



## AS-Interface sensor/actuator module VAA-4E4A-KE1-Z/E2

- Housing with removable terminals
- Communication monitoring
- Inputs for 2-wire sensors and mechanical contacts
- Addressing jack
- Power supply of the inputs and outputs from the external auxiliary voltage
- Function display for bus, ext. auxiliary voltage, inputs and outputs

KE1 switch cabinet module, 4 inputs and 4 outputs



### Function

The AS-Interface Module VAA-4E4A-KE1-Z/E2 is a control cabinet with 4 inputs and 4 electronic outputs. The housing, only 22.5 mm in width and 48.5 mm in height, takes up little place in the switch cabinet. The module features an integrated addressing jack is mounted by snapping onto the 35 mm DIN rail in accordance with EN 50022.

For easy disconnection for commissioning and servicing, the connection is via plug-in black 4-pin spring terminals. The external auxiliary voltage, the AS-Interface cable, the inputs and outputs (IN and O), as well as the plus potential of the inputs (I+) and the minus potential of the outputs (O-) are connected with the module via double terminals.

The inputs and outputs and the connected sensors and actuators are supplied via external auxiliary power UAUX. Polarity reversal is signalled by a red light on the AUX-LED.

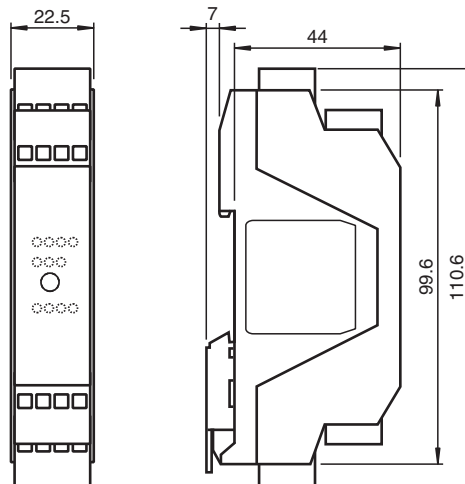
The current switching status is indicated for each input and output by means of an LED on the top of the module.

**Note:**

The device features communication monitoring. 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 outputs, e.g. due to short-circuiting, the FAULT-LED on the module flashes and 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
Profile	S-7.0
IO code	7

Release date: 2023-03-28 Date of issue: 2023-03-28 Filename: 186880\_eng.pdf

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

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## Technical Data

ID code		0
ID1 code		F
ID2 code		E
UL File Number		E87056
<b>Indicators/operating means</b>		
LED FAULT		error display; LED red red: communication error or address is 0 red flashing: overload of outputs
LED PWR		AS-Interface voltage; LED green
LED AUX		ext. auxiliary voltage $U_{AUX}$ ; dual LED green/red green: voltage OK red: reverse voltage
LED IN		switching state (input); 4 LED yellow
LED OUT		Switching state (output); 4 LED yellow
<b>Electrical specifications</b>		
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	$I_e$	≤ 40 mA
Protection class		III
Surge protection		$U_{AUX}$ , $U_{in}$ : Over voltage category III, safe isolated power supplies (PELV)
<b>Input</b>		
Number/Type		4 inputs for 2-wire sensors (PNP), DC or for mechanical contacts
Supply		from external auxiliary voltage $U_{AUX}$
Input current		≤ 8 mA (limited internally)
Switching point		according to DIN EN 61131-2 (Type 2)
0 (unattenuated)		≤ 2 mA
1 (attenuated)		≥ 4 mA
Signal delay		< 2 ms (input/AS-Interface)
Signal frequency		≤ 250 Hz
<b>Output</b>		
Number/Type		4 electronic outputs, PNP, overload and short-circuit proof
Supply		from external auxiliary voltage $U_{AUX}$
Voltage		≥ ( $U_{AUX} - 0.5$ V)
Current		0.5 A per output , 2 A per module
Usage category		DC-13
<b>Directive conformity</b>		
Electromagnetic compatibility		
Directive 2014/30/EU		IEC 62026-2:2015 EN 61326-1:2006
<b>Standard conformity</b>		
Degree of protection		EN 60529:2000
Fieldbus standard		EN 62026-2:2013
Input		EN 61131-2:2015
Emitted interference		EN 55011:2009
AS-Interface		EN 62026-2:2013
Noise immunity		EN 61326-1:2006
<b>Ambient conditions</b>		
Ambient temperature		-25 ... 60 °C (-13 ... 140 °F)
Storage temperature		-25 ... 85 °C (-13 ... 185 °F)
Relative humidity		90 % , noncondensing
Pollution degree		2
<b>Mechanical specifications</b>		
Degree of protection		IP20

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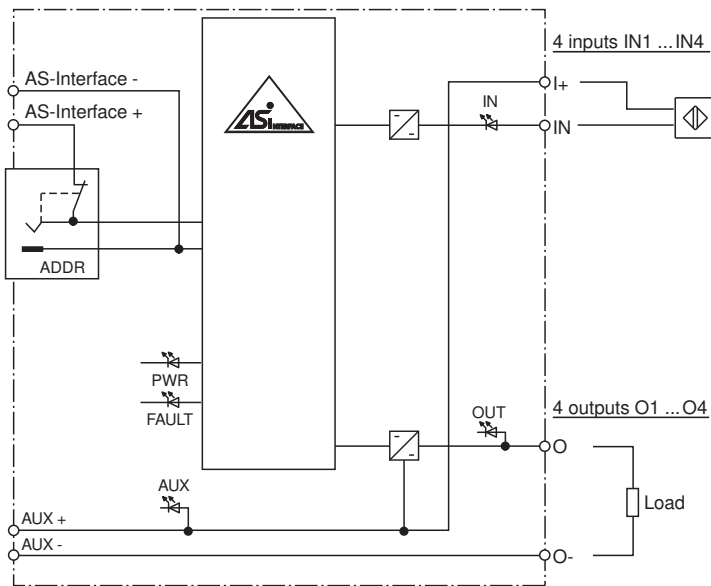
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**Technical Data**

Connection	removable spring double terminals rated connection capacity: rigid/flexible (with and without wire-end ferrules): 0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> recommended tools for 1.5 mm <sup>2</sup> : PxC CRIMPFOX ZA3 or Weidmüller PZ 6 roto
Material	
Housing	PA 66-FR
Mass	80 g
Mounting	DIN mounting rail

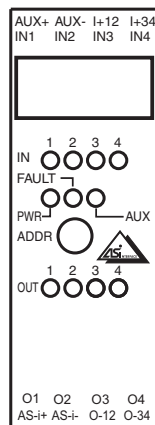
**Connection**



**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	O1
D1	IN2	O2
D2	IN3	O3
D3	IN4	O4

**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	Input filter P1=0 input filter on, pulse suppression $\leq 2$ ms P1=1 input filter off, default setting
P2	Synchronous mode P2=0 Synchronous mode on P2=1 Synchronous mode off, default setting
P3	not used

## 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
	<b>VAZ-CHAIN-BU/BN70MM/1,0-25</b>	25-point wiring link for control cabinet modules with screw terminals