

# KEYENCE

Self-contained Threaded Sensors  
PZ-G Series



Dual LED



## MEGA POWER

Long-range detection twice as far as conventional models

## EASY ADJUSTMENT

The front light-receiving indicator allows easy optical axis alignment

## EASY INSTALLATION

A one-touch mounting bracket makes screws unnecessary



# Dramatically improved performance and ease-of-use

## MEGA POWER

### High-Power Dual LED-type

High-power thrubeam type PZ-G52

Detecting distance: 40 m 131.2'

**4 times\***  
longer detecting distance  
**2 times\***  
faster response speed

\* Compared with our conventional models

### 4-element red LED-type

Thrubeam type PZ-G51

Detecting distance: 20 m 65.6'

**2 times\***  
longer detecting distance  
**2 times\***  
faster response speed

The high-intensity 4-element red LED has greatly improved the detecting distance. The bright beam spot makes it easy to align the optical axis.

A 4-element LED is used in upper-level fiber sensors because its wavelength can be easily observed by the human eye and the intensity change over time is small.

\* Compared with our conventional models

Reflective type PZ-G41

Detecting distance: 1 m 3.3'

Retro-reflective type PZ-G61

Detecting distance: 4.2 m 13.8'

[ Self-contained Threaded Sensors PZ-G Series ]

# EASY ADJUSTMENT

## Alignment indicator takes the guesswork out of long distance sensor setup

Has your receiver been bumped out of alignment? How can you tell? Thrubeam PZ-G models feature a bright red LED indicator that alerts you the instant proper alignment has been obtained. This simple yet crucial feature allows you to troubleshoot setup and run-time issues quickly, before they can snowball into major problems.



## Laser Marked tags eliminate possible contamination

All information (model#, lot#, etc.) is laser marked directly onto the sensor housing. There are no labels, inks or paints to peel or chip off into your products.



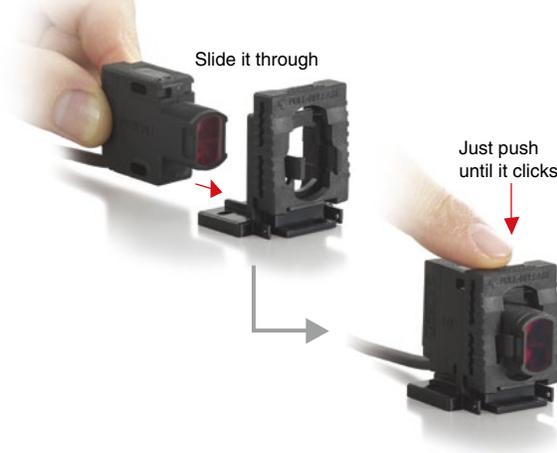
**Easy-to-see blue trimmer**  
Enhances operation efficiency

# EASY INSTALLATION

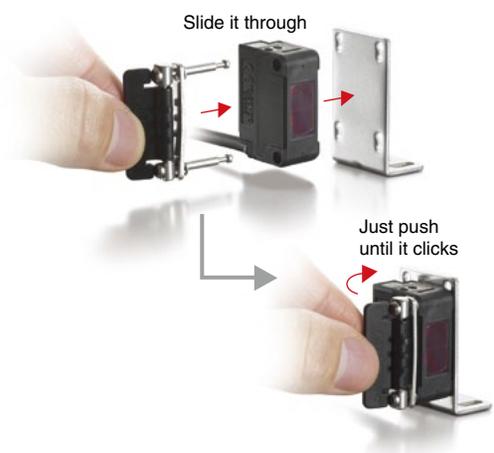
## One-Touch mounting brackets cut installation time

Our unique one-touch brackets can save you and your customers considerable man-hours during installation or replacement.

**Threaded models**



**Rectangular models**



A variety of mounting styles are available to adapt to your application.

**Threaded models**



Can be attached with an M18 nut

**Rectangular models**



Can be attached with two M3 screws

# Enhanced user-friendliness

## Standard M8 and M12 quick-disconnects make replacement easier

The PZ-G features a standard pin-out, which allows it to be a drop-in replacement with existing wiring.



## Our oil-resistant cable ensures reliable operation in an oily environment

In addition to the standard PVC cable, an oil-resistant PUR cable is available for use in harsh environments.



PUR: Polyuretane

## 19 types of mounting brackets provide a variety of mounting methods

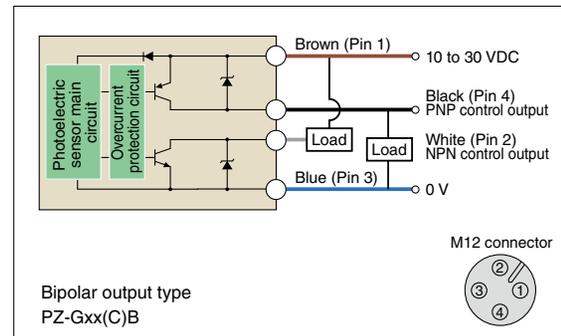
A bracket can be selected according to the installation conditions. 19 types, including a one-touch bracket, are available.



The mounting brackets shown above are only part of the lineup. See page 7 for further details.

## Bipolar output (NPN+PNP) compatible with any input device

Threaded models feature bipolar outputs (NPN and PNP), eliminating the need to stock sensors for both outputs.



## The interference suppression function prevents interference from nearby units

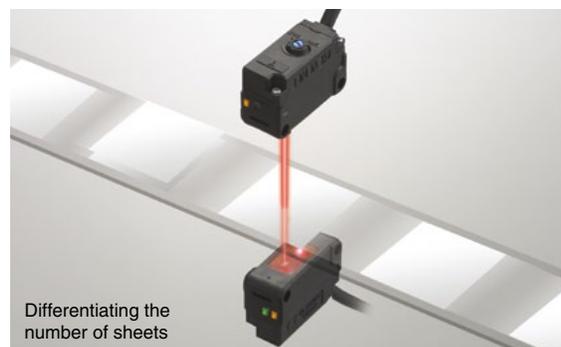
With thru-beam models, up to two sensors can be mounted in close proximity. Four sensors can be used by alternating the transmitter/receiver position.



The different frequency function automatically shifts the emission cycle if ambient light is received by the receiver.

## High-speed targets can be detected at a response speed of up to 500 μs

A high-speed response of up to 500 μs, twice as fast as our conventional models, ensures detection on a high-speed line. The high power ensures stable detection.

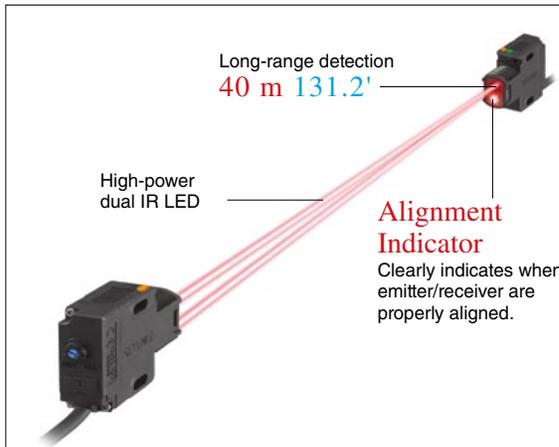


# Model features

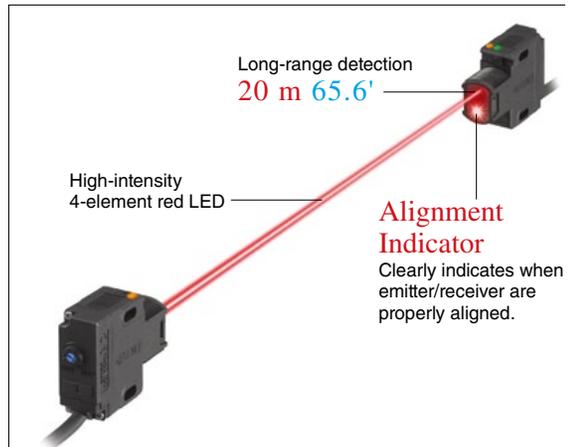


## Thrubeam — The long-range high-power beam makes it easy to align the optical axis

### High-power PZ-G52

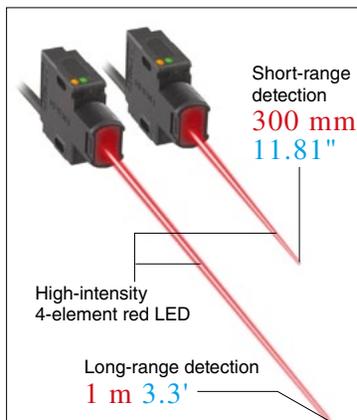


### Standard PZ-G51

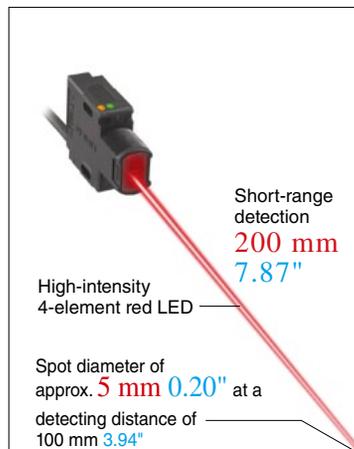


## Reflective — The visible spot makes it easy to align the optical axis

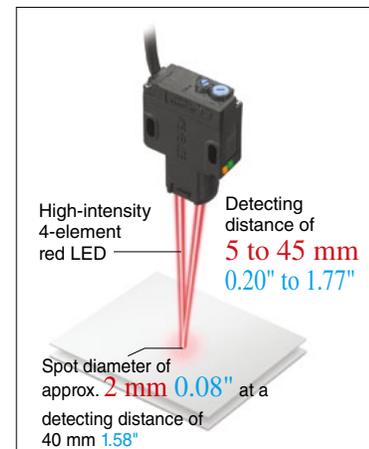
### Diffuse reflective PZ-G41 (long-range) PZ-G42 (short-range)



