



- 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

A2

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.

	IECEX / ATEX					
Zone	0	1	2	20	21	22
Ex interface	•	•	•	•	•	•
Installation in			•			

	NEC® 500 CE Code Appendix J					
	Class I		Class II		Class III	
Division	1	2	1	2	1	2
Ex interface	•	•	•	•	•	•
Installation in		•		•		•

	CE Code Section 18 NEC® 505   NEC® 506					
	Class I			Class II		
Zone	0	1	2	20	21	22
Ex interface	•	•	•			
Installation in			•			

Selection Table										
Series 9001/00, single-channel safety barrier for negative potential										
Product variant	Nominal voltage	Minimum resistance R <sub>min</sub>	Maximum resistance R <sub>max</sub>	Max. voltage U <sub>0</sub>	Max. current I <sub>0</sub>	Max. power P <sub>0</sub>	Schematic	Product Type	Art. No.	Weight
6 V DC		24 Ω	29 Ω	8.3 V	442 mA	917.2 mW	–	9001/00-083-442-101	158333	110 g
		28 Ω	33 Ω	8.6 V	390 mA	839 mW	Image A	9001/00-086-390-101	158434	110 g
24 V DC		287 Ω	320 Ω	28 V	100 mA	700 mW	Image A	9001/00-280-100-101	158356	110 g
		340 Ω	375 Ω	28 V	85 mA	595 mW	Image A	9001/00-280-085-101	158344	110 g
		599 Ω	666 Ω	28 V	50 mA	350 mW	–	9001/00-280-050-101	158660	110 g
		1435 Ω	1590 Ω	28 V	20 mA	140 mW	–	9001/00-280-020-101	158650	110 g

**Selection Table**

Series 9001/01, single-channel safety barrier for positive potential										
Product variant	Nominal voltage	Minimum resistance $R_{min}$	Maximum resistance $R_{max}$	Max. voltage $U_o$	Max. current $I_o$	Max. power $P_o$	Schematic	Product Type	Art. No.	Weight
6 V DC	24 $\Omega$	29 $\Omega$	8.3 V	442 mA	917.2 mW	Image B	9001/01-083-442-101	158338	110 g	
	28 $\Omega$	33 $\Omega$	8.6 V	390 mA	839 mW	Image B	9001/01-086-390-101	158439	110 g	
	39 $\Omega$	45 $\Omega$	8.6 V	270 mA	580.5 mW	–	9001/01-086-270-101	158428	110 g	
	65 $\Omega$	73 $\Omega$	8.6 V	150 mA	322.5 mW	Image B	9001/01-086-150-101	158418	110 g	
	129 $\Omega$	145 $\Omega$	8.6 V	75 mA	161.3 mW	–	9001/01-086-075-101	158391	110 g	
	196 $\Omega$	218 $\Omega$	8.6 V	50 mA	107.5 mW	Image B	9001/01-086-050-101	158379	110 g	
	870 $\Omega$	964 $\Omega$	8.6 V	10 mA	21.5 mW	–	9001/01-086-010-101	158350	110 g	
8 V DC	93 $\Omega$	106 $\Omega$	12.6 V	150 mA	473 mW	Image B	9001/01-126-150-101	158502	110 g	
12 V DC	50 $\Omega$	57 $\Omega$	15.8 V	390 mA	1541 mW	Image E	9001/01-158-390-101	158509	110 g	
	120 $\Omega$	135 $\Omega$	15.8 V	150 mA	593 mW	Image B	9001/01-158-150-101	158535	110 g	
	235 $\Omega$	262 $\Omega$	16.8 V	75 mA	315 mW	Image B	9001/01-168-075-101	158568	110 g	
	871 $\Omega$	966 $\Omega$	16.8 V	20 mA	84 mW	–	9001/01-168-020-101	158555	110 g	
16 V DC	216 $\Omega$	241 $\Omega$	19.9 V	100 mA	498 mW	Image B	9001/01-199-100-101	158632	110 g	
	415 $\Omega$	462 $\Omega$	19.9 V	50 mA	249 mW	–	9001/01-199-050-101	158616	110 g	
	2097 $\Omega$	2320 $\Omega$	19.9 V	10 mA	50 mW	–	9001/01-199-010-101	158589	110 g	
20 to 35 V DC	259 $\Omega$	268 $\Omega$	25.2 V	100 mA	630 mW	Image M	9001/01-252-100-141	158697	110 g	
	455 $\Omega$	506 $\Omega$	25.2 V	60 mA	378 mW	Image D	9001/01-252-060-141	158693	110 g	
24 V DC	115 $\Omega$	128 $\Omega$	28 V	280 mA	1960 mW	Image E	9001/01-280-280-101	158722	110 g	
	177 $\Omega$	198 $\Omega$	28 V	165 mA	1155 mW	Image B	9001/01-280-165-101	158392	110 g	
	263 $\Omega$	294 $\Omega$	28 V	110 mA	770 mW	Image B	9001/01-280-110-101	158380	110 g	
	287 $\Omega$	320 $\Omega$	28 V	100 mA	700 mW	Image B	9001/01-280-100-101	158365	110 g	
	340 $\Omega$	375 $\Omega$	28 V	85 mA	595 mW	Image B	9001/01-280-085-101	158351	110 g	
	415 $\Omega$	462 $\Omega$	28 V	75 mA	525 mW	–	9001/01-280-075-101	158339	110 g	
	599 $\Omega$	666 $\Omega$	28 V	50 mA	350 mW	Image B	9001/01-280-050-101	158665	110 g	
	1435 $\Omega$	1590 $\Omega$	28 V	20 mA	140 mW	–	9001/01-280-020-101	158655	110 g	

