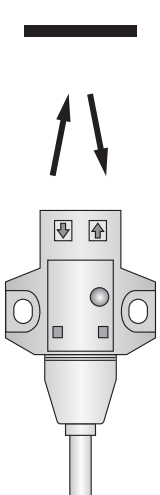








## Convergent Mode

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Sensing Mode	Connection	Supply voltage	Output Mode	Part Number
<p>Convergent Mode</p> <p>Sensing distance 2.5-8 mm</p> <p>Convergent point 5 mm</p> <p>Light source Infrared</p> 	<p><b>1 m Cable</b> (Horizontal View)</p> 	10-30V DC	NPN Light-ON	RP25-C0008N-LX9G3U1
			NPN Dark-ON	RP25-C0008N-DX9G3U1
			PNP Light-ON	RP25-C0008P-LX9G3U1
			PNP Dark-ON	RP25-C0008P-DX9G3U1
	<p><b>1 m Cable</b> (Vertical View)</p> 	10-30V DC	NPN Light-ON	RP25-C0008N-LY9G3U1
			NPN Dark-ON	RP25-C0008N-DY9G3U1
			PNP Light-ON	RP25-C0008P-LY9G3U1
			PNP Dark-ON	RP25-C0008P-DY9G3U1
	<p><b>1 m Cable</b> (Horizontal View with L shape)</p> 	10-30V DC	NPN Light-ON	RP25-C0008N-LX9G3U1/L
			NPN Dark-ON	RP25-C0008N-DX9G3U1/L
			PNP Light-ON	RP25-C0008P-LX9G3U1/L
			PNP Dark-ON	RP25-C0008P-DX9G3U1/L
	<p><b>Terminal</b> (Horizontal View)</p> 	10-30V DC	NPN Light-ON	RP25-C0008N-LX9T3U
			NPN Dark-ON	RP25-C0008N-DX9T3U
			PNP Light-ON	RP25-C0008P-LX9T3U
			PNP Dark-ON	RP25-C0008P-DX9T3U
	<p><b>Terminal</b> (Vertical View)</p> 	10-30V DC	NPN Light-ON	RP25-C0008N-LY9T3U
			NPN Dark-ON	RP25-C0008N-DY9T3U
			PNP Light-ON	RP25-C0008P-LY9T3U
			PNP Dark-ON	RP25-C0008P-DY9T3U
<p><b>Terminal</b> (Horizontal View with L shape)</p> 	10-30V DC	NPN Light-ON	RP25-C0008N-LX9T3U/L	
		NPN Dark-ON	RP25-C0008N-DX9T3U/L	
		PNP Light-ON	RP25-C0008P-LX9T3U/L	
		PNP Dark-ON	RP25-C0008P-DX9T3U/L	

**Note:**

Coming Soon : Part numbers with underline  
 In Preparation: Part numbers with a line through the middle  
 — Aj-01 —

