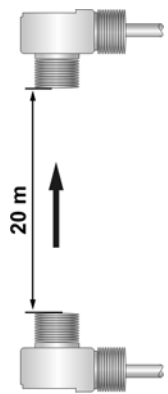



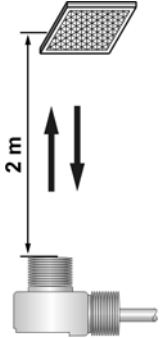











## Thru-beam Mode / Retroreflective Mode

W: T18 SERIES

Sensing Mode	Appearance	Supply Voltage	Output Mode	Part Number
 <p>Thru-beam Mode Sensing Distance: 20m Infrared: 950nm</p>	<b>2m Cable</b> 	10-30V DC	Emitter	T18-T020MD-EY9C2L2
			NPN	T18-T020MN-CY9C4U2
			PNP	T18-T020MP-CY9C4U2
			NPN/PNP	<u>T18-T020MD-CY9C4U2</u>
	<b>Quick Disconnect</b> 	10-30V DC (Euro Style)	Emitter	T18-T020MD-EY9Q4LE
			NPN	T18-T020MN-CY9Q4UE
			PNP	T18-T020MP-CY9Q4UE
			NPN/PNP	<u>T18-T020MD-CY9Q4UE</u>
	<b>6" Pig tail</b> 	10-30V DC (Euro Style)	Emitter	T18-T020MD-EY9P4LE
			NPN	T18-T020MN-CY9P4UE
			PNP	T18-T020MP-CY9P4UE
			NPN/PNP	<u>T18-T020MD-CY9P4UE</u>
 <p>Retroreflective Mode Sensing Distance: 2 m (Note) Infrared: 950nm</p>	<b>2m Cable</b> 	10-30V DC	NPN	T18-L2000N-CY9C4U2
			PNP	T18-L2000P-CY9C4U2
			NPN/PNP	<del>T18-L2000D-CY9C4U2</del>
			---	---
	<b>Quick Disconnect</b> 	10-30V DC (Euro Style)	NPN	T18-L2000N-CY9Q4UE
			PNP	T18-L2000P-CY9Q4UE
			NPN/PNP	<del>T18-L2000D-CY9Q4UE</del>
			---	---
	<b>6" Pig tail</b> 	10-30V DC (Euro Style)	NPN	T18-L2000N-CY9P4UE
			PNP	T18-L2000P-CY9P4UE
			NPN/PNP	<del>T18-L2000D-CY9P4UE</del>
			---	---

**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

## Polarized Retroreflective Mode/ Diffuse Mode

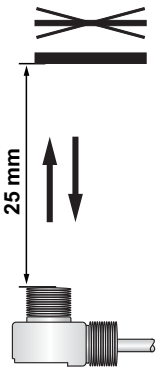



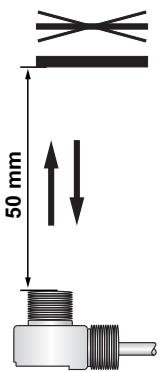


Sensing Mode	Appearance	Supply Voltage	Output Mode	Part Number
<b>Retroreflective Mode</b> (with polarizing filter) Sensing Distance: 2 m (Note) Red Light 680nm	<b>2m Cable</b> 	10-30V DC	NPN	<u>T18-L2000N-CY6C4U2-PF</u>
			PNP	<u>T18-L2000P-CY6C4U2-PF</u>
			NPN/PNP	<del>T18-L2000D-CY6C4U2-PF</del>
			—	—
	<b>Quick Disconnect</b> 	10-30V DC (Euro Style)	NPN	<u>T18-L2000N-CY6Q4UE-PF</u>
			PNP	<u>T18-L2000P-CY6Q4UE-PF</u>
			NPN/PNP	<del>T18-L2000D-CY6Q4UE-PF</del>
			—	—
	<b>6" Pig tail</b> 	10-30V DC (Euro Style)	NPN	<u>T18-L2000N-CY6P4UE-PF</u>
			PNP	<u>T18-L2000P-CY6P4UE-PF</u>
			NPN/PNP	<del>T18-L2000D-CY6P4UE-PF</del>
			—	—
<b>Diffuse Mode</b> Sensing Distance: 500mm Infrared: 880nm	<b>2m Cable</b> 	10-30V DC	NPN	T18-D0500N-CY9C4U2
			PNP	T18-D0500P-CY9C4U2
			NPN/PNP	<u>T18-D0500D-CY9C4U2</u>
			—	—
	<b>Quick Disconnect</b> 	10-30V DC (Euro Style)	NPN	T18-D0500N-CY9Q4UE
			PNP	T18-D0500P-CY9Q4UE
			NPN/PNP	<u>T18-D0500D-CY9Q4UE</u>
			—	—
	<b>6" Pig tail</b> 	10-30V DC (Euro Style)	NPN	T18-D0500N-CY9P4UE
			PNP	T18-D0500P-CY9P4UE
			NPN/PNP	<u>T18-D0500D-CY9P4UE</u>
			—	—