### Narrow-view reflective type PZ-G101

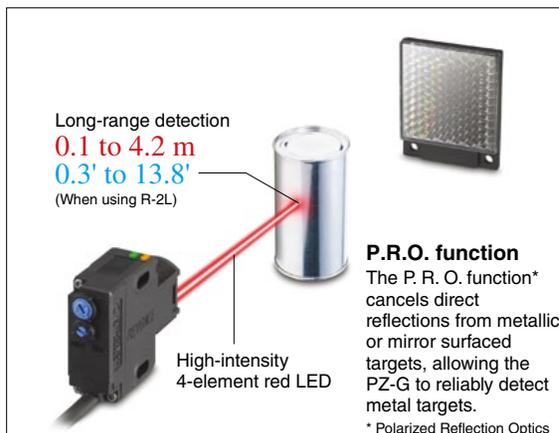


### Definite reflective type PZ-G102

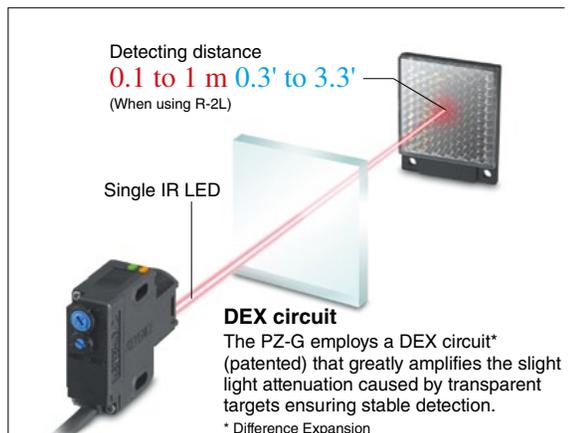


## Retro-reflective — High-power long-range detection

### Standard PZ-G61 (with P. R. O. function)



### Transparent object detection type PZ-G62



# Sensor head lineup / Model variations

## Sensor head lineup



Type	Design	Detecting distance	Model variations			Light source (LED)	Cable*1		
			NPN	PNP	Bipolar (NPN+PNP)				
 Thrubeam	Standard	Rectangular	 20 m 65.6'	PZ-G51N	PZ-G51P	—	Red	Cable (2 m 6.6')	
		Threaded		PZ-G51CN	PZ-G51CP	—		M8 connector	
	High-power	Rectangular		PZ-G51EN	PZ-G51EP	—		M12 pigtail quick disconnect	
		Threaded		—	—	PZ-G51B		Cable (2 m 6.6')	
		Rectangular		—	—	PZ-G51CB		M12 connector	
				Threaded	PZ-G52N	PZ-G52P		—	Cable (2 m 6.6')
High-power	Rectangular	PZ-G52CN	PZ-G52CP	—	M8 connector				
	Threaded	PZ-G52EN	PZ-G52EP	—	M12 pigtail quick disconnect				
 Reflective	Diffuse reflective long-range	Rectangular	 1 m 3.3'	PZ-G41N	PZ-G41P	—	Red	Cable (2 m 6.6')	
		Threaded		PZ-G41CN	PZ-G41CP	—		M8 connector	
		Diffuse reflective short-range		Rectangular	PZ-G41EN	PZ-G41EP		—	M12 pigtail quick disconnect
				Threaded	—	—		PZ-G41B	Cable (2 m 6.6')
	Rectangular			—	—	PZ-G41CB		M12 connector	
				Threaded	PZ-G42N	PZ-G42P		—	Cable (2 m 6.6')
	Narrow-view reflective	Rectangular		PZ-G42CN	PZ-G42CP	—		M8 connector	
		Threaded		PZ-G42EN	PZ-G42EP	—		M12 pigtail quick disconnect	
		Rectangular		—	—	PZ-G42B		Cable (2 m 6.6')	
				Threaded	—	—		PZ-G42CB	M12 connector
	Definite reflective	Rectangular		PZ-G101N	PZ-G101P	—		Cable (2 m 6.6')	
				PZ-G101CN	PZ-G101CP	—		M8 connector	
		Threaded		PZ-G101EN	PZ-G101EP	—		M12 pigtail quick disconnect	
				—	—	PZ-G101B		Cable (2 m 6.6')	
		Rectangular		—	—	PZ-G101CB		M12 connector	
				PZ-G102N	PZ-G102P	—		Cable (2 m 6.6')	
				PZ-G102CN	PZ-G102CP	—		M8 connector	
				PZ-G102EN	PZ-G102EP	—		M12 pigtail quick disconnect	
	Threaded	—		—	PZ-G102B	Cable (2 m 6.6')			
		—		—	PZ-G102CB	M12 connector			
 Retro-reflective*2	Long-range (with P. R. O. function)	Rectangular	 0.1 to 4.2 m 0.3' to 13.8' (when using R-2L)	PZ-G61N	PZ-G61P	—	Red	Cable (2 m 6.6')	
		Threaded		PZ-G61CN	PZ-G61CP	—		M8 connector	
		Rectangular		PZ-G61EN	PZ-G61EP	—		M12 pigtail quick disconnect	
				Threaded	—	—		PZ-G61B	Cable (2 m 6.6')
	Transparent object detection	Rectangular		—	—	PZ-G61CB	M12 connector		
				PZ-G62N	PZ-G62P	—	Cable (2 m 6.6')		
		Threaded		PZ-G62CN	PZ-G62CP	—	M8 connector		
				PZ-G62EN	PZ-G62EP	—	M12 pigtail quick disconnect		
		Rectangular		—	—	PZ-G62B	Cable (2 m 6.6')		
				Threaded	—	—	PZ-G62CB	M12 connector	

\*1 Cable sold separately for connector models / pigtail quick disconnect models.  
 \*2 Reflector sold separately for retro-reflective models.

## Model variations

### PZ-Gxx

(1) Detection method

(2) Details

Reference No.	Reference No. description	
	Detection method	Details
51	Thrubeam type	Standard
52		High-power
41	Reflective type	Diffuse reflective long range
42		Diffuse reflective short range
101		Narrow-view
102		Definite reflective
61	Retro-reflective type	Long range (with P. R. O. function)
62		Transparent object detection (without P. R. O. function)

Reference letter	Reference letter description		
	Details	Cable	Output
N	Rectangular models	2 m 6.6' cable with a loose wire end	NPN
P			PNP
CN		M8 connector	NPN
CP			PNP
EN		300 mm 11.81" cable + M12 connector	NPN
EP			PNP
B	Threaded models	2 m 6.6' cable with a loose wire end	Bipolar (NPN+PNP)
CB			

# Options

## Brackets



### Rectangular models

Model	For use with: <sup>*2</sup>	Details <sup>*1</sup>	Accessories	Material	Weight
PZ-B41A	Cable models	L-shaped mounting bracket (standard)	M3 screw, P=0.5 × L12 (2 pieces)	Mounting bracket: SUS304 Screw: Stainless	Approx. 15 g
PZ-B01A		L-shaped mounting bracket (small)			Approx. 10 g
PZ-B61		L-shaped mounting bracket (protective)			Approx. 90 g
PZ-B21A		Side-mounting bracket (vertical L)			Approx. 15 g
PZ-B22A		Side-mounting bracket (vertical R)			Approx. 15 g
PZ-B31		Side-mounting bracket (landscape L)			Approx. 20 g
PZ-B32		Side-mounting bracket (landscape R)			Approx. 20 g
PZ-B11		Landscape mounting bracket			Approx. 20 g
PZ-B81					One-touch mounting bracket
PZ-B02	Connector models (M8 L-shaped cable only)	L-shaped mounting bracket	M3 screw, P=0.5 × L12 (2 pieces)	Mounting bracket: SUS304 Screw: Stainless	Approx. 20 g
PZ-B23		Side-mounting bracket (vertical L)			Approx. 25 g
PZ-B24		Side-mounting bracket (vertical R)			Approx. 25 g
PZ-B83		One-touch mounting bracket			Stopper
OP-84220	Cable models Connector models	Stopper for one-touch mounting brackets (PZ-B81/B83) (without an L-shaped bracket)	—	SUS303, Polyacetal	Approx. 10 g

<sup>\*1</sup> One piece is included. <sup>\*2</sup> Not applicable for threaded models. PZ-V/M mounting brackets other than specified in this table cannot be used for PZ-G Series.

### Threaded models

Model	For use with:	Details <sup>*1</sup>	Accessories <sup>*2</sup>	Material	Weight
PZ-B03	Cable models Connector models	L-shaped mounting bracket A (standard)	—	SUS304	Approx. 25 g
PZ-B04		L-shaped mounting bracket (angle-adjustable)		SUS304	Approx. 35 g
PZ-B25		Side-mounting bracket (vertical)		SUS304	Approx. 30 g
PZ-B82 <sup>*3</sup>		One-touch mounting bracket		Base: Polyacetal Slide: Glass-reinforced polyamide	Approx. 10 g
OP-84225		M18 nut (2 pieces)		Glass-reinforced PBT	Approx. 5 g

<sup>\*1</sup> One piece is included (except OP-84225). <sup>\*2</sup> One M18 nut is supplied with threaded models. <sup>\*3</sup> When using PZ-B82, OP-85135 attachment cannot be used.

### Rectangular/Threaded models

Model	For use with:	Details <sup>*</sup>	Accessories	Material	Weight
PZ-S10A	Cable models Connector models	Free adjuster tool (L=55 to 100 mm 2.17" to 3.94") Applicable mounting bracket: Side-mounting bracket (PZ-B21A, B22A, B31, B32, B23, B24, B25)	Binding band (2 pieces) Plate washer (1 piece)	Shaft: SUS303 Plastic part: Polyamide	Approx. 105 g
PZ-S20A		Free adjuster tool (L=55 to 200 mm 2.17" to 7.87") Applicable mounting bracket: Side-mounting bracket (PZ-B21A, B22A, B31, B32, B23, B24, B25)			Approx. 165 g

<sup>\*</sup>One piece is included.