## Specifications

Item	Type	Convergent Mode					
		Cable type			Terminal type		
		Horizontal View	Vertical View	Horizontal view (L shape)	Horizontal View	Vertical View	Horizontal view(L shape)
Sensing range	2.5 - 8 mm (Spot size at focus: 5mm) with white non-glossy paper(15 x 15 mm)						
Minimum sensing object	φ 0.05 mm copper wire(setting distance: 5 mm)						
Hysteresis	20 % or less of operation distance with white non-glossy paper(15 x 15 mm)						
Repeatability (perpendicular to sensing axis)	0.08 mm or less (Note1)						
Supply power	10 - 30 V DC    10% Ripple P-P 5% or less						
Current consumption	Average: 25 mA or less, Peak: 80 mA or less						
Output	<b>NPN</b> open-collector transistor Maximum sink current: 100 mA Applied voltage: 30V DC or less(between output and 0V) Residual voltage: 1 V or less(at 50 mA sink current) 0.4 V or less (at 16 mA sink current)		<b>PNP</b> open-collector transistor Maximum source current: 100 mA Applied voltage: 30V DC or less(between output and 0V) Residual voltage: 1 V or less(at 50 mA sink current) 0.4 V or less (at 16 mA source current)				
Circuit protection	Output short circuit protection						
Output operation	Selectable either Light-ON / Dark-ON by type number						
Light source	Infrared LED (modulated)						
Response time	0.8 ms or less						
Operation indicator	Red LED (lights up when the output is ON)						
Pollution degree	3(Industrial environment)						
Ambient temperature	-10 to +55 °C ( No dew condensation or icing allowed), Storage: -25°C to + 80 °C						
Ambient humidity	45% to 85 % RH, Storage:45 to 85 % RH						
Ambient illuminance	Sunlight: 11,000 ℓ x at the light-receiving face, Incandescent light: 3,500 ℓ x at th light-receiving face						
EMC	IEC 60947-5-2 Parts 7.2.6.1,2,3 or RFI>3V/m(In30-1000MHz),EFT>1KV,ESD>4KV(contact)						
Voltage withstandability	IEC 60947-5-2 Parts 8.3.3.4, or 500VDC for one min between all supply terminals connected together and enclosure						
Insulation resistance	>50MΩ, with 250V DC megger between all supply terminals connected together and enclosure						
Vibration resistance	IEC 60947-5-2 Parts 7.4.2 or 10-55Hz 1.0m amplitude in x, y and z directions for 30 min						
Shock resistance	IEC 60947-5-2 Parts 7.4.1 or 30g 11ms in x, y and z directions for six time each						
Material	Enclosure: Polycarbonate, Fixed cable part: PBT		Enclosure: Polycarbonate, Terminal part: HSM(Ag plated)				
Cable	0.2 mm <sup>2</sup> 3-core cabtyre cable, 1m long (Note2)		_____				
Cable extension	_____		Total 2m is possible with 0.3 mm <sup>2</sup> , or more, cable. (If the cable is extended for 2m, or more, a capacitor of 10 μF must be connected between +V and 0 V terminals.)				
Weight	25 g approx.		4.5 g approx.		4g approx.		

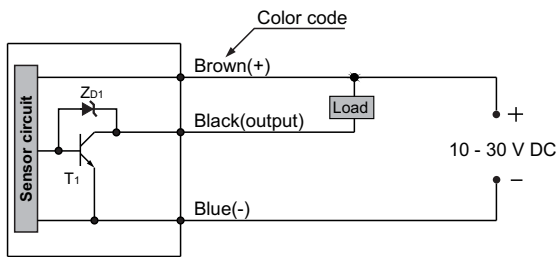
Note1): The repeatability is specified for white non-glossy paper (15x15mm) at a setting distance of 5 mm.

2): Cable cannot be extended.

## Connection Diagrams / Sensing Characteristics

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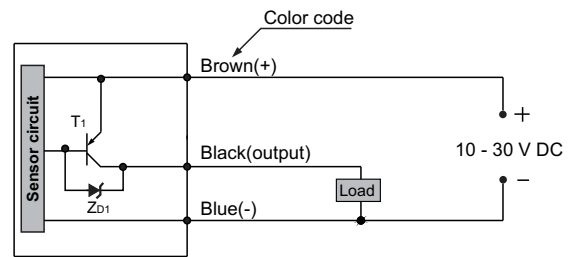
### NPN output type



Symbols...ZD1: Surge absorption zener diode  
T1: NPN output transistor

Note: Make sur to connect terminals correctly because the sensor does not incorporate a reverse polarity protection circuit.

