# QS18VP6LDQ1
# – Diffuse Mode Laser Sensor

## Technical data

| | |
|---|---|
| Type | QS18VP6LDQ1 |
| ID no. | 3077117 |
| **Optical data** | |
| Function | Proximity switch |
| Operating mode | Diffuse |
| Light type | Red |
| Wavelength | 650 nm |
| Laser class | ⚠ 1 |
| Beam diameter | 1 mm at 300 mm |
| Range | 0…300 mm |
| Operating voltage | 10…30 VDC |
| Switching frequency | ≤ 700 Hz |
| Readiness delay | ≤ 200 ms |
| Response time typical | < 0.7 ms |
| Setting option | Potentiometer |
| Design | Rectangular with thread |
| Dimensions | Ø 18 mm |
| 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 |
| Special features | Laser |
| Excess gain indication | LED |
| **Tests/approvals** | |
| MTTF | 17 years acc. to SN 29500 (Ed. 99) 40 °C |

## Features

- LED all-round visible
- Sensitivity adjusted via potentiometer

## Functional principle

Identical to retro-reflective sensors, emitter and receiver circuitry are incorporated in the same housing of the diffuse mode sensors. However, diffuse mode sensors do not detect the interruption of the light beam but the reflection of the target. A target is detected if it reflects sufficient light back to the receiver. The switching distance of diffuse mode sensors thus largely depends on the reflectivity of the target.

Excess gain curve
Excess gain in relation to the distance