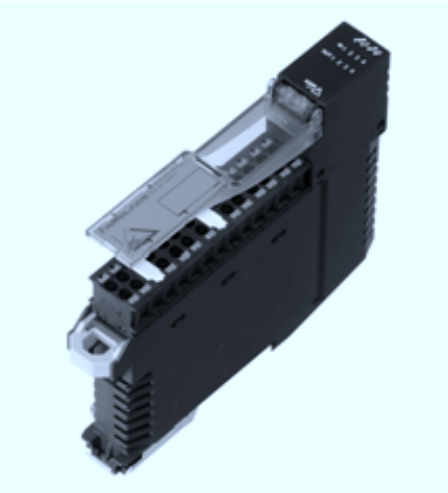


Model number

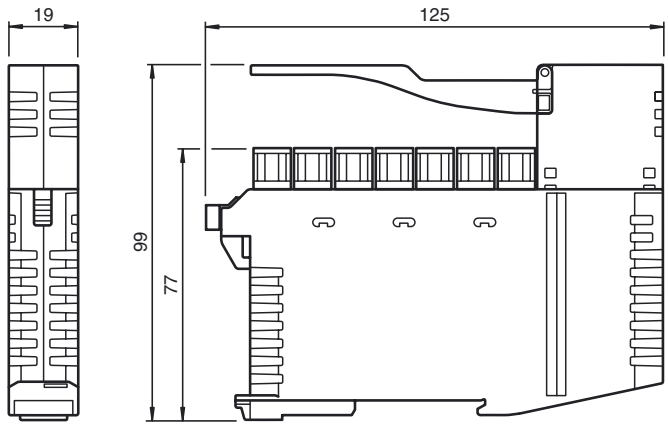
VAA-4E4A-KE5-ZEJQ/R

Cabinet module
4 inputs and 4 relay outputs

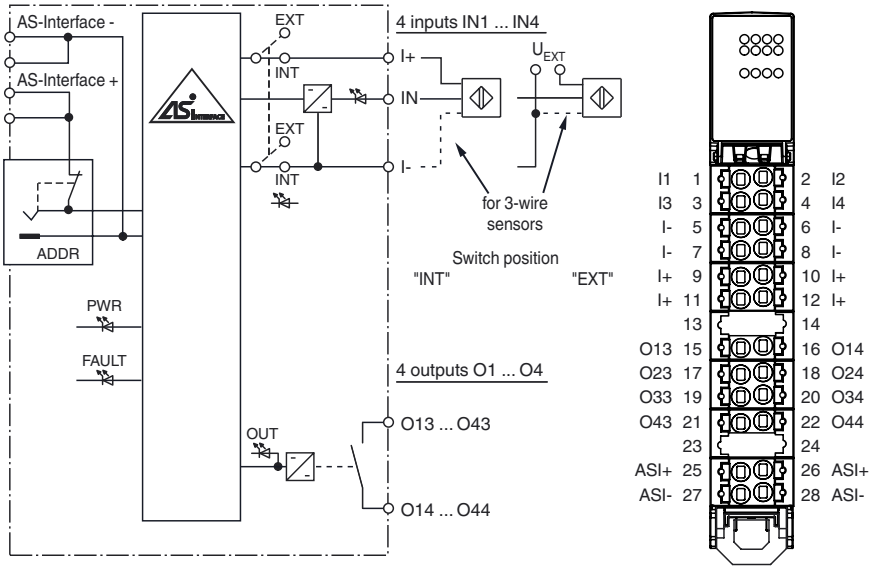
Features

- Housing with push-in connection technology and mechanically coded terminal blocks
- Housing width 19 mm, installation in the switch cabinet on DIN mounting rail
- Selectable supply to the sensors: External or from the module
- Function display for bus, internal sensor supply, inputs, and outputs

