



09965E00

## Single-Channel Safety Barriers Series 9001

- Broad product range for all standard applications in the world of automation
- Flexible and space saving single and dual channel versions available
- Time saving installation due to
  - simple snap on DIN-Rail and
  - connection to PE and ground at the same time
- Reduced inventory due to uniform exchangeable fuse
- Installation possible in Zone 2 and Division 2

	Zones					
	0	1	2	20	21	22
Ex i Interfaces	X	X	X	X	X	X
Installation in			X			X

R.STAHL safety barriers INTRINSPAK series 9001 are used for various applications in the arena of automation.

Based on the broad range of versions and the possibility of various interconnections it offers for almost all tasks.

The safety barriers enable the intrinsic safe operation of HART transmitter, proximity switches, potential-free contacts and temperature sensors, strain gauge, solenoid valves, indicators e.t.c.

The compact design allows a space saving and flexible installation in the cabinet. The mounting is very comfortable and easy due to the fact that installation on the DIN-rail and the contact to the potential equalization is made in one step.

## Technical Data

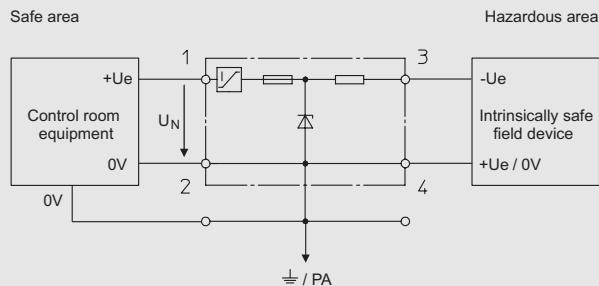
Certificates	<b>Europe (CENELEC)</b> PTB 01 ATEX 2088 X  <b>IECEx</b> IECEx PTB 09.0001X  <b>USA</b> FM Approval 3011002 UL Approval E81680  <b>Canada</b> CSA 1284547 (LR 43394)  <b>Russia</b> GOST R CTB 04.B00764  <b>Ukraine</b> ISCVE  <b>Belarus</b> Gospromnadzor  <b>Kazakhstan</b> JSC
Explosion protection	<b>Europe (CENELEC)</b> II 3 (1) G Ex nA [ia Ga] IIC/IIB T4 Gc II (1) D [Ex ia Da] IIIC  <b>USA</b> I.S. circuits for: Class I, II, III, Division 1, Groups A, B, C, D, E, F, G I.S. circuits for: Class I, Zone 0, Group IIC Class I, Division 2, Groups A, B, C, D Class I, Zone 2, Group IIC  <b>Canada</b> I.S. circuits for: Class I, Groups A, B, C, D; Class II, Groups E, F, G; Class III Class I, Division 2, Groups A, B, C, D Class I, Zone 2, Group IIC
Installation	in Zone 2, Division 2 and in safe area
Enclosure material	Polyamide 6 GF
Type of protection	according to IEC 60529
	terminal enclosure: IP20 housing: IP40
Connection	4 cage terminals, each maximum 1.5 mm <sup>2</sup> flexible / solid 2 PA-terminals, each maximum 4 mm <sup>2</sup> flexible / solid
Ambient temperature	- 20 ... + 60 °C
Storage	- 20 ... + 75 °C
Maximum relative humidity	95 % mean, no dewing
Leakage current at U <sub>N</sub>	≤ 2 µA (if not stated otherwise)
Temperature effect	≤ 0.25 % / 10 K
Frequency	at resistive current limitation:  at I <sub>m</sub> ≤ 50 mA                    ≤ 50 kHz at I <sub>m</sub> > 50 mA                    ≤ 100 kHz  at electronic current limitation:  ≤ 10 k <sup>Hz</sup>
Weight	approx. 0.115 kg

