

SM2A30PRL

Photoelectric Sensor – Opposed Mode Sensor (Receiver)



Technical data

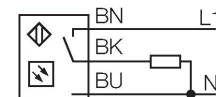
Type	SM2A30PRL
ID	3027297
Optical data	
Function	Opposed mode sensor
Operating mode	Receiver
Range	0...150000 mm
Electrical data	
Operating voltage	24...240 VAC
AC rated operational current	≤ 200 mA
Output function	Light operation, Relay output
Switching frequency	≤ 40 Hz
Readiness delay	≤ 0 ms
Response time typical	< 10 ms
Mechanical data	
Design	Tube, SM30
Dimensions	Ø 30 x 102 mm
Housing material	Plastic, Thermoplastic material
Lens	plastic, Acrylic
Electrical connection	Cable, 2 m, PVC
Number of cores	3
Core cross-section	0.5 mm ²
Ambient temperature	-40...+70 °C
Storage temperature	-40...+70 °C
Relative humidity	0...90 %
Protection class	IP67
Special features	Encapsulated
Power-on indication	LED, Green
Switching state	LED, Yellow
Excess gain indication	LED
Tests/approvals	
Approvals	CE, cURus, CSA



Features

- Cable, 2 m
- Protection class IP67
- Ambient temperature: -40 °C...+70 °C
- Modulation frequency A, requires transmitters with the same frequency
- Operating voltage: 24...240 VAC
- Semiconductor relay output, SPST, light operation

Wiring diagram



Functional principle

Opposed mode sensors consist of an emitter and a receiver. They are installed opposite to each other whereby the emitted light aims 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 objects. The excellent light/dark contrast and the very high excess gain are typical for this function mode and enable operation over large distances and under difficult conditions.

Excess gain curve
Excess gain in relation to distance

