



# AS-Interface sensor/actuator module

## VAA-2EA-G2-ZA/EA2

- AS-Interface certificate
- Degree of protection IP67
- Addressing jack
- Flat cable connection with cable piercing technique, variable flat cable guide
- Communication monitoring
- 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

G2 flat module 2 inputs (PNP) and 2 electronic outputs



### Function

The VAA-2EA-G2-ZA/EA2 is an AS-Interface coupling module with 2 inputs and 2 outputs. Mechanical contacts and 2- and 3-wire sensors can be connected to the inputs. The outputs are electronic outputs, which can be loaded to 24 V DC and 1 A per output.

The IP67 flat module features an integrated addressing jack and is ideal for applications in the field.

Connection to sensors/actuators is provided via M12 x 1 screw connections. The current switching state of each channel is indicated by an LED located on the module's top side. Similarly, an LED is provided to monitor the AS-Interface communication and to indicate that the module has the address 0. If an AS-Interface communication error occurs, the outputs are de-energised.

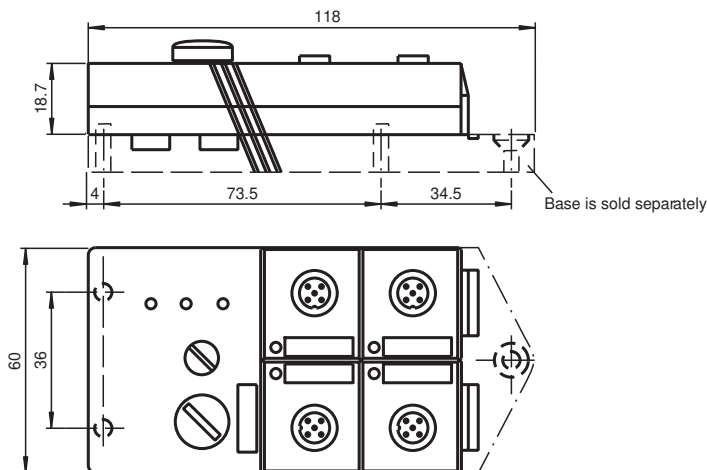
The input circuit is monitored for short circuits. LEDs are also provided to indicate ASInterface voltage and external power supply.

The U-G3FF mounting base is normally used for the connection of the AS-Interface flat cable and the external 24 V DC power supply. The specially designed base enables the user to connect flat cables from both sides. This means, for example, that 90° curves can be laid with very tight radii (variable flat cable guide).

**Note:**

The mounting base for the module is sold separately.

### Dimensions



### Technical Data

General specifications	
Node type	Standard node
AS-Interface specification	V3.0
Required gateway specification	≥ V2.0
UL File Number	E223772
Indicators/operating means	

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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

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## Technical Data

LED FAULT		error display; LED red red: communication error or address is 0 red flashing: overload of sensor supply
LED PWR		AS-Interface voltage; LED green
LED AUX		ext. auxiliary voltage $U_{AUX}$ ; LED green
LED IN		switching state (input); 2 LED yellow
LED OUT		Switching state (output); 2 LED yellow
<b>Electrical specifications</b>		
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	$I_e$	$\leq$ 40 mA (without sensors) / max. 190 mA
Protection class		III
Surge protection		$U_{AUX}$ , $U_{in}$ : Over voltage category III, safe isolated power supplies (PELV)
<b>Input</b>		
Number/Type		2 inputs for 2- or 3-wire sensors (PNP), DC
Supply		from AS-Interface
Voltage		21 ... 31 V
Current loading capacity		$\leq$ 150 mA ( $T_B \leq 40$ °C), $\leq$ 120 mA ( $T_B \leq 60$ °C), short-circuit protected
Input current		$\leq$ 8 mA (limited internally)
Switching point		according to DIN EN 61131-2 (Type 2)
0 (unattenuated)		$\leq$ 1.5 mA
1 (attenuated)		$\geq$ 4.5 mA
Signal delay		$<$ 2 ms (input/AS-Interface)
Signal frequency		$\leq$ 250 Hz
<b>Output</b>		
Number/Type		2 electronic outputs, PNP
Supply		from external auxiliary voltage $U_{AUX}$
Voltage		$\geq$ ( $U_{AUX}$ - 0.5 V)
Current		1 A per output
<b>Directive conformity</b>		
Electromagnetic compatibility		
Directive 2014/30/EU		EN 62026-2:2013 EN 61000-6-2:2001 EN 61000-6-4:2001
<b>Standard conformity</b>		
Degree of protection		EN 60529:2000
Fieldbus standard		EN 62026-2:2013
Input		EN 61131-2:2007
Emitted interference		EN 61000-6-4:2001
AS-Interface		EN 62026-2:2013
Noise immunity		EN 61000-6-2:2001
<b>Programming instructions</b>		
Profile		S-3.F
IO code		3
ID code		F
ID1 code		F
ID2 code		F
<b>Data bits</b> (function via AS-Interface)		<b>Input</b> Output
D0		IN1 -
D1		IN2 -
D2		- OUT3
D3		- OUT4
<b>Parameter bits</b> (programmable via AS-i)		<b>function</b>

