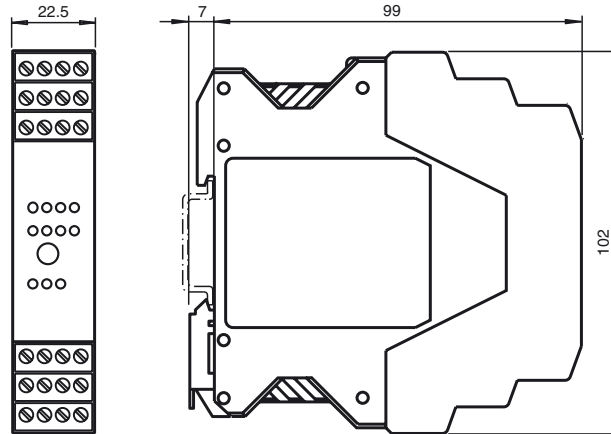
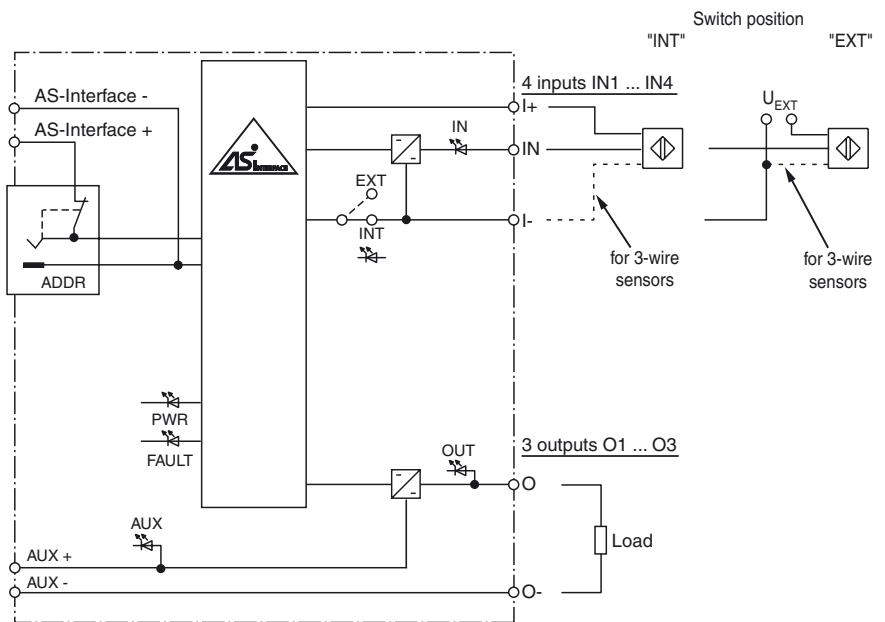




Dimensions



Electrical connection



Model Number

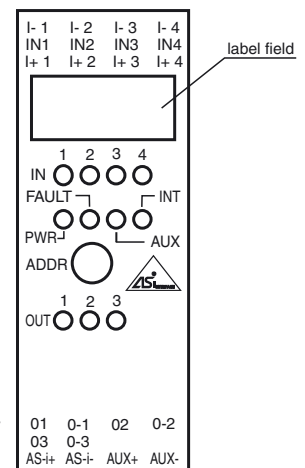
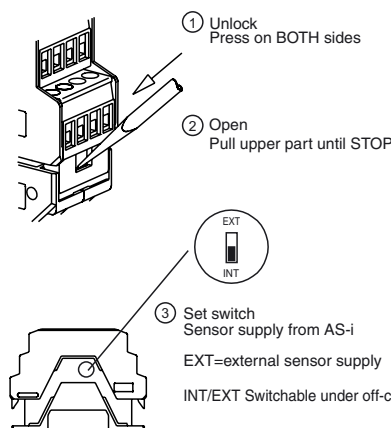
VBA-4E3A-KE-ZE/E2

KE switch cabinet module
4 inputs and 3 outputs

Features

- A/B slave with extended addressing possibility for up to 62 slaves
- Housing with removable and colour coded terminals
- Communication monitoring
- Inputs for 2- and 3-wire sensors
- Addressing jack
- Power supply of outputs from the external auxiliary voltage
- Supply of inputs external or from the module, as required
- Function display for bus, ext. auxiliary voltage, inputs and outputs