# Options

## Attachments



Model	For use with:	Description	Number included	Material	Weight
OP-85136	Thrubeam (Rectangular models)	Attachment A (for attaching a slit or a polarization filter)	2 sets	Polyacetal (POM)	Approx. 2 g
OP-85135 <sup>*1</sup>	Thrubeam (threaded models)	Attachment B (for attaching a slit or a polarization filter)	2 sets	Polyacetal (POM)	Approx. 1 g
OP-85137	Thrubeam (square/threaded models)	Slit (0.5 mm 0.02", 1 mm 0.04", 2 mm 0.08")	3 sets <sup>*2</sup>	Polyvinyl chloride (PVC)	Approx. 1 g
OP-85138	Thrubeam (red LED models)	Polarization filter A (for the red LED type)	2 pieces	Triacetate (TAC) Polyvinyl alcohol (PVA)	Approx. 1 g
OP-85139	Thrubeam (red IR LED models)	Polarization filter B (for the red IR LED type)	3 pieces <sup>*2</sup>	Acetate plastic	Approx. 1 g

<sup>\*1</sup> OP-85135 cannot be attached when using PZ-B82 one-touch mounting bracket. <sup>\*2</sup> For the PZ-G52, OP-85137 includes 3 sets for the 2 transmitting points and 1 receiving point.

## Specifications when an attachment is used

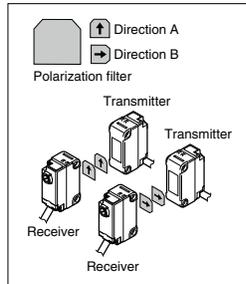
Sensor model	Slit (mm inch)	Polarization filter	Detecting distance (m ft)
PZ-G51	0.5 × 5 0.02" × 0.20"	—	1 3.3'
	1 × 5 0.04" × 0.20"	—	2.5 8.2'
	2 × 5 0.08" × 0.20"	—	5 16.4'
	—	Attached*	9 29.5'
	0.5 × 5 0.02" × 0.20"	Attached*	0.5 1.6'
	1 × 5 0.04" × 0.20"	Attached*	1.5 4.9'
PZ-G52	2 × 5 0.08" × 0.20"	Attached*	3 9.8'
	0.5 × 5 0.02" × 0.20"	—	2.5 8.2'
	1 × 5 0.04" × 0.20"	—	5.5 18.0'
	2 × 5 0.08" × 0.20"	—	10 32.8'
	—	Attached*	15 49.2'
	0.5 × 5 0.02" × 0.20"	Attached*	1 3.3'
	1 × 5 0.04" × 0.20"	Attached*	2 6.6'
	2 × 5 0.08" × 0.20"	Attached*	5 16.4'

\* When attaching to make the polarization direction of the transmitter and the receiver same.

### [ Usage example 1 ]

#### Suppressing interference between two thrubeam sensors

Interference between thrubeam sensors can be suppressed with polarization filters. A polarization filter's characteristic depends on the direction and notch in which it is set. If the polarization direction of the filters attached to the transmitter and the receiver is the same, the beam can be received. If the direction of the filter is changed by 90 degrees, however, the beam cannot be received. Using this restriction, interference can be suppressed with polarization filters as shown.

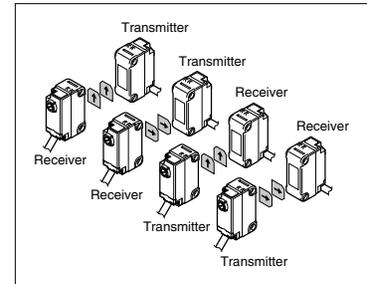


\* Remove the protective sheets on both sides of the polarization filter before use.  
\* Adjust the sensitivity if interference occurs even with polarization filters.

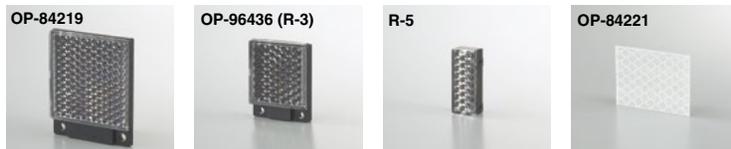
### [ Usage example 2 ]

#### Suppressing interference between four thrubeam-type sensors

With another set of sensors set as in Usage Example 1, interference between four sensors can be suppressed by alternating the positions of the transmitters and the receivers. Be sure to pay attention to the direction of the notches on the filters.



## Reflectors



Model	For use with:	Detecting distance (m ft)		Description	Number included	Material	Weight
		PZ-G61 Long-range	PZ-G62 Transparent object detection				
OP-84219	Retro-reflective models	0.1 to 4.2 0.3' to 13.8'	0.1 to 1 0.3' to 3.3'	Reflector (R-2L)	1 piece	Reflective area: Acrylic, Base: ABS	Approx. 20 g
OP-96436 (R-3)		0.1 to 2.9 0.3' to 9.5'	0.1 to 0.4 0.3' to 1.3'	Reflector (R-3)		Reflective area: Acrylic, Base: ABS	Approx. 10 g
R-5		0.1 to 2.5 0.3' to 8.2'	0.1 to 0.5 0.3' to 1.6'	Reflector (R-5)		Reflective area: Acrylic, Base: ABS	Approx. 5 g
OP-84221		0.2 to 0.7 0.7' to 2.3'	—	Reflective tape		Surface: Acrylic, Cube: Polycarbonate	Approx. 1 g

## Connector cables

### M8 connector

Model	Cable material	Description	Sensor connection		Opposite connection		Cable length (m ft)	Weight
			Connector size	Design	Connector size	Design		
OP-73864	PVC	Connector – loose wires	M8	Straight	—	Loose wires	2 6.6'	Approx. 55 g
OP-73865			M8	Straight	—	Loose wires	10 32.8'	Approx. 220 g
OP-85497			M8	L-shaped	—	Loose wires	2 6.6'	Approx. 55 g
OP-85498	PUR	Connector – connector	M8	Straight	M8	Straight	2 6.6'	Approx. 55 g
OP-87628		Connector – loose wires	M8	Straight	—	Loose wires	2 6.6'	Approx. 55 g
OP-87629			M8	Straight	—	Loose wires	10 32.8'	Approx. 260 g
OP-87632			M8	L-shaped	—	Loose wires	2 6.6'	Approx. 55 g
OP-87633		M8	L-shaped	—	Loose wires	10 32.8'	Approx. 260 g	
OP-88069		Connector – connector	M8	Straight	M8	Straight	2 6.6'	Approx. 70 g
OP-88070			M8	L-shaped	M8	Straight	2 6.6'	Approx. 70 g
OP-88071			M8	Straight	M12	Straight	2 6.6'	Approx. 70 g
OP-88072			M8	Straight	M12	Straight	5 16.4'	Approx. 140 g
OP-88073			M8	L-shaped	M12	Straight	2 6.6'	Approx. 70 g
OP-88074	M8	L-shaped	M12	Straight	5 16.4'	Approx. 140 g		

\* One piece is included.

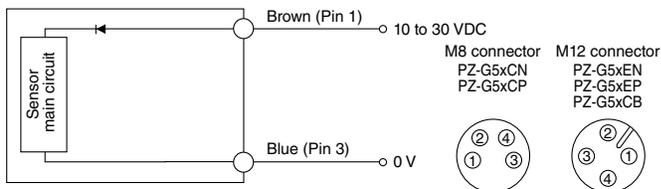
### M12 connector

Model	Cable material	Description	Sensor connection		Opposite connection		Cable length (m ft)	Weight
			Connector size	Design	Connector size	Design		
OP-75721	PVC	Connector – loose wires	M12	Straight	—	Loose wires	2 6.6'	Approx. 65 g
OP-85502			M12	Straight	—	Loose wires	10 32.8'	Approx. 230 g
OP-75722			M12	L-shaped	—	Loose wires	2 6.6'	Approx. 65 g
OP-85503	PUR	Connector – connector	M12	Straight	M12	Straight	2 6.6'	Approx. 70 g
OP-85504			M12	Straight	M12	Straight	5 16.4'	Approx. 130 g
OP-87636			M12	Straight	—	Loose wires	2 6.6'	Approx. 75 g
OP-87637	PUR	Connector – loose wires	M12	Straight	—	Loose wires	10 32.8'	Approx. 330 g
OP-88075			M12	Straight	M12	Straight	2 6.6'	Approx. 80 g
OP-88076			M12	Straight	M12	Straight	5 16.4'	Approx. 180 g

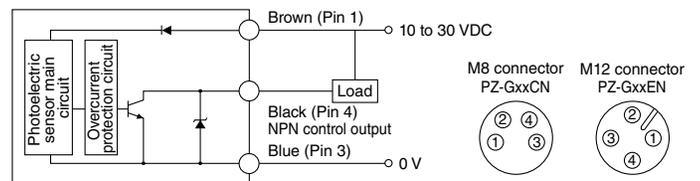
\* One piece is included.

