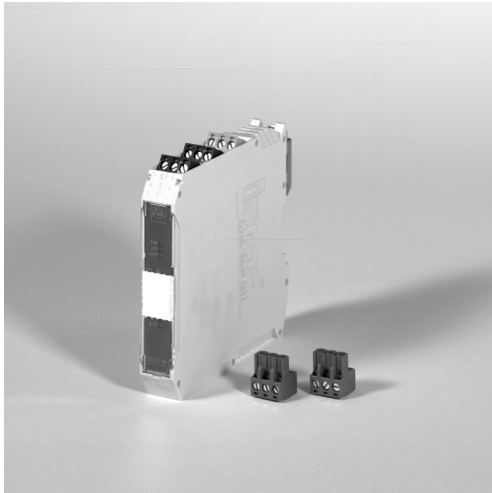


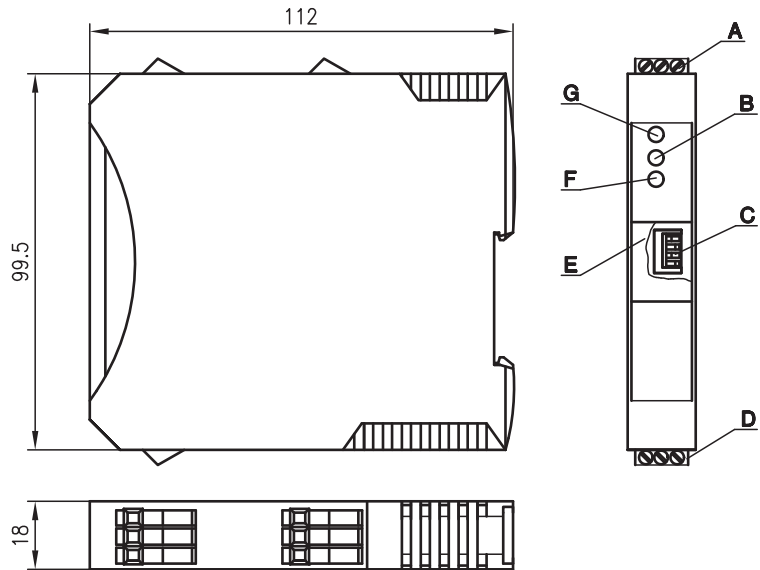
VS 403 Ex i

Isolated switching amplifier

en 08-2017/02 50111302-03

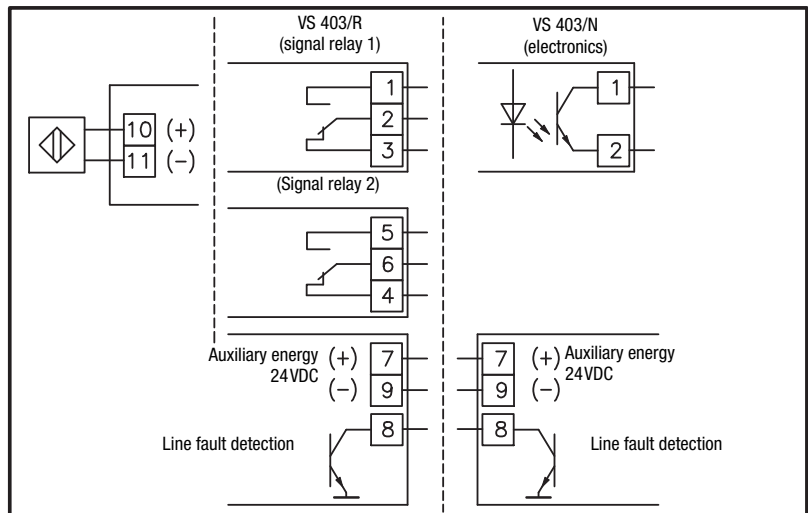


Dimensioned drawing



- A** Connection terminals: operating voltage and switching output
- B** Line Fault LF 1
- C** Switch for setting the operating modes
- D** Connection terminals: input [EEx ia] IIC
- E** Label area
- F** Switching state OUT 1
- G** Auxiliary energy available PWR

Electrical connection



Adjustments

To change the operating mode, open the transparent front flap and make the desired setting on the DIP switch.

