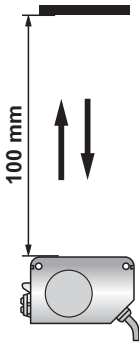









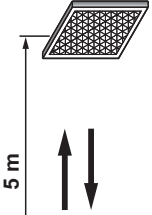



## Standard Diffuse Mode / Narrow-view Diffuse Mode

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number	
 <p>100 mm</p> <p>Diffuse Mode (Standard)</p> <p>Sensing distance 100mm</p> <p>Infrared LED</p>	2m Cable 	10-30V DC	NPN	<u>RP34-D0100N-CY9C3U2</u>	
				PNP	<u>RP34-D0100P-CY9C3U2</u>
		Quick Disconnect (Pico-Style) 	10-30V DC	NPN	<u>RP34-D0100N-CY9Q4UP</u>
					PNP
		6" Pigtail (Pico-Style) 	10-30V DC	NPN	<u>RP34-D0100N-CY9P4UP</u>
 <p>300 mm</p> <p>Diffuse Mode (Narrow-view)</p> <p>Sensing Distance 70 to 300mm</p> <p>Red LED</p>	2m Cable 	10-30V DC	NPN	<u>RP34-D0300N-CY6C3U2-N</u>	
				PNP	<u>RP34-D0300P-CY6C3U2-N</u>
	Quick Disconnect (Pico-Style) 	10-30V DC	NPN	<u>RP34-D0300N-CY6Q4UP-N</u>	
					PNP
	6" Pigtail (Pico-Style) 	10-30V DC	NPN	<u>RP34-D0300N-CY6P4UP-N</u>	
					PNP

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

## Retroreflective Mode

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
 <p>5 m</p> <p>Retroreflective Mode</p> <p>Sensing Distance 0.1 to 5m (Note)</p> <p>Infrared LED</p>	<b>2m Cable</b> 	10-30V DC	NPN	<u>RP34-L5000N-CY9C3U2</u>
				PNP
	<b>Quick Disconnect (Pico-Style)</b> 	10-30V DC	NPN	<u>RP34-L5000N-CY9Q4UP</u>
				PNP
	<b>6" Pigtail (Pico-Style)</b> 	10-30V DC	NPN	<u>RP34-L5000N-CY9P4UP</u>
				PNP