## Input/output circuits

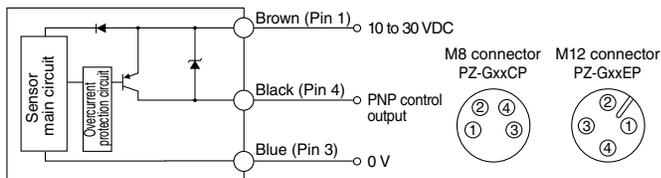
### Thrubeam transmitter PZ-G5x



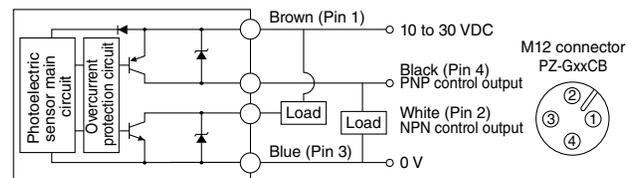
### NPN output (thrubeam receiver, reflective, retro-reflective) PZ-GxxN



### PNP output (thrubeam receiver, reflective, retro-reflective) PZ-GxxP

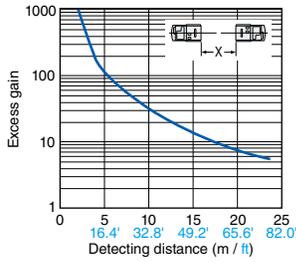


### Bipolar output (thrubeam receiver, reflective, retro-reflective) PZ-GxxB

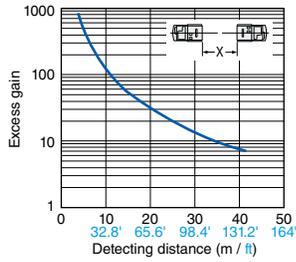


## Receiver excess gain vs. detecting distance (Typical)

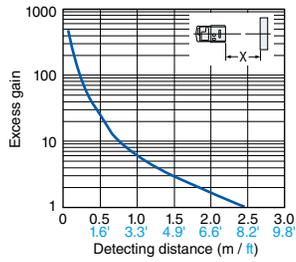
**PZ-G51**



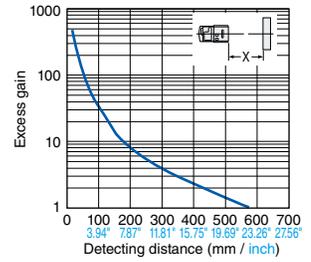
**PZ-G52**



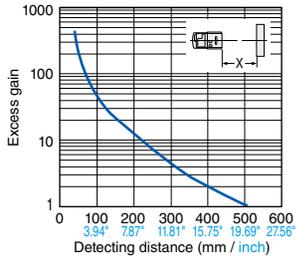
**PZ-G41**



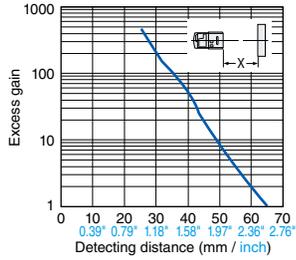
**PZ-G42**



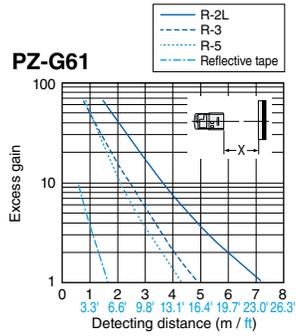
**PZ-G101**



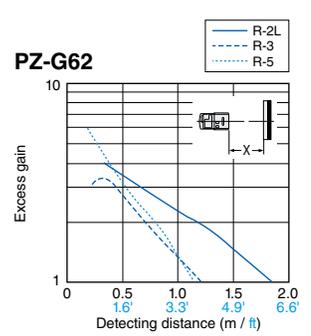
**PZ-G102**



**PZ-G61**

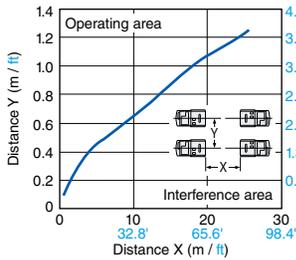


**PZ-G62**

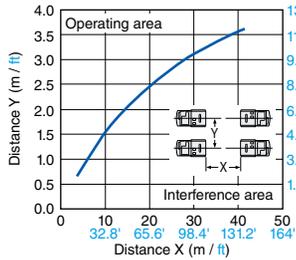


## Interference area (Typical)

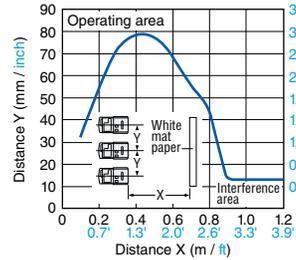
**PZ-G51**



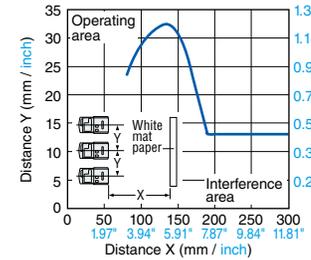
**PZ-G52**



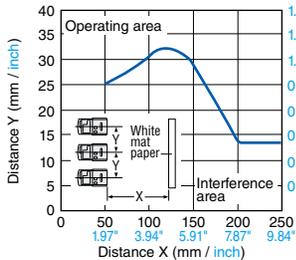
**PZ-G41**



**PZ-G42**



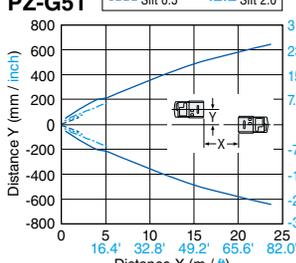
**PZ-G101**



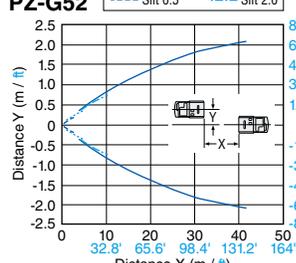
Note: PZ-G102/G61/G62 can be used while 3 units are mounted in close proximity to each other without mutual interference.

## Parallel displacement of optical (Typical)

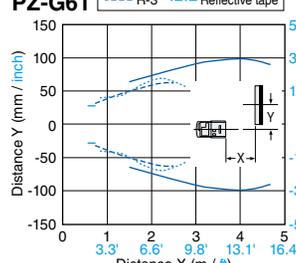
**PZ-G51**



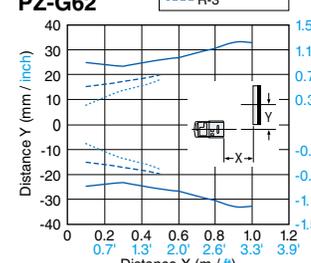
**PZ-G52**



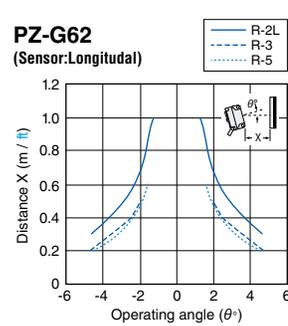
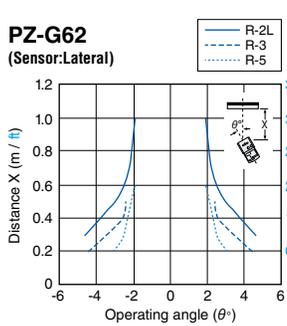
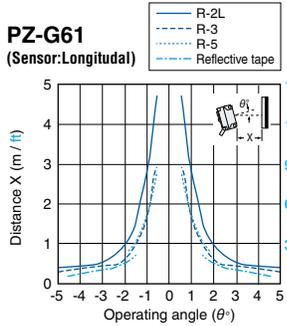
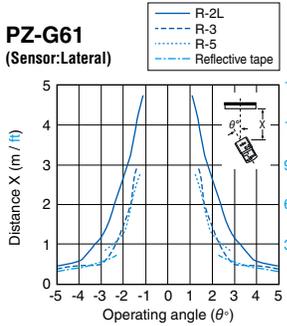
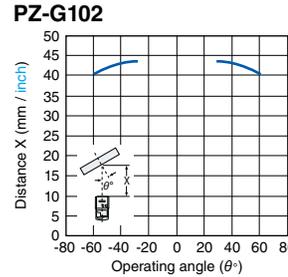
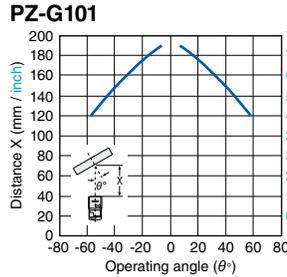
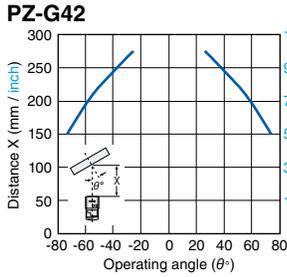
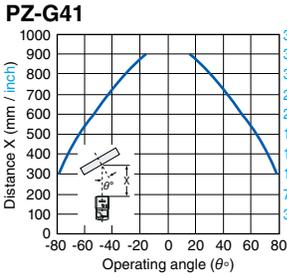
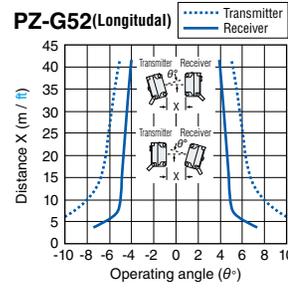
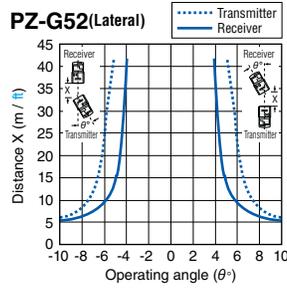
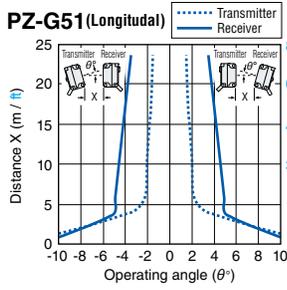
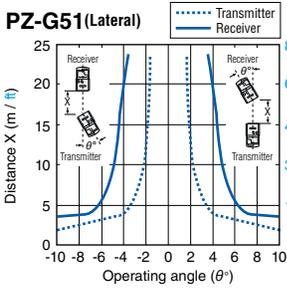
**PZ-G61**



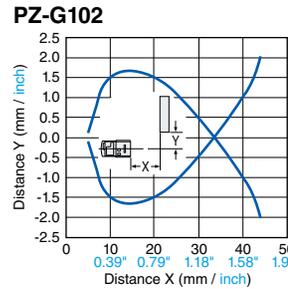
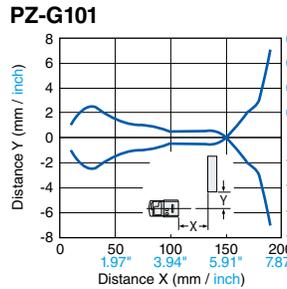
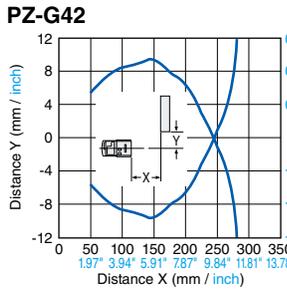
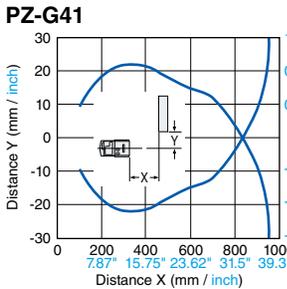
**PZ-G62**