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**Selection Table**

Version	Description	Type	Page
Single-channel barriers	<ul style="list-style-type: none"> <li>Grounded circuit</li> <li>Current limitation to &lt; 100 mA</li> </ul>	<b>9001/01</b>	4
	<ul style="list-style-type: none"> <li>Grounded circuit</li> <li>Allows the connection of regulated power supplies, <math>U_N</math></li> </ul>	<b>9001/01</b>	5
	<ul style="list-style-type: none"> <li>Application specific for the connection of volt free contacts</li> <li>Operational current limited to &lt; 40 mA</li> <li>Grounded circuit</li> <li>Allows the connection of unregulated power supplies, <math>U_N</math> between + 20 to 35 V DC</li> </ul>	<b>9001/01</b>	6
	<ul style="list-style-type: none"> <li>Application specific for the connection of volt free contacts</li> <li>Operational current limited &lt; 40 mA</li> <li>Grounded field device</li> <li>Allows the connection of unregulated power supplies, <math>U_N</math> between + 20 to 35 V DC</li> </ul>	<b>9001/01</b>	7
	<ul style="list-style-type: none"> <li>Application specific for the connection of solenoid valves, LEDs or audible alarms</li> <li>Grounded circuit</li> <li>Allows the connection of unregulated power supplies, <math>U_N</math> between + 20 to 35 V DC</li> </ul>	<b>9001/01</b>	8
	<ul style="list-style-type: none"> <li>Grounded circuit</li> <li>Allows the connection of regulated power supplies, <math>U_N</math></li> </ul>	<b>9001/00</b>	9
	<ul style="list-style-type: none"> <li>Grounded circuit</li> <li>Suitable for AC and DC circuits</li> </ul>	<b>9001/02</b>	10
	<ul style="list-style-type: none"> <li>Grounded circuit</li> <li>Suitable for AC and DC circuits</li> <li>Current limitation to &lt; <math>I_{max}</math></li> </ul>	<b>9001/02</b>	11
	<ul style="list-style-type: none"> <li>Grounded circuit</li> <li>For DC current signal returns</li> <li>Current limitation to &lt; <math>I_{max}</math></li> </ul>	<b>9001/03</b>	12
	<ul style="list-style-type: none"> <li>Application specific for HART transmitters</li> <li>Grounded field device</li> <li>Allows the connection of unregulated power supplies, <math>U_N</math> between + 20 to 35 V DC</li> </ul>	<b>9001/51</b>	13
	<ul style="list-style-type: none"> <li>Application specific for transmitters</li> <li>Grounded field device</li> <li>Allows the connection of unregulated power supplies, <math>U_N</math> between + 20 to 35 V DC</li> </ul>	<b>9001/51</b>	14

## Single-Channel Safety Barriers for Positive Polarity



- Grounded circuit
- Current limitation to < 100 mA
- Approved for installation in Division 2 and Zone 2

## Selection Table

$U_N$	$R_{min}$	$R_{max}$	$I_{max}$	$\Delta U$	Safety values								Order number
					$U_o$	$I_o$	$P_o$	IIC		IIB			
V	$\Omega$	$\Omega$	mA	V	V	mA	mW	$L_o$	$C_o$	$L_o$	$C_o$		
12	64	73	< 100	< 1.4	15.8	270	1067	0.23	0.478	2.2	2.88	9001/01-158-270-101	
12	46	53	< 100	< 1.4	15.8	390	1541	0.16	0.478	0.89	2.88	9001/01-158-390-101	
16	57	66	< 100	< 1.4	19.9	390	1940	--	--	0.89	1.42	9001/01-199-390-101	
24	111	124	< 100	< 1.4	28	280	1960	--	--	0.6	0.65	9001/01-280-280-101 *)	

\*) Ambient temperature

- 20 ... + 50 °C

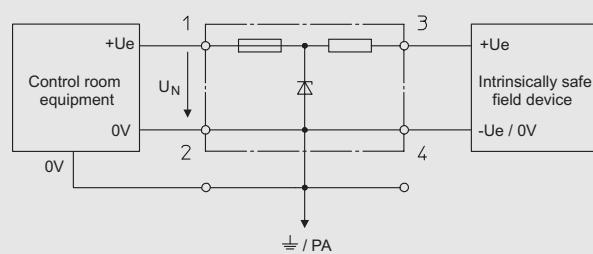
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## Functional and Maximum Safety Values

$U_N$	Nominal voltage	$\Delta U$	Additional voltage drop through the safety barrier	$L_o$	Maximum permissible external inductance
$R_{min}$	Minimum resistance of the safety barrier	$U_o$	Maximum voltage	$C_o$	Maximum permissible external capacity
$R_{max}$	Maximum resistance of the safety barrier	$I_o$	Maximum current		
$I_{max}$	Maximum current through the safety barrier	$P_o$	Maximum power		

## Single-Channel Safety Barriers for Positive Polarity

Safe area



Hazardous area

- Grounded circuit
- Allows the connection of regulated power supplies,  $U_N$
- Approved for installation in Division 2 and Zone 2