**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

## Specifications

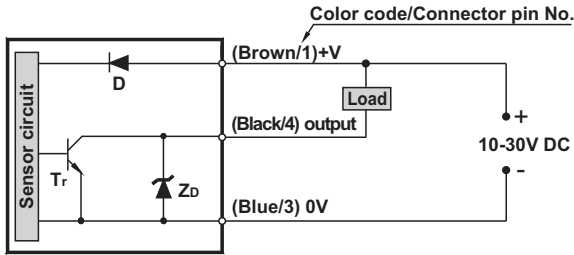
Item	Type	Standard Diffuse		Narrow-view Diffuse		Retroreflective	
	Model NO.	NPN output type	PNP output type	NPN output type	PNP output type	NPN output type	PNP output type
		RP34-D0100N.....	RP34-D0100P.....	RP34-D0300N.....	RP34-D0300P.....	RP34-L5000N.....	RP34-L5000P.....
<b>Sensing range</b>	100 mm		70 to 300mm		0.1 to 5m (Note)		
<b>Sensing object</b>	Opaque, translucent or transparent object		Opaque, translucent or transparent object (Min. sensing object: $\phi$ 50mm copper wire)		$\phi$ 50 mm or more opaque or translucent object.		
<b>Hysteresis</b>	15% or less of operation distance					—————	
<b>Repeatability</b>	0.5mm or less						
<b>Supply voltage</b>	10 to 30V DC 10% Ripple P-P 10% or less						
<b>Current consumption</b>	40mA or less	50mA or less	40mA or less	50mA or less	40mA or less	50mA or less	
<b>Sensing output</b>	<b>NPN</b> open-collector transistor Maximum sink current: 100mA Applied voltage: 30V DC or less( between output and 0V) Residual voltage: 1.5V or less ( at 100mA sink current)			<b>PNP</b> open-collector transistor Maximum source current: 100mA Applied voltage: 30V DC or less( between output and +V) Residual voltage: 1.5V or less ( at 100mA source current)			
	<b>Utilization category</b>	DC-12 or DC-13					
	<b>Output operation</b>	Switchable either Light-ON or Dark-ON					
	<b>Short-circuit protection</b>	Incorporated					
<b>Response time</b>	1 ms or less						
<b>Operation indicator</b>	Red LED (lights up when the sensing output is ON)						
<b>Stability indicator</b>	Green LED (lights up under stable light received condition or stable dark condition)						
<b>Sensitivity adjuster</b>	2-turn adjuster with indicator						
<b>Automatic interference prevention function</b>	Incorporated (Two units of sensors can be mounted closely)						
<b>Environmental resistance</b>	<b>Pollution degree</b>	3 (Industrial environment)					
	<b>Protection</b>	IP 67 (IEC)					
	<b>Ambient temperature</b>	-25 to +60°C (No dew condensation or icing allowed), storage: -30 to +70°C					
	<b>Ambient humidity</b>	35 to 85 % RH, storage:35 to 85% RH					
	<b>Ambient illuminance</b>	Sunlight: 11000 lx at the light receiving face, Incandescent light: 3500 lx at the light-receiving face.					
	<b>EMC</b>	IEC 60947-5-2, Parts 7.2.6.1.2.3 or RFI>3V/m(in 30-1000MHZ), EFT>1KV, ESD>4KV(contact)					
	<b>Voltage withstandability</b>	1000 V AC for one min. Between all supply terminals connected together and enclosure.					
	<b>Insulation resistance</b>	20M $\Omega$ ,or more, with 250V DC megger between all supply terminals connected together and enclosure					
	<b>Vibration resistance</b>	IEC 60947-5-2, Part 7.4.2 or 10-55HZ, 1.0mm amplitude In X, Y and Z directions for 30 min					
	<b>Shock resistance</b>	IEC 60947-5-2, Part 7.4.1 or 30g,11ms in X,Y and Z directions for six times each					
<b>Emitting element</b>	Infrared LED (modulated)		Red LED (modulated)		Infrared LED (modulated)		
<b>Material</b>	<b>Enclosure:</b> Heat-resistant ABS, <b>Lens:</b> Acrylic, <b>Indicator cover :</b> Polyallylate						
<b>Cable</b>	0.15mm <sup>2</sup> 3-core oil, heat and cold resistant cabtyre cable, 2m long						
<b>Cable extension</b>	Extension up to total 100m is possible with 0.3mm <sup>2</sup> , or more, cable						
<b>Pigtail type</b>	Pico style (M8) 4pin+6" cable						
<b>Connector type</b>	Pico style (M8) 4pin						
<b>Weight</b>	50g approx.						
<b>Accessories</b>	MS-RP34-1 (Sensor mounting bracket): 1 set Adjusting screwdriver: 1 pc.				MS-RP34-1(Sensor mounting bracket):1set <b>RE-6152</b> (Reflector): 1pc. Adjusting screwdriver: 1pc.		

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

## Connection Diagrams

### NPN output type

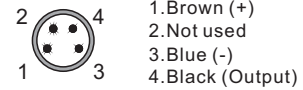
I/O circuit diagram



Symbols...D :Reverse supply polarity protection diode  
 Zd: Surge absorption zener diode  
 Tr: NPN output transistor.

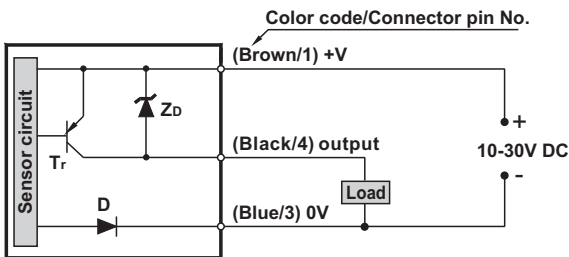
Connector pin position

Pico-Style



### PNP output type

I/O circuit diagram



Symbols...D :Reverse supply polarity protection diode  
 Zd: Surge absorption zener diode  
 Tr: PNP output transistor.

