



Rugged-Duty Background Suppression Sensors Feature Wide-Range Voltage Input With Relay Output

Got Questions - Contact Ramco !

- Dual lens system provides longer distances
- Perfect choice for low-reflectance rubber targets
- Bright red LED spot aids in alignment and setup

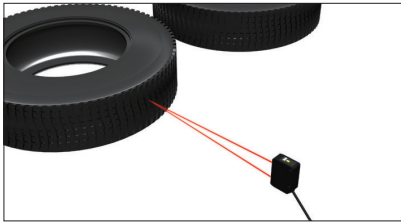
Related products

C-MOS laser
BGS-HL, BGS-HDL
● P.310

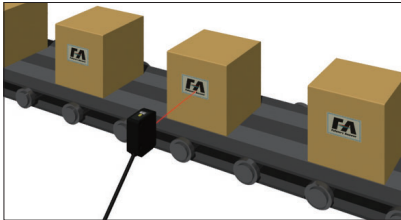
Standard type

BGS-Z
● P.326

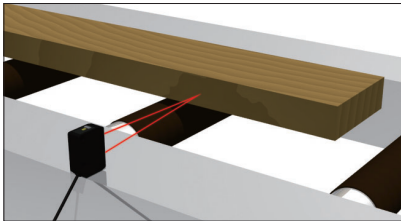
Long range detection of black workpieces



Detection of printed cardboard passage



Detection of knotty or grainy lumber



Detection of magazines passing on a rolling conveyor



Selection table

Type	Shape	Type	Sensing distance (Adjustable distance range shown in parentheses)	Model	
				NPN type	PNP type
BGS model		DC power	10 to 300 mm (100 to 300 mm)	BGS-2V30N (BGS-2V30CN)	BGS-2V30P (BGS-2V30CP)
			20 to 500 mm (150 to 500 mm)	BGS-2V50N (BGS-2V50CN)	BGS-2V50P (BGS-2V50CP)
			20 to 1000 mm (250 to 1000 mm)	BGS-2V100N (BGS-2V100CN)	BGS-2V100P (BGS-2V100CP)
Type	Shape	Type	Sensing distance (Adjustable distance range shown in parentheses)	Model	
BGS model		Universal voltage	10 to 300 mm (100 to 300 mm)	BGS-2V30	
			20 to 500 mm (150 to 500 mm)	BGS-2V50	
			20 to 1000 mm (250 to 1000 mm)	BGS-2V100	

● For the connector type, please purchase an optional DOL-1204-G02M connector cable.

Options/Accessories

Connector cables

For BGS-2V30CN/-2V50CN/-2V100CN
Straight



DOL-1204-G02M
Cable length: 2 m

Protective mounting bracket

For BGS-2V series

- Ultra-durable 3 mm thick type
- Rust-resistant stainless steel
- Sensor is firmly secured using M4 Hex socket head cap screws
- The bracket is also firmly secured using an M6 screws

LV2 series

LV2-S01



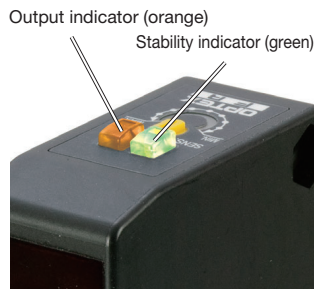
LV2-S02



Output status and stability can be checked at a glance

Easy-to-see dual indicators Renewal

In place of the (red) light receiving indicators of the conventional model, the new type has both output indicators (orange) and stability indicators (green). Now it's possible to confirm not only the sensor output but also the detection stability.

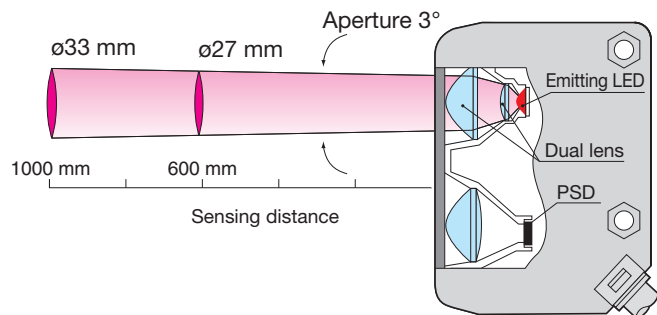


Dual lens achieves long range detection

Long range type (BGS-2V100□)

Because a dual lens is used, LED light is condensed by two lenses.

