



AS-Interface sensor/actuator module

VAA-4E4A-G4-ZE/E2

- Degree of protection IP65
- Flat or round cable connection (via standardized EEMS base, not included with delivery)
- Cable piercing method for flat cable
- Communication monitoring, turn-off
- Inputs for 2- and 3-wire sensors
- Power supply of outputs from the external auxiliary voltage
- Power supply of inputs from the module
- Function display for bus, ext. auxiliary voltage, inputs and outputs
- Monitoring of sensor overloads

G4 module IP65, 4 inputs (PNP) and 4 electronic outputs



Function

The AS-Interface Module VAA-4E4A-G4-ZE/E2 has 4 inputs and 4 outputs. Both 2-wire and 3-wire sensors and also mechanical contacts can be connected to the inputs. The sensors are supplied from the module. The outputs are electronic, which can be loaded to a max. 24 V DC and 1 A per output.

The G4 Module is particularly suitable for harsh field conditions. The connections to the sensors/actuators are made via cable glands and cage spring terminals. This makes the installation particularly user-friendly. Pre-addressing can be carried out by plugging the module directly into the VBP-HH1 hand-held programming device adapter.

An LED is provided for each channel on the top of the module to indicate the current switching status. Communication monitoring is integrated in the module. In the event of faults on the bus the monitoring system switches off the current to the outputs.

Connection the AS-Interface transfer cable and the external 24 V DC supply can be achieved by means of flat or round cable. If the AS-Interface flat cable is used, the U-G1FF base component is required. The contact with the two cables is made via the AS-Interface standardised EEMS interface, i. e. by means of the insulation penetration technique.

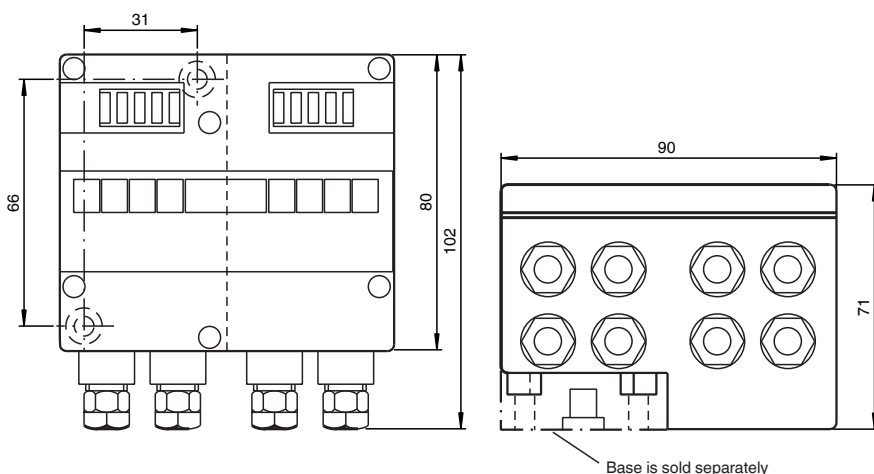
If a round cable is used, the U-G1PP base component is required. This base also provides the option of connecting both the AS-Interface cable and the external power supply.

Note:

The device features communication monitoring. When this is active, it switches off the power to the outputs when no communication has occurred on the AS-Interface cable for more than 40 ms.

In the event of overloading of the internal input power supply or output supply, a signal is communicated to the AS-Interface master via the "Peripheral error" function. Communication via the AS-Interface remains uninterrupted.

Dimensions



Technical Data

General specifications

Node type	Standard node
AS-Interface specification	V3.0
Required gateway specification	≥ V2.0

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

Pepperl+Fuchs Group
www.pepperl-fuchs.com

USA: +1 330 486 0001
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 1111
fa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091
fa-info@sg.pepperl-fuchs.com

