

# SMU31R Photoelectric Sensor – Opposed Mode Sensor (Emitter/ Receiver)



### Technical data

TypeSMU31RID no.3052576Optical dataFunctionOpposed mode sensorOperating modeReceiverRange3000 mmElectrical dataOperating voltage24240 VDCOperating voltage24240 VACDC rated operational current≤ 3000 mAAC rated operational current≤ 3000 mAOutput functionNO/NC, Relay outputSwitching frequency≤ 25 HzReadiness delay< 0 msResponse time typical< 20 msMax. DC switching capacity1 WSetting optionPotentiometerMechanical dataDimensionsØ 18 x 81 x 12.3 x 30.7 mm
Optical dataFunctionOpposed mode sensorOperating modeReceiverRange3000 mmElectrical data24240 VDCOperating voltage24240 VACOperating voltage24240 VACDC rated operational current< 3000 mA
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Mechanical data    Design    Rectangular with thread, Mini Beam
Design Rectangular with thread, Mini Beam
Dimensions Ø 18 x 81 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 5
Core cross-section 0.5 mm <sup>2</sup>

#### Features

Cable, PVC, 2 m

- Protection class IP67
- Sensitivity adjustable via potentiometer
- Alignment indicator
- Operating voltage: 24...240 VDC or 24...
- 240 VAC
- Relay output

#### 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

Protection class	IP67
Special features	Encapsulated
Switching state	LED, Red
Excess gain indication	LED, red, flashing
Tests/approvals	
MTTF	777 years acc. to SN 29500 (Ed. 99) 40 °C
Approvals	CE, cURus, CSA

## Accessories

50,8

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