U-shaped Photoelectric Sensor Amplifier Built-in
RT-610 SERIES

Related Information
■ General terms and conditions..... F-3
■ Glossary of terms..... P.1549~
■ Selection guide ..... P.231~
■ General precautions ..... P.1552~

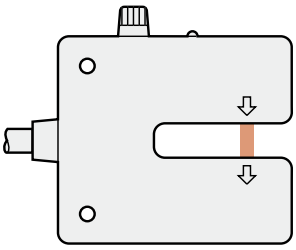
panasonic.net/id/pidsx/global

CE (RT-610-10/10R/50 only)

Suitable for address reading and sensing cut-off marks

Beam axis alignment not required

Beam axis alignment is not required as the emitter and the receiver are integrated in a single body.



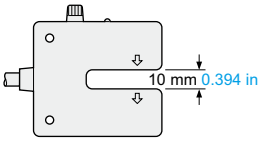
Robust die-cast enclosure

The robust die-cast enclosure maintains high reliability.

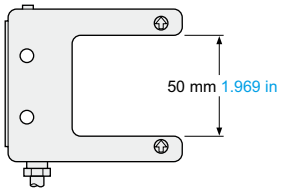
2 types • 4 models are available.

There are two models having a sensing range of 10 mm 0.394 in and 50 mm 1.969 in. The models with sensing ranges of 10 mm 0.394 in are also available in red LED type and green LED type for mark sensing.

RT-610-10□

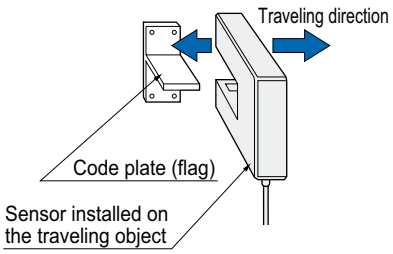


RT-610-50



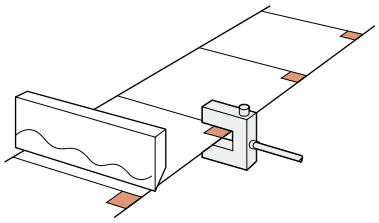
APPLICATIONS

Address reading



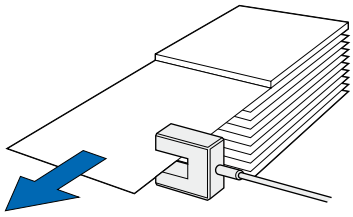
It can also be used to confirm the position of transportation equipment such as crane, etc.

Sensing cut-off marks



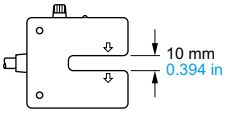
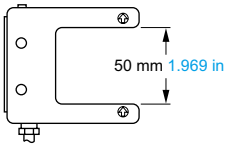
It can sense cut-off marks on a transparent film.

Sensing overlapping paper



Checking paper feed on various printing machines.

ORDER GUIDE

Type	Appearance	Sensing range	Model No.	Output	Emitting element
10 mm 0.394 in sensing range / For mark sensing		10 mm 0.349 in (fixed)	**RT-610-10**	NPN transistor universal	Infrared LED
			RT-610-10R		Red LED
			RT-610-10G		Green LED
50 mm 1.969 in sensing range		50 mm 1.969 in (fixed)	**RT-610-50**		Infrared LED

5 m 16.404 ft cable length type

5 m 16.404 ft cable length type (standard: 1 m 3.281 ft) is also available.
When ordering this type, suffix "**-C5**" to the model No.
(e.g.) 5 m 16.404 ft cable length type of **RT-610-10** is "**RT-610-10-C5**".

