

ASi I/O Module

VBA-3E3A-G20-ZEL/E2L-P1



- A/B node with extended addressing possibility for up to 62 nodes
- Inputs for 3-wire sensors
- Power supply of the inputs and outputs from the external auxiliary voltage
- Connection of actuators and sensors via cable outputs with M8 connectors
- Communication monitoring
- Function display for bus, external auxiliary voltage, in- and outputs
- Cable piercing method with gold plated contact pins

G20 module with AS-Interface for digital inputs/outputs, 3 inputs and 3 outputs



Function

The AS-Interface I/O module VBA-3E3A-G20-ZEL/E2L-P1 is a field module with 3 inputs for 3-wire sensors and 3 electronic outputs. The outputs are overload and short-circuit protected.

The compact housing can be installed directly in support profiles or conduits.

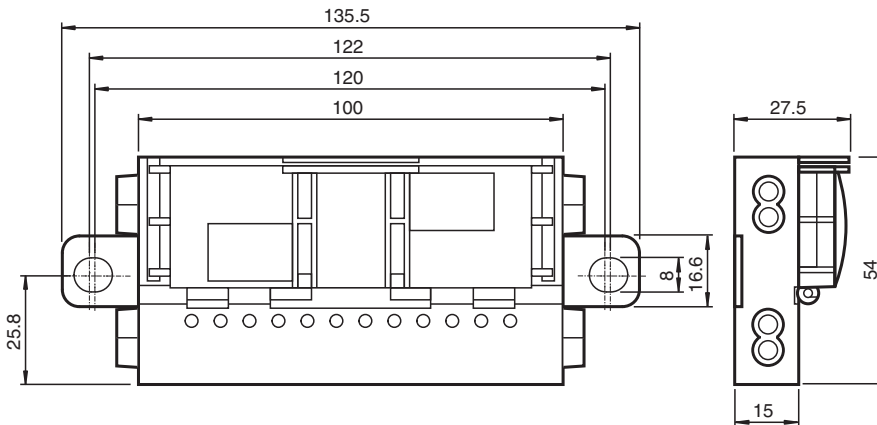
The connection to the AS-Interface network and power supply is made using the AS-Interface flat cable and insulation piercing technology. The pivoted flat cable guide is secured using a snap-fit. No tools are required.. The inputs and outputs are connected via cable outputs with M8 round plug connectors (inputs 4-pole female cordset with knurled thumb screw, outputs 3-pole snap-on female cordset). Power for the inputs and outputs is provided by the external auxiliary voltage U AUX.

The current switching state of the inputs and outputs is indicated by the IN and OUT LEDs. The PWR and FAULT LEDs indicate the status of the AS-Interface (normal operation, communication error, peripheral fault, address 0). The AUX LED indicates the external power supply.

Notes:

The communication monitor of the module deactivates the outputs if the AS-Interface does not communicate with the module for more than 40 ms. A signal indicating an overload of the outputs or the input supply or the absence of the external auxiliary voltage is also transmitted to the AS-Interface master via the 'peripheral fault' function. Communication via the AS-Interface continues.

Dimensions



Technical Data

General specifications

Node type	A/B node
AS-Interface specification	V3.0
Required gateway specification	≥ V2.1
Profile	S-7.A.E
IO code	7
ID code	A
ID1 code	7

