

Laser type with potentiometer

BGS-DL series**The low cost laser BGS sensor!**

- | Class 2 laser
- | 2PD (2-photo-diode) used for the receiver element
- | Low cost potentiometer type

Related products

C-MOS laser
**BGS-HL,
BGS-HDL**
● P.310



Small laser BGS
BGS-ZL
● P.326



Analog output
CD22
● P.464

**Selection table**

Type	Shape	Sensing distance	Receiver element	Distance adjustment	Model (Models in parentheses are connector types)	
					NPN type	PNP type
Laser BGS		40 to 100 mm	2PD	Potentiometer type	BGS-DL10N (BGS-DL10CN)	BGS-DL10P (BGS-DL10CP)
		100 to 300 mm	2PD	Potentiometer type	BGS-DL30N (BGS-DL30CN)	BGS-DL30P (BGS-DL30CP)
		100 to 700 mm	2PD	Potentiometer type	BGS-DL70N (BGS-DL70CN)	BGS-DL70P (BGS-DL70CP)

● For the connector type, please purchase an optional JCN series connector cable.

Low cost potentiometer type featuring a 2PD (2-photo-diode) for the receiver element

This is a potentiometer type without digital monitor for customers who love conventional potentiometer type sensors. Because it features a laser light source, it boasts high level positioning performance.

Options/Accessories**Connector cables****Straight**

JCN-S
Cable length: 2 m
JCN-5S
Cable length: 5 m
JCN-10S
Cable length: 10 m

**L-shaped**

JCN-L
Cable length: 2 m
JCN-5L
Cable length: 5 m
JCN-10L
Cable length: 10 m



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BGS Sensors

BGS-HL,
BGS-HDL

BGS-DL

BGS-ZL,
BGS-Z

BGS-ZM

BGS-S,
BGS-2S

BGS

BGS-DL
(potentiometer type)

Specifications

Type		Laser BGS type (potentiometer type)			
Model	NPN	Cable type	BGS-DL10N	BGS-DL30N	BGS-DL70N
		Connector type	BGS-DL10CN	BGS-DL30CN	BGS-DL70CN
	PNP	Cable type	BGS-DL10P	BGS-DL30P	BGS-DL70P
		Connector type	BGS-DL10CP	BGS-DL30CP	BGS-DL70CP
Sensing distance		10 to 100 mm ^{*1}	50 to 300 mm ^{*1}	50 to 700 mm ^{*1}	
Adjustable distance range		40 to 100 mm ^{*1}	100 to 300 mm ^{*1}	100 to 700 mm ^{*1}	
Light source		Red semiconductor laser Class 2 (IEC/JIS) ^{*2} Wavelength: 650 nm Pulse width: 6 μs			
		Maximum output: 2 mW		Maximum output: 3 mW	
Spot size		Approx. ø3 mm / at a distance of 80 mm	Approx. ø6 mm / at a distance of 200 mm	Approx. ø2.5 mm / at a distance of 300 mm	
Response time		0.7 ms or less			
Hysteresis		5% or less		5 to 20%	
Distance adjustment		4-turn endless potentiometer			
Indicators		Output indicator (orange) Laser emission indicator (green)			
Control output		NPN/PNP open collector Max. 100 mA/30 VDC			
Output mode		Light ON / Dark ON selectable			
Connection type		Cable type: Cable length: 2 m (ø4 mm) / Connector type: M8, 4-pin			
Insulation resistance		20 MΩ or more (with 500 VDC)			
Rating	Supply voltage	10 to 30 VDC, including 10% ripple (p-p)			
	Current consumption	35 mA or less			
Applicable regulations		EMC directive (2004/108/EC) / FDA regulations (21 CFR 1040.10)			
Applicable standards		EN 60947-5-2			
Company standards		Noise resistance: Feilen Level 3 cleared			
Environmental resistance	Ambient temperature/humidity	-10 to +40°C (no freezing) / 35 to 85% RH (no condensation)			
	Ambient illuminance	Sunlight: 10,000 lx or less Incandescent light: 3,000 lx or less			
	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	IP67			
Material		Housing: ABS Front cover: PMMA			
Weight without cable		Approx. 20 g (excluding cable)			
Included accessories		Mounting bracket: BEF-WK-190			

*1. Using a 100 × 100 mm white sheet of paper.

