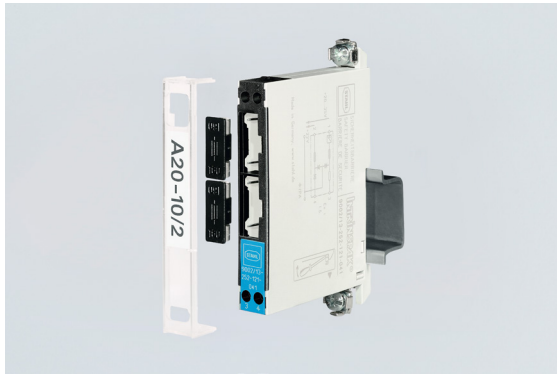


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- For the intrinsically safe operation of a wide range of devices, such as HART transmitters, solenoid valves, sensors, zero-potential contacts and many more
- Compact, space-saving devices that are easy to install on a DIN rail
- Quick and efficient 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
IECEX gas certificate	IECEX PTB 08.0057X
IECEX gas explosion protection	Ex ec [ia Ga] IIC T4 Gc
IECEX dust certificate	IECEX PTB 08.0057X
IECEX 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
cCSA certificate	1284580
Marking cCSA	Associated equipment [Ex ia], Class I, Div. 2, Groups A,B,C,D; Provides IS circuits for Class I,II,III, Class I, Zone 0, Groups IIC/IIB For applicable grps per inst. doc. 90 016 11 31 2
Inmetro gas certificate	UL-BR 12.0354
Inmetro dust certificate	UL-BR 12.0354

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Explosion Protection

Certificates	ATEX (PTB), Brazil (ULB), Canada (FM), China (CQST), IECEx (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

Safety Data

Max. voltage U_o/V_{oc}			28 V		
Max. current I_o/I_{sc}			107 mA		
Max. power P_o			749 mW		
Max. permissible external capacitance C_o/C_s for IIC			0.083 μ F		
Max. permissible external inductance L_o/L_a for IIC			1.35 mH		
Max. permissible external capacitance C_o/C_s for IIB			0.65 μ F		
Max. permissible external inductance L_o/L_a for IIB			9.6 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]	0.100 mH		
		C_o [μ F]	0.0830 μ F		
	IIB	L_o [mH]	5 mH	1 mH	0.1 mH
		C_o [μ F]	0.23 μ F	0.34 μ F	0.65 μ F
Channel 2	IIC	L_o [mH]	50 mH	1 mH	0.1 mH
		C_o [μ F]	0.062 μ F	0.075 μ F	0.083 μ F
	IIB	L_o [mH]	50 mH	1 mH	0.1 mH
		C_o [μ F]	0.34 μ F	0.41 μ F	0.65 μ F
Channels 1 + 2	IIC	L_o [mH]			
		C_o [μ F]			
	IIB	L_o [mH]	5 mH	1 mH	0.1 mH
		C_o [μ F]	0.280 μ F	0.36 μ F	0.551 μ F

Electrical Data

Number of channels	2
Maximum resistance R_{max}	296 Ω
Min. resistance R_{min}	270 Ω
Maximum output current I_{max}	82 mA
Potential channel 1	Positive
Potential channel 2	Positive with diode
Transmission frequency channel 1	≤ 100 kHz
Channel 2 auxiliary voltage drop	2 V
Type of voltage	DC
I_{leak} leakage current for U_n	≤ 2 μ A

Chan- nel	V_{nom}	I_{max}	R_{min}	R_{max}	U_o/V_{oc}	I_o/I_{sc}	P_o
1	24.00 V DC	82 mA	270 Ω	296 Ω	28 V	107 mA	749 mW
2	24 V				28 V	3 mA	21 mW

Zener Barriers

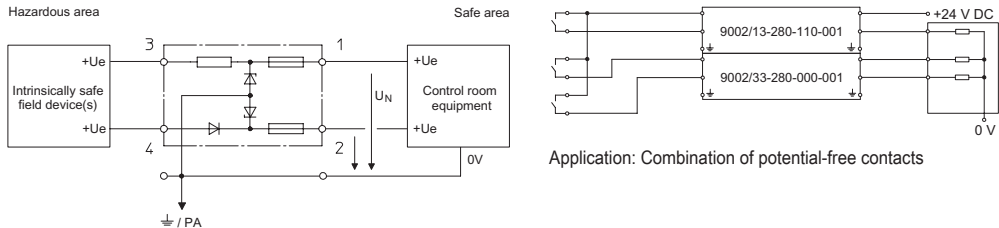
Two-channel safety barrier



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1 + 2					28 V	110 mA	770 mW
Auxiliary Power							
Power supply			Controlled				
Output							
Temperature influence			≤ 0,25 %/10K				
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 mm²				
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 mm²				
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

