

# AS-Interface safety switch

## VAA-2E3A-LIM1-PL-J-S-V1



- Applications up to PL<sub>d</sub>
- 40 mm narrow construction, fixture dimensions compatible with all safety switches
- Rotating metal head
- Integrated guard locking up to 2500 N
- M12 plug connection
- Highly visible 4-way LED display
- Power supply from AS-Interface

AS-Interface safety switch with guard locking and guard locking monitoring

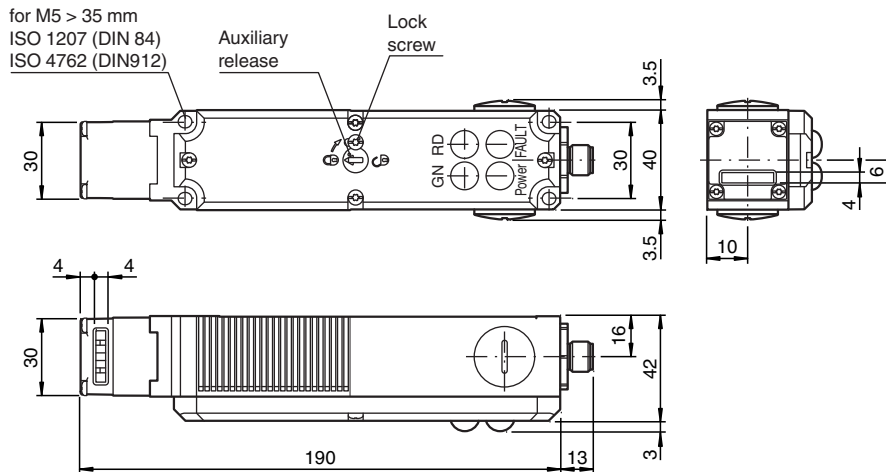


### Function

The VAA-2E3A-LIM1-PL-J-S-V1 safety switch with mechanical interlock and separate actuator is a safety switch with 2 inputs and 3 outputs. The contact monitoring and the solenoid monitoring are available via the inputs. Evaluation takes place via a safety monitor. The outputs control the solenoid and the red and green LEDs. Connection is via an M12 plug. The safety switch is supplied via the AS-Interface. The mechanical interlock functions according to the operating current principle. The mechanical interlock is activated by triggering the D0 AS-Interface output. The interlock release takes place through tension. The mechanical override serves to unlock the safety switch with the use of tools. To protect against manipulation, the mechanical override is sealed by locking varnish.

The Power LED indicates operating voltage, the Fault LED indicates a device or communication error. For example, via the controller, contact monitoring can be displayed with the red LED and solenoid monitoring with the green LED. Depending on the application, 4 different models of mechanical actuators can be ordered separately.

### Dimensions



### Technical Data

#### General specifications

| Node type                      | Safety node |
|--------------------------------|-------------|
| AS-Interface specification     | V3.0        |
| Required gateway specification | ≥ V2.0      |
| Profile                        | S-7.B       |
| IO code                        | 7           |
| ID code                        | B           |
| ID1 code                       | F           |
| ID2 code                       | E           |

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

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

USA: +1 330 486 0001  
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 1111  
fa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091  
fa-info@sg.pepperl-fuchs.com