Connector pin position

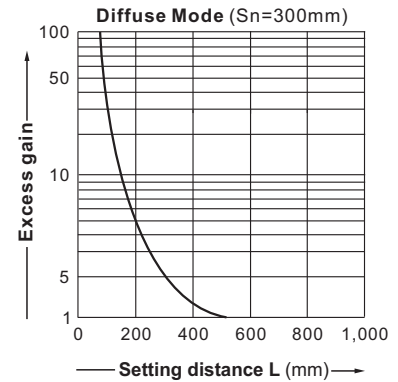
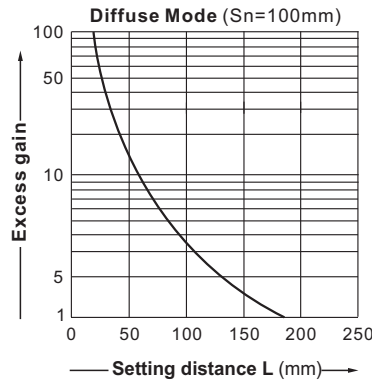
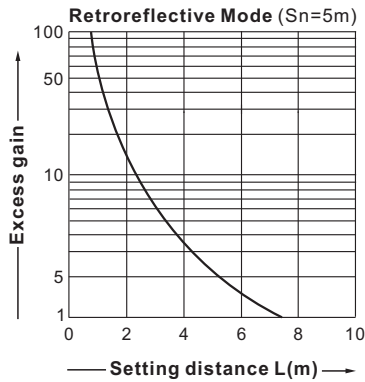
Pico-Style



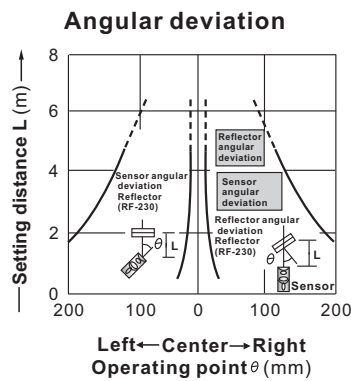
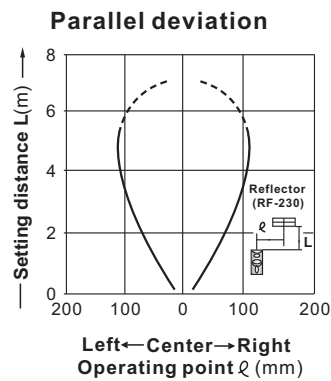
## Sensing Characteristics (Typical)

### All Models

#### Correlation between setting distance and excess gain

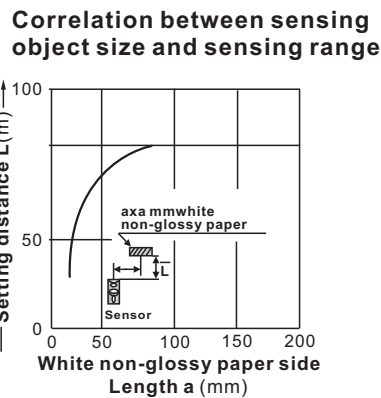
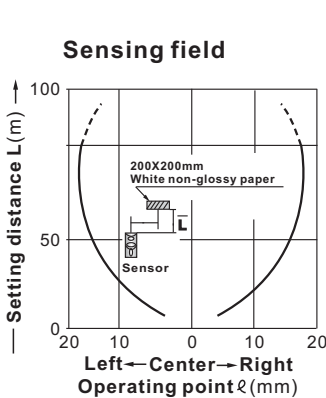


### Retroreflective Mode (Sn=5 m)



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### Standard Diffuse Mode [RP34-D0100N(P)...]

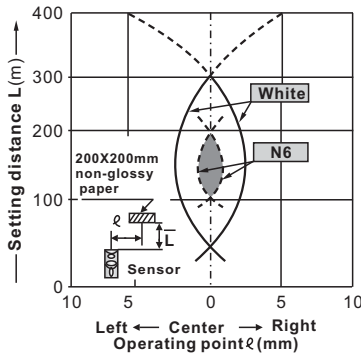


As the sensing object size becomes smaller than the standard size(white non-glossy paper 200x200mm), the sensing range shortens, as shown in the left graph. (For plotting the left graph, the sensitivity has been set such that a 200x200mm white non-glossy paper is just detectable at a distance of 800mm).

