

Specifications

Model		Narrow View	Diffuse Reflective (IR)	Diffuse Reflective (Red)	BGS
Cable type	NPN	J2D-H(S)10N	J2D-H(S)100N	J2D-H(S)70N	BGS-H(S)15N
	PNP	J2D-H(S)10P	J2D-H(S)100P	J2D-H(S)70P	BGS-H(S)15P
Connector type	NPN	J2D-H(S)10CN	J2D-H(S)100CN	J2D-H(S)70CN	BGS-H(S)15CN
	PNP	J2D-H(S)10CP	J2D-H(S)100CP	J2D-H(S)70CP	BGS-H(S)15CP
(Remark)		*H = Head-on, S = Side-on			
Sensing distance		100mm	1000mm	700mm	50-150mm
Power consumption		10mA Max			
Response time		0.5m sec			
Hysteresis		15%			
Spot size		φ 1.5mm@100mm	φ 85mm@1000mm	φ 50mm@600mm	φ 10mm@150mm
Light source		Red	Infrared	Red	
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 (Available Remote Teach-in)			
Shock resistance		100G (1,000m/S <sup>2</sup> ), X-Y-Z axis 3 times			
Remarks		Connector is M8, 3 and 4 pin connectors are available			
Operation mode		Light on / Dark on selectable			
Ambient temp		-25 up to 55 °C			
Ambient humidity		35 up to 95% RH			
Storage temp / humidity		-40 up to 70 °C, 35 - 95% RH			
Environmental illuminance		Sunlight : 10,000 lux Max, Incandescent lamp : 3,000 lux Max.			
Insulation resistance		Min. 20 M Ohm / DC500V			
Conformity (JIS C4525)		JIS, CE, CFCU			
Feilen test		1 sec, 300V			
VDE protection		Level 3			
Vibration resistance		Class 3			
Protection category		10 to 55 hz amplitude 1.5mm, X-Y-Z for 2 hours			
Material		IP67			
		Case : PBT, Lens : PMMA			

Options

Standard reflector V-61



Small reflector V-42



Tiny reflector P45A



JCN-S : M8 Straight type



JCN-L : M8 L-shape type



Sensor stand PLN-1

Fixture of Reflector PLN-1M



Protective mounting brackets (For Head-on types)



LJ-H02



Protective mounting brackets (For Side-on types)



LJ-S02



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.

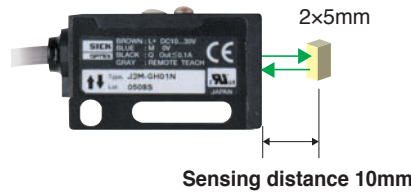
IP67

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



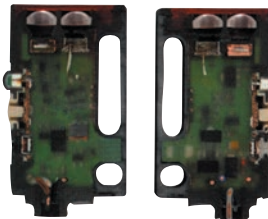
Fast Response 200 micro sec,  
10±2mm sensing distance  
(Mark sensor J3M type)

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



Completely waterproof

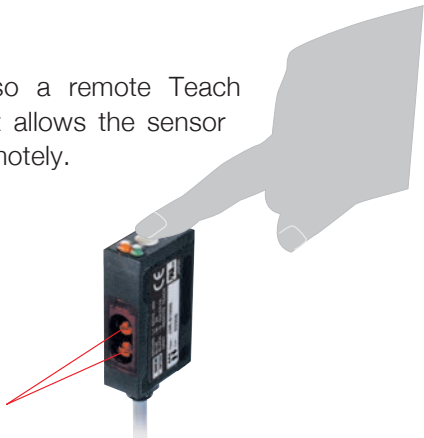
An IP67 rating is guaranteed by filling the sensor body with epoxy. The 100G shock resistance rating protects the sensor against mechanical vibration.



One-push Teaching.