### PNP output type



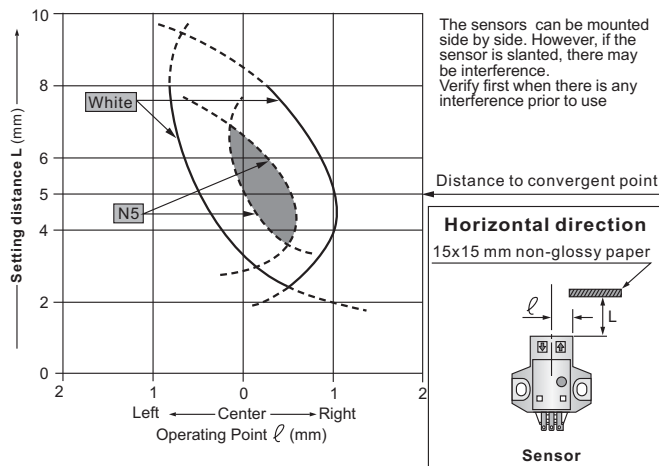
Symbols...ZD1: Surge absorption zener diode  
T1: PNP output transistor

Note: Make sur to connect terminals correctly because the sensor does not incorporate a reverse polarity protection circuit.

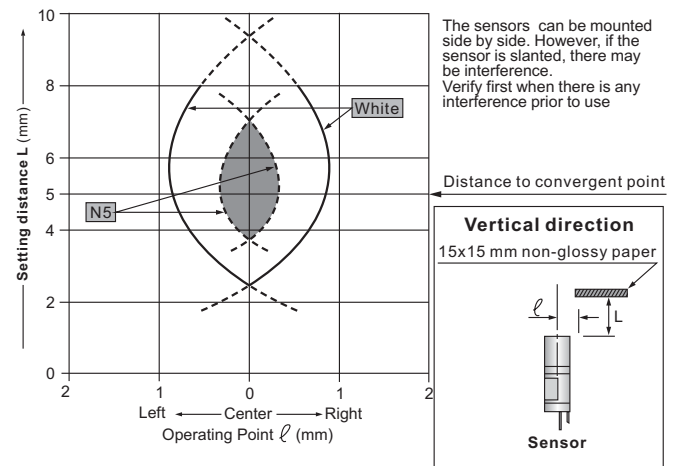
## Sensing Characteristics (Typical)

### Sensing field

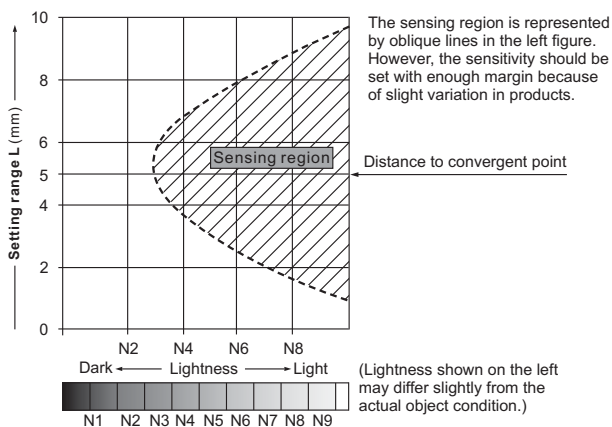
#### • Horizontal (left and right) direction



