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.

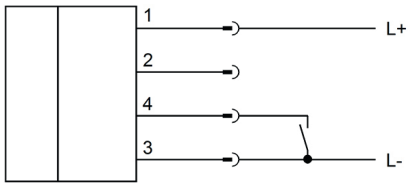
TECHNICAL DATA

Scope of delivery of the one-way system	Transmitter
Ambient temperature (min/max)	-25 °C / 55 °C
Degree of protection (IP)	IP67
Housing coating	Chromium-plated
Housing design	Cylinder, screw-thread
Housing material	Brass
Increased ambient temperatures >70°C	NO
Material of optical surface	Glass
Sensor length	63.5 mm
Thread length	42 mm
Thread pitch	1 mm
Thread size, metric	18
Alarm output	NO
Clock frequency of the transmitter	15 kHz
Connection to amplifier	NO
Function test	YES
Input (TeachIn)	NO
Measuring range	20 m
No-load current	15 mA
No-load current, transmitter	15 mA
Number of pins	3
Operating voltage (min/max)	10 V / 35 V
Rated switching distance	20000 mm
Readiness delay	20 ms
Residual ripple	20 %
Reverse polarity protection	YES
Short-circuit-proof	NO
Type of electrical connection	Connector M12

TECHNICAL DATA

Type of input voltage	DC
Voltage type	DC
With time function	NO
Heavy-duty devices	NO
Light beam form	Point
Light source	Polarity free red light
Wavelength of the sensor	660 nm

CONNECTION



Colors: 1 = BN (brown), 2 = (white), 3 = BU (blue), 4 = BK (black)
Functions: 1 = L+, 2 = n. c., 3 = L-, 4 = Test

DIMENSIONAL DRAWING