**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

W: T18 SERIES

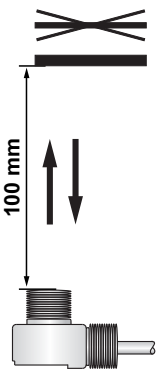



## Diffuse Mode with Background Suppression

W: T18 SERIES

Sensing Mode	Appearance	Supply Voltage	Output Mode	Part Number
 <p>25 mm</p> <p>Diffuse Mode with Background Suppression Sensing Distance: 25mm Infrared: 880nm</p>	<b>2m Cable</b> 	10-30V DC	NPN	<u>T18-D0025N-CY9C4U2-BS</u>
			PNP	<u>T18-D0025P-CY9C4U2-BS</u>
			NPN/PNP	<u>T18-D0025D-CY9C4U2-BS</u>
			—	—
	<b>Quick Disconnect</b> 	10-30V DC (Euro Style)	NPN	<u>T18-D0025N-CY9Q4UE-BS</u>
			PNP	<u>T18-D0025P-CY9Q4UE-BS</u>
			NPN/PNP	<u>T18-D0025D-CY9Q4UE-BS</u>
			—	—
	<b>6" Pig tail</b> 	10-30V DC (Euro Style)	NPN	<u>T18-D0025N-CY9P4UE-BS</u>
			PNP	<u>T18-D0025P-CY9P4UE-BS</u>
			NPN/PNP	<u>T18-D0025D-CY9P4UE-BS</u>
			—	—
 <p>50 mm</p> <p>Diffuse Mode with Background Suppression Sensing Distance: 50mm Infrared: 880nm</p>	<b>2m Cable</b> 	10-30V DC	NPN	<u>T18-D0050N-CY9C4U2-BS</u>
			PNP	<u>T18-D0050P-CY9C4U2-BS</u>
			NPN/PNP	<u>T18-D0050D-CY9C4U2-BS</u>
			—	—
	<b>Quick Disconnect</b> 	10-30V DC (Euro Style)	NPN	<u>T18-D0050N-CY9Q4UE-BS</u>
			PNP	<u>T18-D0050P-CY9Q4UE-BS</u>
			NPN/PNP	<u>T18-D0050D-CY9Q4UE-BS</u>
			—	—
	<b>6" Pig tail</b> 	10-30V DC (Euro Style)	NPN	<u>T18-D0050N-CY9P4UE-BS</u>
			PNP	<u>T18-D0050P-CY9P4UE-BS</u>
			NPN/PNP	<u>T18-D0050D-CY9P4UE-BS</u>
			—	—

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

## Diffuse Mode with Background Suppression

Sensing Mode	Appearance	Supply Voltage	Output Mode	Part Number
 <p>Diffuse Mode with Background Suppression Sensing Distance: 100 mm Infrared: 880nm</p>	<b>2m Cable</b> 	10-30V DC	NPN	<u>T18-D0100N-CY9C4U2-BS</u>
			PNP	<u>T18-D0100P-CY9C4U2-BS</u>
			NPN/PNP	<u>T18-D0100D-CY9C4U2-BS</u>
			—	—
	<b>Quick Disconnect</b> 	10-30V DC (Euro Style)	NPN	<u>T18-D0100N-CY9Q4UE-BS</u>
			PNP	<u>T18-D0100P-CY9Q4UE-BS</u>
			NPN/PNP	<u>T18-D0100D-CY9Q4UE-BS</u>
			—	—
	<b>6" Pig tail</b> 	10-30V DC (Euro Style)	NPN	<u>T18-D0100N-CY9P4UE-BS</u>
			PNP	<u>T18-D0100P-CY9P4UE-BS</u>
			NPN/PNP	<u>T18-D0100D-CY9P4UE-BS</u>
			—	—