PEPPERL+FUCHS

Technical Data

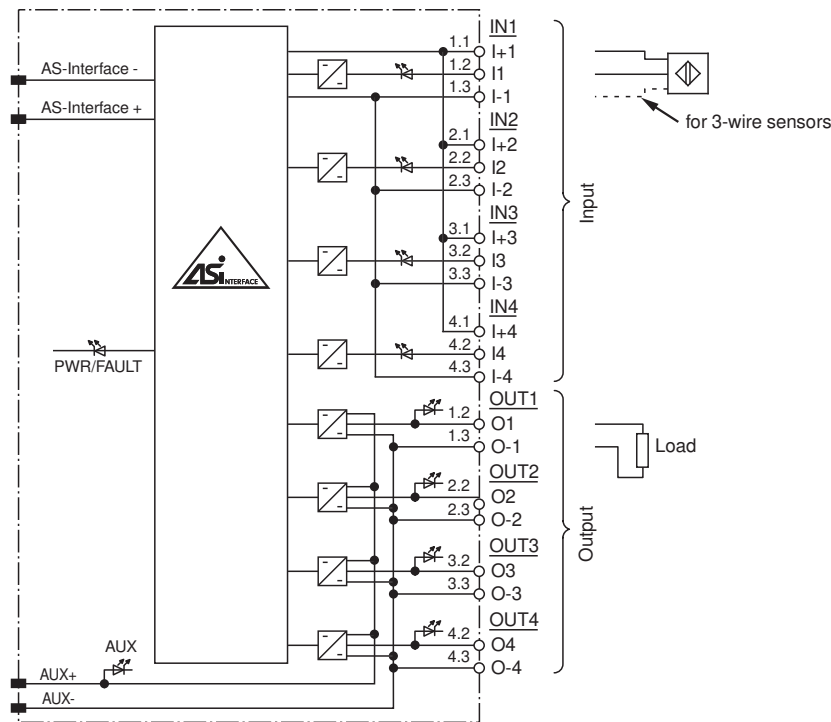
Profile		S-7.0
IO code		7
ID code		0
ID1 code		F
ID2 code		E
UL File Number		E223772
Indicators/operating means		
LED PWR/FAULT		dual LED green/red green: AS-Interface voltage red: communication error or address 0 green/red flashing: overload sensor supply or outputs
LED AUX		ext. auxiliary voltage U_{AUX} ; LED green
LED IN		switching state (input); 4 LED yellow
LED OUT		Switching state (output); 4 LED yellow
Electrical specifications		
Auxiliary voltage (output)	U_{AUX}	24 V DC $\pm$ 15 % PELV
Rated operating voltage	U_e	26.5 ... 31.6 V from AS-Interface
Rated operating current	I_e	$\leq$ 30 mA (without sensors) / max. 230 mA
Protection class		III
Surge protection		U_{AUX} , U_{in} : Over voltage category III, safe isolated power supplies (PELV)
Input		
Number/Type		4 inputs for 2- or 3-wire sensors (PNP), DC
Supply		from AS-Interface
Voltage		21 ... 31 V
Current loading capacity		$\leq$ 200 mA ($T_B \leq 40^\circ\text{C}$), $\leq$ 160 mA ($T_B \leq 60^\circ\text{C}$), short-circuit protected
Input current		$\leq$ 9 mA (limited internally)
Switching point		according to DIN EN 61131-2 (Type 2)
0 (unattenuated)		$\leq$ 3 mA
1 (attenuated)		$\geq$ 5 mA
Output		
Number/Type		4 electronic outputs, PNP, overload and short-circuit proof
Supply		from external auxiliary voltage U_{AUX}
Voltage		$\geq$ ($U_{AUX} - 0.5\text{ V}$)
Current		1 A per output, 4 A total
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 62026-2:2013
Ambient conditions		
Ambient temperature		-25 ... 60 °C (-13 ... 140 °F)
Storage temperature		-25 ... 85 °C (-13 ... 185 °F)
Relative humidity		85 % , noncondensing
Climatic conditions		For indoor use only
Altitude		$\leq$ 2000 m above MSL
Pollution degree		3
Mechanical specifications		
Degree of protection		IP65

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Technical Data

Connection	cable piercing method or terminal compartment yellow flat cable/black flat cable or standard round cable inputs/outputs:M12 x 1.5 cable glands and cage tension spring terminals
Material	
Housing	PA 6 GF30
Mass	350 g
Tightening torque, housing screws	0.8 Nm
Mounting	DIN rail or screw mounting

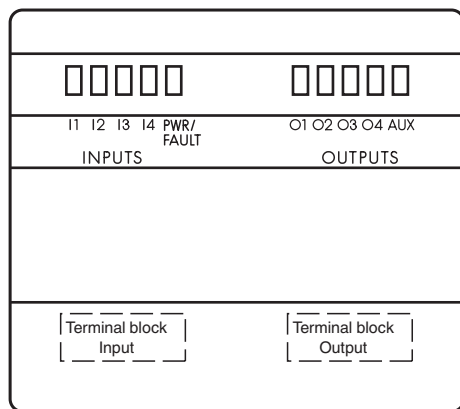
Connection



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	Output
D0	IN1	OUT1
D1	IN2	OUT2
D2	IN3	OUT3
D3	IN4	OUT4

Parameter bits
(programmable via AS-Interface)

Parameter bit	Function
P0	Communication monitoring P0=0 monitoring off, the outputs maintain the status if communication fails P0=1 monitoring on, if communication fails, the outputs are deenergised, default setting
P1	not used
P2	not used
P3	not used

Matching System Components

	U-G1FF	AS-Interface module mounting base for connection to flat cable (AS-Interface and external auxiliary power)
	U-G1PP	AS-Interface module mounting base for connection to round cable (AS-Interface and external auxiliary power)

Accessories

	VBP-HH1-V3.0-KIT	AS-Interface Handheld with accessory
	VAZ-G4-B1	Blind plug M12