

## OT230320

### Optical sensors • Diffuse reflection sensors with background suppression

Sensor Optical, Pushbutton, 50x50x23mm, Sn: 3-1200, 10-30V DC, PNP, NC/NO, M12 connector 4pin, IP67, plastic ABS+plastic PMMA, red light, dot, manual setting



Optical sensors operate without contact. They detect objects regardless of their nature (e.g. shape, color, surface structure, material). The basic mode of operation is based on the transmission and reception of light. Three variants are distinguished: 1. the through-beam sensor consists of two separate devices, a transmitter and a receiver, which are aligned with each other. When the light beam between the two devices is interrupted, the switching output integrated in the receiver changes its state. 2. in the case of the reflex light barrier, the transmitter and receiver are located in one device. The transmitted light beam is reflected onto the receiver by a reflector to be mounted opposite. As soon as the light beam is interrupted, the switching output integrated in the device changes its state. 3. With the diffuse-reflection sensor, the transmitter and receiver are located in one device. The transmitted light beam is reflected by the object to be detected. As soon as the receiver detects the reflected light, the switching output integrated in the device changes its state.

#### Electrical features

|                               |                               |
|-------------------------------|-------------------------------|
| Response/decay time           | 0.83ms                        |
| Number of switching outputs   | 1                             |
| Display                       | LED display                   |
| Type of switching function    | Normally open/normally closed |
| Type of electrical connection | Connector M12                 |
| Type of switching output      | PNP                           |
| Rated switching current       | 100mA                         |
| Readiness delay               | 300ms                         |
| Equipment protection class    | Protection class 2            |
| Operating voltage (DC)        | 10 - 30V                      |
| Setting procedure             | Manual adjustment             |
| Short-circuit protection      | Yes                           |
| No-load current               | 30mA                          |
| Number of pins                | 4                             |
| Switching distance            | 3 - 1200mm                    |
| Switching frequency           | 600Hz                         |
| Scanning function             | Light-/dark-on mode           |
| Dead zone                     | 0 - 3                         |
| Reverse polarity protection   | Yes                           |



**Mechanical features**

|                             |              |
|-----------------------------|--------------|
| Design                      | Cuboid       |
| Width                       | 23mm         |
| Sensor width                | 23mm         |
| Height                      | 50mm         |
| Storage temperature         | -20 - 80°C   |
| Length                      | 50mm         |
| Degree of protection (IP)   | IP67 / IP69k |
| Material of optical surface | PMMA         |
| Housing material            | Plastic ABS  |

**Optical features**

|                          |                         |
|--------------------------|-------------------------|
| Light source             | Polarity free red light |
| Light beam form          | Point                   |
| Triangulation            | Background suppression  |
| Wavelength of the sensor | 640nm                   |

**Other features**

|                               |                                |
|-------------------------------|--------------------------------|
| Operational mode              | Background suppression         |
| ardTE00_Referenzmedium_Objekt | Material with 90% reflectivity |
| Ambient temperature           | -20 - 60°C                     |

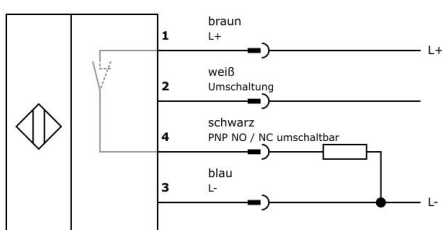
**Classification**

|            |   |
|------------|---|
| ETIM 8     | EC002719 Photoelectric proximity switch with background suppression |
| eClass 7.0 | 27270904  |
| eClass 7.1 | 27270904  |
| eClass 8.0 | 27270904  |
| eClass 9.0 | 27270904  |
| eClass 9.1 | 27270904  |

**More**

|                       |                     |
|-----------------------|---------------------|
| IPF Product Group     | 100 optical sensors |
| packaging dimensions  | 91 x 60 x 30 mm     |
| gross weight          | 53 g                |
| Customs tariff number | 85365019            |
| WEEE number           | 40951076            |
| ATEX-compliant        | No                  |
| RoHS-compliant        | Yes                 |

**Connection**



**Safety warnings**

Before initial operation, please make sure to follow all safety instructions that may be provided in the product information.

Never use these devices in applications where the safety of a person depends on their functionality.

For suitable connection and mounting accessories, please refer to our website [www.ipf-electronic.com](http://www.ipf-electronic.com).

**Dimensional drawing**

