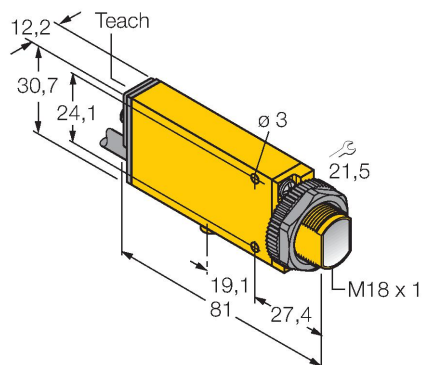


SM2A31RQDP

Photoelectric Sensor – Opposed Mode Sensor (Emitter/Receiver)



Features

- Cable, PVC, 2 m
- Protection class IP67
- Sensitivity adjustable via potentiometer
- Alignment indicator
- Operating voltage: 24...240 VAC
- Switching output, bipolar
- Light/dark operation

Wiring diagram



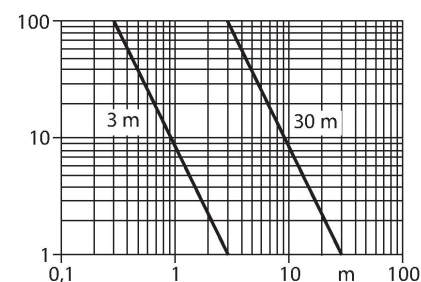
Technical data

Type	SM2A31RQDP
ID	3029553
Optical data	
Function	Opposed mode sensor
Operating mode	Receiver
Range	300 mm
Electrical data	
Operating voltage	24...240 VAC
Output function	Relay output
Readiness delay	≤ 300 ms
Response time typical	< 2 ms
Setting option	Potentiometer
Mechanical data	
Design	Rectangular with thread, Mini Beam
Dimensions	Ø 18 mm
Housing material	Plastic, Thermoplastic material, Yellow
Lens	plastic, Acrylic
Electrical connection	Cable with connector, 1/2", 0.15 m, PVC
Number of cores	3
Ambient temperature	-20...+70 °C
Protection class	IP67
Special features	Encapsulated
Excess gain indication	LED
Tests/approvals	
MTTF	777 years acc. to SN 29500 (Ed. 99) 40 °C

Functional principle

Opposed mode sensors consist of an emitter and receiver. They are installed opposite each other so that the light from the emitter is aimed directly at the receiver. When an object interrupts or weakens the light beam, the sensor switches. Opposed mode sensors are the most reliable photoelectric sensors for detection of opaque targets. An excellent contrast between light and dark conditions and an extremely high excess gain are typical of this sensing mode, thus allowing operation over larger distances and under difficult conditions.

Excess gain curve
Excess gain in relation to the distance

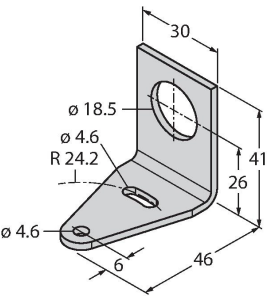


Technical data

Approvals	CE, cURus, CSA
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Accessories

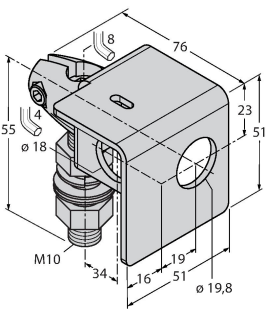
SMB18A 3033200



Technical drawing of the SMB18A mounting bracket. It is a rectangular bracket made of stainless steel for sensors with 18 mm thread. Dimensions include a top width of 30 mm, a vertical height of 41 mm, a base width of 46 mm, and a base thickness of 6 mm. The mounting hole has a diameter of 18.5 mm, and there are two smaller holes with a diameter of 4.6 mm. A radius of R 24.2 is indicated for the top edge.

Mounting bracket, rectangular, stainless steel, for sensors with 18 mm thread

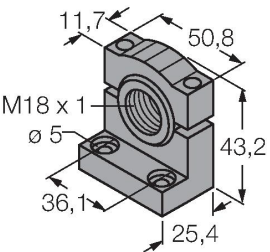
SMB18AFAM10 3012558



Technical drawing of the SMB18AFAM10 mounting bracket. It is made of material VA 1.4401 for M10 x 1.5 thread, with a thread length of 18 mm. Dimensions include a top width of 76 mm, a vertical height of 51 mm, and a base width of 19.8 mm. The mounting hole has a diameter of 18 mm, and there are two smaller holes with a diameter of 4.6 mm. A radius of R 24.2 is indicated for the top edge.

Mounting bracket, material VA 1.4401, for M10 x 1.5 thread, thread length 18 mm

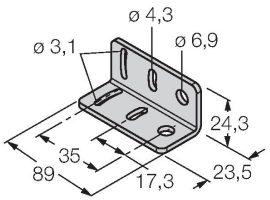
SMB18SF 3052519



Technical drawing of the SMB18SF mounting bracket. It is a PBT black bracket for sensors with 18 mm thread, rotatable. Dimensions include a top width of 50.8 mm, a vertical height of 43.2 mm, and a base width of 36.1 mm. The mounting hole has a diameter of 18 mm, and there are two smaller holes with a diameter of 5 mm. A radius of R 24.2 is indicated for the top edge.

Mounting bracket, PBT black, for sensors with 18 mm thread, rotatable

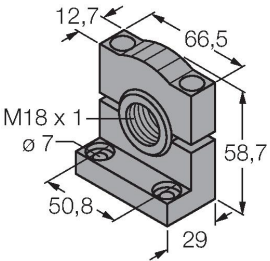
SMB312B 3025519



Technical drawing of the SMB312B mounting bracket. It is a stainless steel bracket for MINI-BEAM NAMUR sensors. Dimensions include a top width of 89 mm, a vertical height of 23.5 mm, and a base width of 17.3 mm. The mounting hole has a diameter of 18 mm, and there are two smaller holes with a diameter of 3.1 mm. A radius of R 24.2 is indicated for the top edge.

Mounting bracket, stainless steel, for MINI-BEAM NAMUR

SMB3018SC 3053952



Technical drawing of the SMB3018SC mounting bracket. It is a PTB black bracket for sensors with 18 mm thread. Dimensions include a top width of 66.5 mm, a vertical height of 58.7 mm, and a base width of 50.8 mm. The mounting hole has a diameter of 18 mm, and there are two smaller holes with a diameter of 7 mm. A radius of R 24.2 is indicated for the top edge.

Mounting bracket, PTB black, for sensors with 18 mm thread