

- 50 mm flush
- Reduction factor = 1
- Weld Immune



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

**Front View:** A square module with a central circular lens. The overall width and height are 84 mm. The mounting holes are spaced 80 mm apart. The lens diameter is 65 mm. The mounting holes are spaced 65 mm apart. The mounting holes are labeled "LEDs".

**Top View:** Shows the module's profile. The total height is 40 mm. The mounting holes are spaced 15 mm apart. The mounting holes are labeled "LEDs".

**Side View:** Shows the module's profile. The total height is 40 mm. The mounting holes are spaced 15 mm apart. The mounting holes are labeled "LEDs".

**Detail View:** A cross-section of the mounting hole. The hole diameter is  $\phi 9.5$ . The mounting hole is labeled "LEDs".

**Mounting Hole:** The mounting hole is labeled "M12 x 1". The mounting hole is labeled "LEDs".

## General specifications

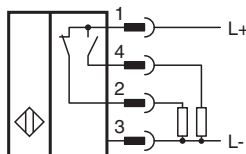
|                                    |                |                |
|------------------------------------|----------------|----------------|
| Switching function                 |                | complementary  |
| Output type                        |                | PNP            |
| Rated operating distance           | s <sub>n</sub> | 50 mm          |
| Installation                       |                | flush          |
| Output polarity                    |                | DC             |
| Assured operating distance         | s <sub>a</sub> | 0 ... 40.5 mm  |
| Reduction factor r <sub>Al</sub>   |                | 1              |
| Reduction factor r <sub>Cu</sub>   |                | 1              |
| Reduction factor r <sub>304</sub>  |                | 1              |
| Reduction factor r <sub>St37</sub> |                | 1              |
| <b>Nominal ratings</b>             |                |                |
| Operating voltage                  | U <sub>B</sub> | 10 ... 30 V DC |
| Switching frequency                | f              | 0 ... 1 Hz     |



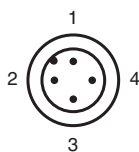
## Technical Data

|                                                 |           |                                                                                                                                                     |
|-------------------------------------------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Hysteresis                                      | H         | typ. 3 %                                                                                                                                            |
| Reverse polarity protection                     |           | reverse polarity protected                                                                                                                          |
| Short-circuit protection                        |           | pulsing                                                                                                                                             |
| Voltage drop                                    | $U_d$     | $\leq 3 \text{ V}$                                                                                                                                  |
| Rated insulation voltage                        | $U_{BIS}$ | 50 V                                                                                                                                                |
| Operating current                               | $I_L$     | 0 ... 200 mA                                                                                                                                        |
| Off-state current                               | $I_r$     | 0 ... 0.5 mA                                                                                                                                        |
| No-load supply current                          | $I_0$     | $\leq 20 \text{ mA}$                                                                                                                                |
| Time delay before availability                  | $t_v$     | $\leq 300 \text{ ms}$                                                                                                                               |
| Operating voltage indicator                     |           | LED, green                                                                                                                                          |
| Switching state indicator                       |           | LED, yellow                                                                                                                                         |
| <b>Functional safety related parameters</b>     |           |                                                                                                                                                     |
| MTTF <sub>d</sub>                               |           | 854 a                                                                                                                                               |
| Mission Time ( $T_M$ )                          |           | 20 a                                                                                                                                                |
| Diagnostic Coverage (DC)                        |           | 0 %                                                                                                                                                 |
| <b>Compliance with standards and directives</b> |           |                                                                                                                                                     |
| Standard conformity                             |           |                                                                                                                                                     |
| Standards                                       |           | EN 60947-5-2:2007<br>IEC 60947-5-2:2007                                                                                                             |
| <b>Approvals and certificates</b>               |           |                                                                                                                                                     |
| UL approval                                     |           | cULus Listed, General Purpose                                                                                                                       |
| CSA approval                                    |           | cCSAus Listed, General Purpose                                                                                                                      |
| CCC approval                                    |           | CCC approval / marking not required for products rated $\leq 36 \text{ V}$                                                                          |
| <b>Ambient conditions</b>                       |           |                                                                                                                                                     |
| Ambient temperature                             |           | 0 ... 50 °C (32 ... 122 °F) ( $\pm 10 \%$ changing operating distance)<br>-25 ... 70 °C (-13 ... 158 °F) ( $\pm 20 \%$ changing operating distance) |
| <b>Mechanical specifications</b>                |           |                                                                                                                                                     |
| Connection type                                 |           | Connector M12 x 1 , 4-pin                                                                                                                           |
| Housing material                                |           | PBT/metal                                                                                                                                           |
| Sensing face                                    |           | PBT, PTFE coated                                                                                                                                    |
| Housing base                                    |           | PBT                                                                                                                                                 |
| Degree of protection                            |           | IP68                                                                                                                                                |

## Connection



## Connection Assignment



Wire colors in accordance with EN 60947-5-2

|   |    |         |
|---|----|---------|
| 1 | BN | (brown) |
| 2 | WH | (white) |
| 3 | BU | (blue)  |
| 4 | BK | (black) |

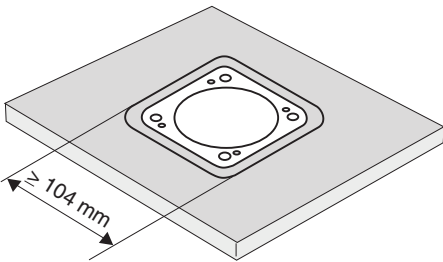
Mounting

These sensors are particularly suitable for embedded installation in floor conveyor systems. The installation of the switch in a metal base plate provides it with considerable protection against mechanical damage.

Care should be taken to ensure that the cut out in the base plate is at least 104 mm x 104 mm and that the sensor is positioned centrally within this cut out.

The active surface of the sensor must not be recessed with respect to the front face of the base plate.

The high switching distance guarantees safe detection and thus control of the floor conveyor system.



Caution!

After removal of the metal screen the proximity switch can no longer be mounted as an embedded installation.

Accessories

|  |                    |                                       |
|--|--------------------|---------------------------------------|
|  | <b>V1-G-2M-PUR</b> | Female cordset, M12, 4-pin, PUR cable |
|  | <b>V1-W-2M-PUR</b> | Female cordset, M12, 4-pin, PUR cable |

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