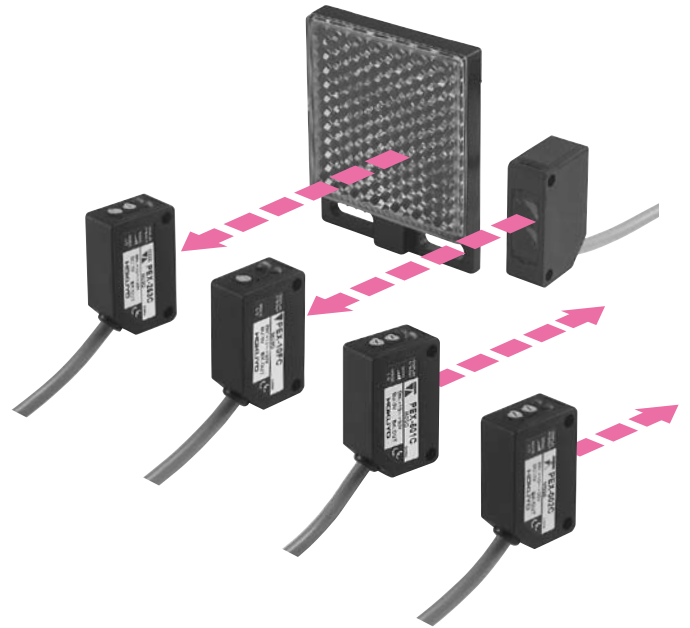


# Photoelectric Switch

## PEX SERIES CE

### Complete functions, water-proof!

- Protective structure is IP67.
- Connector type is lined-up. (Easy maintenance)
- Stable lamp provides.
- Both PNP and NPN output are lined-up.
- Detecting distance is 10m for through-beam type, and 2.6m for retro-reflection type and 0.5m for diffuse reflection type.




### Specifications

#### Sensor

Type		Through-beam type		Retro-reflection type		Diffuse-reflection type		
						Standard		Short distance
Classification		Standard		With polarized light filter		Standard		
Model No.	Cable type	PEX-105C	PEX-105A	PEX-263C	PEX-263A	PEX-501C	PEX-501A	PEX-002C
	Connector type	PEX-105C-J	—————	PEX-263C-J	—————	PEX-501C-J	—————	—————
Power source		12 to 24VDC (10 to 30V including ripple 10%)						
Current consumption		Projector: 20mA or less Receiver: 15mA or less		20mA or less				
Light source		Red LED						
Detection distance		10m		2.6m* <sup>1</sup>		0.5m* <sup>2</sup>		1 to 70mm* <sup>2</sup>
Detectable object		Opaque object of $\phi$ 8mm or more		Opaque object of $\phi$ 50mm or more* <sup>1</sup>		Transparent/opaque objects		
Operating mode		Changeover of LIGHT-ON/DARK-ON						
Output		NPN	PNP	NPN	PNP	NPN	PNP	NPN
Control output		100mA 30VDC or less for both NPN & PNP, residual voltage 1.8V 100mA or less						
Response time		0.5msec or less						
Sensitivity adjustment		Fixed* <sup>3</sup>		Provided				
Indication lamps		Stable lamp (Green LED), output lamp (Orange LED)* <sup>4</sup>						
Connection	Cable type	length 2m, $\phi$ 3.8mm, 3 cores* <sup>5</sup>						
	Connector type	M8 (4 pins) connector	—————	M8 (4 pins) connector	—————	M8 (4 pins) connector	—————	—————
Ambient illuminance		Sunlight: 10,000lx or less, incandescent lamp: 3,000lx or less						
Ambient temperature		-25 to +55°C (-40 to +70°C when stored)						
Ambient humidity		35 to 85% (35 to 90% when stored), not icing/not condensing						
Insulation resistance		20M $\Omega$ or more (500VDC megger)						
Vibration resistance		Double amplitude 1.5mm, 10 to 55Hz, each 2 hour in X, Y and Z directions						
Impact resistance		1,000m/s <sup>2</sup> , each 3 time in X, Y and Z directions						
Protective structure		IP67 (IEC standard)						
Case material		Main body: ABS resin including glass fiber, lens (front cover): PMMA resin						
Weight		Approx. 50g for both projector and receiver		Approx. 50g				
Attachment		Mounting bracket		Mounting bracket and Reflector (RRP-50S-V)		Mounting bracket		

