

OT160400

Optical sensors • Diffuse reflection sensors with background suppression

Optical Sensor, Diffuse Reflection Sensor, 35x35x12mm, Sn: 15-300, 10-30 V DC, 2x PNP exclusive-OR, 2 m PVC cable, IP67, zinc diecast + PMMA, 0.5 kHz, unpolarized red light, spot, manual setting



Optical sensors operate contactless. They detect objects regardless of their characteristics (e.g., shape, color, surface texture, material). Their basic operating principle is based on the transmission and reception of light. There are three versions: 1. The through-beam sensor consists of two separate devices—a transmitter and a receiver—that are aligned with each other. When the light beam between the two devices is interrupted, the switching output integrated into the receiver changes its status. 2. In a reflective light barrier, the transmitter and receiver are housed in a single device. The transmitted light beam is reflected toward the receiver by a reflector mounted opposite it. As soon as the light beam is interrupted, the switching output integrated into the device changes its status. 3. In a diffuse reflection sensor, the transmitter and receiver are housed in a single device. The emitted light beam is reflected by the object to be detected. As soon as the receiver detects the reflected light, the switching output integrated into the device changes its status.

Electrical features

Response/decay time	1 ms
Number of switching outputs	2
Display	LED display
Type of switching function	Exclusive-OR
Type of electrical connection	Cable
Type of switching output	PNP
Rated switching current	100 mA
Setting procedure	Manual adjustment
Operating principle	background suppression
No-load current	35 mA
Switching distance	15 - 300 mm
Switching frequency	500 Hz
Voltage drop	1.8 V
Scanning function	Light-/dark-on mode
Decay time	1 ms
Operating voltage (DC)	10 - 30 V
protection functions	short circuit protection reverse polarity protection

Mechanical features

Number of cores	4
Conductor cross-section	0.25 mm ²
Design	Cuboid
Width	12.4 mm
Height	35 mm
Cable length	2 m
Length	35 mm
Degree of protection (IP)	IP67
Active area material of sensor	Plastic (PMMA)
Housing material	zinc die-cast
material of cable sheath	plastic (PVC)
Ambient temperature	-25 - 65 °C

Optical features

Light source	Polarity free red light
Light beam form	Point
Wavelength of the sensor	660 nm

Other features

Range of functions	interference suppression
Reference medium / object	Material with 90% reflectivity