Selection Table										
Series 9001/02, single-channel safety barrier for alternating potential										
Product variant	Nominal voltage	Minimum resistance $R_{min}$	Maximum resistance $R_{max}$	Max. voltage $U_o$	Max. current $I_o$	Max. power $P_o$	Schematic	Product Type	Art. No.	Weight
± 0.7 V AC+DC	19.9 Ω	20.1 Ω	1.6 V	150 mA	60 mW	Image F	9001/02-016-150-111	158685	110 g	
	37 Ω	40 Ω	1.6 V	50 mA	20 mW	–	9001/02-016-050-111	158677	110 g	
	120 Ω	134 Ω	1.6 V	15 mA	6 mW	Image F	9001/02-016-015-101	158669	110 g	
± 6 V AC+DC	31 Ω	36 Ω	9.3 V	390 mA	906.8 mW	Image F	9001/02-093-390-101	158755	110 g	
	70 Ω	80 Ω	9.3 V	150 mA	348.8 mW	Image F	9001/02-093-150-101	158753	110 g	
	319 Ω	355 Ω	9.3 V	30 mA	69.8 mW	Image F	9001/02-093-030-101	158743	110 g	
	3141 Ω	3473 Ω	9.3 V	3 mA	6.975 mW	–	9001/02-093-003-101	158741	110 g	
± 10 V AC+DC	102 Ω	115 Ω	13.3 V	150 mA	498.8 mW	–	9001/02-133-150-101	158758	110 g	
± 12 V AC+DC	198 Ω	223 Ω	17.5 V	100 mA	437.5 mW	–	9001/02-175-100-101	158301	110 g	
± 24 V AC+DC	320 Ω	357 Ω	28 V	90 mA	630 mW	–	9001/02-280-090-101	158317	110 g	
Series 9001/02, Single-channel safety barriers for alternating polarity										
Product variant	Nominal voltage	Minimum resistance $R_{min}$	Maximum resistance $R_{max}$	Max. voltage $U_o$	Max. current $I_o$	Max. power $P_o$	Schematic	Product Type	Art. No.	Weight
± 6 V AC+DC	148 Ω	166 Ω	9.3 V	75 mA	174.4 mW	–	–	9001/02-093-075-101	158749	110 g
Series 9001/03, single-channel evaluation barrier for positive potential										
Product variant	Nominal voltage	Minimum resistance $R_{min}$	Maximum resistance $R_{max}$	Max. voltage $U_o$	Max. current $I_o$	Max. power $P_o$	Schematic	Product Type	Art. No.	Weight
16 V DC	–	–	19.9 V	–	–	–	Image G	9001/03-199-000-101	158475	110 g
24 V DC	–	–	28 V	–	–	–	Image G	9001/03-280-000-101	158486	110 g
Series 9001/51, single-channel safety barrier for transmitters										
Product variant	Nominal voltage	Minimum resistance $R_{min}$	Maximum resistance $R_{max}$	Max. voltage $U_o$	Max. current $I_o$	Max. power $P_o$	Schematic	Product Type	Art. No.	Weight
20 to 35 V DC	–	–	28 V	91 mA	637 mW	–	Image L	9001/51-280-091-141	158524	110 g
	–	–	28 V	110 mA	770 mW	–	Image K	9001/51-280-110-141	158530	110 g

Safety barrier schematics are available online at [r-stahl.com](http://r-stahl.com)

