

## PT140475

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

Sensor laser, diffuse reflection sensor, 27x16x12mm, Sn: 22-130, 11-30V diagnostic coverage, 2x PNP NC/NO, M8 plug connector 4-pin, IP67, plastic ASA+PMMA, 2kHz, laser diode, red light, line, manual setting



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

Number of switching outputs	2
Display	LED display
Resolution	0.2mm
Type of switching function	Normally closed contact/normally open contact
Type of electrical connection	Connector M8
Type of switching output	PNP
Rated switching current	100mA
Setting procedure	Manual adjustment
Short-circuit protection	Yes
Laser power	1mW
No-load current	30mA
Number of pins	4
Switching distance	22 - 130mm
Switching frequency	2000Hz
Voltage drop	1.8V
Scanning function	Light-/dark-on mode
Reverse polarity protection	Yes
Absolute repeat accuracy	0.2mm
Operating voltage (DC)	11 - 30V
Light spot width at the end of the measuring range	2.5mm

**Mechanical features**

Design	Cuboid
Width	12mm
Height	27mm
Length	16.3mm
Maximum tightening torque	0.5Nm
Degree of protection (IP)	IP67
Active area material of sensor	Plastic (PMMA)
Housing material	Plastic ASA
Ambient temperature	-10 - 50°C

**Optical features**

Laser class	Class 2
Light source	Laser diode, red light
Light beam form	Line
Wavelength of the sensor	650nm
Light spot length at focal point	0.2mm
Focus distance	40mm
Light spot width at focal point	3mm
Light spot width at the start of the measuring range	2.5mm
Light spot length at the start of the measuring range	2.5mm
Light spot length at start of measuring range	8mm
Light spot width at the end of the measuring range	2.5mm

**Other features**

Operational mode	Background suppression
Reference medium / object	Material with 90% reflectivity

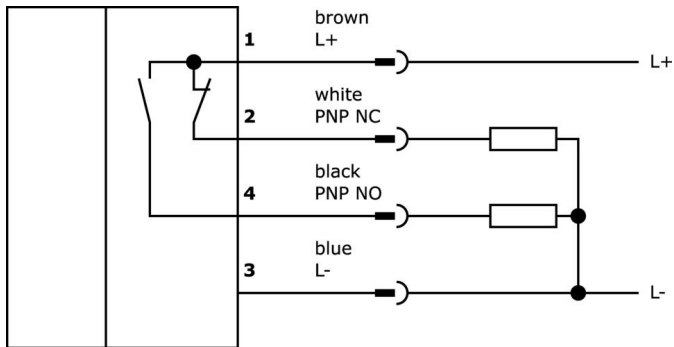
**Classification**

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	25 g
Customs tariff number	85365019
WEEE number	40951076
OzDS-compliant	Yes
POP-compliant	Yes
Reach-compliant	Yes
RoHS-compliant	Yes

## Connection



## Beam path

## 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).