



Model Number

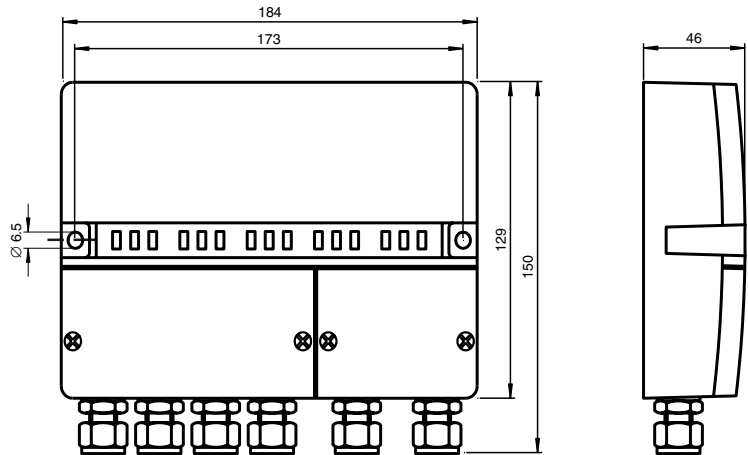
VAA-4E-G5-N-Ex

G5 Ex module
4 inputs

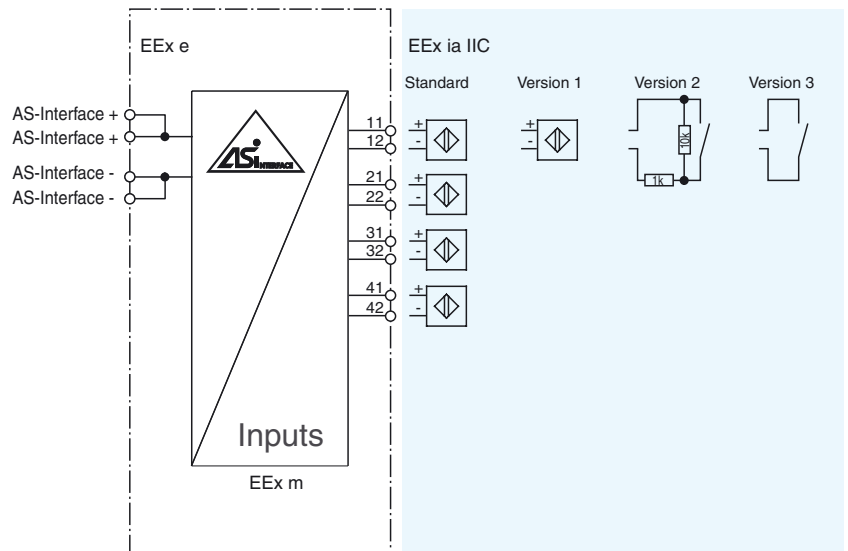
Features

- Use in hazardous area
- Control circuit EEx ia IIC
- Ignition protection class EEx me
- Connection of 4 sensors based on IEC 60947-5-6 (NAMUR, DIN 19234)
- Lead breakage and short-circuit monitoring
- Function display for bus and inputs

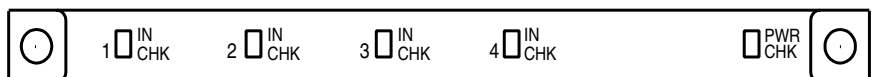
Dimensions



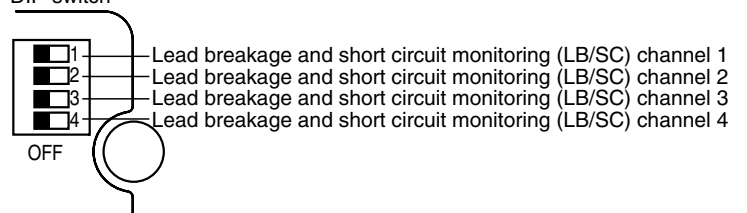
Electrical connection



Indicating / Operating means



DIP-switch



Technical data**General specifications**

Slave type	Standard slave
EC-Type Examination Certificate	BVS 97.D.2075

Indicators/operating means

LED PWR/CHK	dual-LED green/red green: AS-Interface voltage, normal operation red: communication error or address 0
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Electrical specifications