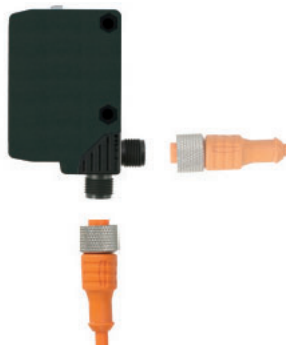
For that reason, stable light is emitted, making long-range detection possible.



For improved maintenance

Pivot type M12 connector

A connector type convenient for replacing sensors or only cables during maintenance is also available. Ideal for use in cleanrooms where the usage of items such as tools is undesirable.



Easy adjusting

Finely adjustable 2-turn potentiometer

Features a wide distance adjustment range to enable fine distance determinations to be made.

Since these models also come with indicators, the adjustment position can be confirmed at a glance.



Water resistant structure

Degree of protection on IP67

Achieves a IP67 level of water resistance. Can be used without worry in factories or with devices in which contact with water occurs.

Note: Water or oil that adhere to the optical surface could cause light to refract and prevent detection from being performed correctly.



Universal voltage/cable type **BGS-2V** series

Can be used with any voltage

Relay for universal voltage type Renewal

Equipped with an IP67 relay that has obtained VDE standard certification. The sensor also conforms to IP67 and the relay inner structure features double dust- and water-resistance. In addition, contact point capacity has been increased to 3 A (at 250 VAC).



Photoelectric
Sensors

Specialized
Photoelectric
Sensors

Laser
Displacement
Sensors

Long-range
BGS Sensors

TOF-L

TOF-DL

TOF-3V

BGS-2V

Specifications

■ DC power type

Type		Short-range	Mid-range	Long-range	
Model	NPN	Cable type	BGS-2V30N	BGS-2V50N	BGS-2V100N
		Connector type	BGS-2V30CN	BGS-2V50CN	BGS-2V100CN
	PNP	Cable type	BGS-2V30P	BGS-2V50P	BGS-2V100P
		Connector type	BGS-2V30CP	BGS-2V50CP	BGS-2V100CP
Sensing distance		10 to 300 mm ^{*1}	20 to 500 mm ^{*1}	20 to 1000 mm ^{*1}	
Adjustable distance range		100 to 300 mm ^{*1}	150 to 500 mm ^{*1}	250 to 1000 mm ^{*1}	
Light source		Red LED			
Response time		2 ms or less		3 ms or less	
Hysteresis		5% or less		15% or less	
Distance adjustment		2-turn potentiometer			
Indicators		Output indicator: Orange LED, Stability indicator: Green LED			
Control output		NPN/PNP type open collector Max. 100 mA/30 VDC			
Output mode		Light ON / Dark ON switched by wiring			
Connection type		Cable type: Cable length: 2 m, ø3.8 mm Connector type: M12, 4-pin			
Insulation resistance		20 MΩ or more (with 500 VDC)			
Rating	Supply voltage	10 to 30 VDC			
	Current consumption	35 mA or less			
Applicable regulations		EMC directive (2004/108/EC)			
Applicable standards		EN 60947-5-2			
Company standards		Noise resistance: Feilen Level 3 cleared			
Environmental resistance	Ambient temperature/humidity	-25 to +55°C (no freezing) / 35 to 85% RH (no condensation)			
	Ambient illuminance	Sunlight: 10,000 lx Incandescent lamp: 3,000 lx			
	Vibration resistance	10 to 55 Hz; double amplitude 1.5 mm; 2 hours in each of the X, Y, and Z directions			
	Shock resistance	Approx. 50 G (500 m/s ²), 3 times in each of the X, Y, and Z directions			
	Degree of protection	IEC standard, IP67			
Material		Housing: ABS (glass fiber filled, fire resistant), Front cover: Polycarbonate			
Weight without cable		Approx. 50 g			
Included accessories		Mounting bracket: BEF-W250			

*1. Using a 200 mm × 200 mm white sheet of paper.