## Optical axis angle (Typical)



## Operating distance vs. detecting distance (Typical)



# Specifications



Models			Thrubeam		Diffuse Reflective				Retro-reflective*2	
			Standard	High-power	Long-range	Short-range	Narrow-view reflective	Definite reflective	Long-range (with P. R. O. function)	Transparent object detection
Design	Cable type	Output								
Rectangular	Cable (2 m 6.6')	NPN	PZ-G51N	PZ-G52N	PZ-G41N	PZ-G42N	PZ-G101N	PZ-G102N	PZ-G61N	PZ-G62N
		PNP	PZ-G51P	PZ-G52P	PZ-G41P	PZ-G42P	PZ-G101P	PZ-G102P	PZ-G61P	PZ-G62P
	M8 connector	NPN	PZ-G51CN	PZ-G52CN	PZ-G41CN	PZ-G42CN	PZ-G101CN	PZ-G102CN	PZ-G61CN	PZ-G62CN
		PNP	PZ-G51CP	PZ-G52CP	PZ-G41CP	PZ-G42CP	PZ-G101CP	PZ-G102CP	PZ-G61CP	PZ-G62CP
	M12 pigtail quick disconnect	NPN	PZ-G51EN	PZ-G52EN	PZ-G41EN	PZ-G42EN	PZ-G101EN	PZ-G102EN	PZ-G61EN	PZ-G62EN
		PNP	PZ-G51EP	PZ-G52EP	PZ-G41EP	PZ-G42EP	PZ-G101EP	PZ-G102EP	PZ-G61EP	PZ-G62EP
Threaded	Cable (2 m 6.6')	Bipolar (NPN+PNP)	PZ-G51B	PZ-G52B	PZ-G41B	PZ-G42B	PZ-G101B	PZ-G102B	PZ-G61B	PZ-G62B
	M12 connector		PZ-G51CB	PZ-G52CB	PZ-G41CB	PZ-G42CB	PZ-G101CB	PZ-G102CB	PZ-G61CB	PZ-G62CB
Detecting distance*1			20 m 65.6'	40 m 131.2'	1 m 3.3' (When detecting 30 x 30 cm 11.81" x 11.81" white paper)	300 mm 11.81" (When detecting 10 x 10 cm 3.94" x 3.94" white paper)	200 mm 7.87"	5 to 45 mm 0.20" to 1.77"	0.1 to 4.2 m 0.3' to 13.8' (When R-2L reflector is used)	0.1 to 1 m 0.3' to 3.3' (When R-2L reflector is used)
Spot diameter			—	—	—	—	Approx. 5 mm 0.20" dia. (At a detecting distance of 100 mm 3.94")	Approx. 2 mm 0.08" dia. (At a detecting distance of 40 mm 1.57")	—	—
Light source			Red LED	Infrared LED x 2	Red LED				Infrared LED	
Sensitivity adjustment			1-turn trimmer (230°)							
Response time			500 µs							
Operation mode			LIGHT-ON/DARK-ON (switch-selectable)							
Indicators (LED)			T: Power (orange LED) R: Output (orange LED) Stable operation (green LED) Light receiving (red LED)		Output: Orange LED, Stable operation: Green LED					
Control output			Open collector output, 30 V max., 100 mA max., Residual voltage: 1 V max.							
Protection circuit			Reversed polarity, overcurrent protection, surge absorber							
Rating	Power supply		10 to 30 VDC including Ripple ±10% (P-P)							
	Current consumption		T: 20 mA max. R: 28 mA max.	T: 25 mA max. R: 28 mA max.	34 mA max.					
Environmental resistance	Enclosure rating		IEC, IP67 / NEMA: 4x, 6, 12 / DIN: IP69K							
	Ambient light		Incandescent lamp: 5,000 lux max., Sunlight: 20,000 lux max.							
	Ambient temperature		-20 to 55°C -4 to 130°F, No freezing							
	Relative humidity		35 to 85%, No condensation							
	Vibration		10 to 55 Hz, 1.5 mm double amplitude in the X, Y, and Z directions, 2 hours respectively							
Shock		1000 m/s <sup>2</sup> 6 times in the X, Y, and Z directions								
Interference suppression			Up to 2 units (When polarization filters are attached)		Up to 2 units (with the automatic different frequency function)					
Material	Housing, M18 nut (threaded models only)		Glass-fiber reinforced PBT							
	Lens cover		Polyarylate (PAR)				Acrylic (PMMA)   Polyarylate (PAR)			
	Trimmer		Glass-fiber reinforced polyamide (PA)							
	Case connection		Screw: Steel, zinc-nickel plated, Packing: Nitrile-butadiene rubber (NBR)							
	Cable (cable models / pigtail quick disconnect models only)		Polyvinyl chloride (PVC)							
Connector (pigtail quick disconnect type only)		Brass-nickel plated, Polybutyleneterephthalate (PBT), Polyvinyl chloride (PVC)								
Tightening torque			Rectangular models (Mounting hole part): 0.5 N-m max. Threaded models (front M18 part): 1.0 N-m max., (side slotted hole part): 0.5 N-m max.							
Accessories*2			Instruction manual, M18 nut x 2 pieces (nut thrubeam type), M18 nut x 1 piece (other threaded models)							
Weight			Rectangular cable models: Approx. 60 g (Thrubeam-models transmitter: Approx. 50 g) Rectangular connector models: Approx. 10 g Rectangular M12 pigtail quick disconnect model: Approx. 30 g Threaded cable models: Approx. 65 g (Thrubeam-models transmitter: Approx. 55 g) Threaded connector models: Approx. 15 g							

\*1 Detecting distance at the maximum sensitivity.

\*2 Cable sold separately for connector models / pigtail quick disconnect models. Reflector sold separately for retro-reflective models.

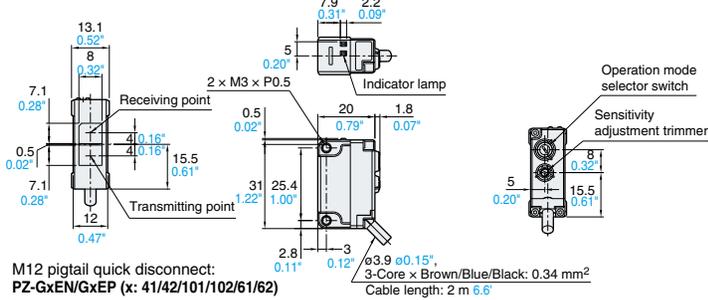


# Dimensions

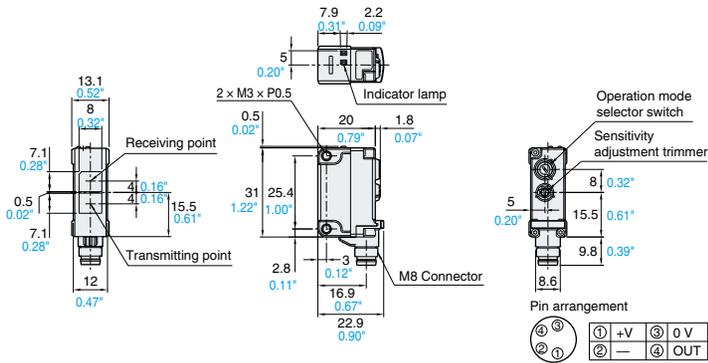
Unit: mm inch

## Sensors (reflective / polarized retro-reflective type)

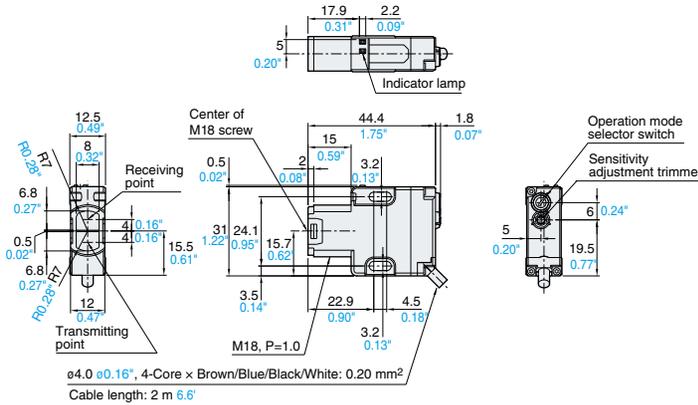
### PZ-GxN/GxP/GxEN/GxEP (x: 41/42/101/102/61/62)



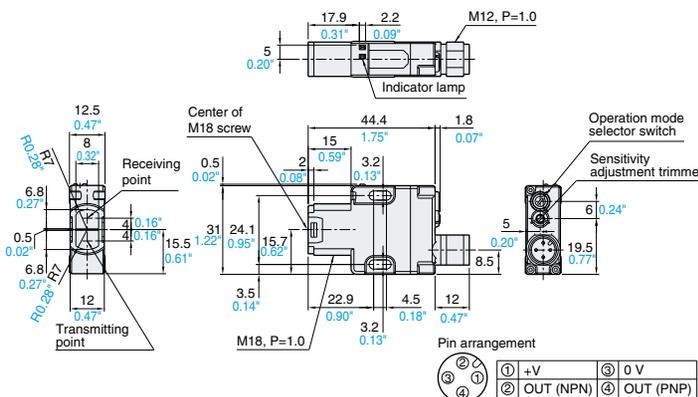
### PZ-GxCN/GxCP (x: 41/42/101/102/61/62)