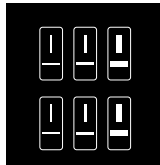
\*1. When using RRP-50S-V. \*2. When detecting object is 20cmX20cm white paper. \*3. PEX-105C-V01 with sensitivity adjuster is also lined-up.  
\*4. Projector of through-beam type doesn't provide it. \*5. Projector of through-beam type is 2 cores.

#### Reflector (Attachment)

Appearance	Model No.	Remark
	RRP-50S-V	It provides with retro-reflection type. Specifications are as per this reflection.

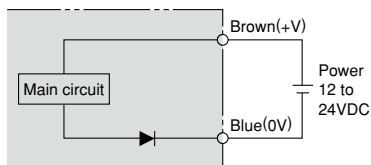
\*Small type reflector, RRP-30S-V is also lined-up.

#### Slit seal (Vertically/horizontally · options)

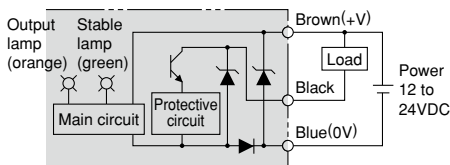
Appearance	Model No.	Size of slit
	PEX-PPX6	0.5X6mm
		1.0X6mm
		2.0X6mm

## Output circuit

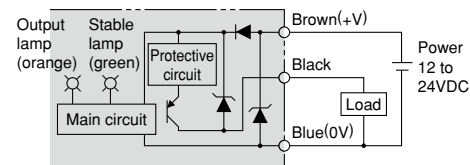
### Projector of through-beam type



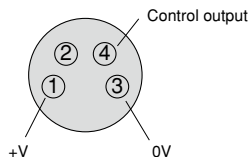
### NPN output



### PNP output



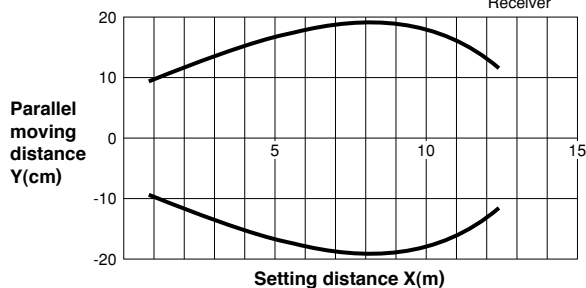
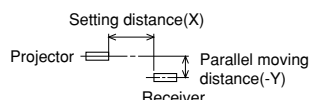
### Connector pin No.



## Characteristic data

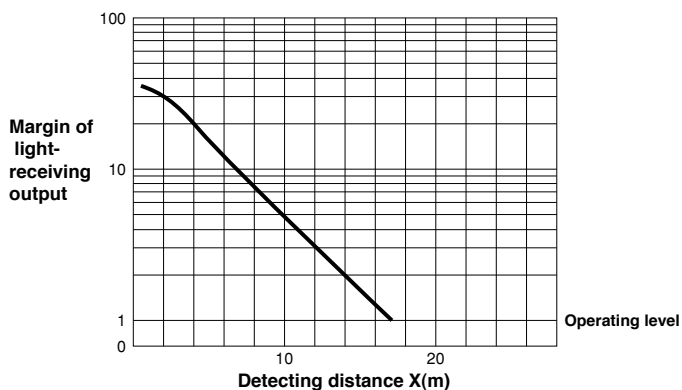
### Through-beam type (PEX-105)