● Specifications are subject to change without prior notice for product improvement purposes.

Photoelectric Sensors

Specialized Photoelectric Sensors

Laser Displacement Sensors

Long-range BGS Sensors

TOF-L

TOF-DL

TOF-3V

BGS-2V

■ Universal voltage type

Type		Short-range	Mid-range	Long-range
Model	Cable type	BGS-2V30	BGS-2V50	BGS-2V100
	Connector type	—	—	—
Sensing distance		10 to 300 mm ^{*1}	20 to 500 mm ^{*1}	20 to 1000 mm ^{*1}
Adjustable distance range		100 to 300 mm ^{*1}	150 to 500 mm ^{*1}	250 to 1000 mm ^{*1}
Light source		Red LED		
Response time		15 ms or less		
Hysteresis		5% or less		20% or less
Distance adjustment		2-turn potentiometer		
Indicators		Output indicator: Orange LED, Stability indicator: Green LED		
Control output		Relay × 1C ² 250 VAC/3 A or less, 30 VDC/2 A or less (load resistance)		
Output mode		Fixed to Light ON		
Connection type		Cable type: Cable length: 2 m, ø6.4 mm		
Insulation resistance		20 MΩ or more (with 500 VDC)		
Rating	Supply voltage	24 to 240 VAC, 24 to 240 VDC		
	Current consumption	2.5 VA or less		
Applicable regulations		EMC directive (2004/108/EC), Low voltage directive (2006/95/EC)		
Applicable standards		EN 60947-5-2		
Company standards		Noise resistance: Feilen Level 3 cleared		
Environmental resistance	Ambient temperature/humidity	-25 to +55°C (no freezing) / 35 to 85% RH (no condensation)		
	Ambient illuminance	Sunlight: 10,000 lx Incandescent lamp: 3,000 lx		
	Voltage resistance	2700 VAC / minute		
	Vibration resistance	10 to 55 Hz; double amplitude 1.5 mm; 2 hours in each of the X, Y, and Z directions		
	Shock resistance	Approx. 50 G (500 m/s ²), 3 times in each of the X, Y, and Z directions		
	Degree of protection	IEC standard, IP67		
Material		Housing: ABS (glass fiber filled, fire resistant), Front cover: Polycarbonate		
Weight without cable		Approx. 50 g		
Included accessories		Mounting bracket: BEF-W250		

*1. Using a 200 mm × 200 mm white sheet of paper.

*2. When driving the inductive load (with an induction valve, electromagnetic contactor, etc.) through the relay connection point, please use a noise absorption device (surge absorber).

- Specifications are subject to change without prior notice for product improvement purposes.
- Products certified for the Chinese CCC compulsory certification system also available. Please inquire for details.

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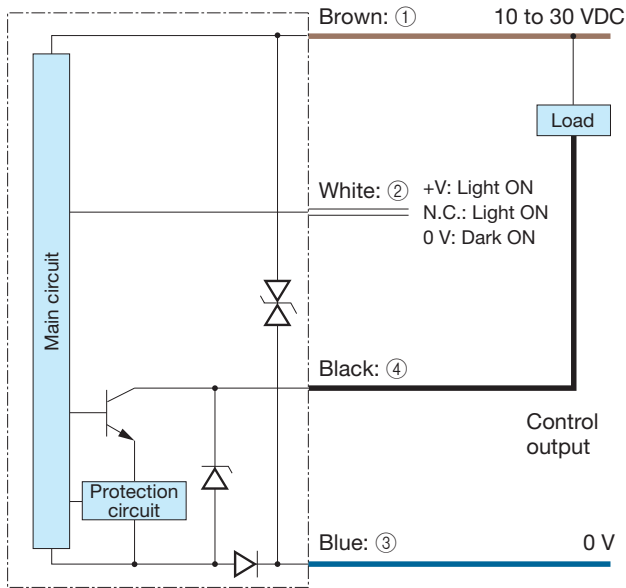
TOF-DL

