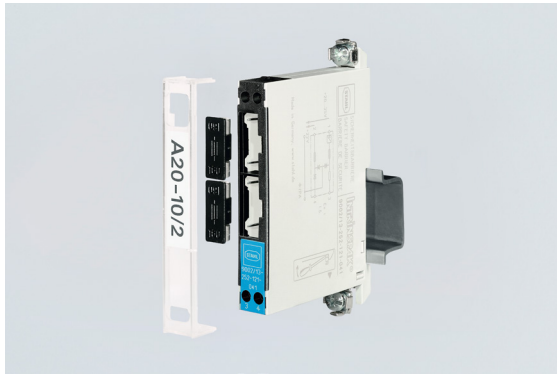


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- For the intrinsically safe operation of a wide range of devices, such as HART transmitters, solenoid valves, sensors, zero-potential contacts and many more
- Compact, space-saving devices that are easy to install on a DIN rail
- Quick and efficient installation as barriers can be simultaneously snapped onto DIN rail and connected to ground (ISA - RPI12.06)

MY R. STAHL 9002A



The 9002 series INTRINSPAK two-channel zener barriers enable the intrinsically safe operation of virtually all field devices. The comprehensive portfolio and the combination of zener barriers cover a wide variety of signals. The devices are incredibly robust and require very little space. The back-up fuse is a convenient feature as it is standardized for all variants.

Technical Data

Explosion Protection	
Application range (zones)	2
Ex interface zone	0, 1, 2, 20, 21, 22
IECEEx gas certificate	IECEEx PTB 08.0057X
IECEEx gas explosion protection	Ex ec [ia Ga] IIC T4 Gc
IECEEx dust certificate	IECEEx PTB 08.0057X
IECEEx dust explosion protection	[Ex ia Da] IIIC
ATEX gas certificate	PTB 01 ATEX 2053 X
ATEX gas explosion protection	II 3 (1) G Ex ec [ia Ga] IIC T4 Gc
ATEX dust certificate	PTB 01 ATEX 2053 X
ATEX dust explosion protection	II (1) D [Ex ia Da] IIIC
FMus certificate	3010778
Marking FMus	NONINCENDIVE FOR, Class I, Div. 2, Groups A,B,C,D; T4; Class I, Zone 2, Group IIC T4 IS connections for Class I,II,III, Div. 1, Groups A,B,C,D,E,F,G; Class I, Zone 0, Groups IIC/IIB Hazardous location when inst. per doc. 90 026 11 31 1
Certificate ULus	E81680V1S3
Marking ULus	For use in Hazardous location, Class I, Div. 2, Groups A,B,C,D; T4 Providing IS circuits for Class I,II,III, GROUPS A,B,C,D,E,F,G; per doc. 90 026 11 31 3
Inmetro gas certificate	UL-BR 12.0354
Inmetro dust certificate	UL-BR 12.0354
Certificates	ATEX (PTB), Brazil (ULB), Canada (FM), China (NEPSI), IECEEx (PTB), India (PESO), Japan (CML), Korea (KGS), USA (FM), USA (UL)
Declaration of conformity	ATEX (EUK), China (CCC)
Installation	in Zone 2, Division 2 and in safe area
Further information	see respective certificate and operating instructions

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Safety Data

Max. voltage U_o/V_{oc}			25.2 V		
Max. current I_o/I_{sc}			118 mA		
Max. power P_o			740 mW		
Max. permissible external capacitance C_o/C_s for IIC			0.107 μ F		
Max. permissible external inductance L_o/L_a for IIC			1.3 mH		
Max. permissible external capacitance C_o/C_s for IIB			0.82 μ F		
Max. permissible external inductance L_o/L_a for IIB			7.4 mH		
Intrinsically safe limiting values Inductance L_o /capacitance C_o			Jointly connectable inductance L_o /capacitance C_o		
Channel 1	IIC	L_o [mH]	0.5 mH		0.100 mH
		C_o [μ F]	0.0740 μ F		0.1070 μ F
	IIB	L_o [mH]	5 mH		1 mH
		C_o [μ F]	0.35 μ F		0.41 μ F
Channel 2	IIC	L_o [mH]	10 mH		1 mH
		C_o [μ F]	0.083 μ F		0.090 μ F
	IIB	L_o [mH]	50 mH		1 mH
		C_o [μ F]	0.43 μ F		0.50 μ F
Channels 1 + 2	IIC	L_o [mH]	0.5 mH		0.10 mH
		C_o [μ F]	0.088 μ F		0.088 μ F
	IIB	L_o [mH]	5 mH		1 mH
		C_o [μ F]	0.360 μ F		0.43 μ F

