



**Model number**

**VBA-4E-G11-ZAJ-F**

G11 module  
4 inputs

**Features**

- Inputs for 2-, 3-, and 4-wire sensors
- Supply of sensors from AS-Interface
- Function display for bus and inputs
- Degree of protection IP68 / IP69K
- Communication monitoring
- Cable piercing method with gold plated contact pins
- AS-Interface POWER24

**Function**

The VBA-4E-G11-ZAJ-F is an AS-Interface switch-on module with 4 inputs. 2, 3 and 4 wire sensors can also be connected as mechanical contacts to the 4 sourcing electronic inputs.

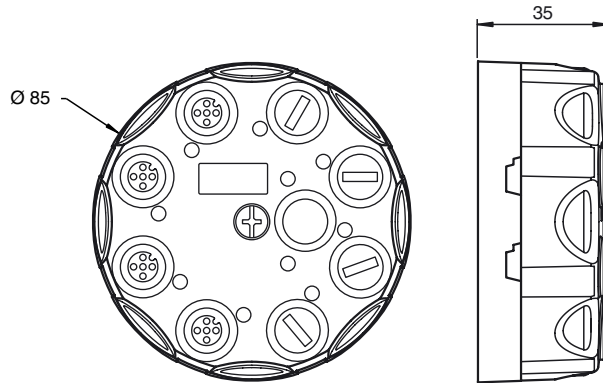
The housing with a central screw enables fast mounting on the base plate.

The connection to the sensors is via an M12x1 plug-in connection on the top side of the device. The AS-Interface flat cable and external energy supply are connected via the insulation piercing technology on the underside of the module.

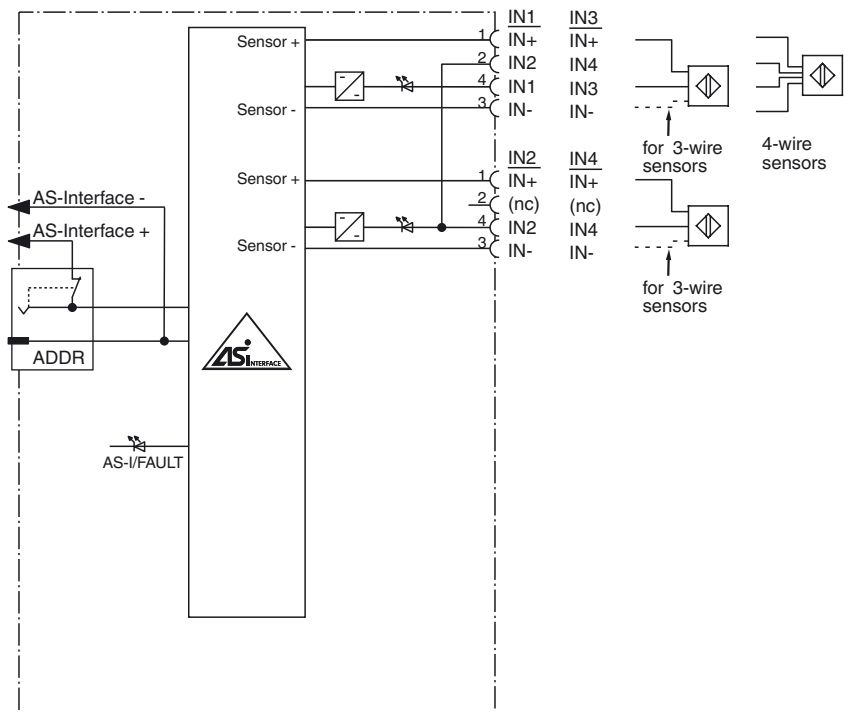
The inputs and the connected sensors are powered by the internal supply of the module (from the AS-Interface).

The current switching state of each input is indicated via an IN LED. The AS-i/FAULT LED indicates the status of the AS-Interface (normal operation, communication error, peripheral fault, address 0). The switch-on module is compatible with AS-Interface POWER24.

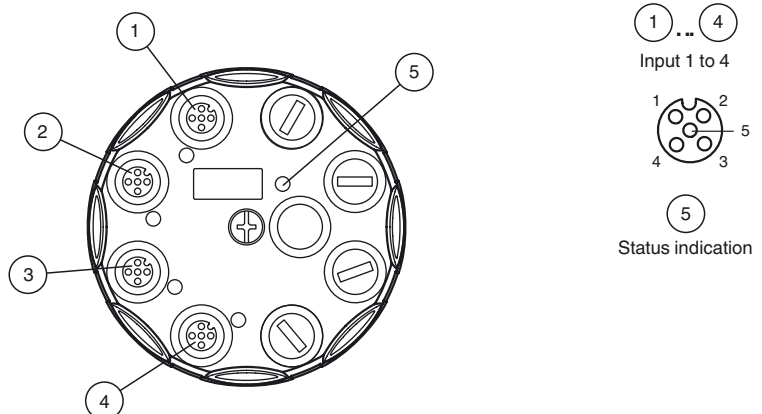
**Dimensions**



**Electrical connection**



**Indicating / Operating means**



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**Technical data****General specifications**

|                               |           |
|-------------------------------|-----------|
| Slave type                    | A/B slave |
| AS-Interface specification    | V3.0      |
| Required master specification | ≥ V2.1    |
| UL File Number                | E223772   |

**Functional safety related parameters**

|                                |       |
|--------------------------------|-------|
| MTTF <sub>d</sub>              | 120 a |
| Mission Time (T <sub>M</sub> ) | 20 a  |
| Diagnostic Coverage (DC)       | 0 %   |