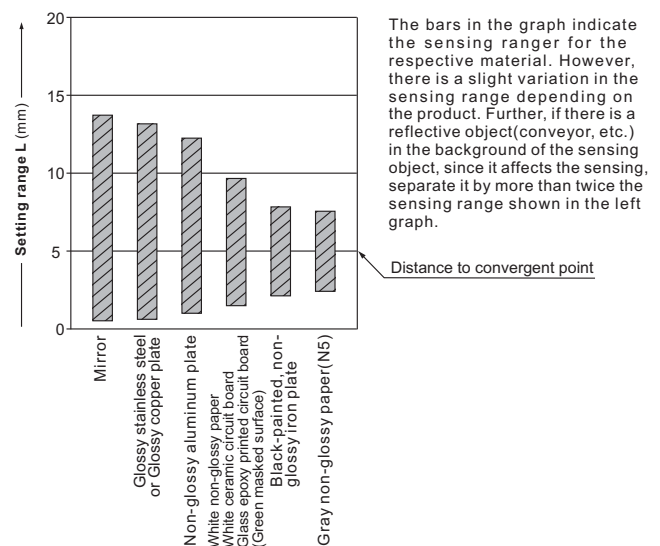
#### • Vertical (up and down) direction



### Correlation between lightness and sensing range

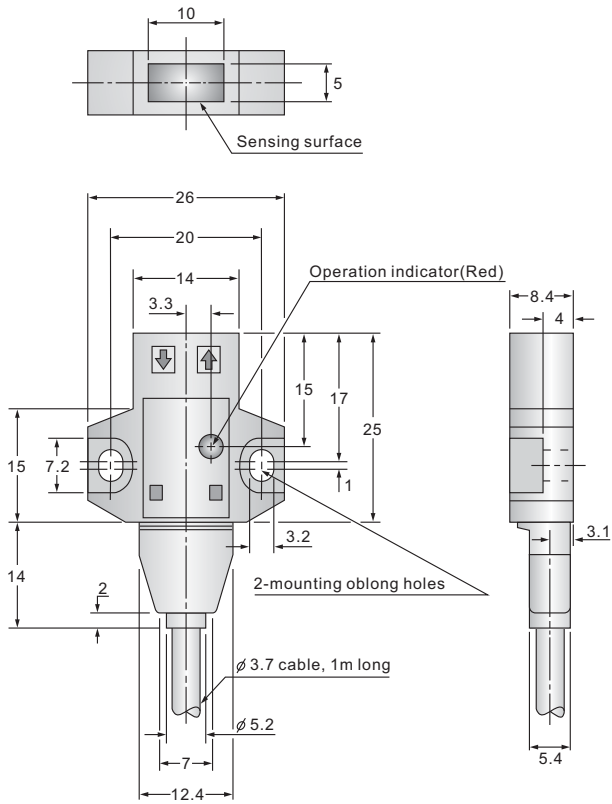


### Correlation between material(15x15mm)and sensing range

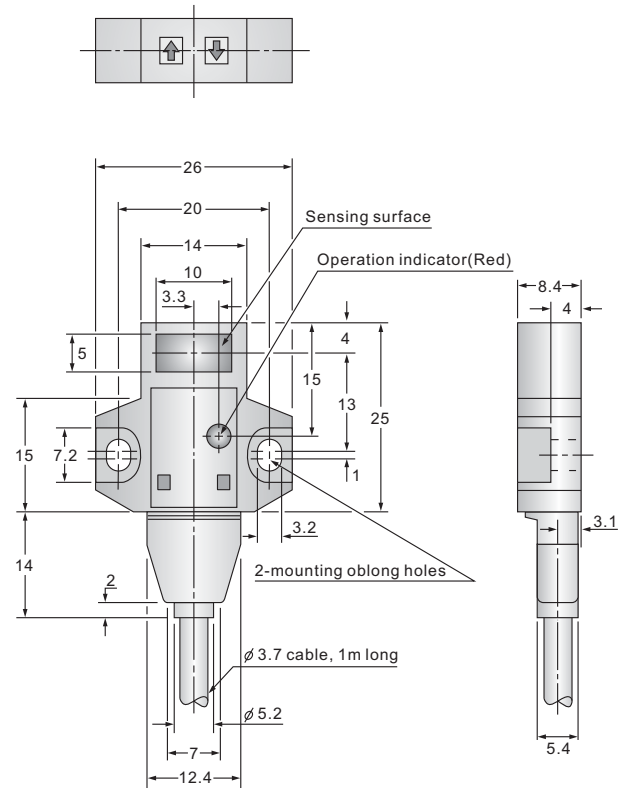


## Dimensions (Unit: mm)

### RP25-C0008N(P)-L(D)X9C3U1 (Horizontal View)

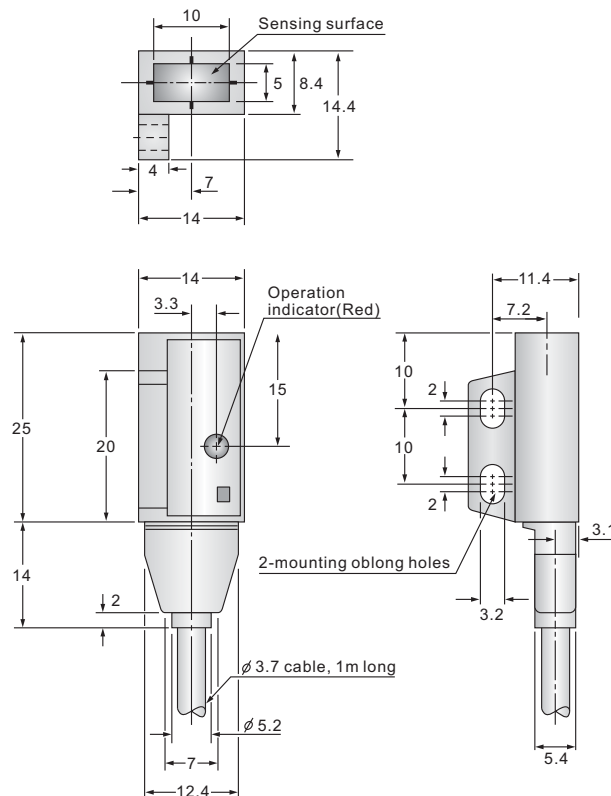


### RP25-C0008N(P)-L(D)Y9C3U1 (Vertical View)



Aj: RP25 SERIES