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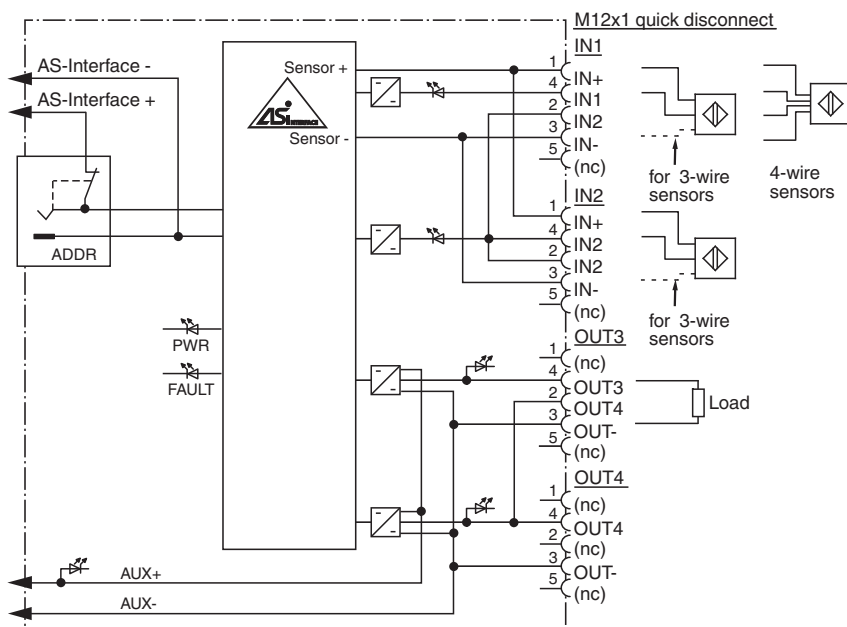
Pepperl+Fuchs Group  
www.pepperl-fuchs.comUSA: +1 330 486 0001  
fa-info@us.pepperl-fuchs.comGermany: +49 621 776 1111  
fa-info@de.pepperl-fuchs.comSingapore: +65 6779 9091  
fa-info@sg.pepperl-fuchs.com

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**Technical Data**

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)
P3	not used
<b>Ambient conditions</b>	
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	≤ 2000 m above MSL
Pollution degree	3
<b>Mechanical specifications</b>	
Degree of protection	IP67
Connection	Cable piercing method flat cable yellow/flat cable black inputs/outputs: M12 round connector
<b>Material</b>	
Housing	PBT
Mass	100 g
Tightening torque, cable gland	0.4 Nm
Mounting	Mounting plate

**Connection**



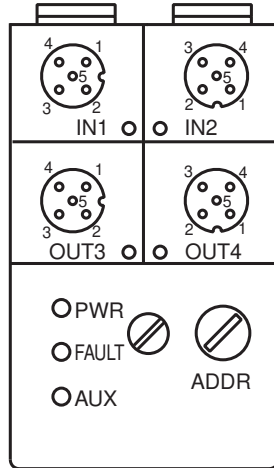
**Connection**

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.


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## Assembly



## Matching System Components

	<b>U-G3FF</b>	AS-Interface module mounting base for connection to flat cable (AS-Interface and external auxiliary power)
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## Accessories

	<b>VBP-HH1-V3.0-KIT</b>	AS-Interface Handheld with accessory
	<b>VAZ-PK-1,5M-V1-G</b>	Adapter cable module/hand-held programming device