#### Parallel moving characteristic



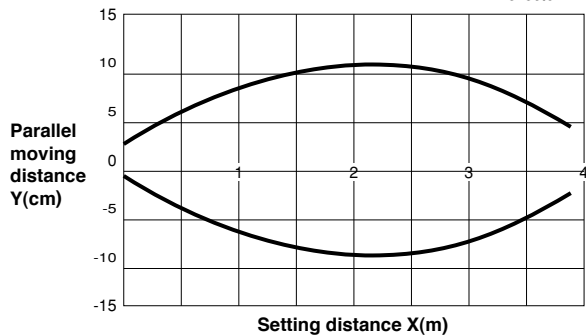
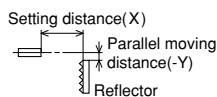
### Through-beam type (PEX-105)

#### Margin of light-receiving output—distance characteristic



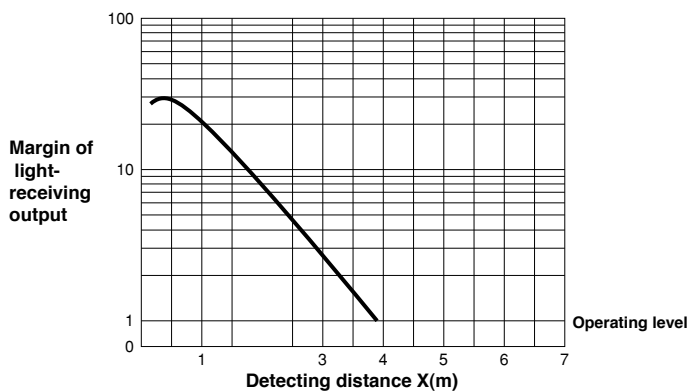
### Retro-reflection type (PEX-263)

#### Parallel moving characteristic



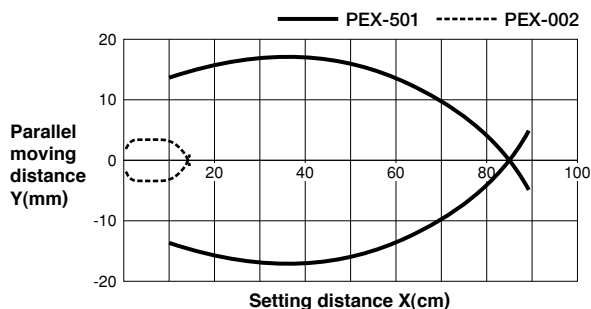
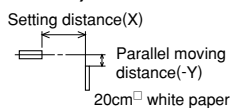
### Retro-reflection type (PEX-263)

#### Margin of light-receiving output—distance characteristic



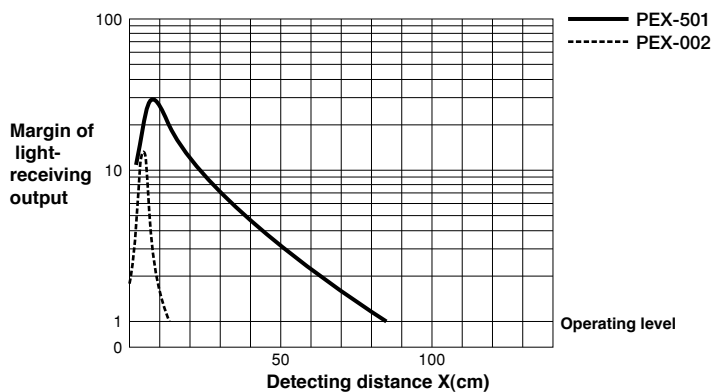
### Diffuse-reflection type (PEX-501/ PEX-002)

