>FM18-TGFP-CX6Q4UP-L</u>
				NPN/PNP	<u>FM18-TGFD-CX6Q4UP-L</u>
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	<b>M12 Quick Disconnect</b> 	10-30V DC (Euro-style)	NPN	<u>FM18-TGFN-CX6Q4UE-L</u>	
			PNP	<u>FM18-TGFP-CX6Q4UE-L</u>	
			NPN/PNP	<u>FM18-TGFD-CX6Q4UE-L</u>	
		24~240V AC (Micro-style)	SPST Solid-state Light-ON (3-wire)	<u>FM18-TGFA-LX6Q3UM-L</u>	
			SPST Solid-state Dark-ON (3-wire)	<u>FM18-TGFA-DX6Q3UM-L</u>	
		12~240V DC / 24~240V AC (Micro-style)	SPST Solid-state Light-ON (2-wire)	<u>FM18-TGFC-LX6Q3UM-L</u>	
			SPST Solid-state Dark-ON (2-wire)	<u>FM18-TGFC-DX6Q3UM-L</u>	
		<b>M8(Pico-style) 4pins pigtail (6")</b> 	10-30V DC	NPN	<u>FM18-TGFN-CX6P4UP-L</u>
				PNP	<u>FM18-TGFP-CX6P4UP-L</u>
				NPN/PNP	<u>FM18-TGFD-CX6P4UP-L</u>
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<b>M12 Pigtail (6")</b> 	10-30V DC (Euro-style)	NPN	<u>FM18-TGFN-CX6P4UE-L</u>		
		PNP	<u>FM18-TGFP-CX6P4UE-L</u>		
		NPN/PNP	<u>FM18-TGFD-CX6P4UE-L</u>		
	24~240V AC (Micro-style)	SPST Solid-state Light-ON (3-wire)	<u>FM18-TGFA-LX6P3UM-L</u>		
		SPST Solid-state Dark-ON (3-wire)	<u>FM18-TGFA-DX6P3UM-L</u>		
	12~240V DC / 24~240V AC (Micro-style)	SPST Solid-state Light-ON (2-wire)	<u>FM18-TGFC-LX6P3UM-L</u>		
		SPST Solid-state Dark-ON (2-wire)	<u>FM18-TGFC-DX6P3UM-L</u>		

Light Source:  
Red light 650nm










H : FM18 SERIES

Note: Coming Soon : Part numbers with underline  
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 — H-22 —

# FM18 SERIES



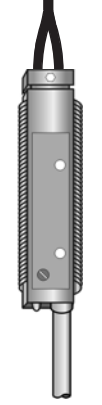





## Glass Fiber Optic with Retroreflective Mode (Narrow-Light)

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number		
<p><b>Light Source:</b> Red light 650nm</p>  <p><b>Glass Fiber Optic (Special Mode)</b> <b>Retro-reflective Mode (Narrow Light)</b> <b>Sensing Distance (Note)</b></p>	<p>2m Cable</p> 	10-30V DC	NPN	<u>FM18-LGFN-CX6C4U2-N</u>		
			PNP	<u>FM18-LGFP-CX6C4U2-N</u>		
			NPN/PNP	<u>FM18-LGFD-CX6C4U2-N</u>		
		24~240V AC	<p>M8(Pico-style) 4pins connector</p> 	24~240V AC	SPST Solid-state Light-ON (3-wire)	<u>FM18-LGFA-LX6C3U2-N</u>
					SPST Solid-state Dark-ON (3-wire)	<u>FM18-LGFA-DX6C3U2-N</u>
				12~240V DC/ 24~240V AC	SPST Solid-state Light-ON (2-wire)	<u>FM18-LGFC-LX6C2U2-N</u>
					SPST Solid-state Dark-ON (2-wire)	<u>FM18-LGFC-DX6C2U2-N</u>
		<p>M12 Quick Disconnect</p> 	10-30V DC (Euro-style)	NPN	<u>FM18-LGFN-CX6Q4UE-N</u>	
				PNP	<u>FM18-LGFP-CX6Q4UE-N</u>	
	NPN/PNP			<u>FM18-LGFD-CX6Q4UE-N</u>		
	24~240V AC (Micro-style)		<p>M8(Pico-style) 4pins pigtail (6")</p> 	24~240V AC (Micro-style)	SPST Solid-state Light-ON (3-wire)	<u>FM18-LGFA-LX6Q3UM-N</u>
					SPST Solid-state Dark-ON (3-wire)	<u>FM18-LGFA-DX6Q3UM-N</u>
				12~240V DC/ 24~240V AC (Micro-style)	SPST Solid-state Light-ON (2-wire)	<u>FM18-LGFC-LX6Q3UM-N</u>
					SPST Solid-state Dark-ON (2-wire)	<u>FM18-LGFC-DX6Q3UM-N</u>
	<p>M12 Pigtail (6")</p> 		10-30V DC (Euro-style)	NPN	<u>FM18-LGFN-CX6P4UE-N</u>	
				PNP	<u>FM18-LGFP-CX6P4UE-N</u>	
		NPN/PNP		<u>FM18-LGFD-CX6P4UE-N</u>		
		24~240V AC (Micro-style)	<p>M12 Pigtail (6")</p> 	24~240V AC (Micro-style)	SPST Solid-state Light-ON (3-wire)	<u>FM18-LGFA-LX6P3UM-N</u>
					SPST Solid-state Dark-ON (3-wire)	<u>FM18-LGFA-DX6P3UM-N</u>
				12~240V DC/ 24~240V AC (Micro-style)	SPST Solid-state Light-ON (2-wire)	<u>FM18-LGFC-LX6P3UM-N</u>
					SPST Solid-state Dark-ON (2-wire)	<u>FM18-LGFC-DX6P3UM-N</u>