Electrical Data

Number of channels		2			
Type of voltage		DC			
Maximum resistance R_{max}		244 Ω			
Min. resistance R_{min}		217 Ω			
Maximum output current I_{max}		86 mA			
Potential channel 1		Positive			
Potential channel 2		Positive with diode			
Transmission frequency channel 1		≤ 100 kHz			
Channel 2 auxiliary voltage drop		3,5 V			
I_{leak} leakage current for U_n		35 V ≤ 10 mA 24 V ≤ 1 mA			
Channel 2 I_{leak} leakage current for		≤ 2 μ A			
Max. open-circuit output volt.		21 V			
Notes		Nominal current limited to 40 mA at 250 Ω load			
Open-circuit output voltage (3 -> 4, $I_N = 0$)	$U_N \leq 24$	$U_N > 24$ V			
	$U_L = U_N - 3,5$ V	$U_L = 21$ V			

Chan- nel	V_{nom}	I_{max}	R_{min}	R_{max}	U_o/V_{oc}	I_o/I_{sc}	P_o
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Zener Barriers

Two-channel safety barrier

STAHL

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1	20.00 ... 35.00 V	86 mA	217 Ω	244 Ω	25.20 V	118 mA	740 mW
2	22 V				25.20 V	0 mA	20 mW
1 + 2					25.20 V	121 mA	760 mW

Auxiliary Power

Power supply	Uncontrolled
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Output

Temperature influence	$\leq 0,25 \text{ \%}/10\text{K}$
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Ambient Conditions

Ambient temperature °C	-20 °C ... +60 °C
Ambient temperature °F	-4°F ... +140°F
Storage temperature °C	-20 °C ... +75 °C
Storage temperature °F	-4°F ... +167°F
Max. relative humidity	95% average, no condensation

Mechanical Data

Degree of protection (IP)	IP40
Degree of protection (IP) terminals	IP20
Enclosure material	Polyamide 6GF
Number of connection terminals	4
Connection cross-section max.	1.5 mm ²
Connection cross-section AWG	16 AWG
Type of connection cable	Finely stranded Solid
Width	103 mm
Width, inches	4.09 in
Length	12 mm
Length in inches	0.48 in
Mounting depth	72 mm
Mounting depth in inches	2.76 in
Weight	110 g
Weight	0.24 lb

Mounting / Installation

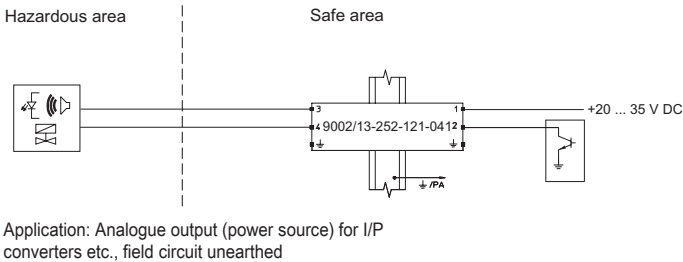
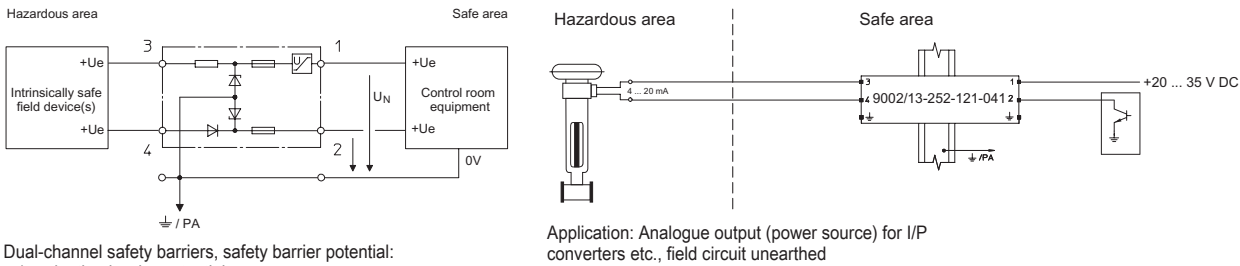
Earthing connection cross-section	4 mm ²
Earthing conductor cross-section AWG	12 AWG
Connection type	2 PA
Min. torque, Nm	0.5 N · m
Min. torque, lb/in	4.43 lb/in
Max. torque, Nm	0.6 N · m
Max. torque, lb/in	5.31 lb/in