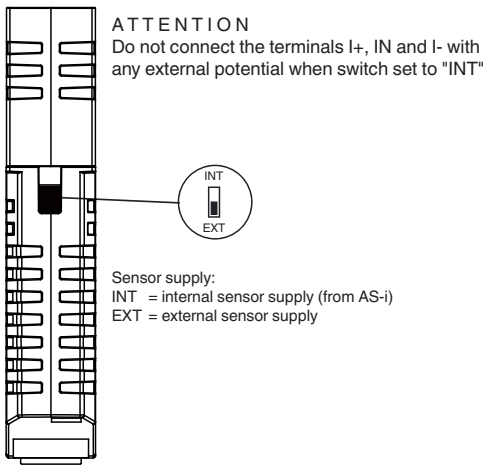
Dimensions

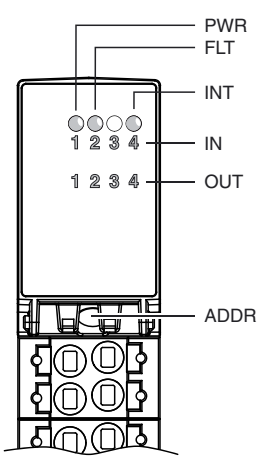


Electrical connection



Indicating / Operating means





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Technical data

General specifications		
Slave type		Standard slave
AS-Interface specification		V3.0
Required master specification		≥ V2.0
Indicators/operating means		
LED FAULT		Fault display; Red LED red: Communication fault or address is 0 red, flashing: Overload, internal input supply
LED INT		Internal input supply active; LED green
LED PWR		AS-Interface voltage; green LED green: voltage OK flashing green: address 0
LED IN		switching state (input); 4 LED yellow
LED OUT		Switching state (output); 4 LED yellow
Electrical specifications		
Auxiliary voltage (input)	U_{EXT}	12 ... 30 V DC PELV
Rated operating voltage	U_e	26.5 ... 31.6 V from AS-Interface
Rated operating current	I_e	≤ 35 mA (without sensors) / max. 230 mA
Surge protection		overvoltage category II
Input		
Number/Type		4 inputs for 3-wire sensors (PNP), DC
Supply		from AS-Interface (switch position INT, basic setting) or external U_{EXT} (switch position EXT)
Voltage		21 ... 31 V DC (INT)
Current loading capacity		≤ 150 mA, overload- and short-circuit protected (INT)
Input current		≤ 5.6 mA (max.)
Switching point		according to DIN EN 61131-2 (type 1)
0 (unattenuated)		≤ 0.5 mA
1 (attenuated)		≥ 2 mA
Signal delay		< 1 ms (input/AS-Interface)
Output		
Number/Type		4 relay outputs, normally open
Supply		none
Nominal load		
Per contact		2 A/30 VDC; 2 A/250 VAC
Per module		8 A
Control circuit		≤ 17 mA per relay (from AS-Interface)
Switching delay		< 10 ms (AS-Interface/contact)
Usage category		DC-13 and AC-14
Switching		
Mechanical		5×10^7
Electrical		2×10^5 (250 VAC, 2 A, cos ϕ = 0.4)
Electrical isolation		
Input/Output		safe isolation, Rated insulation voltage 252 Veff
Input/AS-Interface		Switch position INT: None Switch setting EXT: safe isolation, rated insulation voltage 92 Veff
Output/Output		Basic insulation, rated insulation voltage 250 V_{eff}, in phase
Output/AS-Interface		safe isolation, Rated insulation voltage 252 Veff
Programming instructions		
Profile		S-7.0
IO code		7
ID code		0
ID1 code		F
ID2 code		E
Data bits (function via AS-Interface)		**input** / **output**
D0		IN1 / O1
D1		IN2 / O2
D2		IN3 / O3
D3		IN4 / O4
Parameter bits (programmable via AS-i)		**function**
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 (basic setting)
P1		Input filter P1 = 0 input filter on, pulse suppression ≤ 2 ms P1 = 1 input filter off (basic setting)
P2		Synchronous mode P2 = 0 synchronous mode on P2 = 1 synchronous mode off (basic setting)
P3		not used
Ambient conditions		
Ambient temperature		-25 ... 60 °C (-13 ... 140 °F)
Storage temperature		-25 ... 85 °C (-13 ... 185 °F)
Relative humidity		90 % , noncondensing