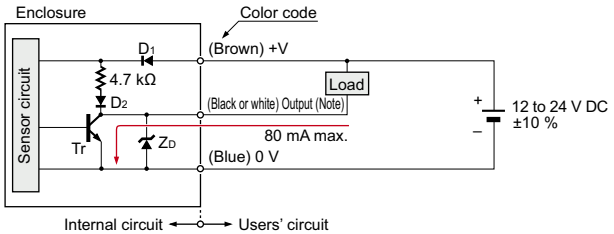
SPECIFICATIONS

Item \ Type		U-shaped thru-beam			
				For mark sensing	
Model No.		RT-610-10	RT-610-50	RT-610-10R	RT-610-10G
CE marking directive compliance		EMC Directive, RoHS Directive			—
Sensing range (fixed)		10 mm 0.394 in	50 mm 1.969 in	10 mm 0.394 in	
Sensing object		ø4 mm ø0.157 in or more opaque object		ø4 mm ø0.157 in or more opaque or translucent object (Note 2)	
Supply voltage		12 to 24 V DC ±10 % Ripple P-P 10 % or less			
Current consumption		40 mA or less			
Output		NPN transistor universal • Maximum sink current: 80 mA • Residual voltage: 1 V or less (at 80 mA sink current)			
	Utilization category	DC-12 or DC-13			—
	Output operation	Incorporated with two outputs, Light-ON / Dark-ON			
Response time		0.1 ms or less			
Operation indicator		Red LED (lights up under light received condition)			
Sensitivity adjuster		Continuously variable adjuster	—	Continuously variable adjuster	
Environmental resistance	Pollution degree	3 (Industrial environment)			—
	Protection	IP62 (IEC)	IP66 (IEC)	IP62 (IEC)	
	Ambient temperature	–10 to +60 °C +14 to +140 °F (No dew condensation or icing allowed), Storage: –10 to +60 °C +14 to +140 °F			
	Ambient humidity	35 to 85 % RH, Storage: 35 to 85 % RH			
	Ambient illuminance	Incandescent light: 3,500 ℓx or less at the light-receiving face			
	Vibration resistance	10 to 55 Hz frequency, 1.5 mm 0.059 in double amplitude in X, Y and Z directions for two hours each			
	Shock resistance	500 m/s² acceleration (50 G approx.) in X, Y and Z directions three times each			
Emitting element		Infrared LED (modulated)		Red LED (modulated)	Green LED (modulated)
	Peak emission wavelength	950 nm 0.037 mil		680 nm 0.027 mil	570 nm 0.022 mil
Enclosure earthing		Floating			
Material		Enclosure: Die-cast aluminum			
Cable		0.3 mm² 4-core cabtyre cable, 1 m 3.281 ft long			
Cable extension		Extension up to total 100 m 328.084 ft is possible with 0.3 mm², or more, cable.			
Net weight		150 g approx.	180 g approx.	150 g approx.	

Notes: 1) Where measurement conditions have not been specified precisely, the conditions used were an ambient temperature of +23 °C +73.4 °F.
2) Make sure to confirm detection with an actual sensor before use.

I/O CIRCUIT AND WIRING DIAGRAMS

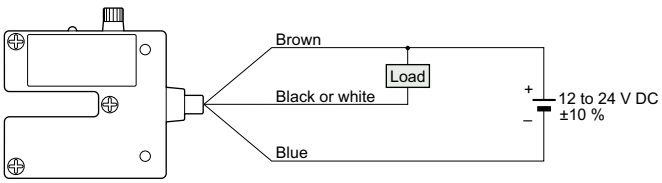
I/O circuit diagram



Note: The output does not incorporate a short-circuit protection circuit. Do not connect it directly to a power supply or a capacitive load.

Symbols ... D_1 : Reverse supply polarity protection diode
D_2 : Reverse current prevention diode
Z_D : Surge absorption zener diode
Tr : NPN output transistor

Wiring diagram



Output operation

Color code	Output operation
Black	Light-ON
White	Dark-ON

PRECAUTIONS FOR PROPER USE

Refer to p.1552~ for general precautions.

- Never use this product as a sensing device for personnel protection.
- In case of using sensing devices for personnel protection, use products which meet laws and standards, such as OSHA, ANSI or IEC etc., for personnel protection applicable in each region or country.

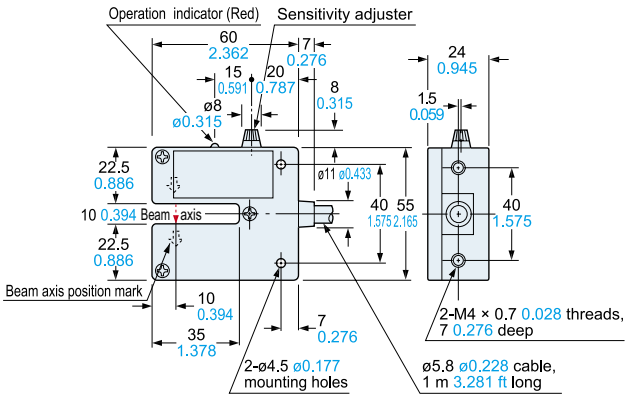
Others

- The output does not incorporate a short-circuit protection circuit. Do not connect it directly to a power supply or a capacitive load.
- Do not use during the initial transient time (50 ms) after the power supply is switched on.

DIMENSIONS (Unit: mm in)

The CAD data can be downloaded from our website.

RT-610-10□ 10 mm 0.394 in sensing range type



RT-610-50 50 mm 1.969 in sensing range type