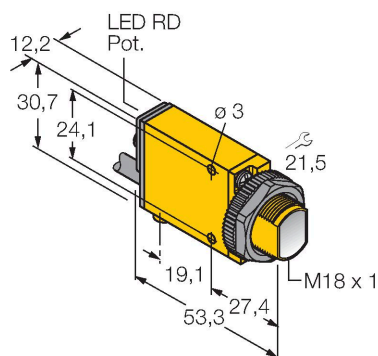


SM31EL W/30'

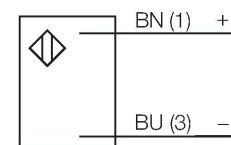
Photoelectric Sensor – Opposed Mode Sensor (Emitter)



Features

- Cable, PVC, 2 m
- Protection class IP67
- Operating voltage: 10...30 VDC

Wiring diagram



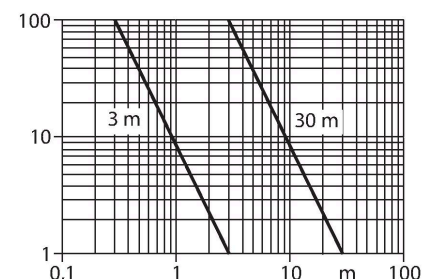
Technical data

Type	SM31EL W/30'
ID	3026104
Optical data	
Function	Opposed mode sensor
Operating mode	Emitter
Light type	IR
Wavelength	880 nm
Range	0...30000 mm
Electrical data	
Operating voltage	10...30 VDC
Residual ripple	< 10 % U _{ss}
No-load current	≤ 25 mA
Readiness delay	≤ 100 ms
Response time typical	< 1 ms
Setting option	Potentiometer
Mechanical data	
Design	Rectangular with thread, Mini Beam
Dimensions	Ø 18 x 53.3 x 12.3 x 30.7 mm
Housing material	Plastic, Thermoplastic material, Yellow
Lens	plastic, Acrylic
Electrical connection	Cable, 9 m, PVC
Number of cores	2
Core cross-section	0.5 mm ²
Ambient temperature	-20...+70 °C
Protection class	IP67
Special features	Encapsulated
Excess gain indication	LED

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

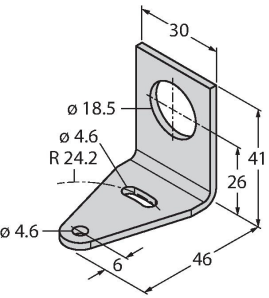


Technical data

Tests/approvals	
MTTF	853 years acc. to SN 29500 (Ed. 99) 40 °C
Approvals	CE, cURus, CSA

Accessories

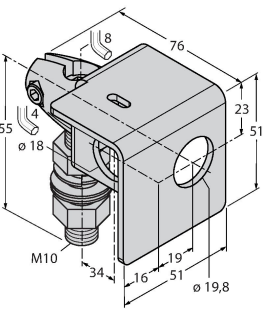
SMB18A 3033200



Technical drawing of the SMB18A mounting bracket. It is a rectangular bracket for sensors with 18 mm thread. Dimensions include a top width of 30 mm, a vertical height of 41 mm, a horizontal base width of 46 mm, and a base thickness of 6 mm. A circular hole has a diameter of 18.5 mm, and a smaller hole has a diameter of 4.6 mm. A fillet radius of R 24.2 is shown at the corner.

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

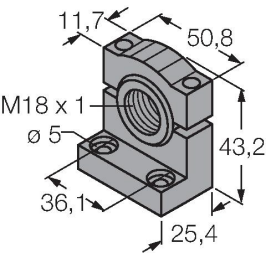
SMB18AFAM10 3012558



Technical drawing of the SMB18AFAM10 mounting bracket. It is a rectangular bracket for M10 x 1.5 thread sensors. Dimensions include a top width of 76 mm, a vertical height of 51 mm, a horizontal base width of 51 mm, and a base thickness of 16 mm. A circular hole has a diameter of 19.8 mm. A threaded hole is labeled M10.

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

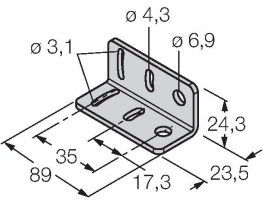
SMB18SF 3052519



Technical drawing of the SMB18SF mounting bracket. It is a rectangular bracket for sensors with 18 mm thread, made of PBT black. Dimensions include a top width of 50.8 mm, a vertical height of 43.2 mm, a horizontal base width of 36.1 mm, and a base thickness of 25.4 mm. A threaded hole is labeled M18 x 1. A circular hole has a diameter of 5 mm.

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

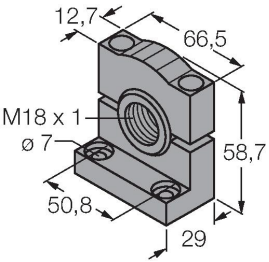
SMB312B 3025519



Technical drawing of the SMB312B mounting bracket. It is a rectangular bracket for MINI-BEAM NAMUR sensors, made of stainless steel. Dimensions include a top width of 89 mm, a vertical height of 24.3 mm, a horizontal base width of 17.3 mm, and a base thickness of 23.5 mm. A circular hole has a diameter of 6.9 mm, and a smaller hole has a diameter of 3.1 mm.

Mounting bracket, stainless steel, for MINI-BEAM NAMUR

SMB3018SC 3053952



Technical drawing of the SMB3018SC mounting bracket. It is a rectangular bracket for sensors with 18 mm thread, made of PTB black. Dimensions include a top width of 66.5 mm, a vertical height of 58.7 mm, a horizontal base width of 50.8 mm, and a base thickness of 29 mm. A threaded hole is labeled M18 x 1. A circular hole has a diameter of 7 mm.

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