Function

The AS-Interface connecting module VAA-4E4A-KE5-ZEJQ/R is a switch cabinet module with 4 inputs and 4 relay contact outputs. The housing is only 19 mm wide and takes up little space in the switch cabinet. The module is mounted by snapping onto the 35 mm DIN rail in compliance with EN 50022. The connection is made via removable 4-pin push-in terminal blocks. For AS-i+ and AS-i-, two connections are available in each case; these connections are bridged in the terminal block. If the terminal block is disconnected from the module, the link between these connections is retained. The terminal blocks for the inputs and outputs are mechanically coded.
The supply to the inputs and the connected sensors can be fed either from the internal supply of the module from the AS-Interface or via an external U_{EXT} voltage source. A switch located on the side of the module changes the source.
The internal input supply is displayed via the INT LED. The relevant IN and OUT LEDs display the current switching status of the inputs and outputs.

Notes:
The device is equipped with a communication monitor, which deactivates the outputs if the AS-Interface does not communicate with the module for more than 40 ms. The communication monitor can be deactivated via the parameter P0. Filters that suppress pulses with a duration of 2 ms or less at the inputs can be connected via the parameter P1.
Parameter P2 activates the AS-Interface synchronous mode.

Installation, Commissioning, and Maintenance
Install the device in a closed electrical plant where only electricians or persons with appropriate electrical training have access.
The relevant laws, guidelines, and standards that apply for the application or intended use must be observed.
The device must be installed in a switch cabinet or switch box that meets degree of protection IP54 as a minimum.

Requirements for AS-Interface power supply
PELV according to IEC 60204-1. Safely separated according to EN 50178 / IEC 62103. The AS-Interface power supply voltage must not exceed 36 V in case of error.

Daisy-Chaining Devices
Insulation to the outer surfaces of the housing: Basic insulation in accordance with EN 60947-1. To provide reliable and double insulation, devices in the direct vicinity must have basic insulation as a minimum.

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Accessories

VBP-HH1-V3.0-KIT
AS-Interface Handheld with accessory

VBP-HH1-V3.0
AS-Interface Handheld

VAZ-PK-1,5M-V1-G
Adapter cable module/hand-held programming device

Altitude	≤ 2000 m
Shock and impact resistance	15 g, 11 ms in 6 spatial directions, 3 shocks 10 g, 16 ms in 6 spatial directions, 1000 shocks
Vibration resistance	0.35 mm 10 ... 57 Hz , 5 g 57 ... 150 Hz, 20 cycles
Pollution Degree	2
Mechanical specifications	
Degree of protection	IP20 Installation in an enclosure with a minimum protection class of IP54 required
Connection	Removable push-in terminals rated connection capacity: rigid: 0.20 mm^2 – 1.5 mm^2 flexible (without wire end ferrule): 0.20 mm^2 ... 2.5 mm^2 flexible (with wire end ferrule): 0.25 mm^2 ... 1.5 mm^2
Material	
Housing	PA 66-FR
Mass	125 g
Mounting	DIN mounting rail
Compliance with standards and directives	
Directive conformity	
Low Voltage Directive 2006/95/EC	EN 60664-1:2007
EMC Directive 2004/108/EC	EN 61000-6-2:2005, EN 61000-6-4:2007, EN 62026:2013
Standard conformity	
Noise immunity	EN 61000-6-2:2005, EN 61326-1:2006, EN 62026:2013
Emitted interference	EN 61000-6-4:2007
Input	EN 61131-2:2004
Electrical isolation	EN 60664-1:2007
Degree of protection	EN 60529:2000
Fieldbus standard	EN 62026:2013
Electrical safety	IEC 61140:2009

Notes

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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