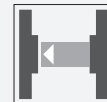




## Thru-beam sensor GD18/GV18/59/102/159



- 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, dark on, DC version, NPN 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

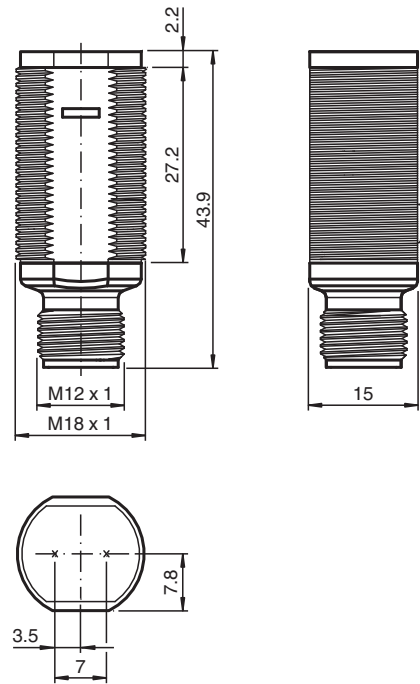
Material handling:

- 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

# Dimensions



# Technical Data

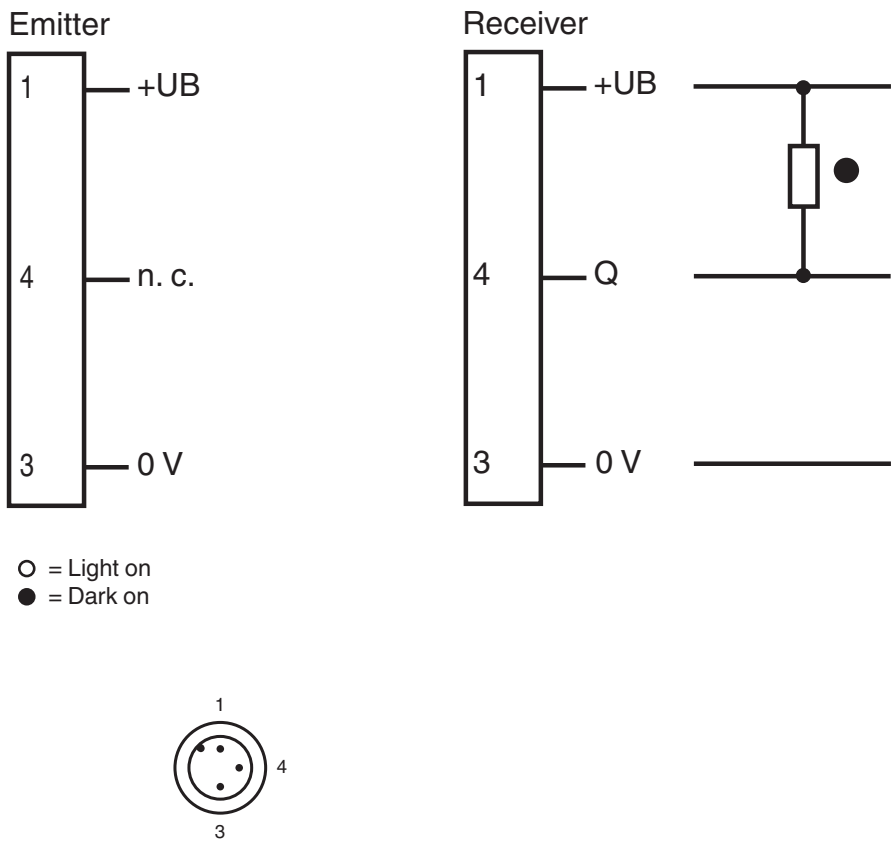
|                                             |                |                                                                                                                                                   |
|---------------------------------------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>System components</b>                    |                |                                                                                                                                                   |
| Emitter                                     |                | GD18/159                                                                                                                                          |
| Receiver                                    |                | GV18/59/102/159                                                                                                                                   |
| <b>General specifications</b>               |                |                                                                                                                                                   |
| 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                                                                                                                                         |
| <b>Functional safety related parameters</b> |                |                                                                                                                                                   |
| MTTF <sub>d</sub>                           |                | 630 a                                                                                                                                             |
| Mission Time (T <sub>M</sub> )              |                | 20 a                                                                                                                                              |
| Diagnostic Coverage (DC)                    |                | 0 %                                                                                                                                               |
| <b>Indicators/operating means</b>           |                |                                                                                                                                                   |
| 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 |
| <b>Electrical specifications</b>            |                |                                                                                                                                                   |
| Operating voltage                           | U <sub>B</sub> | 10 ... 30 V DC                                                                                                                                    |
| No-load supply current                      | I <sub>0</sub> | < 20 mA                                                                                                                                           |
| <b>Output</b>                               |                |                                                                                                                                                   |

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Technical Data

|                                   |                |                                                                                           |
|-----------------------------------|----------------|-------------------------------------------------------------------------------------------|
| Switching type                    |                | dark-on                                                                                   |
| Signal output                     |                | 1 NPN, short-circuit protected open collector                                             |
| Switching voltage                 |                | max. 30 V DC                                                                              |
| Switching current                 |                | max. 100 mA                                                                               |
| Voltage drop                      | U <sub>d</sub> | ≤ 1.5 V DC                                                                                |
| Switching frequency               | f              | 500 Hz                                                                                    |
| Response time                     |                | ≤ 1 ms                                                                                    |
| <b>Conformity</b>                 |                |                                                                                           |
| Product standard                  |                | EN 60947-5-2                                                                              |
| <b>Approvals and certificates</b> |                |                                                                                           |
| 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                              |
| <b>Ambient conditions</b>         |                |                                                                                           |
| Ambient temperature               |                | -25 ... 60 °C (-13 ... 140 °F)                                                            |
| Storage temperature               |                | -40 ... 70 °C (-40 ... 158 °F)                                                            |
| <b>Mechanical specifications</b>  |                |                                                                                           |
| 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

