



AS-Interface sensor module

VBA-4E-G11-ZAJ-V1

- Inputs for 2-, 3-, and 4-wire sensors
- Supply of sensors from AS-Interface
- Function display for bus and inputs
- Communication monitoring
- Degree of protection IP68 / IP69K
- AS-Interface POWER24

G11 module4 inputs



Function

The VBA-4E-G11-ZAJ-V1 is an AS-Interface I/O module with 4 inputs. 2, 3 and 4 wire sensors can also be connected as mechanical contacts to the 4 sourcing electronic inputs.

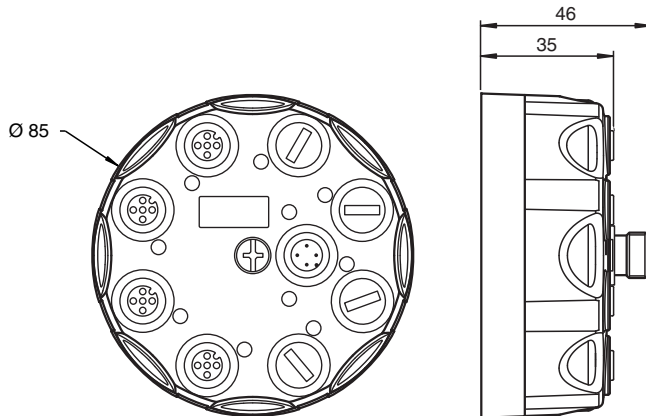
The housing with a central screw enables fast mounting on the base plate.

The connection to the AS-Interface cable and to the sensors/actuators is via M12x1 plugin connections on the top side of the device.

The inputs and the connected sensors are powered by the internal supply of the module (from the AS-Interface).

The current switching state of each input is indicated via an IN LED. The AS-i/FAULT LED indicates the status of the AS-Interface (normal operation, communication error, peripheral fault, address 0). The switch-on module is compatible with AS-Interface POWER24.

Dimensions



Technical Data

General specifications

Node type	A/B node
AS-Interface specification	V3.0
Required gateway specification	≥ V2.1
Profile	S-0.A.2
IO code	0
ID code	A
ID1 code	7
ID2 code	2
UL File Number	E223772

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

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Technical Data

Functional safety related parameters		
MTTF _d		120 a
Mission Time (T _M)		20 a
Diagnostic Coverage (DC)		0 %
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: sensor supply overload
LED IN		switching state (input); 4 LED yellow
Electrical specifications		
Rated operating voltage	U _e	18,0 ... 31.6 V from AS-Interface
Rated operating current	I _e	≤ 40 mA (without sensors) / max. 240 mA
Protection class		III
Surge protection		U _e : Over voltage category III, safe isolated power supplies (PELV)
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		12 ... 31 V
Current loading capacity		≤ 200 mA, overload and short-circuit protected
Input current		≤ 9 mA (limited internally)
Switching point		according to DIN EN 61131-2 (Type 2)
0 (unattenuated)		≤ 3 mA
1 (attenuated)		≥ 5 mA
Signal delay		< 1 ms (input/AS-Interface)
Directive conformity		
Electromagnetic compatibility		
Directive 2014/30/EU		EN 62026-2:2013 EN 61000-6-2:2005, EN 61000-6-4:2007
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
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		IP68 / IP69K
Connection		AS-Interface: M12 round connector Inputs: M12 round connector
Material		
Housing		PBT PC
Mounting screw		Stainless steel 1.4305 / AISI 303
Mass		200 g
Tightening torque, housing screws		1.8 Nm