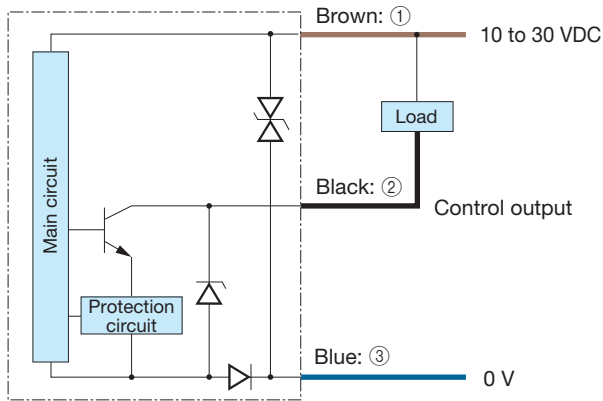
*2. Classified as Class II in the US FDA standards.

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

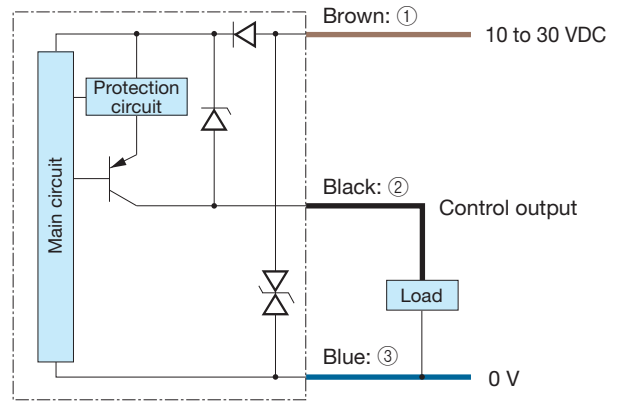
Laser type with potentiometer **BGS-DL** series

Output circuit diagram

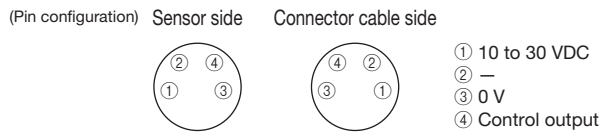
■ **NPN output type**



■ **PNP output type**



■ **Connector type**

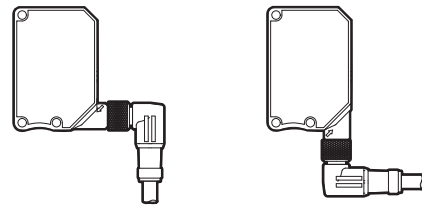


Connecting

■ 1 to 4 are connector pin No.

Notes

- When using a switching regulator for the power supply, be sure to ground the frame ground terminal.
- Because wiring sensor wires with high-voltage wires or power supply wires 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. 100 ms).
- The connector direction is fixed as the drawing below when you use L-shaped connector cable.

