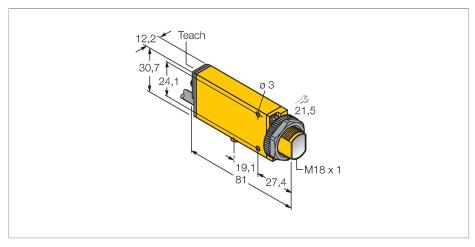
SM2A31RQD Photoelectric Sensor – Opposed Mode Sensor (Emitter/ Receiver)



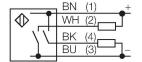
Technical data

Type	SM2A31RQD
ID	3026846
Optical data	
Function	Opposed mode sensor
Operating mode	Receiver
Range	300 mm
Electrical data	
Operating voltage	24240 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
·	
Dimensions	Ø 18 mm
Dimensions Housing material	Ø 18 mm Plastic, Thermoplastic material, Yellow
Dimensions Housing material Lens	Ø 18 mm Plastic, Thermoplastic material, Yellow plastic, Acrylic
Dimensions Housing material Lens Electrical connection	Ø 18 mm Plastic, Thermoplastic material, Yellow plastic, Acrylic Connector, 1/2", PVC
Dimensions Housing material Lens Electrical connection Number of cores	Ø 18 mm Plastic, Thermoplastic material, Yellow plastic, Acrylic Connector, 1/2", PVC
Dimensions Housing material Lens Electrical connection Number of cores Ambient temperature	Ø 18 mm Plastic, Thermoplastic material, Yellow plastic, Acrylic Connector, 1/2", PVC 3 -20+70 °C
Dimensions Housing material Lens Electrical connection Number of cores Ambient temperature Protection class	Ø 18 mm Plastic, Thermoplastic material, Yellow plastic, Acrylic Connector, 1/2", PVC 3 -20+70 °C IP67
Dimensions Housing material Lens Electrical connection Number of cores Ambient temperature Protection class Special features	Ø 18 mm Plastic, Thermoplastic material, Yellow plastic, Acrylic Connector, 1/2", PVC 3 -20+70 °C IP67 Encapsulated

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

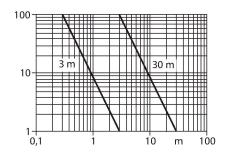
Wiring diagram



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 extremly 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



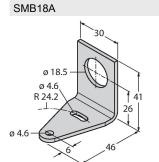


Technical data

Approvals

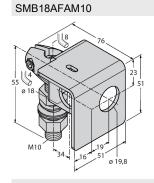
CE, cURus, CSA

Accessories



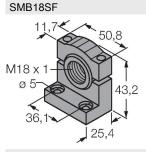
3033200

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



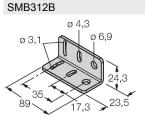
3012558

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



3052519

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



2B 3025519

Mounting bracket, stainless steel, for MINI-BEAM NAMUR



3053952

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