TOF-3V

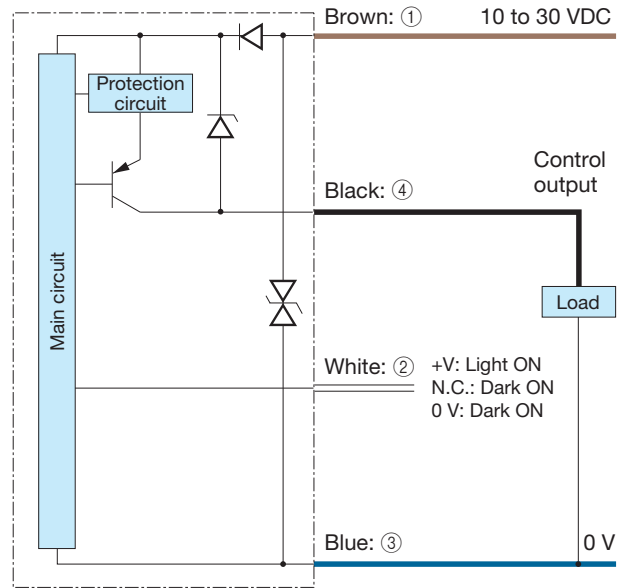
BGS-2V

I/O circuit diagram

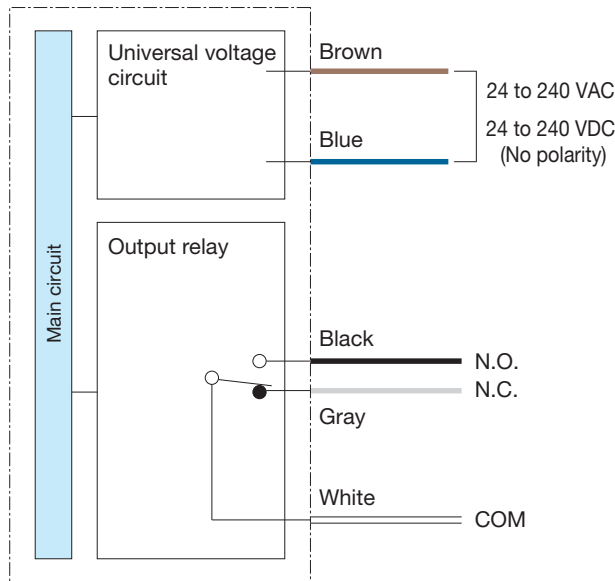
■ NPN output type (DC power type)



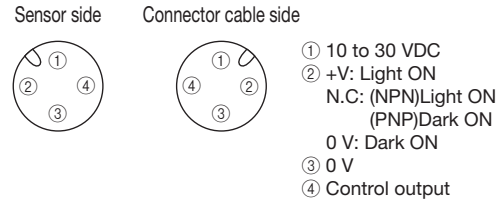
■ PNP output type (DC power type)



■ Universal voltage type



■ DC power connector type



Notes

- When using a switching regulator for the power supply, be sure to ground the frame ground terminal.
- Wiring sensor cables with high-voltage or power supply lines can result in malfunctions due to noise, which can cause damage, make sure to wire separately.
- Avoid using the transient state while the power is on (approx. 150 ms).