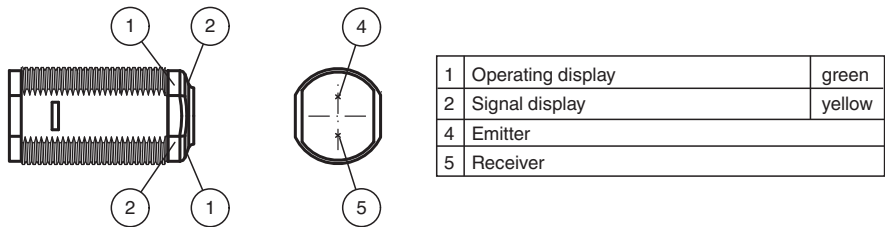


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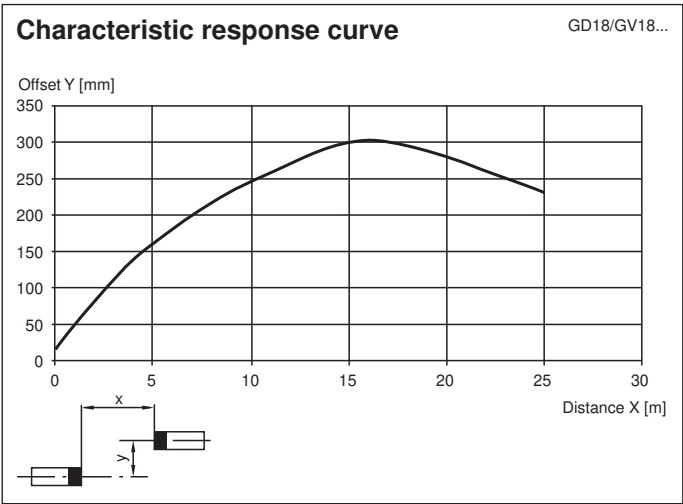
Wire colors in accordance with EN 60947-5-2

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

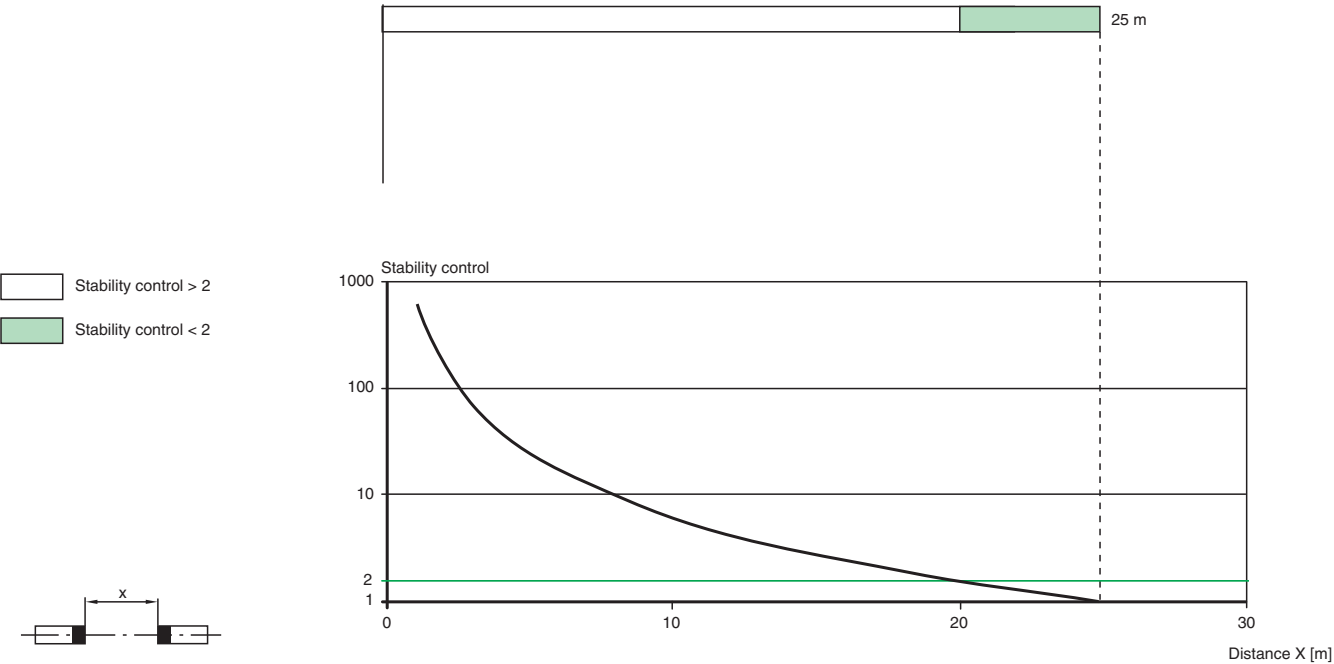
Assembly



Characteristic Curve



Relative received light strength



## Accessories

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