







Model number

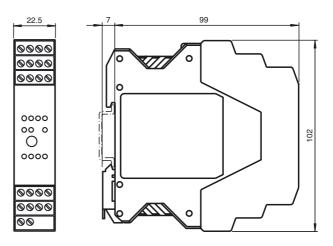
VAA-4E4A-KE-ZE/R

KE switch cabinet module 4 inputs (PNP) and 4 relay outputs

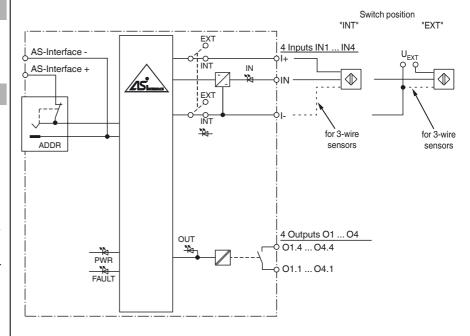
Features

- Housing with removable, mechanical and color coded terminals
- · Communication monitoring
- Inputs for 2- and 3-wire sensors
- · Isolated relay output
- Addressing jack
- Selectable supply to the sensors: External or from the module
- Function display for bus, internal sensor supply, inputs, and outputs

Dimensions



Electrical connection



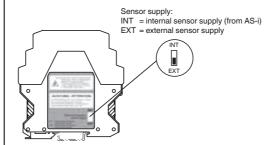
Indicating / Operating means

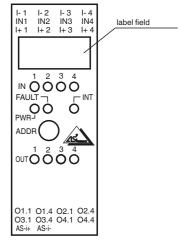


The plug connectors with dangerous contact voltage must not be connected or disconnected under power

ATTENTION

Do not connect the terminals I+, IN and I- with any external potential when switch set to "INT" $\,$





Technical data General specifications Standard slave Slave type AS-Interface specification V2.1 Required master specification ≥ V2.0 UL File Number E106378 Functional safety related parameters 300 a $MTTF_d$ Mission Time (T_M) 20 a Diagnostic Coverage (DC) 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; LED green I FD 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 U_e 26.5 ... 31.6 V from AS-Interface Rated operating voltage Rated operating current ≤ 35 mA (no sensors)/max. 210 mA l_e Surge protection O1 ... O4: Over voltage category II U_{EXT}, U_e: 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 (switch position INT, basic setting) or external U_{EXT} (switch position EXT) 21 ... 31 V DC (INT) Voltage Current loading capacity ≤ 150 mA, overload- and short-circuit protected (INT) Input current ≤ 8 mA (limited internally) according to DIN EN 61131-2 (Type 2) Switching point 0 (unattenuated) \leq 2 mA 1 (attenuated) ≥ 4 mA < 2 ms (input/AS-Interface) Signal delay Output Number/Type 4 relay outputs, normally open Supply none Nominal load Per contact 2 A / 30 V DC; 2 A / 253 V AC Per module Control circuit < 8 mA per relay (from AS-Interface) Switching delay < 10 ms (AS-Interface/contact) Usage category DC-13 and AC-14 Switching 5×10^{6} Mechanical $0.2 \times 10^6 (250 \text{ V AC}, 2 \text{ A}, \cos \phi = 0.4)$ Electrical **Electrical isolation** safe isolation, rated insulation voltage 300 V AC Input/Output Input/AS-Interface Switch position INT: None Switch position EXT: reinforced insulation, rated insulation voltage 66 V DC Output/Output basic insulation, rated insulation voltage 300 V AC Output/AS-Interface safe isolation, rated insulation voltage 300 V AC **Programming instructions** Profile S-7.0 IO code 7 ID code 0 ID1 code F ID2 code Е Data bits (function via AS-Interface) input output IN₁ 01 D1 IN₂ 02 D2 IN3 О3 Ω D3 IN4 Parameter bits (programmable via AS-i) function P0 not used P1 not used P2 not used not used Ambient conditions Ambient temperature -25 ... 60 °C (-13 ... 140 °F) Storage temperature -25 ... 85 °C (-13 ... 185 °F) Relative humidity 90 %, noncondensing Pollution Degree 2

Function

The VAA-4E4A-KE-ZE/R AS-Interface I/O module is a cabinet module with 4 inputs and 4 relay outputs. The only 22.5 mm width housing requires not much space in the switch cabinet. The module is installed by snapping on the 35 mm DIN Rail in accordance with EN 50022

The connection is made through plug-in terminals. For the inputs and outputs 4-way-terminal blocks (inputs black, outputs red) are used. The connection of the AS-Interface is made via a 2-way-terminal block (yellow). In order to avoid exchanges, the terminals for inputs and outputs as well as AS-Interface are coded mechanically.

The power supply of the inputs and the connected sensors can be made as required via the internal supply of the module (AS-Interface) or via an external voltage source. The switching is carried out by means of a switch that is positioned at the side of the module. The selection of the internal input supply is indicated via the LED INT. The current switching state of each input and output is indicated by the resp. LED IN and OUT.

The device is equipped with a communication monitoring, which switches the outputs to their de-energized state, when there is no AS-Interface communication with the module for more than 40 ms.

An overloading of the internal input supply will be reported via the function 'peripheral error' to the AS-Interface master. The communication via the AS-Interface remains intact.

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

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PEPPERL+FUCHS

Mechanical specifications	
Degree of protection	IP20
Connection	removable terminals rated connection capacity: rigid/flexible (with and without wire-end ferrules): 0.25 mm ² 2.5 mm ² for multiple-wire connection with two wires of equal cross-section: flexible with twin wire-end ferrules: 0.5 mm ² 1.5 mm ²
Material	
Housing	PA 66-FR
Mass	170 g
Mounting	DIN mounting rail
Compliance with standards and dire	cti-

ves	
Directive conformity	
Low Voltage Directive 73/23/EEC	EN 60947-1:2007
EMC Directive 2004/108/EC	EN 61326:2003
Standard conformity	
Electromagnetic compatibility	NAMUR NE 21: 1998-08
Electrical isolation	EN 60947-1
Degree of protection	EN 60529:2000
Fieldbus standard	EN 50295:1999

Notes

Installation, commissioning, maintenance:

The device has to be installed into a separate electrical operation facility with access only for electrical professionals or instructed persons.

Connectors with dangerous contact voltage must only be plugged-in or unplugged in a deenergized state.

The rights, guidelines and standards according to the intended or planned use should be observed.

Bundled devices:

Isolation to external surfaces: basic insulation to EN 60947-1, no basic insulation at the termi-

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.