Safety barriers
Single-channel safety barriers

9001/01-252-100-141 Art. No. 158697



- 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 **9001A**

The series 9001 INTRINSPAK single-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 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 09.0001X
IECEx gas explosion protection	ExNBSPec [ia Ga]NBSPIICNBSPT4N
IECEx dust certificate	IECEx PTB 09.0001X
IECEx dust explosion protection	[Ex ia Da]NBSPIIIC
ATEX gas certificate	PTB 01 ATEX 2088 X
ATEX gas explosion protection	IINBSP3 (1) GNBSPExNBSPec [ia IICNBSPT4NBSPGc
ATEX dust certificate	PTB 01 ATEX 2088 X
ATEX dust explosion protection	IINBSP(1) DNBSP[Ex ia Da]NBSPI
FMus certificate	3011002
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. 90 016 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. 90 016 11 31 3
Inmetro gas certificate	UL-BR 12.0353
Inmetro dust certificate	UL-BR 12.0353
Certificates	ATEX (PTB), Brazil (ULB), Canada (FM), China (NEPSI), IECEx (PTB), India (PESO), Japan (CML), Korea (KGS), USA (FM), USA (UL)
Declaration of conformity	ATEX (EUK)
Installation	in Zone 2, Division 2 and in safe areas
Further information	See relevant certificate and operating instructions

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Safety Data				
Max. voltage U_o		25.2 V		
Max. current I_o		100 mA		
Max. power P_o		630 mW		
Max. permissible external capacity C_o for IIC		0.107 µF		
Max. permissible external inductance L_o for IIC		2 mH		
Max. permissible external capacity C_o for IIB		0.82 µF		
Max. permissible external inductance L_o for IIB		11 mH		
Intrinsically safe limiting values Inductance L_o/capacitance C_o		Jointly connectable inductance L_o/capacitance C_o		
IIC	L_o [mH]		1 mH	0.200 mH
	C_o [µF]		0.061 µF	0.107 µF
IIB	L_o [mH]	10 mH	1 mH	0.100 mH
	C_o [µF]	0.370 µF	0.42 µF	0.81 µF
Electrical Data				
Number of channels		1		
Type of voltage		DC		
Maximum resistance R_{max}		268 Ω		
Minimum resistance R_{min}		259 Ω		
Maximum output current I_{max}		78 mA		
Potential		Positive		
Transmission frequency channel 1		≤ 100 kHz		
I_{leak} leakage current for U_n		> 26 V ≤ 35 mA < 26 V ≤ 1 mA		
Max. open-circuit output volt.		21 V		
Auxiliary voltage drop		3 V		
Open-circuit output voltage (3 -> 4, I_N = 0)			U_N ≤ 24 V	U_N > 24 V
		U_L ≥	U_N - 3 V	21 V
Auxiliary Power				
Nominal voltage		20 – 35 V		
Power supply		Uncontrolled		
Output				
Temperature influence		≤ 0,25 %/10K		
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 note		according to IEC 60529		

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Mechanical Data

Degree of protection (IP) terminals	IP20
Enclosure material	Polyamide 6GF
Number of connection terminals	4
Connection cross section min.	1.5 mm²
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

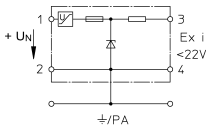
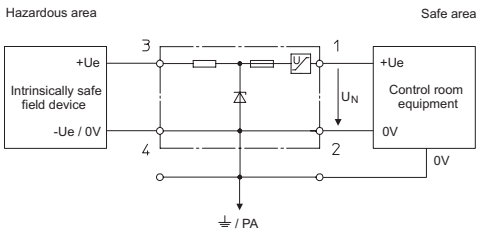
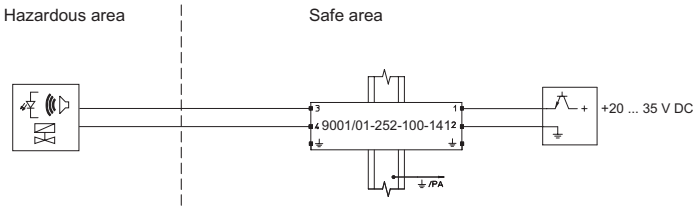


Image M



Single-Channel Safety Barriers for Positive Polarity



Application: Binary output (current source) for valves, LEDs etc. Field circuit earthed

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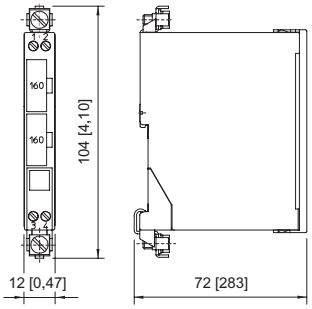
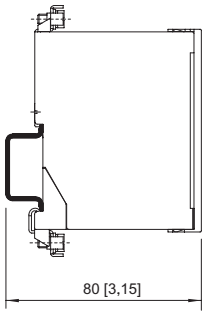
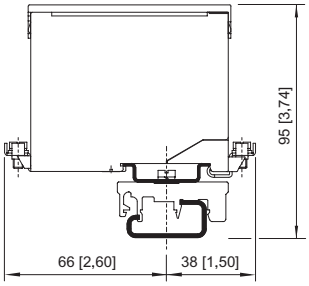
Dimensional Drawings (All Dimensions in mm [inches]) – Subject to Alterations

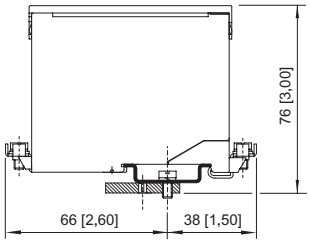




mounted on the NS 35/15 mounting rail

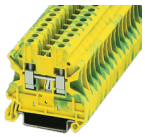


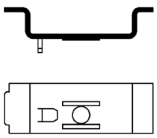
mounted on the NS 32 mounting rail with adaptor and clamping base made of moulded material

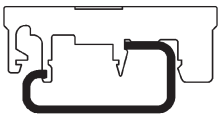


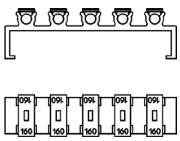
installed on mounting plate with adaptor

Accessories

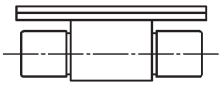
Terminal block		Art. No.
	Phoenix Contact terminal block UT 4-PE	113057
	Phoenix Contact terminal block UT 6-PE	113058

Adaptor		Art. No.
	The adaptor enables a safety barrier to be installed on a clamping base (Art. No. 165283) or mounting plate from a previous series.	158826

Clamping base, moulded material		Art. No.
	Enables the safety barrier to be mounted on a G-rail. The safety barrier is mounted using the adapter (Art. No. 158826).	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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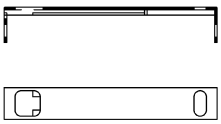
Label carrier		Art. No.
	Transparent cover for the label	158977

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