Switch in left position (OFF): function OFF

Switch in right position (ON): function ON

- | | | |
|--------------------------|--------------------------|--|
| OFF | ON | Line fault detection ON/OFF |
| <input type="checkbox"/> | <input type="checkbox"/> | Normal/inverted direction of action |
| <input type="checkbox"/> | <input type="checkbox"/> | (corresponds to light/dark switching of the sensor signal) |
| <input type="checkbox"/> | <input type="checkbox"/> | Switch has no function |
| <input type="checkbox"/> | <input type="checkbox"/> | Switch has no function |

Normal direction of action -switch to left (OFF)- corresponds to figure for electrical connection. On delivery, both switches are in the OFF position (function off).



- Intrinsically safe input [ia Ga] IIC
- Input, output and operating voltage are galvanically isolated
- Wire break monitoring (may be deactivated)
- Operating modes adjustable
- Switching output with signal relay or transistor (NPN)
- 1 channel
- Top hat rail mounting
- Europe (ATEX): gas and dust DMT 02 ATEX E 195 X
- Ex II 3 (1) G Ex nA nC [ia Ga] IIC T4 Gc
- Ex II (1) D [Ex ia Da] IIIC
- Functional safety (IEC 61508)
Report: Exida STAHL 09/03-52 R019
max. SIL: 2



Accessories:

- Blue connection cable for intrinsically safe circuits (BK7 ... Ex)

We reserve the right to make changes • PAL_VS403NR_EXi_en_50111302_03.fm

Specifications

Electrical data

Operating voltage	18 ... 31.2VDC
Residual ripple	≤ 3.26V _{PP}
Power consumption	≤ 0.84W

Ex i input

Acc. to IEC 60 947-5-6 (NAMUR)	
Current I _E for ON	≥ 2.1 mA
Current I _E for OFF	≤ 1.2mA
Bias voltage	≤ 8.2V
Short-circuit current	≤ 8.2mA
Internal resistance	1000Ω

Output

	VS 403/R	VS 403/N
Minimum load	1V/100μA	–
Maximum load DC	125V/1A	35V/50mA DC
Maximum load AC	125V/1A	–
Maximum switching power	25W/50VA	1,75W
Able to withstand overload currents	–	yes

Timing

Switching frequency (max.)	15Hz	10kHz
Switching delay ON ** OFF	5ms	15μs
Switching delay OFF ** ON	5ms	30μs

Indicators

LED 1 green PWR	auxiliary energy available
LED 2 red LF 1	wire break
LED 3 yellow OUT 1	switching output ON

Mechanical data

Housing	plastic (polyamide 6.6)
Fire resistance housing	VO (UL standard 94)
Weight	160g
Mounting type	outside the potentially explosive area on DIN rails

Environmental data

Ambient temp. (operation/storage)	-20°C ... +70°C/-40°C ... +80°C
Protection class housing	IP 30
Protection class terminals	IP 20
Electromagnetic compatibility	IEC 60 947-5-6, NAMUR NE 21

Safety engineering data

Certification (ATEX)	 II 3 (1) G Ex nA nC [ia Ga] IIC T4 Gc
	 II (1) D [Ex ia Da] IIIC

Inputs (single channels)

Max. voltage U ₀	9.6V
Max. current I ₀	10mA
Max. power P ₀	24mW
Max. connectable capacitance C ₀	IIC 3.6μF
	IIB 26μF
	I 99μF
Max. connectable inductance L ₀	IIC 350mH
	IIB 1000mH
	I 1000mH
Inner capacitance C _i	2.42nF
Inner inductance L _i	negligible
Maximum safe voltage	253V

Fault detection input

Wire break	I _E < 0.05 ... 0.35mA
Short-circuit	RE < 100 ... 360Ω
Line fault display	Red LED
Line fault and auxiliary power failure message	NPN transistor, open collector, max. load 30V/100mA, switches to GND in the case of a fault (not available for VS 403/R-AC); pac-bus: potential-free contact

Order guide



Designation	Part no.
VS 403/N	50040825
VS 403/R	50040826

Tables

Diagrams

Remarks

Operate in accordance with intended use!

-  The product may only be put into operation by competent persons.
-  Only use the product in accordance with the intended use.

- When connecting sensor and isolated switching amplifier, make sure not to exceed the permissible limit values for intrinsic safety.
- Line fault and auxiliary power failure message. In the case of a fault, the auxiliary contact (30V/100mA) is switched to GND.