### PZ-GxB (x: 41/42/101/102/61/62)

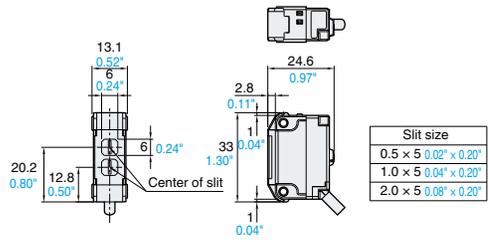


### PZ-GxCB (x: 41/42/101/102/61/62)

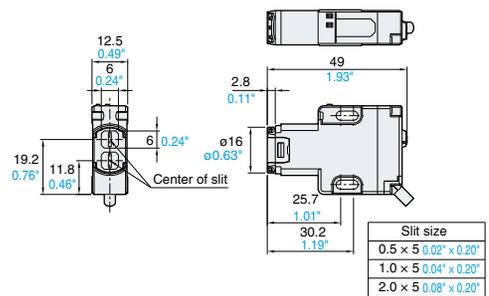


## Attachments (optional)

### OP-85136 + PZ-G52

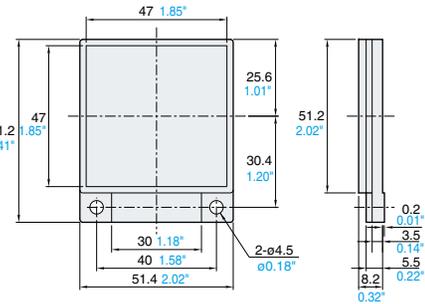


### OP-85135 + PZ-G52B

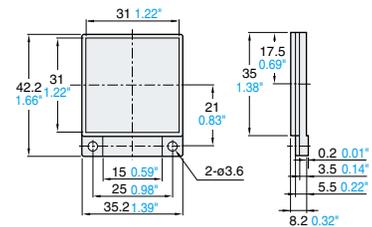


## Reflectors (optional)

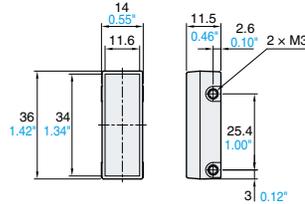
### OP-84219 (R-2L)



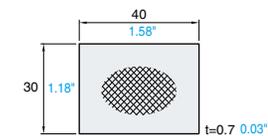
### OP-96436 (R-3)



### R-5

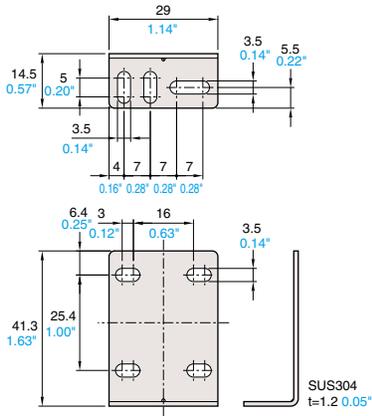


### OP-84221 (reflective tape)

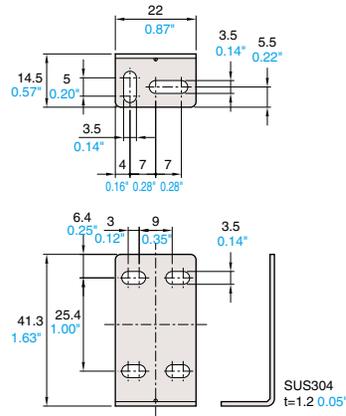


**Mounting brackets / Rectangular models (Optional)**

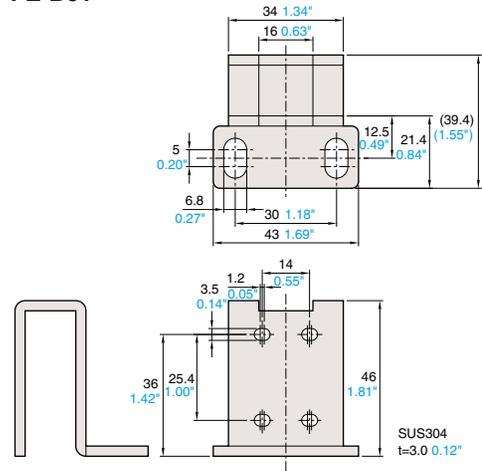
**PZ-B41A**



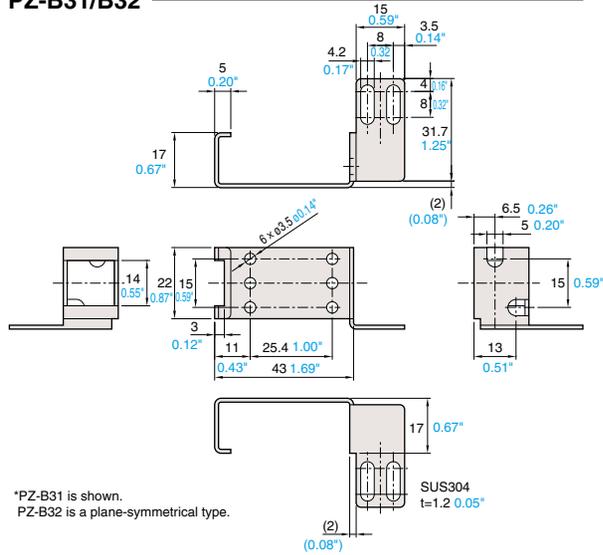
**PZ-B01A**



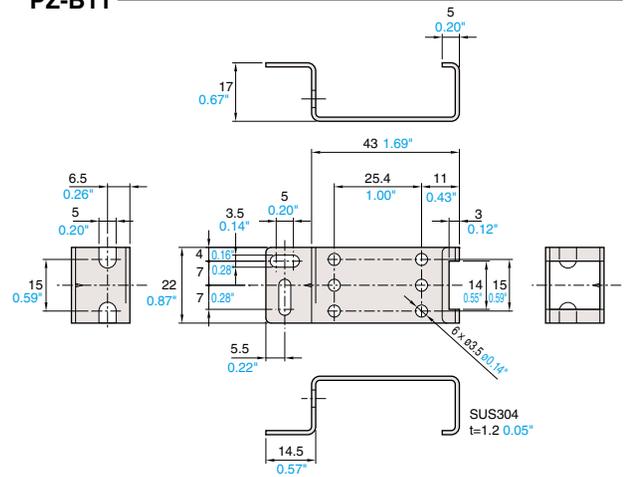
**PZ-B61**



**PZ-B31/B32**

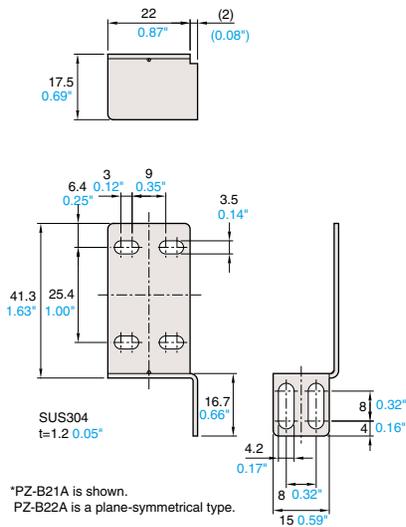


**PZ-B11**

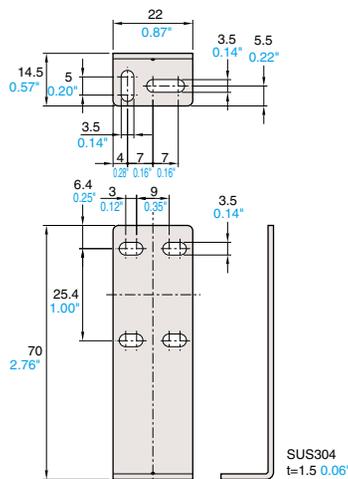


\*PZ-B31 is shown.  
PZ-B32 is a plane-symmetrical type.

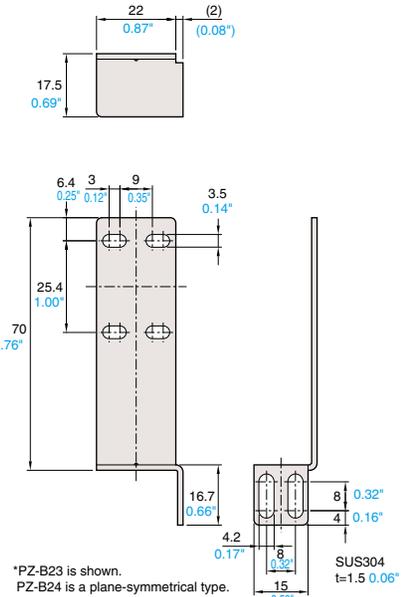
**PZ-B21A/B22A**



**PZ-B02**



**PZ-B23/B24**

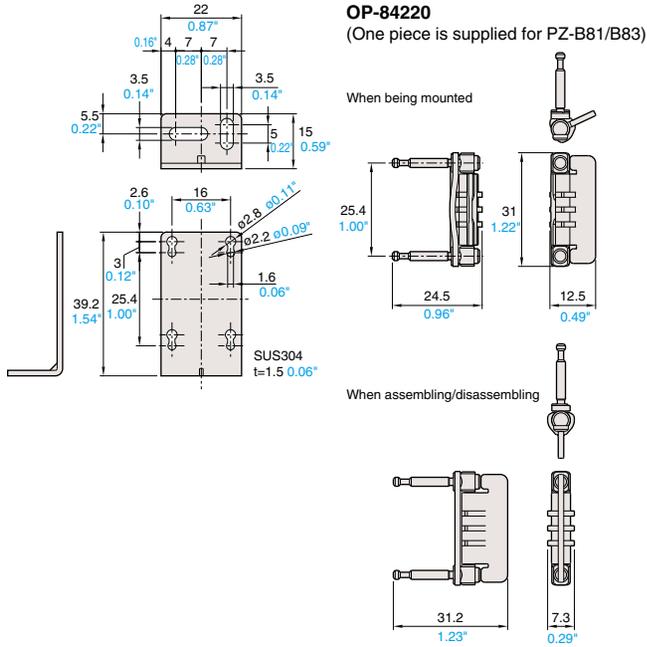


\*PZ-B21A is shown.  
PZ-B22A is a plane-symmetrical type.

