

GFS-0B系列 操作说明书

- 感谢您购买本产品
- 使用前请认真翻阅本操作说明书，在全面了解产品功能和性能后，规范使用产品。
- 使用产品前，请务必仔细阅读安全使用须知，清楚相关要求后再开始使用。
- 请将说明书妥善保存，方便后续查看。

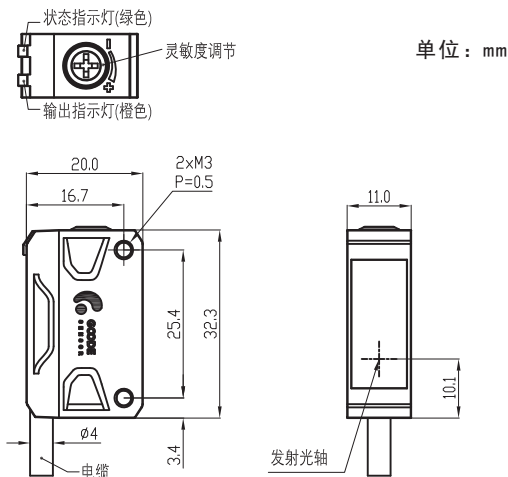
规格

背景抑制型漫反射式光电传感器					
型号		GFS-0B151N	GFS-0B151P	GFS-0B301N	GFS-0B301P
检测距离 ^{※1}		5~150mm		5~300mm	
设定距离 ^{※1}		25~150mm		30~300mm	
光源		红色LED			
光斑尺寸		约Φ4mm/150mm		约Φ8mm/300mm	
滞后现象 ^{※1}		3%		5%	
响应时间		<0.8ms			
灵敏度调节		6圈电位器			
开关量输出		NPN/PNP集电极开路 ≤100mA/DC30V			
输出方式		常开/常闭模式可切换			
LED指示灯		输出指示灯 - 橙色、状态指示灯 - 绿色，稳定时 - 亮灯 / 不稳定时 - 闪烁			
电源电压		DC10~30V			
消耗电流		30mA 以下			
负载电流		≤100mA			
保护电路		反接保护、过电流保护			
耐环境性	使用环境温度/湿度	-25℃~+55℃/35%~85% RH (无结露・结冰)			
	存储环境温度/湿度	-30℃~+70℃/35%~95% RH (无结露・结冰)			
	环境照度	太阳光: 10000Lx 以下、白炽灯: 3000Lx 以下			
	抗震动	10~50Hz 双振幅 1.5mm X、Y、Z 各方向 2 小时			
	防护等级	IP67 (IEC60529)			
连接形式		2m/4芯电缆 φ4mm直径			
适用法令		EMC 指令 (2004/108/EC)、RoHS 指令 (2011/65/EU)			
材质		外壳: ABS+GF, 前盖、透镜: PMMA			

※1 100 100mm白纸

注: 上述数据是在常温环境下测得。若在低温或高温环境下使用, 可能会影响检测性能, 使用前请与我司联系确认。

外形尺寸图



状态指示灯功能



亮灯状态	内容
常亮	稳定检出状态
微亮闪烁	临界检出状态

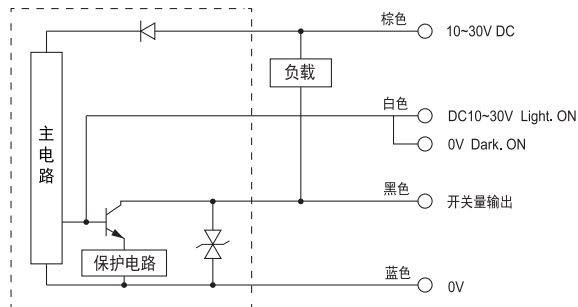
安全使用须知

1. 进行电缆布线或连接器脱落时请立刻关闭电源，否则可能会导致故障或电击现象。
2. 请勿将本产品安装在以下环境中使用，否则可能会导致误动作、故障等：
 - 多粉尘、多铁粉、 满蒸汽等的场所。
 - 存在腐蚀性气体的场所。
 - 水、油等飞溅的场所。
 - 震动、撞击等剧烈的场所。
3. 请避免在户外环境使用。
4. 请勿在电源刚接通的过渡状态下(约预热150ms)使用。
5. 请不要与高压线或动力线并联。否则可能会因电磁感应而导致本产品发生误动作、损坏。
6. 每个产品可能存在差异，检测特性也可能会根据检测对象的状态而不同。
7. 请勿将产品浸泡在水中使用。
8. 请勿擅自拆卸、修理或改造本产品，否则可能会导致触电、火灾或伤害人体等事故的发生。
9. 请按本说明书中的规格范围使用产品。
10. 在低于冰点的温度下，请勿弯折，防止电缆断裂。

