

OT170423

Optical sensors • Diffuse reflection sensors with background suppression

sensor optical, diffuse-reflection sensor, 50x50x15mm, Sn: 20-600, 10-30V DC, 2x PNP Anticoincidence, Connector M12 4pin, IP67, Zinc die-cast+PMMA, 0.5kHz, Polarity free red light, Point, Manual adjustment



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.

Electrical features

Response/decay time	5 ms
Number of switching outputs	2
Display	LED display
Type of switching function	Exclusive-OR
Type of electrical connection	Connector M12
Type of switching output	PNP
Rated switching current	200 mA
Setting procedure	Manual adjustment
Short-circuit protection	Yes
No-load current	41 mA
Number of pins	4
Switching distance	20 - 600 mm
Switching frequency	500 Hz
Voltage drop	1.8 V
Scanning function	Light-/dark-on mode
Reverse polarity protection	Yes
Decay time	5 ms
Operating voltage (DC)	10 - 30 V
Interference suppression	Yes

Mechanical features

Design	Cuboid
Width	15.4 mm
Height	50 mm
Length	50 mm
Degree of protection (IP)	IP67
Active area material of sensor	Plastic (PMMA)
Housing material	Zinc die-cast
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

Operational mode	Background suppression
Reference medium / object	Material with 90% reflectivity

