

OT590581

Optical sensors • Diffuse reflection sensors with background suppression

Optical Sensor, Diffuse Reflection Sensor, 68x68x26 mm, With Timer Function, Sn: 200–1000, 12–24 V DC, 2x PNP+NPN NC/NO, 4-pin M12 connector, IP67, ABS plastic + PC plastic, 0.25 kHz, infrared light, spot, manual setting

including Screwdriver



Optical sensors operate contactless. They detect objects regardless of their characteristics (e.g., shape, color, surface texture, material). Their basic principle of operation 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	2 ms
Number of switching outputs	2
Display	LED display
Type of switching function	Normally closed contact/normally open contact
Type of electrical connection	Connector M12
Type of switching output	PNP/NPN
Turn-off delay	0,1 - 5 s
Rated switching current	100 mA
Turn-on delay	0,1 - 5 s
Setting procedure	Manual adjustment
Operating principle	background suppression
Relative hysteresis	10 10 %
No-load current	45 mA
Number of pins	4
Switching distance	200 - 1000 mm
Switching frequency	250 Hz
Voltage drop	1 V
Scanning function	Light-/dark-on mode
Operating voltage (DC)	12 - 24 V
Dead zone	0 - 100 mm
protection functions	short circuit protection reverse polarity protection

Mechanical features

Design	Cuboid
Width	26 mm
Height	68 mm
Length	68 mm
Shock resistance	50 g
Degree of protection (IP)	IP67
Vibration resistance	55 Hz
Active area material of sensor	Plastic (PC)
Housing material	plastic (ABS)
Ambient temperature	-25 - 55 °C
environmental resistance	severe shocks/movements

Optical features

Light source	Infrared light
Light beam form	Point
Wavelength of the sensor	880 nm

Other features

Range of functions	Foreground or background suppression Time function
Reference medium / object	Material with 90% reflectivity