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## Selection Table

$U_N$ V	$R_{min}$ $\Omega$	$R_{max}$ $\Omega$	$I_{max}$ mA	Safety values						Order number	
				$U_o$ V	$I_o$ mA	$P_o$ mW	IIC $L_o$ mH	$C_o$ $\mu F$	IIB $L_o$ mH	$C_o$ $\mu F$	
1 ... 3	42	49	61	5	150	187.5	1.3	100	7	1000	9001/01-050-150-101
6	24	27	222	8.3	442	917.2	0.1	7.2	0.5	73	9001/01-083-442-101
6	864	963	6	8.6	10	21.5	300	6.2	1000	55	9001/01-086-010-101
6	452	501	11	8.6	20	43	90	6.2	330	55	9001/01-086-020-101
6	195	218	27	8.6	50	107.5	15	6.2	56	55	9001/01-086-050-101
6	129	144	41	8.6	75	161.3	6.7	6.2	25	55	9001/01-086-075-101
6	64	73	82	8.6	150	322.5	1.3	6.2	7	55	9001/01-086-150-101
6	39	44	136	8.6	270	580.5	0.23	6.2	2.2	55	9001/01-086-270-101
6	27	32	187	8.6	390	839	0.16	6.2	1	55	9001/01-086-390-101
8	681	698	11	12.6	20	63	90	1.15	330	7.4	9001/01-126-020-101
8	263	294	27	12.6	50	158	15	1.15	56	7.4	9001/01-126-050-101
8	178	199	40	12.6	75	236	6.7	1.15	25	7.4	9001/01-126-075-101
8	93	106	75	12.6	150	473	1.3	1.15	7	7.4	9001/01-126-150-101
10	215	240	41	13.7	65	222.6	8.8	0.79	34	5	9001/01-137-065-101
12	120	135	88	15.8	150	593	1	0.478	7	2.88	9001/01-158-150-101
12	872	965	12	16.8	20	84	90	0.39	330	2.29	9001/01-168-020-101
12	377	420	28	16.8	50	210	15	0.39	56	2.29	9001/01-168-050-101
12	235	262	45	16.8	75	315	7	0.39	25	2.29	9001/01-168-075-101
16	2096	2321	6	19.9	10	50	330	0.223	1000	1.42	9001/01-199-010-101
16	1052	1165	13	19.9	20	100	90	0.223	330	1.42	9001/01-199-020-101
16	539	598	26	19.9	38	189	26	0.223	95	1.42	9001/01-199-038-101
16	415	462	34	19.9	50	249	15	0.223	56	1.42	9001/01-199-050-101
16	282	241	66	19.9	100	498	4	0.223	15	1.42	9001/01-199-100-101
16	149	168	95	19.9	150	746	1.3	0.223	7	1.42	9001/01-199-150-101
20	378	421	47	25.2	70	441	4.5	0.107	25	0.82	9001/01-252-070-101
24	1435	1590	15	28	20	140	50	0.083	50	0.65	9001/01-280-020-101
24	599	666	36	28	50	350	8.5	0.083	25	0.65	9001/01-280-050-101
24	415	462	51	28	75	525	3.3	0.083	21	0.65	9001/01-280-075-101
24	340	375	64	28	85	595	2.4	0.083	16	0.65	9001/01-280-085-101
24	286	319	75	28	100	700	1.6	0.083	11	0.65	9001/01-280-100-101
24	263	294	81	28	110	770	1.2	0.083	9	0.65	9001/01-280-110-101
24	177	198	121	28	165	1155	--	--	3.5	0.65	9001/01-280-165-101

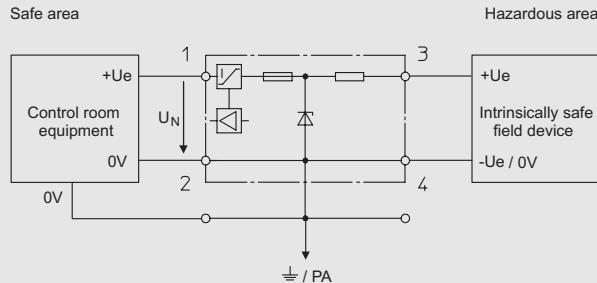
Note

Application example see General - Standard Applications

## Functional and Maximum Safety Values

$U_N$	Nominal voltage	$I_{max}$	Maximum current through the safety barrier	$P_o$	Maximum power
$R_{min}$	Minimum resistance of the safety barrier	$U_o$	Maximum voltage	$L_o$	Maximum permissible external inductance
$R_{max}$	Maximum resistance of the safety barrier	$I_o$	Maximum current	$C_o$	Maximum permissible external capacity

## Single-Channel Safety Barriers for Positive Polarity



- Application specific for the connection of volt free contacts
- Operational current limited to < 40 mA
- Grounded circuit
- Allows the connection of unregulated power supplies,  $U_N$  between + 20 to 35 V DC
- Approved for installation in Division 2 and Zone 2

