

Model number

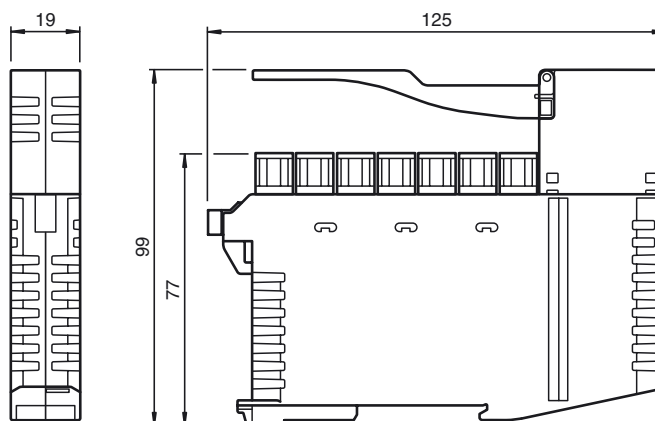
VBA-2A-KE5-IL/UL

Switch cabinet module
Two analog outputs

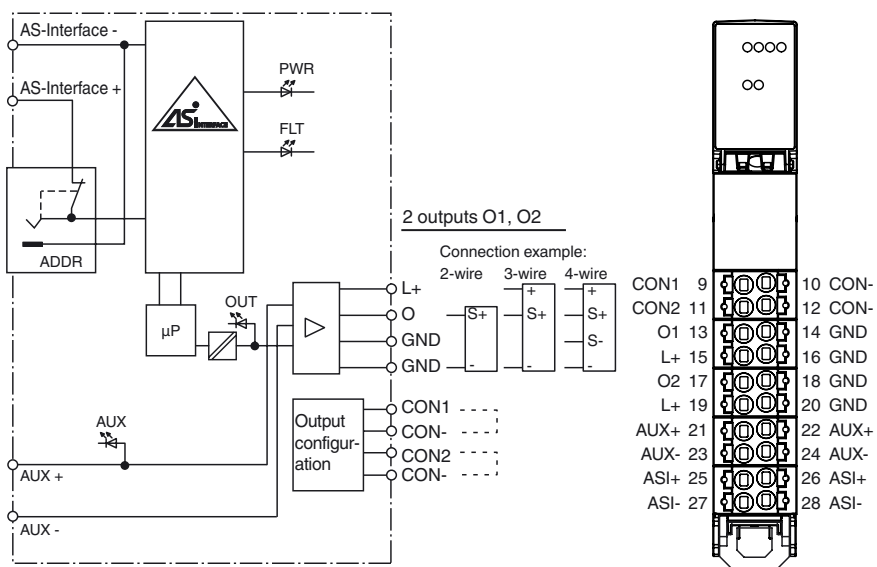
Features

- Housing with push-in connection technology and mechanically coded terminal blocks
- Housing width 19 mm, installation in the switch cabinet on DIN mounting rail
- Power supply of outputs from the external auxiliary voltage
- Function display for bus, external auxiliary voltage and outputs

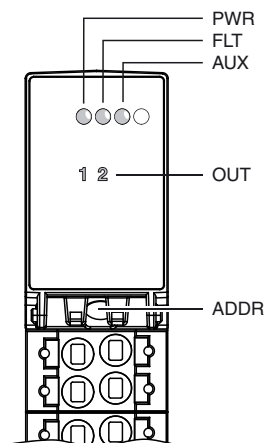
Dimensions



Electrical connection



Indicating / Operating means



Technical data

General specifications

Slave type	Standard slave
AS-Interface specification	V3.0
Required master specification	≥ V2.1
UL File Number	E223772
MTBF	197 a

Indicators/operating means

LED FAULT	Fault indication: red LED Red: communication error or address is 0 Red flashing: peripheral fault
LED PWR	AS-Interface voltage; green LED Green: voltage OK Flashing green: address 0 or peripheral error
LED AUX	ext. auxiliary voltage U_{AUX} ; dual LED green/red green: voltage OK red: reverse voltage
LED OUT	Status of output signal; yellow LED Yellow: output value within value range Continuously on: current mode 1.4 s on/0.1 s off: voltage mode Flashing yellow: wire break (at current output) or output value outside of value range

