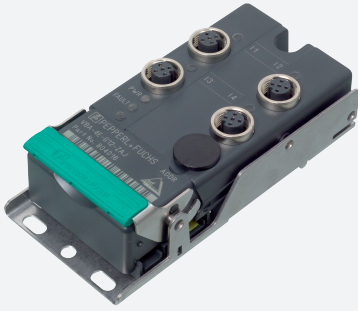


AS-Interface sensor/actuator module

VBA-2E2A-G12-ZAJ/EA2L



- A/B node with extended addressing possibility for up to 62 nodes
- One-piece housing with stainless steel base
- Installation without tools
- Metal threaded inserts with SPEEDCON technology
- Flat cable connection with cable piercing technique, variable flat cable guide
- Red LED per channel, lights up in the event of output overload
- Communication monitoring, configurable
- Inputs for 2-, 3-, and 4-wire sensors
- DIN rail mounting
- AS-Interface certificate

G12 flat module 2 inputs (PNP) and 2 electronic outputs



Function

The VBA-2E4A-G12-ZA/EA2L is an AS-Interface trigger module with 2 inputs and 2 outputs. 2- and 3-wire sensors as well as mechanical contacts can be connected to the plus switching electronic inputs. The outputs are electronic outputs which can be energized with max. 24 V DC and 2 A per output.

The solid housing permits fast mounting without tools as well as easy removal without tools. The stainless steel shell and the cast housing ensure durability and a high protection category.

The connection to the AS-Interface cable and to the external power supply is achieved via penetration technology in the integrated flat cable. The insert for the flat cables can be turned in two orientations.

All connections to inputs and outputs are implemented via metal inserts for high stability. The connection to the sensors/actuators is achieved via a M12 x 1 circular connector with SPEEDCON quick locking option.

The inputs and the connected sensors are supplied from the internal power supply of the module (from AS-Interface), the outputs and the connected actuators via an external power source (AUX).

To indicate the current switching state there is an LED for each channel fitted to the top of the module. The outputs are protected against overload and short circuit, an output overload is indicated via an LED per channel.

An LED to indicate the AS-Interface voltage and that the module has an address of 0 is available, another indicates errors in the AS-Interface communication as well as periphery faults. Another LED indicates the external power supply (AUX).

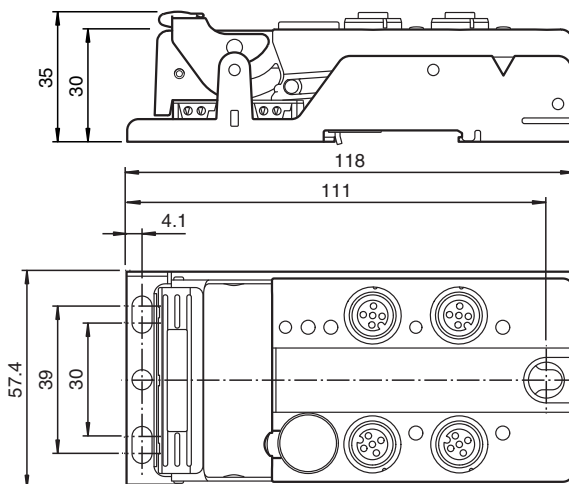
This module can be mounted in any position using three screws or can be snapped onto the DIN rail using the stainless steel holder.

An output overload is reported to the AS-Interface master via the function "periphery fault". The communication with the AS-Interface remains intact.

Application

In the case of 4-wire sensors, you must use slot IN3 for the inputs (internally bridged).

