

PT190420

Laser sensors • Diffuse reflection sensors with background suppression

sensor laser, diffuse-reflection sensor, 50x50x17mm, Sn: 50-300, 10-30V DC, 2x PNP NC/NO, M12-connector 4pin, IP67, plastic ABS+PMMA, 2.5kHz, laser diode, 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	0.2ms
Number of switching outputs	2
Display	LED display
Type of switching function	Normally closed contact/normally open contact
Type of electrical connection	Connector M12
Type of switching output	PNP
Rated switching current	200mA
Setting procedure	Manual adjustment
Short-circuit protection	Yes
Laser power	0.4mW
No-load current	50mA
Number of pins	4
Reaction time	0.2ms
Switching distance	50 - 300mm
Switching frequency	2500Hz
Voltage drop	2.4V
Scanning function	Light-/dark-on mode
Reverse polarity protection	Yes
Decay time	0.2ms
Operating voltage (DC)	10 - 30V
Interference suppression	Yes

Mechanical features

Design	Cuboid
Width	17mm
Height	50mm
Length	50mm
Degree of protection (IP)	IP67
Volume	Medium
Active area material of sensor	Plastic (PMMA)
Housing material	Plastic (ABS)
Ambient temperature	-20 - 45°C

Optical features

Laser class	Class 1
Light source	Laser diode, red light
Light beam form	Point
Wavelength of the sensor	650nm
Light spot diameter at focal point	1mm

Other features

Operational mode	Background suppression
Reference medium / object	Material with 90% reflectivity
Ambient temperature	-20 - 45°C

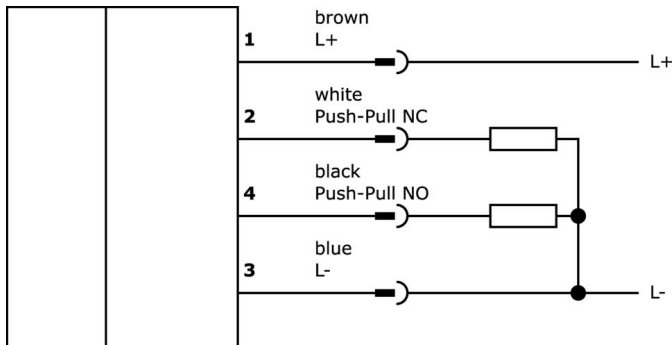
Classification

ETIM 8	EC002719 Photoelectric proximity switch with background suppression
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More

IPF Product Group	160 laser sensor
packaging dimensions	91 x 60 x 30 mm
gross weight	44 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

