

AS-Interface analog module

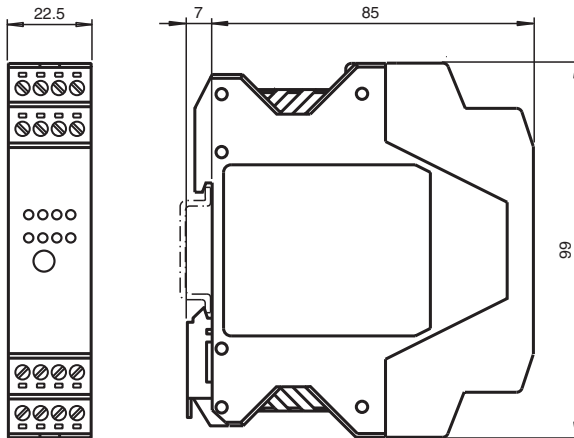
VBA-2E-KE2-I/U-V3.0

- Housing with removable terminals
- Addressing jack
- Function display for bus, internal and external sensor power supply, inputs
- Supply of inputs external or from the module, as required

KE control cabinet module2 analog inputs



Dimensions



Technical Data

General specifications	
Node type	A/B node
AS-Interface specification	V3.0
Required gateway specification	≥ V3.0
UL File Number	E223772
Indicators/operating means	
LED FAULT	error display; LED red red: communication error red flashing: peripheral error or address 0
LED INT	Internal input supply active; LED green
LED PWR	AS-Interface voltage; LED green green: AS-Interface voltage OK green flashing: peripheral error or address 0
LED AUX	ext. auxiliary voltage U_{AUX} ; LED green
LED -/OK	Status input signal; LED green Off: Not connected (Only current module) On: Signal within measuring range Flashing: Signal outside measuring range
LED U/I	Current or voltage module; Green LED Off: Voltage input On: Current input

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

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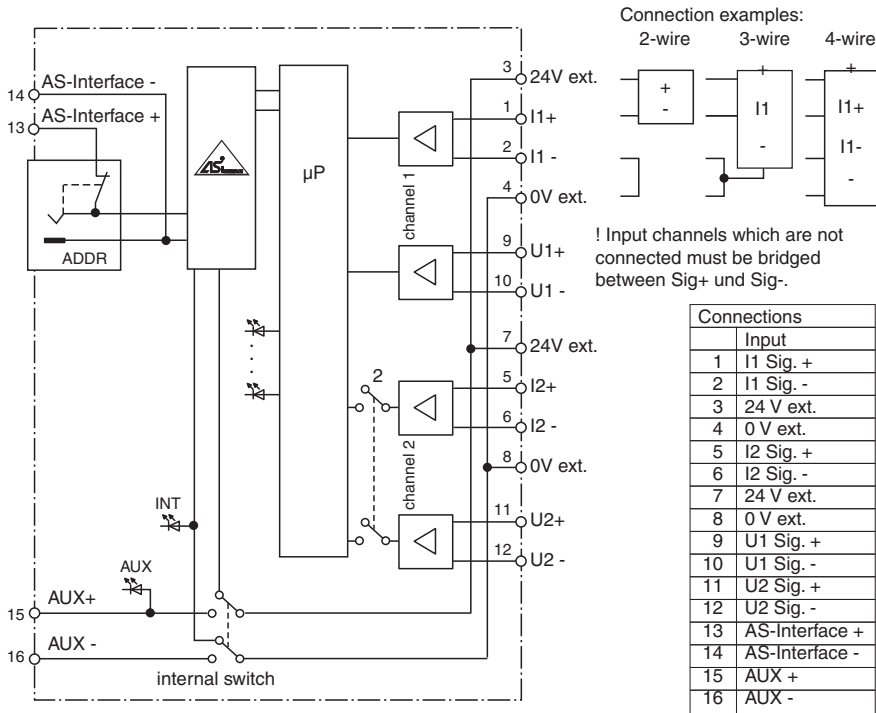
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Technical Data