Rated operational voltage	U_e	26.5 ... 31.6 V from AS-Interface
Rated operational current	I_e	≤ 70 mA

Input

Number/Type	4 inputs according to IEC 60947-5-6 (NAMUR, DIN 19234)
Switching point	OFF ≤ 1.5 mA ON ≥ 4.5 mA

Values in accordance with prototype test certificate

Voltage	U_0	10.9 V
Current	I_0	14.6 mA
Power	P_0	40 mW
Type of protection		EEx ia IIC
External capacitance	C_0	530 nF
External inductance	L_0	3 mH

Programming instructions

Profile	S-0.F
IO code	0
ID code	F

Data bits (function via AS-Interface)	input	output
D0	IN1	-
D1	IN2	-
D2	IN3	-
D3	IN4	-

Parameter bits (programmable via AS-i) function

P0	not used
P1	not used
P2	not used
P3	not used

Ambient conditions

Ambient temperature	-20 ... 65 °C (253 ... 338 K)
Storage temperature	-20 ... 85 °C (253 ... 358 K)

Mechanical specifications

Protection degree	IP54 according to EN 60529
Connection	screw terminals
Mass	1.5 kg
Mounting	screw mounting

Function

The VAA-4E-G5-N-Ex module is intended for installation in zone 1 hazardous areas. The module itself is encapsulated (EEx m), while the connection system for the AS-Interface cable is designed for use with increased safety.

Four sensors per DIN EN 50227 (NAMUR) can be operated with this module (option 1) and the control circuit is EEx ia IIC. Mechanical contacts can also be connected.

If the mechanical contacts are switched in accordance with option 2, then the control circuit is monitored for lead breakage and short circuits.

Monitoring is not used with option 3, so error monitoring must be disabled. The respective DIP switches are located in the terminal compartment for the sensor and actuator connections.

Error monitoring is activated when current I is less than 0.1 mA (lead breakage) or greater than 6 mA (short circuit) in the control circuit. In this case the LED IN/CHK of the input in question flash red, and the module logs out from the AS interface.

Operating instruction

1. Application

- The interface modules are used in C&I technology for the transfer of binary signals within hazardous areas and from hazardous areas into non-hazardous areas. The outputs are designed to provide protection to "Intrinsic safety i", the BUS conforms to the protection type "Increased safety e", whilst the interface modules themselves satisfy the requirements of protection type "Encapsulation m". The interface modules are not suitable for the isolation of signals in heavy-current applications. Careful attention must be paid to the manufacturer's data sheets.

2. Installation, commissioning

- The interface modules satisfy protection class IP54.
- The interface modules are suitable for use in hazardous areas classed as Zone 1.
- The intrinsically safe circuits (Light blue identification on the device) may pass into hazardous areas, provided that special care is taken to ensure that they are safely isolated from all non-intrinsically safe circuits. Also, the installation must be executed in accordance with the relevant installation regulations. Where intrinsically safe field devices are interconnected with the intrinsically safe circuits of the interface modules, attention must be paid to the respective highest values of the field device and the interface modules in the sense of explosion protection (Verification of intrinsic safety).
- The EU prototype test certificate must be observed for devices with explosion protection.
- The installation can be effected in the form of direct wall mounting or as a cabling assembly with mounting clamps.

3. Maintenance

- The transfer characteristics of the devices remain stable over a long period, so that regular adjustment or other such actions are not required. No maintenance work is required.

4. Fault rectification

- Equipment operated in connection with hazardous areas must not be modified in any way. Repairs to the device must only be undertaken by specialist authorised personnel who have been trained for the task.