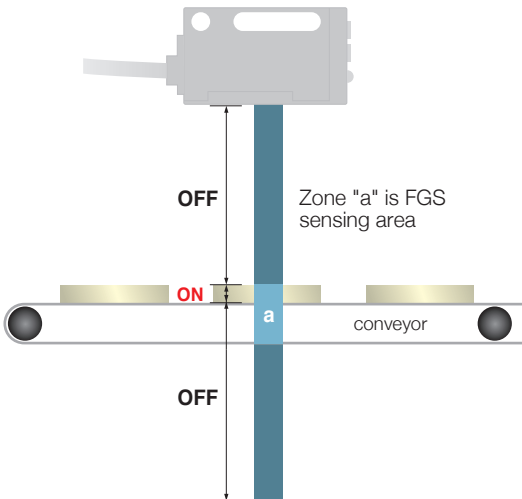
The built-in microcomputer provides a convenient means of setting the sensor.

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

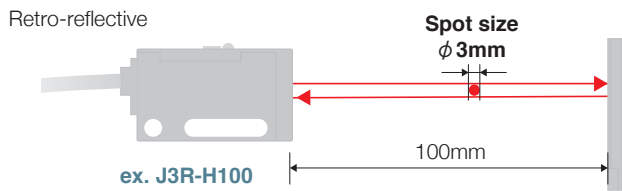


BGS-S/H15 : Built-in FGS function

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.

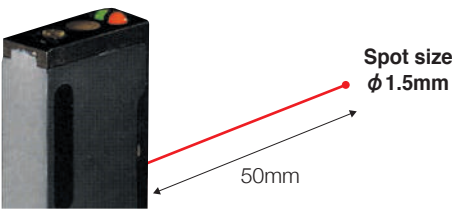


Ideal for detection of small objects



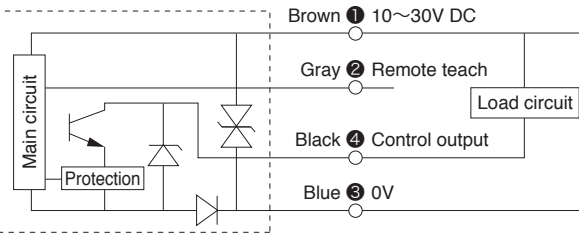
ϕ 1.5mm of small spot size (BGS-3JH05)

Small spot in a BGS sensing system.