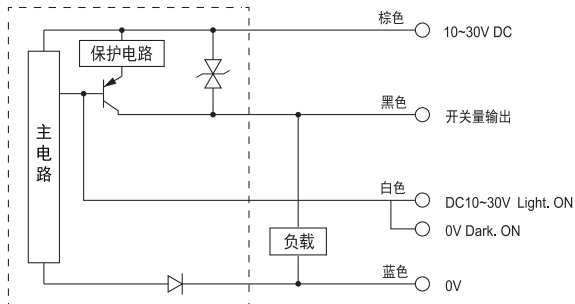
本产品不可直接或间接用于以保护人身安全为目的的安全设备。

输入/输出电路图

NPN输出



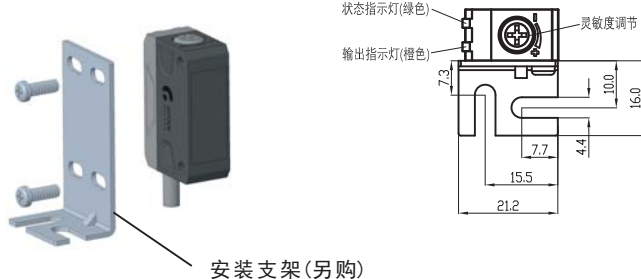
PNP输出



安装

- 请使用M3螺丝，螺纹长度10mm
- 安装时请使用0.5N·m以下的拧紧力矩

单位: mm



- 产品规格变更，不会另行通知
- 产品相关问题请联系本公司
- 中国RoHS认证

联系我们

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BGS diffuse photoelectric sensor

GFS-OB SERIES INSTRUCTION MANUAL

- Thank you for purchasing this product.
- Before using it, please carefully read this operation manual. After fully understanding the product's functions and performance, use the product as specified.
- Before using the product, be sure to read the safety instructions carefully and understand the relevant requirements before starting operation.
- Please keep this manual in a safe place for future reference.

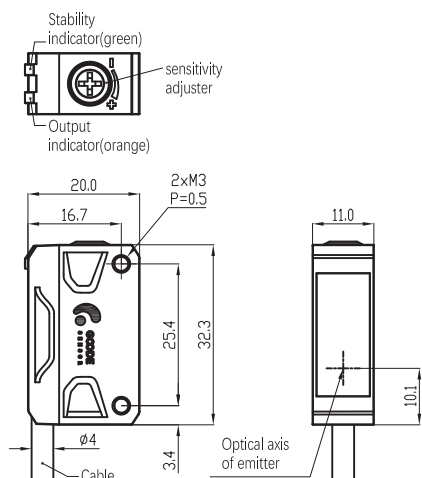
Specifications

BGS diffuse photoelectric sensor					
Model		GFS-OB151N	GFS-OB151P	GFS-OB301N	GFS-OB301P
Sensing distance ^{※1}		5~150mm		5~300mm	
Setting distance ^{※1}		25~150mm		30~300mm	
Light source		Red LED			
Spot size		Φ4mm/150mm		Φ8mm/300mm	
Hysteresis ^{※1}		3%		5%	
Response time		<0.8ms			
Sensitivity adjustment		6-turn potentiometer			
Control output		NPN/PNP open collector output, ≦100mA / DC30V			
Operation mode		Light ON, Dark ON selectable			
LED Indicators		Output indicator (orange), status indicator (green), Stable: lighting, unstable: flashing			
Supply voltage		DC10~30V			
Current consumption		30mA MAX			
Load current		≦100mA			
Protection circuit		Reverse connection protection, overcurrent protection			
Environmental resistance	Ambient temp./Humidity	-25℃~-+55℃/35%~85% RH(No condensation or freezing)			
	Storage temp./Humidity	-30℃~-+70℃/35%~95% RH(No condensation or freezing)			
	Ambient illuminance	Sunlight: 10,000 Lx max; incandescent lamp: 3,000 Lx max			
	Vibration resistance	10~50 Hz, double amplitude 1.5 mm, 2 hours in X, Y, Z directions			
	Degree of protection	IP67(IEC60529)			
Connection type		2m/4 core cable, 4mm diameter			
Applicable regulations		EMC(2004/30/EU),RoHS (2011/65/EU,MIIT Order No.32)			
Material		Case: ABS+GF, front cover and lens: PMMA			