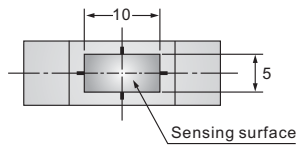
### RP25-C0008N(P)-L(D)X9C3U1/L (Horizontal View with L shape)



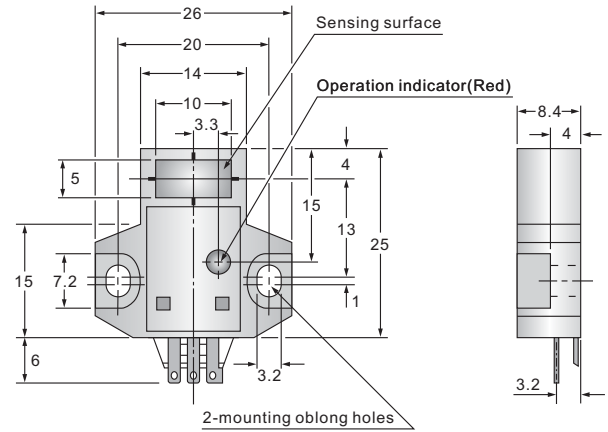
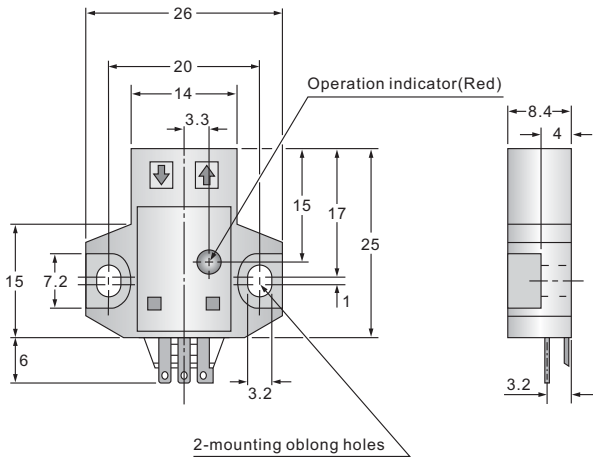
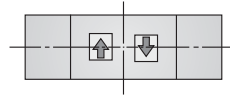
## Dimensions (Unit: mm)

Aj: RP25 SERIES

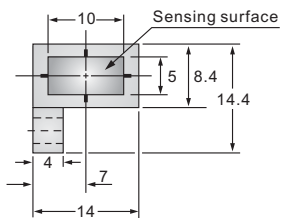
RP25-C0008N(P)-L(D)X9T3U (Horizontal View)



RP25-C0008N(P)-L(D)Y9T3U (Vertical View)



RP25-C0008N(P)-L(D)X9T3U/L (Horizontal View with L shape)



Terminal part