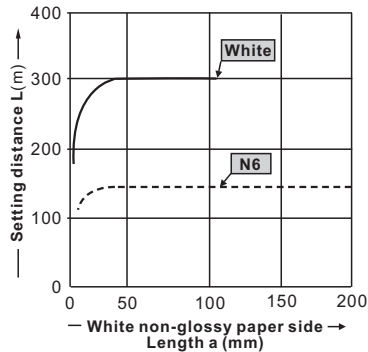
## Sensing Characteristics & Precautions for Proper Use

### Narrow-view Diffuse Mode [RP34-D0300N(P)...]

**Sensing field**



**Correlation between sensing object size and sensing range**

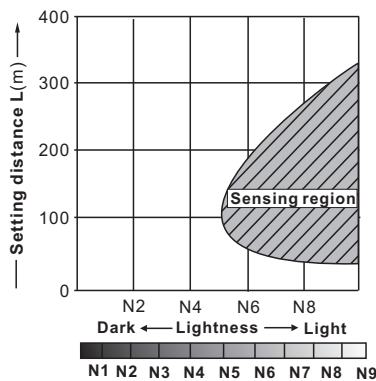


As the sensing object size becomes smaller than the standard size (white non-glossy paper 200X200mm), the sensing range shortens, as shown in the left graph.

(For plotting the left graph, the sensitivity has been set such that a 200 X 200mm white non-glossy paper is just detectable at a distance of 300mm.)

### Retroreflective Mode [RP34-L5000N(P)...]

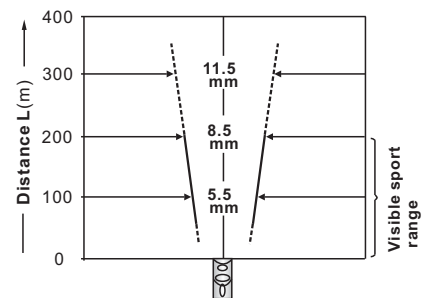
**Correlation between lightness and sensing range**



The sensing region is represented by oblique lines in the left figure. However, the sensitivity should be set with an enough margin because of slight variation in products.

(Lightness shown on the left may differ slightly from the actual object condition.)

**Emitted beam**



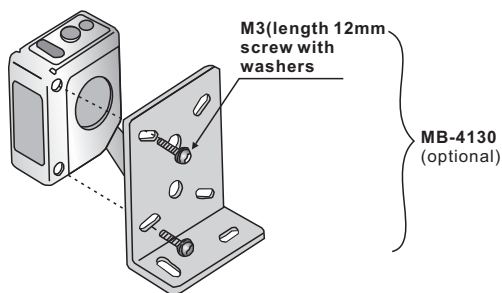
### Precautions for Proper Use



This product is not a safety sensor. Its use is not intended or designed to protect life and prevent body injury or property damage from dangerous parts of machinery. It is a normal object detection sensor.

#### Mounting

- The tightening torque should be 0.49N·m or less.



#### Detectable combination of colors for RP34-D0300N (P)\*

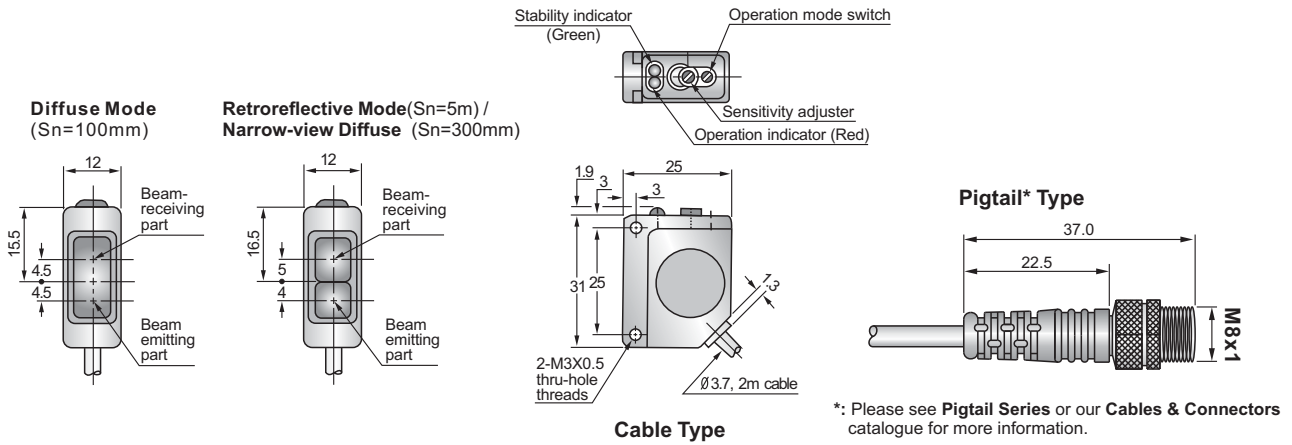
(Setting Distance:100mm)

