



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.

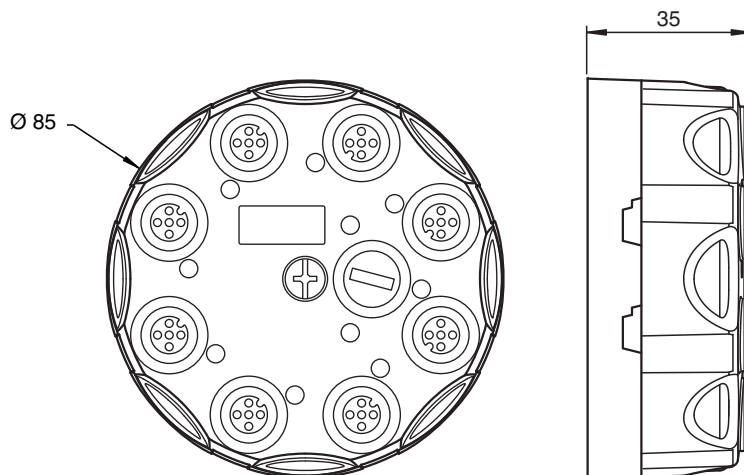
The housing with a central screw enables fast mounting on the base plate.

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



Release date: 2021-08-03 Date of issue: 2021-08-03 Filename: 251408_eng.pdf

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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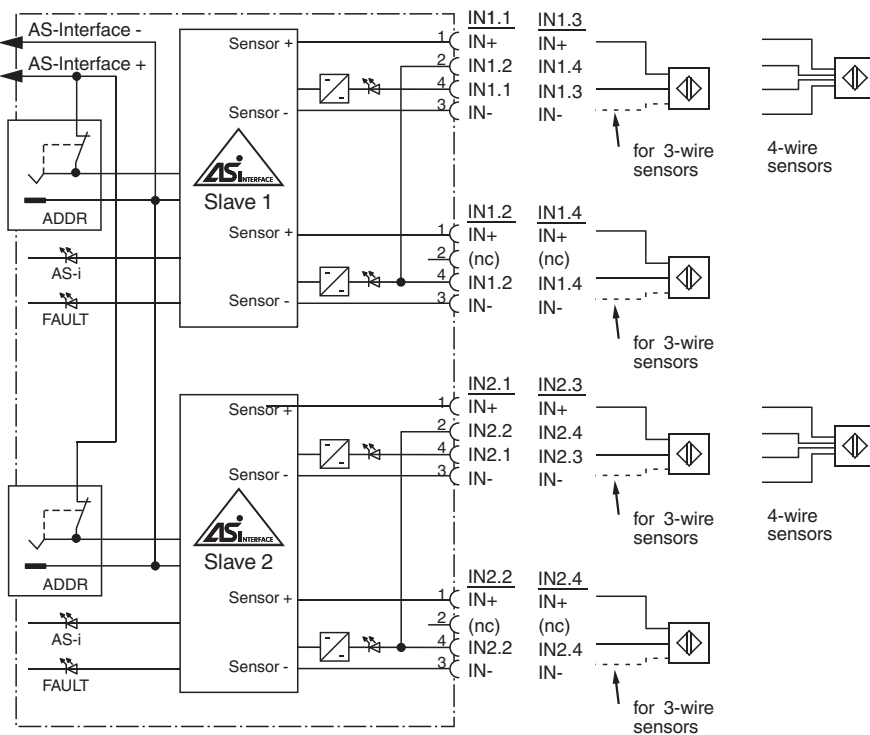
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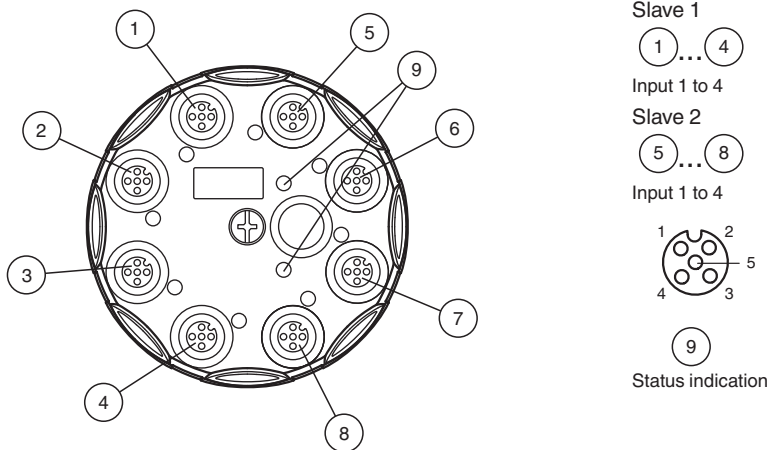
Technical Data

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



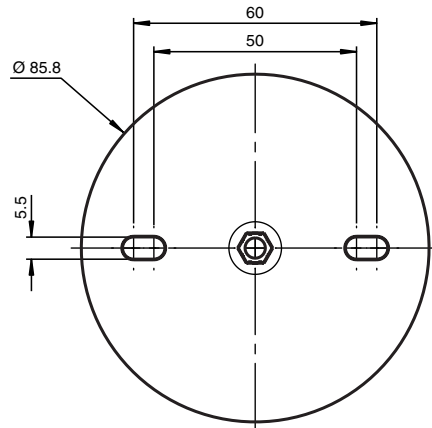
Assembly



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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	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