Electrical specifications		
Auxiliary voltage (output)	U_{AUX}	24 V DC \pm 15 % PELV (protection class 3 according to VDE 0106/IEC 364-4-41)
Insulation voltage	U_i	\geq 500 V
Rated operating voltage	U_e	26.5 ... 31.6 V from AS-Interface
Rated operating current	I_e	\leq 80 mA
Input		
Input voltage		For voltage module: \leq 25 V per input
Number/Type		2 analog inputs Current: 4 ... 20 mA voltage: 0 ... 10 V
Supply		from AS-Interface or from external auxiliary voltage as required U_{AUX}
Input current		For current module: \leq 40 mA per input
Input resistance		For current module: 50 Ω For voltage module: 100 k Ω
Switching point		Changeover current/voltage module: current module with $I_{in} \geq 1$ mA voltage module with $U_{in} \geq 1$ V
Resolution		14 Bit / 1 μ A (Current module) or 14 bit / 1 mV (Voltage module)
Directive conformity		
Electromagnetic compatibility		
Directive 2014/30/EU		EN 62026-2:2013 EN 61000-6-2:2005, EN 61000-6-4:2007 EN 61131-2:2007
Standard conformity		
Degree of protection		EN 60529:2000
AS-Interface		EN 62026-2:2013
Programming instructions		
Profile		S-7.A.9
IO code		7
ID code		A
ID2 code		9
Data bits (function via AS-Interface)		The transfer of the data value is based on AS-Interface Profile 7.A.9.
Parameter bits (programmable via AS-i)		function
P0		mains power frequency filter P0=1, 50 Hz filter active P0=0, 60 Hz filter active
P1		P1=1, normal operating mode P1=0, both channels in current mode and without recognition of wire breakage
P2		Message of peripheral error P2=1, peripheral error is reported P2=0, peripheral error is not reported
Ambient conditions		
Ambient temperature		0 ... 70 $^{\circ}$ C (32 ... 158 $^{\circ}$ F)
Storage temperature		-25 ... 85 $^{\circ}$ C (-13 ... 185 $^{\circ}$ F)
Mechanical specifications		
Degree of protection		IP20
Connection		removable terminals rated connection capacity: rigid/flexible (with and without wire-end ferrules): 0.25 mm ² ... 2.5 mm ² for multiple-wire connection with two wires of equal cross-section: flexible with twin wire-end ferrules: 0.5 mm ² ... 1.5 mm ²
Material		
Housing		PA 66-FR
Mass		350 g
Mounting		DIN mounting rail

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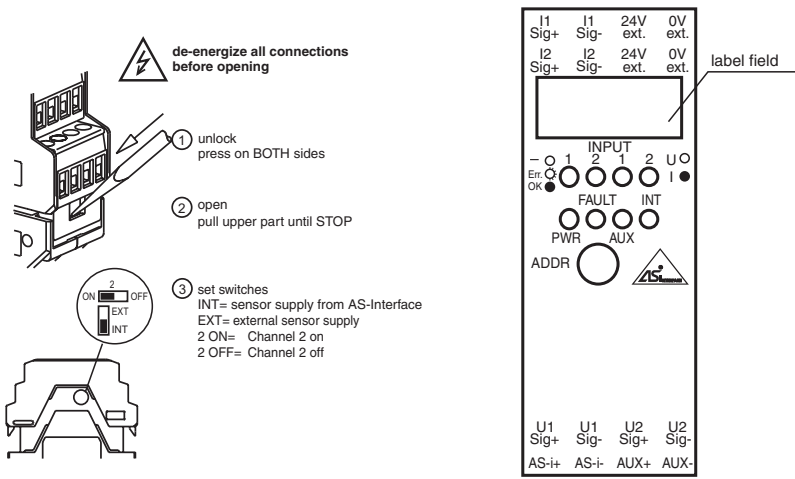
Connection



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.

Assembly



Accessories

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

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Function

The VBA-2E-KE2-I/U-V3.0 analog module is equipped with two analog inputs that can be current inputs (4 mA ... 20 mA) or voltage inputs (0 ... 10 V). The module can also be connected as a combined current/voltage module.

Depending on the setting of the internal sliding switch, the power supply for the measurement value transmitter is via the module (from the AS-Interface) or through an external power supply. The input power supply selection is displayed via the INT and AUX LEDs.

Measurement values are converted and data is transferred asynchronously based on AS-Interface Profile S-7.A.9. The resolution of analog values is 12/14 bits with a value range of 4,000 ... 20,000 (current module) or 0 ... 10,000 (voltage module).

Power faults can be eliminated with a parameterizable filter (50 Hz/60 Hz) in the A/D converter.

The second channel can be turned off with a second slide switch to allow for faster data transfer.

The housing, only 22.5 mm in width, takes up little place in the switch cabinet. The module is installed by snapping on the 35-mm carrier rail in accordance with EN 50022.

It can be connected by plug-in terminals (COMBICON). 4-way-terminal blocks (black) are used for the inputs. The connection of the external auxiliary supply and AS-Interface is made through the 2-way-terminal blocks (auxiliary supply gray, AS-Interface yellow). This makes it possible to separate individual sensors or to supply power during commissioning or servicing.

Note:

The device is equipped with communication monitoring that turns off the outputs if no AS-Interface communication has taken place with the device for more than 40 ms.

Application

Supplying external loads:

- by supply out of AS-Interface: 50 mA max.
- by external supply: 500 mA max. (750 mA fuse)

Code-Definition

ID1	14 bit	12 bit
channel 1	0; 2; 3	1
channel 1+2	4; 5; 7 (Default value ID1=7)	6