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# FM18 SERIES

## Glass Fiber Optic with Diffuse Mode (Mark Sensor)

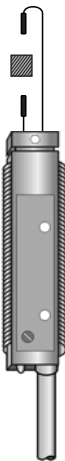





Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number	
<p>Light Source: Red light 650nm</p>    <p>Glass Fiber Optic (Special Mode) Diffuse Mode (Mark Sensor) Sensing Distance (Note)</p>	<p>2m Cable</p> 	10-30V DC	NPN	<u>FM18-DGFN-CX6C4U2-K</u>	
			PNP	<u>FM18-DGFP-CX6C4U2-K</u>	
			NPN/PNP	<u>FM18-DGFD-CX6C4U2-K</u>	
		24~240V AC	SPST Solid-state Light-ON (3-wire)	<u>FM18-DGFA-LX6C3U2-K</u>	
			SPST Solid-state Dark-ON (3-wire)	<u>FM18-DGFA-DX6C3U2-K</u>	
		12~240V DC/ 24~240V AC	SPST Solid-state Light-ON (2-wire)	<u>FM18-DGFC-LX6C2U2-K</u>	
			SPST Solid-state Dark-ON (2-wire)	<u>FM18-DGFC-DX6C2U2-K</u>	
		<p>M8(Pico-style) 4pins connector</p> 	10-30V DC	NPN	<u>FM18-DGFN-CX6Q4UP-K</u>
				PNP	<u>FM18-DGFP-CX6Q4UP-K</u>
	NPN/PNP			<u>FM18-DGFD-CX6Q4UP-K</u>	
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	<p>M12 Quick Disconnect</p> 	10-30V DC (Euro-style)	NPN	<u>FM18-DGFN-CX6Q4UE-K</u>	
			PNP	<u>FM18-DGFP-CX6Q4UE-K</u>	
			NPN/PNP	<u>FM18-DGFD-CX6Q4UE-K</u>	
		24~240V AC (Micro-style)	SPST Solid-state Light-ON (3-wire)	<u>FM18-DGFA-LX6Q3UM-K</u>	
			SPST Solid-state Dark-ON (3-wire)	<u>FM18-DGFA-DX6Q3UM-K</u>	
		12~240V DC/ 24~240V AC (Micro-style)	SPST Solid-state Light-ON (2-wire)	<u>FM18-DGFC-LX6Q3UM-K</u>	
			SPST Solid-state Dark-ON (2-wire)	<u>FM18-DGFC-DX6Q3UM-K</u>	
		<p>M8(Pico-style) 4pins pigtail (6")</p> 	10-30V DC	NPN	<u>FM18-DGFN-CX6P4UP-K</u>
PNP				<u>FM18-DGFP-CX6P4UP-K</u>	
NPN/PNP	<u>FM18-DGFD-CX6P4UP-K</u>				
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<p>M12 Pigtail (6")</p> 	10-30V DC (Euro-style)	NPN	<u>FM18-DGFN-CX6P4UE-K</u>		
		PNP	<u>FM18-DGFP-CX6P4UE-K</u>		
		NPN/PNP	<u>FM18-DGFD-CX6P4UE-K</u>		
	24~240V AC (Micro-style)	SPST Solid-state Light-ON (3-wire)	<u>FM18-DGFA-LX6P3UM-K</u>		
		SPST Solid-state Dark-ON (3-wire)	<u>FM18-DGFA-DX6P3UM-K</u>		
	12~240V DC/ 24~240V AC (Micro-style)	SPST Solid-state Light-ON (2-wire)	<u>FM18-DGFC-LX6P3UM-K</u>		
		SPST Solid-state Dark-ON (2-wire)	<u>FM18-DGFC-DX6P3UM-K</u>		

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H : FM18 SERIES

# FM18 SERIES

## Plastic Fiber Optic with Opposed Mode

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
<p>Light Source: Red light 650nm</p>  <p>Plastic Fiber Optic Opposed Mode Sensing Distance (Note)</p>	<p>2m Cable</p> 	10-30V DC	NPN	<u>FM18-TPFN-CX6G4U2</u>
			PNP	<u>FM18-TPFP-CX6G4U2</u>
			NPN/PNP	<u>FM18-TPFD-CX6G4U2</u>
		24~240V AC	SPST Solid-state Light-ON (3-wire)	<u>FM18-TPFA-LX6G3U2</u>
			SPST Solid-state Dark-ON (3-wire)	<u>FM18-TPFA-DX6G3U2</u>
		12~240V DC/ 24~240V AC	SPST Solid-state Light-ON (2-wire)	<u>FM18-TPFC-LX6G2U2</u>
			SPST Solid-state Dark-ON (2-wire)	<u>FM18-TPFC-DX6G2U2</u>
		<p>M8(Pico-style) 4pins connector</p> 	10-30V DC	NPN
	PNP			<u>FM18-TPFP-CX6Q4UP</u>
	NPN/PNP			<u>FM18-TPFD-CX6Q4UP</u>
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	<p>M12 Quick Disconnect</p> 	10-30V DC (Euro-style)	NPN	<u>FM18-TPFN-CX6Q4UE</u>
			PNP	<u>FM18-TPFP-CX6Q4UE</u>
			NPN/PNP	<u>FM18-TPFD-CX6Q4UE</u>
		24~240V AC (Micro-style)	SPST Solid-state Light-ON (3-wire)	<u>FM18-TPFA-LX6Q3UM</u>
			SPST Solid-state Dark-ON (3-wire)	<u>FM18-TPFA-DX6Q3UM</u>
		12~240V DC/ 24~240V AC (Micro-style)	SPST Solid-state Light-ON (2-wire)	<u>FM18-TPFC-LX6Q3UM</u>
SPST Solid-state Dark-ON (2-wire)			<u>FM18-TPFC-DX6Q3UM</u>	
<p>M8(Pico-style) 4pins pigtail(6")</p> 		10-30V DC	NPN	<u>FM18-TPFN-CX6P4UP</u>
	PNP		<u>FM18-TPFP-CX6P4UP</u>	
	NPN/PNP		<u>FM18-TPFD-CX6P4UP</u>	
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<p>M12 Pigtail (6")</p> 	10-30V DC (Euro-style)	NPN	<u>FM18-TPFN-CX6P4UE</u>	
		PNP	<u>FM18-TPFP-CX6P4UE</u>	
		NPN/PNP	<u>FM18-TPFD-CX6P4UE</u>	
	24~240V AC (Micro-style)	SPST Solid-state Light-ON (3-wire)	<u>FM18-TPFA-LX6P3UM</u>	
		SPST Solid-state Dark-ON (3-wire)	<u>FM18-TPFA-DX6P3UM</u>	
	12~240V DC/ 24~240V AC (Micro-style)	SPST Solid-state Light-ON (2-wire)	<u>FM18-TPFC-LX6P3UM</u>	
		SPST Solid-state Dark-ON (2-wire)	<u>FM18-TPFC-DX6P3UM</u>	






Note: Coming Soon : Part numbers with underline  
 In Preparation: Part numbers with a line through the middle  
 Depends on fiber optic used (Please see our Glass Fiber & Plastic Fiber catalogue for detail information).

