



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.

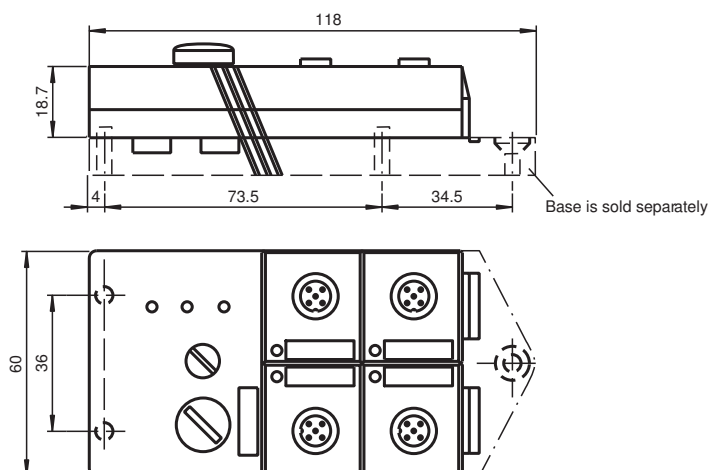
In the standard configuration, the base (mounting plate) of the U-G3FF is used to connect the yellow AS-Interface flat cable and the black flat cable of the external auxiliary power. This lower section allows for contact with the flat cable from both sides.

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

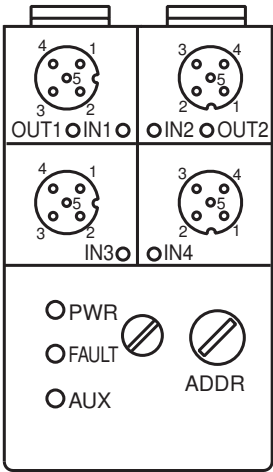
Required gateway specification		≥ V2.1
UL File Number		E223772
Indicators/operating means		
LED FAULT		error display; LED red red: communication error or address is 0 red flashing: overload of outputs
LED PWR		AS-Interface voltage; LED green
LED AUX		ext. auxiliary voltage U_{AUX} ; LED green
LED IN		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