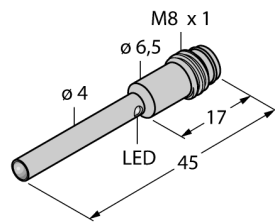
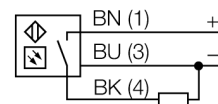


# Photoelectric Sensor Convergent Mode Sensor Miniature Sensor VSM4AP6CV50Q7



- Stainless steel housing V2A
- Protection class IP67
- Male M8 × 1; 3-pin
- Lens, sapphire crystal glass
- Operating voltage: 10...30 VDC
- PNP switching output, light operation

### Wiring Diagram



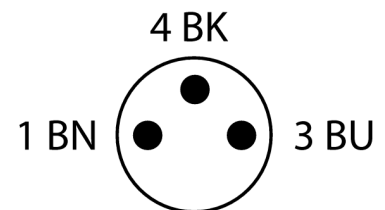
|      |               |
|------|---------------|
| Type | VSM4AP6CV50Q7 |
| ID   | 3013280       |

| Optical data   |                  |
|----------------|------------------|
| Function       | Proximity switch |
| Operating mode | Diffuse          |
| Light type     | IR               |
| Wavelength     | 880 nm           |
| Focal distance | 50 mm            |

| Electrical data                |                                  |
|--------------------------------|----------------------------------|
| Operating voltage              | 10...30 VDC                      |
| Residual ripple                | < 10 % U <sub>n</sub>            |
| DC rated operational current   | ≤ 100 mA                         |
| No-load current I <sub>0</sub> | ≤ 15 mA                          |
| Short-circuit protection       | yes                              |
| Reverse polarity protection    | yes                              |
| Output function                | NO contact, light operation, PNP |
| Switching frequency            | ≤ 250 Hz                         |
| Readiness delay                | ≤ 20 ms                          |
| Response time typical          | < 2.5 ms                         |

| Mechanical data       |                             |
|-----------------------|-----------------------------|
| Design                | Tube, VSM                   |
| Dimensions            | Ø 4 x 45 mm                 |
| Housing material      | Metal, Stainless steel      |
| Lens                  | glass, Sapphire             |
| Electrical connection | Connector, M8 × 1, 2 m, PVC |
| Number of cores       | 3                           |
| Core cross-section    | 0.34 mm <sup>2</sup>        |
| Ambient temperature   | 0...+55 °C                  |
| Protection class      | IP67                        |

|                        |                    |
|------------------------|--------------------|
| Special features       | Chemical-resistant |
| Switching state        | LED, Yellow        |
| Excess gain indication | LED, flashing      |



### Functional principle

Convergent mode sensors are equipped with a lens in front of the emitter diode that produces a small and intense focal point at a defined distance from the sensor. Similar to diffuse mode sensors, the light reflected by the target is evaluated. Convergent mode sensors are ideal for the detection of small targets, color marks, edge guiding and positioning control of transparent materials. The targets must always be within the focal depth of the sensors. The focal depth is defined as the area in front of or behind the focal point within which the object can be detected. Based on the intense light concentration in the focal point, convergent mode sensors are capable of detecting targets with a low reflectivity.

### Excess Gain Curve

|                 |        |
|-----------------|--------|
| Tests/approvals |        |
| Approvals       | CE, UL |

