

## OTQ40270

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

sensor optical, diffuse-reflection sensor, 45x6,2x4mm, Sn: 30, 11-30V DC, 1x PNP/NPN  
Push-pull, Cable connector M8 4pin 0.2m PVC, IP65, Plastic ASA+PMMA, 1kHz, Polarity  
free red light, Point



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	Öffner (NC bei PNP) Schließer (NO bei NPN)
Type of electrical connection	Cable connector M8
Type of switching output	Push-pull
Rated switching current	50mA
Short-circuit protection	Yes
No-load current	30mA
Number of pins	4
Switching distance	30mm
Switching frequency	1000Hz
Voltage drop	2V
Scanning function	Dark switching
Reverse polarity protection	Yes
Decay time	0.5ms
Operating voltage (DC)	11 - 30V
Interference suppression	Yes

**Mechanical features**

Number of cores	3
Conductor cross-section	0.1mm <sup>2</sup>
Design	Cuboid
Width	4mm
Height	44.8mm
Cable length	0.2m
Length	6.2mm
Maximum tightening torque	0.25Nm
Degree of protection (IP)	IP65
Volume	Small
Active area material of sensor	Plastic (PMMA)
Housing material	Plastic ASA
Material of cable sheath	Plastic (PVC)
Ambient temperature	-10 - 50°C

**Optical features**

Light source	Polarity free red light
Light beam form	Point
Wavelength of the sensor	660nm
Light spot diameter at focal point	1mm

**Other features**

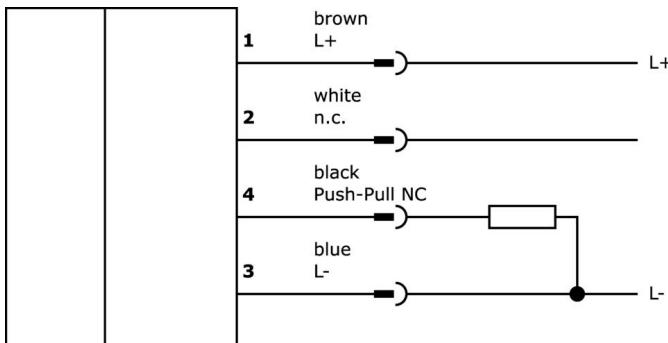
Operational mode	Background suppression
Reference medium / object	Material with 90% reflectivity
Ambient temperature	-10 - 50°C

**Classification**

ETIM 8	EC002719 Photoelectric proximity switch with background suppression
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**More**

IPF Product Group	100 optical sensors
packaging dimensions	123 x 77 x 25 mm
gross weight	25 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).

**Dimensional drawing**