

## PT98F001

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

Sensor laser, diffuse-reflection sensor, 42x18x11mm, Sn: 20-550, 10-30V DC, -40-55°C, PNP/NPN antivalent, M8-connector 4pin, IP67 / IP69k, plastic ASA+PMMA, 3kHz, laser diode, 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	0.16ms
Number of switching outputs	1
Display	LED display
Type of switching function	Exclusive-OR
Type of electrical connection	Connector M8
Type of switching output	PNP/NPN
Rated switching current	100mA
Readiness delay	300ms
Setting procedure	Manual adjustment
Short-circuit protection	Yes
Laser power	4.5mW
No-load current	20mA
Number of pins	4
Reaction time	0.16ms
Residual ripple	10%
Switching distance	20 - 550mm
Switching frequency	3000Hz
Voltage drop	2V
Scanning function	Light-/dark-on mode
Reverse polarity protection	Yes
Operating voltage (DC)	10 - 30V

**Mechanical features**

Design	Cuboid
Width	11.4mm
Height	41.9mm
Storage temperature	-40 - 70°C
Length	18.3mm
Degree of protection (IP)	IP67 / IP69k
Volume	Small
Active area material of sensor	Plastic (PMMA)
Housing material	PC-ABS
Ambient temperature	-40 - 55°C

**Optical features**

Laser class	Class 2
Light source	Laser diode, red light
Light beam form	Point
Wavelength of the sensor	650nm
Light spot diameter at focal point	0.5mm

**Other features**

Operational mode	Background suppression
Reference medium / object	Material with 90% reflectivity
Ambient temperature	-40 - 55°C

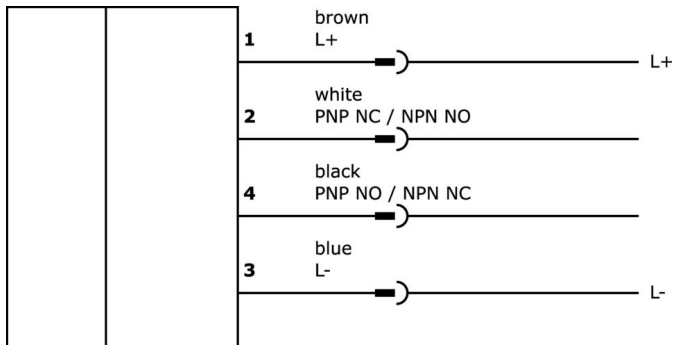
**Classification**

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

IPF Product Group	160 laser sensor
packaging dimensions	123 x 77 x 25 mm
gross weight	30 g
Customs tariff number	85365019
WEEE number	40951076
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

