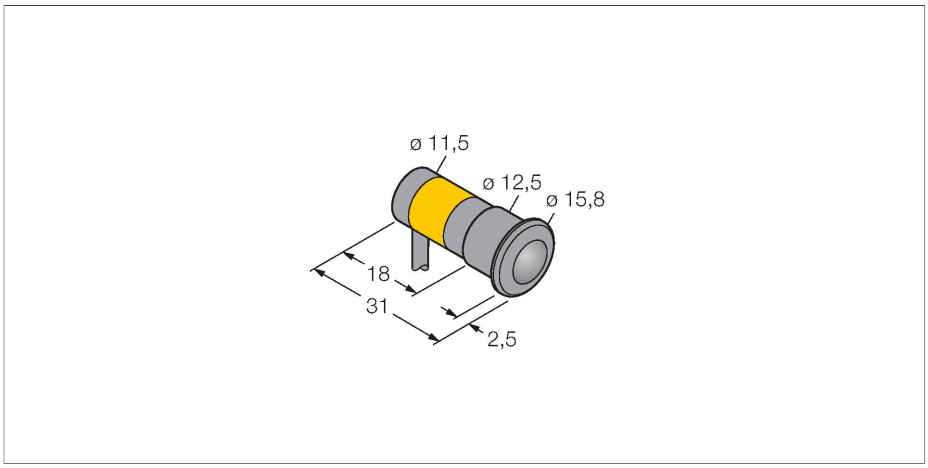
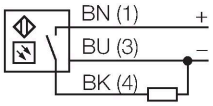
# SB12APR
# Photoelectric Sensor – Opposed Mode Sensor (Receiver)




## Features

- Cable 2 m, 3-pin
- Supply voltage 10-30 VDC
- Light operation
- PNP

## Wiring diagram



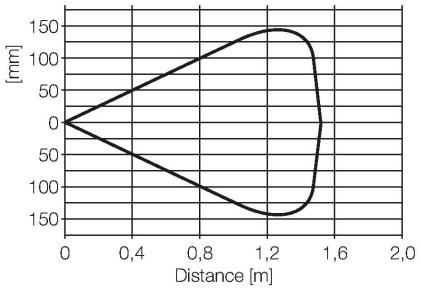

## Technical data

| | |
|---|---|
| Type | SB12APR |
| ID no. | 3081990 |
| **Optical data** | |
| Function | Opposed mode sensor |
| Operating mode | Receiver |
| Range | 0…1500 mm |
| **Electrical data** | |
| Operating voltage | 10…30 VDC |
| DC rated operational current | ≤ 100 mA |
| No-load current | ≤ 15 mA |
| Output function | NO contact, light operation, PNP |
| Switching frequency | ≤ 235 Hz |
| Readiness delay | ≤ 1000 ms |
| Response time typical | < 2.5 ms |
| **Mechanical data** | |
| Design | Threaded barrel, SB12 |
| Dimensions | Ø 12 x 30.5 mm |
| Housing material | Plastic, Thermoplastic material |
| Lens | plastic, Polycarbonate |
| Electrical connection | Cable, 2 m, PVC |
| Number of cores | 3 |
| Core cross-section | 0.34 $mm^2$ |
| Ambient temperature | -20…+50 °C |
| Protection class | IP65 |
| Power-on indication | LED, Green |
| Switching state | LED, Yellow |
| Error indication | LED, green, Flashing |

## Functional principle

Opposed mode sensors consist of an emitter and receiver. They are installed opposite to each other whereby the emitted light aims directly at the receiver. When an object interrupts or weakens the light beam, the sensor switches. Opposed mode sensors are the most reliable photoelectric sensors for detection of opaque targets. The excellent light/dark contrast and the high excess gain allow operation over larger distances and under difficult conditions.

## Excess Gain Curve




SB12APR| 05-05-2021 21-43 | Technical modifications reserved

## Technical data

| | |
|---|---|
| Excess gain indication | LED |
| **Tests/approvals** | |

SB12APR| 05-05-2021 21-43 | Technical modifications reserved