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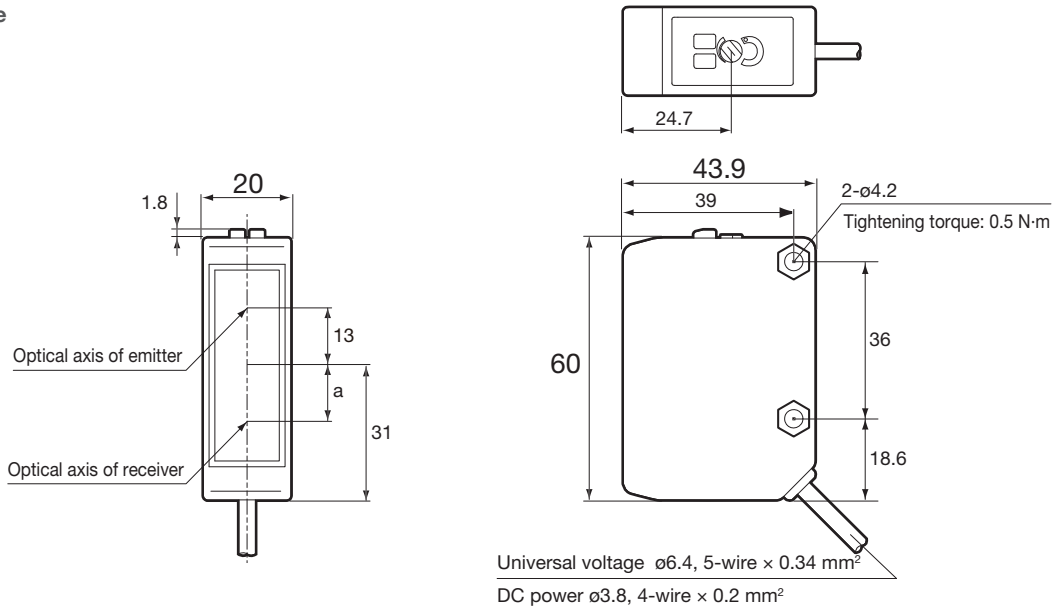
BGS-2V

Dimensions

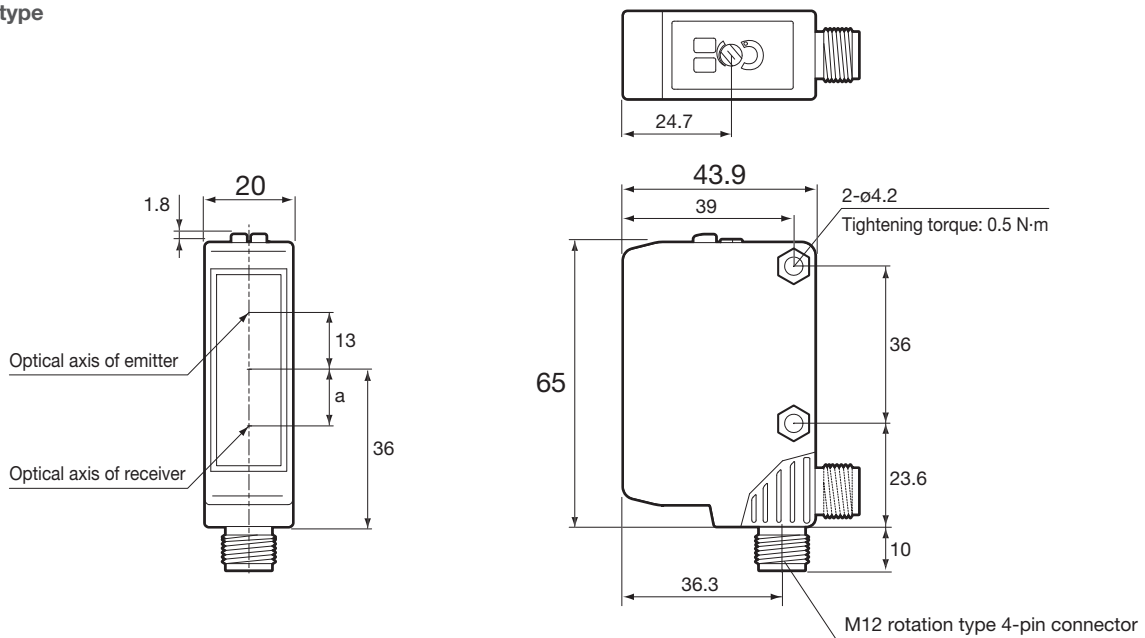
Sensor

(Unit: mm)

