



- Direct mounting on standard actuators
- Fixed setting
- Usable up to SIL 2 acc. to IEC 61508
- ATEX & IECEX certifications



Technical drawing of the LED module showing front and side views with dimensions.

**Front View Dimensions:**

- Overall width: 36
- Top mounting hole offset: 7
- Overall height: 30
- LED chip width: 10
- LED chip height: 5.4
- LED chip offset from center: 5.4
- LED chip diameter: 9
- LED chip length: 14
- LED chip offset from bottom: 25

**Side View Dimensions:**

- Overall width: 33.5
- Top mounting hole offset: 5
- Overall height: 65
- LED chip width: 10
- LED chip height: 5.4
- LED chip offset from center: 5.4
- LED chip diameter: 9
- LED chip length: 14
- LED chip offset from bottom: 25

**Labels:**

- V**: LED chip
- S**: LED chip
- LED**: LED chip

## General specifications

|                                     |                |                                                               |
|-------------------------------------|----------------|---------------------------------------------------------------|
| Switching function                  |                | 2 x normally closed (NC)                                      |
| Output type                         |                | NAMUR                                                         |
| Rated operating distance            | s <sub>n</sub> | 3 mm                                                          |
| Installation                        |                | flush mountable                                               |
| Assured operating distance          | s <sub>a</sub> | 0 ... 2.4 mm                                                  |
| Actual operating distance           | s <sub>r</sub> | 2.7 ... 3.3 mm typ.                                           |
| Actuating element                   |                | Stainless steel 1.4305 / AISI 303<br>8.5 mm x 8.5 mm x 0.5 mm |
| Reduction factor r <sub>Al</sub>    |                | 0.5                                                           |
| Reduction factor r <sub>Cu</sub>    |                | 0.4                                                           |
| Reduction factor r <sub>304</sub>   |                | 1                                                             |
| Reduction factor r <sub>St37</sub>  |                | 1.3                                                           |
| Reduction factor r <sub>Brass</sub> |                | 0.6                                                           |
| Output type                         |                | 2-wire                                                        |
| <b>Nominal ratings</b>              |                |                                                               |
| Nominal voltage                     | U <sub>o</sub> | 8.2 V (R <sub>i</sub> approx. 1 kΩ)                           |
| Switching frequency                 | f              | 0 ... 3 kHz                                                   |

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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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## Technical Data

|                                                 |                |                                                                                           |
|-------------------------------------------------|----------------|-------------------------------------------------------------------------------------------|
| Hysteresis                                      | H              | typ. 5 %                                                                                  |
| Reverse polarity protection                     |                | reverse polarity protected                                                                |
| Short-circuit protection                        |                | yes                                                                                       |
| Suitable for 2:1 technology                     |                | yes , Reverse polarity protection diode not required                                      |
| Current consumption                             |                |                                                                                           |
| Measuring plate not detected                    |                | ≥ 3 mA                                                                                    |
| Measuring plate detected                        |                | ≤ 1 mA                                                                                    |
| Time delay before availability                  | t <sub>v</sub> | ≤ 1.1 ms                                                                                  |
| Switching state indicator                       |                | LED, yellow                                                                               |
| Valve status indicator                          |                | LED, yellow                                                                               |
| <b>Functional safety related parameters</b>     |                |                                                                                           |
| Safety Integrity Level (SIL)                    |                | SIL 2                                                                                     |
| MTTF <sub>d</sub>                               |                | 1470 a                                                                                    |
| Mission Time (T <sub>M</sub> )                  |                | 20 a                                                                                      |
| Diagnostic Coverage (DC)                        |                | 0 %                                                                                       |
| <b>Valve circuit</b>                            |                |                                                                                           |
| Voltage                                         |                | max. 32 V DC                                                                              |
| Current                                         |                | max. 240 mA                                                                               |
| Short-circuit protection                        |                | no                                                                                        |
| Reverse polarity protection                     |                | yes, with reversed output LED is out of function, therefore more power for solenoid valve |
| <b>Compliance with standards and directives</b> |                |                                                                                           |
| Standard conformity                             |                |                                                                                           |
| NAMUR                                           |                | EN 60947-5-6:2000<br>IEC 60947-5-6:1999                                                   |
| Electromagnetic compatibility                   |                | NE 21:2007                                                                                |
| Standards                                       |                | EN IEC 60947-5-2                                                                          |
| <b>Approvals and certificates</b>               |                |                                                                                           |
| IECEx approval                                  |                |                                                                                           |
| Equipment protection level Ga                   |                | IECEx TUN 17.0021X                                                                        |
| Equipment protection level Gb                   |                | IECEx TUN 17.0021X                                                                        |
| Equipment protection level Da                   |                | IECEx TUN 17.0021X                                                                        |
| Equipment protection level Mb                   |                | IECEx TUN 17.0021X                                                                        |
| ATEX approval                                   |                |                                                                                           |
| Equipment protection level Ga                   |                | TÜV 99 ATEX 1479 X                                                                        |
| Equipment protection level Gb                   |                | TÜV 99 ATEX 1479 X                                                                        |
| Equipment protection level Da                   |                | TÜV 99 ATEX 1479 X                                                                        |
| UL approval                                     |                |                                                                                           |
| Ordinary Location                               |                | E87056                                                                                    |
| Hazardous Location                              |                | E501628                                                                                   |
| Control drawing                                 |                | 116-0456                                                                                  |
| CCC approval                                    |                |                                                                                           |
| Hazardous Location                              |                | 2020322315002262                                                                          |
| NEPSI approval                                  |                |                                                                                           |
| NEPSI certificate                               |                | GYJ19.1410X                                                                               |
| <b>Ambient conditions</b>                       |                |                                                                                           |
| Ambient temperature                             |                | -25 ... 100 °C (-13 ... 212 °F)                                                           |
| Storage temperature                             |                | -40 ... 100 °C (-40 ... 212 °F)                                                           |
| <b>Mechanical specifications</b>                |                |                                                                                           |
| Connection (system side)                        |                | PVC cable , 5 m                                                                           |
| Core cross section (system side)                |                | 0.75 mm <sup>2</sup>                                                                      |
| Connection (valve side)                         |                | PVC cable , 0.5 m                                                                         |
| Core cross section (valve side)                 |                | 0.75 mm <sup>2</sup>                                                                      |
| Housing material                                |                | PBT                                                                                       |

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Technical Data

|                                     |  |                         |
|-------------------------------------|--|-------------------------|
| Sensing face                        |  | PBT                     |
| Degree of protection                |  | IP67                    |
| Cable                               |  |                         |
| Bending radius                      |  | > 10 x cable diameter   |
| Tightening torque, fastening screws |  | 4 Nm ... 5 Nm           |
| Dimensions                          |  |                         |
| Height                              |  | 33.5 mm                 |
| Width                               |  | 65 mm                   |
| Length                              |  | 36 mm                   |
| General information                 |  |                         |
| Use in the hazardous area           |  | see instruction manuals |

Connection