Dimensions



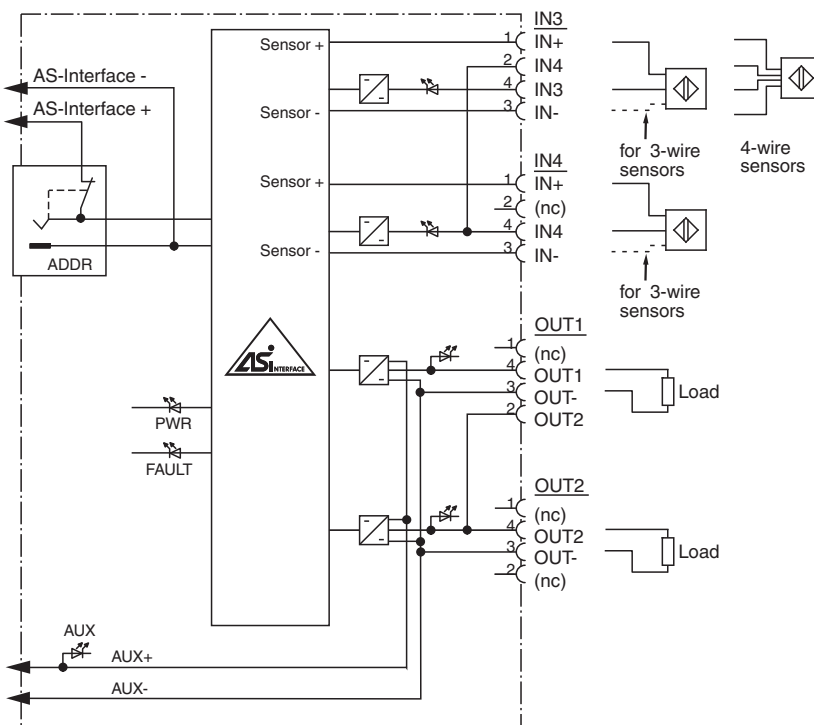
Technical Data

| General specifications | | |
|--------------------------------|-----------|---|
| Node type | | A/B node |
| AS-Interface specification | | V3.0 |
| Required gateway specification | | ≥ V2.1 |
| Profile | | S-B.A.2 |
| IO code | | B |
| ID code | | A |
| ID1 code | | 7 |
| ID2 code | | 2 |
| UL File Number | | E223772 |
| Indicators/operating means | | |
| LED FAULT | | error display; LED red red: communication error or address is 0 red flashing: overload of sensor power supply or outputs |
| LED PWR | | AS-Interface voltage; green LED green: voltage OK flashing green: address 0 |
| LED AUX | | ext. auxiliary voltage U_{AUX} ; dual LED green/red green: voltage OK red: reverse voltage |
| LED IN | | switching state (input); 2 LED yellow |
| LED OUT | | Switching status (output); 2 yellow/red LEDs Yellow: output active Red: output overload |
| Electrical specifications | | |
| Auxiliary voltage (output) | U_{AUX} | 24 V DC ± 15 % PELV |
| Rated operating voltage | U_e | 26.5 ... 31.6 V from AS-Interface |
| Rated operating current | I_e | ≤ 40 mA (without sensors) / max. 240 mA |
| Protection class | | III |
| Surge protection | | U_{AUX} , U_{in} : Over voltage category III, safe isolated power supplies (PELV) derived from mains up to 300 V AC line-to-neutral |
| Input | | |
| Number/Type | | 2 inputs for 2- or 3-wire sensors (PNP), DC option 1 input for 4-wire sensor (PNP), DC |
| Supply | | from AS-Interface |
| Voltage | | 21 ... 31 V |
| Current loading capacity | | ≤ 200 mA, overload and short-circuit protected |
| Input current | | ≤ 8 mA (limited internally) |
| Switching point | | according to DIN EN 61131-2 (Type 2) |
| 0 (unattenuated) | | ≤ 2 mA |
| 1 (attenuated) | | ≥ 6 mA |
| Signal delay | | < 1 ms (input/AS-Interface) |
| Output | | |
| Number/Type | | 2 electronic outputs, PNP overload and short-circuit proof |
| Supply | | from external auxiliary voltage U_{AUX} |
| Voltage | | ≥ (U_{AUX} - 0.5 V) |
| Current | | 2 A per output 4 A total (TB ≤ 40 °C) 3 A total (TB ≤ 70 °C) |
| Directive conformity | | |
| Electromagnetic compatibility | | |
| Directive 2014/30/EU | | EN 62026-2:2013 |
| Standard conformity | | |
| Degree of protection | | EN 60529:2000 |
| Fieldbus standard | | EN 62026-2:2013 |
| Input | | EN 61131-2 |
| Emitted interference | | EN 61000-6-4:2007 |

