## Dimensions



Base is sold separately
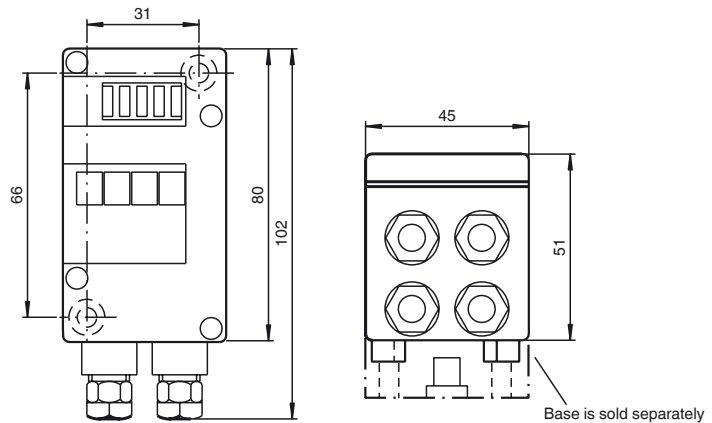
## Model number

**VBA-2E2A-G4-ZE/E2**

G4 module IP67
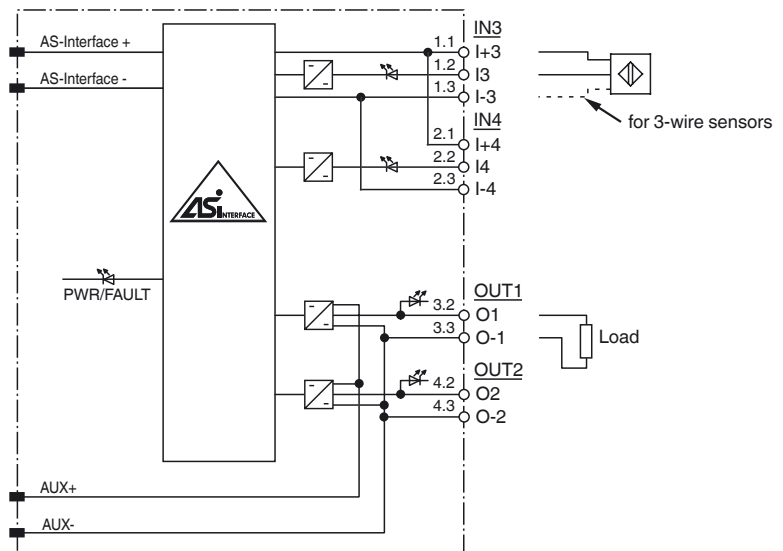2 inputs (PNP) and 2 electronic outputs

## Features

- Degree of protection IP67
- A/B slave with extended addressing possibility for up to 62 slaves
- Flat or round cable connection (via standardized EEMS base, not included with delivery)
- Cable piercing method for flat cable
- Communication monitoring
- Inputs for 2- and 3-wire sensors
- Power supply of outputs from the external auxiliary voltage
- Supply for inputs from AS-Interface
- Function display for bus, inputs and outputs
- LED indicator for overload on sensor supply
- Detection of output overload

## Electrical connection



## Indicating / Operating means

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

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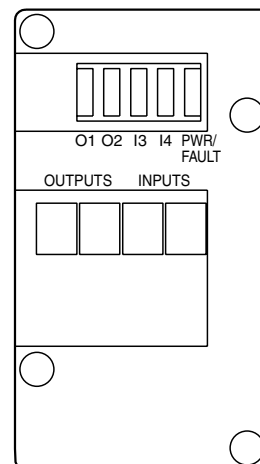
## Technical data

### General specifications

| | |
|---|---|
| Slave type | A/B slave |
| AS-Interface specification | V2.1 |
| Required master specification | $\geq$ V2.1 |
| UL File Number | E223772 |

### Indicators/operating means

| | |
|---|---|
| LED PWR/FAULT | dual LED green/red<br>green: AS-Interface voltage<br>red: communication error or address 0<br>green/red flashing: overload sensor supply or outputs |
| LED IN | switching state (input); 2 LED yellow |
| LED OUT | Switching state (output); 2 LED yellow |

### 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 | $I_e$ | $\leq$ 30 mA (without sensors) / max. 140 mA |
| Protection class | | III |
| Surge protection | | $U_{AUX}$, $U_{in}$: Over voltage category III, safe isolated power supplies (PELV) |