#### Parallel moving characteristic



### Diffuse-reflection type (PEX-501/PEX-002)

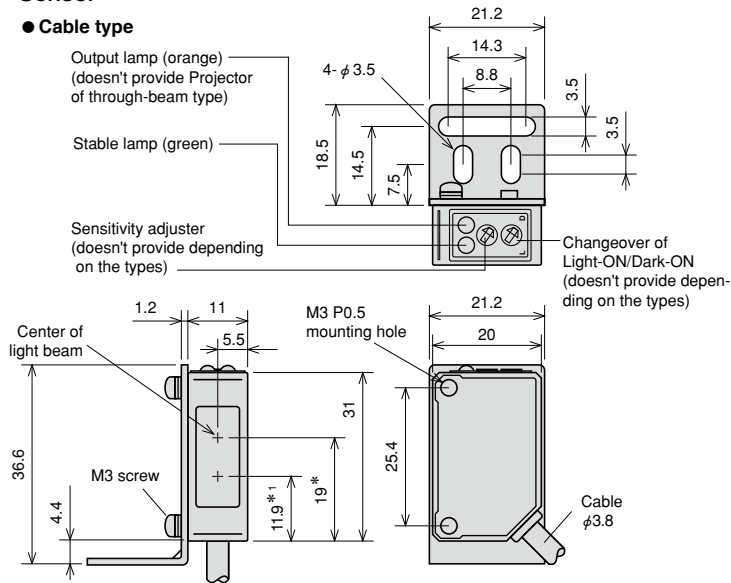
#### Margin of light-receiving output—distance characteristic



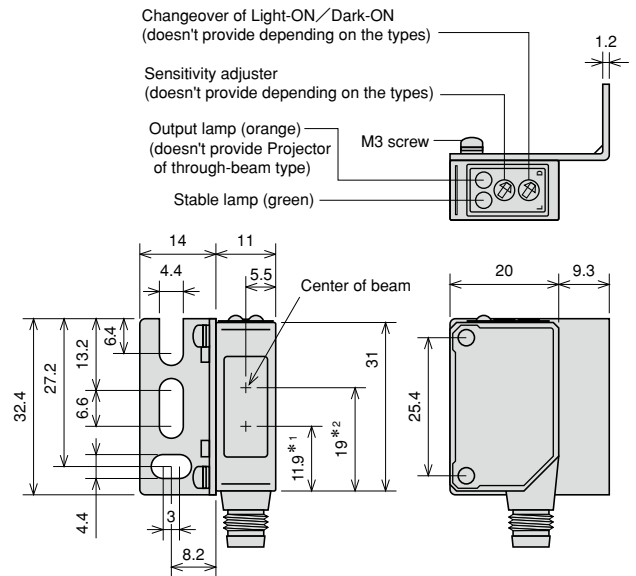
## External dimensions

### Sensor

#### ● Cable type



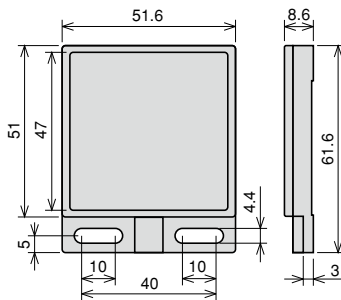
#### ● Connector type



\*1. Center position of light-projecting for retro-reflection/diffuse-reflection type

\*2. Center position of light-projecting/light-receiving for through-beam type and center position of light-receiving for retro-reflection/diffuse-reflection type.

### Reflector (attached to retro-reflection type)



## Use properly

① Avoid to use at the following places.

- Any places where vapor of solvent or corrosive gas exists.
- Any places where sun light enters in the lens surface directly.
- Any places where temperature, humidity, vibration or impact etc. exceeds over ratings.

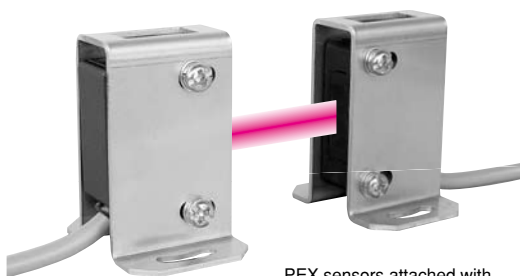
② Make sure to make a single wiring basically because if making a wiring with power line etc., it may be affected by noise and so basically, make sure to make a single wiring.

③ Cable is 2m long. If extending it, use cable cord with 0.3mm<sup>2</sup>.

④ If using commercial switching regulator as power source, make sure to earth FG (frame ground terminal) and G (ground terminal).

⑤ Lens is made by resin. (Don't wipe off with thinner or alcohol)

☆ Protective bracket (P25766) is also available as an option. (made by stainless)



PEX sensors attached with protective brackets.