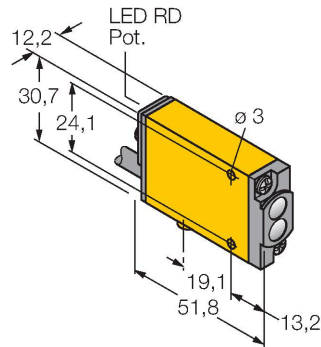


SMA31E

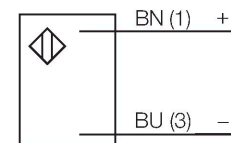
Photoelectric Sensor – Opposed Mode Sensor (Emitter)



Features

- Cable, PVC, 2 m
- Protection class IP67
- Operating voltage: 24...240 VDC

Wiring diagram



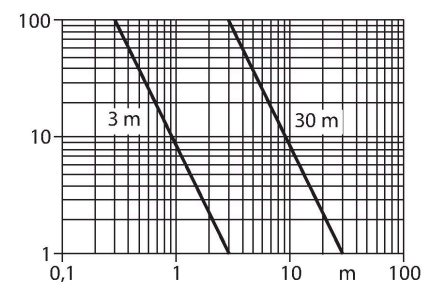
Technical data

Type	SMA31E
ID no.	3026058
Optical data	
Function	Opposed mode sensor
Operating mode	Emitter
Light type	IR
Wavelength	880 nm
Range	0...3000 mm
Electrical data	
Operating voltage	24...240 VAC
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, 2 m, PVC
Number of cores	2
Ambient temperature	-20...+70 °C
Protection class	IP67
Special features	Encapsulated
Excess gain indication	LED
Tests/approvals	
MTTF	853 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

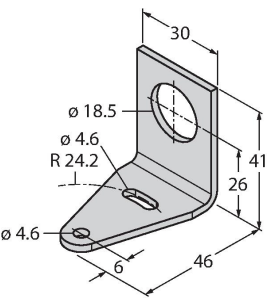


Technical data

Approvals	CE, cURus, CSA
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Accessories

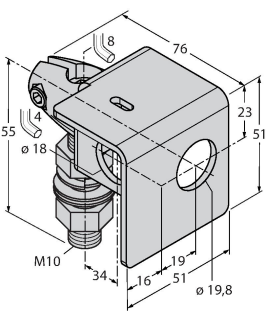
SMB18A	3033200
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Technical drawing of the SMB18A mounting bracket. It is a rectangular bracket made of stainless steel, designed for sensors with an 18 mm thread. The drawing shows the bracket from a side perspective, highlighting its L-shaped profile. Key dimensions include a top flange width of 30 mm, a vertical height of 41 mm, and a base width of 46 mm. The mounting hole has a diameter of 18.5 mm. There are two smaller holes with a diameter of 4.6 mm, one of which is offset by a radius of 24.2 mm. The base has a thickness of 6 mm.

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

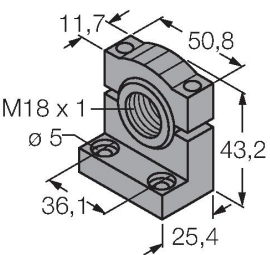
SMB18AFAM10	3012558
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Technical drawing of the SMB18AFAM10 mounting bracket. It is a rectangular bracket made of material VA 1.4401, designed for M10 x 1.5 thread sensors with a thread length of 18 mm. The drawing shows the bracket from a side perspective, highlighting its L-shaped profile. Key dimensions include a top flange width of 76 mm, a vertical height of 51 mm, and a base width of 51 mm. The mounting hole has a diameter of 18 mm. There are two smaller holes with a diameter of 4.3 mm, one of which is offset by a radius of 24.2 mm. The base has a thickness of 6 mm.

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

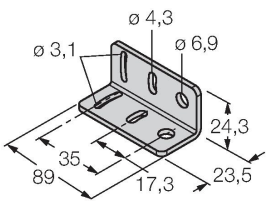
SMB18SF	3052519
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Technical drawing of the SMB18SF mounting bracket. It is a rectangular bracket made of PBT black, designed for sensors with an 18 mm thread, and is rotatable. The drawing shows the bracket from a side perspective, highlighting its L-shaped profile. Key dimensions include a top flange 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. There are two smaller holes with a diameter of 5 mm, one of which is offset by a radius of 24.2 mm. The base has a thickness of 25.4 mm.

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

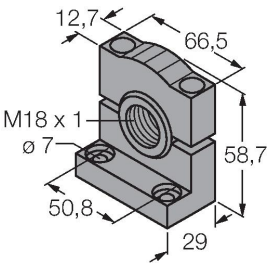
SMB312B	3025519
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Technical drawing of the SMB312B mounting bracket. It is a rectangular bracket made of stainless steel, designed for MINI-BEAM NAMUR sensors. The drawing shows the bracket from a side perspective, highlighting its L-shaped profile. Key dimensions include a top flange 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. There are two smaller holes with a diameter of 3.1 mm, one of which is offset by a radius of 24.2 mm. The base has a thickness of 23.5 mm.

Mounting bracket, stainless steel, for MINI-BEAM NAMUR

SMB3018SC	3053952
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Technical drawing of the SMB3018SC mounting bracket. It is a rectangular bracket made of PTB black, designed for sensors with an 18 mm thread. The drawing shows the bracket from a side perspective, highlighting its L-shaped profile. Key dimensions include a top flange 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. There are two smaller holes with a diameter of 7 mm, one of which is offset by a radius of 24.2 mm. The base has a thickness of 29 mm.

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