H: FM18 SERIES



# FM18 SERIES

## Plastic Fiber Optic with Diffuse Mode

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number	
Plastic Fiber Optic Diffuse Mode Sensing Distance (Note)	2m Cable 	10-30V DC	NPN	<b>FM18-DPFN-CX6C4U2</b>	
			PNP	<b>FM18-DPFP-CX6C4U2</b>	
			NPN/PNP	<b>FM18-DPFD-CX6C4U2</b>	
		24~240V AC	SPST Solid-state Light-ON (3-wire)	<b>FM18-DPFA-LX6C3U2</b>	
			SPST Solid-state Dark-ON (3-wire)	<b>FM18-DPFA-DX6C3U2</b>	
		12~240V DC/ 24~240V AC	SPST Solid-state Light-ON (2-wire)	<b>FM18-DPFC-LX6C2U2</b>	
			SPST Solid-state Dark-ON (2-wire)	<b>FM18-DPFC-DX6C2U2</b>	
		M8(Pico-style) 4pins connector 	10-30V DC	NPN	<b>FM18-DPFN-CX6Q4UP</b>
				PNP	<b>FM18-DPFP-CX6Q4UP</b>
				NPN/PNP	<b>FM18-DPFD-CX6Q4UP</b>
			—	—	—
			—	—	—
	—		—	—	
	M12 Quick Disconnect 	10-30V DC (Euro-style)	NPN	<b>FM18-DPFN-CX6Q4UE</b>	
			PNP	<b>FM18-DPFP-CX6Q4UE</b>	
			NPN/PNP	<b>FM18-DPFD-CX6Q4UE</b>	
		24~240V AC (Micro-style)	SPST Solid-state Light-ON (3-wire)	<b>FM18-DPFA-LX6Q3UM</b>	
			SPST Solid-state Dark-ON (3-wire)	<b>FM18-DPFA-DX6Q3UM</b>	
		12~240V DC/ 24~240V AC (Micro-style)	SPST Solid-state Light-ON (2-wire)	<b>FM18-DPFC-LX6Q3UM</b>	
			SPST Solid-state Dark-ON (2-wire)	<b>FM18-DPFC-DX6Q3UM</b>	
		M8(Pico-style) 4pins pigtail(6") 	10-30V DC	NPN	<b>FM18-DPFN-CX6P4UP</b>
				PNP	<b>FM18-DPFP-CX6P4UP</b>
				NPN/PNP	<b>FM18-DPFD-CX6P4UP</b>
			—	—	—
—			—	—	
—	—		—		
M12 Pigtail (6") 	10-30V DC (Euro-style)	NPN	<b>FM18-DPFN-CX6P4UE</b>		
		PNP	<b>FM18-DPFP-CX6P4UE</b>		
		NPN/PNP	<b>FM18-DPFD-CX6P4UE</b>		
	24~240V AC (Micro-style)	SPST Solid-state Light-ON (3-wire)	<b>FM18-DPFA-LX6P3UM</b>		
		SPST Solid-state Dark-ON (3-wire)	<b>FM18-DPFA-DX6P3UM</b>		
	12~240V DC/ 24~240V AC (Micro-style)	SPST Solid-state Light-ON (2-wire)	<b>FM18-DPFC-LX6P3UM</b>		
		SPST Solid-state Dark-ON (2-wire)	<b>FM18-DPFC-DX6P3UM</b>		

Note: Coming Soon : Part numbers with underline  
 In Preparation: Part numbers with a line through the middle  
 Depends on fiber optic used (Please see our Glass Fiber & Plastic Fiber catalogue for detail information).

H : FM18 SERIES



## FM18 SERIES

## Specifications (DC)

Item	Sensing Mode		DC	
	Opposed Mode		Retroreflective Mode	Diffuse Mode
	E	R		
Sensing Range	See each mode			
Hysteresis	—			
Operating Voltage	10~30V			
Ripple	< 10%			
Voltage Drop	—	<2.0V at 150mA		
Max Load Current	—	150mA		
No Load Current	<25mA			
Min. Load Current	—	5mA		
Leakage Current	—	<1mA		
Output Configuration	NPN, PNP, NPN/PNP			
Indicators	Red indicator LED on rear or sensor is "on" when the load is energized			
Adjustments	15-turn slotted brass screw GAIN (sensitivity) adjustment potentiometer (clutched at both ends of travel). Control is located on rear panel of sensor and protected by a gasketed, clear acrylic cover.			
Transient Protection	Yes			
Reverse Polarity Protection	YES (Only for NPN or PNP, not for NPN/PNP)			
Short Circuit Protection	Yes			
Over Load Current Protection	>180mA			
Output Response Time	1ms or 0.3ms (High-speed Type)			
Construction	Reinforced thermoplastic polyester housing, totally encapsulated, o-ring sealing, acrylic lenses, and stainless screws.			
Environmental Rating	IP67			
Operating Conditions	Temperature: -20°to +70°C, Maximum relative humidity: 90% at 50°C			
EMC	IEC 60947-5-2, Parts 7.2.6.1. 2. 3 or RFI>3V/m(in 30-1000MHZ), EFT>1KV, ESD>4KV(contact)			
Voltage Withstand Ability	IEC 60947-5-2, Part 8.3.3.4 or 500VDC for one min, between all supply terminals connected together and enclosure			
Insulation Resistance	>20MΩ, with 500V DC megger between all supply terminals connected together and enclosure			
Vibration Resistance	IEC 60947-5-2, Part 7.4.2 or 10-55HZ, 1.0mm amplitude in x, y and z directions for 30 min			
Shock Resistance	IEC 60947-5-2, Part 7.4.1 or 30g, 11ms in x, y and z directions for six time each			
Cable	2m or 9m 5.8 φ 4X0.5 (Emitter :3X0.5) PVC.			
Pigtail Type	See <b>Pigtail Series</b> or our <b>Cables &amp; Connectors catalogue</b> .			

## FM18 SERIES

## Specifications (AC)

Item	Sensing Mode		AC		
	Opposed Mode		Retroreflective Mode	Diffuse Mode	
	E	R			
Sensing Range	See each mode				
Hysteresis	—			<20% SD	
Operating Voltage	24~240V AC (50/60HZ)				
Output Configuration	SPST MOSFET solid-state relay with either normally closed or normally open contact (Only Light-ON or Dark-ON ; 3-wire hookup)				
Voltage Drop	—	<10V at 200mA			
Max Load Current	—	≤ 200mA			
No Load Current	25mA	≤ 1.7mA			
Min. Load Current	—	≤ 5mA			
Leakage Current	—	≤ 1.7mA			
Transient Protection	Yes				
Short Circuit Protection	—	Yes			
Over Load Current Protection	—	≥220mA			
Response Time	2ms	8ms	4ms	8ms	
Construction	Reinforced thermoplastic polyester housing, totally encapsulated, o-ring sealing, acrylic lenses, and stainless screws.				
Adjustments	15-turn slotted brass screw GAIN (sensitivity) adjustment potentiometers (clutched at both ends of travel). Control is located on rear panel of sensor and protected, clear acrylic cover.				
Indicators	Red indicator LED on rear or sensor is "on" when the load is energized				
Environmental Rating	IP67				
Operating Temperature	Temperature: -20°C to +70°C, Maximum relative humidity: 90% at 50°C				
EMC	IEC 60947-5-2, Parts 7.2.6.1. 2. 3 or RFI>3V/m(in 30-1000MHZ), EFT>1KV, ESD>4KV(contact)				
Voltage Withstand Ability	IEC 60947-5-2, Part 8.3.3.4 or 1500VAC for one min, between all supply terminals connected together and enclosure				
Insulation Resistance	>20MΩ, with 1500V AC megger between all supply terminals connected together and enclosure				
Vibration Resistance	IEC 60947-5-2, Part 7.4.2 or 10-55HZ, 1.0mm amplitude in x , y and z directions for 30 min				
Shock Resistance	IEC 60947-5-2, Part 7.4.1 or 30g, 11ms in x , y and z directions for six time each				
Cable	2m or 9m 5.8 φ 4X0.5 (Emitter :2X0.5) PVC.				
Pigtail Type	See <b>Pigtail Series</b> or our <b>Cables &amp; Connectors</b> catalogue.				