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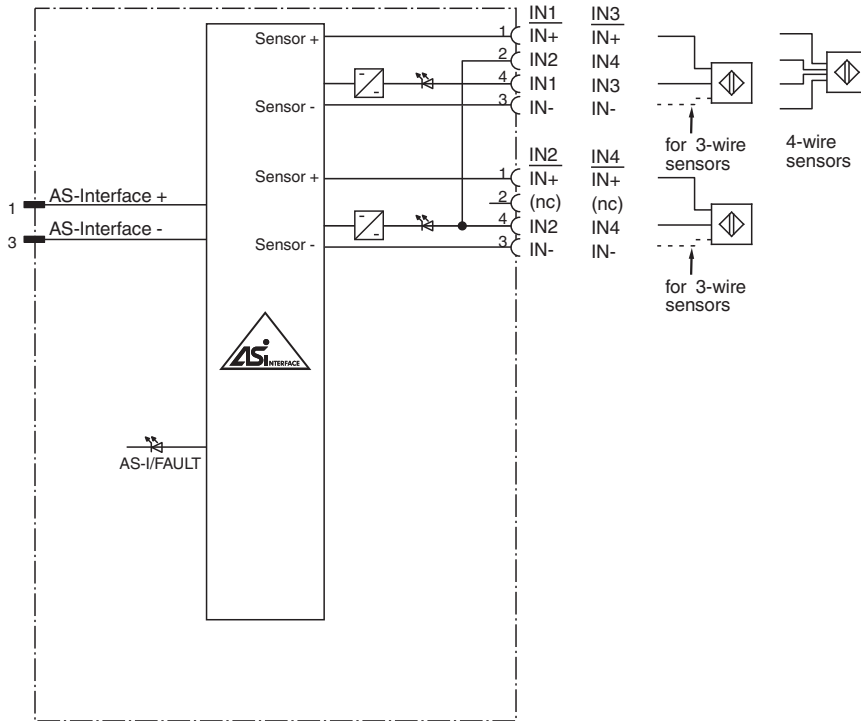
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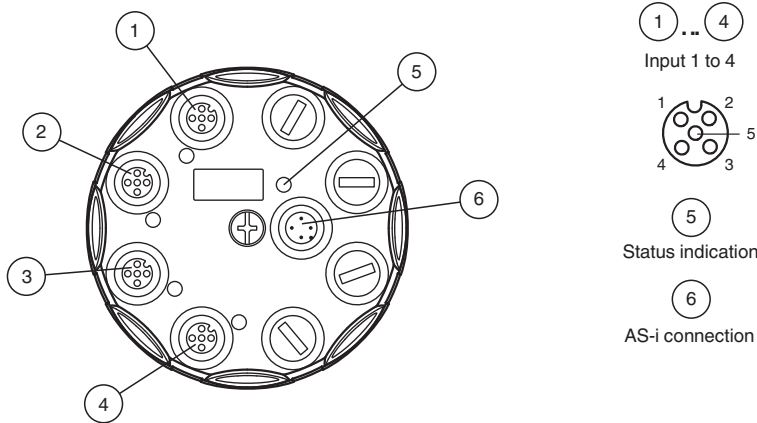
Technical Data

Tightening torque, cable gland	0.4 Nm
Mounting	Mounting plate

Connection

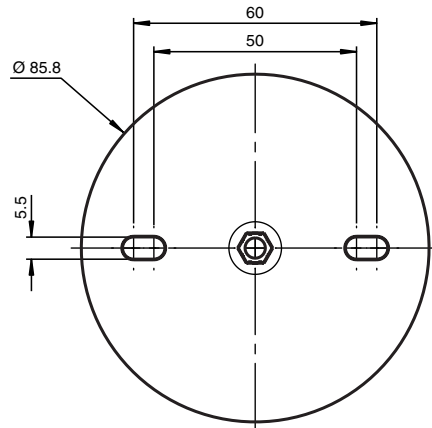


Assembly



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Mounting



Screw the device onto a level mounting surface using two M5 attachment screws. The attachment screws are not included. Screw a blind plug onto spare connections to ensure the protection category.

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.

Programming




Data bits
(Function via AS-Interface)

Data bit	Input	Output
D0	IN1	-
D1	IN2	-
D2	IN3	-
D3	IN4	-

Parameter bit
(programmable via AS-Interface)

Parameter bit	Function
P0	not used
P1	Input filter P1=0 filter on, pulse suppr. ≤ 2 ms P1=1 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