

SM312LVQDP

Photoelectric Sensor – Retroreflective Sensor



Features

- Cable with male end M12 × 1, 4-pin, PVC, 150 mm
- Protection class IP67
- Sensitivity adjustable via potentiometer
- Alignment indicator
- Operating voltage: 10...30 VDC
- Switching output, bipolar
- Light/dark operation

Wiring diagram



Technical data

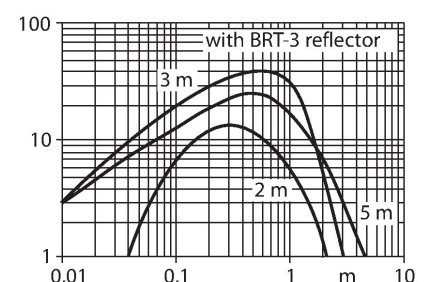
Type	SM312LVQDP
ID	3028155
Optical data	
Function	Retroreflective Sensor
Operating mode	Unpolarized
Reflector included in delivery	no
Light type	Red
Wavelength	650 nm
Range	0...5000 mm
Electrical data	
Operating voltage	10...30 VDC
Residual ripple	< 10 % U _{ss}
DC rated operational current	≤ 150 mA
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
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 with connector, M12 × 1, 0.15 m, PVC

Functional principle

Retro-reflective sensors incorporate emitter and receiver in a single compact housing. The light beam of the emitter is directed towards a reflector which returns the light back to the receiver. An object is detected when it interrupts this beam. Retro-reflective sensors incorporate some of the advantages of opposed mode sensors (good contrast and high excess gain). Further it is merely required to install and wire a single device. A smaller sensing range and susceptibility of devices without polarisation filter can be of disadvantage when shiny objects have to be detected.

Excess gain curve

Excess gain in relation to the distance (type LV)



Technical data

Number of cores	4
Ambient temperature	-20...+70 °C
Protection class	IP67
Special features	Encapsulated
Switching state	LED, Red
Excess gain indication	LED, red, flashing
Tests/approvals	
Approvals	CE, cURus, CSA

Accessories

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		

Accessories

Dimension drawing	Type	ID	
Technical drawing of a round reflector. The front view shows a circle with a central hole of diameter 5.2 mm [0.21]. The side view shows a cylinder with an outer diameter of 81 mm [3.19] and a height of 7 mm [0.28].	BRT-3	3016164	Round reflector, reflection coefficient 1.0, material acrylic, ambient temperature -20...+60 °C