## FM18 SERIES

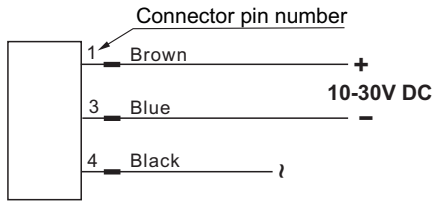
## Specifications (AC/DC)

Item	Sensing Mode		AC/DC			
	Opposed Mode		Retroreflective Mode		Diffuse Mode	
	E	R				
Sensing Range	See each mode					
Hysteresis	—				<20%SD	
Operating Voltage	12~240V DC/ 24~240V AC					
Output Configuration	SPST solid-state relay with either normally closed or normally open contact (Only Light-ON or Dark-ON; 2-wire hookup)					
Voltage Drop	—	<10V at 200mA				
Max Load Current	—	≤ 200mA				
No Load Current	25mA	≤ 1.7mA				
Min. Load Current	—	≤ 5mA				
Leakage Current	—	≤ 1.7mA				
Transient protection	Yes					
Short Circuit Protection	—	Yes				
Over Load Current Protection	—	≥220mA				
Response Time	2ms	8ms	4ms		8ms	
Construction	Reinforced thermoplastic polyester housing, totally encapsulated, o-ring sealing, acrylic lenses, and stainless screws.					
Adjustments	15-turn slotted brass screw GAIN (sensitivity) adjustment potentiometers (clutched at both ends of travel). Control is located on rear panel of sensor and protected, clear acrylic cover.					
Indicators	Red indicator LED on rear or sensor is "on" when the load is energized					
Environmental Rating	IP67					
Operating Temperature	Temperature: -20°to +70°C, Maximum relative humidity: 90% at 50°C					
EMC	IEC 60947-5-2, Parts 7.2.6.1. 2. 3 or RFI>3V/m(in 30-1000MHZ), EFT>1KV, ESD>4KV(contact)					
Voltage Withstand Ability	IEC 60947-5-2, Part 8.3.3.4 or 1500VAC for one min, between all supply terminals connected together and enclosure					
Insulation Resistance	>20M $\Omega$ , with 1500V AC megger between all supply terminals connected together and enclosure					
Vibration Resistance	IEC 60947-5-2, Part 7.4.2 or 10-55HZ, 1.0mm amplitude in x, y and z directions for 30 min					
Shock Resistance	IEC 60947-5-2, Part 7.4.1 or 30g, 11ms in x, y and z directions for six time each					
Cable	2m or 9m 5.8 $\phi$ 4X0.5 (Emitter :2x0.5) PVC.					
Pigtail Type	See <b>Pigtail Series</b> or our <b>Cables &amp; Connectors</b> catalogue.					

# FM18 SERIES

## Connection Diagrams

### Emitter of Thru-beam Mode (DC)

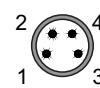


Connector face view

Euro-style

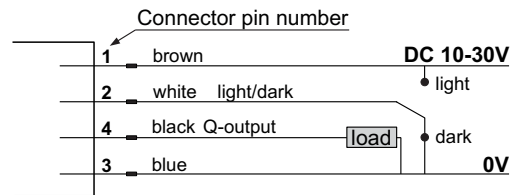
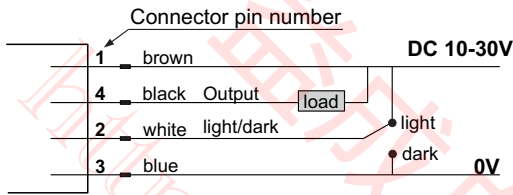


Pico-Style



- 1. Brown (+)
- 2. Not used
- 3. Blue (-)
- 4. Black (l)

### NPN output PNP output



Connector face view

Euro-style

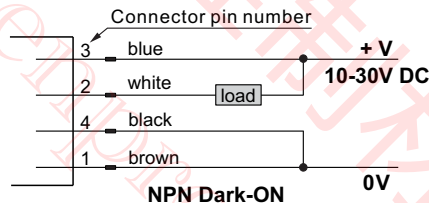
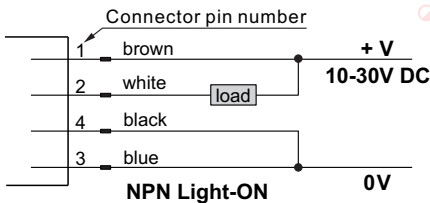


Pico-Style



- 1. Brown (+)
- 2. White (Light/Dark control)
- 3. Blue (-)
- 4. Black (Output)

### NPN/PNP output



Connector face view

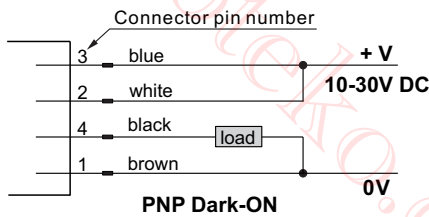
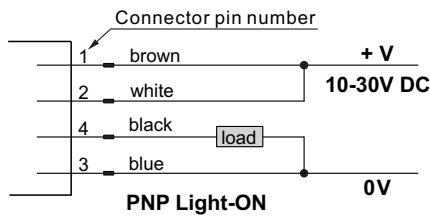
Euro-style



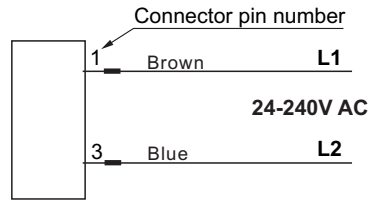
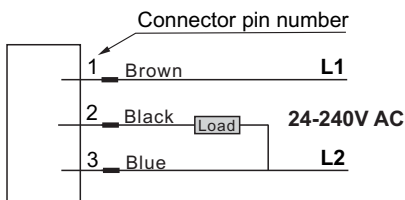
Pico-Style



- 1. Brown
- 2. White
- 3. Blue
- 4. Black

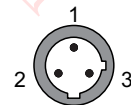


### AC Type Sensor AC Emitter of Thru-beam Mode



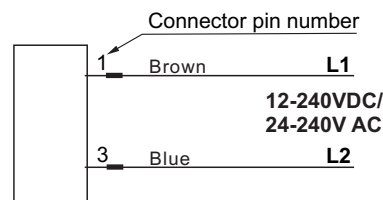
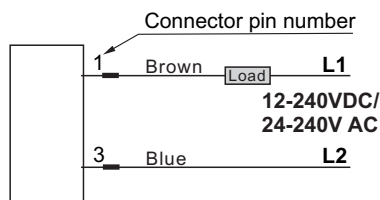
Connector face view

Micro-style



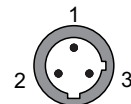
- 1. Brown
- 2. Black
- 3. Blue

### AC/DC Type Sensor AC/DC Emitter of Thru-beam Mode



Connector face view

Micro-style



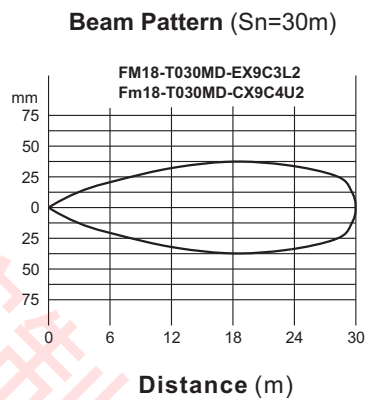
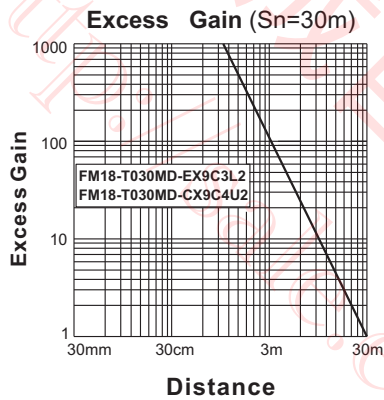
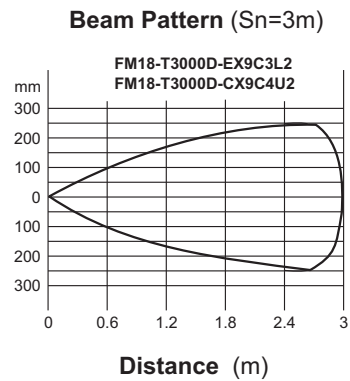
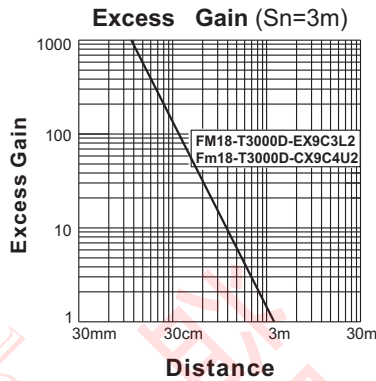
- 1. Brown
- 2. Black
- 3. Blue