Technical Data	
Explosion Protection	
IECEX gas explosion protection	Ex ec [ja Ga] IIC T4 Gc
IECEX dust explosion protection	[Ex ia Da] IIIC
ATEX gas explosion protection	Ⓔ II 3 (1) G Ex ec [ja Ga] IIC T4 Gc
ATEX dust explosion protection	Ⓔ II (1) D [Ex ia Da] IIIC
Certificates	ATEX (PTB), Brazil (ULB), Canada (CSA), 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, Division 2 and in safe areas
Further information	See relevant certificate and operating instructions

Technical Data	
Ambient Conditions	
Ambient temperature	-20 °C ... 60 °C
Storage temperature	-20 °C ... 75 °C
Mechanical Data	
Degree of protection (IP)	IP40
Degree of protection note	according to IEC 60529
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>
Type of connection cable	Finely stranded Solid
Weight	110 g

Technical Drawings – Subject to Alterations

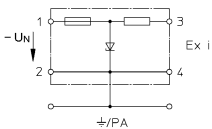


Image A

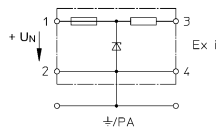


Image B

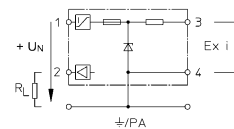


Image D

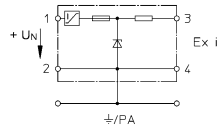


Image E

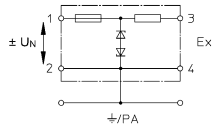


Image F

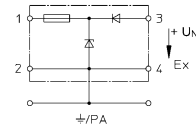


Image G

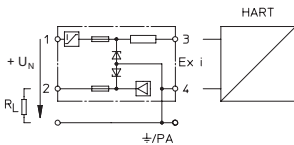


Image K

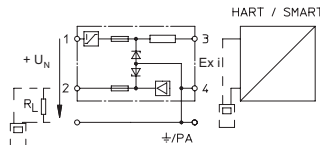


Image L

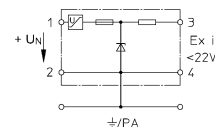
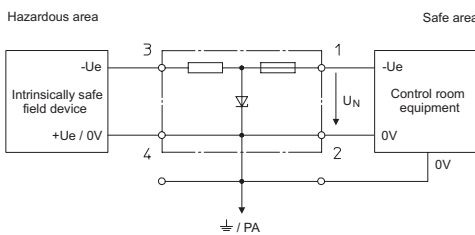
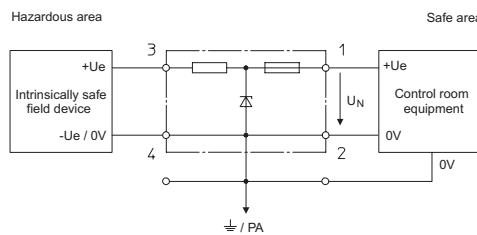


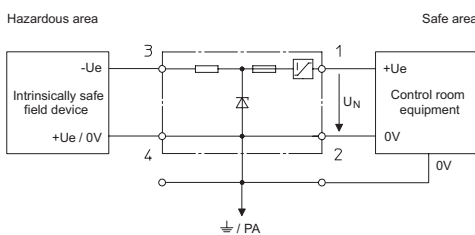
Image M



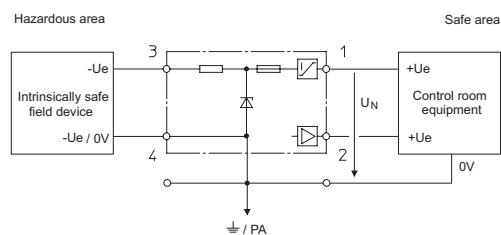
Single-Channel Safety Barriers for Negative Polarity



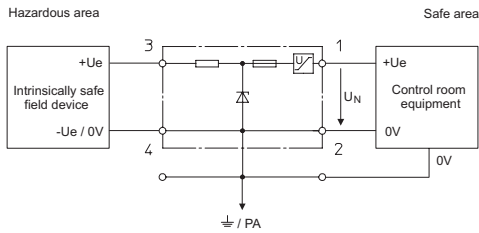
Single-Channel Safety Barriers for Positive Polarity



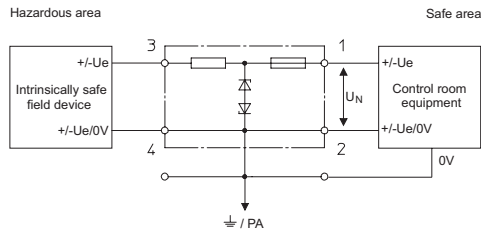
Single-Channel Safety Barriers for Positive Polarity