Indicators / Operating means



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Technical data**General specifications**

Slave type	A/B slave
AS-Interface specification	V2.1
Required master specification	≥ V2.1
UL File Number	E87056

Functional safety related parameters

MTTF _d	150 a
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 or outputs
LED INT	Internal input voltage active; LED green
LED PWR	AS-Interface voltage; LED green
LED AUX	ext. auxiliary voltage U _{AUX} ; LED green
LED IN	switching state (input); 4 LED yellow
LED OUT	Switching state (output); 3 LED yellow

Electrical specifications

Auxiliary voltage (input)	U _{EXT}	12 ... 30 V DC PELV
Auxiliary voltage (output)	U _{AUX}	20 ... 30 V DC PELV
Protection class		III
Rated operational voltage	U _e	26.5 ... 31.6 V from AS-Interface
Rated operational current	I _e	≤ 35 mA (without sensors) / max. 190 mA
Overvoltage protection		U _{EXT} , U _{AUX} , 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)
Voltage	21 ... 31 V DC (INT)
Current loading capacity	≤ 150 mA, overload- and short-circuit proof (INT)
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

Output

Number/Type	3 electronic outputs, PNP, overload and short-circuit proof
Supply	from external auxiliary voltage U _{AUX}
Current	O1 max. 3 A, O2/O3 max. 1.5 A, total 6 A (T _B ≤ 40 °C) O1 max. 2 A, O2/O3 max. 1 A, total 4 A (T _B ≤ 60 °C)
Voltage	≥ (U _{AUX} - 0,5 V)
Usage category	DC-13

Programming instructions

Profile	S-7.A.0
IO code	7
ID code	A
ID1 code	7
ID2 code	0

Data bits (function via AS-Interface)	input	output
D0	IN1	O1
D1	IN2	O2
D2	IN3	O3
D3	IN4	-

Parameter bits (programmable via AS-i)

P0	not used
P1	not used
P2	not used
P3	not used

Ambient conditions

Ambient temperature	-25 ... 60 °C (248 ... 333 K)
Storage temperature	-25 ... 85 °C (248 ... 358 K)
Relative humidity	90 % , non-condensing
Pollution Degree	2

Mechanical specifications

Protection degree	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

Function

The VBA-4E3A-KE-ZE/E2 AS-Interface coupling module is a cabinet module with 4 inputs and 3 electronic outputs. The only 22.5 mm width housing requires not much space in the switch cabinet. The VBA-4E3A-KE-ZE/E2 is installed by snapping on the 35 mm DIN Rail in accordance with EN 50022.

The connection type is made through plug-in terminals. 4-way terminal blocks (black) are used for the inputs. The connection of the outputs and the external auxiliary supply and AS-Interface is made through the 2-way terminal blocks (outputs black, Auxiliary voltage gray and AS-Interface yellow). This allows simple disconnection of single actuators or supply for commissioning or service.

The power supply of the inputs and the connected sensors can be made as required internal via the module (AS-Interface) or via an external voltage source. The switching occurs with the switch in the device. The selection of the internal input supply is indicated via the LED INT. The current switching state of each in- and output is indicated by a LED on the front plate.

Note:

The device is equipped with a watchdog, which switches the outputs to their de-energized state, when on the AS-interface cable is no communication for more than 40 ms.

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

Accessories**VBP-HH1-V3.0**

AS-Interface Handheld

VAZ-PK-1,5M-V1-G

Connection cable module/hand-held programming device

Material	
Housing	PA 66-FR
Mass	150 g
Mounting	DIN rail

Compliance with standards and directives

Directive conformity	
EMC Directive 2004/108/EC	EN 61000-6-2: 2005, EN 61000-6-4: 2007, EN 50295: 1999
Standard conformity	
Interference rejection	EN 61000-6-2:2005
Emitted interference	EN 61000-6-4:2007
AS-Interface	EN 50295:1999-10
Input	EN 61131-2: 2004
Protection degree	EN 60529:2000

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.