

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



- For the intrinsically safe operation of a wide range of devices, such as HART transmitters, solenoid valves, sensors, potential-free contacts and many more
- Compact and space-saving devices that are easy to install on a DIN rail
- Quick to install as barriers can be simultaneously snapped onto the rail and connected to PE

MY R. STAHL 9002A



The series 9002 INTRINSPAK dual-channel safety barriers enable the intrinsically safe operation of virtually all field devices. The comprehensive portfolio and the combination of safety 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 standardised 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 areas
Further information	See relevant certificate and operating instructions

Safety Data

Max. voltage U _o			28 V		
Max. current I _o			107 mA		
Max. power P _o			749 mW		
Max. permissible external capacity C _o for IIC			0.083 µF		
Max. permissible external inductance L _o for IIC			1.35 mH		
Max. permissible external capacity C _o for IIB			0.65 µF		
Max. permissible external inductance L _o 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 [µF]	0.0830 µF		
	IIB	L _o [mH]	5 mH	1 mH	0.1 mH
		C _o [µF]	0.23 µF	0.34 µF	0.65 µF
Channel 2	IIC	L _o [mH]	50 mH	1 mH	0.1 mH
		C _o [µF]	0.062 µF	0.075 µF	0.083 µF
	IIB	L _o [mH]	50 mH	1 mH	0.1 mH
		C _o [µF]	0.34 µF	0.41 µF	0.65 µF
Channels 1 + 2	IIC	L _o [mH]			
		C _o [µF]			
	IIB	L _o [mH]	5 mH	1 mH	0.1 mH
		C _o [µF]	0.280 µF	0.36 µF	0.551 µF

Electrical Data

Number of channels	2
Maximum resistance R_{max}	296 Ω
Minimum 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	Nominal volt- age U_N	Maximum output current I_{max}	Minimum resist- ance R_{min}	Maximum resist- ance R_{max}	Maximum voltage U_o	Maximum current I_o	Maximum power 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

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1 + 2					28 V	110 mA	770 mW
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Auxiliary Power

Power supply	Controlled
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Output

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

Ambient temperature	-20 °C ... 60 °C
Ambient temperature	-4°F ... +140°F
Storage temperature	-20 °C ... 75 °C
Storage temperature	-4°F ... +167°F
Maximum 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

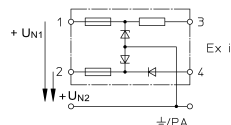
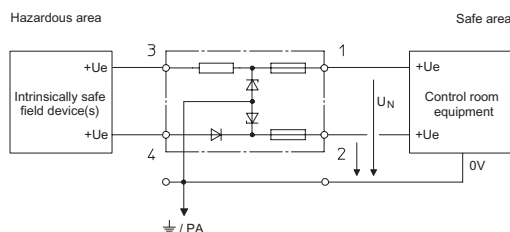
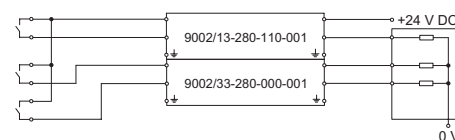


Image F



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

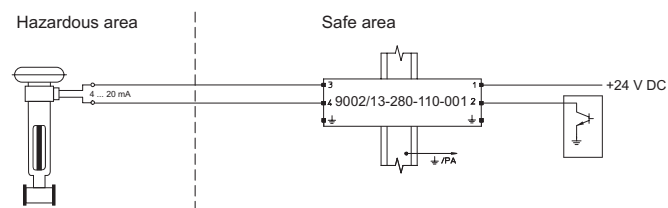


Application: Combination of potential-free contacts

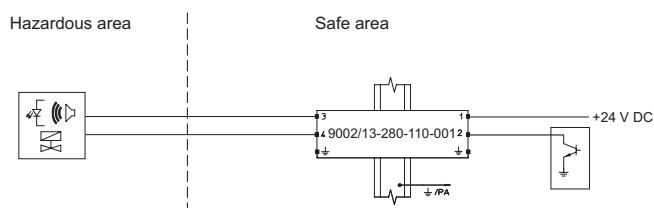
Safety barriers

Two-channel safety barrier

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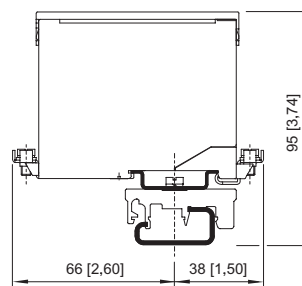
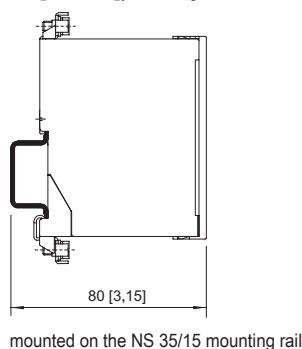
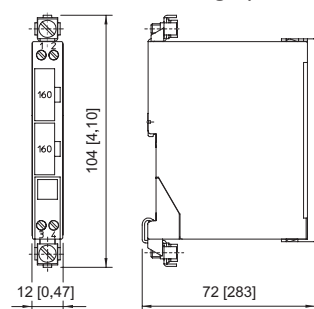


Application: 2-wire 4 to 20 mA I/P converters and control valves – standard and HART, 4 to 20 mA indicators

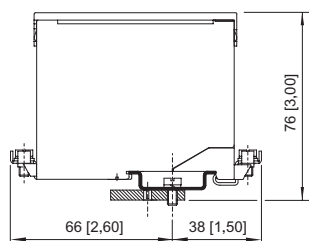


Application: Discrete 2-wire output for solenoid valves, LEDs and signalling devices

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



mounted on the NS 32 mounting rail with adaptor and clamping base made of moulded material



installed on mounting plate with adaptor

Accessories

Terminal block

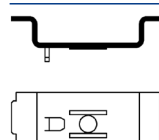


Phoenix Contact terminal block UT 4-PE
Phoenix Contact terminal block UT 6-PE

Art. No.

113057
113058

Adaptor

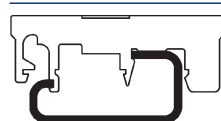


The adaptor enables a safety barrier to be installed on a clamping base (Art. No. 165283) or mounting plate from a previous series.

Art. No.

158826

Clamping base, moulded material



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

Art. No.

165283

Safety barriers

Two-channel safety barrier

STAHL

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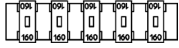
Fuse holder

Art. No.



The fuse holder is snapped onto the side of a safety barrier and can be equipped with up to five back-up fuses (replacement).

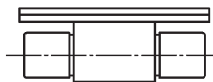
158834



Spare Parts

Back-up fuse

Art. No.



For all series 9001, 9002 and 9004 safety barriers
Packaging unit: 5 pieces

158964

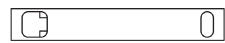
Label carrier

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.