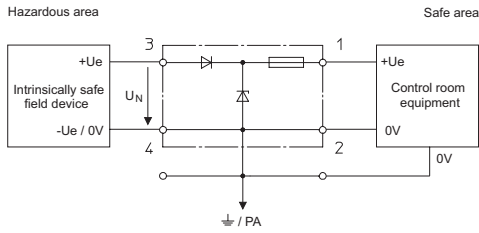
Single-Channel Safety Barriers for Positive Polarity



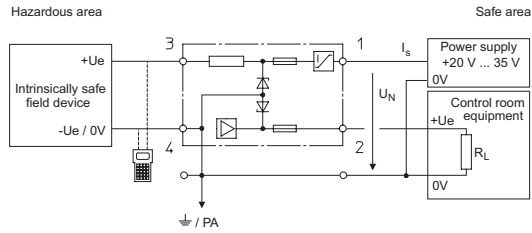
Single-Channel Safety Barriers for Positive Polarity



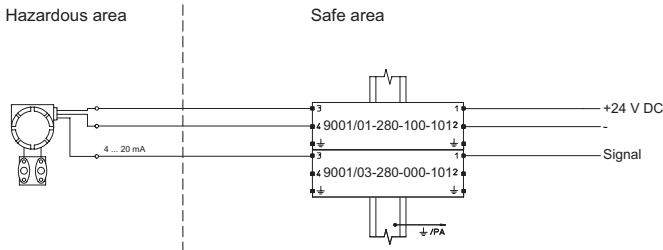
Single-Channel Safety Barriers for Alternating Polarity



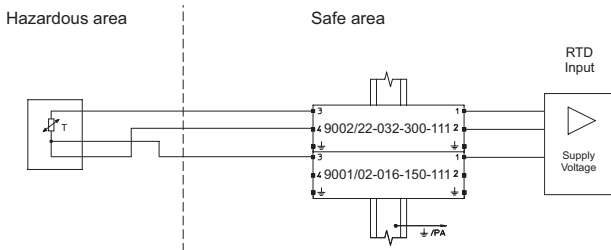
Single-Channel Diode Return Barriers for Positive Polarity



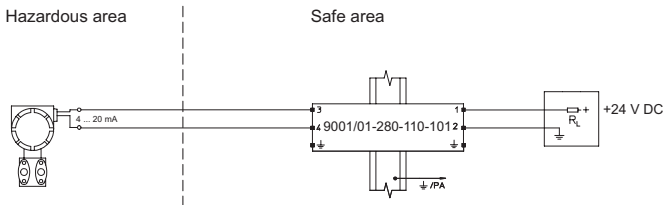
Single-Channel Safety Barriers for Transmitters



Application: 3-wire 4 ... 20 mA transmitter

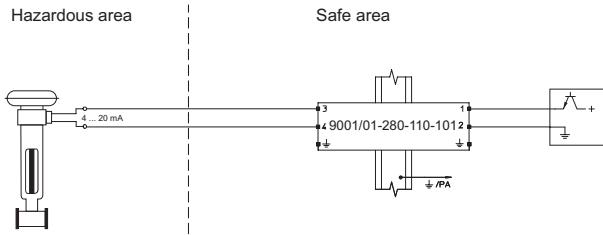


Application: Pt100, 3-wire circuit, field circuit unearthed

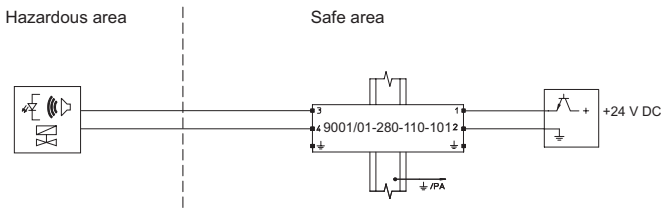


Application: 2-wire 4/20 mA transmitter - Standard

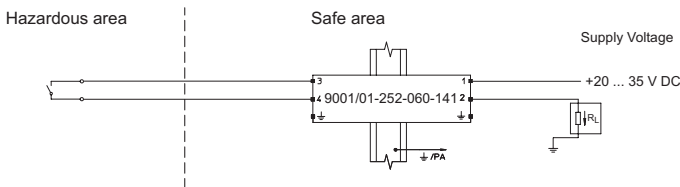
A2



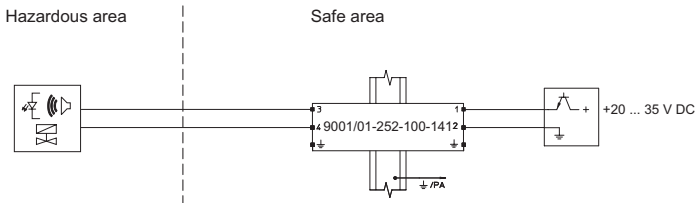
Application: Analog output (current source) with I/P converter etc. Field circuit earthed



