

## PTSIO181

### LASER SENSORS • DISTANCE MEASUREMENT

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.



#### MECHANICAL DATA

Ambient temperature	-10 °C ... 50 °C
Degree of protection (IP)	IP54
Housing coating	Anodised
Housing design	Cuboid
Housing material	Aluminium
Material of optical surface	Glass
Sensor height	80.5 mm
Sensor length	25 mm
Sensor width	140 mm
Storage temperature	-20 °C ... 85 °C

#### ELECTRICAL DATA

Absolute linearity deviation	0.12 mm
IO-Link compatible	No
Max. output current	100 mA
Measuring method for optical distance measurement	Triangulation
Measuring range length	200 mm ... 415 mm
No-load current	100 mA
Number of pins	8
Number of switching outputs	3
Reverse polarity protection	Yes
Scanning function	Light-/dark-on mode
Scanning principle	Push button
Setting procedure	Parameterization
Short-circuit-proof	Yes
Standard for interfaces	RS-232
Supply voltage	21.6 V ... 26.4 V

**ELECTRICAL DATA**

Switching frequency	200 Hz
Type of analog output	0 V ... 10 V
Type of electrical connection	Connector M9
Type of switching function	Normally closed contact/normally open contact
Type of switching output	PNP/NPN
Voltage type	DC
With LED display	Yes

**OPTICAL DATA**

Geometrical resolution	0.06 mm
Laser protection class	Class 2
Light beam form	Line
Light source	Laser diode, red light
Light spot range	3 mm <sup>2</sup>
Light spot range	3 mm <sup>2</sup>
Light spot, laser focus	4 mm <sup>2</sup>
Resolution	0.06 mm
Wavelength of the sensor	670 nm

**OTHER DATA**

Relative linearity deviation	0.12 %
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**DIMENSIONAL DRAWING**

**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!