**Indicators/operating means**

|                |   |
|----------------|---|
| LED AS-i/FAULT | Status display; multi-colour LED<br>Green: normal operation<br>Red: communication fault<br>Flashing yellow/red: address 0<br>Flashing green/red: sensor supply overload |
| LED IN         | switching state (input); 4 LED yellow   |

**Electrical specifications**

|                         |                  |  |
|-------------------------|------------------|--|
| Rated operating voltage | U <sub>e</sub>   | 18,0 ... 31.6 V from AS-Interface                              |
| Rated operating current | I <sub>e</sub>   | ≤ 40 mA (without sensors) / max. 240 mA                        |
| Protection class        |                  | III  |
| Surge protection        | U <sub>e</sub> : | Over voltage category III, safe isolated power supplies (PELV) |

**Input**

|                          |   |
|--------------------------|---|
| Number/Type              | 4 inputs for 2- or 3-wire sensors (PNP), DC<br>option 2 inputs for 4-wire sensors (PNP), DC |
| Supply                   | from AS-Interface   |
| Voltage                  | 12 ... 31 V   |
| Current loading capacity | ≤ 200 mA, overload and short-circuit protected  |
| Input current            | ≤ 9 mA (limited internally)   |
| Switching point          | according to DIN EN 61131-2 (Type 2)  |
| 0 (unattenuated)         | ≤ 3 mA  |
| 1 (attenuated)           | ≥ 5 mA  |
| Signal delay             | < 1 ms (input/AS-Interface)   |

**Programming instructions**

|          |         |
|----------|---------|
| Profile  | S-0.A.2 |
| IO code  | 0       |
| ID code  | A       |
| ID1 code | 7       |
| ID2 code | 2       |

| Data bits (function via AS-Interface) | input | output |
|---------------------------------------|-------|--------|
| D0                                    | IN1   | -      |
| D1                                    | IN2   | -      |
| D2                                    | IN3   | -      |
| D3                                    | IN4   | -      |

**Parameter bits (programmable via AS-i) function**

|    |  |
|----|--|
| P0 | not used   |
| P1 | Input filter<br>P1 = 0 input filter on, pulse suppression ≤ 2 ms<br>P1 = 1 input filter off (default settings) |
| P2 | not used   |
| P3 | not used   |

**Ambient conditions**

|                             |   |
|-----------------------------|---|
| Ambient temperature         | -25 ... 70 °C (-13 ... 158 °F)  |
| Storage temperature         | -25 ... 85 °C (-13 ... 185 °F)  |
| Relative humidity           | 85 % , noncondensing  |
| Climatic conditions         | For indoor use only   |
| Altitude                    | ≤ 2000 m above MSL  |
| Shock and impact resistance | 30 g, 11 ms in 6 spatial directions 3 shocks<br>10 g, 16 ms in 6 spatial directions 1000 shocks |
| Vibration resistance        | 0.75 mm 10 ... 57 Hz , 5 g 57 ... 150 Hz, 20 cycles   |
| Pollution degree            | 3   |

**Mechanical specifications**

|                                   |  |
|-----------------------------------|--|
| Degree of protection              | IP68 / IP69K   |
| Connection                        | AS-Interface: AS-Interface flat cable<br>Inputs: M12 round connector |
| Material                          |  |
| Housing                           | PBT PC   |
| Mounting screw                    | Stainless steel 1.4305 / AISI 303                                    |
| Mass                              | 200 g  |
| Tightening torque, housing screws | 1.8 Nm   |
| Tightening torque, cable gland    | 0.4 Nm   |
| Mounting                          | Mounting plate   |

**Compliance with standards and directives**

|                      |  |
|----------------------|--|
| Directive conformity |  |
|----------------------|--|

**Accessories****VBP-HH1-V3.0-KIT**

AS-Interface Handheld with accessory

**VAZ-V1-B3**

Blind plug for M12 sockets

**VBP-HH1-V3.0**

AS-Interface Handheld

**VAZ-PK-1,5M-V1-G**

Adapter cable module/hand-held programming device

**VAZ-FK-S-BK-SEAL**

AS-Interface flat cable seal

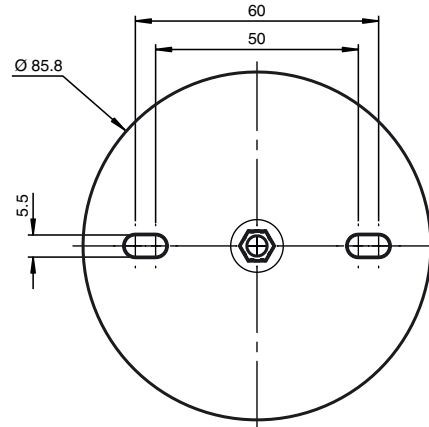
|                           |   |
|---------------------------|---|
| EMC Directive 2004/108/EC | EN 61000-6-2:2005, EN 61000-6-4:2007, EN 50295:1999 |
| Standard conformity       |   |
| Noise immunity            | EN 61000-6-2:2005, EN 61326-1:2006, EN 50295:1999   |
| Emitted interference      | EN 61000-6-4:2007                                   |
| Input                     | EN 61131-2:2007                                     |
| Degree of protection      | EN 60529:2000                                       |
| Fieldbus standard         | EN 50295:1999, IEC 62026-2:2006                     |

### Notes

Do not connect inputs and outputs, which are supplied via the module from AS-interface or via auxiliary power, with power supply and signal circuits with external potentials.

### Mounting instructions

Screw the device onto a level mounting surface using two M5 attachment screws. The attachment screws are not included.



Screw a blind plug onto spare connections to ensure the protection category.