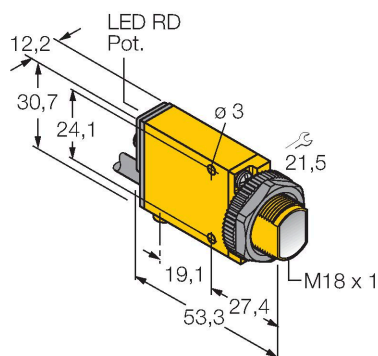


# SM312D

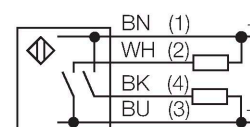
## Photoelectric Sensor – Diffuse Mode Sensor



### Features

- Cable, PVC, 2 m
- Protection class IP67
- Sensitivity adjustable via potentiometer
- Alignment indicator
- Operating voltage: 10...30 VDC
- Switching output, bipolar
- Light/dark operation

### Wiring diagram



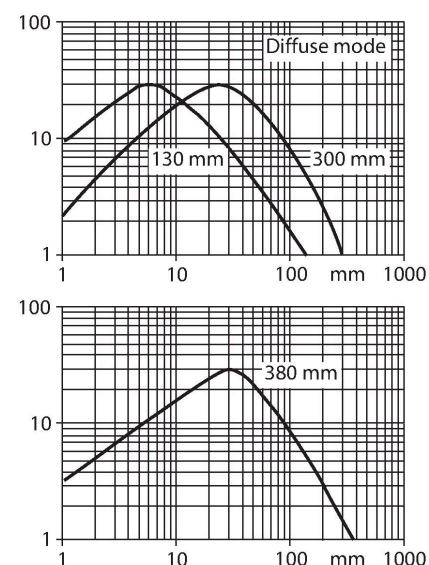
### Technical data

Type	SM312D
ID no.	3025619
<b>Optical data</b>	
Function	Proximity switch
Operating mode	Diffuse
Light type	IR
Wavelength	880 nm
Range	0...380 mm
<b>Electrical data</b>	
Operating voltage	10...30 VDC
Residual ripple	< 10 % U <sub>ss</sub>
DC rated operational current	≤ 150 mA
No-load current	≤ 25 mA
Output function	NO contact, PNP/NPN
Switching frequency	≤ 500 Hz
Readiness delay	≤ 100 ms
Response time typical	< 1 ms
Overcurrent release	> 220 mA
Setting option	Potentiometer
<b>Mechanical data</b>	
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, 2 m, PVC
Number of cores	4
Core cross-section	0.5 mm <sup>2</sup>

### Functional principle

Diffuse mode sensors incorporate the emitter and receiver in a single housing. However, diffuse mode sensors do not detect the interruption of the light beam like opposed mode sensors, but the reflection of the target. A target is detected if it reflects a sufficient amount of light back to the receiver. The switching distance of diffuse mode sensors thus largely depends on the reflectivity of the target.

Excess gain curve  
Excess gain in relation to the distance



## Technical data

Ambient temperature	-20...+70 °C
Protection class	IP67
Special features	Encapsulated
Switching state	LED, Red
Excess gain indication	LED, red, flashing
<b>Tests/approvals</b>	
Approvals	CE, cURus, CSA

## Accessories

<p><b>SMB18A</b></p>	<p><b>3033200</b></p> <p>Mounting bracket, rectangular, stainless steel, for sensors with 18 mm thread</p>	<p><b>SMB18AFAM10</b></p>	<p><b>3012558</b></p> <p>Mounting bracket, material VA 1.4401, for M10 x 1.5 thread, thread length 18 mm</p>
<p><b>SMB18SF</b></p>	<p><b>3052519</b></p> <p>Mounting bracket, PBT black, for sensors with 18 mm thread, rotatable</p>	<p><b>SMB312B</b></p>	<p><b>3025519</b></p> <p>Mounting bracket, stainless steel, for MINI-BEAM NAMUR</p>
<p><b>SMB3018SC</b></p>	<p><b>3053952</b></p> <p>Mounting bracket, PTB black, for sensors with 18 mm thread</p>		