Technical Drawings – Subject to Alterations

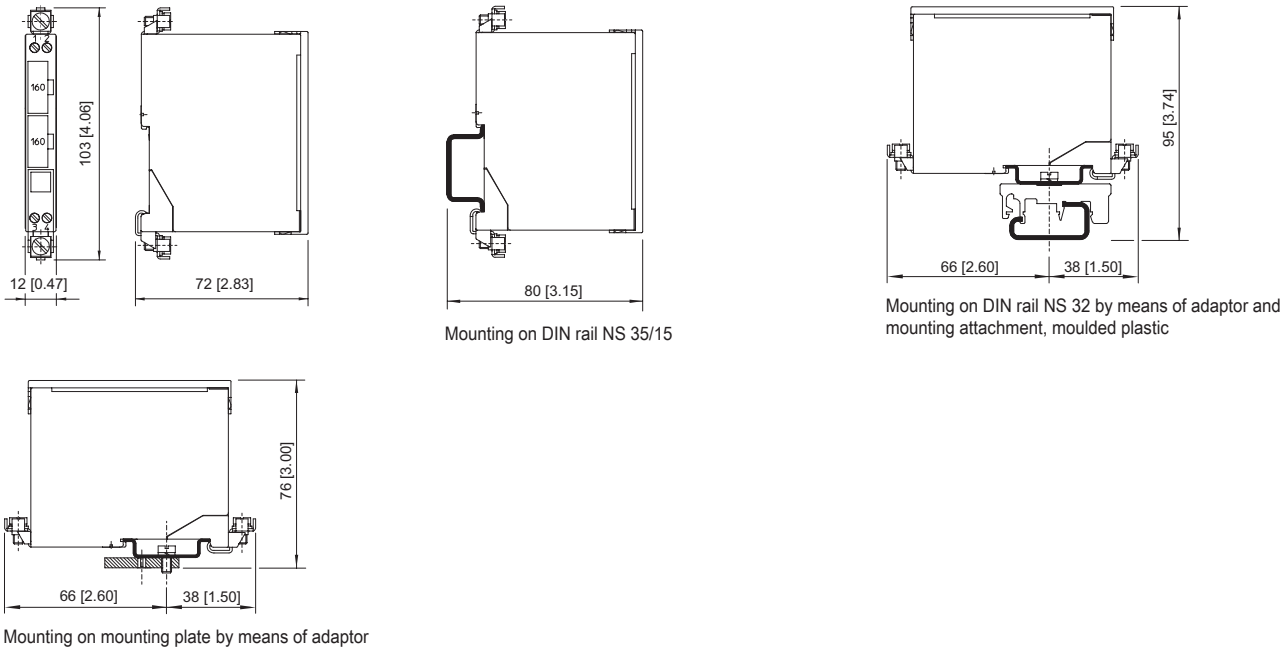
Zener Barriers
Two-channel safety barrier



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Dimensional Drawings (All Dimensions in mm [inches]) – Subject to Alterations



Accessories

Table with 3 columns: Component Name, Description, and Art. No. Rows include Terminal block (Phoenix Contact UT 4-PE and UT 6-PE) and Adaptor (clamping base/mounting plate).

Zener Barriers

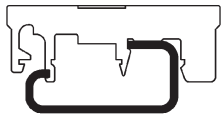
Two-channel safety barrier

STAHL

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Clamping base, moulded material

Art. No.



Enables mounting of zener barrier on a G-rail. The safety barrier is mounted using the adapter (Art. No. 158826).

165283

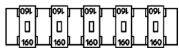
Fuse holder

Art. No.



Fuse holder is snapped onto the side of the zener barrier and can be equipped with up to 5 back-up fuses (replacement).

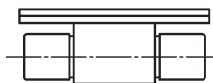
158834



Spare Parts

Back-up fuse

Art. No.



For all zener barriers Series 9001, 9002 and 9004
unit: 5 pcs.

158964

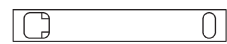
Label carrier

Art. No.



Transparent cover for the label

158977



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