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## Selection Table

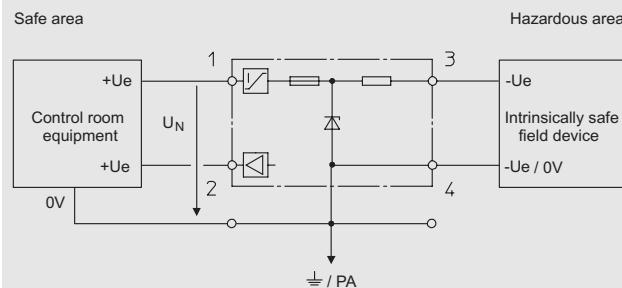
$U_N$	$R_{min}$	$R_{max}$	$I_{max}$	Safety values								Order number
				$U_o$	$I_o$	$P_o$	IIC		IIB			
V	$\Omega$	$\Omega$	mA	V	mA	mW	$L_o$	$C_o$	$L_o$	$C_o$	$\mu F$	
20 ... 35	454	505	40	25.2	57	359	6.3	0.107	25	0.82		9001/01-252-057-141 *

\*) Maximum leakage (terminal 1 -> PA/GND)  $I_{leak} \leq 100 \mu A$ 

## Functional and Maximum Safety Values

$U_N$	Nominal voltage	$I_{max}$	Maximum current through the safety barrier	$P_o$	Maximum power
$R_{min}$	Minimum resistance of the safety barrier	$U_o$	Maximum voltage	$L_o$	Maximum permissible external inductance
$R_{max}$	Maximum resistance of the safety barrier	$I_o$	Maximum current	$C_o$	Maximum permissible external capacity

### Single-Channel Safety Barriers for Positive Polarity



- Application specific for the connection of volt free contacts
- Operational current limited < 40 mA
- Grounded field device
- Allows the connection of unregulated power supplies,  $U_N$  between + 20 to 35 V DC
- Approved for installation in Division 2 and Zone 2

### Selection Table

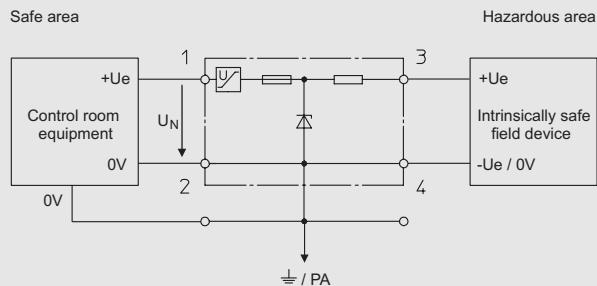
$U_N$	$R_{min}$	$R_{max}$	$I_{max}$	Safety values								Order number	
				$U_o$	$I_o$	$P_o$	IIC		IIB		$\mu F$	$\mu H$	
V	$\Omega$	$\Omega$	mA	V	mA	mW	$L_o$	$C_o$	$L_o$	$C_o$	$\mu F$	$\mu H$	$\mu F$
20 ... 35	454	505	40	25.2	60	378	6.2	0.107	25	0.82	9001/01-252-060-141	*	*

\*) Maximum leakage (terminal 1 -> PA/PA)  $I_{leak} \leq 100 \mu A$

### Functional and Maximum Safety Values

$U_N$	Nominal voltage	$I_{max}$	Maximum current through the safety barrier	$P_o$	Maximum power
$R_{min}$	Minimum resistance of the safety barrier	$U_o$	Maximum voltage	$L_o$	Maximum permissible external inductance
$R_{max}$	Maximum resistance of the safety barrier	$I_o$	Maximum current	$C_o$	Maximum permissible external capacity

## Single-Channel Safety Barriers for Positive Polarity



- Application specific for the connection of solenoid valves, LEDs or audible alarms
- Grounded circuit
- Allows the connection of unregulated power supplies,  $U_N$  between + 20 to 35 V DC
- Approved for installation in Division 2 and Zone 2

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## Selection Table

$U_N$	$R_{min}$	$R_{max}$	$I_{max}$	Safety values								Order number
				$U_o$	$I_o$	$P_o$	IIC		IIB		$L_o$	$C_o$
V	$\Omega$	$\Omega$	mA	V	mA	mW	mH	$\mu F$	mH	$\mu F$		
20 ... 35	259	268	78	25.2	100	630	2	0.107	11	0.82	9001/01-252-100-141 *	

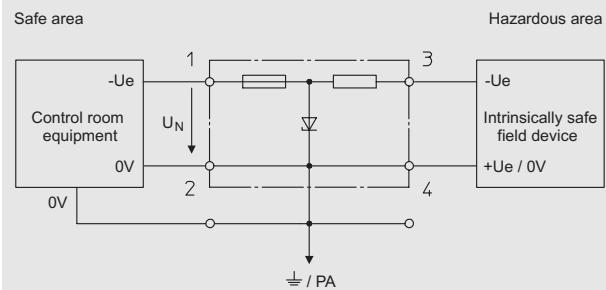
\*) Maximum leakage (terminal 1 -> PA/ $\frac{1}{\overline{1}}$ )  $I_{leak} \leq 1 \text{ mA} / 10 \text{ mA}$   
at 24 V / 35 V

