



AS-Interface analog module

VBA-4E-G11-I-F

- Addressing jack
- Function display for bus, internal and external sensor power supply, inputs
- Supply for inputs from AS-Interface or auxiliary voltage
- Degree of protection IP68 / IP69K
- Accuracy $\pm 0.1\%$
- Integrated shielding
- Channel-specific input monitoring

G11 analog module, 4 analog current inputs



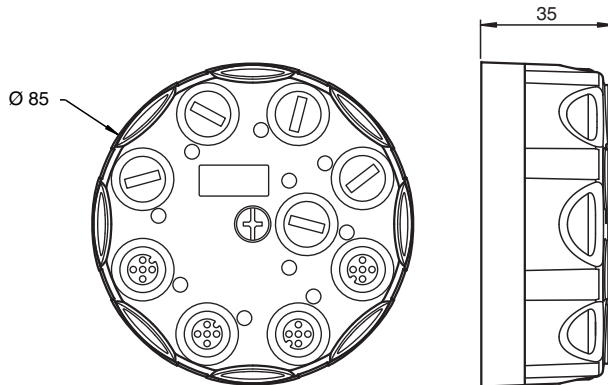
Function

The VBA-4E-G11-I-F analog module has four analog current inputs with a range of 0 mA ... 20 mA or 4 mA ... 20 mA. The power supply to the measurement value generators takes place depending on the position of the internal slide switch, via AS-Interface or through auxiliary voltage. The choice of input supply is displayed via the INT/EXT LED. Measured value conversion and data transfer is provided asynchronously according to the AS-Interface profile 7.3. The resolution of the analog values is 1 μ A with a value range of 0 to 20000 or 4000 to 20000. Network interference can be eliminated with a configurable filter (50 Hz/60 Hz) in the A/D converter.

Note:

An overload of the internal input supply is also reported to the AS-Interface master via the 'peripheral fault' function. Communication via the AS-Interface continues.

Dimensions



Technical Data

General specifications

Node type	Standard node
AS-Interface specification	V3.0
Required gateway specification	\geq V2.1
Profile	S-7.3.E
IO code	7
ID code	3
ID1 code	F
ID2 code	E

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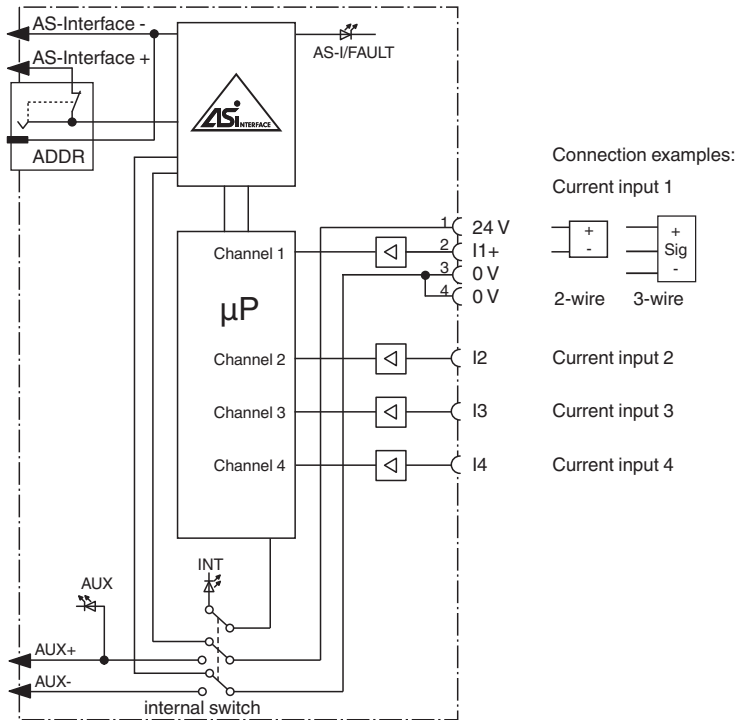
Technical Data

