

## OT330571

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

sensor optical, diffuse-reflection sensor, 39x23x13mm, Sn: 30-200, 10-30V DC, 1x PNP/  
NPN Push-pull, IO-Link, Connector M8 4pin, IP67, Plastic ASA+PMMA, 1kHz, Polarity  
free red light, Point, Teach-In



Optical sensors function contactlessly. They detect objects independent of their characteristics (e.g., shape, color, surface structure, material). The basic operating principle is based on the transmission and reception of light. There are three different versions: 1. The through-beam sensor consists of two separate devices, a transmitter and a receiver that are aligned with one another. If the light beam between the two devices is interrupted, the switching output integrated in the receiver changes its status. 2. With the retro-reflective sensor, the transmitter and receiver are located in one device. The emitted light beam is reflected back to the receiver by a reflector that is to be mounted opposite the device. As soon as the light beam is interrupted, the switching output integrated in the device changes its status. 3. With the diffuse reflection sensor, the transmitter and receiver are in one device. The emitted light beam is reflected by the object that is to be detected. As soon as the receiver detects the reflected light, the switching output integrated in the device changes its status.

#### Electrical features

|                               |                                                          |
|-------------------------------|----------------------------------------------------------|
| Response/decay time           | 0.5ms                                                    |
| Number of switching outputs   | 1                                                        |
| Display                       | LED display                                              |
| Type of switching function    | Schließer (NO bei PNP) Öffner (NC bei NPN) - Einstellbar |
| Type of electrical connection | Connector M8                                             |
| Type of switching output      | Push-pull                                                |
| Rated switching current       | 100mA                                                    |
| Setting procedure             | Teach-In                                                 |
| Short-circuit protection      | Yes                                                      |
| No-load current               | 30mA                                                     |
| Number of pins                | 4                                                        |
| Switching distance            | 30 - 200mm                                               |
| Switching frequency           | 1000Hz                                                   |
| Voltage drop                  | 3V                                                       |
| Scanning function             | Light-/dark-on mode                                      |
| Reverse polarity protection   | Yes                                                      |
| Decay time                    | 0.5ms                                                    |
| Operating voltage (DC)        | 10 - 30V                                                 |
| Interference suppression      | Yes                                                      |

**Mechanical features**

|                                |                |
|--------------------------------|----------------|
| Design                         | Cuboid         |
| Width                          | 12.9mm         |
| Height                         | 39.1mm         |
| Length                         | 23mm           |
| Degree of protection (IP)      | IP67           |
| Volume                         | Small          |
| Active area material of sensor | Plastic (PMMA) |
| Housing material               | Plastic ASA    |
| Ambient temperature            | -25 - 60°C     |

**Optical features**

|                          |                         |
|--------------------------|-------------------------|
| Light source             | Polarity free red light |
| Light beam form          | Point                   |
| Wavelength of the sensor | 630nm                   |

**Other features**

|                           |                                |
|---------------------------|--------------------------------|
| IO-Link version           | V1.1                           |
| Operational mode          | Background suppression         |
| Reference medium / object | Material with 90% reflectivity |
| Ambient temperature       | -25 - 60°C                     |

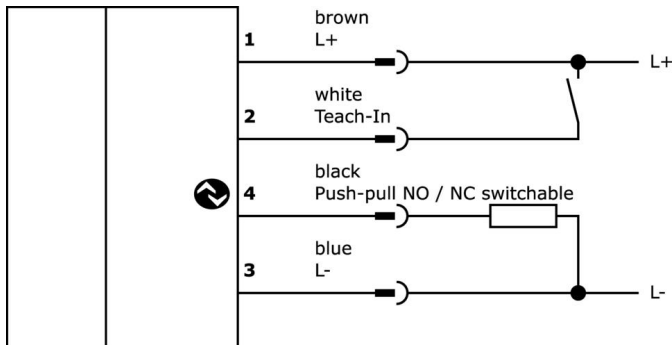
**Classification**

|        |                                                                     |
|--------|---------------------------------------------------------------------|
| ETIM 8 | EC002719 Photoelectric proximity switch with background suppression |
|--------|---------------------------------------------------------------------|

**More**

|                       |                     |
|-----------------------|---------------------|
| IPF Product Group     | 100 optical sensors |
| packaging dimensions  | 123 x 77 x 25 mm    |
| gross weight          | 30 g                |
| Customs tariff number | 85365019            |
| WEEE number           | 40951076            |
| OzDS-compliant        | Yes                 |
| POP-compliant         | Yes                 |
| Reach-compliant       | Yes                 |
| RoHS-compliant        | Yes                 |

## Connection



## Installation



Mounting / installation may only be carried out by a qualified electrician!

## Disposal



## 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).

Any software, drivers or IODD files that may be required to operate your device can be downloaded free of charge from our homepage: [www.ipf-electronic.com](http://www.ipf-electronic.com)

Dimensional drawing