■ Cable type



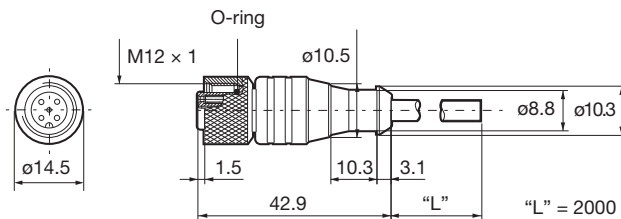
■ Connector type



	BGS-2V30□	BGS-2V50□	BGS-2V100□
a	12.6	13	13.6

Connector cables

■ DOL-1204-G02M



Cable section material: PVC Conductor cross-section: 4-wire × 0.25 mm²

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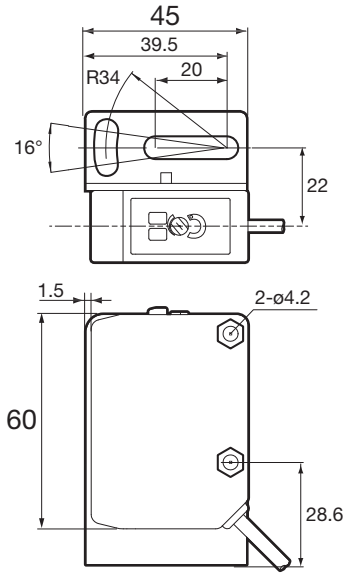
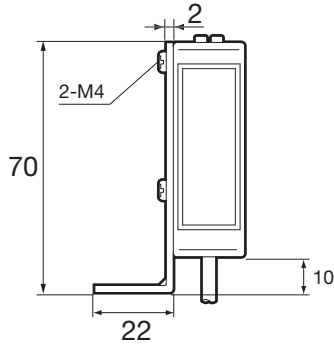
BGS-2V

Dimensions

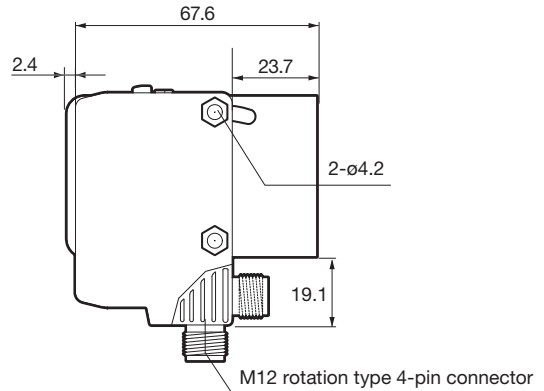
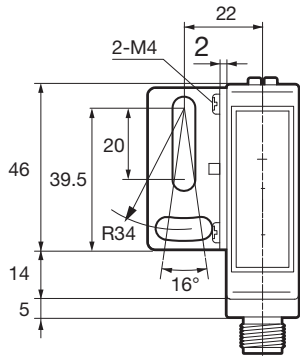
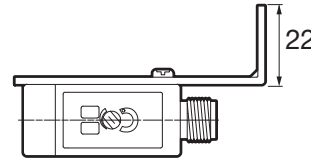
Mounting bracket

■ Cable type

(Unit: mm)

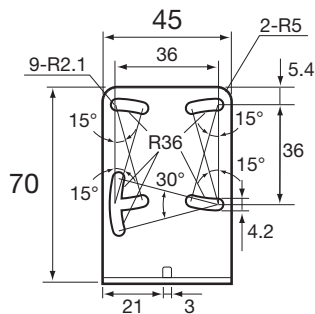
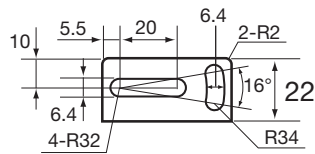


■ Connector type



Mounting bracket (included)