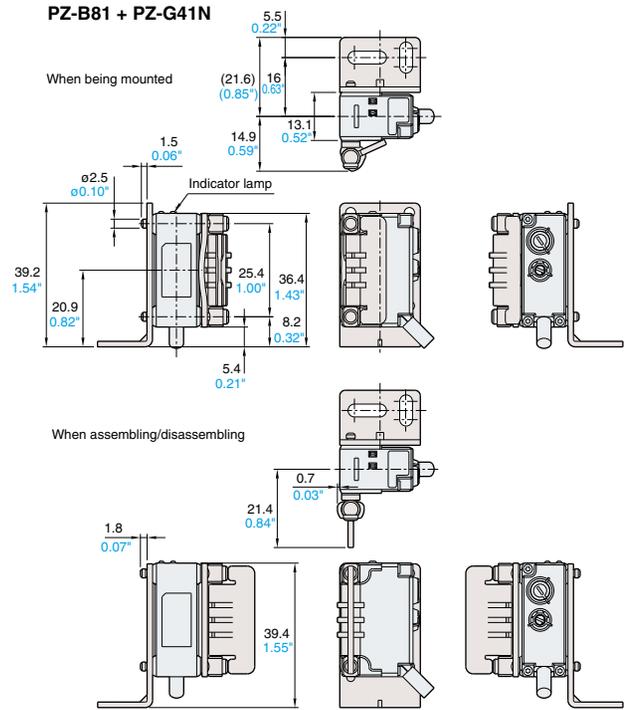
\*PZ-B23 is shown.  
PZ-B24 is a plane-symmetrical type.

Mounting brackets / Rectangular models (Optional)

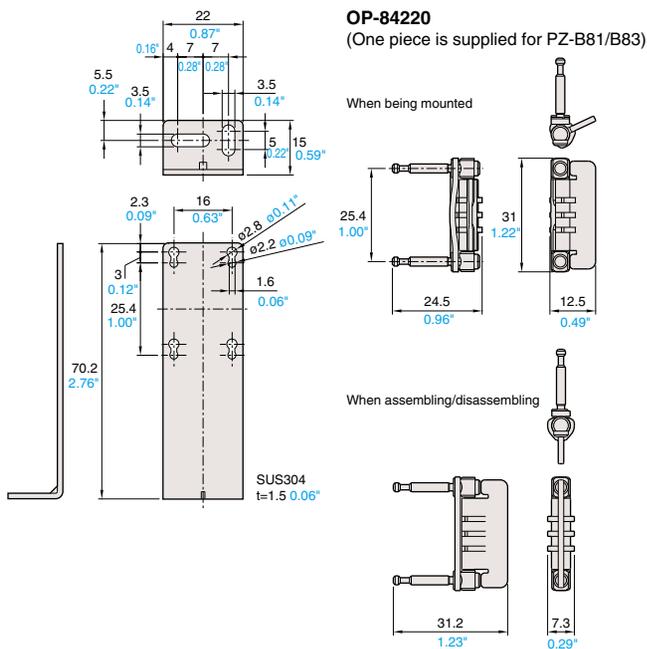
PZ-B81



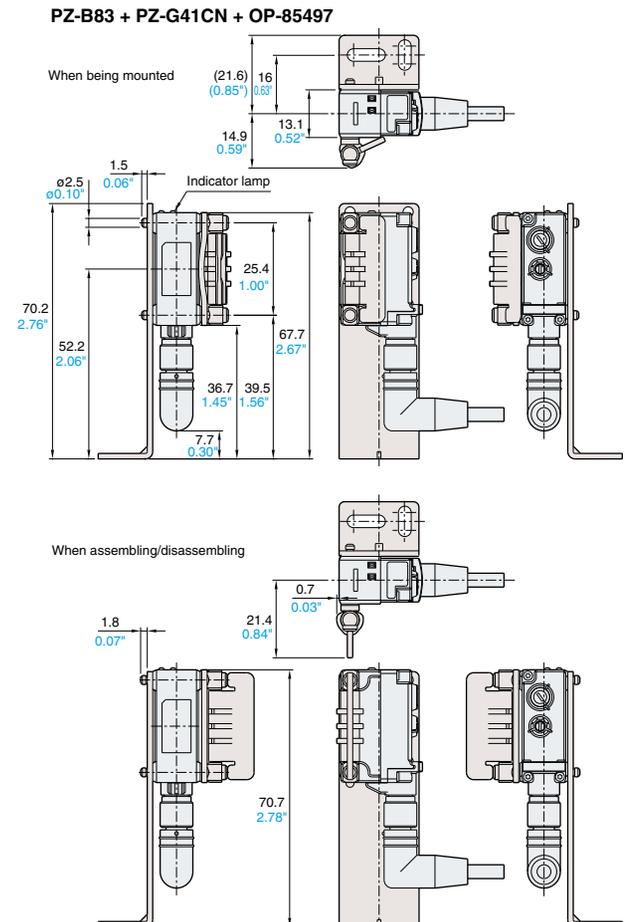
PZ-B81 + PZ-G41N



PZ-B83

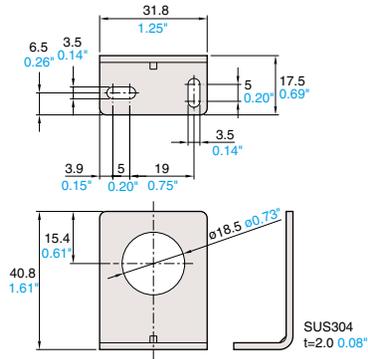


PZ-B83 + PZ-G41CN + OP-85497

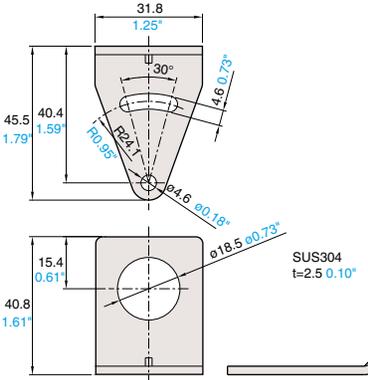


**Mounting brackets / Threaded models (Optional)**

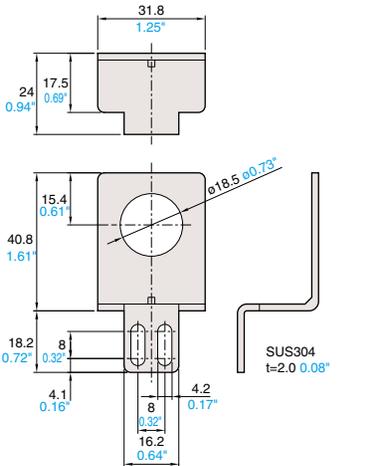
**PZ-B03**



**PZ-B04**

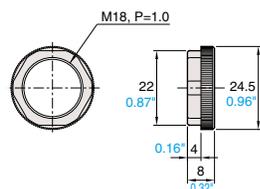


**PZ-B25**

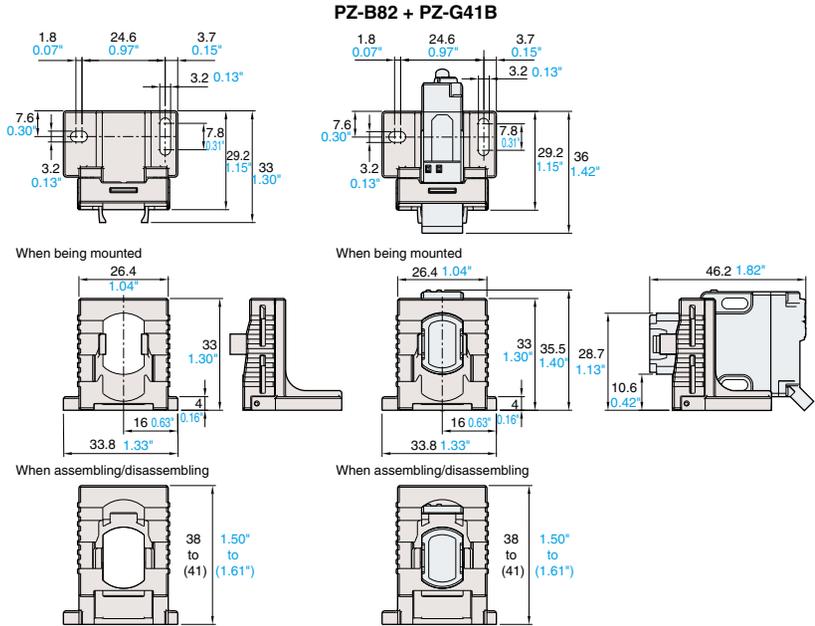


**OP-84225**

(One piece is supplied with threaded models)



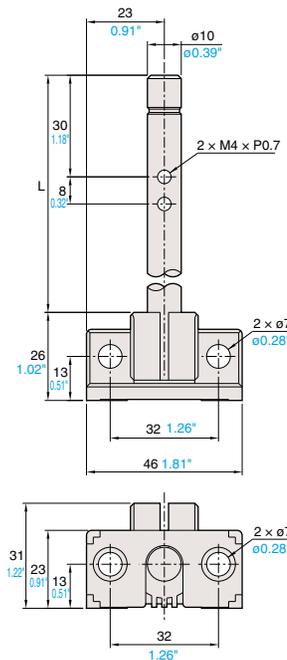
**PZ-B82**



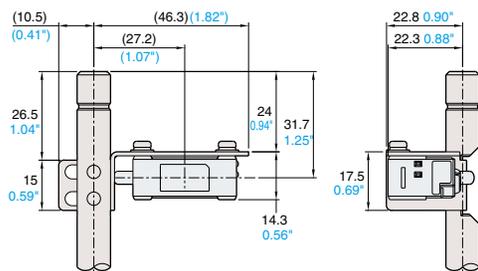
**Mounting brackets / Rectangular models / Threaded models (Optional)**