UL File Number	E223772	
Indicators/operating means		
LED AS-i/FAULT	Status display; multi-colour LED Green: normal operation Red: communication fault Flashing yellow/red: address 0 Flashing green/red: peripheral fault	
LED ANALOG	status of input signal; LED yellow off: not active on: signal within measurement range flashing: signal outside of measurement range	
LED AUX	ext. auxiliary voltage U_{AUX} ; dual LED green/red green: voltage OK red: reverse voltage	
LED INT/EXT	status display input supply; LED green green: input supply from AS-Interface off: input supply from auxiliary voltage	
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	≤ 60 mA (without sensors) / max. 200 mA
Protection class	III	
Surge protection	U_{AUX} , U_{in} : Over voltage category III, safe isolated power supplies (PELV)	
Input		
Number/Type	4 Inputs 0/4 ... 20 mA	
Supply	from AS-Interface (switch position INT, default settings) or auxiliary voltage U_{EXT} (switch position EXT)	
Current loading capacity	≤ 140 mA from AS-Interface; overload and short-circuit resistant ≤ 600 mA from external auxiliary voltage U_{AUX} , overload and short-circuit protected	
Input resistance	max. 70 Ω	
Accuracy	0.1 % of full-scale value	
Resolution	16 Bit	
Temperature influence	0.0025 %/K of input signal range	
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 61131-2:2007	
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	
Ambient conditions		
Ambient temperature	-25 ... 70 °C (-13 ... 158 °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	IP68 / IP69K	
Connection	AS-Interface/ U_{AUX} : cable piercing method, flat cable yellow/flat cable black Inputs: M12 round connector	
Material		
Housing	PBT PC	
Mounting screw	Stainless steel 1.4305 / AISI 303	

Technical Data

Mass	200 g
Tightening torque, housing screws	1.8 Nm
Tightening torque, cable gland	0.4 Nm
Mounting	Mounting plate

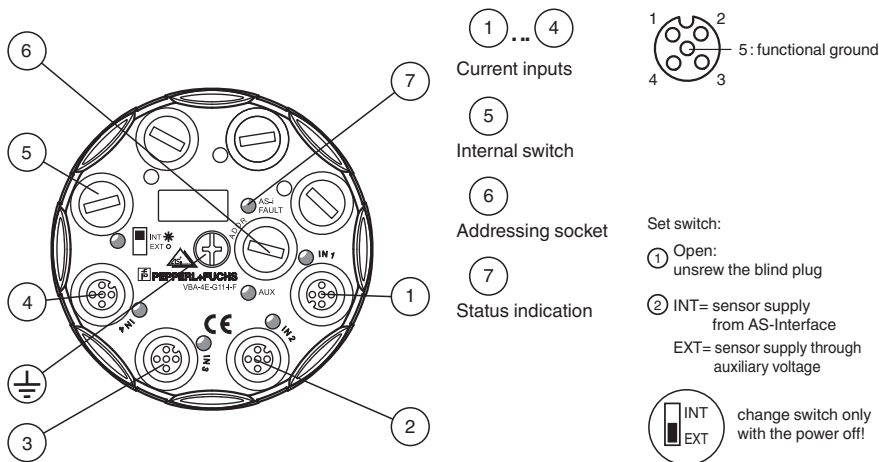
Connection



Connection

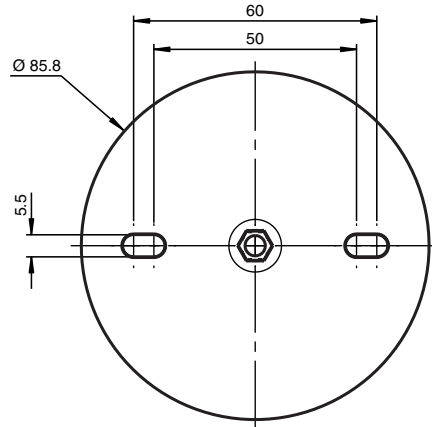
Do not connect inputs and outputs, which are supplied via the module from AS-interface or via auxiliary power, with power supply and signal circuits with external potentials.

Assembly



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Mounting



Commissioning

Channel activation

When delivered, all input channels are disabled, the wire break detection and automatic channel detection are active. An input channel is activated when an input signal 1 mA ... 23 mA is applied. An activated input channel remains active after a restart. If the wire break detection is disabled, all four input channels are active.

Programming

Data bits

(function via AS-Interface)





The transfer of the data value is based on AS-Interface Profile 7.3.

Parameter bits

(programmable via AS-Interface)

Parameter bit	Function
P0	50/60 Hz filter P0=0 disabled P0=1 enabled
P1	not used
P2	Indication of the peripheral fault by exceeding measuring range P2=0 peripheral fault is not reported P2=1 peripheral fault is reported
P3	Wire break detection P3=0 wire break detection deactivated, all 4 channels active P3=1 wire break detection active, automatic channel detection if > 1 mA

Accessories

	VAZ-V1-B3	Blind plug for M12 sockets
	V1-G-42-0,3M-PUR-ABG-V1-W-Y	Connecting cable, M12 to M12, PUR cable, 4-pin, bridged, shielded
	VBP-HH1-V3.0-KIT	AS-Interface Handheld with accessory
	VAZ-PK-1,5M-V1-G	Adapter cable module/hand-held programming device