IO-Link

*FASTUS is a product brand of OPTEX FA.

IO-Link Supported BGS Sensor

Z4B Series

Features

■ **IO-Link supported: 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	Model (Models in parentheses are connector types)	
			NPN type	**PNP type**
BGS		■ 5 to 80 mm (20 to 80 mm)	**Z4B-S08N** (Z4B-S08CN4)	**Z4B-S08P** (Z4B-S08CP4)
		■ 5 to 100 mm (20 to 100 mm)	**Z4B-10N** (Z4B-10CN4)	**Z4B-10P** (Z4B-10CP4)
		■ 10 to 300 mm (50 to 300 mm)	**Z4B-30N** (Z4B-30CN4)	**Z4B-30P** (Z4B-30CP4)

● For the connector type, purchase an optional connector cable.

Accessories

M8 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

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

● Mounting bracket is not included. Purchase as necessary.
● For the connector type, purchase an optional connector cable.
● For IO-Link connection with USB adapter and master unit, use 3rd party product in the market.

OPTEX FA CO., LTD.

Specifications

Type			BGS		
Model	**NPN**	**Cable**	Z4B-S08N	Z4B-10N	Z4B-30N
		Connector	Z4B-S08CN4	Z4B-10CN4	Z4B-30CN4
	PNP	**Cable**	Z4B-S08P	Z4B-10P	Z4B-30P
		Connector	Z4B-S08CP4	Z4B-10CP4	Z4B-30CP4
Sensing distance*			5 to 80 mm	5 to 100 mm	10 to 300 mm
Adjustable distance range*			20 to 80 mm	20 to 100 mm	50 to 300 mm
Light source			Red LED		
Spot size			Approx. Ø 2.5 mm at 60 mm	Approx. Ø 10 mm at 100 mm	Approx. Ø 30 mm at 300 mm
Response time			Light ON setting: No light received → Light received; 1 ms or less, Light received → No light received; 3.5 ms or less Dark ON setting: Light received → No light received; 3.5 ms or less, No light received → Light received; 1 ms or less		
Hysteresis*			Max. 3 %	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 100 mA/30 VDC Max. (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, Ø 3.8 mm (Minimum bending radius: 15.2 mm (When fixed in place)) Connector type: M8 4-pin		
Rating	Supply voltage		IO-Link mode: 18 to 30 VDC, SIO mode: 10 to 30 VDC including 10 % ripple (p-p)		
	Current consumption		30 mA or less		
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 to 55°C/35 to 85 %RH (No condensation or freezing)		
	Ambient illuminance		Sunlight: 50,000 lx or less, Incandescent lamp: 5,000 lx or less		
	Storage temperature/humidity		-40 to 70°C/35 to 95 %RH (No condensation or freezing)		
	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. 100 G (1000 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
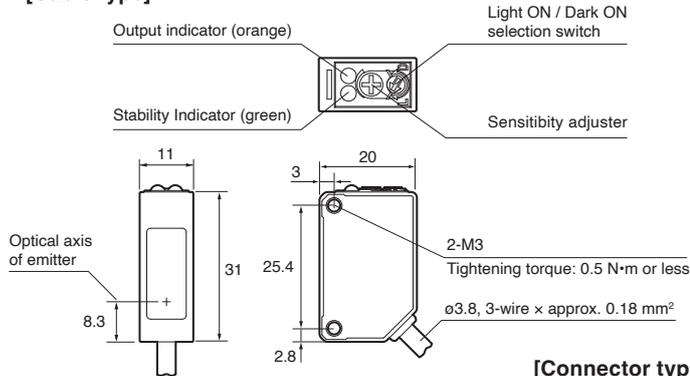
● Specifications are subject to change without prior notice. Thank you for your understanding.
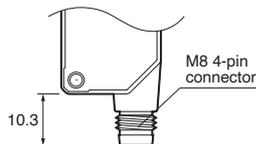
Dimensions

(Unit: mm)

[Cable type]
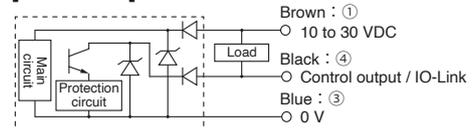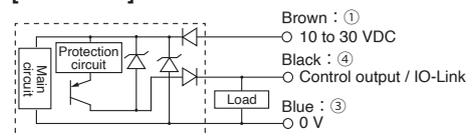
Output indicator (orange)
Stability Indicator (green)
Light ON / Dark ON selection switch
Sensibity adjuster

11
20
3
31
25.4
8.3
2.8

Optical axis of emitter

2-M3
Tightening torque: 0.5 N•m or less

ø3.8, 3-wire × approx. 0.18 mm²

[Connector type]

M8 4-pin connector

10.3
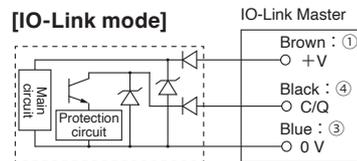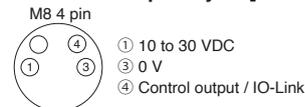
Never use these products as sensing devices for personnel protection.
Doing so could lead to serious injury or death.
Before use please read an instruction manual.

● Specifications are subject to change without prior notice.

Circuit diagram

[NPN mode]

Main circuit
Protection circuit
Load
Brown：① 10 to 30 VDC
Black：④ Control output / IO-Link
Blue：③ 0 V

[PNP mode]

Main circuit
Protection circuit
Load
Brown：① 10 to 30 VDC
Black：④ Control output / IO-Link
Blue：③ 0 V

[IO-Link mode]

IO-Link Master
Main circuit
Protection circuit
Brown：① +V
Black：④ C/Q
Blue：③ 0 V

[M8 connector pin layout]

M8 4 pin

① 10 to 30 VDC
③ 0 V
④ Control output / IO-Link

CE