

FG Series Photoelectric Sensors



Rectangular plastic - AC/DC

- Universal supply voltage: 12-240 VDC or 24-240 VAC
- Diffuse w/background suppression, polarized reflective, and through-beam models
- Plastic housing
- SPDT electrically isolated output
- Adjustable sensitivity
- IP67 rated

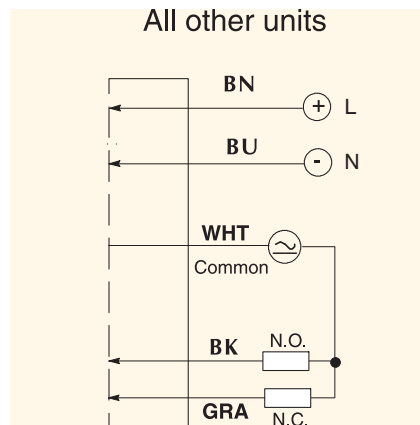
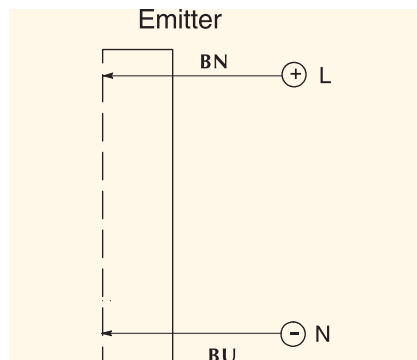
FG Series Photoelectric Sensors Selection Chart

Part Number	Price	Sensing Range	Output	Connection	Dimensions	Characteristic Curves
Diffuse with background suppression						
FGRW-DT-0A	<--->	550mm (21.65in)	SPDT Relay	2m (6.5) axial cable	Figure 1	Chart 1
Polarized reflective*						
FGRN-DT-0A	<--->	9m (29.52ft)	SPDT Relay	2m (6.5) axial cable	Figure 2	Chart 2
Through-beam**						
FGRHD-DT-0A	<--->	20m (65.62ft)	SPDT Relay	2m (6.5) axial cable	Figure 3	Chart 3

* Includes one reflector . Purchase additional reflectors separately.

**Through-beam model consists of an emitter and receiver pair.

Wiring diagrams



Dimensions (mm)

Figure 1

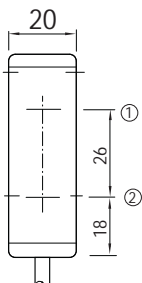


Figure 2

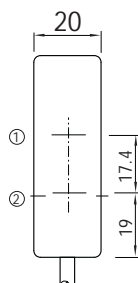
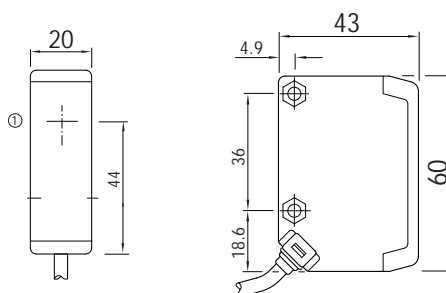


Figure 3



- 1) Emitter center of optical axis
- 2) Receiver center of optical axis

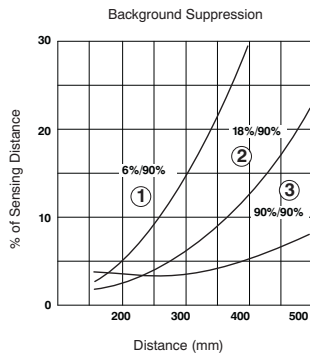
FG Series Photoelectric Sensors

Specifications	Diffuse Models	Reflective Models	Through-Beam Models
Type	Diffuse reflection	Polarized reflection ³	Through-beam ⁴
Sensing Distance	550mm ¹	9m ²	20m
Emission	Red LED (visible)		
Blind Zone	10-35mm	10mm	-
Sensitivity	Adjustable		
Response Time	≤15ms		
Operating Voltage	12-240VDC or 24-240VAC		
No-load Supply Current	≤2VA		
Load Current	3A @ 240VAC/30VDC		
Output Type	SPDT relay electrically isolated		
Switching Frequency	33Hz		
(tv) Time Delay before Availability	150 ms		
Input Voltage Transients Protection	Yes, as long as the transient peak does not reach 30VDC		
Input Power Polarity Reversal Protection	Yes		
Output Power Short-Circuit Protection	Yes, switch autoresets after load is removed		
Temperature Range	-25/+55°C (-13° to 131° F)		
Temperature Drift	15% Sr		
Interference to External Light	3000 lux (incandescent lamp), 10000 lux (sunlight)		
Protection Degree (DIN 40050)	IP67		
Housing Material	ABS		
Lens Material	PC		
Weight	160g (5.64oz)		Emitter/Receiver pair 290g(10.23oz)

¹ With 100x100mm white matte paper
² With standard reflector
³ Each sensor includes one reflector. Purchase additional reflectors separately.
⁴ Each through-beam part number consists of an emitter and receiver pair.

Characteristic curves

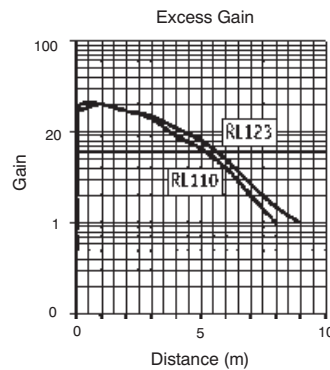
Chart 1



- 1) Sensing range on black with white background.
- 2) Sensing range on gray with white background.
- 3) Sensing range on white with white background.

Warning: These products are not safety sensors and are not suitable for use in personal safety applications.

Chart 2



Reflector supplied with FGRN models

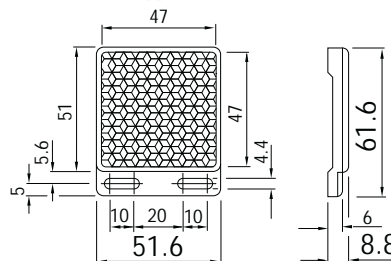
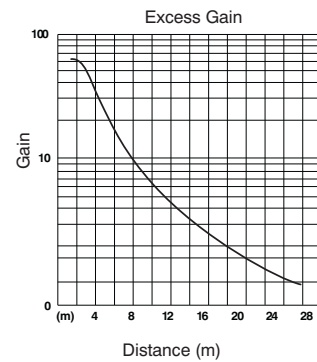


Chart 3



Horizontal mounting bracket supplied with each unit