Mark	White	Yellow	Orange	Red	Green	Blue	Black
White	●	X	X	X	●	●	●
Yellow	X	●	X	X	●	●	●
Orange	X	X	●	X	●	●	●
Red	X	X	X	●	●	●	●
Green	●	●	●	●	●	X	X
Blue	●	●	●	●	X	●	X
Black	●	●	●	●	X	X	●

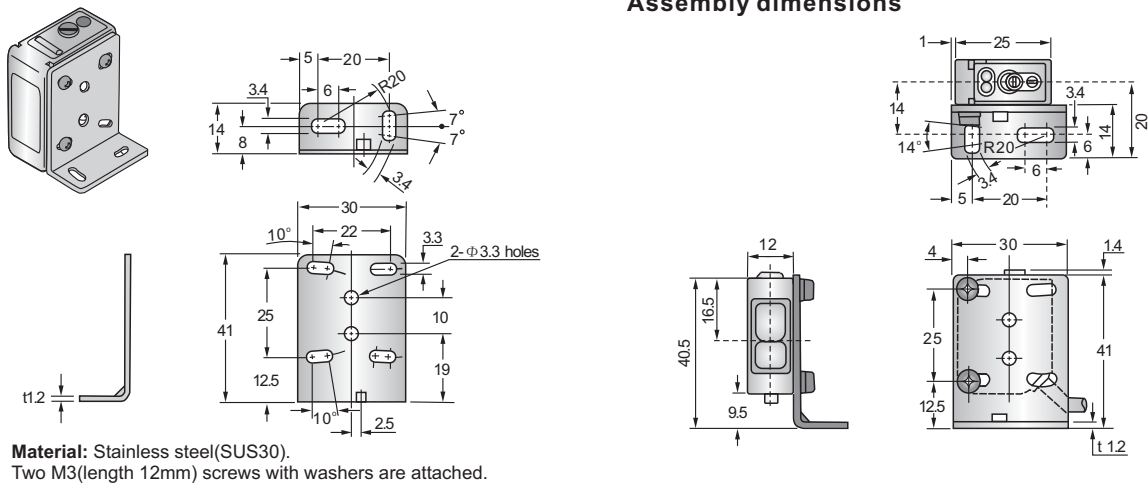
●: Detectable X: Not detectable

## Dimensions (Unit: mm)

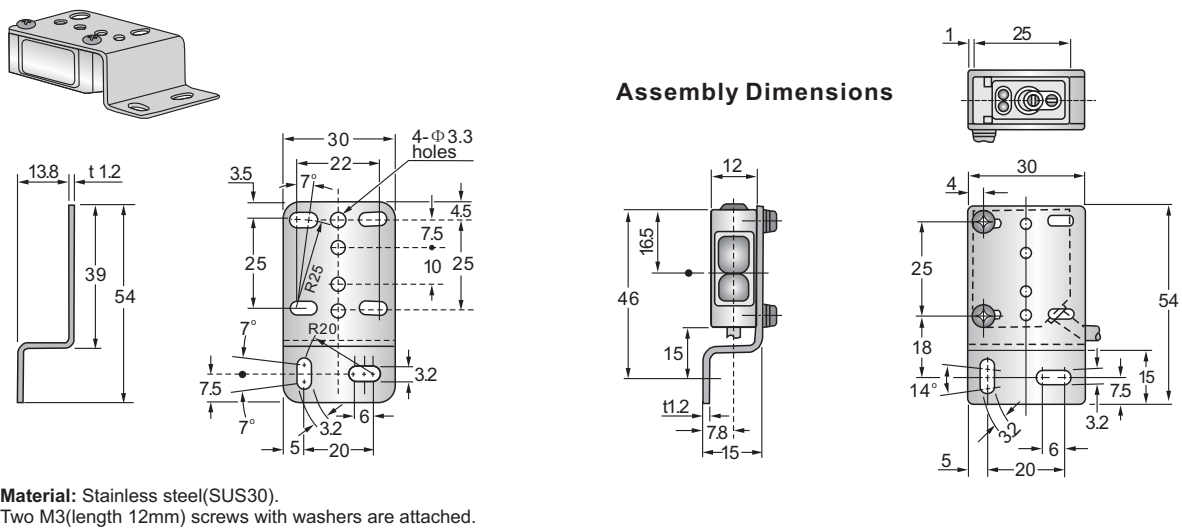
### Sensor Type



### MB-4130 (Sensor mounting bracket-optional)

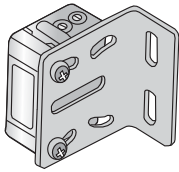


### MB-5430 (Sensor mounting bracket-optional)

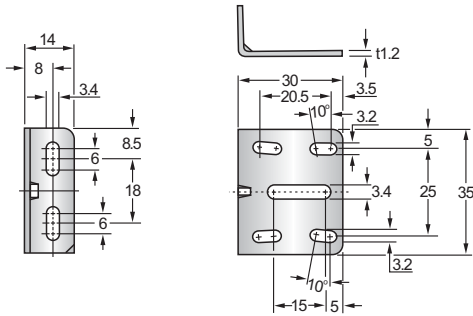


## Dimensions (Unit: mm)

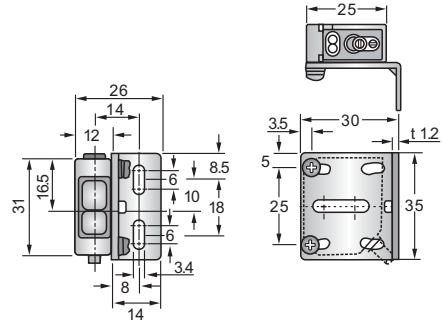