## Functional and Maximum Safety Values

$U_N$	Nominal voltage	$I_{max}$	Maximum current through the safety barrier	$P_o$	Maximum power
$R_{min}$	Minimum resistance of the safety barrier	$U_o$	Maximum voltage	$L_o$	Maximum permissible external inductance
$R_{max}$	Maximum resistance of the safety barrier	$I_o$	Maximum current	$C_o$	Maximum permissible external capacity

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## Single-Channel Safety Barriers for Negative Polarity



- Grounded circuit
- Allows the connection of regulated power supplies,  $U_N$
- Approved for installation in Division 2 and Zone 2

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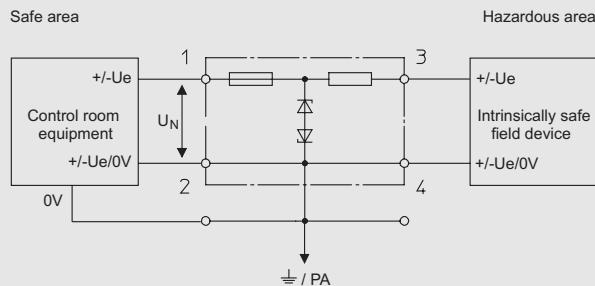
## Selection Table

$U_N$ V	$R_{min}$ $\Omega$	$R_{max}$ $\Omega$	$I_{max}$ mA	Safety values								Order number
				$U_o$ V	$I_o$ mA	$P_o$ mW	IIC		IIB			
				$L_o$ mH	$C_o$ $\mu F$	$L_o$ mH	$C_o$ $\mu F$					
1 ... 3	42	49	61	5	150	187.5	1.3	100	7	1000	0.65	9001/00-050-150-101
6	24	28	214	8.3	442	917.2	0.1	7.2	0.5	73	0.65	9001/00-083-442-101
6	864	963	6	8.6	10	21.5	300	6.2	1000	55	0.65	9001/00-086-010-101
6	452	501	11	8.6	20	43	90	6.2	330	55	0.65	9001/00-086-020-101
6	195	218	27	8.6	50	107.5	15	6.2	56	55	0.65	9001/00-086-050-101
6	92	103	58	8.6	100	215	4	6.2	15	55	0.65	9001/00-086-100-101
6	64	73	82	8.6	150	322.5	1.3	6.2	7	55	0.65	9001/00-086-150-101
6	27	32	187	8.6	390	839	0.16	6.2	1	55	0.65	9001/00-086-390-101
10	215	240	41	13.7	65	222.6	8.8	0.79	34	5	0.65	9001/00-137-065-101
12	120	135	88	15.8	150	593	1	0.478	7	2.88	0.65	9001/00-158-150-101
16	2096	2321	6	19.9	10	50	330	0.223	1000	1.42	0.65	9001/00-199-010-101
16	1052	1165	13	19.9	20	100	90	0.223	330	1.42	0.65	9001/00-199-020-101
16	539	598	26	19.9	38	189	26	0.223	95	1.42	0.65	9001/00-199-038-101
16	149	168	95	19.9	150	746	1.3	0.223	7	1.42	0.65	9001/00-199-150-101
24	599	666	36	28	50	350	8.5	0.083	25	0.65	0.65	9001/00-280-050-101
24	1435	1590	15	28	20	140	50	0.083	50	0.65	0.65	9001/00-280-020-101
24	340	375	64	28	85	595	2.4	0.083	16	0.65	0.65	9001/00-280-085-101
24	286	319	75	28	100	700	1.6	0.083	11	0.65	0.65	9001/00-280-100-101
24	263	294	81	28	110	770	1.2	0.083	9	0.65	0.65	9001/00-280-110-101
24	177	198	121	28	165	1155	--	--	3.5	0.65	0.65	9001/00-280-165-101

## Functional and Maximum Safety Values

$U_N$	Nominal voltage	$I_{max}$	Maximum current through the safety barrier	$P_o$	Maximum power
$R_{min}$	Minimum resistance of the safety barrier	$U_o$	Maximum voltage	$L_o$	Maximum permissible external inductance
$R_{max}$	Maximum resistance of the safety barrier	$I_o$	Maximum current	$C_o$	Maximum permissible external capacity

## Single-Channel Safety Barriers for Alternating Polarity



- Grounded circuit
- Suitable for AC and DC circuits
- Approved for installation in Division 2 and Zone 2