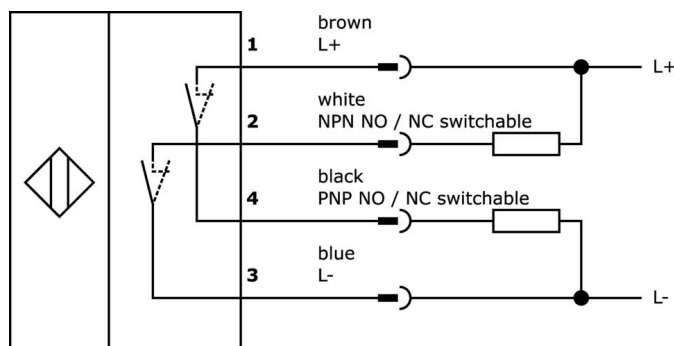
Classification

ETIM 8

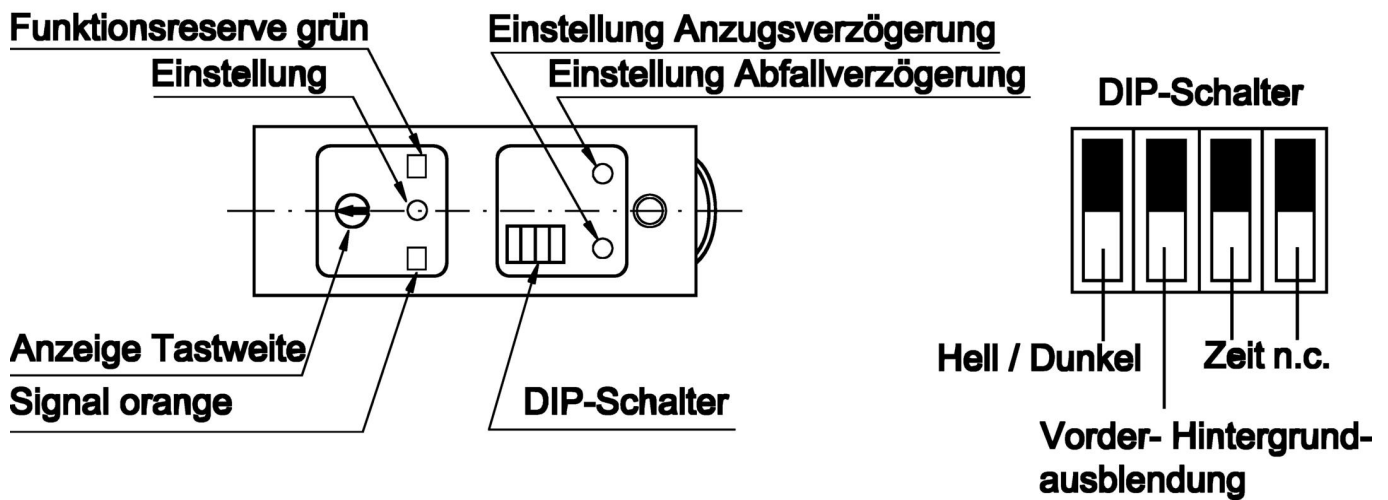
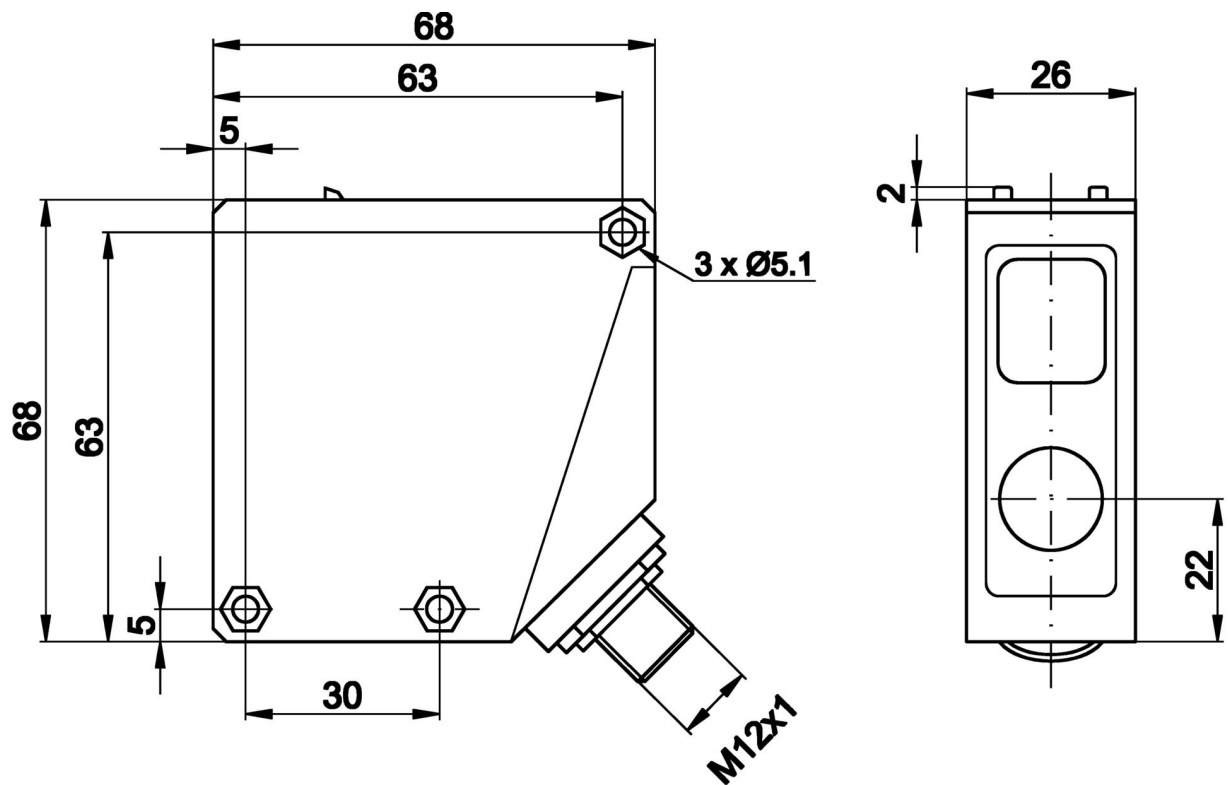
More

IPF Product Group	100 optical sensors
packaging dimensions	160 x 99 x 60 mm
gross weight	140 g
customs tariff number	85365019
WEEE number	40951076
Reach-compliant	Yes
RoHS-compliant	Yes

Connection



Dimensional drawing



Extract accessories program

AY000129



Accessories, magnetic, Ø66mm, neodymium-iron-boron, inside thread M6, rubber

AY000144



accessories sensor, Adapter plate, 3x30x85mm, Stainless steel 1.4305

AO000293



Optical Accessories, Infrared Spot Finder, Plastic, LED, Audible Alert

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

AO000038



accessories optical, Mounting angle bracket, M5x0.5 29long, Mounting material for sensor, brackets, Steel, 90°

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

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.