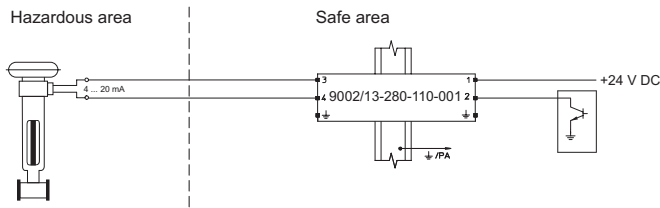


Dual-channel safety barriers, safety barrier potential:
+ / evaluation barrier potential: +

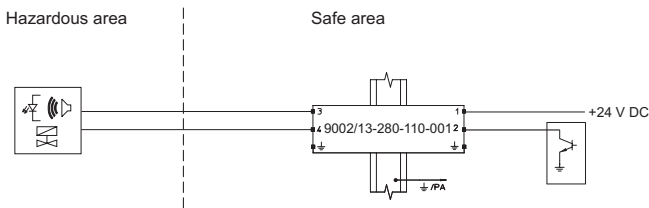
Zener Barriers
Two-channel safety barrier



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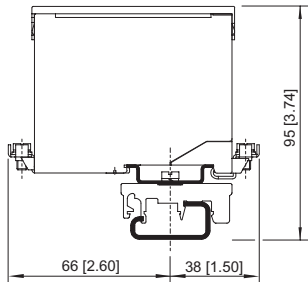
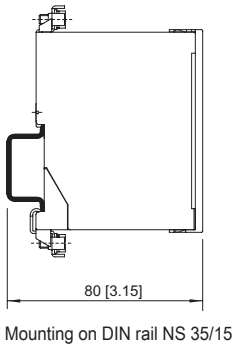
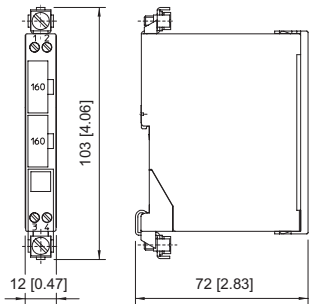


Application: 2-wire 4 to 20 mA I/P converters and control valves – standard and HART, 4 to 20 mA indicators

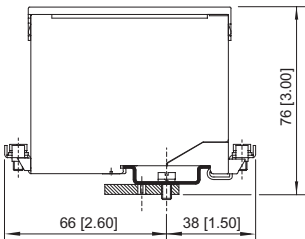


Application: Discrete 2-wire output for solenoid valves, LEDs and signalling devices

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



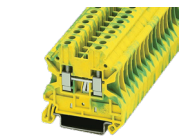
Mounting on DIN rail NS 32 by means of adaptor and mounting attachment, moulded plastic



Mounting on mounting plate by means of adaptor

Accessories

Terminal block

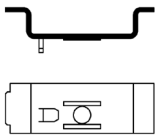


Phoenix Contact terminal block UT 4-PE
Phoenix Contact terminal block UT 6-PE

Art. No.

113057
113058

Adaptor

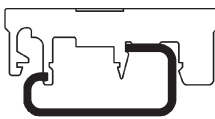


The adaptor enables a zener barrier to be installed on a clamping base (Art. No. 165283) or mounting plate from a previous series.

Art. No.

158826

Clamping base, moulded material



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

Art. No.

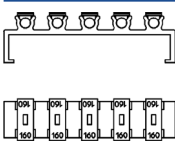
165283

Zener Barriers

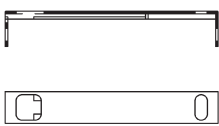
Two-channel safety barrier



9002/13-280-110-001 Art. No. 158857

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

We reserve the right to make alterations to the technical data, dimensions, weights, designs and products available without notice. The illustrations cannot be considered binding.