Technical Data

| | |
|----------------------------------|--|
| AS-Interface | EN 62026-2:2013 |
| Noise immunity | EN 61000-6-2:2005 , EN 62026-2:2013 |
| Ambient conditions | |
| Ambient temperature | -25 ... 70 °C (-13 ... 158 °F) |
| Storage temperature | -25 ... 85 °C (-13 ... 185 °F) |
| Relative humidity | 85 % , noncondensing |
| Altitude | ≤ 2000 m above MSL |
| Shock and impact resistance | 30 g, 11 ms in 6 spatial directions 3 shocks 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 | IP67 |
| Connection | Cable piercing method flat cable yellow/flat cable black inputs/outputs: M12 round connector |
| Material | |
| Housing | PBT |
| Mass | 200 g |
| Tightening torque, cable gland | 0.4 Nm |
| Mounting | Mounting plate |

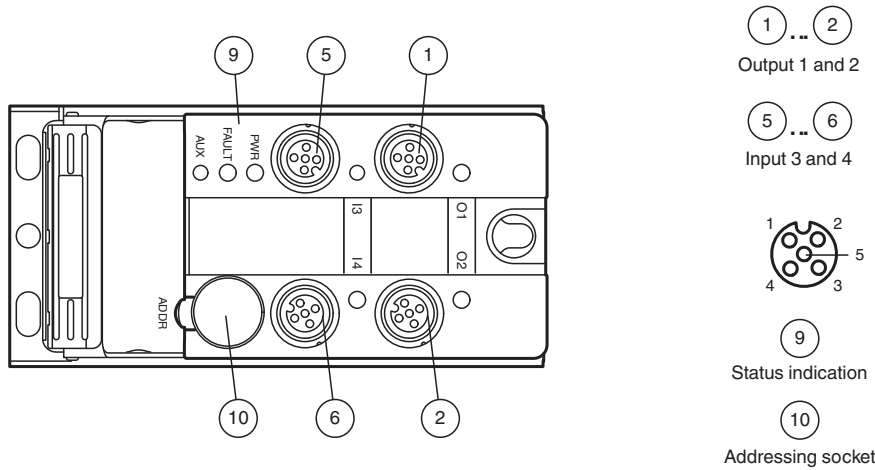
Connection



Connection

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.

Assembly



Programming

Data bits
(function via AS-Interface)

| Data bit | Input | Output |
|----------|-------|--------|
| D0 | - | OUT1 |
| D1 | - | OUT2 |
| D2 | IN3 | - |
| D3 | IN4 | - |

Parameter bits
(programmable via AS-Interface)

| Parameter bit | Function |
|---------------|---|
| P0 | Communication monitoring P0=0 monitoring off, the outputs maintain the status if communication fails P0=1 monitoring on, if communication fails, the outputs are deenergised, default setting |
| P1 | Input filter P1=0 input filter on, pulse suppression ≤ 2 ms P1=1 input filter off, default setting |
| P2 | Synchronous mode P2=0 Synchronous mode on P2=1 Synchronous mode off, default setting |
| P3 | not used |

Accessories

| | | |
|--|-------------------------|---|
| | VBP-HH1-V3.0-KIT | AS-Interface Handheld with accessory |
| | VAZ-V1-B3 | Blind plug for M12 sockets |
| | VAZ-PK-1,5M-V1-G | Adapter cable module/hand-held programming device |
| | VAZ-CLIP-G12 | lock for G12 module |

Release date: 2023-03-30 Date of issue: 2023-03-31 Filename: 194615_eng.pdf