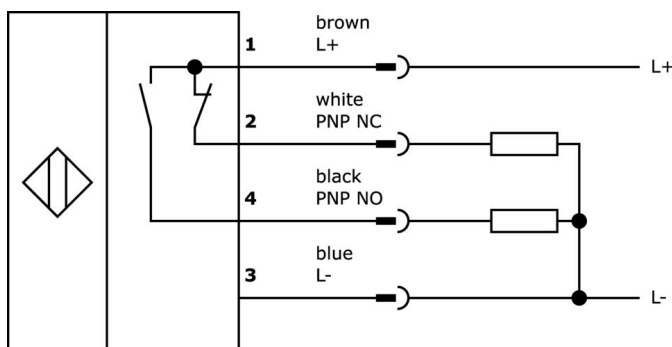
Classification

ETIM 8	EC002719 Photoelectric proximity switch with background suppression
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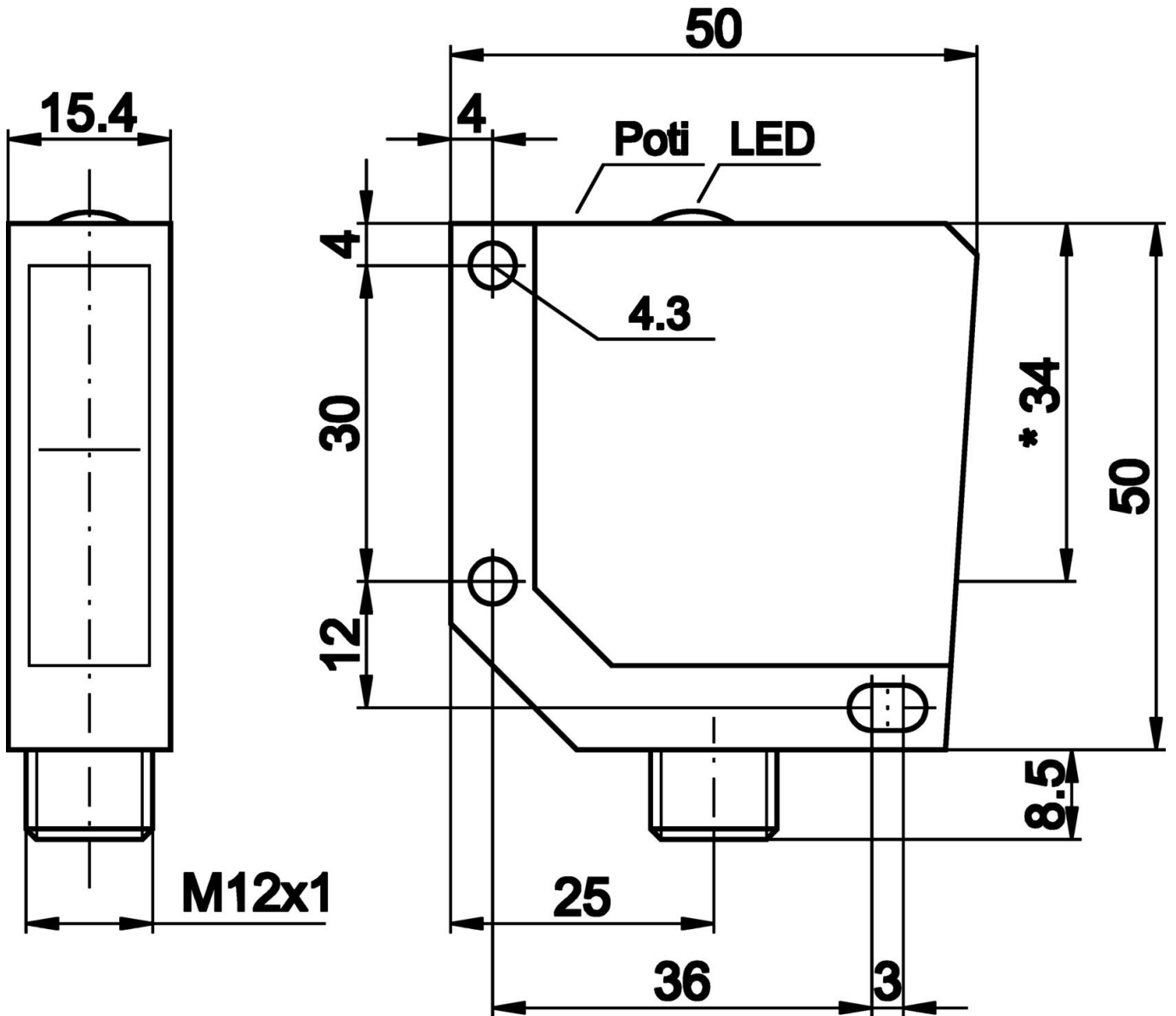
More

IPF Product Group	100 optical sensors
packaging dimensions	123 x 77 x 25 mm
gross weight	120 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

VY200120



time stage, Turn-on/turn-off delayed, Ø20mm 60long, 65s, 10-30V DC, 1x NO, M12 4pin, IP67, Plastic, Teach-In

VY030125



time stage, Turn-on delay, 0-0.15s, 10-35V DC, 1x NO, M12 3pin 0.3m, IP67, Plastic, Potentiometer

VK003020



Cable socket, angular, self-assembly, screw connection, Ø3-6.5mm, 4A, 240V, -25-90°C, M12 socket 4-pin, IP67, PBT

VK003024



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

VK030F23



Connection cable, 0.3m, M12 socket 4-pin angular, M12 connector 4-pin straight, 4x0.34mm², PUR (polyurethane), IP67, LED, suitable for trailing chain and torsion resistant, oils and cooling lubricants, welding area, silicone-free

VK030F26



Connection cable, 0.3m, M12 socket 4-pin straight, M12 connector 4-pin straight, 4x0.34mm², PUR (polyurethane), IP67, LED, suitable for trailing chain and torsion resistant, oils and cooling lubricants, welding area, silicone-free

VK030F21



Connection cable, 0.3m, M12 socket 4-pin angular, M12 connector 4-pin straight, 4x0.34mm², 240V, IP67, suitable for trailing chain and torsion resistant, oils and cooling lubricants, welding area, silicone-free

VK030F25



Connection cable, 0.3m, M12 socket 4-pin straight, M12 connector 4-pin straight, 4x0.34mm², PUR (polyurethane), 240V, IP67, suitable for trailing chain and torsion resistant, oils and cooling lubricants, welding area, silicone-free

AY000119



accessories sensor, Fixture kit, Metal, ball joint

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.