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

W: T18 SERIES

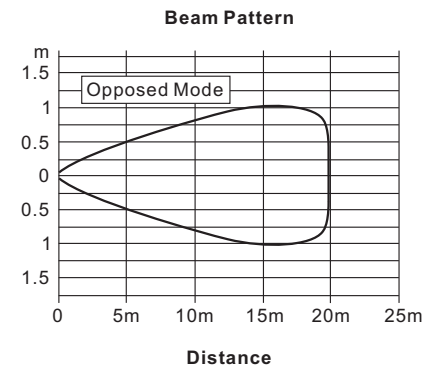
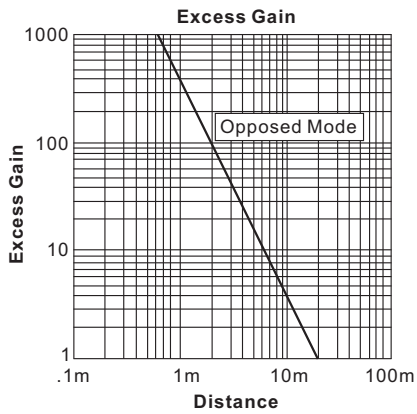
## Specifications

Item	Type Model No.	Thru-beam	Diffuse reflective			Retroreflective			
			(with background suppression)			with polarizing filters			
		T18-T020Mx-xX9xxxx	T18-D0500x-xX9xxxx	T18-D0025x-xX9xxxx-BS	T18-D0050x-xX9xxxx-BS	T18-D0100x-xX9xxxx-BS	T18-L2000x-xX9xxxx	T18-L2000x-xX6xxxx-PF	
Sensing Range		20m	500mm	25mm	50mm	100mm	2m (Note)		
Sensing Object		Opaque object of $\phi$ 8mm or more	White paper			3-way mirror			
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		<b>&lt;NPN&gt; output type&gt;</b> NPN open-collector transistor <ul style="list-style-type: none"> <li>• Applied voltage: 30V DC or less</li> <li>• Maximum sink current: 150mA</li> <li>• Voltage drop: 2.5V or less</li> </ul>			<b>&lt;PNP&gt; output type&gt;</b> PNP open-collector transistor <ul style="list-style-type: none"> <li>• Applied voltage: 30V DC or less</li> <li>• Maximum sourcing current: 150mA</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		-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 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)		
Housing Material		Plastic housing: PBT							
Cable		Standard length 2m, other length based on request.							
Connector		Euro-style connector (M12x1 thread)							
Pigtail Type		See Pigtail Series or our Cables & Connectors catalogue							

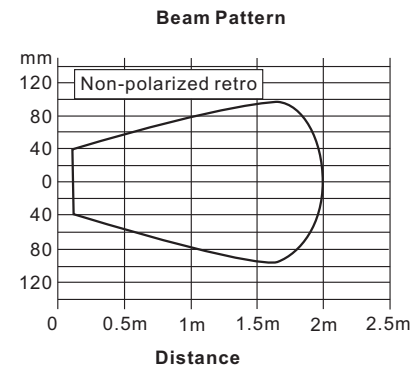
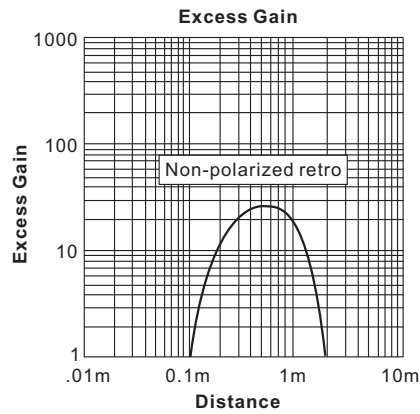
Note: Used with RE-6152 (supplied with sensor) reflector.

