

SM2A312CVQD

Photoelectric Sensor – Convergent Mode Sensor



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



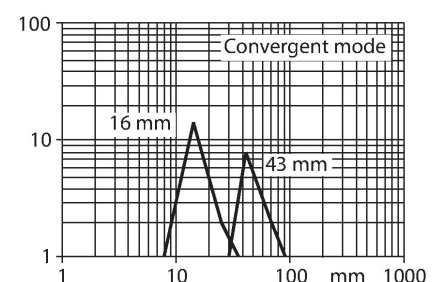
Technical data

Type	SM2A312CVQD
ID	3026840
Optical data	
Function	Proximity switch
Operating mode	Convergent
Light type	Red
Wavelength	650 nm
Focal distance	16 mm
Range	16 mm
Electrical data	
Operating voltage	24...240 VAC
Output function	Relay output
Readiness delay	≤ 300 ms
Response time typical	< 4 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	Connector, 1/2", PVC
Number of cores	3
Ambient temperature	-20...+70 °C
Protection class	IP67
Special features	Encapsulated
Excess gain indication	LED

Functional principle

Convergent mode sensors are equipped with a lens in front of the emitter diode that produces a small and intense focal point at a defined distance from the sensor. Similar to diffuse mode sensors, the light reflected by the target is evaluated. Convergent mode sensors are ideal for detection of small targets or colour marks and edge guiding or positioning control of transparent materials. The targets must always be within the focal depth of the sensors. The focal depth is defined as the area in front of or behind the focal point within which the object can be detected. Based on the intense light concentration in the focal point, convergent mode sensors are capable of detecting targets with a low reflectivity.

Excess gain curve
Excess gain in relation to the distance

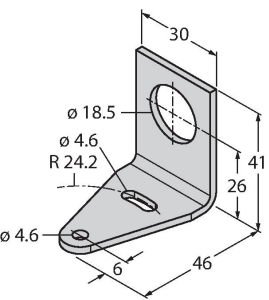


Technical data

Tests/approvals	
Approvals	CE, cURus, CSA

Accessories

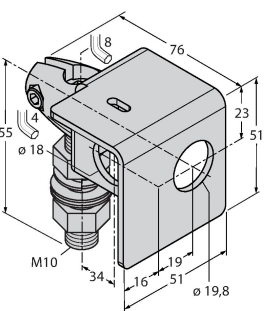
SMB18A 3033200



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 a side view with dimensions: a top flange width of 30 mm, a main body height of 41 mm, a bottom flange height of 26 mm, and a total height 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. A small hole with a diameter of 4.6 mm is also shown on the bottom flange.

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

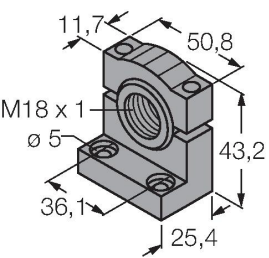
SMB18AFAM10 3012558



Technical drawing of the SMB18AFAM10 mounting bracket. It is a rectangular bracket made of material VA 1.4401, designed for M10 x 1.5 thread sensors with a thread length of 18 mm. The drawing shows a side view with dimensions: a top flange width of 76 mm, a main body height of 51 mm, a bottom flange height of 23 mm, and a total height of 51 mm. The mounting hole has a diameter of 18 mm. There are two smaller holes with a diameter of 4 mm, one of which is offset by a radius of 24.2 mm. A small hole with a diameter of 4.6 mm is also shown on the bottom flange.

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

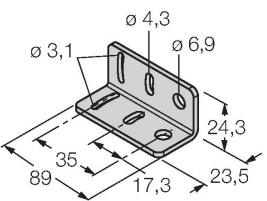
SMB18SF 3052519



Technical drawing of the SMB18SF mounting bracket. It is a rectangular bracket made of PBT black, designed for sensors with an 18 mm thread, and is rotatable. The drawing shows a side view with dimensions: a top flange width of 50.8 mm, a main body height of 43.2 mm, a bottom flange height of 25.4 mm, and a total height of 43.2 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. A small hole with a diameter of 4.6 mm is also shown on the bottom flange.

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

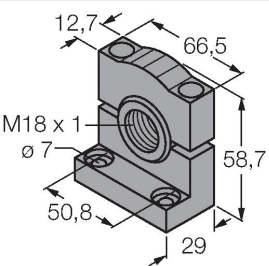
SMB312B 3025519



Technical drawing of the SMB312B mounting bracket. It is a rectangular bracket made of stainless steel, designed for MINI-BEAM NAMUR sensors. The drawing shows a side view with dimensions: a top flange width of 89 mm, a main body height of 24.3 mm, a bottom flange height of 23.5 mm, and a total height of 24.3 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. A small hole with a diameter of 4.6 mm is also shown on the bottom flange.

Mounting bracket, stainless steel, for MINI-BEAM NAMUR

SMB3018SC 3053952



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 a side view with dimensions: a top flange width of 66.5 mm, a main body height of 58.7 mm, a bottom flange height of 29 mm, and a total height of 58.7 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. A small hole with a diameter of 4.6 mm is also shown on the bottom flange.

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