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Technical Data

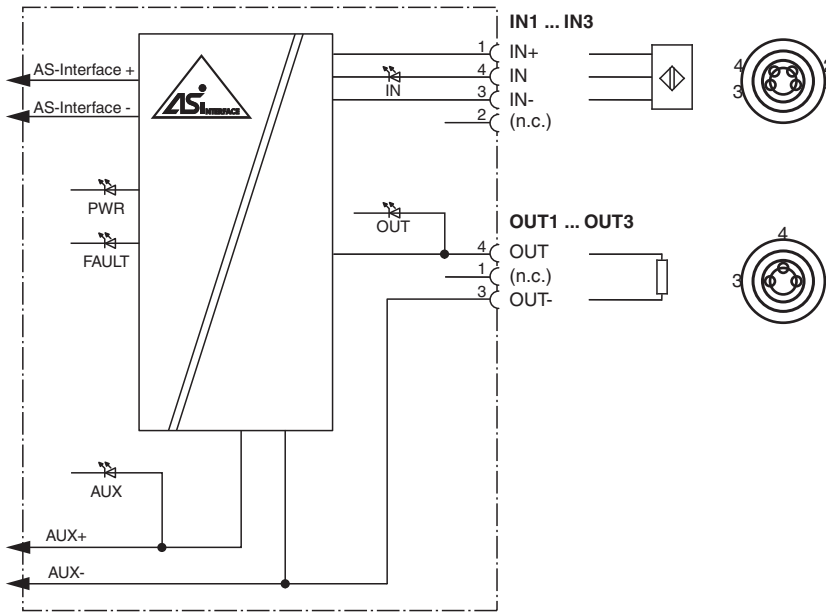
ID2 code		E
UL File Number		E223772 "For use in NFPA 79 Applications only"
MTBF		110 a
Indicators/operating means		
LED FAULT		error display; LED red red: communication error or address is 0 red flashing: overload of sensor power supply or overload of outputs or external auxiliary voltage U_{AUX} missing
LED PWR		AS-Interface voltage; green LED green: voltage OK flashing green: address 0 or overload of sensor power supply or overload of outputs or external auxiliary voltage U_{AUX} missing
LED AUX		ext. auxiliary voltage U_{AUX} ; dual LED green/red green: voltage OK red: reverse voltage
LED IN		switching state (input); 3 LED yellow
LED OUT		Switching state (output); 3 LED yellow
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	≤ 35 mA
Input		
Number/Type		3 Inputs for 3-wire sensors (PNP), DC
Supply		from external auxiliary voltage U_{AUX}
Current loading capacity		500 mA , overload and short-circuit protected
Input current		≤ 8 mA (limited internally)
Switching point		according to DIN EN 61131-2 0 (undamped) ≤ 0.5 mA 1 (damped) ≥ 2.0 mA
Signal delay		< 1 ms (input/AS-Interface)
Output		
Number/Type		3 electronic outputs, PNP, overload and short-circuit proof
Supply		from external auxiliary voltage U_{AUX}
Voltage		≥ ($U_{AUX} - 0.5$ V)
Current		2 A per output TB ≤ 40 °C: 6 A total TB ≤ 60 °C: OUT1+OUT2 max. 3 A, OUT3 max. 2 A
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 ... 60 °C (-13 ... 140 °F)
Storage temperature		-30 ... 85 °C (-22 ... 185 °F)
Mechanical specifications		
Degree of protection		IP54 according to EN 60529
Connection		AS-Interface, AUX: Insulation piercing technology Yellow flat cable/black flat cable Inputs/outputs: M8 round plug connector in accordance with EN 61076-2-104 Inputs: LF004-GS1-A (4-pin, bushing contacts, screw lock, A-coded) Matching connector: LM004-Gx1-A or similar Outputs: NF003-SS1-A (3-pin, bushing contacts, snap lock, A-coded) Matching connector: NM003-Sx1-A or similar
Mass		260 g

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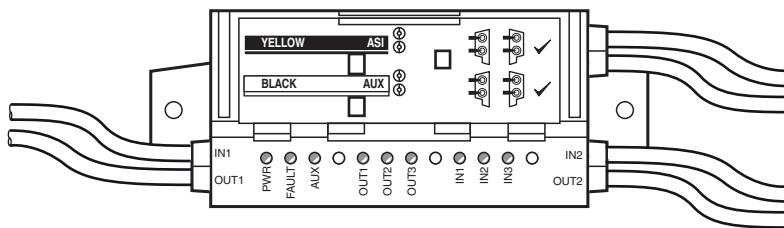
Technical Data

Dimensions	
Height	27.5 mm
Width	131.5 mm
Length	54 mm
Mounting	2 clips with Ø 8 mm drill hole
Cable length	1 m
Note	The flat cable routing is designed for 100 actuation cycles

Connection



Assembly



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Programming

Data bits (function via AS-Interface)

Data bits	Input	Output
D0	IN1	OUT1
D1	IN2	OUT2
D2	IN3	OUT3
D3	-	-

Parameter bit (programmable via AS-Interface)

Parameter bit	Function	Description
P0	Communication monitoring	P0 = 0 monitoring = off, the outputs maintain the status if communication fails P0 = 1 monitoring = on, i.e. if communication fails, the outputs are deenergised (default settings)
P1	Input filter	P1 = 0 input filter on, pulse suppression ≤ 2 ms P1 = 1 input filter off (default settings)
P2	Synchronous mode	P2 = 0 synchronous mode on P2 = 1 synchronous mode off (default settings)