## Sensing Characteristics (Typical)

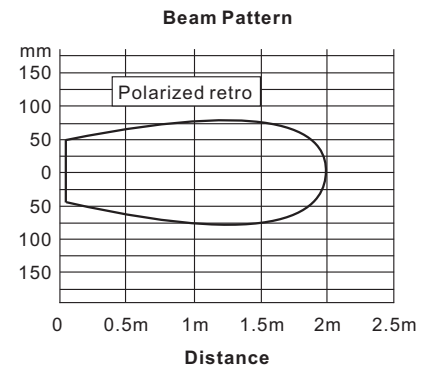
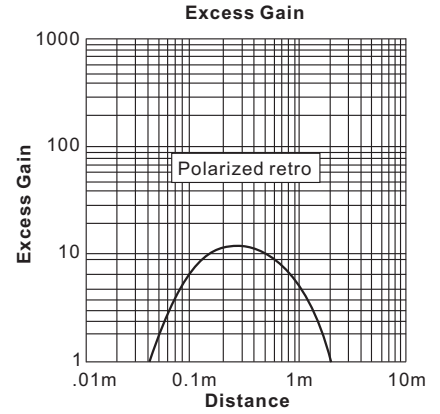
### Opposed Mode (Sn=20m)



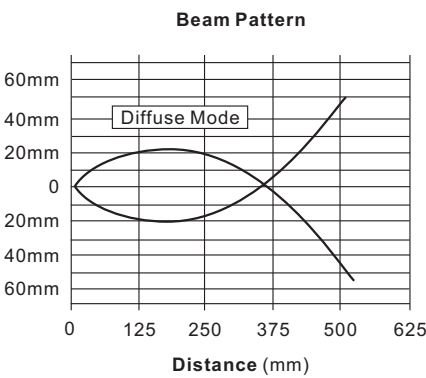
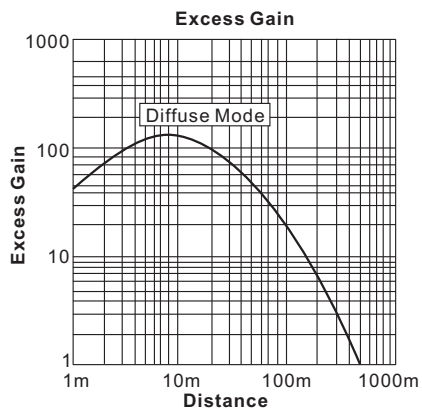
### Retroreflective Mode (Sn=2m)



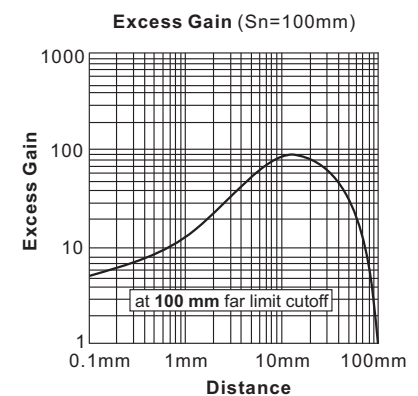
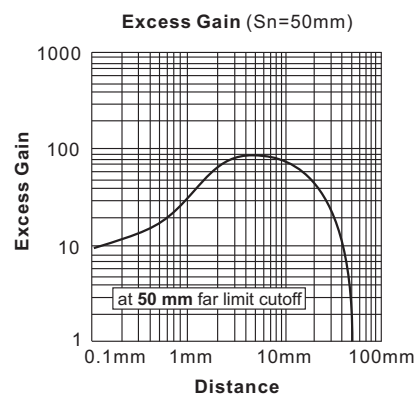
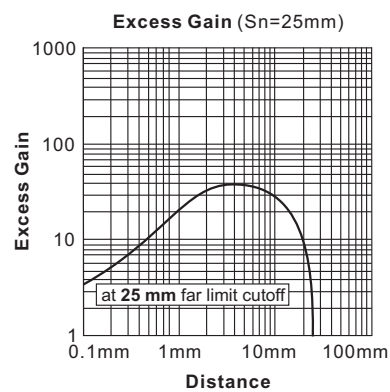
### Polarized Retroreflective (Sn=2m)



