

# PT169071

## Laser sensors • Distance measurement

sensor laser, diffuse-reflection sensor, 37x34x12mm, Sn:16-120mm, Triangulation, 12-28V DC, 4-20mA, IO-Link, Connector M8 4pin, IP67, Zinc die-cast+Glass, Laser diode, red light, Point, Teach-In



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	0.4 ms
Number of switching outputs	1
Display	LED display
Type of analog output	4 - 20mA
Type of electrical connection	Connector M8
Type of switching output	Push-pull
Rated switching current	100 mA
Setting procedure	Teach-In
Short-circuit protection	Yes
Laser power	2 mW
No-load current	100 mA
Number of pins	4
Relative linearity deviation	0.16 %
Switching frequency	5000 Hz
Reverse polarity protection	Yes
Decay time	0.4 ms
Absolute repeat accuracy	0.013 mm
Measurement principle	triangulation
Supported communication interface	IO-Link
Operating voltage (DC)	12 - 28 V
Measuring range	16 - 120 mm

**Mechanical features**

Design	Cuboid
Width	13 mm
Height	37 mm
Length	34.5 mm
Maximum tightening torque	0.6 Nm
Degree of protection (IP)	IP67
Active area material of sensor	glass
Housing material	Zinc die-cast
Ambient temperature	-10 - 50 °C

**Optical features**

Laser class	Class 1
Light source	Laser diode, red light
Light beam form	Point
Wavelength of the sensor	660 nm
Light spot diameter at focal point	0.5 mm

**Other features**

IO-Link version	V1.1
Reference medium / object	Material with 90% reflectivity

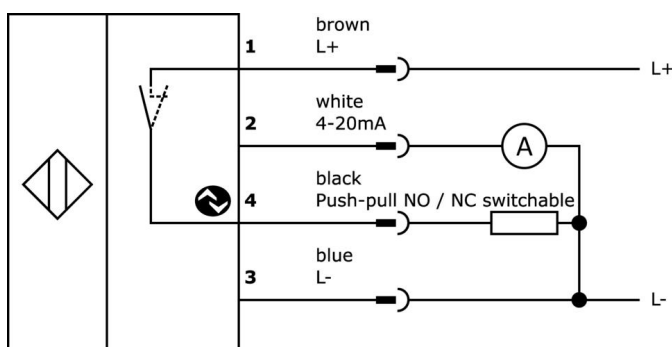
**Classification**

ETIM 8	EC001825 Optical distance sensor
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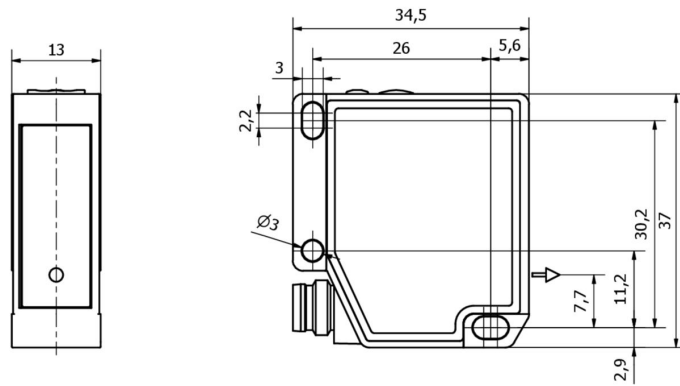
**More**

IPF Product Group	169 laser diffuse reflection sensors (analog)
packaging dimensions	135 x 90 x 30 mm
gross weight	82 g
Customs tariff number	85365019
WEEE number	40951076
OzDS-compliant	Yes
POP-compliant	Yes
Reach-compliant	Yes
RoHS-compliant	Yes

**Connection**



**Dimensional drawing**



**Extract accessories program**

**VY000004**



DC power supply, sensor tester, 120x26x72mm, 18V, 0.04A, Spring clamp connection 4pin, IP20, Plastic

**AY000118**



accessories sensor, Fixture kit, Metal, ball joint

**AY000162**



Accessories, magnetic, Ø43mm, neodymium-iron-boron, inside thread M5, rubber

**VK030F81**



Connection cable, 0.3m, M8 socket 4-pin angular, M12 connector 4-pin straight, 4x0.34mm<sup>2</sup>, PUR (polyurethane), 60V, IP67, suitable for trailing chain and torsion resistant, oils and cooling lubricants, welding area, silicone-free

**VK030F85**



Connection cable, 0.3m, M8 socket 4-pin straight, M12 connector 4-pin straight, 4x0.34mm<sup>2</sup>, PUR (polyurethane), 60V, IP67, suitable for trailing chain and torsion resistant, oils and cooling lubricants, welding area, silicone-free

**VK003071**



Cable socket, Angular, Suitable for self-assembly, Soldering connection, Ø3.5-5mm, 4A, 30V, -40-85°C, M8 Female (socket) 4pin, IP67, Brass

**VK003075**



Cable socket, Straight, Suitable for self-assembly, Soldering connection, Ø3.5-5mm, 4A, 30V, -40-85°C, M8 Female (socket) 4pin, IP67, Brass

**VK200371**



Connection cable, 2m, M8 Female (socket) 4pin Angular, Free conductor end, 4x0.34mm<sup>2</sup>, PUR (Polyurethane), Ø4.7mm, 30V, -30-90°C, IP67, Suitable for trailing chain and torsion resistant, Oil and cooling lubricants, Welding area, Silicone-free

**VK200375**



Connection cable, 2m, M8 Female (socket) 4pin Straight, Free conductor end, 4x0.34mm<sup>2</sup>, PUR (Polyurethane), Ø4.7mm, 30V, -30-90°C, IP67, Suitable for trailing chain and torsion resistant, Oil and cooling lubricants, Welding area, Silicone-free

You can find further accessories on our homepage



**Installation**

Mounting / installation may only be carried out by a qualified electrician!



**Disposal**

WEEE number according to § 6 para. 3 ElektroG: 40951076

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**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.
- /** Any software, drivers or IODD files that may be required to operate your device can be downloaded free of charge from our homepage: [www.ipf-electronic.com](http://www.ipf-electronic.com)