

BGS Sensors with IO-Link Support

Z4B Series



Features

- IO-Link support: Connectable to various field networks via IO-Link Master
- High-power and small-spot LED light source
- Enhanced ambient illuminance resistance

Lineup

Type	Appearance	Sensing distance (Adjustable distance range)	Model (Models in parentheses are connector types)	
			NPN type	PNP type
BGS		5 ... 80 mm (20 ... 80 mm)	Z4B-S08N (Z4B-S08CN4)	Z4B-S08P (Z4B-S08CP4)
		5 ... 100 mm (20 ... 100 mm)	Z4B-10N (Z4B-10CN4)	Z4B-10P (Z4B-10CP4)
		10 ... 300 mm (50 ... 300 mm)	Z4B-30N (Z4B-30CN4)	Z4B-30P (Z4B-30CP4)
		10 ... 300 mm (50 ... 300 mm)	Z4B-30NIR	Z4B-30PIR

Accessories

Connector cables

Model	Description
M84CN-2S	Straight, 2 m
M84CN-5S	Straight, 5 m
M84CN-10S	Straight, 10 m
M84CN-2L	L-shaped, 2 m
M84CN-5L	L-shaped, 5 m
M84CN-10L	L-shaped, 10 m

- Minimum bending radius: 24 mm (When fixed in place)
- Mounting bracket is not included. Purchase as necessary.
- For the connector type, purchase an optional connector cable.

Mounting brackets

Model	Description
BEF-W100-B	For cable type, Floor-mounted
BEF-W100-A	For connector type, Back-mounted
BEF-W100-C	For cable type, Floor-mounted

Protective mounting brackets

Model	Description
LK-S01	Floor-mounted
LK-S02	Wall-mounted

Specifications

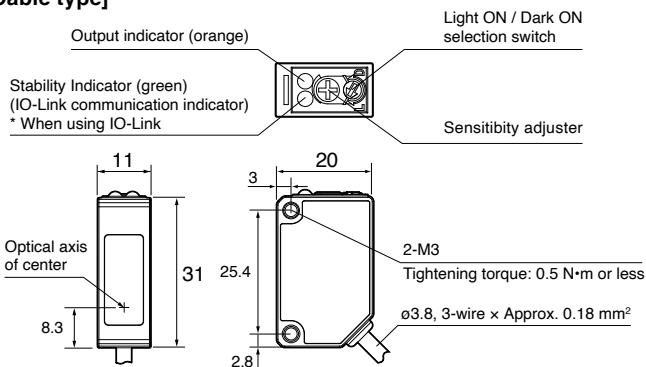
Type			BGS			
Model	NPN	Cable	Z4B-S08N	Z4B-10N	Z4B-30N	Z4B-30NIR
		Connector	Z4B-S08CN4	Z4B-10CN4	Z4B-30CN4	-
	PNP	Cable	Z4B-S08P	Z4B-10P	Z4B-30P	Z4B-30PIR
		Connector	Z4B-S08CP4	Z4B-10CP4	Z4B-30CP4	-
Sensing distance*			5 ... 80 mm	5 ... 100 mm	10 ... 300 mm	
Adjustable distance range*			20 ... 80 mm	20 ... 100 mm	50 ... 300 mm	
Light source			Red LED			Infrared LED
Spot size			Approx. Ø2.5 mm at 60 mm	Approx. Ø10 mm at 100 mm	Approx. Ø30 mm at 300 mm	
Response time			Light ON setting: No light received → Light received; 1 ms Max., Light received → No light received; 3.5 ms Max. Dark ON setting: Light received → No light received; 3.5 ms Max., No light received → Light received; 1 ms Max.			
Hysteresis*			Max. 3 %		Max. 5 %	
Sensitivity adjustment			6-turn potentiometer (endless)		4-turn potentiometer (endless)	
Indicators			Output indicator (orange LED), Stability indicator (green LED)			
Control output			NPN/PNP Open collector Max. 100 mA/30 VDC (Residual voltage 1.8 V Max.)			
Output mode			Light ON, Dark ON selectable by switch			
IO-Link specifications			Ver. 1.1, Baud rate: COM3 (230.4 kbps), Number of process input data bytes: 2 bytes, Minimum cycle time: 0.5 ms			
Connection			Cable type: 2 m long, Ø3.8 mm (Minimum bending radius: Cable diameter x 4 (When fixed in place)) Connector type: M8 4-pin			
Rating	Supply voltage		IO-Link mode: 18 ... 30 VDC, SIO mode: 10 ... 30 VDC including 10 % ripple (p-p)			
	Current consumption		30 mA Max.			
Applicable regulations	EMC		EMC directive (2014/30/EU)			
	Environment		RoHS directive (2011/65/EU), China RoHS (MIIT Order No. 32)			
Applicable standards			EN 60947-5-2			
Company standards			Noise resistance: Feilen Level 3 cleared			
Environmental resistance	Ambient temperature/humidity		-25 ... 55°C/35 ... 85 % RH (No condensation or freezing)			
	Storage temperature/humidity		-40 ... 70°C/35 ... 95 % RH (No condensation or freezing)			
	Ambient illuminance		Sunlight: 50,000 lx Max., Incandescent lamp: 5,000 lx Max.			
	Vibration resistance		10 ... 55 Hz, Double amplitude 1.5 mm, 2 hours in each of the X, Y and Z directions			
	Shock resistance		Approx. 100 G (1,000 m/s²) 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. 10 g			
Included items			Instruction manual			

*White paper: 100 mm × 100 mm

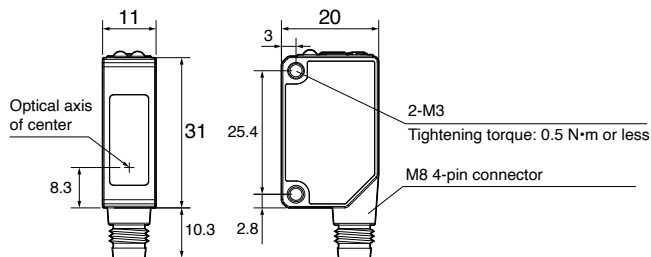
Dimensions

(Unit: mm)

[Cable type]



[Connector type]

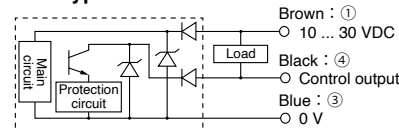


Never use these products as sensing devices for personnel protection.
Doing so could lead to serious injury or death.
Before use please read an instruction manual.

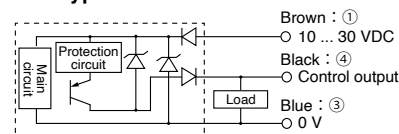
• Specifications are subject to change without prior notice.

Circuit diagram

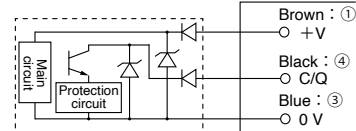
NPN type



PNP type

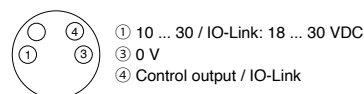


IO-Link mode



* When using NPN type for an IO-Link connection, use OPTEX FA's IO-Link Master UR Series or IO-Link Master with sink support.

[M8 connector pin assignments]



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