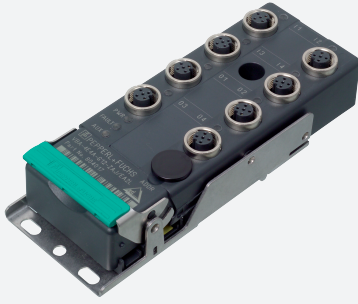# AS-Interface sensor/actuator module
VBA-4E4A-G12-ZAJ/EA2L

- A/B node with extended addressing possibility for up to 62 nodes
- One-piece housing with stainless steel base
- Installation without tools
- Metal threaded inserts with SPEEDCON technology
- Flat cable connection with cable piercing technique, variable flat cable guide
- Red LED per channel, lights up in the event of output overload
- Communication monitoring, configurable
- Inputs for 2-, 3-, and 4-wire sensors
- DIN rail mounting
- AS-Interface certificate

G12 flat module, 4 inputs (PNP) and 4 electronic outputs

Function

The VBA-4E4A-G12-ZA/EA2L is an AS-Interface trigger module with 4 inputs and 4 outputs. 2- and 3-wire sensors as well as mechanical contacts can be connected to the plus switching electronic inputs. The outputs are electronic outputs which can be energized with max. 24 V DC and 2 A per output.
The solid housing permits fast mounting without tools as well as easy removal without tools. The stainless steel shell and the cast housing ensure durability and a high protection category.
The connection to the AS-Interface calbe and to the external power supply is achieved via penetration technology in the integrated flat cable. The insert for the flat cables can be turned in two orientations.
All connections to inputs and outputs are implemented via metal inserts for high stability. The connection to the sensors/actuators is achieved via a M12 x 1 circular connector with SPEEDCON quick locking option.
The inputs and the connected sensors are supplied from the internal power supply of the module (from AS-Interface), the outputs and the connected actuators via an external power source (AUX).
To indicate the current switching state there is an LED for each channel fitted to the top of the module. The outputs are protected against overload and short circuit, an output overload is indicated via an LED per channel.
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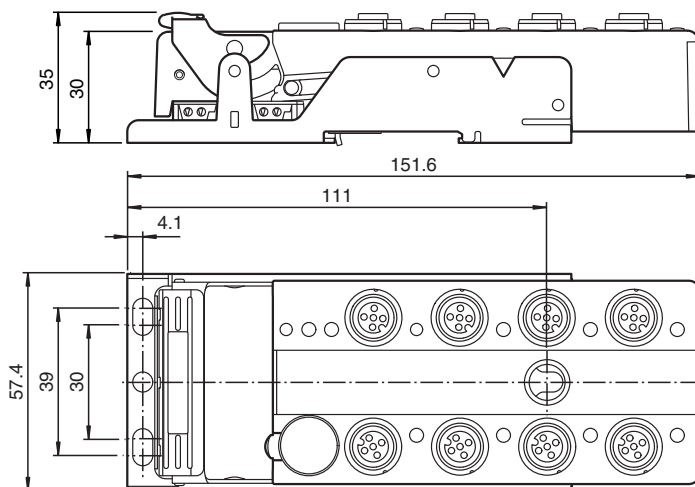This module can be mounted in any position using three screws or can be snapped onto the DIN rail using the stainless steel holder.
An output overload is reported to the AS-Interface master via the function "periphery fault". The communcation with the AS-Interface remains intact.

Application

For 4-wire sensors, it is only possible to use plug-in slot IN1 or IN3 for inputs 1+2 or 3+4 (jumpered internally).

Dimensions

Technical Data

General specifications

Node type		A/B node
AS-Interface specification		V3.0
Required gateway specification		≥ V3.0
Profile		S-7.A.7
IO code		7
ID code		A
ID1 code		7
ID2 code		7
UL File Number		E223772

Indicators/operating means

LED FAULT		error display; LED red red: communication error or address is 0 red flashing: overload of sensor power supply or outputs
LED PWR		AS-Interface voltage; green LED green: voltage OK flashing green: address 0
LED AUX		ext. auxiliary voltage U_{AUX}; dual LED green/red green: voltage OK red: reverse voltage
LED IN		switching state (input); 4 LED yellow
LED OUT		Switching status (output); 4 yellow/red LEDs Yellow: output active Red: output overload

Electrical specifications

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	≤ 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) derived from mains up to 300 V AC line-to-neutral

Input

Number/Type		4 inputs for 2- or 3-wire sensors (PNP), DC option 2 inputs for 4-wire sensors (PNP), DC
Supply		from AS-Interface
Voltage		21 ... 31 V
Current loading capacity		≤ 200 mA, overload 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)		≥ 6 mA
Signal delay		< 1 ms (input/AS-Interface)

Output

Number/Type		4 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 6 A total (TB ≤ 40 °C) 4 A total (TB ≤ 70 °C)

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
Emitted interference		EN 61000-6-4:2007

