



## AS-Interface sensor/actuator module VBA-2E2A-G4-ZE/E2

- Degree of protection IP67
- A/B node with extended addressing possibility for up to 62 nodes
- 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

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



### 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.

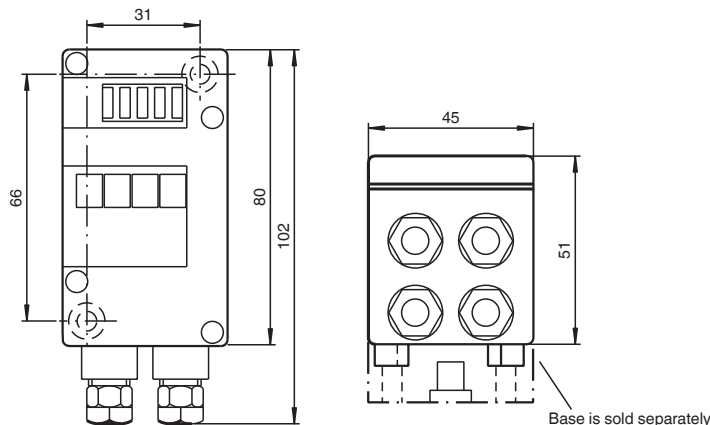
Use the U-G1PP base for a round cable. The AS-Interface-cable as well as the external power supply may be connected within the U-G1PP base.

**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.

### Dimensions



### Technical Data

#### General specifications

Node type	A/B node
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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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## Technical Data

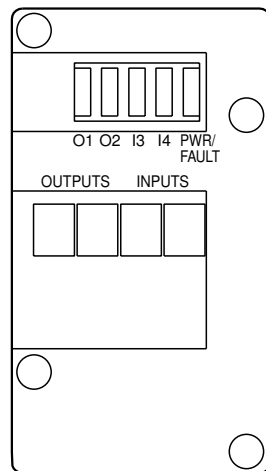
AS-Interface specification		V2.1
Required gateway specification		≥ V2.1
UL File Number		E223772
<b>Indicators/operating means</b>		
LED PWR/FAULT		dual LED green/red green: AS-Interface voltage red: communication error or address 0 green/red flashing: overload sensor supply or outputs
LED IN		switching state (input); 2 LED yellow
LED OUT		Switching state (output); 2 LED yellow
<b>Electrical specifications</b>		
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	$I_e$	≤ 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)
<b>Input</b>		
Number/Type		2 inputs for 2- or 3-wire sensors (PNP), DC
Supply		from AS-Interface
Voltage		21 ... 31 V
Current loading capacity		≤ 100 mA ( $T_B \leq 40 \text{ °C}$ ), ≤ 75 mA ( $T_B \leq 60 \text{ °C}$ ), overload-proof 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)		≥ 4 mA
<b>Output</b>		
Number/Type		2 electronic outputs, PNP overload and short-circuit proof
Supply		from external auxiliary voltage $U_{AUX}$
Voltage		≥ ( $U_{AUX} - 0.5 \text{ V}$ )
Current		1 A per output
<b>Directive conformity</b>		
Electromagnetic compatibility		
Directive 2014/30/EU		EN 62026-2:2013 EN 61000-6-2:2001 EN 61000-6-4:2001
<b>Standard conformity</b>		
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
<b>Programming instructions</b>		
Profile		S-B.A.0
IO code		B
ID code		A
ID1 code		7
ID2 code		0
<b>Data bits</b> (function via AS-Interface)		<b>Input</b> <b>Output</b>
D0		- OUT1
D1		- OUT2
D2		IN3 -
D3		IN4 -
<b>Parameter bits</b> (programmable via AS-i)		<b>function</b>
P0		not used
P1		not used

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P2	not used
P3	not used
<b>Ambient conditions</b>	
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
<b>Mechanical specifications</b>	
Degree of protection	IP67
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	180 g
Tightening torque, housing screws	0.8 Nm
Mounting	DIN rail or screw mounting

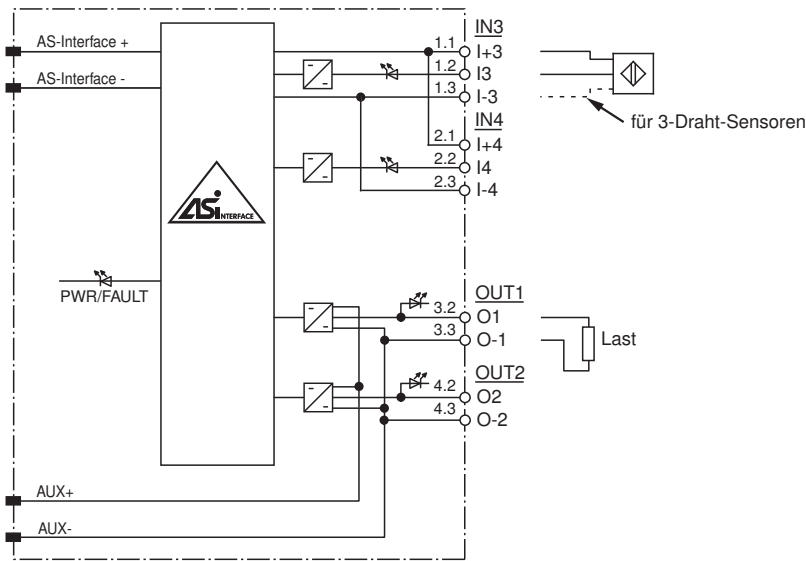
## Assembly





## 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.



**Connection**



**Matching System Components**

	<b>U-G1FF</b>	AS-Interface module mounting base for connection to flat cable (AS-Interface and external auxiliary power)
	<b>U-G1PP</b>	AS-Interface module mounting base for connection to round cable (AS-Interface and external auxiliary power)

**Accessories**

	<b>VBP-HH1-V3.0-KIT</b>	AS-Interface Handheld with accessory
	<b>VAZ-G4-B1</b>	Blind plug M12

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