H: FM18 SERIES

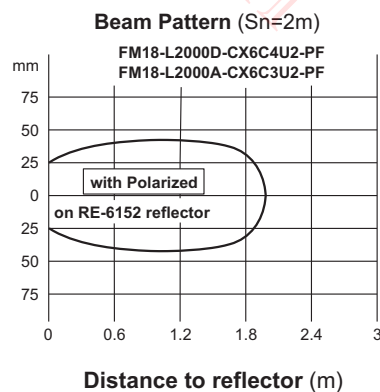
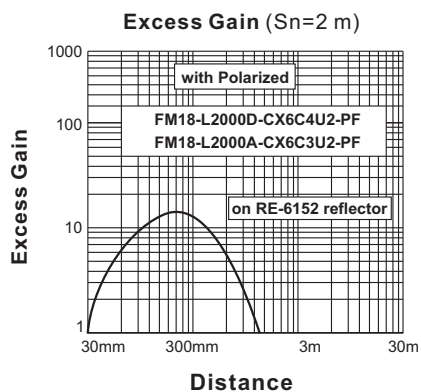
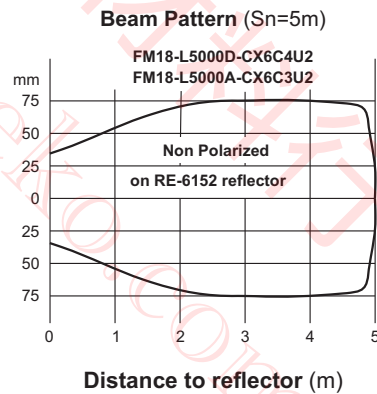
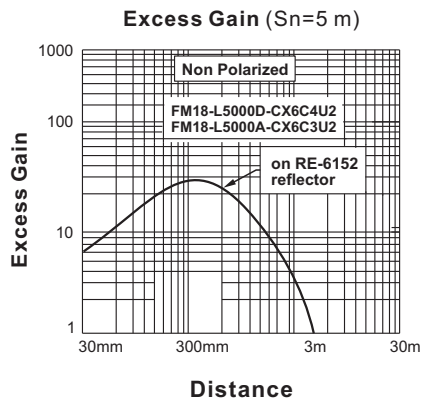
# FM18 SERIES

## Sensing Characteristics (Typical)

### Opposed Mode



### Retro-reflective Mode



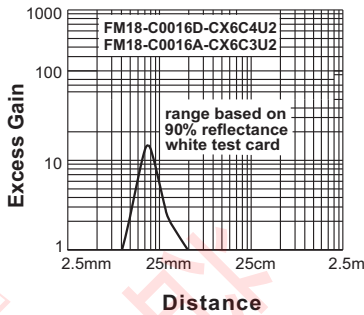
H: FM18 SERIES

# FM18 SERIES

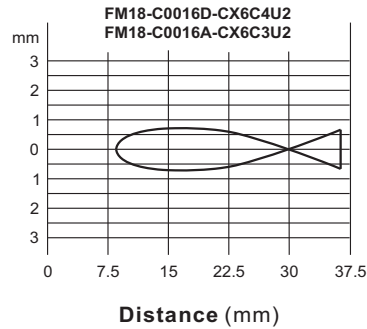
## Sensing Characteristics (Typical)

### Convergent Mode

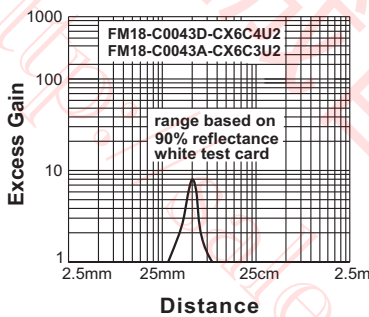
Excess Gain (Sn=16mm)



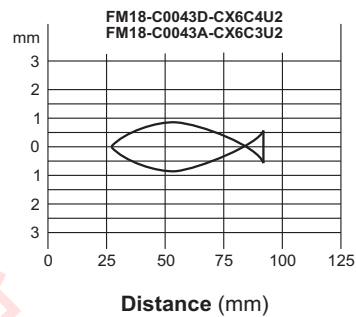
Beam Pattern (Sn=16mm)



Excess Gain (Sn=43mm)

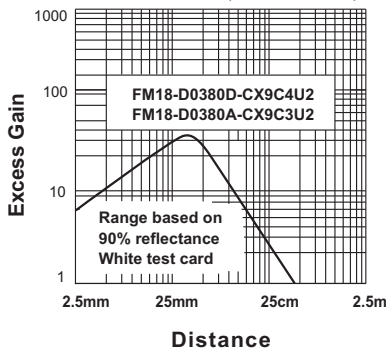


Beam Pattern (Sn=43mm)

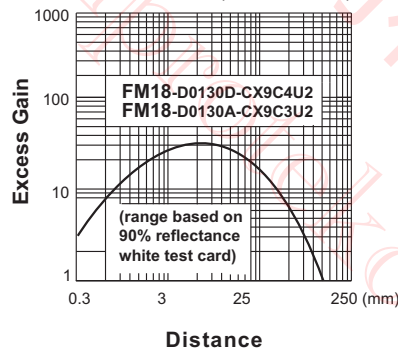


### Diffuse Mode

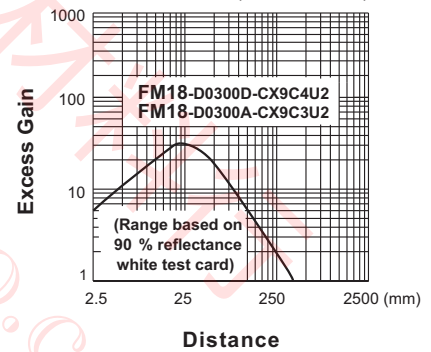
Excess Gain (Sn=380mm)



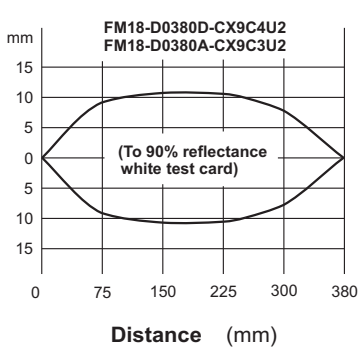
Excess Gain (Sn=130mm)