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

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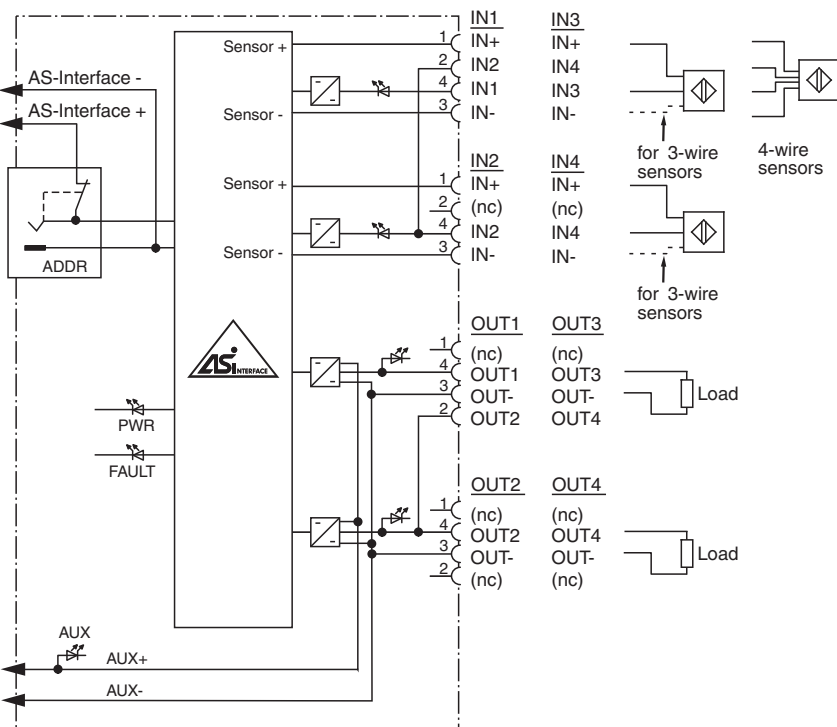Germany: +49 621 776 1111
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2

Technical Data

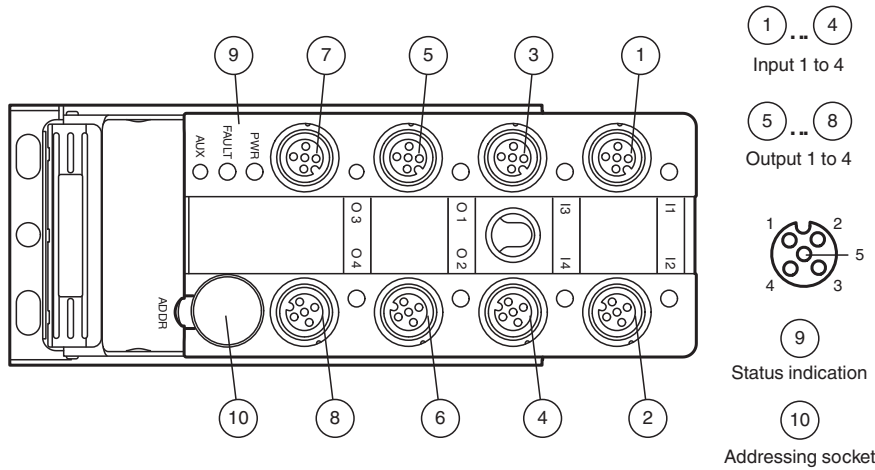|	
AS-Interface	EN 62026-2:2013
Noise immunity	EN 61000-6-2:2005 EN 62026-2:2013
Ambient conditions	
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Storage temperature	-25 ... 85 °C (-13 ... 185 °F)
Relative humidity	85 % , noncondensing
Altitude	≤ 2000 m above MSL
Shock and impact resistance	30 *g*, 11 ms in 6 spatial directions 3 shocks 10 *g*, 16 ms in 6 spatial directions 1000 shocks
Vibration resistance	0.75 mm 10 ... 57 Hz , 5 g 57 ... 150 Hz, 20 cycles
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	230 g
Tightening torque, cable gland	0.4 Nm
Mounting	Mounting plate

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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3

Assembly

1 .. 4 Input 1 to 4

5 .. 8 Output 1 to 4

9 Status indication

10 Addressing socket

Programming

Data bits
(function via AS-Interface)

Data bit	Input	Output
D0	IN1	OUT1
D1	IN2	OUT2
D2	IN3	OUT3
D3	IN4	OUT4

Parameter bits
(programmable via AS-Interface)

Parameter bit	Function
P0	Communication monitoring P0=0 monitoring off, the outputs maintain the status if communication fails P0=1 monitoring on, if communication fails, the outputs are deenergised, default setting
P1	Input filter P1=0 input filter on, pulse suppression ≤ 2 ms P1=1 input filter off, default setting
P2	Synchronous mode P2=0 Synchronous mode on P2=1 Synchronous mode off, default setting
P3	not used

Accessories

	VBP-HH1-V3.0-KIT	AS-Interface Handheld with accessory
	VAZ-V1-B3	Blind plug for M12 sockets
	VAZ-PK-1,5M-V1-G	Adapter cable module/hand-held programming device
	VAZ-CLIP-G12	lock for G12 module

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

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4