### Diffuse Mode (Sn=500mm)

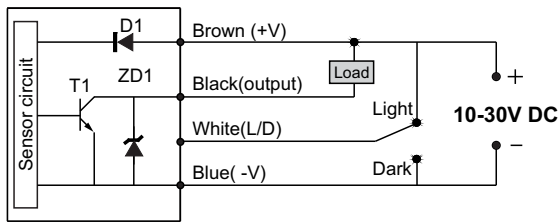


### Diffuse Mode with Background Suppression (Sn=25/50/100mm)



## Connection Diagrams

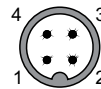
### NPN output type



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

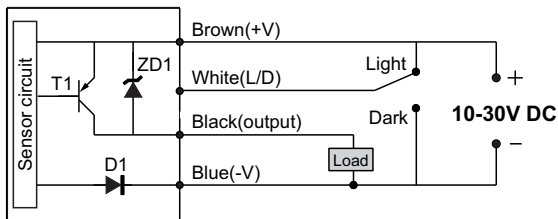
### Connector pin position

#### Euro-style



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

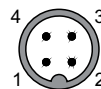
### PNP output type



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

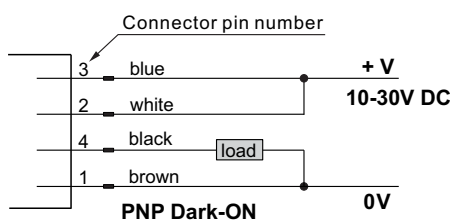
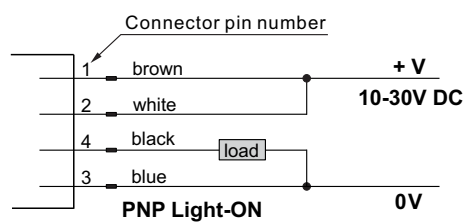
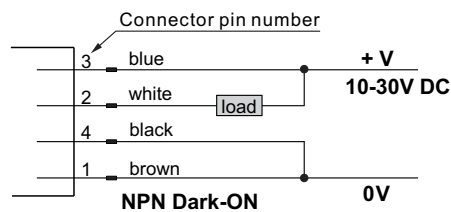
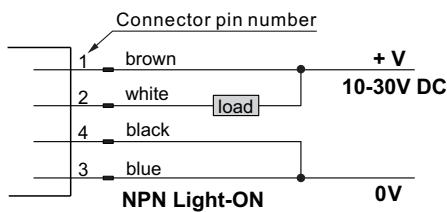
### Connector pin position

#### Euro-style



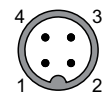
1. Brown (+)
2. White (Light/Dark control)
3. Blue (-)
4. Black (Output)

### NPN/PNP output type

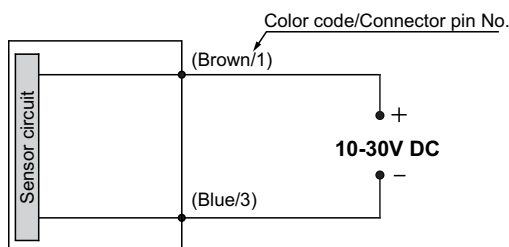


### Connector pin position

#### Euro-style

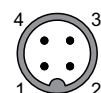


### Emitter of Thru-beam Mode



### Connector pin position

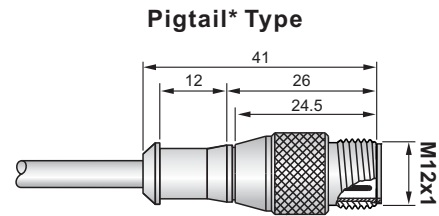
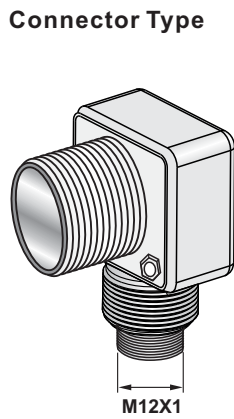
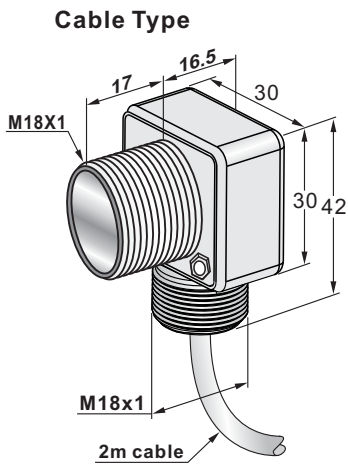
#### Euro-style