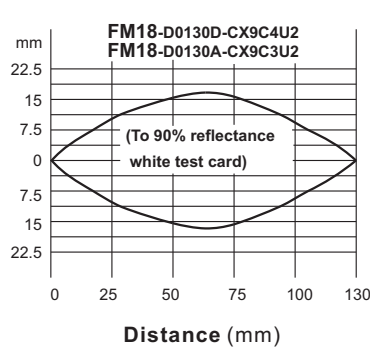
Excess Gain (Sn=300mm)



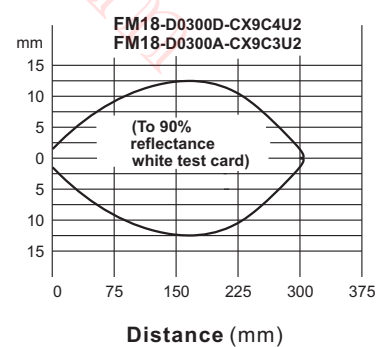
Beam Pattern (Sn=380mm)



Beam Pattern (Sn=130mm)



Beam Pattern (Sn=300mm)



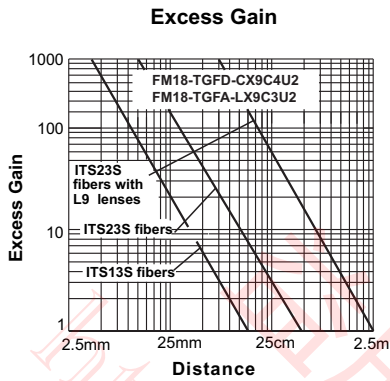
H: FM18 SERIES



# FM18 SERIES

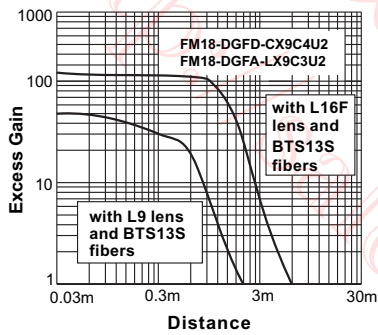
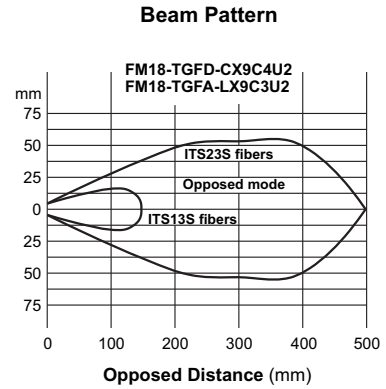
## Sensing Characteristics (Typical)

### Fiber Optic Mode



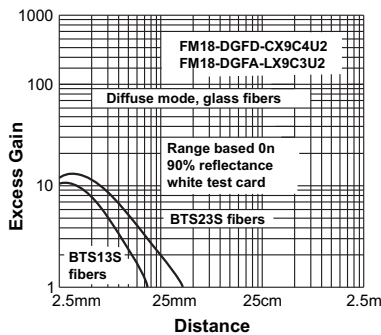
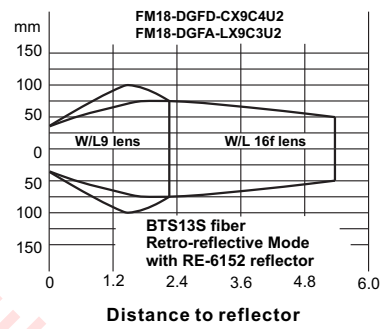
**FM18-TGFD-CX9C4U2**  
**VOLTAGE:** 10~30V DC  
**RANGE:** see E. G. curves  
**RESPONSE:** 1ms  
**BEAM:** infrared 880nm  
**FIBER:** glass

**FM18-TGFA-LX9C3U2**  
**VOLTAGE:** 24~240V AC  
**RANGE:** see E. G. curves  
**RESPONSE:** 4ms  
**BEAM:** infrared 880nm  
**FIBER:** glass



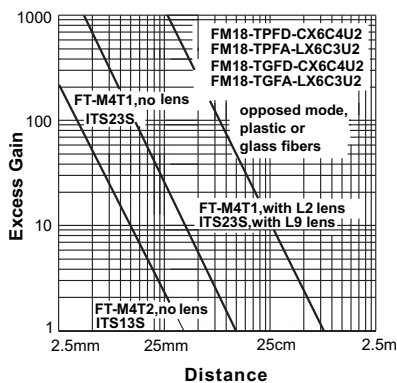
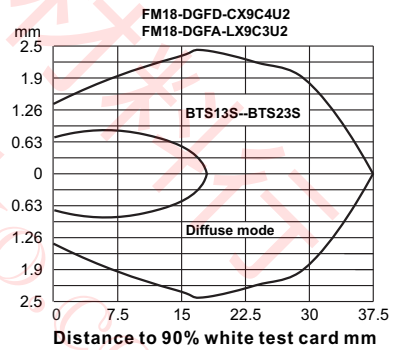
**FM18-DGFD-CX9C4U2**  
**VOLTAGE:** 10~30V DC  
**RANGE:** see E. G. curves  
**RESPONSE:** 1ms  
**BEAM:** infrared 880nm  
**FIBER:** glass

**FM18-DGFA-LX9C3U2**  
**VOLTAGE:** 24~240V AC  
**RANGE:** see E. G. curves  
**RESPONSE:** 4ms  
**BEAM:** infrared 880nm  
**FIBER:** glass



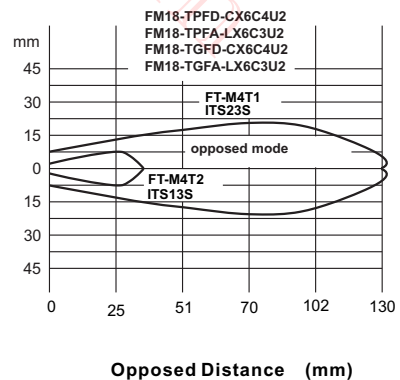
**FM18-DGFD-CX9C4U2**  
**VOLTAGE:** 10~30V DC  
**RANGE:** see E. G. curves  
**RESPONSE:** 1ms  
**BEAM:** infrared 880nm  
**FIBER:** glass

**FM18-DGFA-LX9C3U2**  
**VOLTAGE:** 24~240V AC  
**RANGE:** see E. G. curves  
**RESPONSE:** 4ms  
**BEAM:** infrared 880nm  
**FIBER:** glass



**FM18-TPFD-CX6C4U2 or FM18-TGFD-CX6C4U2**  
**VOLTAGE:** 10~30V DC  
**RANGE:** see E. G. curves  
**RESPONSE:** 1ms  
**BEAM:** red light 650nm  
**FIBER:** plastic or glass

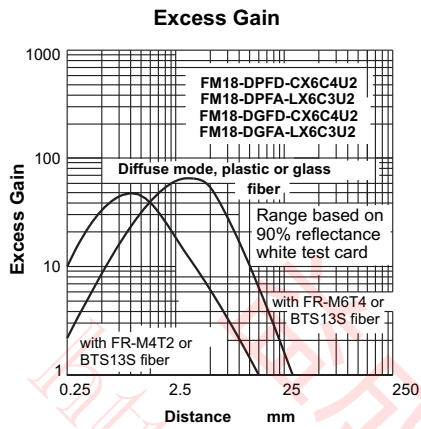
**FM18-TPFA-LX6C3U2 or FM18-TGFA-LX6C3U2**  
**VOLTAGE:** 24~240V AC  
**RANGE:** see E. G. curves  
**RESPONSE:** 4ms  
**BEAM:** red light 650nm  
**FIBER:** plastic or glass



