

# AS-Interface I/O module

## VBA-3E3A-G20-ZEL/E2L-P1



- A/B node with extended addressing possibility for up to 62 nodes
- Inputs for 3-wire sensors
- Power supply of the inputs and outputs from the external auxiliary voltage
- Connection of actuators and sensors via cable outputs with M8 connectors
- Communication monitoring
- Function display for bus, external auxiliary voltage, in- and outputs
- Cable piercing method with gold plated contact pins

G20 module for digital inputs/outputs, 3 inputs and 3 outputs



### Function

The AS-Interface I/O module VBA-3E3A-G20-ZEL/E2L-P1 is a field module with 3 inputs for 3-wire sensors and 3 electronic outputs. The outputs are overload and short-circuit protected.

The compact housing can be installed directly in support profiles or conduits.

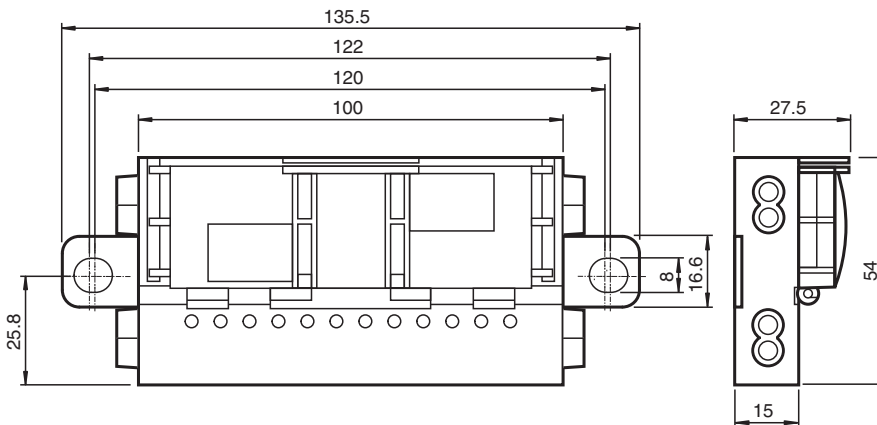
The connection to the AS-Interface network and power supply is made using the AS-Interface flat cable and insulation piercing technology. The pivoted flat cable guide is secured using a snap-fit. No tools are required. The inputs and outputs are connected via cable outputs with M8 round plug connectors (inputs 4-pole female cordset with knurled thumb screw, outputs 3-pole snap-on female cordset). Power for the inputs and outputs is provided by the external auxiliary voltage UAUX.

The current switching state of the inputs and outputs is indicated by the IN and OUT LEDs. The PWR and FAULT LEDs indicate the status of the AS-Interface (normal operation, communication error, peripheral fault, address 0). The AUX LED indicates the external power supply.

**Notes:**

The communication monitor of the module deactivates the outputs if the AS-Interface does not communicate with the module for more than 40 ms. A signal indicating an overload of the outputs or the input supply or the absence of the external auxiliary voltage is also transmitted to the AS-Interface master via the 'peripheral fault' function. Communication via the AS-Interface continues.

### Dimensions



### Technical Data

General specifications	
Node type	A/B node
AS-Interface specification	V3.0
Required gateway specification	≥ V2.1
Profile	S-7.A.E
IO code	7
ID code	A

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

## Technical Data

ID1 code	7	
ID2 code	E	
UL File Number	E223772 "For use in NFPA 79 Applications only"	
MTBF	110 a	
<b>Indicators/operating means</b>		
LED FAULT	error display; LED red red: communication error or address is 0 red flashing: overload of sensor power supply or overload of outputs or external auxiliary voltage $U_{AUX}$ missing	
LED PWR	AS-Interface voltage; green LED green: voltage OK flashing green: address 0 or overload of sensor power supply or overload of outputs or external auxiliary voltage $U_{AUX}$ missing	
LED AUX	ext. auxiliary voltage $U_{AUX}$ ; dual LED green/red green: voltage OK red: reverse voltage	
LED IN	switching state (input); 3 LED yellow	
LED OUT	Switching state (output); 3 LED yellow	
<b>Electrical specifications</b>		
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	$I_e$	≤ 35 mA
<b>Input</b>		
Number/Type	3 Inputs for 3-wire sensors (PNP), DC	
Supply	from external auxiliary voltage $U_{AUX}$	
Current loading capacity	500 mA , overload and short-circuit protected	
Input current	≤ 8 mA (limited internally)	
Switching point	according to DIN EN 61131-2 0 (undamped) ≤ 0.5 mA 1 (damped) ≥ 2.0 mA	
Signal delay	< 1 ms (input/AS-Interface)	
<b>Output</b>		
Number/Type	3 electronic outputs, PNP, overload and short-circuit proof	
Supply	from external auxiliary voltage $U_{AUX}$	
Voltage	≥ ( $U_{AUX} - 0.5$ V)	
Current	2 A per output TB ≤ 40 °C: 6 A total TB ≤ 60 °C: OUT1+OUT2 max. 3 A, OUT3 max. 2 A	
<b>Directive conformity</b>		
Electromagnetic compatibility		
Directive 2014/30/EU	EN 62026-2:2013	
<b>Standard conformity</b>		
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, EN 61326-1:2006, EN 62026-2:2013	
<b>Ambient conditions</b>		
Ambient temperature	-25 ... 60 °C (-13 ... 140 °F)	
Storage temperature	-25 ... 85 °C (-13 ... 185 °F)	
<b>Mechanical specifications</b>		
Degree of protection	IP54 according to EN 60529	
Connection	<b>AS-Interface, AUX:</b> Insulation piercing technology Yellow flat cable/black flat cable <b>Inputs/outputs:</b> M8 round plug connector in accordance with EN 61076-2-104 <b>Inputs:</b> LF004-GS1-A (4-pin, bushing contacts, screw lock, A-coded) <b>Matching connector:</b> LM004-Gx1-A or similar <b>Outputs:</b> NF003-SS1-A (3-pin, bushing contacts, snap lock, A-coded) <b>Matching connector:</b> NM003-Sx1-A or similar	