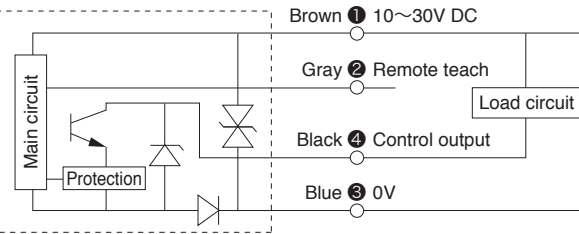


Circuit diagram

NPN output



PNP output

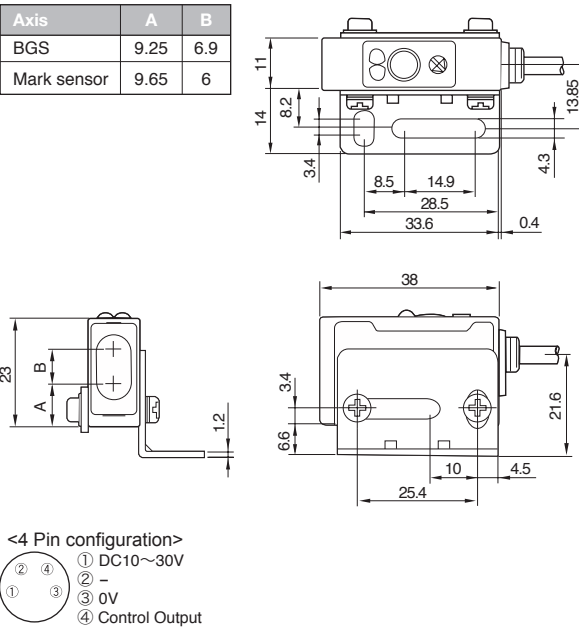


Specifications

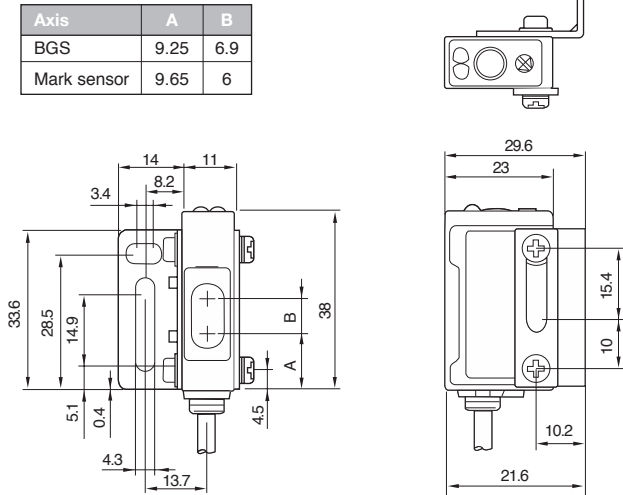
Model		Mark Sensor	Retro-reflective Narrow View	BGS
Cable type	NPN	J3M-GH(S)01N	J3R-H(S)100N	BGS-3JH(S)05N
	PNP	J3M-GH(S)01P	J3R-H(S)100P	BGS-3JH(S)05P
Connector type	NPN	J3M-GH(S)01CN	J3R-H(S)100CN	BGS-3JH(S)05CN
	PNP	J3M-GH(S)01CP	J3R-H(S)100CP	BGS-3JH(S)05CP
(Remark)		*H = Head-on, S = Side-on		
Sensing 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 <sup>2</sup> ), 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 C4525)		JIS, CE, CRU		
Feilen test		1μsec, 300V		
VDE protection		Level 3		
Vibration resistance		Class 3		
Protection category		10 to 55 hz amplitude 1.5mm, X-Y-Z for 2 hours		
Material		IP67		
		Case: PBT, Lens: PMMA		

Dimensions

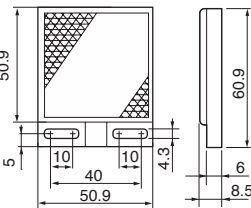
Head ON type



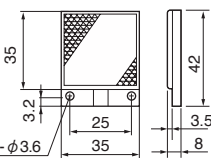
Side ON type



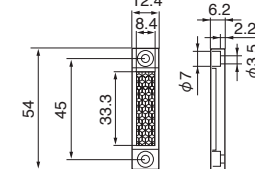
Standard reflector V-61



Small reflector V-42



Tiny reflector P45A



Options

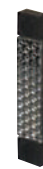
Standard reflector V-61



Small reflector V-42



Tiny reflector P45A



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

C
C2
E
J
J2
J3
V
V2
V3
V4
SR-Q
S
Z
BGS-Z
Z2
Z3
ZM
K
BGS-2S
Y
DM-18T
Accessory

Photoelectric Sensor

V series



- Universal voltage photoelectric sensor 12~240 VDC / 24~240 VAC. M12 QD types are available.
- Relay contact (AC/DC models) and Transistor output (DC models).
- Rugged duty sensor housing.
- BGS-V2000, long sensing distance (2m) with BGS operation.

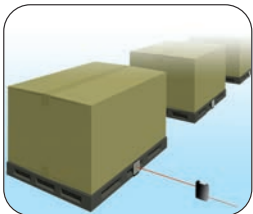
Applications



Rubber / plastic industry



Transportation industry



Material handling

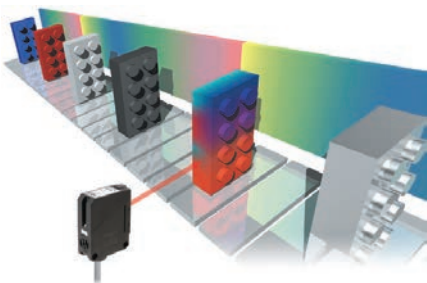
High power light source

The strong LED light source assures stable sensing even in misty or dirty conditions.



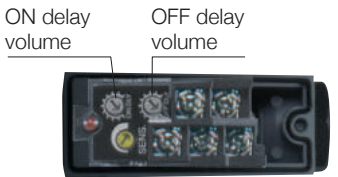
Long sensing BGS-V2000 (2m) BGS type

BGS-V2000 , 2m sensing BGS sensor.



Timer Function

Adjustable ON delay, OFF delay and ON+OFF delay time by individual delay trimmer.  
From 0.1 to 10 sec.



Applicable for use world-wide

24 to 240V AC  
12 to 240V DC.



C
C2
E
J
J2
J3
V
V2
V3
V4
SR-Q
S
Z
BGS-Z
Z2
Z3
ZM
K
BGS-2S
Y
DM-18T
Accessory