**PZ-S10A/S20A**

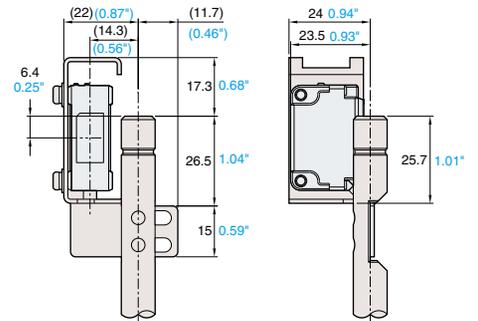
L=100 mm 3.94"; PZ-S10A  
L=200 mm 7.87"; PZ-S20A



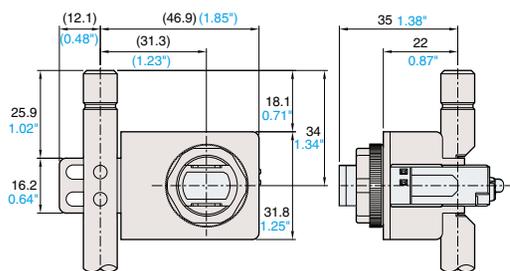
**PZ-SxxA + PZ-B21A + PZ-G41N**



**PZ-SxxA + PZ-B31 + PZ-G41N**

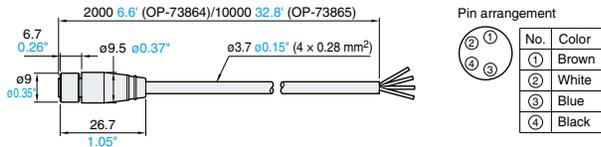


**PZ-SxxA + PZ-B25 + PZ-G41B**

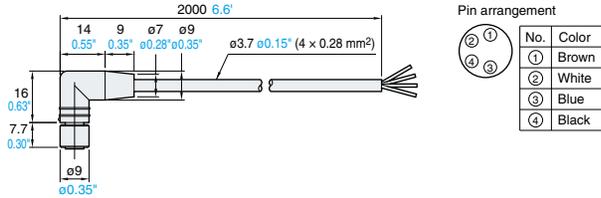


**M8 connector cable (Optional)**

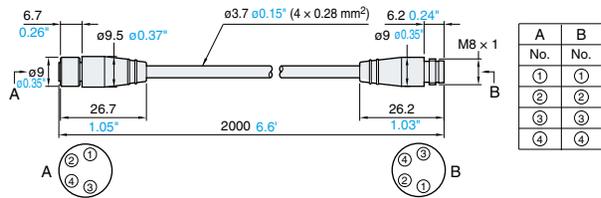
**OP-73864/73865**



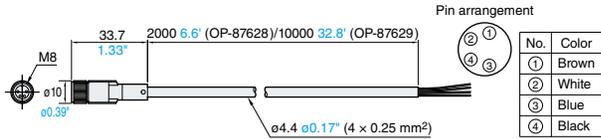
**OP-85497**



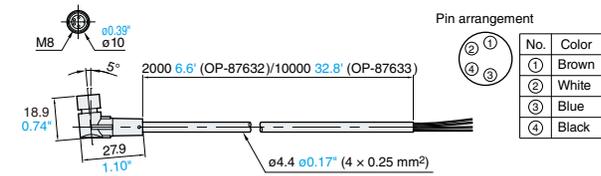
**OP-85498**



**OP-87628/87629**

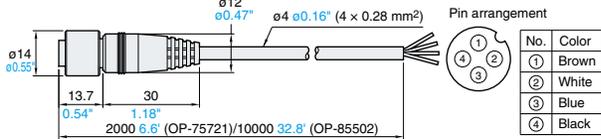


**OP-87632/87633**

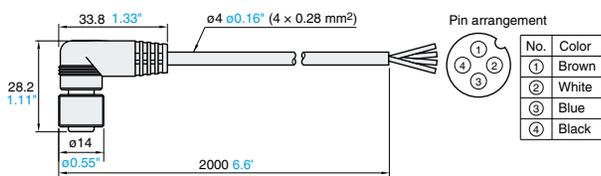


**M12 connector cable (Optional)**

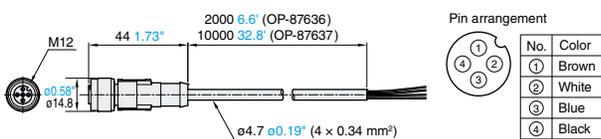
**OP-75721/85502**



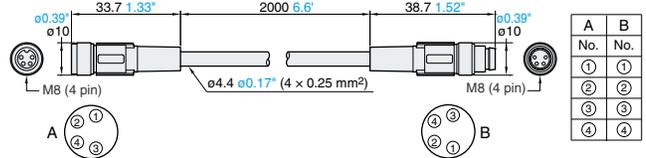
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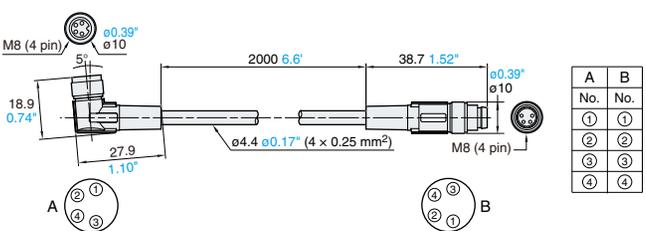
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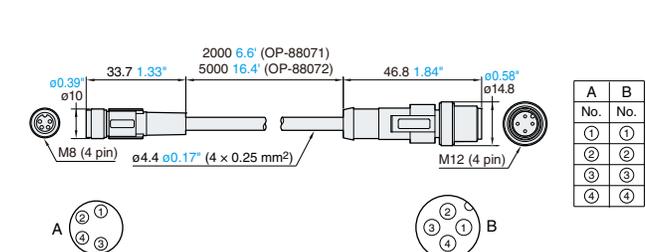
**OP-88069**



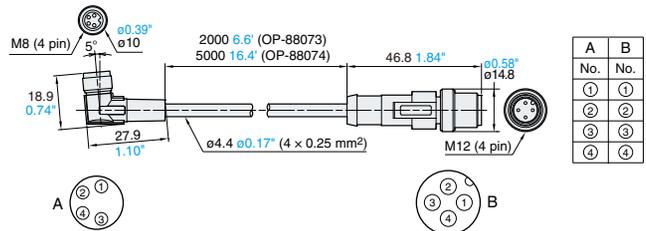
**OP-88070**



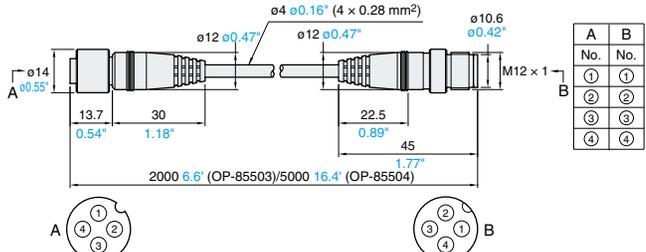
**OP-88071/88072**



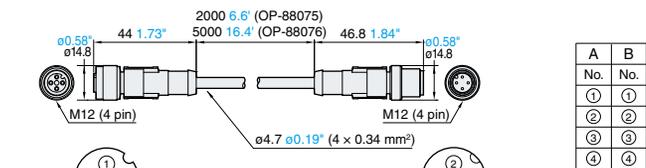
**OP-88073/88074**



**OP-85503/85504**



**OP-88075/88076**



**MEMO**

## Background Suppression Model Unaffected by Color!

### Self-contained Photoelectric Sensors PZ-V Series



#### Features

- Intelligent reflective type unaffected by a target's color or angle
- Digital display
- High-power custom red LED (Except for PZ-V71)
- High-intensity operation indicator

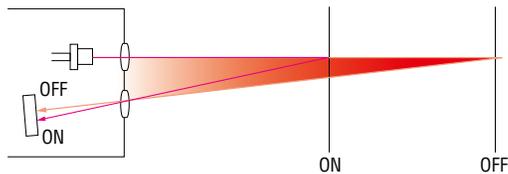


### Here's How

#### PSD (Position-Sensitive Detector)

The target distance is detected according to the angle of the reflected light beam.

- Unaffected by a highly reflective target background
- Stable detection of targets with colors and materials of varying reflectance
- Highly accurate detection of minute objects



#### A.P.R. circuit (Automatic Power Reinforcement)

Stable detection is possible due to the A.P.R. circuit which automatically adjusts the amount of light emitted according to the color and angle of the target.



#### Sensor head lineup

Type	Adjustment	Configuration	Detecting distance	Model		Connector	Cable
				NPN	PNP		
Intelligent reflective	PUSH Auto		900 mm 35.43"	PZ-V71	PZ-V71P	—	2 m 6.6'
				PZ-V72	PZ-V72P	M8 connector	0.13 m 0.43'
			300 mm 11.81"	PZ-V73	PZ-V73P	M12 connector	0.3 m 0.98'
				PZ-V75 *1	—	—	2 m 6.6'
			100 mm 3.94"	PZ-V31	PZ-V31P	—	2 m 6.6'
				PZ-V32	PZ-V32P	M8 connector	0.13 m 0.43'
				PZ-V33	PZ-V33P	M12 connector	0.3 m 0.98'
				PZ-V35 *1	PZ-V35P *1	—	2 m 6.6'
				PZ-V11	PZ-V11P	—	2 m 6.6'
				PZ-V12	PZ-V12P	M8 connector	0.13 m 0.43'
PZ-V13	PZ-V13P	M12 connector	0.3 m 0.98'				
PZ-V15 *1	—	—	2 m 6.6'				

\*1 Different frequency type



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#### SAFETY INFORMATION

Please read the instruction manual carefully in order to safely operate any KEYENCE product.

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