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## Selection Table

$U_N$ V	$R_{min}$ $\Omega$	$R_{max}$ $\Omega$	$I_{max}$ mA	Safety values								Order number
				$U_o$ V	$I_o$ mA	$P_o$ mW	IIC		IIB			
				$L_o$ mH	$C_o$ $\mu F$	$L_o$ mH	$C_o$ $\mu F$					
0.7	119	134	5	1.6	15	6	160	100	560	1000	9001/02-016-015-101	*)
0.7	38	43	16	1.6	50	20	15	100	56	1000	9001/02-016-050-101	*)
0.7	39	40	17	1.6	50	20	15	100	56	1000	9001/02-016-050-111	*)
0.7	--	20	35	1.6	150	60	1.3	100	7	1000	9001/02-016-150-101	*)
0.7	19	20	35	1.6	150	60	1.3	100	7	1000	9001/02-016-150-111	*)
0.7	11	14	50	1.6	320	128	0.19	100	1.6	1000	9001/02-016-320-101	*)
6	3141	3472	1,7	9.3	3	6.975	1000	4.1	1000	31	9001/02-093-003-101	
6	319	354	16	9.3	30	69.8	40	4.1	150	31	9001/02-093-030-101	
6	195	218	27	9.3	50	116.3	15	4.1	56	31	9001/02-093-050-101	
6	148	165	36	9.3	75	174.4	6.7	4.1	25	31	9001/02-093-075-101	
6	70	79	75	9.3	150	348.8	1.3	4.1	7	31	9001/02-093-150-101	
6	--	36	166	9.3	390	906.8	0.16	4.1	0.89	31	9001/02-093-390-101	
10	102	115	86	13.3	150	498.8	1.3	0.91	7	5.6	9001/02-133-150-101	
12	378	421	28	17.5	50	219	15	0.339	56	1.97	9001/02-175-050-101	
12	197	222	54	17.5	100	437.5	4	0.339	15	1.97	9001/02-175-100-101	
12	101	114	105	17.5	200	875	0.5	0.339	4	1.97	9001/02-175-200-101	
16	148	167	95	19.6	150	735	1.3	0.235	7	1.47	9001/02-196-150-101	
24	320	357	67	28	90	630	2.2	0.083	14	0.65	9001/02-280-090-101	
36	456	509	70	41.2	95	979	--	--	9	0.287	9001/02-412-095-101	

\*) Maximum leakage  
Tolerance $I_{leak} \leq 10 \mu A$   
 $\pm 0.5 \%$ 

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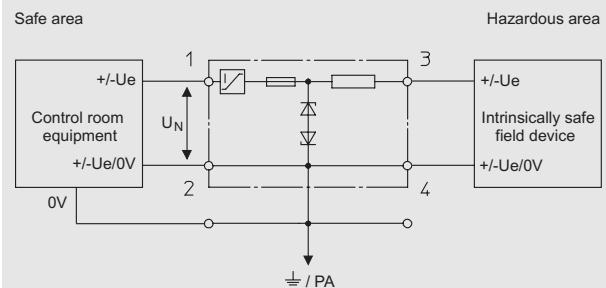
Note

Application example see General - Standard Applications

## Functional and Maximum Safety Values

$U_N$	Nominal voltage	$I_{max}$	Maximum current through the safety barrier	$P_o$	Maximum power
$R_{min}$	Minimum resistance of the safety barrier	$U_o$	Maximum voltage	$L_o$	Maximum permissible external inductance
$R_{max}$	Maximum resistance of the safety barrier	$I_o$	Maximum current	$C_o$	Maximum permissible external capacity

## Single-Channel Safety Barriers for Alternating Polarity



- Grounded circuit
- Suitable for AC and DC circuits
- Current limitation to  $< I_{max}$
- Approved for installation in Division 2 and Zone 2

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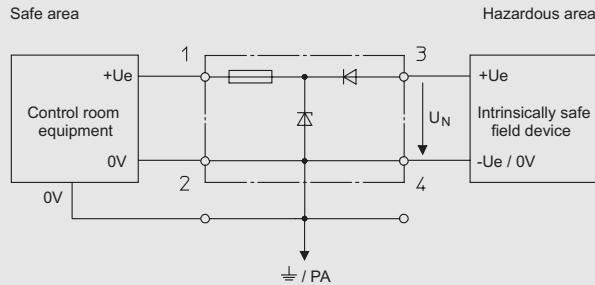
## Selection Table

$U_N$ V	$R_{min}$ $\Omega$	$R_{max}$ $\Omega$	$I_{max}$ mA	$\Delta U$ V	Safety values								Order number
					$U_o$ V	$I_o$ mA	$P_o$ mW	IIC		IIB			
					$L_o$ mH	$C_o$ $\mu F$	$L_o$ mH	$C_o$ $\mu F$					
16	63	72	< 80	< 1.4	21.7	390	2116	--	--	0.89	1.17	9001/02-217-390-101	
24	143	162	< 65	< 1.4	30.8	230	1771	--	--	0.7	0.524	9001/02-308-230-101	

