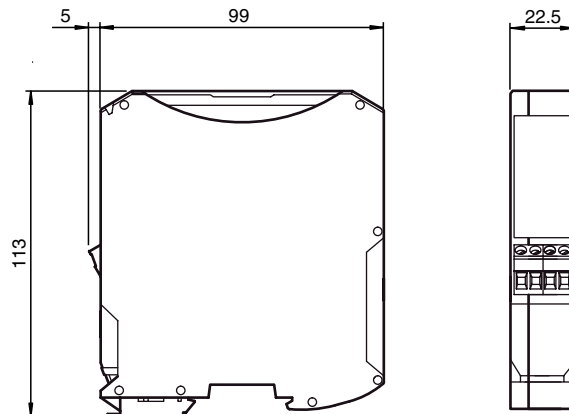
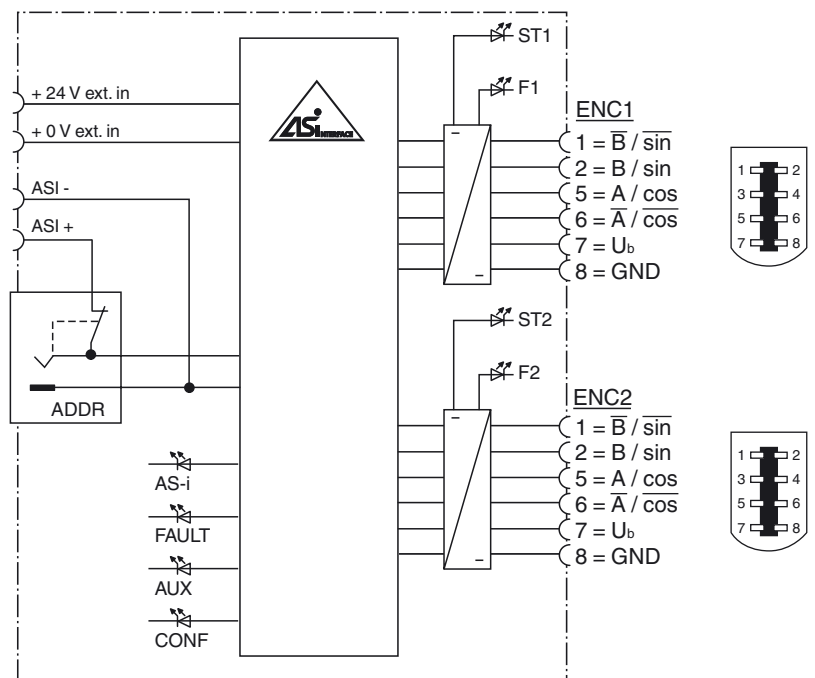




Dimensions



Electrical connection



Model number

VBA-2E-KE4-ENC-S

KE4 control cabinet module
2 inputs for incremental rotary encoders

Features

- SIL3 (EN 62061)
- Addressing jack
- Memory card for configuration data

Function

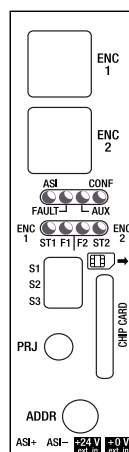
The AS-Interface rotational speed monitor VBA-2E-KE4-ENC-S is a safe control cabinet module with 2 inputs. The inputs comprise 2 safe inputs for incremental encoders. The rotational speed monitor monitors the stand-still, rotational speed and direction of rotation on a maximum of two axes and sends a safe signal via the AS-Interface network when a value falls below the set threshold.

The housing, which is only 22.5 mm wide, requires little space in the switch cabinet. The module is installed by simply snapping it onto the 35 mm standard mounting rail to EN 50022. An addressing socket is integrated in the module.

The AS-Interface and external power supply are each connected by means of a 2-station terminal block. This permits the simple removal of the supply during commissioning or servicing. The supply to the rotary encoders is fed either internally via the module from the AS-Interface or via an external supply. The current status of the inputs is indicated via yellow LEDs. Communication faults are indicated via red LEDs. The display of the operating voltage and the address 0 is provided by a green LED.

The configuration data is saved on a chip card, making it easier to replace the module in the event of damage.

Indicating / Operating means



- ENC 1 = Encoder 1
- ENC 2 = Encoder 2
- S1, S2, S3 = Function switch 1 - 3
- CHIP CARD = Chip card
- PRJ = Configuration button
- ADDR = Addressing jack

Release date: 2020-02-06 11:42 Date of issue: 2020-02-06 23:4941_eng.xml

Technical data**General specifications**

Slave type	A/B slave
AS-Interface specification	V3.0
Required master specification	≥ V3.0
UL File Number	E223772

Functional safety related parameters

Safety Integrity Level (SIL)	SIL 3
Performance level (PL)	PL e
Mission Time (T _M)	20 a
PFH _d	2.77 E-9

Indicators/operating means

LED FAULT	error display; LED red red: communication error
LED AS-i	AS-Interface voltage; LED green
LED AUX	ext. auxiliary voltage U _{AUX} ; LED green
LED CONF	Off = Normal mode, yellow LED
LED STATE	Status of rotary encoder, 2 yellow LEDs
LED FREQUENCY	Low frequency or halt, 2 LED yellow

Electrical specifications

Auxiliary voltage (input)	U _{EXT}	18 ... 30 V _{DC}
Insulation voltage	U _i	500 V AS-Interface/U _{AUX} :
Rated operating voltage	U _e	18.0 ... 31.6 V from AS-Interface
Rated operating current	I _e	≤ 150 mA from AS-Interface; ≤ 200 mA from AUX

Interface 1

Interface type	Chip card slot
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Input

Number/Type	2 inputs for incremental rotary encoders AMP mini-IO connector
Voltage	U _b = 5 V DC
Signal delay	100 ms at 1015 Hz < f _{limit} 140 ms at 45 Hz < f _{limit} < 1015 Hz 700 ms at f _{limit} < 45 Hz
Signal frequency	Parameterization range 25 Hz ... 200 kHz
Current	≤ 100 mA

Directive conformity

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

Standard conformity

Degree of protection	EN 60529:2000
Electrical safety	EN 954-1:1996 (up to Kategorie 4), EN 62061:2005 (up to SIL3) EN ISO 13849-1:2006 to PL e
Input	EN 61131-2:2007
AS-Interface	EN 62026-2:2013

Programming instructions

Profile	Safe input slaves: S-0.B.E Diagnosis slaves: S-7.A.5.
IO code	0
ID code	B
ID1 code	F

Ambient conditions

Ambient temperature	0 ... 55 °C (32 ... 131 °F)
Storage temperature	-25 ... 85 °C (-13 ... 185 °F)

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
Mounting	DIN mounting rail

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-ENC-1,5M-PVC

Connection cable for connecting encoders to a speed monitor

VAZ-SW-SIMON+

Software for configuration of K30 Master Monitors/K31 and KE4 Safety Monitors

Matching system components**RVS58S-*****Z****Safe Speed Monitor**