※1 White paper 100 100mm

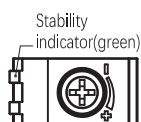
Note: The above data were measured at room temperature. If used in low or high temperature environments, the detection performance may change. Please contact us for confirmation before use.

Dimensions



Unit: mm

Status indicator function



Indicator status	Description
Lit continuously	Stable detection is being performed
Dim flashing	Critical detection is being performed

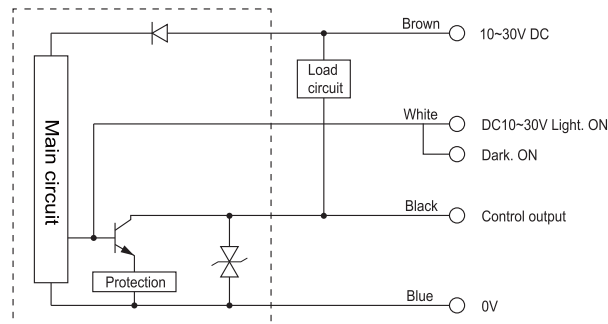
Safety Precautions

1. It is dangerous to wire or attach/remove the connector with the power on.
2. Installing in the following places may result in malfunction:
 - A place damp.
 - A place generating corrosive gas.
 - A place receiving scattering water or oil.
 - A place suffered from heavy vibration or impact.
3. The product is not designed for outdoor use.
4. Do not use the sensor in transient state after power on (approx. 150 ms).
5. Do not wire with the high voltage cable or the power line. Failure to do this will cause malfunction by induction or damage.
6. The sensor performance may depend on the individual units or the condition of detected product.
7. Do not use the product in water.
8. Do not disassemble, repair, or convert the product. Failure to do this may cause failure, fire, or electric shock.
9. Operate within the rated range.
10. Do not bend the cable when below the freezing point. This may cause the cable to break.

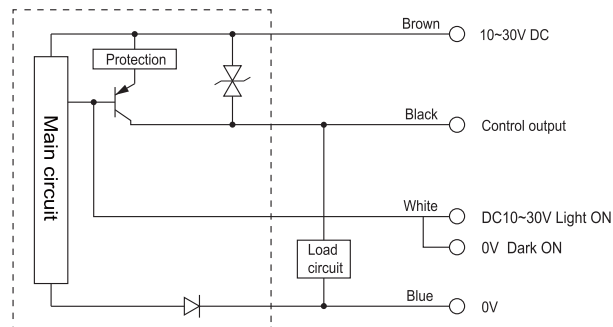
This product cannot be used as a safety device to protect human body.

Input/output circuit diagram

NPN type



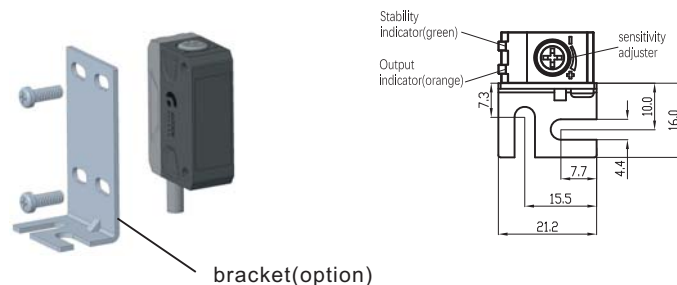
PNP type



Attachment

- Use M3 screws with a thread length of 10 mm.
- Use a tightening torque of 0.5 N·m or less.

Unit: mm



- Product specifications are subject to change without prior notice.
- For product-related inquiries, please contact our company.
- Support for the China RoHS directive

Contact us

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