Photoelectric Sensor

J3 series

- J3M Mark sensor with Pushbutton Teach.
- Narrow view optics project a 3.0 mm spot (Retro-reflective type J3R-100).
- 1.5 mm projected spot for BGS types.
- Epoxy filled sensor housing provides protection against vibration.

IP67

In addition to vibration resistance, the epoxy filled housing results in an IP67 rating.

Fast Response 200 micro sec, 10±2mm sensing distance (Mark sensor J3M type)

A latest Green LED with physical composition of GlanN2.
It's best for mark sensing.

Sensing distance 10mm

Completely waterproof

An IP67 rating is guaranteed by filling the sensor body with epoxy.
The 100G shock resistance rating protects the sensor against mechanical vibration.

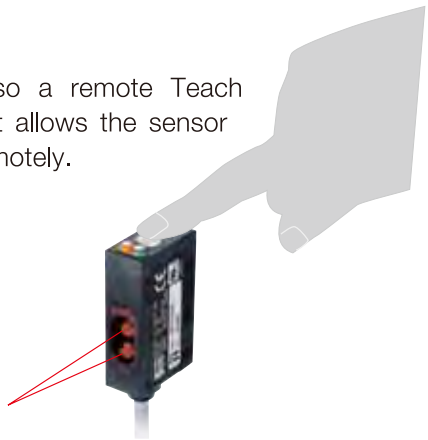
BGS-S/H15 : Built-in FGS function

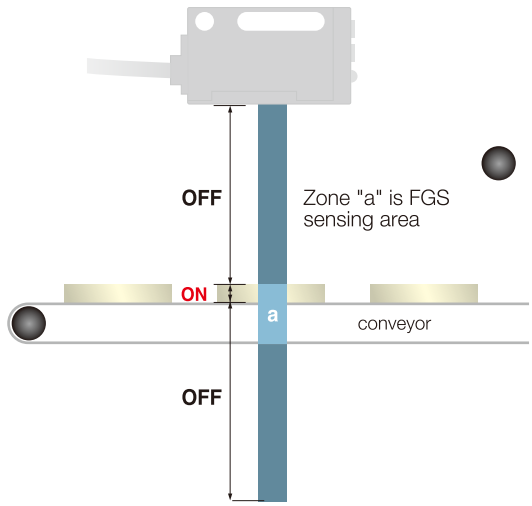
The BGS-S15 and BGS-H15 sensors are able to operate as FGS (foreground suppression) sensors. The FGS function senses the surface of the conveyor and uses this as a reflector, the sensor will detect thin and/or flat objects positioned on the conveyor.
A standard diffuse reflective sensor could be used in this application but adjusting the sensitivity is sometimes difficult, the FGS function is easily adjusted and will operate in a manner similar to a retro-reflective sensor without the reflector.

One-push Teaching.

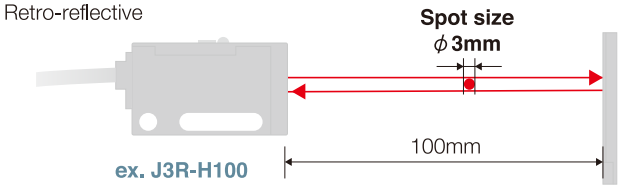
The built-in microcomputer provides a convenient means of setting the sensor.

There is also a remote Teach function that allows the sensor to be set remotely.



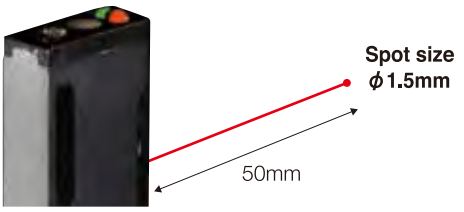


Ideal for detection of small objects



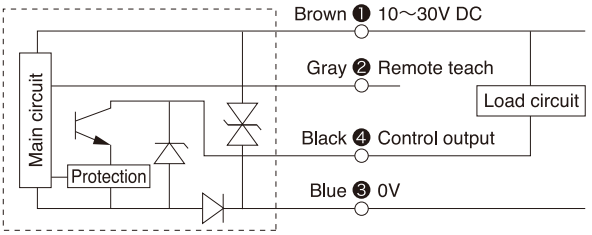
ϕ1.5mm of small spot size (BGS-3JH05)

Small spot in a BGS sensing system.