**PEPPERL+FUCHS**

## Technical Data

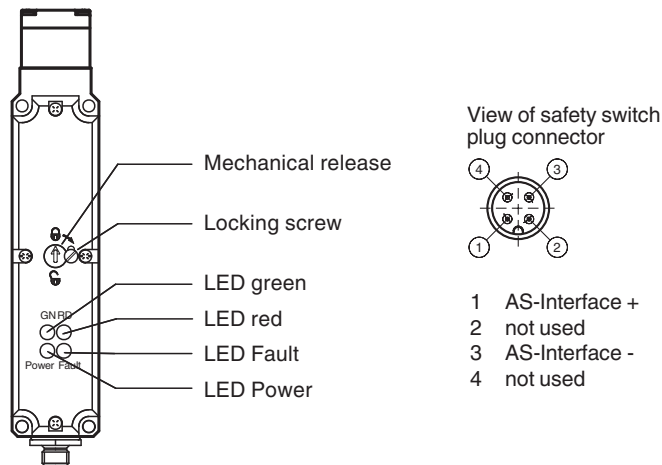
|                                             |                |                                                                                            |
|---------------------------------------------|----------------|--------------------------------------------------------------------------------------------|
| guard-locking mode                          |                | working current                                                                            |
| <b>Functional safety related parameters</b> |                |                                                                                            |
| Performance level (PL)                      |                | PL d                                                                                       |
| B <sub>10d</sub>                            |                | 5 E+6                                                                                      |
| <b>Indicators/operating means</b>           |                |                                                                                            |
| LED FAULT                                   |                | error display; LED red<br>red: communication error                                         |
| LED POWER                                   |                | AS-Interface voltage; LED green                                                            |
| <b>Electrical specifications</b>            |                |                                                                                            |
| Rated operating voltage                     | U <sub>e</sub> | 26.5 ... 31.6 V from AS-Interface                                                          |
| Rated operating current                     | I <sub>e</sub> | ≤ 100 mA                                                                                   |
| Rated insulation voltage                    |                | 50 V                                                                                       |
| <b>Input</b>                                |                |                                                                                            |
| Number/Type                                 |                | 2 safety-related inputs:<br>1 door-monitoring contact SK<br>1 Magnet-monitoring contact MC |
| Supply                                      |                | from AS-Interface                                                                          |
| <b>Output</b>                               |                |                                                                                            |
| Number/Type                                 |                | 1 guard locking magnet,<br>1 LED red, 1 LED green                                          |
| Supply                                      |                | from AS-Interface                                                                          |
| Current                                     |                | 300 mA                                                                                     |
| <b>Directive conformity</b>                 |                |                                                                                            |
| Electromagnetic compatibility               |                |                                                                                            |
| Directive 2014/30/EU                        |                | EN 62026-2:2013+A1:2019                                                                    |
| <b>Standard conformity</b>                  |                |                                                                                            |
| Degree of protection                        |                | EN 60529:2000                                                                              |
| AS-Interface                                |                | EN 62026-2:2013+A1:2019                                                                    |
| Functional safety                           |                | DIN EN 954-1, EN ISO 13849-1 (up to PL <sub>d</sub> )                                      |
| <b>Ambient conditions</b>                   |                |                                                                                            |
| Ambient temperature                         |                | -20 ... 55 °C (-4 ... 131 °F)                                                              |
| <b>Mechanical specifications</b>            |                |                                                                                            |
| Housing length                              |                | 190 mm                                                                                     |
| Housing width                               |                | 40 mm                                                                                      |
| Housing height                              |                | 42 mm                                                                                      |
| approach speed                              |                | max. 20 m/min                                                                              |
| Operating force                             |                | 35 N                                                                                       |
| Extraction force                            |                | 30 N (not interlocked)                                                                     |
| retention force                             |                | 20 N                                                                                       |
| locking force                               |                | max. 2500 N<br>2000 N , F <sub>Zh</sub> as per inspection policy GS-ET-19                  |
| <b>insertion depth</b>                      |                |                                                                                            |
| approach direction lateral                  |                | detected min. distance: 24.5 mm<br>permissible caster: 5 mm                                |
| approach direction from above               |                | detected min. distance: 24.5 mm<br>permissible caster: 5 mm                                |
| Degree of protection                        |                | IP67                                                                                       |
| Connection                                  |                | connector M12 x 1                                                                          |
| Material                                    |                |                                                                                            |
| Housing                                     |                | Fiberglass-reinforced thermoplastic                                                        |
| actuating head                              |                | metal                                                                                      |
| cam                                         |                | stainless steel                                                                            |
| Mass                                        |                | approx. 0.5 kg                                                                             |
| Life span                                   |                | 10 <sup>6</sup> switching cycles                                                           |

Release date: 2022-06-13 Date of issue: 2022-06-13 Filename: 210505\_eng.pdf

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

Pepperl+Fuchs Group  
www.pepperl-fuchs.comUSA: +1 330 486 0001  
fa-info@us.pepperl-fuchs.comGermany: +49 621 776 1111  
fa-info@de.pepperl-fuchs.comSingapore: +65 6779 9091  
fa-info@sg.pepperl-fuchs.com
 **PEPPERL+FUCHS**

## Assembly



## Programming

**Data bits**  
(Function via AS-Interface)

| Data bit | Input                        | Output               |
|----------|------------------------------|----------------------|
| D0       | door-monitoring contact SK   | guard locking magnet |
| D1       | door-monitoring contact SK   | LED red              |
| D2       | magnet-monitoring contact MC | LED green            |
| D3       | magnet-monitoring contact MC | -                    |

## Accessories

|  |                                 |                                                                                |
|--|---------------------------------|--------------------------------------------------------------------------------|
|  | <b>VAZ-IM1-90°-BOLT-S</b>       | Right-angled actuator for AS-Interface safety switches                         |
|  | <b>VAZ-IM1-BOLT-S</b>           | Straight actuator for AS-Interface safety switches                             |
|  | <b>VAZ-IM1-LR-RADIUS-BOLT-S</b> | Hinged actuator for right/left mounted doors, for AS-Interface safety switches |
|  | <b>VAZ-IM1-TD-RADIUS-BOLT-S</b> | Hinged actuator for top/bottom mounted doors, for AS-Interface safety switches |
|  | <b>VAZ-IM1-BASE-BOLT-S</b>      | Latches for mechanical safety switches (LIM1 and IM1)                          |
|  | <b>VAZ-IM1-BASE-S</b>           | Switch mount for mechanical safety switches (LIM1 and IM1)                     |
|  | <b>VAZ-2T1-FK-1M-PUR-V1-G</b>   | Splitter box AS-Interface and auxiliary voltage to 1 x M12 round connector     |