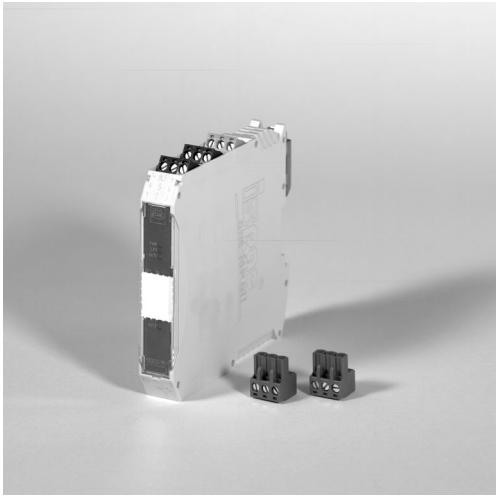
VS 403 Ex i

Isolated switching amplifier



18 - 35 V DC

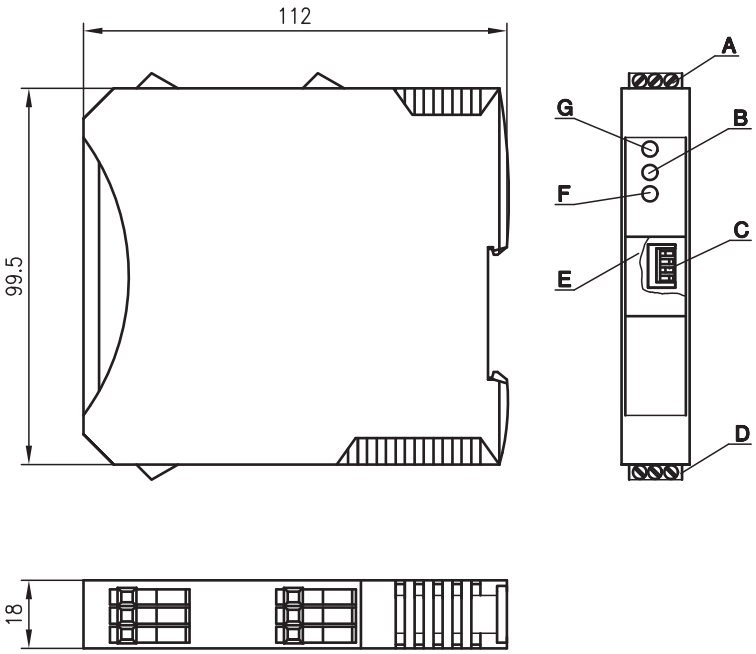
- Intrinsically safe input [EEx ia] IIC
- Input, output and operating voltage are galvanically isolated
- Wire break monitoring (may be deactivated)
- Operating modes adjustable
- Switching output with signal relay or transistor (NPN)
- 1 channel
- Top hat rail mounting
- EU type examination certificate DMT 02 ATEX E 195 X
- ⟨Ex⟩ II(1) GD [EEx ia] IIC/IIB
- ⟨Ex⟩ II 3 G EEx nAC II T4
- Usable acc. to IEC 61508 up to:
  SiL 2 (relay output)
  SiL 3 (electronic output)

CE ISO 9001 NAMUR IEC 60 947-5-6 IEC 1000...

Accessories:

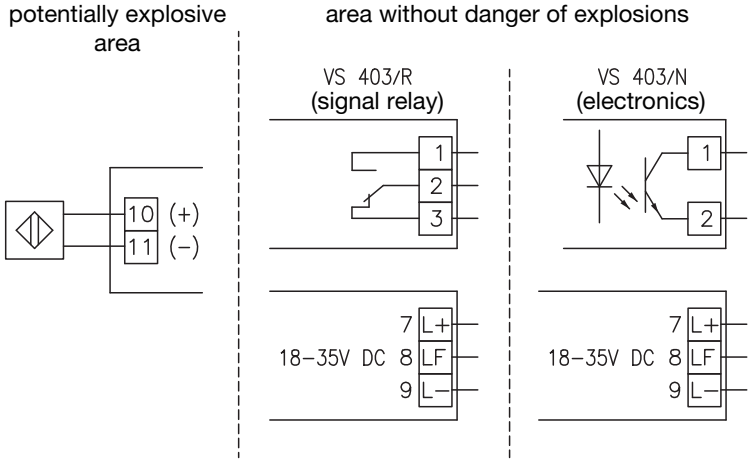
- Blue connection cable for intrinsically safe circuits (BK7 … Ex)

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



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

Explosion protection

Labelling (CENELEC)	⟨Ex⟩ II (1) GD [EEx ia] IIC/IIB ⟨Ex⟩ II 3 G EEx nAC II T4
Classification	accompanying electrical device
Maximum safe voltage U_{max}	10.6V
Maximum safe current I_{max}	24mA
Max. power P_{max}	64mW
Max. capacitance IIC/IIB C_a	2.32µF/16.2µF
Max. inductance IIC/IIB L_a	63mH/230mH
Inner capacitance C_i	2.42nF
Inner inductance L_i	negligible
Insulation voltage U_m	250V

Adjustments

	Line Fault detection LF		Direction of action INV	
	Not activated 1)	**Activated**	**Normal 1)**	**Inverted**
Channel 1				

1) Standard setting on delivery

Order guide

Designation	Part No.
VS 403/R	500 40826
VS 403/N	500 40825

Tables

Diagrams

Remarks

- 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 (30W/100mA) is switched to GND.

EG-Konformitätserklärung
EC-Declaration of Conformity
CE-Déclaration de Conformité

Wir *(we; nous)*

R. STAHL Schaltgeräte GmbH, Am Bahnhof 30, D-74638 Waldenburg

9170/.0-..-.1

erklären in alleiniger Verantwortung, dass das Produkt — **Schaltverstärker**
hereby declare in our sole responsibility, that the product — *Switching repeater*
déclarons de notre seule responsabilité, que le produit — *Relais amplificateur*

auf das sich diese Erklärung bezieht, mit der/den folgenden Norm(en) oder normativen Dokumenten übereinstimmt
which is the subject of this declaration, is in conformity with the following standard(s) or normative documents
auquel cette déclaration se rapporte, est conforme aux norme(s) ou aux documents normatifs suivants

Bestimmungen der Richtlinie *terms of the directive* *prescription de la directive*	**Titel und/oder Nr. sowie Ausgabedatum der Norm** *title and/or No. and date of issue of the standard* *titre et/ou No. ainsi que date d'émission des normes*
94/9 EG: Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen *94/9 EC: Equipment and protective systems intended for use in potentially explosive atmospheres* *94/9 CE: Appareils et systèmes de protection destinés á êtré utilisés en atmosphéres explosibles*	EN 50014 (1997) EN 50020 (1994) EN 50284 (1999) EN 50281-1-1 (1998) EN 50021 (1999)
89/336 EWG: **Elektromagnetische Verträglichkeit** *89/336 EEC: Electromagnetic compatibility* *89/336 CEE: Compatibilité électromagnétique*	EN 61326-1 (1997)
EG-Baumusterprüfbescheinigung: *EC-Type Examination Certificate:* *Attestation d'examen CE de type:*	**DMT 02 ATEX E 195 X**
Qualitätssicherung Produktion: *Production Quality Assessment:* *Assurance Qualitée Production:*	PTB 96 ATEX Q006

Waldenburg, 24.03.2003

Ort und Datum
Place and date
lieu et date

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