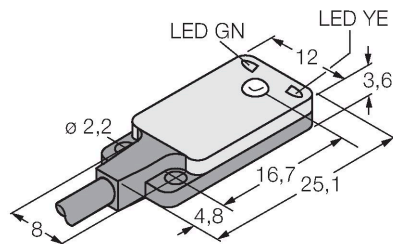


# VS2KRN5

## Photoelectric Sensor – Opposed Mode Sensor (Emitter/Receiver)

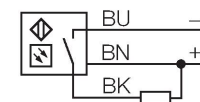
### Miniature Sensor



#### Features

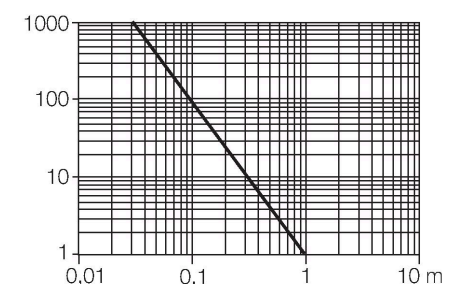
- Cable, 2 m, 3-wire
- Operating voltage: 10...30 VDC
- Ultra flat design
- NPN switching output, dark operation

#### Wiring diagram



#### Functional principle

Opposed mode sensors consist of an emitter and receiver. They are installed opposite each other so that the light from the emitter is aimed 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. An excellent contrast between light and dark conditions and an extremely high excess gain are typical of this sensing mode, thus allowing operation over larger distances and under difficult conditions. Excess gain curve  
Excess gain in relation to the distance



#### Technical data

|                              |                                 |
|------------------------------|---------------------------------|
| Type                         | VS2KRN5                         |
| ID no.                       | 3058221                         |
| <b>Optical data</b>          |                                 |
| Function                     | Opposed mode sensor             |
| Operating mode               | Receiver                        |
| Light type                   | Red                             |
| Wavelength                   | 660 nm                          |
| Range                        | 0...1200 mm                     |
| <b>Electrical data</b>       |                                 |
| Operating voltage            | 10...30 VDC                     |
| Residual ripple              | < 10 % U <sub>ss</sub>          |
| DC rated operational current | ≤ 50 mA                         |
| Short-circuit protection     | yes                             |
| Reverse polarity protection  | yes                             |
| Output function              | NO contact, NPN                 |
| Switching frequency          | ≤ 500 Hz                        |
| Readiness delay              | ≤ 100 ms                        |
| Response time typical        | < 1 ms                          |
| <b>Mechanical data</b>       |                                 |
| Design                       | Rectangular, VS2                |
| Dimensions                   | 4.7 x 12 x 25.1 mm              |
| Housing material             | Plastic, Thermoplastic material |
| Lens                         | plastic, MABS                   |
| Electrical connection        | Cable, 2 m, PVC                 |

## Technical data

|                        |                      |
|------------------------|----------------------|
| Number of cores        | 3                    |
| Core cross-section     | 0.34 mm <sup>2</sup> |
| Ambient temperature    | -20...+55 °C         |
| Protection class       | IP67                 |
| Power-on indication    | LED, Green           |
| Switching state        | LED, Yellow          |
| Error indication       | LED, green, Flashing |
| Excess gain indication | LED                  |
| Alarm display          | LED yellow Flashing  |
| Tests/approvals        |                      |
| Approvals              | CE                   |

## Accessories

|                            |         |
|----------------------------|---------|
| SMBVS2RA                   | 3058603 |
| mounting bracket, straight |         |