

Photoelectric Sensor

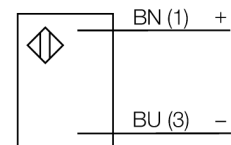
Opposed Mode Sensor (Emitter)

SM31ELMHS W/30



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

Wiring Diagram

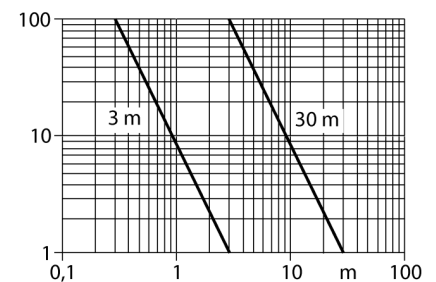


Functional principle

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 extremely high excess gain are typical of this sensing mode, thus allowing operation over larger distances and under difficult conditions.

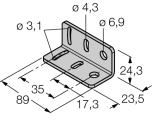
Excess gain curve

Excess gain in relation to the distance



Type	SM31ELMHS W/30
ID	3028875
Optical data	
Function	Opposed mode sensor
Operating mode	Emitter
Light type	IR
Wavelength	880 nm
Range	0...30000 mm
Electrical data	
Operating voltage U_s	10...30 VDC
Residual ripple	< 10 % U_s
No-load current I_o	≤ 25 mA
Readiness delay	≤ 100 ms
Response time typical	< 0.3 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
Excess gain indication	LED
Tests/approvals	
MTTF	853 years acc. to SN 29500 (Ed. 99) 40 °C
Approvals	CE, cURus, CSA

Accessories

Type code	Ident no.		Dimension drawing
SMB18A	3033200	Mounting bracket, rectangular, stainless steel, for sensors with 18 mm thread	
SMB18AFAM10	3012558	Mounting bracket, material VA 1.4401, for M10 x 1.5 thread, thread length 18 mm	
SMB18SF	3052519	Mounting bracket, PBT black, for sensors with 18 mm thread, rotatable	
SMB312B	3025519	Mounting bracket, stainless steel, for MINI-BEAM NAMUR	
SMB3018SC	3053952	Mounting bracket, PTB black, for sensors with 18 mm thread	