

PT12E114

LASER SENSORS • DIFFUSE REFLECTION SENSORS WITH BACKGROUND SUPPRESSION

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)	-10 °C
Degree of protection (IP)	IP65
Housing design	Cylinder, screw-thread
Housing material	Stainless steel
Material of optical surface	PMMA
Reflector included in the scope of delivery	No
Sensor length	72 mm
Storage temperature	60 °C
Storage temperature	-10 °C
Thread length	45 mm
Thread pitch	1 mm
Thread size, metric	8

ELECTRICAL DATA

Adjustment range (MAX)	150 mm
Adjustment range (MIN)	5 mm
Analogue output 0 mA ... 20 mA	No
Analogue output 0 V ... 10 V	No
Analogue output -10 V ... +10 V	No
Analogue output 4 mA ... 20 mA	No
Max. output current	100 mA
Max. switching distance	150 mm
Number of pins	4
Number of semiconductor outputs with signaling function	1
Number of switching outputs	1
Operating voltage (MAX)	30 V

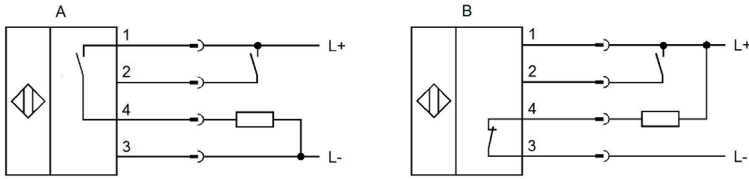
ELECTRICAL DATA

Operating voltage (MIN)	10 V
Rated control supply voltage U_s at DC (MAX)	30 V
Rated control supply voltage U_s at DC (MIN)	10 V
Rated switching distance	150 mm
Response time	20 ms
Reverse polarity protection	Yes
Scanning function	Light switching
Sensing range (MAX)	150 mm
Sensing range (MIN)	5 mm
Setting procedure	Manual adjustment
Short-circuit-proof	Yes
Switching frequency	25 Hz
Type of electrical connection	M12-connector
Type of switching function	Push-pull
Type of switching output	PNP+NPN
Voltage drop	2 V
Voltage type	DC
With LED display	Yes
With LED display (signal)	Yes
With other analog output	No
With time function	No

OPTICAL DATA

Background suppression	Yes
Laser class	1
Laser protection class	Class 1
Light beam form	Point
Light source	Laser diode, infrared light
Triangulation	Background suppression
Wavelength of the sensor	880 nm

CONNECTION

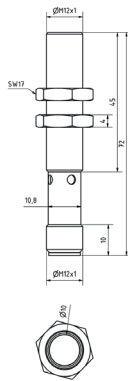


Colors: A: 1 = BN (brown), 2 = WH (white), 3 = BU (blue), 4 = BK (black)

B: 1 = BN (brown), 2 = WH (white), 3 = BU (blue), 4 = BK (black)
Functions: A: 1 = L+, 2 = teach-In, 3 = L-, 4 = PNP NO

B: 1 = L+, 2 = teach-in, 3 = L-, 4 = NPN NC

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.