



AS-Interface sensor module

VBA-4E4E-G11-ZAJ-F

- Inputs for 2-, 3-, and 4-wire sensors
- Supply of sensors from AS-Interface
- Function display for bus and inputs
- Degree of protection IP68 / IP69K
- Communication monitoring
- Cable piercing method with gold plated contact pins
- AS-Interface POWER24

G11 module 2 x 4 inputs



ECOLAB



Function

The VBA-4E4E-G12-ZAJ is an AS-Interface switch-on module with 8 inputs. The switch-on module is equipped with 2 separate AS-Interface chips and uses 2 A/B addresses. In the delivered state, both slave addresses use the address 0. The second slave is deactivated until the first slave is addressed. Duplicate addressing is avoided in this way. 2 and 3-wire sensors can also be connected as mechanical contacts to the PNP electronic inputs.

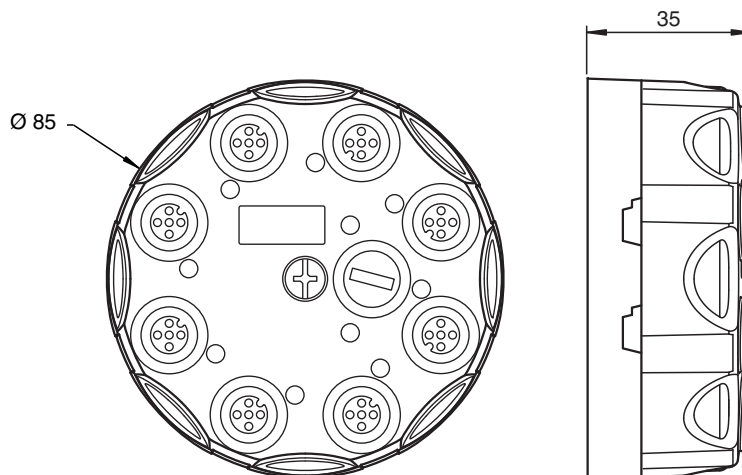
The housing with a central screw enables fast mounting on the base plate.

The connection to the sensors is via an M12x1 plug-in connection on the top side of the device. The AS-Interface flat cable is connected via the insulation piercing technology on the underside of the module.

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 LEDs indicate the status of the AS-Interface (normal operation, communication error, peripheral fault, address 0). The switch-on module has a double addressing jack and is compatible with AS-Interface POWER24.

Dimensions



Technical Data

General specifications

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

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Technical Data

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		Node 1: 1 Node 2: 2
ID2 code		2
UL File Number		E223772
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		2 Dual LEDs green/red green: AS-Interface voltage red: Communication error yellow/red flashing: Address 0 green/red flashing: Sensor supply overload
LED IN		switching state (input); 8 LED yellow
Electrical specifications		
Rated operating voltage	U _e	18,0 ... 31.6 V from AS-Interface
Rated operating current	I _e	≤ 80 mA (without sensors) / max. 280 mA
Protection class		III
Surge protection		U _e : Over voltage category III, safe isolated power supplies (PELV)
Input		
Number/Type		2x 4 inputs for 2- or 3-wire sensors (PNP), DC alternative 2x 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, 6 ms in 6 spatial directions, 3 shocks 10 g, 16 ms in 6 spatial directions, 1000 shocks
Vibration resistance		0.35 mm 10 ... 57 Hz , 5 g 57 ... 2000 Hz, 10 cycles

