

QS18VP6LAFQ1

– Laser Diffuse Mode Sensor with Adjustable Background Suppression

Technical data

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|------------------------|---|
| Type | QS18VP6LAFQ1 |
| ID | 3075510 |
| Optical data | |
| Function | Proximity switch |
| Operating mode | Background suppression, adjustable |
| Light type | Red |
| Wavelength | 650 nm |
| Laser class | ▲ 1 |
| Beam diameter | 1 mm |
| Range | 1...150 mm |
| Operating voltage | 10...30 VDC |
| Switching frequency | ≤ 700 Hz |
| Readiness delay | ≤ 200 ms |
| Response time typical | < 0.7 ms |
| Setting option | Mechanical Screw |
| Design | Rectangular |
| Housing material | Plastic, ABS |
| Lens | Acrylic |
| Electrical connection | Cable with connector, M8 × 1, 0.15 m, PVC |
| Number of cores | 4 |
| Ambient temperature | -10...+50 °C |
| Protection class | IP67 |
| Excess gain indication | LED |
| Tests/approvals | |
| MTTF | 268 years acc. to SN 29500 (Ed. 99) 40 °C |

Features

- LED all-round visible
- Cut-off point adjusted via potentiometer

Functional principle

Diffuse mode sensors with background suppression operate with a single emitter and several receiver elements, one for close range and one for long-range. The target position and the photoelectric structure of the sensor determine which of the receiving elements receives the most light. The optics before the receiver is modified with the adjusting screw until the boundary between close and long-range is shifted. This operation determines whether the reflecting object is within or outside the measuring range.

Excess gain curves relating to the nearest and farthest cut-off point