## Functional and Maximum Safety Values

$U_N$	Nominal voltage	$I_{max}$	Maximum current through the safety barrier	$P_o$	Maximum power
$R_{min}$	Minimum resistance of the safety barrier	$U_o$	Maximum voltage	$L_o$	Maximum permissible external inductance
$R_{max}$	Maximum resistance of the safety barrier	$I_o$	Maximum current	$C_o$	Maximum permissible external capacity

## Single-Channel Diode Return Barriers for Positive Polarity



- Grounded circuit
- For DC current signal returns
- Current limitation to < I<sub>max</sub>
- Approved for installation in Division 2 and Zone 2

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## Selection Table

U <sub>N</sub> V	I <sub>max</sub> mA	ΔU V	Safety values						Order number	
			U <sub>o</sub> V	I <sub>o</sub> mA	P <sub>o</sub> mW	IIC		IIB		
L <sub>o</sub> mH	C <sub>o</sub> μF	L <sub>o</sub> mH	C <sub>o</sub> μF							
6	< 150	3.5	8.6	0	0	1000	6.2	1000	55	9001/03-086-000-101 *)
12	< 100	3.5	16.8	0	0	1000	0.39	1000	2.29	9001/03-168-000-101 *)
16	< 100	3.5	19.9	0	0	1000	0.223	1000	1.42	9001/03-199-000-101 *)
24	< 100	3.5	28	0	0	50	0.083	50	0.65	9001/03-280-000-101 **)

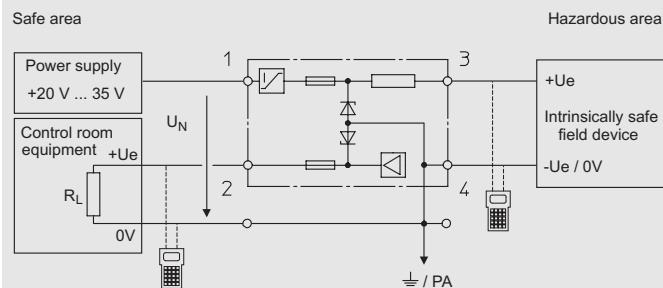
\*) Short circuit rating not short circuit proof

\*\*) Ambient temperature - 20 ... + 50 °C

## Functional and Maximum Safety Values

U <sub>N</sub>	Nominal voltage	U <sub>o</sub>	Maximum voltage	L <sub>o</sub>	Maximum permissible external inductance
I <sub>max</sub>	Maximum current through the safety barrier	I <sub>o</sub>	Maximum current	C <sub>o</sub>	Maximum permissible external capacity
ΔU	Additional voltage drop through the safety barrier	P <sub>o</sub>	Maximum power		

### Single-Channel Safety Barriers for Transmitters



- Application specific for HART transmitters
- Grounded field device
- Allows the connection of unregulated power supplies,  $U_N$  between + 20 to 35 V DC
- Approved for installation in Division 2 and Zone 2

### Selection Table

$U_N$	Safety values						Order number
V	$U_o$	$I_o$	$P_o$	IIC	$L_o$	$C_o$	IIB
20 ... 35	28	110	770	1.2	0.083	9	0.65

**9001/51-280-110-141**

### Technical Data

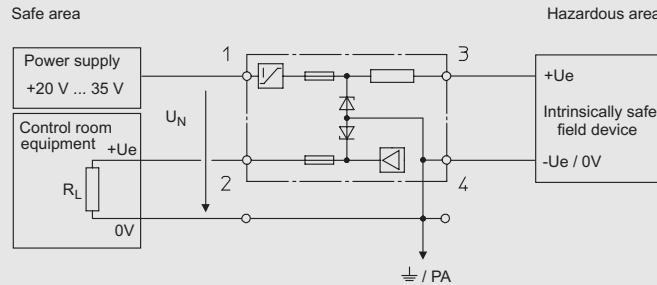
Supply current	$I_s \leq 50 \text{ mA}$
Accuracy	$\pm 0.05 \%$
Temperature effect	$\pm 0.1 \% / 10 \text{ K}$
Longterm drift	$\pm 0.05 \%$
Rated operational current	$I_N = 3.6 \text{ mA} \dots 22 \text{ mA}$
Load	$R_L \leq 500 \Omega (U_N \leq 23.5 \text{ V})$ $R_L \leq 750 \Omega (U_N > 23.5 \text{ V})$
Transmitter supply voltage	$U_{\min} (I_N = 20 \text{ mA})$ $U_N - 8.5 \text{ V}$ 15 V $U_N$ $\leq 23.5 \text{ V}$ $> 23.5 \text{ V}$