### MB-3530 (Sensor mounting bracket-optional)



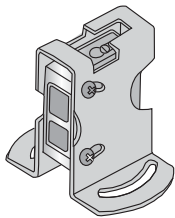
**Material: Stainless steel (SUS304).**  
**Two M3 (length 12mm) screws with washers are attached.**



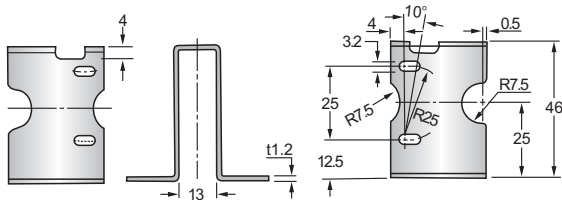
### Assembly dimensions



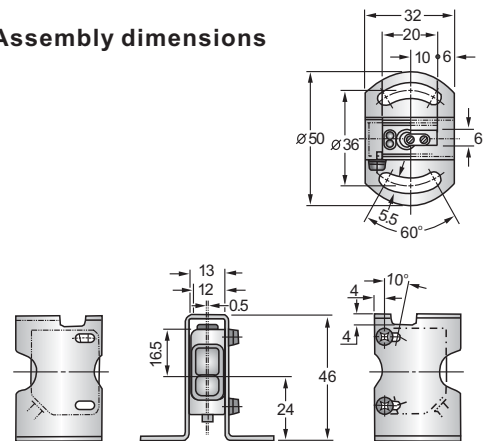
### MB-4632 (Sensor mounting bracket-optional)



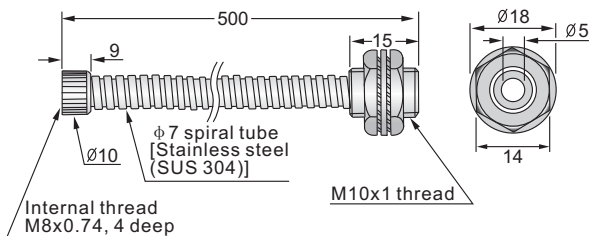
**Material: Stainless steel (SUS304)**  
**Two M3 (length 12mm) screws with washers are attached.**



### Assembly dimensions



### PT-RP500 (Protective tube-optional)



### PT-RP1000 (Protective tube-optional)