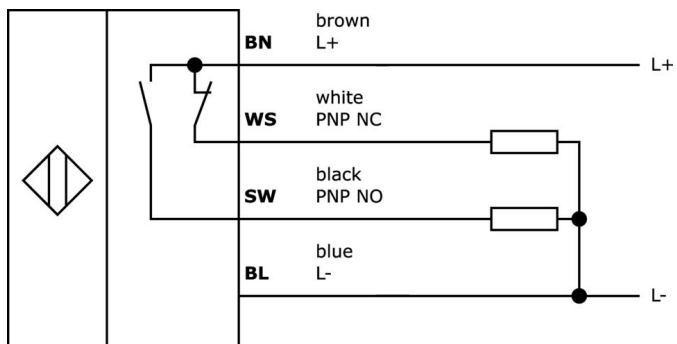
Classification

ETIM 8

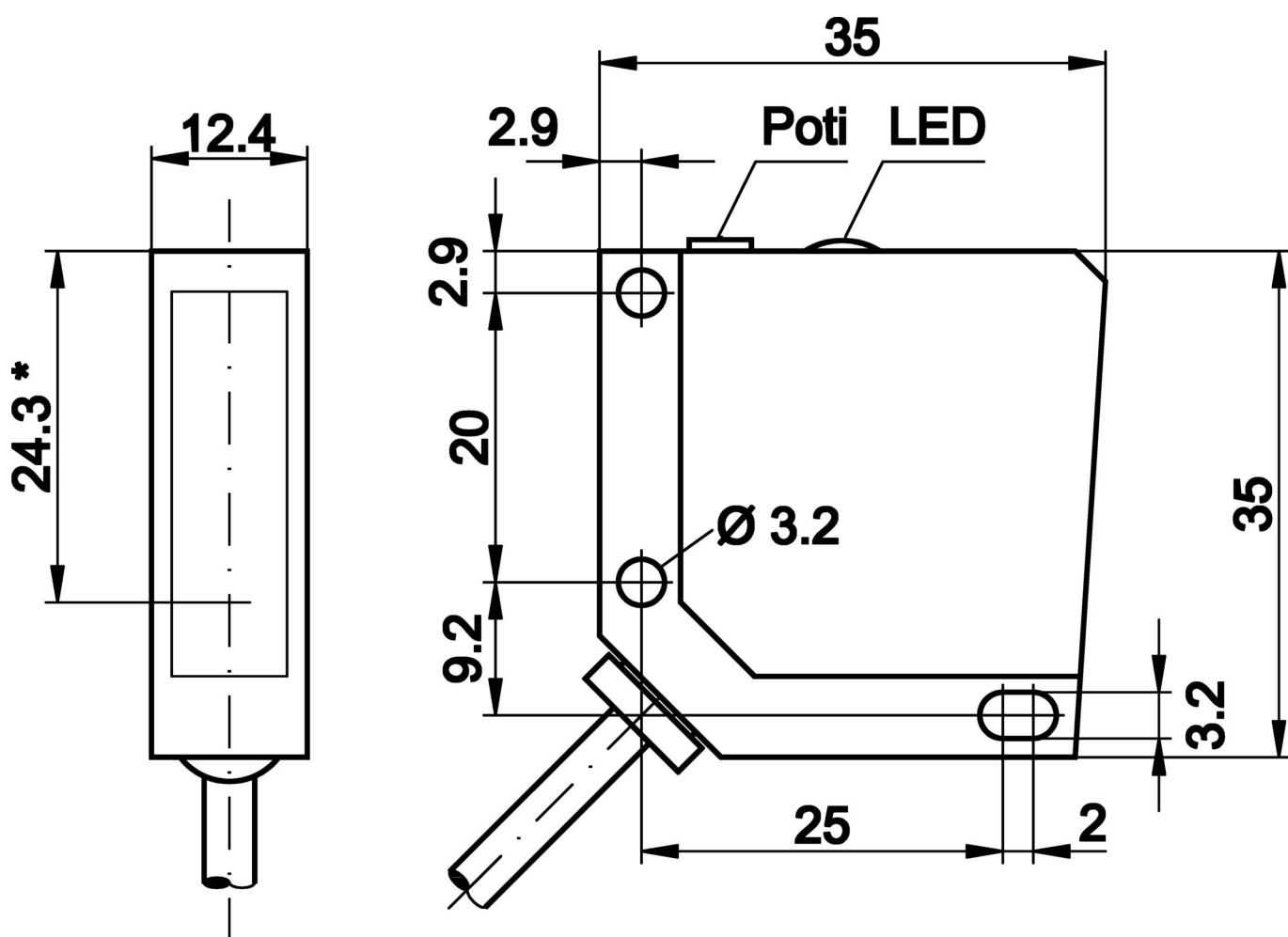
More

IPF Product Group	100 optical sensors
packaging dimensions	123 x 77 x 25 mm
gross weight	100 g
customs tariff number	85365019
WEEE number	40951076
OzDS-compliant	Yes
POP-compliant	Yes
Reach-compliant	Yes
RoHS-compliant	Yes

Connection



Dimensional drawing



Extract accessories program

VK003026



Cable connector, Angular, Suitable for self-assembly, Screw connection, Ø3-6.5mm, 4A, 240V, -25-90°C, M12 Male (connector) 4pin, IP67, PBT

VK003028



Cable connector, Straight, Suitable for self-assembly, Screw connection, Ø3-6.5mm, 4A, 240V, -25-90°C, M12 Male (connector) 4pin, IP67, PBT

VK003079



Cable connector, Straight, Suitable for self-assembly, Soldering connection, Ø3.5-5mm, 4A, 30V, -40-85°C, M8 Male (connector) 4pin, IP67, Brass

VK003179



Cable connector, Straight, Suitable for self-assembly, Screw connection, Ø3.5-5mm, 4A, 30V, -40-85°C, M8 Male (connector) 4pin, IP67, Brass

AO000067



accessories optical, Mounting angle bracket, 34x20x26mm, Angle, Steel, 90°

AY000118



accessories sensor, Fixture kit, Metal, ball joint

AY000162



Accessories, magnetic, Ø43mm, neodymium-iron-boron, inside thread M5, rubber

AY000141



Plastic sheath, Ø17mm, Inner diameter 10mm, -40-250°C, Glass fiber with silicone rubber, Short-term resistance to weld spatter 1200°C, Tensile strength 400N, Flexible, Flame retardant, yard good

VY000004



DC power supply, sensor tester, 120x26x72mm, 18V, 0.04A, Spring clamp connection 4pin, IP20, Plastic

You can find further accessories on our homepage



Installation

Mounting / installation may only be carried out by a qualified electrician!



Disposal

WEEE number according to § 6 para. 3
ElektroG: 40951076

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.