### Input

| | |
|---|---|
| Number/Type | 2 inputs for 2- or 3-wire sensors (PNP), DC |
| Supply | from AS-Interface |
| Voltage | 21 ... 31 V |
| Current loading capacity | $\leq$ 100 mA ($T_B \leq 40$ °C),<br>$\leq$ 75 mA ($T_B \leq 60$ °C), overload-proof and short-circuit protected |
| Input current | $\leq$ 8 mA (limited internally) |
| Switching point | according to DIN EN 61131-2 (Type 2) |
| 0 (unattenuated) | $\leq$ 2 mA |
| 1 (attenuated) | $\geq$ 4 mA |

### Output

| | |
|---|---|
| Number/Type | 2 electronic outputs, PNP overload and short-circuit proof |
| Supply | from external auxiliary voltage $U_{AUX}$ |
| Current | 1 A per output |
| Voltage | $\geq$ ($U_{AUX}$ - 0.5 V) |

### Directive conformity

| | |
|---|---|
| Electromagnetic compatibility | |
| Directive 2014/30/EU | EN 62026-2:2013 EN 61000-6-2:2001 EN 61000-6-4:2001 |

### Standard conformity

| | |
|---|---|
| Degree of protection | EN 60529:2000 |
| Input | EN 61131-2:2007 |
| Emitted interference | EN 61000-6-4:2001 |
| AS-Interface | EN 62026-2:2013 |
| Noise immunity | EN 61000-6-2:2001 |

### Programming instructions

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

| Data bits (function via AS-Interface) | input | output |
|---|---|---|
| D0 | - | OUT1 |
| D1 | - | OUT2 |
| D2 | IN3 | - |
| D3 | IN4 | - |

| Parameter bits (programmable via AS-i) | function |
|---|---|
| P0 | not used |
| P1 | not used |
| P2 | not used |
| P3 | not used |

### Ambient conditions

| | |
|---|---|
| Ambient temperature | -25 ... 60 °C (-13 ... 140 °F) |
| Storage temperature | -25 ... 85 °C (-13 ... 185 °F) |
| Relative humidity | 85 % , noncondensing |
| Climatic conditions | For indoor use only |
| Altitude | $\leq$ 2000 m above MSL |
| Pollution degree | 3 |

### Mechanical specifications

| | |
|---|---|
| Degree of protection | IP67 |
| Connection | cable piercing method or terminal compartment<br>yellow flat cable/black flat cable or standard round cable<br>inputs/outputs:M12 x 1.5 cable glands and cage tension spring terminals |
| Material | |
| Housing | PA 6 GF30 |
| Mass | 180 g |

## Function

The VBA-2E2A-G4-ZE/E2 AS-Interface module is equipped with 2 inputs and 2 outputs. The inputs permit the connection of mechanical contacts and of 2- and 3-wire sensors, The sensors are supplied via the module. The outputs are electronic outputs, which can be loaded to 24 V DC and 1 A per output.

The IP67 rated G4 module is particularly suitable for rough conditions. Sensors and actuators attach to cable glands and cage tension spring terminals thus making the installation especially user-friendly. For pre-addressing the module it can be plugged directly onto the adapter of the hand-held programming device VBP-HH1.

The current switching state of each channel is indicated by an LED, located on the module's top side. In the case of communication errors on the bus, the outputs are de-energised via an integrated watchdog.

Both flat and round cables can be used for the connection of the AS-Interface transmission line and the external 24 V DC power supply. Use the U-G1FF base for the AS-Interface flat cable. The AS-Interface standardised EEMS interface, uses the cable piercing method to connect both the yellow and black flat cables.

Use the U-G1PP base for a round cable. The AS-Interface-cable as well as the external power supply may be connected within the U-G1PP base.

**Note:**

The device incorporates communication monitoring, which switches off power to the outputs if no communication has taken place on the AS-Interface line for longer than 40 ms.

An overloading of the internal input supply or of the outputs is signalled to the AS-Interface master via the "Peripheral fault" function. Communication via the AS-Interface remains intact.

## Accessories

**VBP-HH1-V3.0-KIT**
AS-Interface Handheld with accessory

**VBP-HH1-V3.0**
AS-Interface Handheld

**VAZ-G4-B1**
Blind plug M12

## Matching system components

**U-G1FF**
AS-Interface module mounting base for connection to flat cable (AS-Interface and external auxiliary power)

**U-G1PP**
AS-Interface module mounting base for connection to round cable (AS-Interface and external auxiliary power)

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| | |
|---|---|
| Tightening torque, housing screws | 0.8 Nm |
| Mounting | DIN rail or screw mounting |

## 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.

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