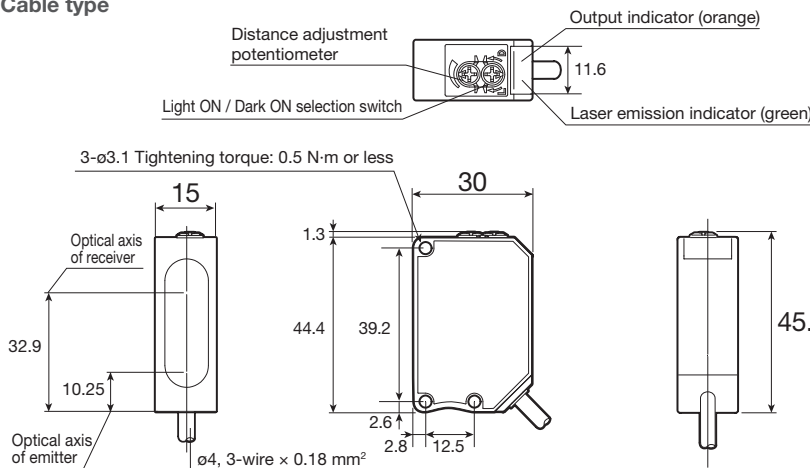


Dimensions

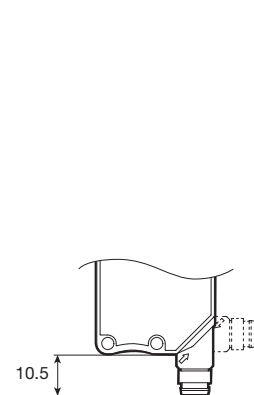
Sensor

(Unit: mm)

■ **Cable type**



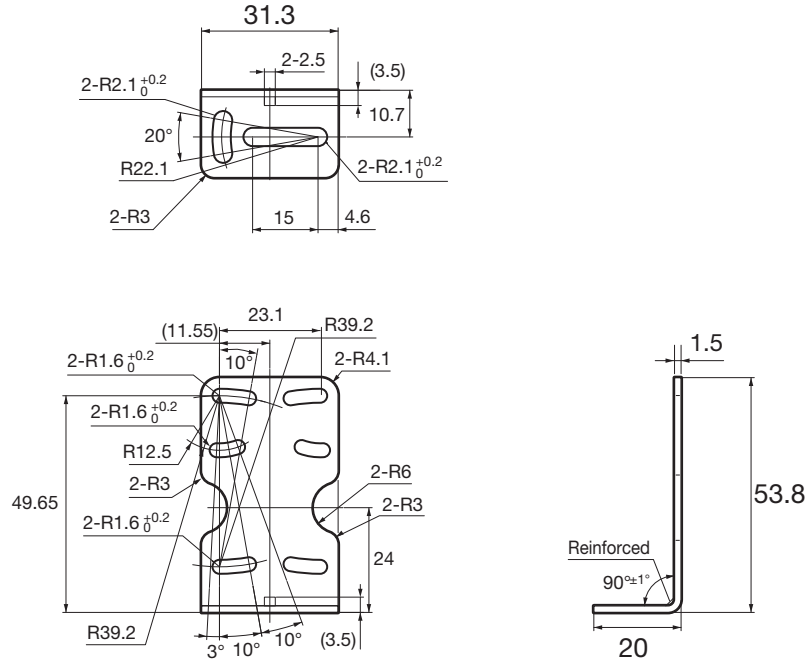
■ **Connector type**



(Unit: mm)

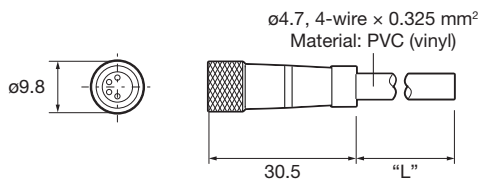
Mounting bracket

■ BEF-WK-190 (included)

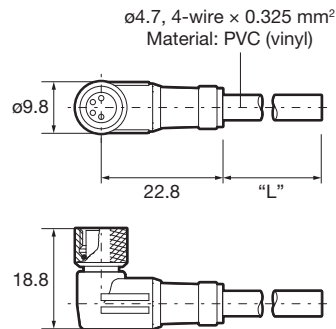


Connector cable (optional)

■ JCN-S, JCN-5S, JCN-10S



■ JCN-L, JCN-5L, JCN-10L



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BGS Sensors

BGS-HL,
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BGS-ZL,
BGS-Z

BGS-ZM

BGS-S,
BGS-2S

BGS

BGS-DL
(potentiometer type)

Notes for sensor usage

This product emits a Class 2 (II) visible laser beam that is compliant with JIS C6802/IEC/FDA laser safety standards. Warning and explanation labels are affixed to the sides of the sensor.

Warning Do not look directly at the laser or intentionally shine the laser beam in another person's eyes. Doing so may cause damage to the eyes or health.

BGS-DL10□□
BGS-DL30□□



BGS-DL70□□