# FM18 SERIES

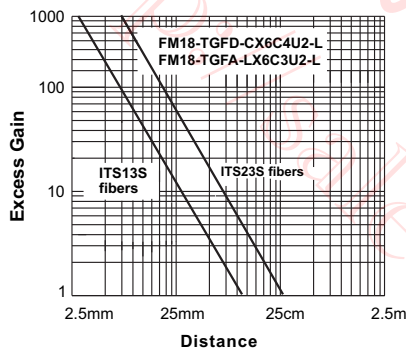
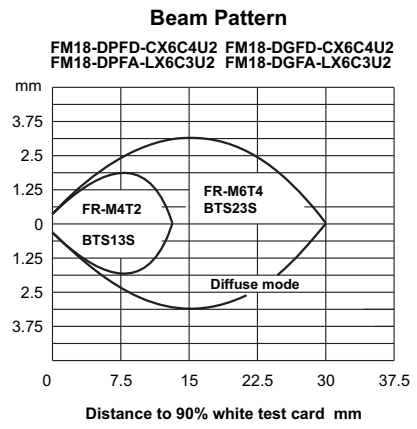
## Sensing Characteristics (Typical)

### Fiber Optic Mode



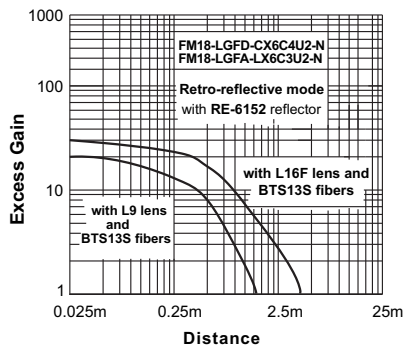
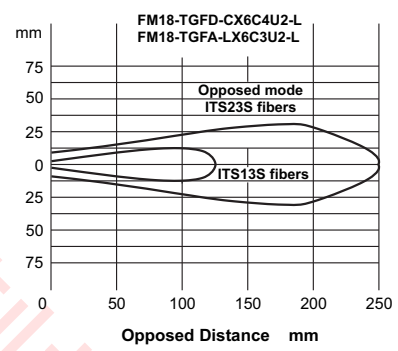
**FM18-DPFD-CX6C4U2 or FM18-DGFD-CX6C4U2**  
**VOLTAGE:** 10~30V DC  
**RANGE:** see E.G. curves  
**RESPONSE:** 1ms  
**BEAM:** red light 650nm  
**FIBER:** plastic or glass

**FM18-DPFA-LX6C3U2 or FM18-DGFA-LX6C3U2**  
**VOLTAGE:** 24~240V AC  
**RANGE:** see E.G. curves  
**RESPONSE:** 4ms  
**BEAM:** red light 650nm  
**FIBER:** plastic or glass



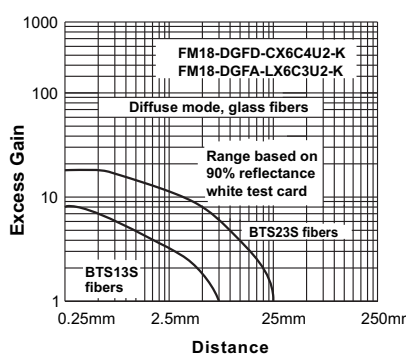
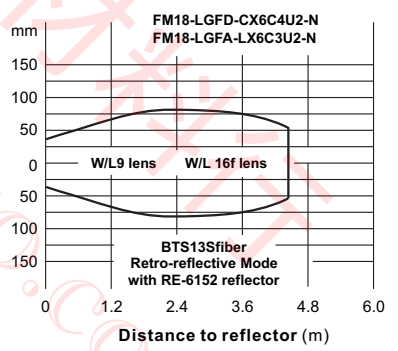
**FM18-TGFD-CX6C4U2-L**  
**VOLTAGE:** 10~30V DC  
**RANGE:** see E.G. curves  
**RESPONSE:** 1ms  
**BEAM:** red light 650nm  
**FIBER:** glass

**FM18-TGFA-LX6C3U2-L**  
**VOLTAGE:** 24~240V AC  
**RANGE:** see E.G. curves  
**RESPONSE:** 4ms  
**BEAM:** red light 650nm  
**FIBER:** glass



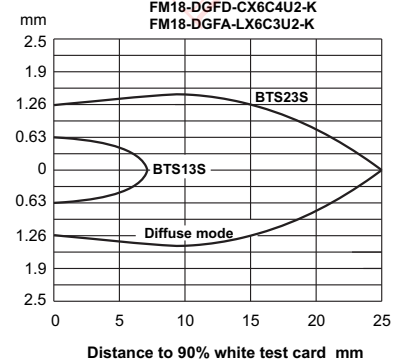
**FM18-LGFD-CX6C4U2-N**  
**VOLTAGE:** 10~30V DC  
**RANGE:** see E.G. curves  
**RESPONSE:** 1ms  
**BEAM:** red light 650nm  
**FIBER:** glass

**FM18-LGFA-LX6C3U2-N**  
**VOLTAGE:** 24~240V AC  
**RANGE:** see E.G. curves  
**RESPONSE:** 4ms  
**BEAM:** red light 650nm  
**FIBER:** glass



**FM18-DGFD-CX6C4U2-K**  
**VOLTAGE:** 10~30V DC  
**RANGE:** see E.G. curves  
**RESPONSE:** 1ms  
**BEAM:** red light 650nm  
**FIBER:** glass

**FM18-DGFA-LX6C3U2-K**  
**VOLTAGE:** 24~240V AC  
**RANGE:** see E.G. curves  
**RESPONSE:** 4ms  
**BEAM:** red light 650nm  
**FIBER:** glass



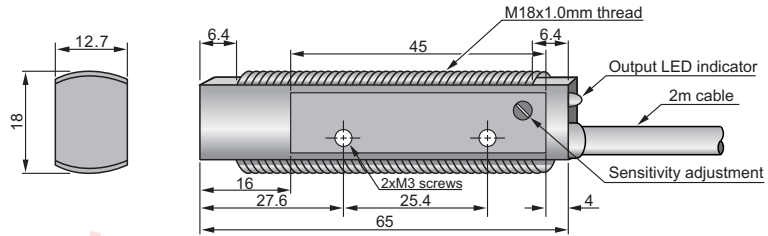
H: FM18 SERIES

# FM18 SERIES

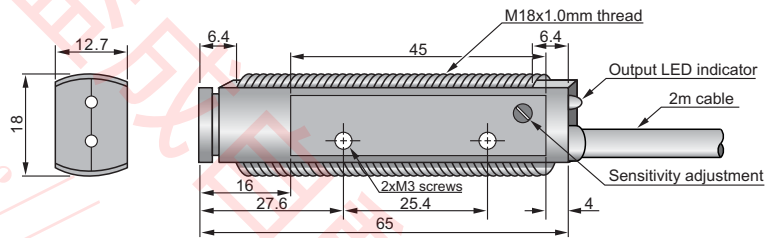
## Dimensions (Unit: mm)

