



TÜV approved
up to cat. 4

Model number

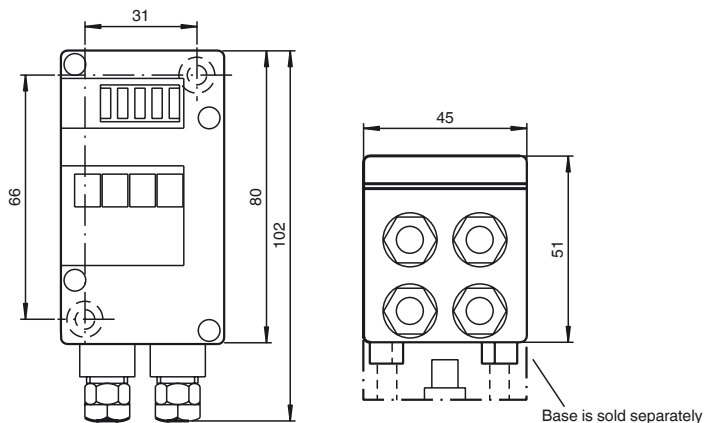
VAA-2E-G4-SN

G4 PG module IP67
safety module with 2 inputs

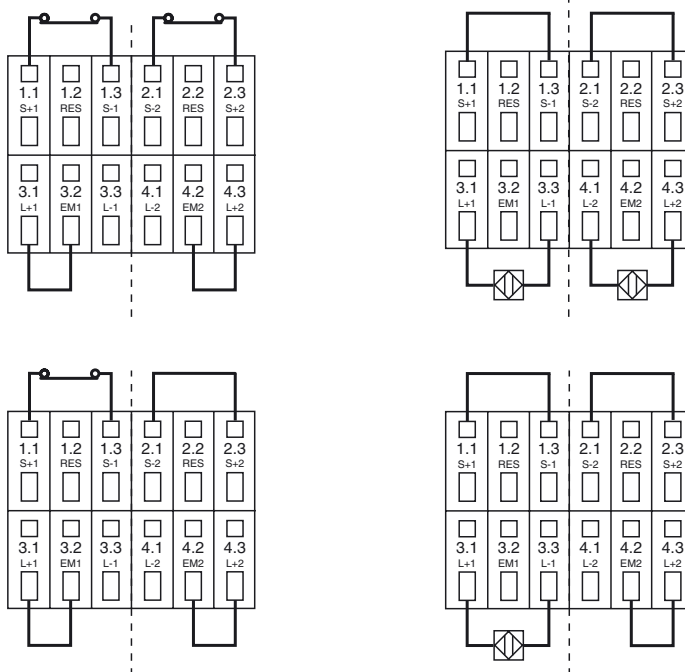
Features

- Two inputs for SN sensors or two mechanical contacts such as EMERGENCY-STOP switch
- Degree of protection IP67
- Flat or round cable connection (via standardized EMS base, not included with delivery)
- Cross-circuit detection for mechanical switches

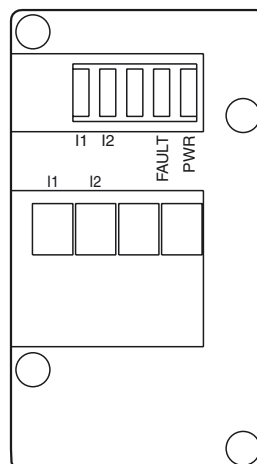
Dimensions



Electrical connection



Indicating / Operating means



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Technical data**General specifications**

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

Indicators/operating means

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 from AS-Interface
Rated operating current	I_e	≤ 70 mA
Protection class		III
Fault current	I_f	≤ 90 mA

Input

Number/Type	2 Inputs for SN sensors (category S, EN 60947-5-3; category 3+4, EN 954-1) or for mechanical contacts (category 4, EN 954-1) Inputs for mech. switch, monitored for cross-circuit, cable length < 30 m
Supply	from AS-Interface
Current loading capacity	input current limited ≤ 15 mA, overload and short-circuit resistant
Switching point	SN specification mech. switch current 10 mA pulsed

Programming instructions

Profile	S-0.B
IO code	0
ID code	B
ID1 code	F
ID2 code	E

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 ... 55 °C (-13 ... 131 °F)
Storage temperature	-25 ... 85 °C (-13 ... 185 °F)
Relative humidity	< 95 %
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	IP67
Connection	cable piercing method or terminal compartment yellow flat cable or standard round cable inputs: M12 x 1.5 cable gland and cage tension spring terminals
Material	
Housing	PA 6 GF30
Mass	180 g
Mounting	DIN rail or screw mounting

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 The device has been used for the same applications for several years. It therefore features an appropriate electromagnetic field immunity. The device must not be used in new plants.
Standard conformity	
Electromagnetic compatibility	EN 61000-6-2:2005, EN 61000-4-x, EN 61000-4-5:2005 1kV asymmetric, criterion B, EN 61000-6-4:2007, EN 55011:2009
Emitted interference	EN 61000-6-4:2001
Insulation coordination	EN 50178:1998
Functional safety	DIN EN 954-1:1996 (by category 4), IEC 60947-5-3:1999
Degree of protection	EN 60529:2000
Fieldbus standard	EN 50295:1999, IEC 62026-2:2006
Electrical safety	IEC 60204-1:2007

Function

When used in accordance with conditions in combination with an AS-Interface safety monitor, this AS-Interface safety slave makes it possible to operate sensor-driven personal protection equipment. The slave is equipped with two safety-related inputs to which a mechanical switch or a secure inductive sensor of Pepperl+Fuchs in accordance with the SN specification can be connected.

When single channel force-directed mechanical switches are connected, up to Category 3 in accordance with EN 954-1 can be achieved, given the appropriate wiring and selection of switch. Often the wiring of a single-channel switch is implemented in such a manner that a short circuit can be excluded in one channel (for example by protecting that channel or with a sufficiently insulated wire). Without this error exclusion, up to Category 2 can be achieved.

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. Both inputs of the slave are assigned. The two channels of the mechanical switch are monitored for a cross circuit.

When SN sensors are connected, an input achieves Category 3 in accordance with EN 954-1 given the appropriate wiring, in case of functional dependent proximity switches up to Category 4 can be achieved. Cables of SN sensors are monitored for short circuit and lead breakage. The SN sensors may not be connected via a common cable, unless a cross circuit between both sensor inputs can be excluded by protected wiring.

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

AS-Interface Handheld with accessory

VBP-HH1-V3.0

AS-Interface Handheld

VAZ-G4-B

Blind plug PG7

VAZ-G4-B1

Blind plug M12

Matching system components**U-G1FA**

AS-Interface module mounting base with addressing jack for connection to flat cable (AS-Interface)

U-G1F

AS-Interface module mounting base for connection to flat cable (AS-Interface)

U-G1P

AS-Interface module mounting base for connection to round cable (AS-Interface)

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.