Electrical specifications

Auxiliary voltage (output)	U_{AUX}	24 V DC ± 15 % PELV
Rated operating voltage	U_e	26.5 ... 31.6 V from AS-Interface
Rated operating current	I_e	≤ 75 mA
Protection class		III
Current consumption		$I_{AUX} \leq 650$ mA
Surge protection		U_{AUX} , U_e : overvoltage category II, safe isolated power supplies (PELV)

Output

Number/Type	Two analog outputs Current: 0 mA ... 20 mA Voltage: 0 V ... 10 V
Supply	From auxiliary voltage U_{AUX}
Load	voltage output: ≥ 1 kΩ current output: ≤ 600 Ω
Current loading capacity	≤ 600 mA (signal current + actuator power supply) from external auxiliary voltage U_{AUX} ; overload-proof and short-circuit proof
Resolution	Voltage output: 3 mV Current output: 6 μA
Accuracy	0.15 % of full-scale value
Temperature influence	1 μA/K or 0.3 mV/K
Short-circuit current	voltage output: ≤ 22 mA

Directive conformity

Electromagnetic compatibility	
Directive 2014/30/EU	EN 62026-2:2013

Standard conformity

Degree of protection	EN 60529:2000
Fieldbus standard	EN 62026-2:2013
Emitted interference	EN 61000-6-4:2007
AS-Interface	EN 62026-2:2013
Noise immunity	EN 61000-6-2:2005, EN 61326-1:2006, EN 62026-2:2013

Programming instructions

Profile	S-7.3.5
IO code	7
ID code	3
ID1 code	F
ID2 code	5

Data bits (function via AS-Interface)	The transfer of the data value is based on AS-Interface Profile 7.3.
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Parameter bits (programmable via AS-i) function

P0	Watchdog: P0=1 (default), watchdog active P0=0, watchdog inactive
P1	Output mode O1: P1=1 (default), current output P1=0, voltage output
P2	Indication of peripheral fault: P2=1 (default), peripheral fault is reported P2=0, peripheral fault is not reported
P3	Output mode O2: P3=1 (default), current output P3=0, voltage output

Ambient conditions

Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Storage temperature	-25 ... 85 °C (-13 ... 185 °F)
Relative humidity	85 % , noncondensing

Function

The AS-Interface connecting module VBA-2A-KE5-IL/UL is a switch cabinet module with 2 analog outputs. The housing is only 19 mm wide and takes up little space in the switch cabinet. The module is mounted by snapping it 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+, AS-i-, AUX+, and AUX-, 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 are mechanically coded. The power to the outputs and the connected actuators is supplied via the external U_{AUX} voltage source.

The relevant OUT LED displays the current switching status of the outputs. The OUT LEDs also indicate a lead breakage or an output value outside of the value range at the output.

Notes:

The device is equipped with a communication monitor, which sets the outputs to zero 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. The output mode of current or voltage output is configured via the parameters P1 and P3 or via the terminals CON1 and CON2.

A wire break at the current output, an output value outside of the value range, or an overload of the actuator supply cause a peripheral fault. The parameter P2 determines whether a peripheral fault is reported to the AS-Interface master. The communication via AS-Interface remains unaffected.

If an overload occurs on the actuator supply, the outputs are set to zero.

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

VAZ-BRIDGE-BU/BN60MM/0,75-100

Jumper for switch cabinet modules with spring terminals or screw terminals

Climatic conditions	For indoor use only
Altitude	≤ 2000 m above MSL
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
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	110 g
Mounting	DIN mounting rail
Note	Max. length of jumpers = 5 cm

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.

Configuration of output mode

CON1	CON2	P1	P3	O1	O2
Open	Open	1	1	Current	Current
Open	Open	0	1	Voltage	Current
Open	Open	1	0	Current	Voltage
Open	Open	0	0	Voltage	Voltage
CON-	Open	x	x	Voltage	Current
Open	CON-	x	x	Current	Voltage
CON-	CON-	x	x	Voltage	Voltage

Do not connect the CON1, CON2, and CON- connections with external potentials. The length of the jumpers must not exceed 5 cm.