

# PT230020

## Laser sensors • Distance measurement

Sensor laser, diffuse reflection sensor, 50x50x23mm, Sn:100-5000mm, time-of-flight, 18-30V DC, -40-60°C, 1x PNP/NPN NC/NO, 0-10V/4-20mA, IO-Link, M12 plug connector 5-pin, IP67, plastic ABS+plastic, 0.25kHz, laser diode, red light, dot, parameterization



Optical sensors work contactless. They detect objects, regardless of their properties (e.g. shape, color, surface structure, material). The basic mode of operation is based on the transmitter and receiver of light. There are three different versions: 1. the through-beam sensor consists of two separate devices, a transmitter and a receiver, which are aligned with each other. If the light beam between the two devices is interrupted, the switching output integrated in the receiver changes its status. 2. in 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 status. 3. the diffuse reflection sensor has a transmitter and receiver 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 status.

### Electrical features

Response/decay time	4 ms
Number of switching outputs	1
Display	LED display
Resolution	5 mm
Type of switching function	Normally closed contact/normally open contact
Type of analog output	0 - 10V   4 - 20mA
Type of electrical connection	Connector M12
Type of switching output	PNP/NPN
Rated switching current	100 mA
Readiness delay	5000 ms
Setting procedure	Parameterization
Short-circuit protection	Yes
Laser power	1 mW
No-load current	60 mA
Number of pins	5
Residual ripple	10 %
Switching frequency	250 Hz
Reverse polarity protection	Yes
Absolute linearity deviation	15 mm
Absolute repeat accuracy	12 mm
Measurement principle	time-of-flight
Supported communication interface	IO-Link
Operating voltage (DC)	18 - 30 V
Measuring range	100 - 5000 mm

**Mechanical features**

Design	Cuboid
Width	23 mm
Height	50 mm
Storage temperature	-40 - 80 °C
Length	50 mm
Degree of protection (IP)	IP67 / IP69k
Active area material of sensor	Plastic
Housing material	Plastic (ABS)
Ambient temperature	-40 - 60 °C

**Optical features**

Laser class	Class 1
Light source	Laser diode, red light
Light beam form	Point
Wavelength of the sensor	655 nm

**Other features**

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

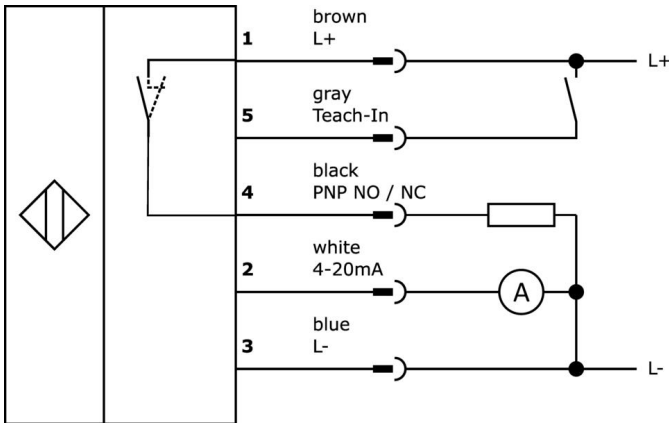
**Classification**

ETIM 8	EC001825 Optical distance sensor
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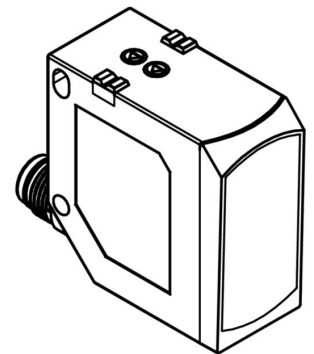
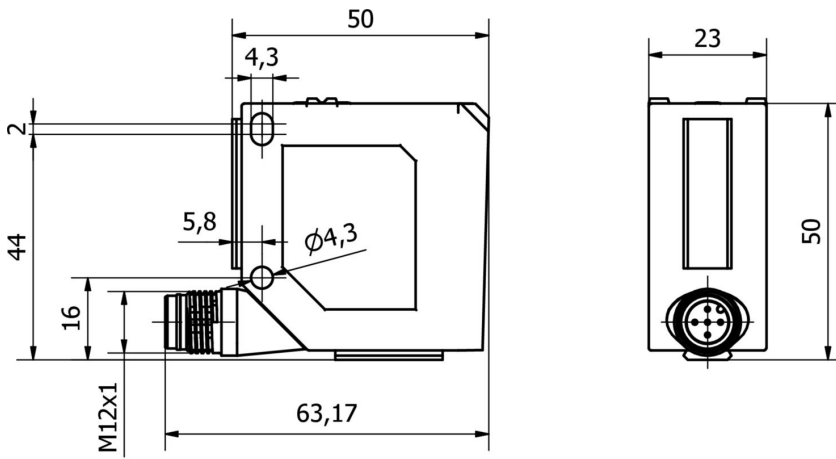
**More**

IPF Product Group	169 laser diffuse reflection sensors (analog)
packaging dimensions	91 x 60 x 30 mm
gross weight	60 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**

**VY000005**



IO-Link master, 41x24x67mm, IO-Link, M12, With USB interface

**AV000084**



accessories, Mounting angle bracket, 50x30x84mm, Angle, Steel

**AY000119**



accessories sensor, Fixture kit, Metal, ball joint

**NG400501**



DC power supply, 1-phase, 125x114x40mm, 24-28V, 5A, 90-264V AC 50Hz, 90-264V AC 60Hz, 127-370V DC, screw connection, IP20, aluminum, stabilized, pulsed output voltage

**VY000004**



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

**VK205621**



Connection cable, 2m, M12 Female (socket) 5pin Angular, Free conductor end, 5x0.34mm<sup>2</sup>, PUR (Polyurethane), Ø6mm, 60V, -25-90°C, IP67, Shielded, Suitable for trailing chain and torsion resistant, Oil and cooling lubricants, Welding area, Silicone-free

**VK205625**



Connection cable, 2m, M12 Female (socket) 5pin Straight, Free conductor end, 5x0.34mm<sup>2</sup>, PUR (Polyurethane), Ø6mm, 60V, -25-90°C, IP67, Shielded, Suitable for trailing chain and torsion resistant, Oil and cooling lubricants, Welding area, Silicone-...

**AY000184**



Accessories, mounting bracket, 65x44x58mm, bracket, stainless steel V2A

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

**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)