

## PT230020

### Laser sensors • Distance measurement

sensor laser, diffuse-reflection sensor, 50x50x23mm, Sn:100-5000mm, Light delay time, 18-30V DC, -40-60°C, 1x PNP/NPN NC/NO, 4-20mA, IO-Link, Connector M12 5pin, IP67, Plastic ABS+Plastic, 0.25kHz, Laser diode, red light, Point, Parameterization



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	4ms
Number of switching outputs	1
Display	LED display
Resolution	5mm
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	100mA
Readiness delay	5000ms
Setting procedure	Parameterization
Short-circuit protection	Yes
Laser power	1mW
No-load current	60mA
Number of pins	5
Residual ripple	10%
Switching frequency	250Hz
Reverse polarity protection	Yes
Absolute linearity deviation	15mm
Absolute repeat accuracy	12mm
Measurement principle	time-of-flight
Operating voltage (DC)	18 - 30V
Measuring range	100 - 5000mm

**Mechanical features**

Design	Cuboid
Width	23mm
Height	50mm
Storage temperature	-40 - 80°C
Length	50mm
Degree of protection (IP)	IP67
Volume	Medium
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	655nm

**Other features**

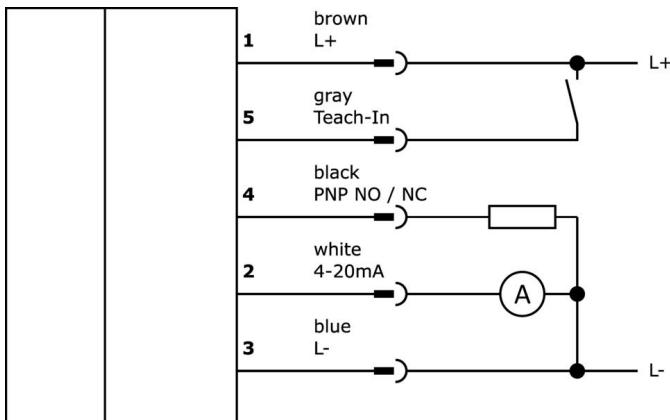
IO-Link version	V1.1
Reference medium / object	Material with 90% reflectivity
Ambient temperature	-40 - 60°C

**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****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).

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)

**Dimensional drawing**