



62

Spec 2.1

Model number

VBA-4E3A-G4-ZE/E2

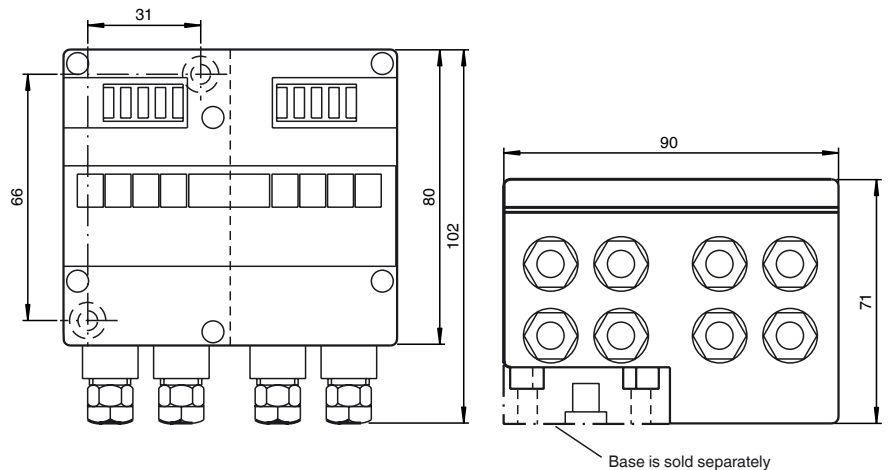
G4 module IP65

4 inputs (PNP) and 3 electronic outputs

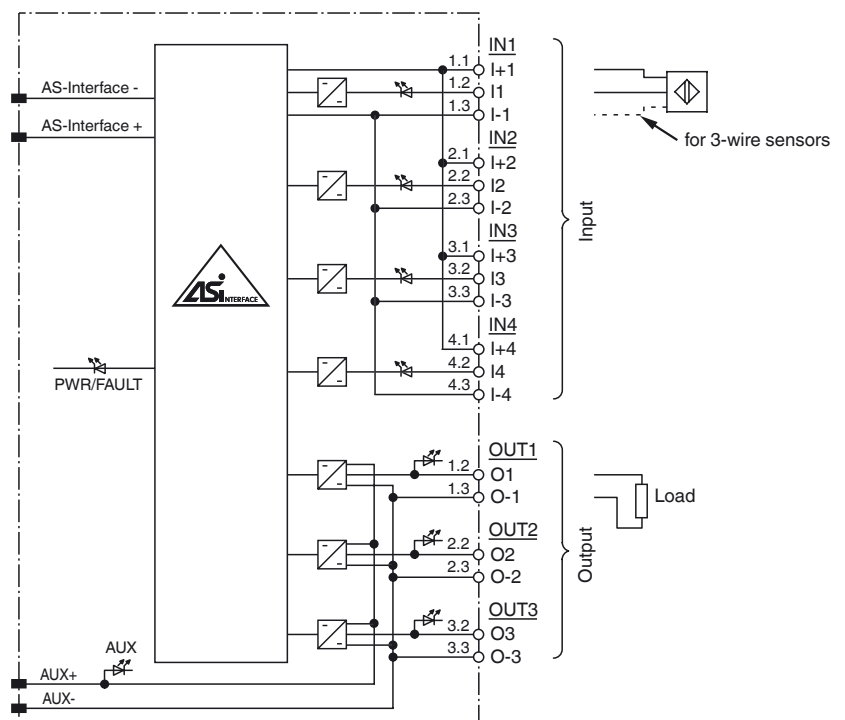
Features

- Degree of protection IP65
- 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
- Inputs for 2- and 3-wire sensors
- Power supply of outputs from the external auxiliary voltage
- Power supply of inputs from the module
- Function display for bus, ext. auxiliary voltage, inputs and outputs
- LED indicator for overload on sensor supply

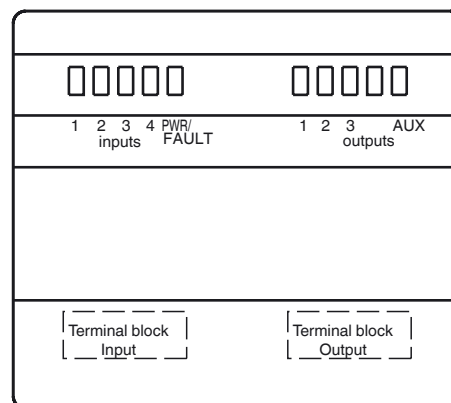
Dimensions



Electrical connection



Indicating / Operating means



Technical data

General specifications

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

Indicators/operating means

| | |
|---------------|---|
| LED PWR/FAULT | dual LED green/red green: AS-Interface voltage red: communication error or address 0 green/red flashing: overload sensor supply or outputs |
| LED AUX | ext. auxiliary voltage U_{AUX} ; LED green |
| LED IN | switching state (input); 4 LED yellow |
| LED OUT | Switching state (output); 3 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 | ≤ 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) |

Input

| | |
|--------------------------|--|
| Number/Type | 4 inputs for 2- or 3-wire sensors (PNP), DC |
| Supply | from AS-Interface |
| Voltage | 21 ... 31 V |
| Current loading capacity | ≤ 180 mA ($T_B \leq 40^\circ\text{C}$), ≤ 140 mA ($T_B \leq 60^\circ\text{C}$), 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 |

Output

| | |
|-------------|---|
| Number/Type | 3 electronic outputs, PNP, overload and short-circuit proof |
| Supply | from external auxiliary voltage U_{AUX} |
| Voltage | ≥ ($U_{AUX} - 0.5\text{ V}$) |
| Current | 4 A total OUT 1, OUT 2: 2 A per output OUT 3: 1.5 A |

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 61131-2:2007 |
| Emitted interference | EN 61000-6-4:2007 |
| AS-Interface | EN 62026-2:2013 |
| Noise immunity | EN 61000-6-2:2005 |

Programming instructions

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

| Data bits (function via AS-Interface) | input | output |
|---------------------------------------|-------|--------|
| D0 | IN1 | OUT1 |
| D1 | IN2 | OUT2 |
| D2 | IN3 | OUT3 |
| 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 | ≤ 2000 m above MSL |
| Pollution degree | 3 |

Mechanical specifications

| | |
|-----------------------------------|---|
| Degree of protection | IP65 |
| Connection | cable piercing method or terminal compartment yellow flat cable/black flat cable or standard round cable inputs/outputs: M12 x 1.5 cable glands and cage tension spring terminals |
| Material | |
| Housing | PA 6 GF30 |
| Mass | 350 g |
| Tightening torque, housing screws | 0.8 Nm |
| Mounting | DIN rail or screw mounting |

Function

The VBA-4E3A-G4-ZE/E2 is an AS-Interface coupling module with four inputs and three outputs. Mechanical contacts and 2- and 3-wire sensors can be connected to the inputs. The sensors are supplied via the module. The outputs are electronic outputs, which can be loaded to 24 V DC and 2 A or 1.5 A per output (total load < 4 A).

The G4 module is especially 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 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 the round cable. The AS-Interface-cable as well as the external power supply may be connected within this 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)

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

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