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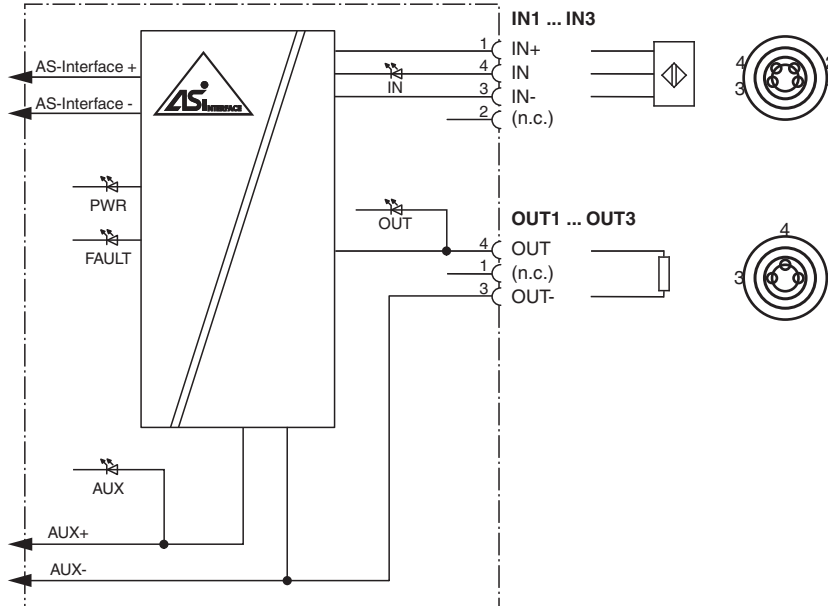
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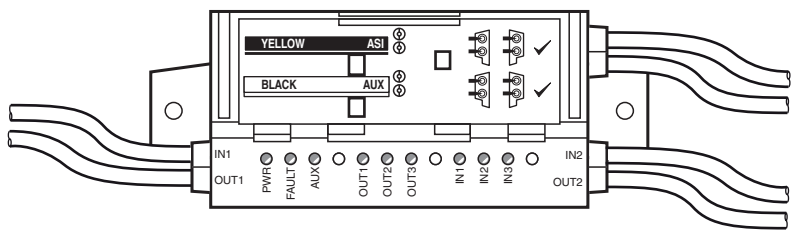
**Technical Data**

Mass	260 g
Mounting	2 clips with Ø 8 mm drill hole
Cable length	1 m
Note	The flat cable routing is designed for 100 actuation cycles

**Connection**



**Assembly**



**Programming**

**Data bits**  
(function via AS-Interface)

Data bits	Input	Output
D0	IN1	OUT1
D1	IN2	OUT2
D2	IN3	OUT3

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Data bits	Input	Output
D3	-	-

**Parameter bit**  
(programmable via AS-Interface)

Parameter bit	Function	Description
P0	Communication monitoring	P0 = 0 monitoring = off, the outputs maintain the status if communication fails P0 = 1 monitoring = on, i.e. if communication fails, the outputs are deenergised (default settings)
P1	Input filter	P1 = 0 input filter on, pulse suppression $\leq 2$ ms P1 = 1 input filter off (default settings)
P2	Synchronous mode	P2 = 0 synchronous mode on P2 = 1 synchronous mode off (default settings)

## Accessories

	<b>VBP-HH1-V3.0-KIT</b>	AS-Interface Handheld with accessory
	<b>VAZ-PK/G20-1M-V1-G</b>	Adapter cable G20 module/hand-held programming device
	<b>VAZ-G20-MH</b>	Mounting aid