



AS-Interface sensor/actuator module VBA-4E2A-G2-XE/E2

- AS-Interface certificate
- Degree of protection IP67
- A/B node with extended addressing possibility for up to 62 nodes
- Addressing jack
- Flat cable connection with cable piercing technique, variable flat cable guide
- Communication monitoring
- Inputs for 3-wire sensors (PNP) and mechanical contacts
- Power supply of the inputs and outputs from the external auxiliary voltage
- Ground connection (FE) possible
- Function display for bus, ext. auxiliary voltage, inputs and outputs
- Detection of output overload

G2 flat module 4 inputs and 2 electronic outputs



Function

The VBA-4E2A-G2-XE/E2 is an AS-Interface I/O module with 4 inputs and 2 electronic outputs. Mechanical contacts (for example buttons) or 3-wire sensors (PNP) can be connected to the inputs. The outputs are electronic outputs designed for a load of 1 A per output. The sensors and actuators connected to the module input and output must receive power externally through an auxiliary power source.

The IP67 flat module is ideally suited for use in the field. An addressing socket is built into the module.

The connection to the sensors/actuators is made by a M12 x 1 rounded connector. An LED is available on the top of the module to display the current switching state for each channel. There is also an LED for monitoring AS-Interface communication and to display whether the module has 0 as an address. One LED indicates when the AS-Interface voltage is applied, while a second one indicates external power supply.

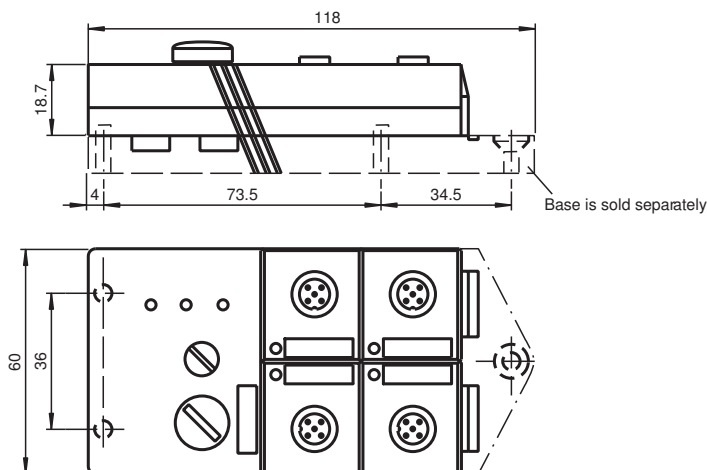
In the standard configuration, the base (mounting plate) of the U-G3FF is used to connect the yellow AS-Interface flat cable and the black flat cable of the external auxiliary power. This lower section allows for contact with the flat cable from both sides.

It is also possible to feed in the external auxiliary voltage with the M12 x 1 rounded connectors. In this case, the seal included in the base of the U-G3FF should be placed in the cage for the black flat cable to ensure protection type IP67.

The device includes communication monitoring, which switches power off to the outputs if no communication takes place on the AS-Interface line for more than 40 ms.

An output overload is reported by the "periphery error" to the AS-Interface master. Communication over the AS-Interface remains in effect.

Dimensions



Technical Data

General specifications

Node type	A/B node
AS-Interface specification	V2.1

Technical Data

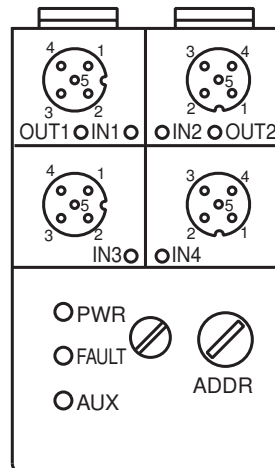
Required gateway specification	≥ V2.1	
UL File Number	E223772	
Indicators/operating means		
LED FAULT	error display; LED red red: communication error or address is 0 red flashing: overload of outputs	
LED PWR	AS-Interface voltage; LED green	
LED AUX	ext. auxiliary voltage U_{AUX} ; LED green	
LED IN	switching state (input); 4 LED yellow	
LED OUT	Switching state (output); 2 LED yellow	
Electrical specifications		
Auxiliary voltage (output)	U_{AUX}	20 ... 30 V DC PELV
Rated operating voltage	U_e	26.5 ... 31.6 V from AS-Interface
Rated operating current	I_e	≤ 30 mA
Protection class	III	
Current loading capacity	2 A (I_{AUX})	
Surge protection	U_{AUX} , U_{in} : Over voltage category III, safe isolated power supplies (PELV)	
Input		
Number/Type	4 inputs for mechanical contacts or 3-wire sensors (PNP), DC	
Supply	from external auxiliary voltage U_{AUX}	
Input current	3 mA (typically)	
Switching point	according to DIN EN 61131-2 (type 1)	
0 (unattenuated)	≤ 0.5 mA	
1 (attenuated)	≥ 2 mA	
Signal delay	< 2 ms (input/AS-Interface)	
Signal frequency	≤ 250 Hz	
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	1 A per output , 2 A per module	
Usage category	DC-13	
Galvanic isolation		
Input/Output	none	
Input/AS-Interface	Basic insulation, rated insulation voltage 120 V DC	
Output/AS-Interface	Basic insulation, rated insulation voltage 120 V DC	
Directive conformity		
Electromagnetic compatibility	observe notices on the certificate of conformity.	
Directive 2014/30/EU	EN 62026-2:2013	
Standard conformity		
Galvanic isolation	EN 60947-1:2007	
Degree of protection	EN 60529:2000	
Mech. capacity	EN 60068-2-6:2008, EN 60068-2-27:1995	
Input	EN 61131-2:2007	
Usage category	EN 60947-5-1:2005	
Emitted interference	EN 61000-6-4:2001	
AS-Interface	EN 62026-2:2013	
Noise immunity	EN 61326-1:2006	
Programming instructions		
Profile	S-7.A.E	
IO code	7	
ID code	A	
ID1 code	7	
ID2 code	E	

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Technical Data

Data bits (function via AS-Interface)	InputOutput
D0	IN1 O1
D1	IN2 O2
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	≤ 2000 m above MSL
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	approx. 100 g
Tightening torque, cable gland	0.4 Nm
Mounting	Mounting plate

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

	U-G3FF	AS-Interface module mounting base for connection to flat cable (AS-Interface and external auxiliary power)
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Accessories

	VBP-HH1-V3.0-KIT	AS-Interface Handheld with accessory
	VAZ-PK-1,5M-V1-G	Adapter cable module/hand-held programming device