### Cable Type Sensor

#### All Models except Fiber Optic Mode

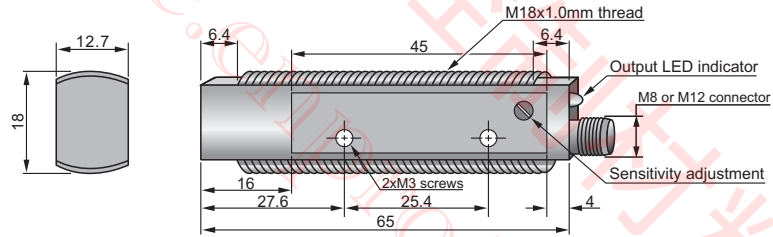


#### Fiber Optic Mode

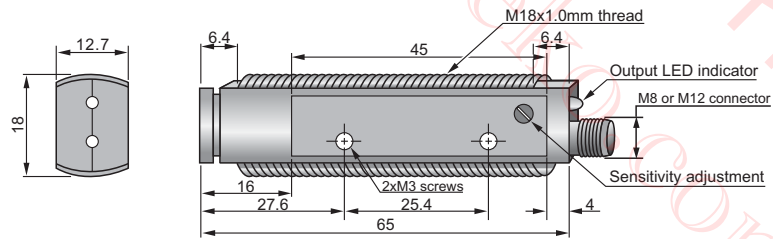


### Connector Type Sensor

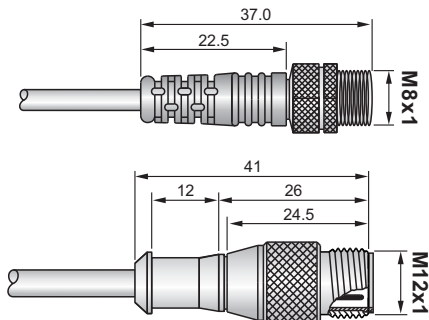
#### All Models except Fiber Optic Mode



#### Fiber Optic Mode



### Pigtail\* Type

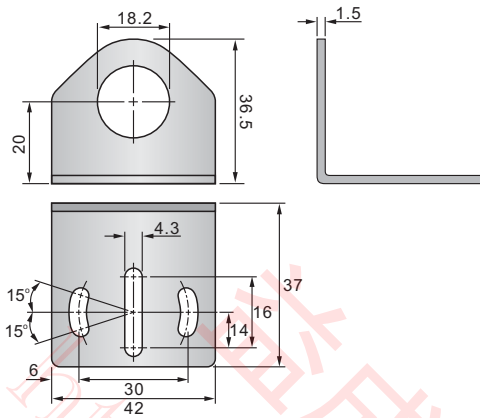


\*: Please see **Pigtail Series** or our **Cables & Connectors** catalogue for more information.

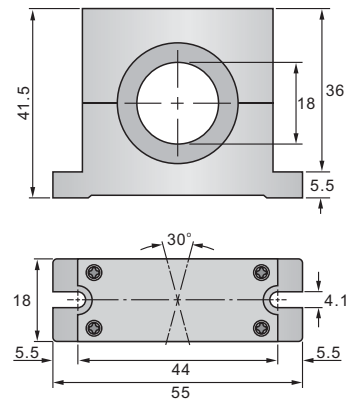
# FM18 SERIES

## Mounting Bracket's \* Dimensions (Unit: mm)

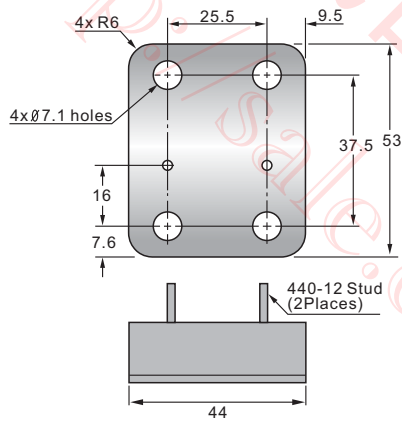
**MB-4237 (optional)**



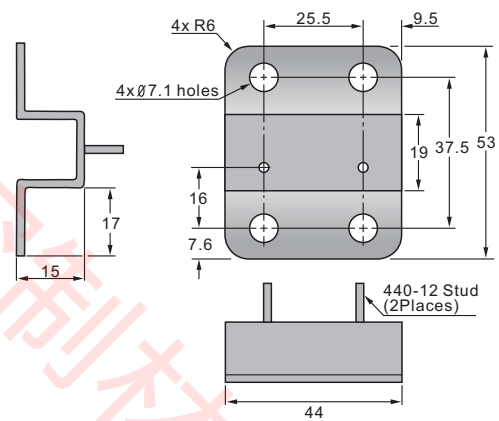
**MB-5542 (optional)**



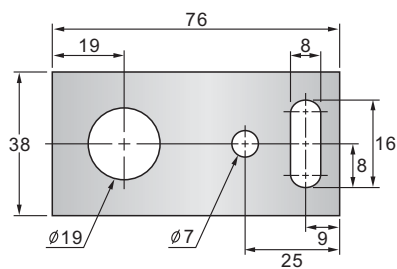
**MB-5344A (optional)**



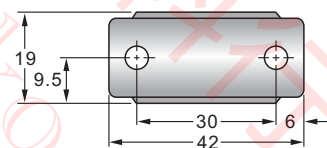
**MB-5344B (optional)**



**MB-7638 (optional)**

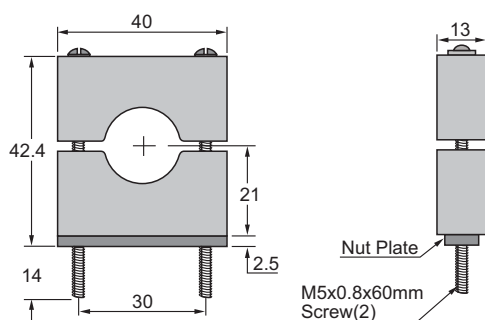


**MB-4219 (optional)**



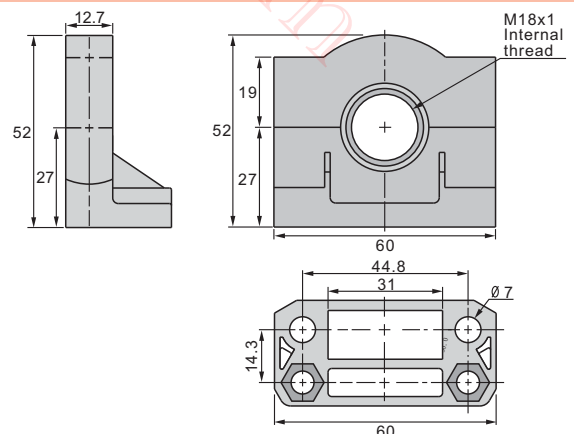
Allows 360° rotation and 10° vertical tilt.

**MB-4240 (optional)**



18mm split clamp bracket

**MB-6052 (optional)**



Mounting Bracket to Provide 360° Rotation

\*: Please see **Accessories** (Universal Mounting Brackets Series).