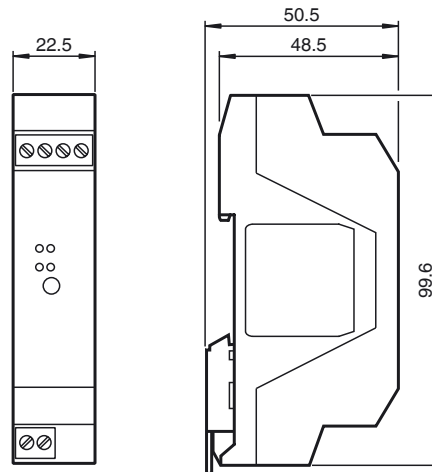


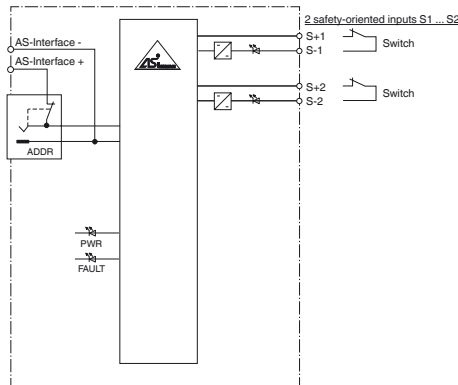


TÜV approved up to cat.4 / SIL3

Dimensions



Electrical connection



Model number

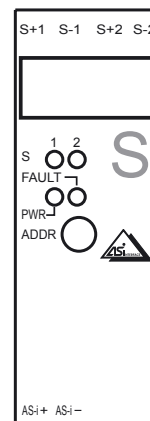
VAA-2E-KE1-S

KE1 safety module for the control cabinet
2 Safety-related inputs

Features

- 2 safe inputs for mechanical contacts such as EMERGENCY-STOP switch
- Housing with removable terminals
- Communication monitoring
- Power supply of inputs from the module
- Function display for bus and inputs
- Cross-circuit detection
- Addressing jack

Indicating / Operating means



Technical data

General specifications

Slave type	Safety-Slave
AS-Interface specification	V2.1
Required master specification	≥ V2.0
UL File Number	E87056

Functional safety related parameters

Safety Integrity Level (SIL)	SIL 3
MTTF _d	200 a

Indicators/operating means

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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

LED FAULT	error display; LED red red: communication error or address is 0	
LED PWR	AS-Interface voltage; LED green	
LED IN	switching state (input); 2 LED yellow	
Electrical specifications		
Rated operating voltage	U_e	26.5 ... 31.6 V PELV from AS-Interface
Rated operating current	I_e	≤ 70 mA
Protection class	III	
Input		
Number/Type	2 safety-related inputs for mechanical contacts, cross-circuit monitored: 2 single-channel contacts: up to category 2 in accordance with EN 954-1 or 1, 2-channel contact: up to category 4 in accordance with EN 954-1 Cable length must not exceed 300 m per input.	
Supply	from AS-Interface	
Voltage	20 ... 30 V DC pulsed	
Current loading capacity	input current limited ≤ 15 mA, overload and short-circuit resistant	
Directive conformity		
Electromagnetic compatibility		
Directive 2014/30/EU	EN 62026-2:2013	
Standard conformity		
Insulation coordination		
EN 50178:1998	EN 50178:1998	
Electromagnetic compatibility		
EN 61000-6-2, EN 61000-4-5 1 kV asymmetric, criterion B, EN 61000-6-4	EN 61000-6-2, EN 61000-4-5 1 kV asymmetric, criterion B, EN 61000-6-4	
Degree of protection	EN 60529:2000	
Fieldbus standard	EN 62026-2:2013	
Electrical safety	EN 50178:1998 IEC 60204-1:2007	
Emitted interference	EN 61000-6-4:2001	
AS-Interface	EN 62026-2:2013	
Functional safety	EN 954-1:1996 (up to category 4), BIA Final Draft "Proposal for a principle to the verification and certification of field buses for transmission of safety related signals" 28.05.2000, IEC 61508 up to SIL3	
Standards	NFPA 79:2002	
Programming instructions		
Profile	S-0.B	
IO code	0	
ID code	B	
ID1 code	F	
ID2 code	0	
Data bits (function via AS-Interface)	input	output
D0	dyn. safety code 1	-
D1	dyn. safety code 1	-
D2	dyn. safety code 2	-
D3	dyn. safety code 2	-
Parameter bits (programmable via AS-i)	function	
P0	not used	
P1	not used	
P2	not used	
P3	not used	
Ambient conditions		
Ambient temperature	-25 ... 50 °C (-13 ... 122 °F)	
Storage temperature	-25 ... 85 °C (-13 ... 185 °F)	
Shock and impact resistance	10 g, 16 ms in 6 spatial directions 1000 shocks	
Vibration resistance	0.75 mm 10 ... 57 Hz, 5 g 57 ... 150 Hz, 20 cycles	
Mechanical specifications		
Degree of protection	IP20	
Connection	removable terminals, terminal connection ≤ 2.5 mm ²	
Material		
Housing	PA 66-FR	
Mass	80 g	
Mounting	DIN mounting rail	

Notes

The cables and the way they are laid must comply with the standards that apply to the application, e. g. IEC 60204. The requirements specified in the instructions must be observed.

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.

Function

The VAA-2E-KE1-S is an AS-Interface safety module with 2 safety-related inputs. A dual channel mechanical switch or in each case a single channel mechanical switch can be connected to the two inputs.

The housing, only 22.5 mm in width and 48.5 mm in height, takes up little place in the switch cabinet. The module features an integrated addressing jack is mounted by snapping onto the 35 mm DIN rail in accordance with EN 50022. Plug-in terminals are used for connection. A 4-way terminal block (black) is used for the inputs. The AS-Interface is connected via a double terminal block (yellow).

The current switching state of each channel is indicated by an LED, located on the module's top side. Similarly, an LED is provided to monitor the AS-Interface communication and to indicate that the module has the address 0. When single channel force-directed mechanical switches are connected, up to Category 2 in accordance with EN 954-1 can be achieved, given the appropriate wiring and selection of switch.

When a two-channel force-directed mechanical switch is connected, up to Category 4 in accordance with EN 954-1 can be achieved, given the appropriate wiring and selection of switch.

As per approval in accordance with IEC 61508 up to SIL 3 can be achieved.

Both inputs of the module are assigned. The two channels of the mechanical switch are monitored for a cross circuit. A LED is also provided to indicate AS-Interface voltage.

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