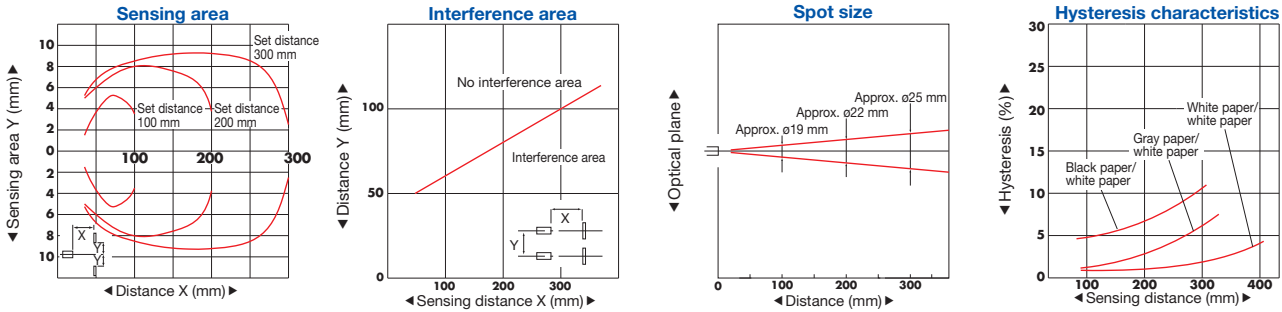
■ BEF-W250



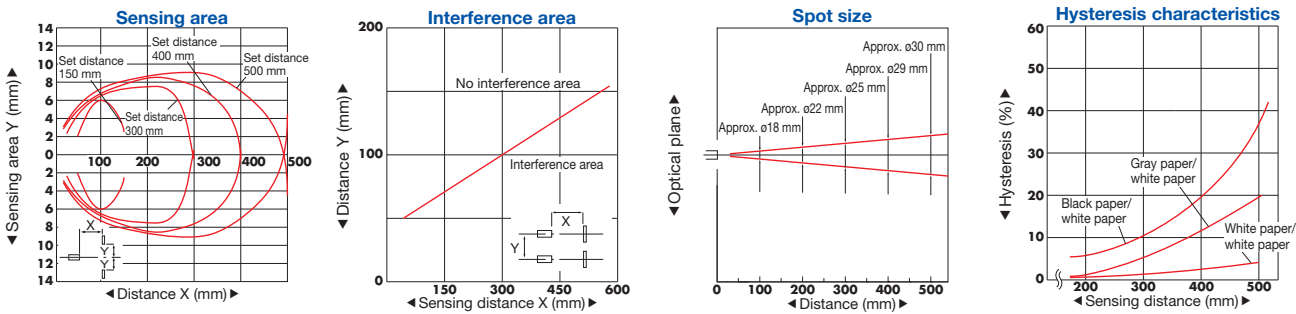
Typical characteristic data

*Please contact a sales representative for any other characteristic data that may be required.

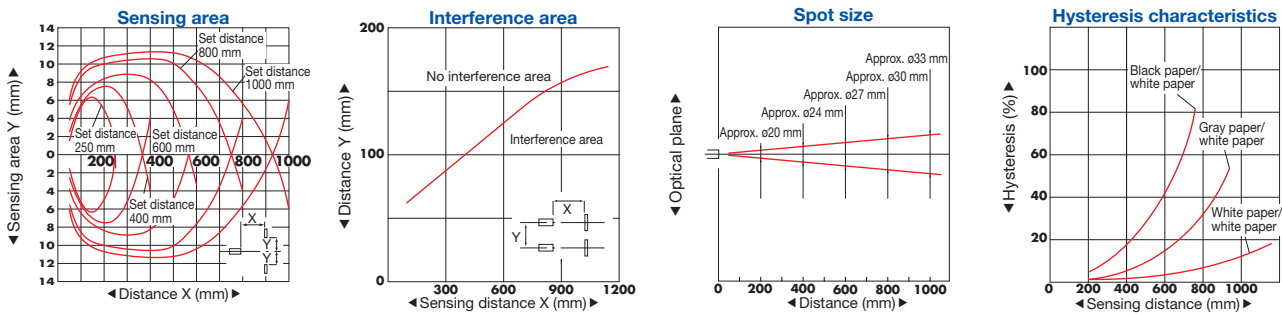
BGS-2V30



BGS-2V50



BGS-2V100



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