

ON450521

Optical sensors • Auto-reflective sensor

Optical diffuse reflection sensor, 56x32x18 mm, unpolarized red light, spot, teach-in, Sn: 60–600, 10–30 V DC, PNP/NPN NC/NO, IO-Link, 4-pin M12 connector, IP67, ASA+PMMA plastic



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	0.5 ms
Display	LED display
Type of switching function	Normally closed (n.o. for PNP) Normally closed (n.c. for NPN) - Adjustable
Type of electrical connection	Connector M12
Type of switching output	Push-pull
Rated switching current	100 mA
Setting procedure	Teach-In
No-load current	30 mA
Number of pins	4
Switching distance	60 - 600 mm
Switching frequency	1000 Hz
Voltage drop	3 V
Scanning function	Light-/dark-on mode
Decay time	0.5 ms
supported communication interface	IO-Link
Operating voltage (DC)	10 - 30 V
Adjustable output functions	Switching point
protection functions	short circuit protection reverse polarity protection

Mechanical features

Design	Cuboid
Width	18 mm
Height	56.2 mm
Storage temperature	-25 - 60 °C
Length	32.2 mm
Degree of protection (IP)	IP67
Active area material of sensor	Plastic (PMMA)
Housing material	plastic ASA
Ambient temperature	-25 - 60 °C

Optical features

Light source	Polarity free red light
Light beam form	Point
Wavelength of the sensor	630 nm

Other features

Range of functions	interference suppression
IO-Link version	V1.1

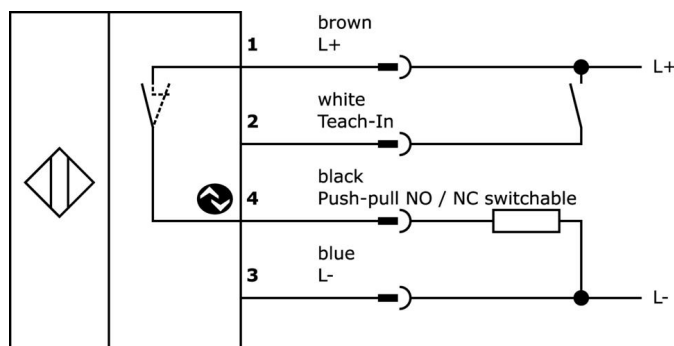
Classification

ETIM 8

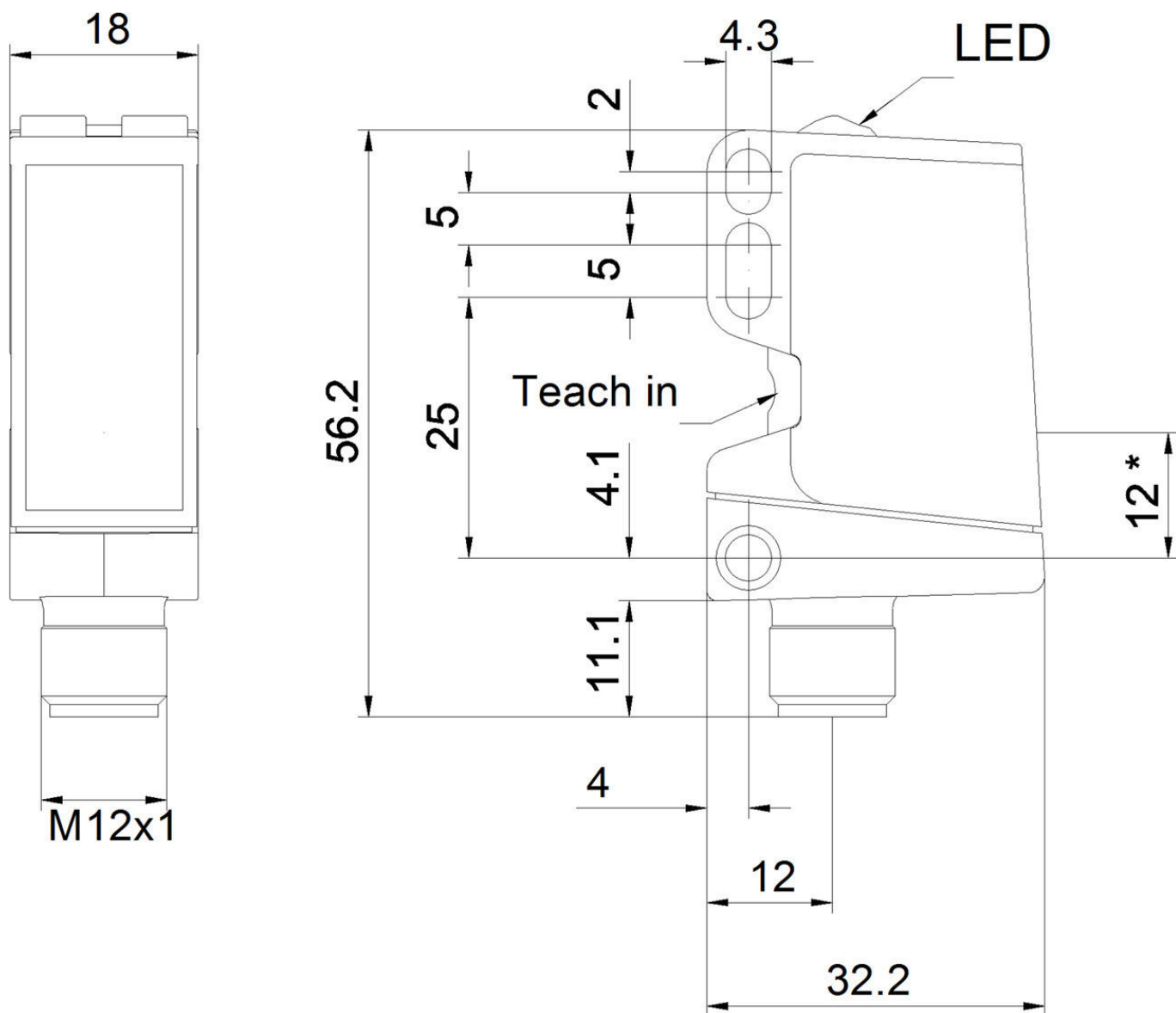
More

IPF Product Group	100 optical sensors
packaging dimensions	123 x 77 x 25 mm
gross weight	40 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

VK003021



Cable socket, Angular, Suitable for self-assembly, Screw connection, Ø3-6.5mm, 4A, 60V, -25-90°C, M12 Female (socket) 5pin, IP67, PBT

VK003025



Cable socket, Straight, Suitable for self-assembly, Screw connection, Ø3-6.5mm, 4A, 60V, -25-90°C, M12 Female (socket) 5pin, IP67, PBT

VK200421



Connection cable, 2m, M12 socket 4-pin angular, free cable end, 4x0.34mm², PUR (polyurethane), Ø4.7mm, -30-90°C, IP67, LED, suitable for trailing chain and torsion resistant, oils and cooling lubricants, welding area, silicone-free

VK500421



Connection cable, 5m, M12 socket 4-pin angular, free cable end 4-pin, 4x0.34mm², PUR (polyurethane), Ø4.7mm, -30-90°C, 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

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

VK000041



Adaption, M12 Female (socket) 4pin Straight, M8 Male (connector) 4pin Straight, 24V, -25-85°C, IP67, Oil and cooling lubricants, Welding area

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.

/ Any software, drivers or IODD files that may be required to operate your device can be downloaded free of charge from our homepage: www.ipf-electronic.com