# Thru-beam sensor
GD18/GV18/25/103/159
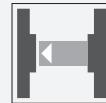
- Efficient Line in a short M18 plastic housing for standard applications
- Very high detection range
- 4 LEDs indicator for 360° visibility
- Version with front optical face
- DC voltage version

Thru-beam sensor, M18 threaded housing design, plastic housing, front optical face, 20 m detection range, red light, light on, DC version, PNP output, M12 plug

Function

The GLV/GLK18 series sensors help improve the efficiency of machines and systems. The design of the M18 plastic housing, the connection technology, and sensor properties are highly standardized. Concentrating on the key sensor requirements has produced a robust and reliable product series for DC and AC/DC voltage systems without any over-engineering. The mounting set included in the scope of delivery and the optimized potentiometer design ensure fast assembly and easy configuration.

Application

Packaging industry:
- Presence checks, track loading, completeness checks, stack height control

Material handling:
- Presence checks, target sensor, profile checks, trigger sensor

Automatic doors, gates and access systems, elevator:
- Secure detection for automatic door and gate systems
- Monitoring function in turnstiles
- Closing edge monitoring in elevators

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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Dimensions
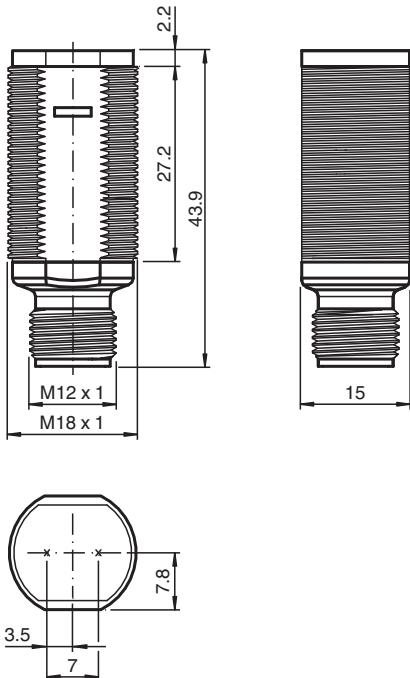
Technical Data

System components	
Emitter	GD18/159
Receiver	GV18/25/103/159
General specifications	
Effective detection range	0 ... 20 m
Threshold detection range	25 m
Light source	LED
Light type	modulated visible red light , 640 nm
Diameter of the light spot	approx. 1300 mm at 25 m
Opening angle	approx. 3 °
Optical face	frontal
Ambient light limit	30000 Lux
Functional safety related parameters	
$MTTF_d$	630 a
Mission Time (T_M)	20 a
Diagnostic Coverage (DC)	0 %
Indicators/operating means	
Operation indicator	LED green, statically lit Power on
Function indicator	Receiver: LED yellow, lights up when light beam is free, flashes when falling short of the operating reserve ; OFF when light beam is interrupted
Electrical specifications	
Operating voltage	U_B	10 ... 30 V DC
No-load supply current	I_0	< 20 mA
Output	

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2

Technical Data

Switching type		light-on
Signal output		1 PNP, short-circuit protected, open collector
Switching voltage		max. 30 V DC
Switching current		max. 100 mA
Voltage drop	U_d	≤ 1.5 V DC
Switching frequency	f	500 Hz
Response time		≤ 1 ms
Conformity		
Product standard		EN 60947-5-2
Approvals and certificates		
Protection class		II, Rated insulation voltage ≤ 50 V AC with pollution degree 1-2 according to IEC 60664-1
UL approval		cULus Listed, Class 2 Power Source, Type 1 enclosure
CCC approval		CCC approval / marking not required for products rated ≤36 V
Ambient conditions		
Ambient temperature		-25 ... 60 °C (-13 ... 140 °F)
Storage temperature		-40 ... 70 °C (-40 ... 158 °F)
Mechanical specifications		
Degree of protection		IP67
Connection		3-pin, M12 x 1 connector
Material		
Housing		PC
Optical face		PMMA
Connector		plastic
Mass		approx. 10 g per device

Connection Assignment

Emitter

Receiver   103

```
1 ── +UB          1 ── +UB ──────────────

4 ── n. c.        4 ── Q ────────┬───────
                                 │
                                 ▭  ○
                                 │
3 ── 0 V          3 ── 0 V ──────┴───────
```

○ = Light on
● = Dark on

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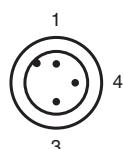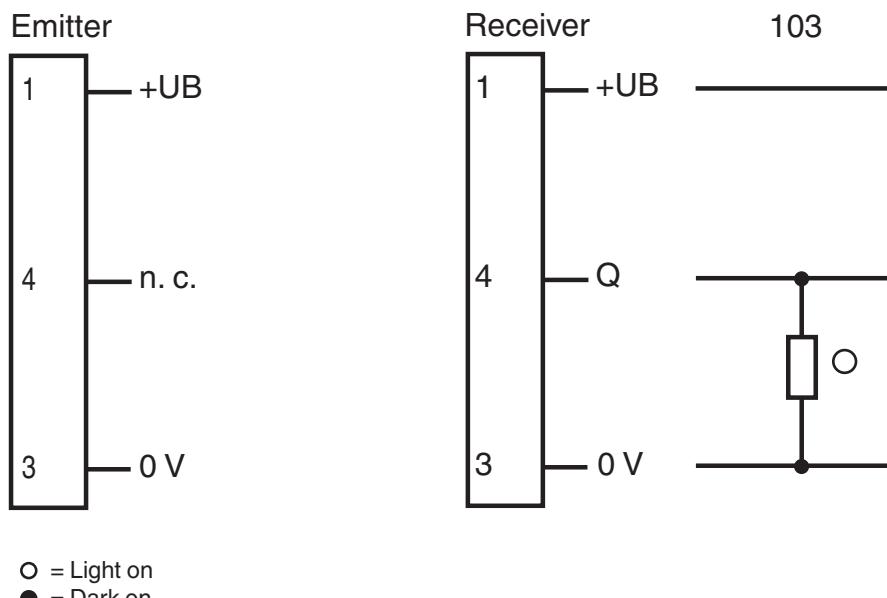
Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
3	BU	(blue)
4	BK	(black)

