Model number

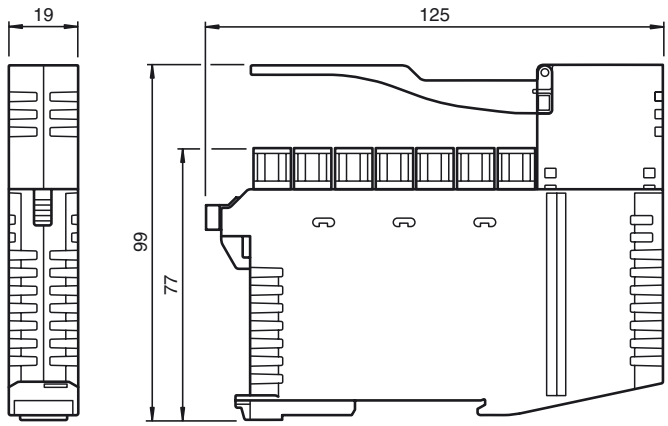
VBA-4A-KE5-IJL/UJL

Switch cabinet module
Four analog outputs

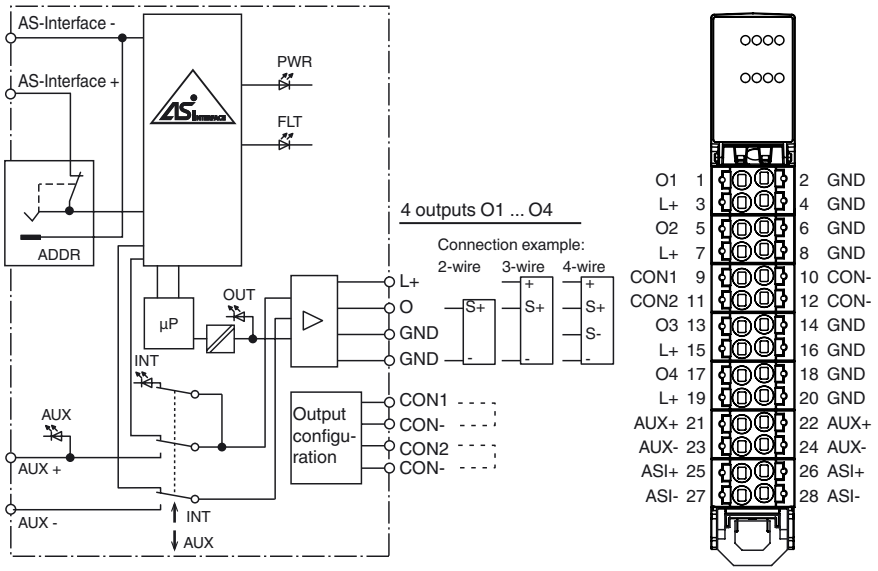
Features

- 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 external or from the module, as required
- Function indicator for the bus, external auxiliary voltage, internal output voltage, and outputs

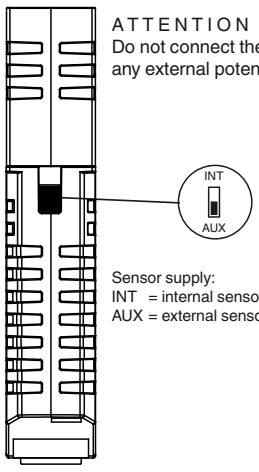
Dimensions



Electrical connection

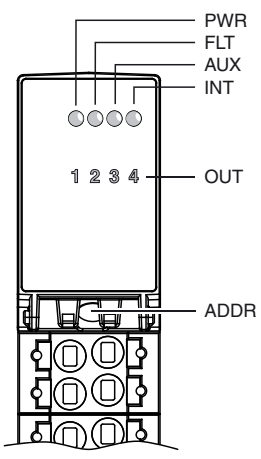


Indicating / Operating means



ATTENTION
Do not connect the terminals L+, OUT and GND with any external potential when switch set to "INT"

Sensor supply:
INT = internal sensor supply (from AS-i)
AUX = external sensor supply



Release date: 2019-01-09 10:13 Date of issue: 2019-01-09 290768_eng.xml

Technical data

General specifications		
Slave type		Standard slave
AS-Interface specification		V3.0
Required master specification		≥ V2.1
UL File Number		E223772
MTBF		115 a
Indicators/operating means		
LED FAULT		Fault indication: red LED Red: communication error or address is 0 Red flashing: peripheral fault
LED INT		Internal output voltage active; green LED
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 range Yellow flashing: lead breakage (on current output) or output value out of 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 (without outputs) / max. 200 mA
Protection class		III
Current consumption		I_{AUX} ≤ 650 mA
Surge protection		U_{AUX}, U_e: overvoltage category II, safe isolated power supplies (PELV)
Output		
Number/Type		4 analog outputs Current: 0 ... 20 mA Voltage: 0 ... 10 V
Supply		From AS-Interface (switch setting INT, default setting) or from auxiliary voltage U_{AUX} (switch setting AUX)
Load		voltage output: ≥ 1 kΩ current output: ≤ 600 Ω
Current loading capacity		≤ 100 mA (signal current + actuator power supply) from AS-Interface; overload-proof and short-circuit proof ≤ 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-7.3.6
IO code		7
ID code		3
ID1 code		F
ID2 code		6
Data bits (function via AS-Interface)		The transfer of the data value is based on AS-Interface Profile 7.3.
Parameter bits (programmable via AS-i)		**function**
P0		Watchdog: P0=1 (default), watchdog active P0=0, watchdog inactive
P1		Output mode: P1=1 (default), 4x current outputs P1=0, 4x voltage outputs
P2		Indication of peripheral fault: P2=1 (default), peripheral fault is reported P2=0, peripheral fault is not reported
P3		Automatic mode: P3=1 (default), manual setting of output mode P3=0, automatic load detection (mixed mode possible)
Ambient conditions		
Ambient temperature		-25 ... 70 °C (-13 ... 158 °F)
Storage temperature		-25 ... 85 °C (-13 ... 185 °F)

Function

The AS-Interface connecting module VBA-4A-KE5-IJL/UJL is a switch cabinet module with 4 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 supply to the outputs and the connected actuators can be fed either from the internal supply of the module from the AS-Interface or via the external U_{AUX} voltage source. A switch located on the side of the module changes the source.
The internal output supply is displayed via the INT LED. 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 of 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

Release date: 2019-01-09 10:13 Date of issue: 2019-01-09 290768_eng.xml

Relative humidity	85 % , noncondensing
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	Output mode
Open	Open	1	1	4 x current
Open	Open	0	1	4 x voltage
Open	Open	1	0	Automatic mode
Open	Open	0	0	Reserved
CON-	Open	x	x	4 x voltage
Open	CON-	x	x	Automatic mode
CON-	CON-	x	x	Reserved

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

Release date: 2019-01-09 10:13 Date of issue: 2019-01-09 290768_eng.xml