

PT230020**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 (MAX)	60 °C
Ambient temperature (MIN)	-40 °C
Degree of protection (IP)	IP67
Housing design	Cuboid
Housing material	Plastic ABS
Material of optical surface	Plastic
Sensor height	50 mm
Sensor length	50.08 mm
Sensor width	23 mm
Storage temperature (MAX)	80 °C
Storage temperature (MIN)	-40 °C

ELECTRICAL DATA

Absolute linearity deviation	30 mm
Absolute repeat accuracy	1200 µm
Alarm output	Yes
Laser power	1 mW
Max. output current	100 mA
Measuring method for optical distance measurement	Light delay time
Measuring range length (MAX)	5000 mm
Measuring range length (MIN)	100 mm
No-load current	60 mA
Number of pins	5
Number of switching outputs	1
Operating voltage (MAX)	30
Operating voltage (MIN)	18
Output transfer rate	500 Hz

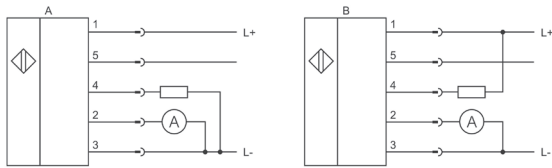
ELECTRICAL DATA

Readiness delay	5000 ms
Relative repeat accuracy	1 %
Residual ripple	10 %
Response time	2 ms
Response/decay time	4 ms
Reverse polarity protection	Yes
Scanning principle	Push button
Setting procedure	Parameterization
Short-circuit-proof	Yes
Supply voltage (MAX)	30 V
Supply voltage (MIN)	18 V
Switching frequency	250 Hz
Type of analog output	4 mA ... 20 mA
Type of electrical connection	Connector M12
Type of switching function	Normally closed contact/normally open contact
Type of switching output	PNP/NPN
Voltage type	DC
With LED display	Yes
With time function	No

OPTICAL DATA

Laser protection class	Class 1
Light beam form	Point
Light source	Laser diode, red light
Resolution	5000 µm
Wavelength of the sensor	655 nm

CONNECTION

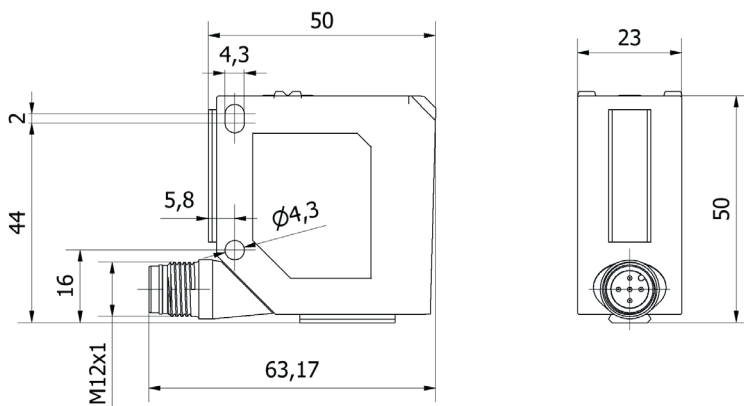


Colors: 1 = BN (brown), 2 = WH (white), 3 = BU (blue), 4 = BK (black), 5 = GY (gray)

Functions: A: 1 = L+, 2 = 4-20mA, 3 = L-, 4 = PNP NO/NC, 5 = Control

B: 1 = L+, 2 = 4-20mA, 3 = L-, 4 = NPN NO/NC, 5 = Control

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!

Never use these devices in applications where the safety of a person depends on their functionality.