AS-Interface sensor module

VBA-4E4E-G12-ZAJ

- A/B node with extended addressing possibility for up to 62 nodes
- One-piece housing with stainless steel base
- Installation without tools
- Metal threaded inserts with SPEEDCON technology
- Flat cable connection with cable piercing technique, variable flat cable guide
- Communication monitoring, configurable
- Inputs for 2-, 3-, and 4-wire sensors
- DIN rail mounting
- AS-Interface certificate
- Automatic addressing with latest masters in the event of replacement

G12 flat module, 2 x 4 inputs (PNP)

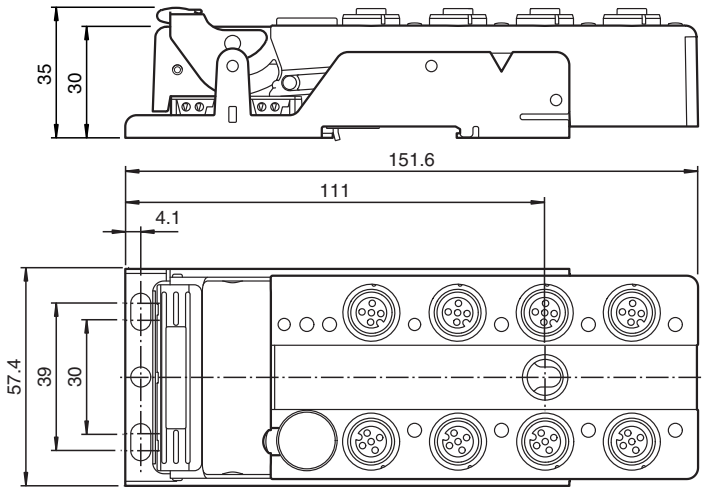
Function

The VBA-4E4E-G12-ZAJ is an AS-Interface input module with 8 inputs. The input 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 one-piece enclosure makes fast mounting possible completely without the use of tools as well as easy removal also without the use of tools. The stainless steel half shell and cast enclosure ensure maximum durability and a high degree of protection.
Connection to the AS-Interface line is achieved through insulation-piercing technology into the laid flat cable. Accordingly, the flat cable can be turned in two directions for the application.
Metal inserts ensure that all connections to the inputs are made with a high degree of stability. The connections to the sensorsaremade via an M12 x 1 round plug connector with the option with SPEEDCON technology.
The supply to the inputs and the connected sensors is fed from the internal supply of the module (from AS-Interface).
An LED, which is attached to the top of the module, is available to display the current switching state of every input.
A dual LED to indicate the particular AS-Interface voltage and the display, which has the module address 0, is available, and another dual LED indicates errors in the relevant ASInterface communication and peripheral errors. The input module has a dual addressing jack.
This module can be mounted in any position with three screws or snapped onto a standard DIN rail with the stainless steel bracket.

Application

For 4-wire sensors, it is only possible to use plug-in slot IN1 or IN3 for inputs 1+2 or 3+4 (jumpered internally).

Dimensions



Technical Data

General specifications

Release date: 2023-03-28 Date of issue: 2023-03-28 Filename: 200524_eng.pdf

Technical Data

Node type		Double 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
Indicators/operating means		
LED PWR/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	26.5 ... 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) derived from mains up to 300 V AC line-to-neutral
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		21 ... 31 V
Current loading capacity		≤ 200 mA, overload and short-circuit protected
Input current		≤ 8 mA (limited internally)
Switching point		according to DIN EN 61131-2 (Type 2)
0 (unattenuated)		≤ 2 mA
1 (attenuated)		≥ 6 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
Emitted interference		EN 61000-6-4:2007
AS-Interface		EN 62026-2:2013
Noise immunity		EN 61000-6-2:2005 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
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		IP67

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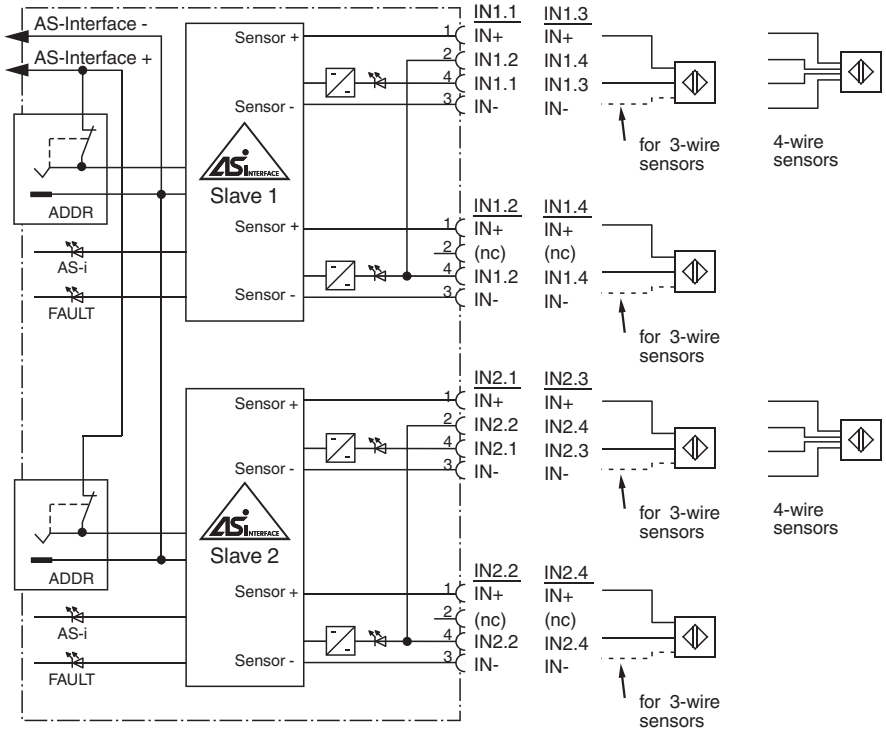
Connection		cable piercing method flat cable yellow inputs: M12 round connector
Material		
Housing		PBT
Mass		230 g
Tightening torque, cable gland		0.4 Nm
Mounting		Mounting plate

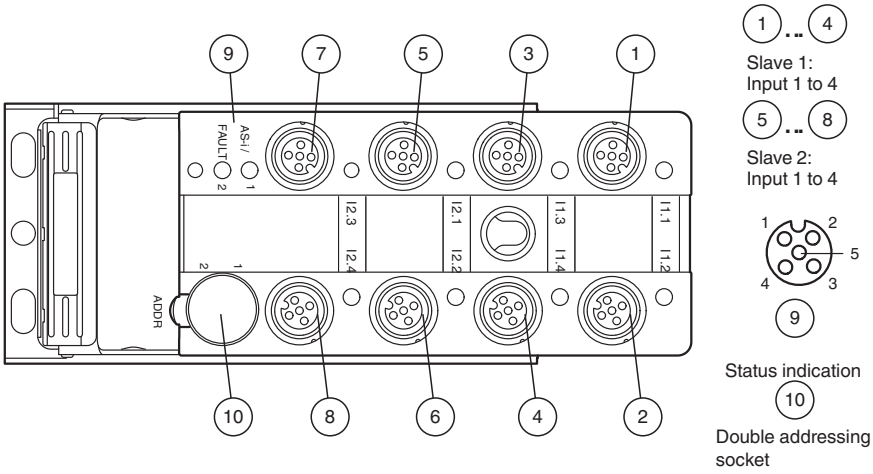
Connection



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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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
	**VAZ-CLIP-G12**	lock for G12 module

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