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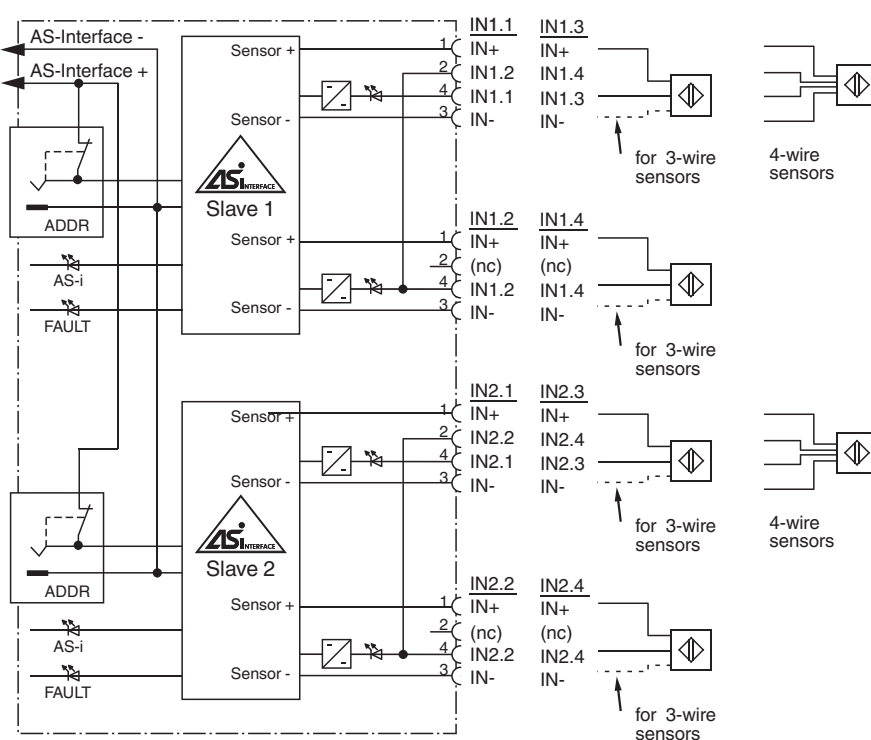
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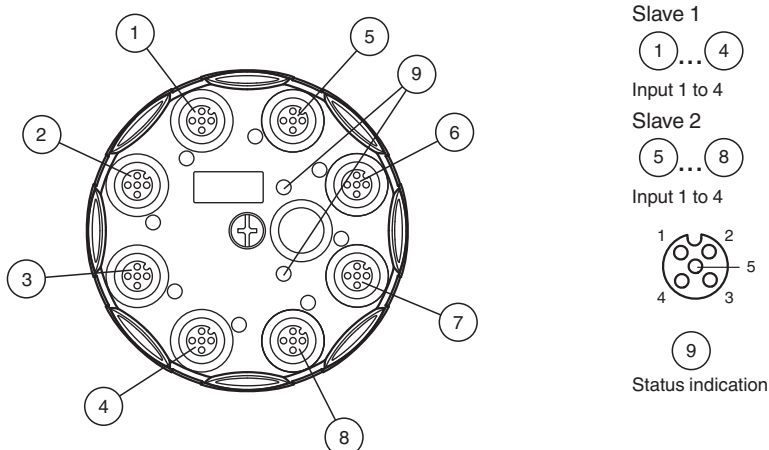
Technical Data

Pollution degree	3
Mechanical specifications	
Degree of protection	IP68 / IP69K
Connection	AS-Interface: AS-Interface flat cable 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
Tightening torque, cable gland	0.4 Nm
Mounting	Mounting plate

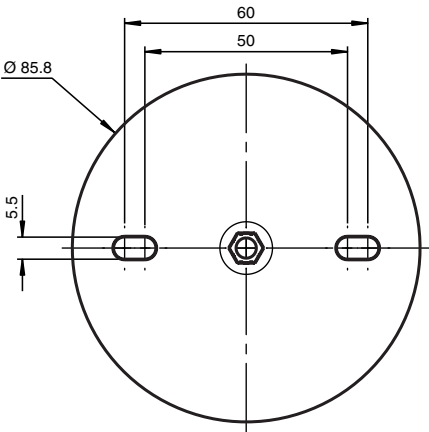
Connection



Assembly



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	Input	Output
D0	IN1.1	IN2.1	-
D1	IN1.2	IN2.2	-
D2	IN1.3	IN2.3	-
D3	IN1.4	IN2.4	-

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