### Note

Application example see General - Standard Applications

### Functional and Maximum Safety Values

$U_N$	Nominal voltage	$P_o$	Maximum power		
$U_o$	Maximum voltage	$L_o$	Maximum permissible external inductance		
$I_o$	Maximum current	$C_o$	Maximum permissible external capacity		

**Single-Channel Safety Barriers for Transmitter**

- Application specific for transmitters
- Grounded field device
- Allows the connection of unregulated power supplies,  $U_N$  between + 20 to 35 V DC
- Approved for installation in Division 2 and Zone 2

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**Selection Table**

$U_N$ V	Safety values						Order number
	$U_o$ V	$I_o$ mA	$P_o$ mW	IIC $L_o$ mH	$C_o$ μF	IIB $L_o$ mH	
20 ... 35	28	91	637	2.2	0.083	14	0.65 <b>9001/51-280-091-141</b>

**Technical Data**

Supply current	$I_s \leq 50 \text{ mA}$	
Accuracy	$\pm 0.05 \%$	
Temperature effect	$\pm 0.1 \% / 10 \text{ K}$	
Longterm drift	$\pm 0.05 \%$	
Rated operational current	$I_N = 3.6 \text{ mA} \dots 22 \text{ mA}$	
Load	$R_L \leq 350 \Omega$	
Transmitter supply voltage	$U_{\min} (I_N = 20 \text{ mA})$ $U_N - 9.5 \text{ V}$ $14 \text{ V}$	$U_N$ $\leq 23.5 \text{ V}$ $> 23.5 \text{ V}$

Note

Application example see General - Standard Applications

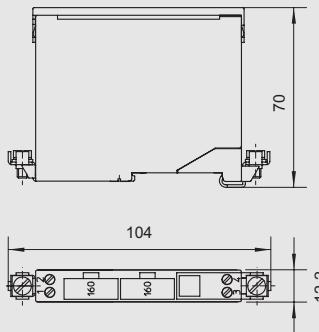
STAHL

**Functional and Maximum Safety Values**

$U_N$	Nominal voltage	$P_o$	Maximum power		
$U_o$	Maximum voltage	$L_o$	Maximum permissible external inductance		
$I_o$	Maximum current	$C_o$	Maximum permissible external capacity		

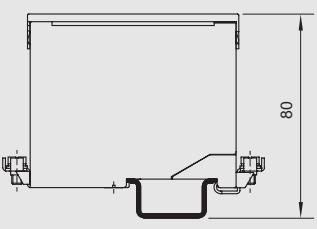
<b>Accessories and Spare Parts</b>				
Designation	Illustration	Description	Order number	
			Weight kg	
Back-up fuse	 09919E00	for all safety barriers Series 9001, 9002 and 9004 unit: 5 pcs.	158964	0.008
Holder for labels	 09920E00		158977	0.002
Labelling paper	 09921E00	perforated, for typing Format: DIN A4	158973	0.005
Adaptor	 09922E00		158826	0.006
Mounting attachment moulded plastic	 09924E00		165283	0.004
DIN rail	 07104E00	NS 35 / 15 (meter length)	103714	1.410
Earth terminal	 09926E00	USLKG 5 (wire range ≤ 4 mm²)	112760	0.012
Earth terminal	 09926E00	USLKG 6 N (wire range ≤ 6 mm²)	112599	0.030
Fuse holder	 09927E00		158834	0.020
Insulating stand off	 09928E00	for rail NS 35/15	158828	0.023

## Dimensional Drawings (All Dimensions in mm) - Subject to Alterations



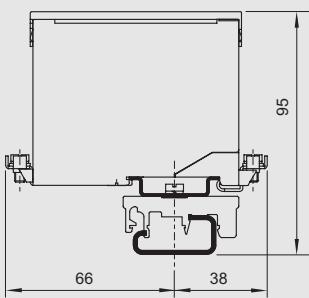
09929E00

## Safety barriers 9001, 9002, 9004



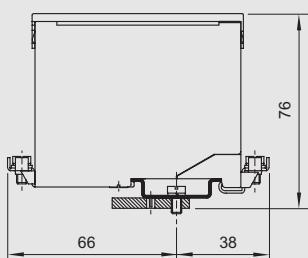
09930E00

**Safety barriers 9001, 9002, 9004**  
mounting on  
DIN rail NS 35/15 (acc. to EN 50 022)



09932E00

**Safety barriers 9001, 9002, 9004**  
mounting on  
DIN rail NS 32 (acc. to EN 50 035)  
by means of adaptor and  
mounting attachment, moulded plastic



09933E00

**Safety barriers 9001, 9002, 9004**  
mounting on  
mounting plate by means of adaptor

We reserve the right to make alterations to the technical data, weights, dimensions, designs and products available without notice.  
The illustrations cannot be considered binding.

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