

PT310300

Laser sensors • Diffuse reflection sensors with background suppression

Laser Sensor, Diffuse Reflection Sensor, 32x20x11mm, Sn: 10–500, 10–30 V DC, PNP programmable/configurable, 2 m PVC cable, IP67, plastic, ABS+PMMA, 2 kHz, laser diode, red light, spot, manual setting

- / plastic housing
- / switching output no/nc switchable
- / Cable connection



Laser class 1 background suppression

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	0.25 ms
Number of switching outputs	1
Display	LED display
Type of switching function	Programmable/configurable
Type of electrical connection	Cable
Type of switching output	PNP
Rated switching current	100 mA
Setting procedure	Manual adjustment Tornillo de ajuste
No-load current	35 mA
Reaction time	0.25 ms
Residual ripple	10 %
Switching distance	10 - 500 mm
Switching frequency	2000 Hz
Voltage drop	2 V
Scanning function	Light-/dark-on mode
Decay time	0.25 ms
Operating voltage (DC)	10 - 30 V
Dead zone	0 - 10 mm
protection functions	short circuit protection reverse polarity protection

Mechanical features

Number of cores	3
Design	Cuboid
Width	10.8 mm
Height	31.5 mm
Cable length	2 m
Storage temperature	-40 - 70 °C
Length	19.5 mm
Maximum tightening torque	0.4 Nm
Shock resistance, acceleration	30 g
Shock resistance, pulse time	11 ms
Degree of protection (IP)	IP67
Active area material of sensor	Plastic (PMMA)
Housing material	plastic (ABS)
material of cable sheath	plastic (PVC)
Vibration resistance Amplitude	0.5 mm
Vibration resistance Frequency	10 - 55 Hz
Ambient temperature	-20 - 55 °C

Optical features

Laser class	Class 1
Light source	Laser diode, red light
Light beam form	Point
Triangulation	Background suppression
Wavelength of the sensor	650 nm

Other features

Reference medium / object	Material with 90% reflectivity
---------------------------	--------------------------------

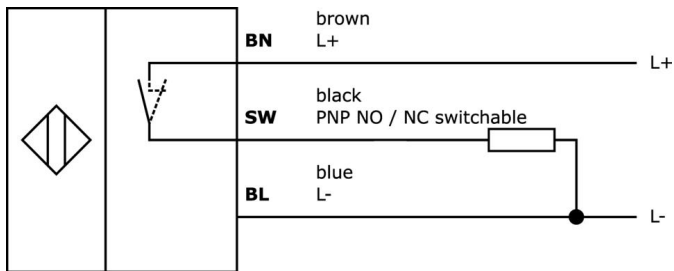
Classification

ETIM 8

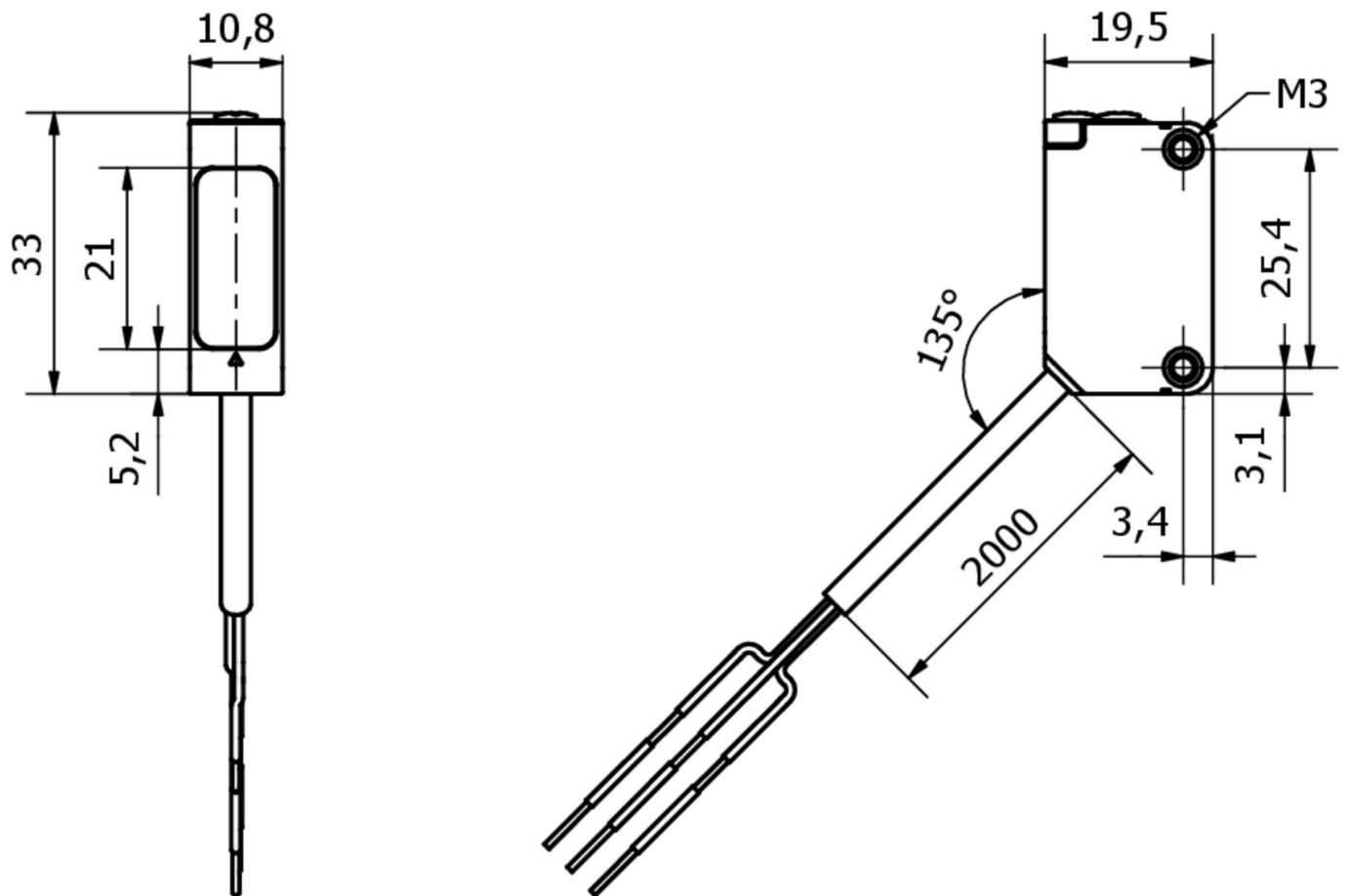
More

IPF Product Group	160 laser sensor
packaging dimensions	183 x 168 x 17 mm
gross weight	50 g
customs tariff number	85365019
WEEE number	40951076
Reach-compliant	Yes
RoHS-compliant	Yes

Connection



Dimensional drawing



Extract accessories program

AY000118



accessories sensor, Fixture kit,
Metal, ball joint

AO000474



accessories optical, Mounting
angle bracket, 43x13x22mm,
Mounting material for sensor,
brackets, Steel

VY000004



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

NG530002



DC power supply, single-phase,
99x114x22mm, 24V, 0.1A,
Number of relay outputs 2, 100-
264V AC 50Hz, 100-264V AC 60Hz,
Screw connection, IP20, Plastic,
Stabilized, Output voltage, pulsed

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.