Assembly
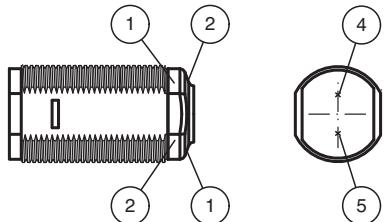
1	Operating display	green
2	Signal display	yellow
4	Emitter	
5	Receiver	

Characteristic Curve

Characteristic response curve

GD18/GV18...
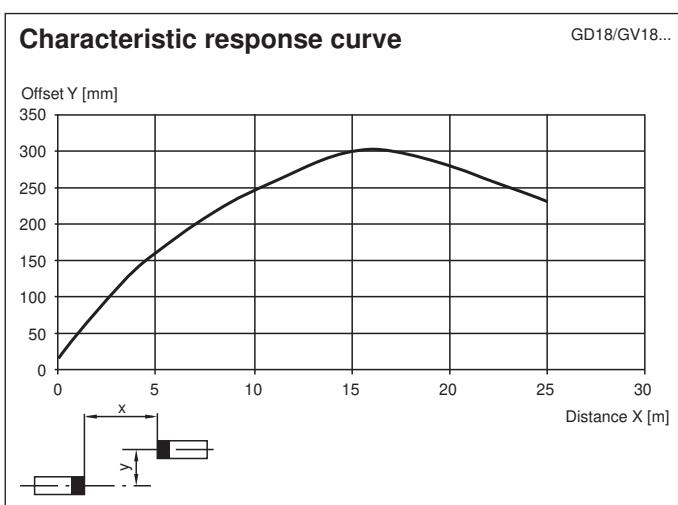
Relative received light strength

Stability control > 2

Stability control < 2
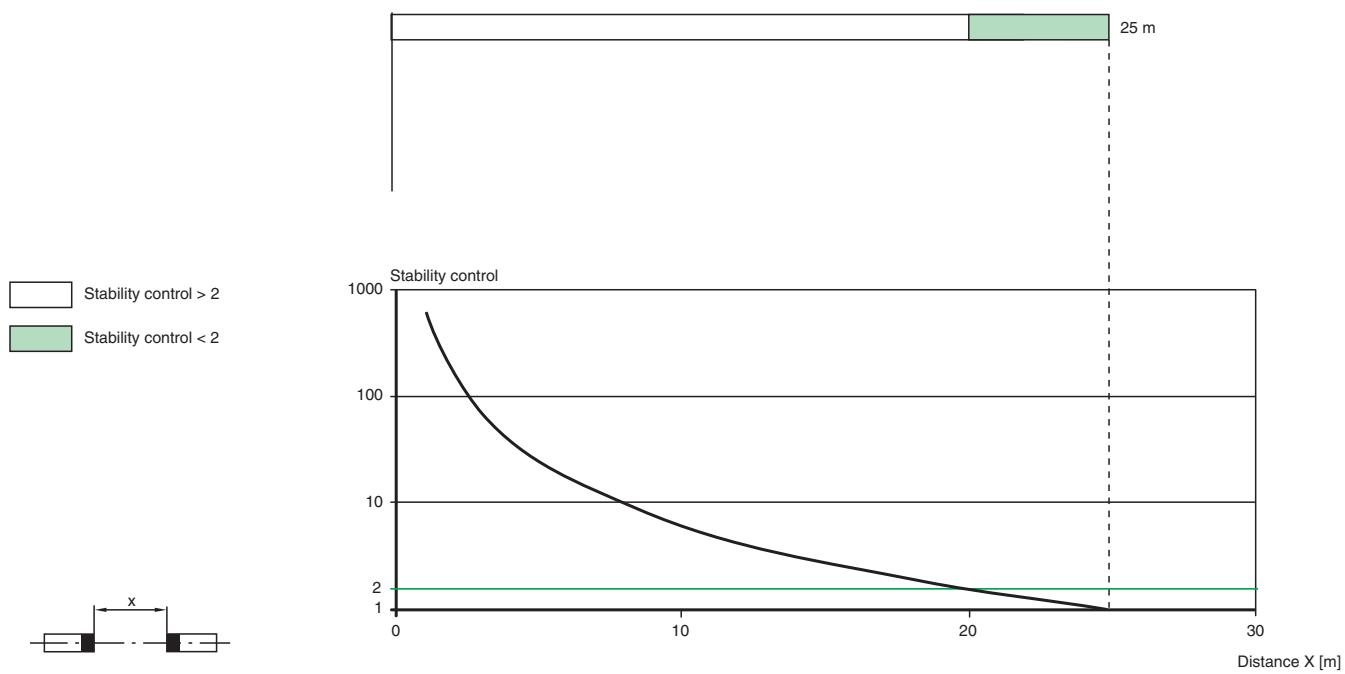
Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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Accessories

	CPZ18B03	Mounting Bracket with swivel nut
	BF 18	Mounting flange, 18 mm
	BF 18-F	Plastic mounting adapter, 18 mm
	BF 5-30	Universal mounting bracket for cylindrical sensors with a diameter of 5 ... 30 mm
	V11-G-2M-PUR	Female cordset single-ended M12 straight A-coded, 3-pin, PUR cable grey

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