- 1.+V
- 2.not used
- 3.0V
- 4.not used

## Dimensions (Unit: mm)

### Sensor Type

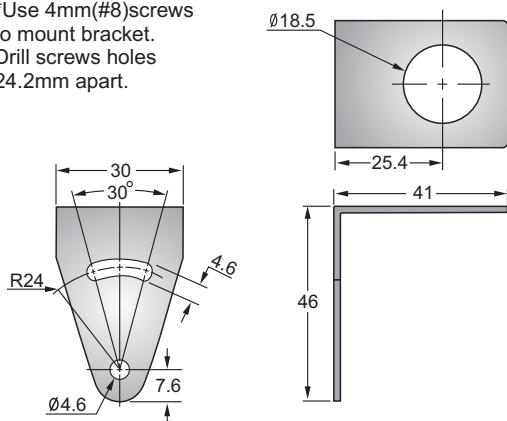


\*: Please see **Pigtail Series** or our **Cables & Connectors** catalogue for more information.

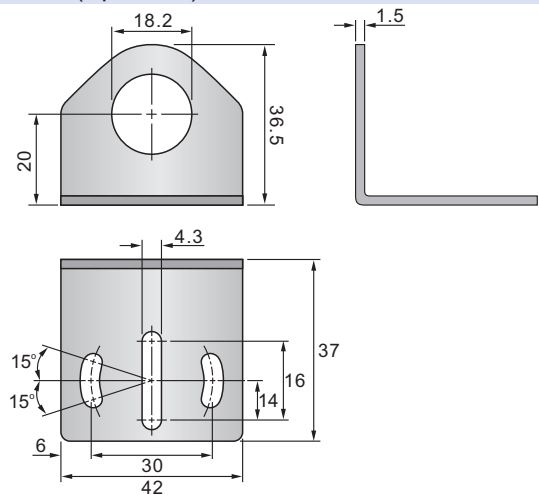
### Mounting Brackets \*

#### MB-4630 (optional)

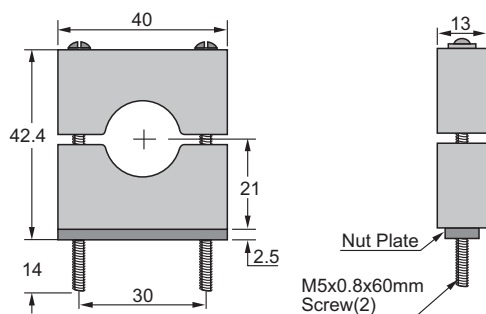
\*Use 4mm(#8)screws to mount bracket. Drill screws holes 24.2mm apart.



#### MB-4237 (optional)

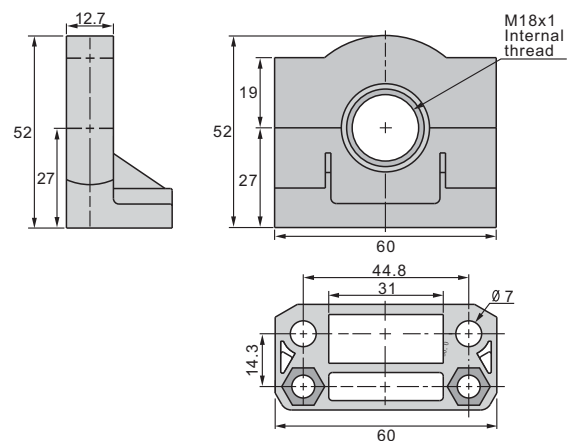


#### MB-4240 (optional)



18mm split clamp bracket

#### MB-6052 (optional)



Mounting Bracket to Provide 360° Rotation

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