

OT170420

Optical sensors • Diffuse reflection sensors with background suppression

sensor optical, diffuse-reflection sensor, 50x50x15mm, Sn: 20-450, 10-30V DC, 2x PNP Anticoincidence, Connector M12 4pin, IP67, Zinc die-cast+PMMA, 0.5kHz, Polarity free red light, Point, Manual adjustment



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	1ms
Number of switching outputs	2
Display	LED display
Type of switching function	Exclusive-OR
Type of electrical connection	Connector M12
Type of switching output	PNP
Rated switching current	200mA
Setting procedure	Manual adjustment
Short-circuit protection	Yes
No-load current	41mA
Number of pins	4
Switching distance	20 - 450mm
Switching frequency	500Hz
Voltage drop	1.8V
Scanning function	Light-/dark-on mode
Reverse polarity protection	Yes
Decay time	1ms
Operating voltage (DC)	10 - 30V
Interference suppression	Yes

Mechanical features

Design	Cuboid
Width	15.4mm
Height	50mm
Length	50mm
Degree of protection (IP)	IP67
Volume	Medium
Active area material of sensor	Plastic (PMMA)
Housing material	Zinc die-cast
Ambient temperature	-25 - 65°C

Optical features

Light source	Polarity free red light
Light beam form	Point
Wavelength of the sensor	660nm

Other features

Operational mode	Background suppression
Reference medium / object	Material with 90% reflectivity
Ambient temperature	-25 - 65°C

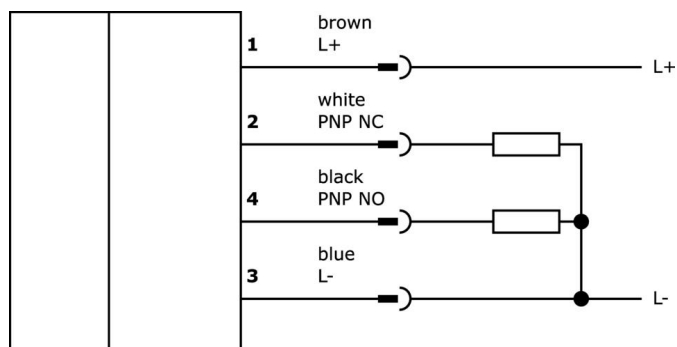
Classification

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	120 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.

Dimensional drawing