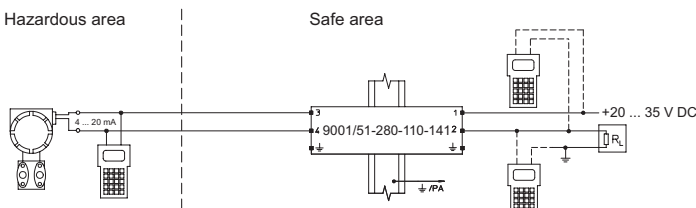
Application: Discrete 2-wire output for magnet reed switches, LEDs and audible alarm indicators



Application: Binary input with switch (load on ground)  
Field circuit earthed



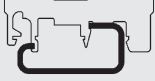
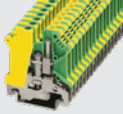
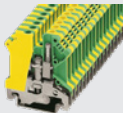

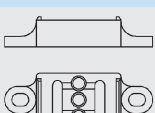
Application: Binary output (current source) for valves, LEDs etc. Field circuit earthed

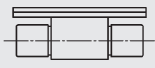
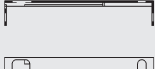


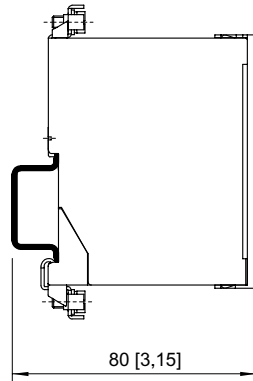
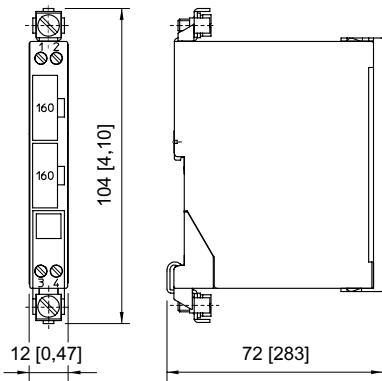
Application: Analog input with standard transmitter  
Field circuit earthed

### Accessories

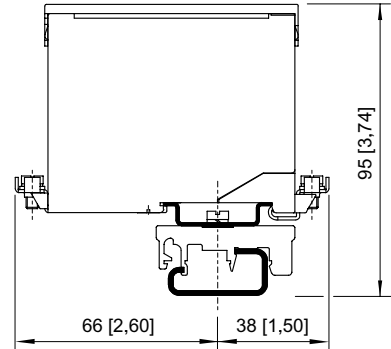
Figure	Description	Art. No.	Weight
	The adaptor enables a series 900x safety barrier to be installed on a mounting plate from a previous series.	158826	6 g

Accessories			
Figure	Description	Art. No.	Weight
<b>Clamping base, moulded material</b>			
	Enables the safety barrier to be mounted on a G-rail.	165283	4 g
<b>Protective conductor terminal</b>			
	USLKG 5 (clamping range 4 mm <sup>2</sup> ) The terminal enables protective conductors to be connected to the DIN rail. Colour green-yellow.	112760	12 g
<b>Earthing terminal</b>			
	USLKG 6 N (clamping range 6 mm <sup>2</sup> ) The terminal enables protective conductors/earthing conductors to be connected to the DIN rail. Colour green-yellow.	112599	30 g
<b>Fuse holder</b>			
	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	20 g
<b>Insulation and fastening material</b>			
	Suitable for the NS 35/15 DIN rail, makes it possible to install the DIN rail such that it is electrically insulated from the mounting plate.	158828	23 g

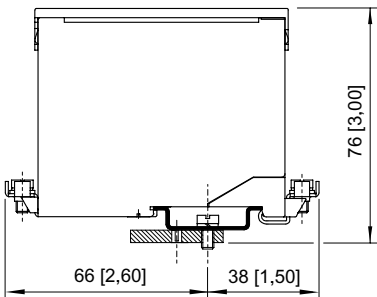
Spare Parts			
Figure	Description	Art. No.	Weight
<b>Back-up fuse</b>			
	For all series 9001, 9002 and 9004 safety barriers Packaging unit: 5 pieces	158964	8 g
<b>Label carrier</b>			
	Transparent cover for the label	158977	2 g



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