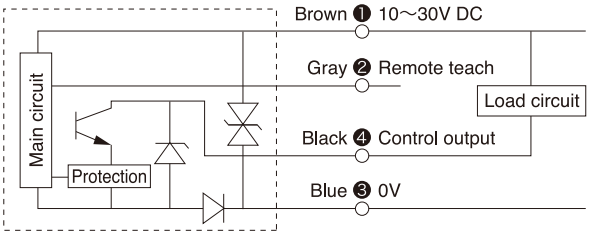


Circuit diagram

NPN output



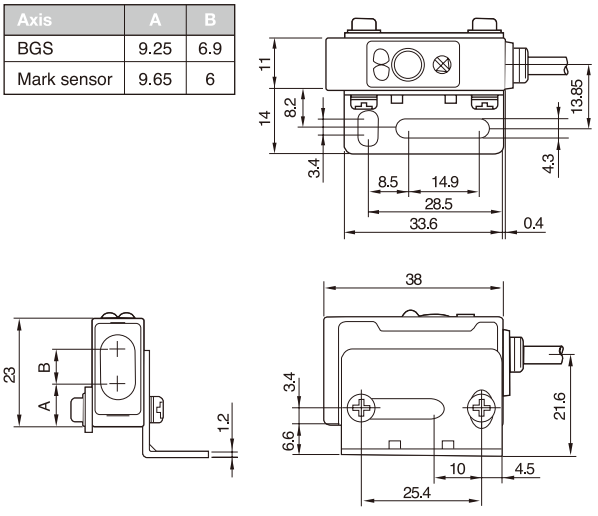
PNP output



Dimensions

Head ON type

Axis	A	B
BGS	9.25	6.9
Mark sensor	9.65	6

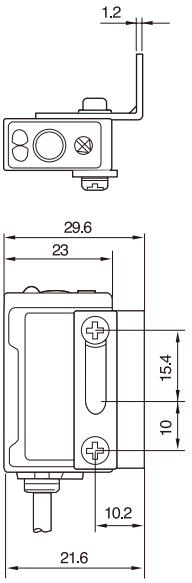


<4 Pin configuration>

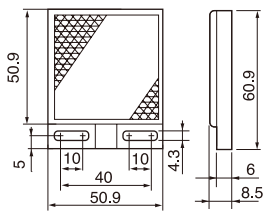
① DC10~30V
② –
③ 0V
④ Control Output

Side ON type

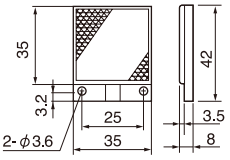
Axis	A	B
BGS	9.25	6.9
Mark sensor	9.65	6



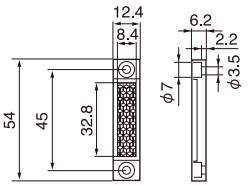
Standard reflector V-61



Small reflector V-42



Tiny reflector P-45



Specifications

Model		Mark Sensor	Retro-reflective Narrow View	BGS
Cable type	NPN	J3M-GH(S)01N	J3R-H(S)100N	BGS-3JH(S)05N
	PNP	J3M-GH(S)01P	J3R-H(S)100P	BGS-3JH(S)05P
Connector type	NPN	J3M-GH(S)01CN	J3R-H(S)100CN	BGS-3JH(S)05CN
	PNP	J3M-GH(S)01CP	J3R-H(S)100CP	BGS-3JH(S)05CP
(Remark)		*H = Head-on, S = Side-on		
Sensing distance		10 +/- 2m	0.05 - 1m	15 - 50mm/18%
Power consumption		40mA Max		
Response time		0.2m sec		0.7 msec
Hysteresis		N/A		5%
Min detectable object		Appr 2 x 5mm @ 10mm	1mm @ 100mm	0.5mm round@150mm
Light source		Green	Red LED with special focusing lens	Red
Off delay		40 msec fixed		
Supply voltage		DC 10 to 30V including 10% of ripple		
Control output		NPN or PNP Open collector, 100mA Max / 30V DC		
Sensitivity adjustment		Teach-in		
Remote teach-in		Available		
Shock resistance		100G (1,000m/S^2), X-Y-Z axis 3 times		
Remarks		Light on / Dark on selectable		
Operating temp		–25 up to 55 °C		
Operating humidity		35 up to 95% RH		
Storage conditions		–40 up to 70 °C, 35 - 95% RH		
Environmental illuminance		Sunlight : 10,000lux Max, Incandescent lamp : 3,000 lux Max.		
Insulation resistance		Min. 20 M Ohm / DC500V		
Conformity		JIS, CE, CㅁU		
(JIS C4525)		1μsec, 300V		
Feilen test		Level 3		
VDE protection		Class 3		
Vibration resistance		10 to 55 hz amplitude 1.5mm, X-Y-Z for 2 hours		
Protection category		IP67		
Material		Case : PBT, Lens : PMMA		

Options

Standard reflector V-61

Small reflector V-42

Tiny reflector P-45

JCN-S : M8 Straight type

JCN-S : 2 meter
JCN-5S : 5 meter
JCN-10S : 10 meter

JCN-L : M8 L-shape type

JCN-L : 2 meter
JCN-5L : 5 meter
JCN-10L : 10 meter

Protective mounting brackets (For Head-on types)

LJ-H01 : Protector

LJ-H02 : Protector

Protective mounting brackets (For Side-on types)

LJ-S01 : Protector

LJ-S02 : Protector

Sensor stand
PLN-1

Fixture of Reflector
PLN-1M