

Safety barriers

Two-channel safety barrier



9002/11-137-029-001 Art. No. 158940



- 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 (CSA), Canada (FM), China (CQST), IECEx (PTB), 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	13.7 V				
Max. current I_o	14.5 mA				
Max. power P_o	50 mW				
Max. permissible external capacity C_o for IIC	0.79 μ F				
Max. permissible external inductance L_o for IIC	160 mH				
Max. permissible external capacity C_o for IIB	5 μ F				
Max. permissible external inductance L_o for IIB	560 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]	50 mH	1 mH	0.100 mH
		C_o [μ F]	0.250 μ F	0.4800 μ F	0.7900 μ F
	IIB	L_o [mH]	50 mH	1 mH	0.1 mH
		C_o [μ F]	1.30 μ F	2.60 μ F	5 μ F
Channel 2	IIC	L_o [mH]	50 mH	1 mH	0.1 mH
		C_o [μ F]	0.250 μ F	0.480 μ F	0.790 μ F
	IIB	L_o [mH]	50 mH	1 mH	0.1 mH
		C_o [μ F]	1.30 μ F	2.60 μ F	5 μ F
Channels 1 + 2	IIC	L_o [mH]	50 mH	1 mH	0.10 mH
		C_o [μ F]	0.170 μ F	0.470 μ F	0.790 μ F
	IIB	L_o [mH]	50 mH	1 mH	0.1 mH
		C_o [μ F]	1.200 μ F	2.60 μ F	5 μ F

Electrical Data

Number of channels	2						
Maximum resistance R_{max}	978 Ω						
Minimum resistance R_{min}	953 Ω						
Maximum output current I_{max}	10 mA						
Potential channel 1	Positive						
Potential channel 2	Positive						
Transmission frequency channel 1	\leq 50 kHz						
Type of voltage	DC						
I_{leak} leakage current for U_n	\leq 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	10.00 V DC	10 mA	953 Ω	978 Ω	13.70 V	14.5 mA	50 mW
2	10 V	10 mA	953 Ω	978 Ω	13.70 V	14.5 mA	50 mW
1 + 2					13.70 V	29 mA	100 mW

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Auxiliary Power

Power supply Controlled

Output

Temperature influence $\leq 0,25 \%/10K$

Ambient Conditions

Ambient temperature $-20 \text{ }^\circ\text{C} \dots 60 \text{ }^\circ\text{C}$

Ambient temperature $-4^\circ\text{F} \dots +140^\circ\text{F}$

Storage temperature $-20 \text{ }^\circ\text{C} \dots 75 \text{ }^\circ\text{C}$

Storage temperature $-4^\circ\text{F} \dots +167^\circ\text{F}$

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 Solid
Finely stranded

Width 103 mm

Width, inches 4.09 in

Length 12 mm

Length in inches 0.48 in

Depth of cut-out 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

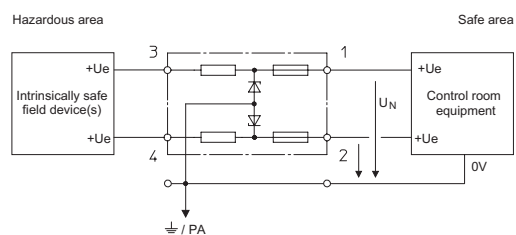
Min. torque, Nm 0.5 Nm

Min. torque, lb/in 4.43 lb/in

Max. torque, Nm 0.6 Nm

Max. torque, lb/in 5.31 lb/in

Technical Drawings – Subject to Alterations



Dual-channel safety barriers, potential: + / +

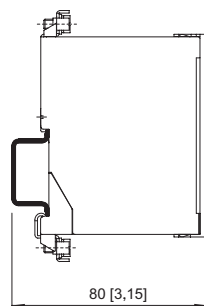
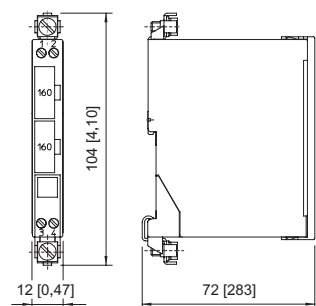
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Two-channel safety barrier

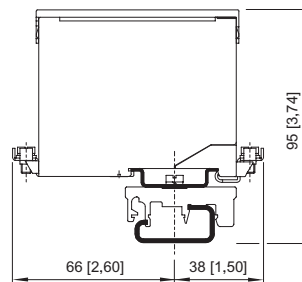


9002/11-137-029-001 Art. No. 158940

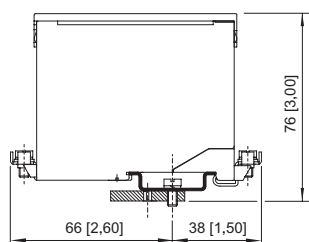
Dimensional Drawings (All Dimensions in mm [inches]) – Subject to Alterations



mounted on the NS 35/15 mounting rail




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





installed on mounting plate with adaptor

Accessories

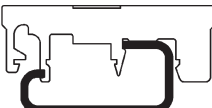
Terminal block

		Art. No.
	Phoenix Contact terminal block UT 4-PE	113057
	Phoenix Contact terminal block UT 6-PE	113058



Adaptor

		Art. No.
 	The adaptor enables a series 900x safety barrier to be installed on a mounting plate from a previous series.	158826

Clamping base, moulded material


		Art. No.
	Enables the safety barrier to be mounted on a G-rail.	165283

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

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9002/11-137-029-001 Art. No. 158940

Label carrier

Art. No.



Transparent cover for the label

158977



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