

9001/01-199-050-101 Art. No. 158616



- 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)
- Convenient maintenance and repair through back-up fuse feature

### MY R. STAHL 9001A



The 9001 series INTRINSPAK single-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 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 09.0001X
IECEEx gas certificate	IECEEx PTB 09.0001X
IECEEx gas explosion protection	Ex ec [ia Ga] IIC T4 Gc
IECEEx dust certificate	IECEEx PTB 09.0001X
IECEEx dust explosion protection	[Ex ia Da] IIIC
ATEX gas certificate	PTB 01 ATEX 2088 X
ATEX gas certificate	PTB 01 ATEX 2088 X
ATEX gas explosion protection	Ex II 3 (1) G Ex ec [ia Ga] IIC T4 Gc
ATEX dust certificate	PTB 01 ATEX 2088 X
ATEX dust explosion protection	Ex II (1) D [Ex ia Da] IIIC
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
cCSA certificate	1284547
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 12.0353

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**Explosion Protection**

Inmetro dust certificate	UL-BR 12.0353
Certificates	ATEX (PTB), Brazil (ULB), Canada (CSA), Canada (FM), China (NEPSI), IECEx (PTB), India (PESO), Japan (CML), Korea (KGS), USA (FM), USA (UL)
Declaration of Conformity	ATEX (EUK), China (CCC)
Installation	in Zone 2, Class I, Div. 2, and Class I, Zone 2 and in safe area
Further information	see respective certificate and operating instructions

**Safety Data**

Max. voltage $U_o/V_{oc}$	19.9 V			
Max. current $I_o/I_{sc}$	50 mA			
Max. power $P_o$	249 mW			
Max. permissible external capacitance $C_o/C_a$ for IIC	0.223 $\mu$ F			
Max. permissible external inductance $L_o/L_a$ for IIC	15 mH			
Max. permissible external capacitance $C_o/C_a$ for IIB	1.42 $\mu$ F			
Max. permissible external inductance $L_o/L_a$ for IIB	56 mH			
Intrinsically safe limiting values Inductance $L_o$ /capacitance $C_o$	Jointly connectable inductance $L_o$ /capacitance $C_o$			
IIC	$L_o$ [mH]	10 mH	1 mH	0.100 mH
	$C_o$ [ $\mu$ F]	0.140 $\mu$ F	0.150 $\mu$ F	0.210 $\mu$ F
IIB	$L_o$ [mH]	50 mH	1 mH	0.100 mH
	$C_o$ [ $\mu$ F]	0.500 $\mu$ F	0.95 $\mu$ F	1.30 $\mu$ F

**Electrical Data**

Number of channels	1
Maximum resistance $R_{max}$	462 $\Omega$
Min. resistance $R_{min}$	415 $\Omega$
Maximum output current $I_{max}$	34 mA
Potential	Positive
Transmission frequency channel 1	$\leq 50$ kHz
$I_{leak}$ leakage current for $U_n$	$\leq 2$ $\mu$ A

**Auxiliary Power**

Nominal voltage $V_{nom}$	16 V DC
Power supply	Controlled

**Output**

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

Ambient temperature $^{\circ}$ C	-20 $^{\circ}$ C ... 60 $^{\circ}$ C
Ambient temperature $^{\circ}$ F	-4 $^{\circ}$ F ... +140 $^{\circ}$ F
Storage temperature $^{\circ}$ C	-20 $^{\circ}$ C ... 75 $^{\circ}$ C
Storage temperature $^{\circ}$ F	-4 $^{\circ}$ F ... +167 $^{\circ}$ F
Max. 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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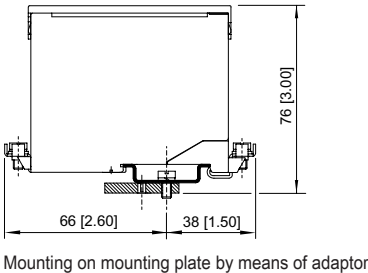
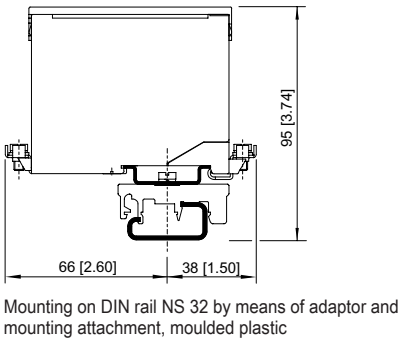
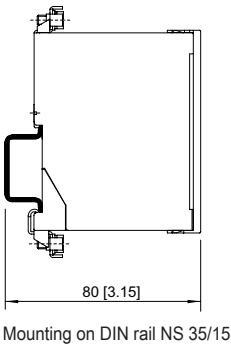
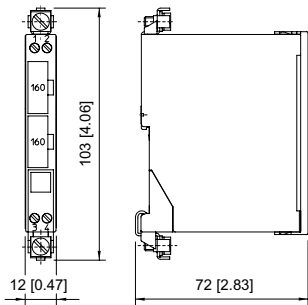
Mechanical Data

Degree of protection (IP) terminals	IP20
Enclosure material	Polyamide 6GF
Number of connection terminals	4
Connection cross section min.	1.5 mm <sup>2</sup>
Connection cross-section max.	1.5 mm <sup>2</sup>
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
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 <sup>2</sup>
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

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



Accessories

# Zener Barriers

## Single-channel safety barriers

STAHL

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### Terminal block

### Art. No.



Phoenix Contact terminal block UT 4-PE

113057

Phoenix Contact terminal block UT 6-PE

113058

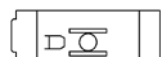
### Adaptor

### Art. No.



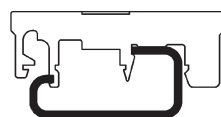
The adaptor enables a zener barrier to be installed on a clamping base (Art. No. 165283) or mounting plate from a previous series.

158826



### Clamping base, moulded material

### Art. No.



Enables mounting of zener barrier on a G-rail. The safety barrier is mounted using the adaptor (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

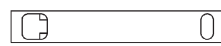
### Label carrier

### Art. No.



Transparent cover for the label

158977



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