



AS-Interface sensor/actuator module VBA-4E3A-G4-ZE/E2

- Degree of protection IP65
- 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
- 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

G4 module IP654 inputs (PNP) and 3 electronic outputs



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.

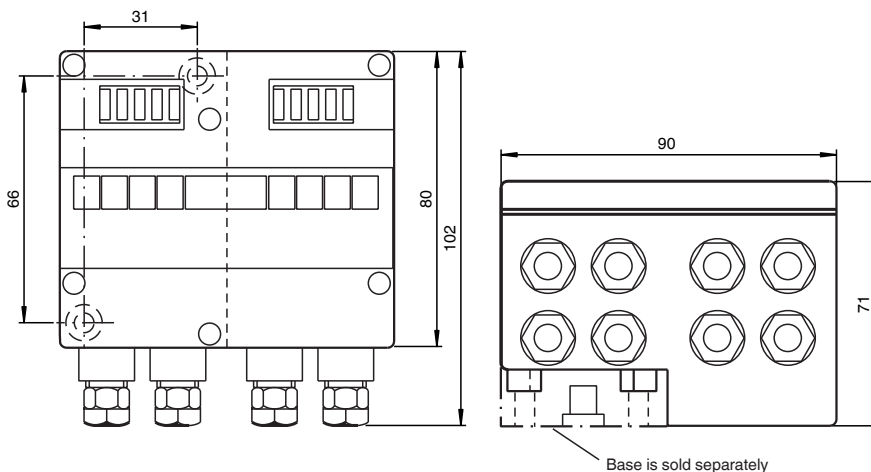
Use the U-G1PP base for the round cable. The AS-Interface-cable as well as the external power supply may be connected within this base.

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.

Dimensions



Technical Data

General specifications

Node type	A/B node
AS-Interface specification	V3.0
Required gateway specification	≥ V2.1

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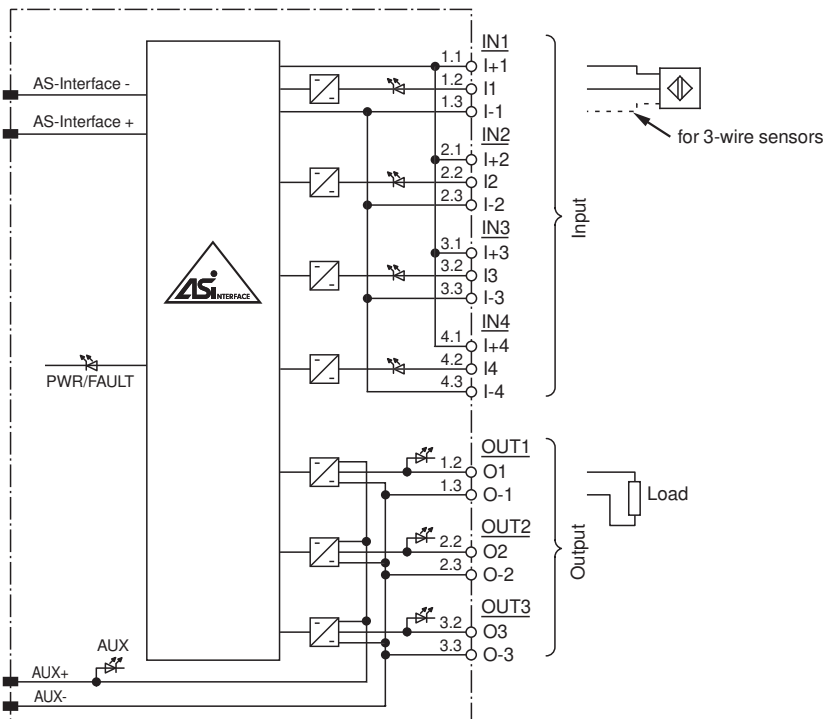
Technical Data

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 \pm 15 % PELV
Rated operating voltage	U_e	26.5 ... 31.6 V from AS-Interface
Rated operating current	I_e	\leq 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		\leq 180 mA ($T_B \leq 40$ °C), \leq 140 mA ($T_B \leq 60$ °C), short-circuit protected
Input current		\leq 9 mA (limited internally)
Switching point		according to DIN EN 61131-2 (Type 2)
0 (unattenuated)		\leq 3 mA
1 (attenuated)		\geq 5 mA
Output		
Number/Type		3 electronic outputs, PNP, overload and short-circuit proof
Supply		from external auxiliary voltage U_{AUX}
Voltage		\geq ($U_{AUX} - 0.5$ 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

Technical Data

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
Dimensions	
Height	71 mm
Width	90 mm
Length	102 mm
Mounting	DIN rail or screw mounting

Connection

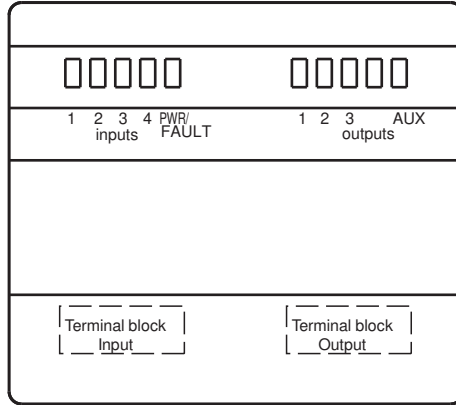


Connection

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.

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Assembly



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