



- 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 INTRINSIPAK 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.

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

Selection Table

Series 9002/00, potential: Negative/negative										
Channel	Nominal voltage U _N	Minimum resistance R _{min}	Maximum resistance R _{max}	Maximum voltage U _o	Maximum current I _o	Maximum power P _o	Schematic	Product Type	Art. No.	Weight
1	22.5 V DC	321 Ω	359 Ω	26 V	87 mA	540 mW	Image C	9002/00-260-138-001	158867	110 g
2	17.5 V	417 Ω	464 Ω	20 V	51 mA	245 mW				
1 + 2	–	–	–	26 V	138 mA	785 mW				
1	25 V DC	322 Ω	359 Ω	28 V	93 mA	650 mW	–	9002/00-280-186-001	158845	110 g
2	25 V	322 Ω	359 Ω	28 V	93 mA	650 mW				
1 + 2	–	–	–	28 V	186 mA	1300 mW				
Series 9002/10, potential: Positive/negative										
Channel	Nominal voltage U _N	Minimum resistance R _{min}	Maximum resistance R _{max}	Maximum voltage U _o	Maximum current I _o	Maximum power P _o	Schematic	Product Type	Art. No.	Weight
1	6 V DC	490 Ω	543 Ω	9.3 V	20 mA	50 mW	Image A	9002/10-187-020-001	158937	110 g
2	6 V	490 Ω	543 Ω	9.3 V	20 mA	50 mW				
1 + 2	–	–	–	18.7 V	20 mA	90 mW				
1	6 V DC	43 Ω	49 Ω	9.3 V	270 mA	630 mW	Image A	9002/10-187-270-001	158933	110 g
2	6 V	43 Ω	49 Ω	9.3 V	270 mA	630 mW				
1 + 2	–	–	–	18.7 V	270 mA	1260 mW				
Series 9002/11, potential: Positive/positive										
Channel	Nominal voltage U _N	Minimum resistance R _{min}	Maximum resistance R _{max}	Maximum voltage U _o	Maximum current I _o	Maximum power P _o	Schematic	Product Type	Art. No.	Weight
1	9 V DC	1052 Ω	1165 Ω	12 V	12 mA	40 mW	–	9002/11-120-024-001	158943	110 g
2	9 V	1052 Ω	1165 Ω	12 V	12 mA	40 mW				
1 + 2	–	–	–	12 V	24 mA	70 mW				
1	10 V DC	46 Ω	52 Ω	13 V	321 mA	1040 mW	–	9002/11-130-360-001	158958	110 g
2	1 V	46 Ω	52 Ω	1.6 V	39 mA	16 mW				
1 + 2	–	–	–	13 V	360 mA	1170 mW				

Selection Table

Series 9002/11, potential: Positive/positive										
Channel	Nominal voltage U _N	Minimum resistance R _{min}	Maximum resistance R _{max}	Maximum voltage U _o	Maximum current I _o	Maximum power P _o	Schematic	Product Type	Art. No.	Weight
1 2 1 + 2	10 V DC 10 V –	953 Ω 953 Ω –	978 Ω 978 Ω –	13.7 V 13.7 V 13.7 V	14.5 mA 14.5 mA 29 mA	50 mW 50 mW 100 mW	–	9002/11-137-029-001	158940	110 g
1 2 1 + 2	16 V DC 16 V –	1435 Ω 1435 Ω –	1590 Ω 1590 Ω –	19.9 V 19.9 V 19.9 V	15 mA 15 mA 30 mA	75 mW 75 mW 150 mW	Image B	9002/11-199-030-001	158929	110 g
1 2 1 + 2	25 V DC 6 V –	322 Ω 60 Ω –	359 Ω 68 Ω –	28 V 9.6 V 28 V	89 mA 180 mA 269 mA	630 mW 430 mW 1050 mW	–	9002/11-280-293-001	158864	110 g
1 2 1 + 2	25 V DC 25 V –	322 Ω 322 Ω –	359 Ω 359 Ω –	28 V 28 V 28 V	93 mA 93 mA 186 mA	650 mW 650 mW 1300 mW	Image B	9002/11-280-186-001	158848	110 g
Series 9002/13, safety barrier potential: Positive/evaluation barrier potential: Positive										
Channel	Nominal voltage U _N	Minimum resistance R _{min}	Maximum resistance R _{max}	Maximum voltage U _o	Maximum current I _o	Maximum power P _o	Schematic	Product Type	Art. No.	Weight
1 2 1 + 2	16 V DC 16 V –	96 Ω – –	109 Ω – –	19.9 V 19.9 V 19.9 V	222 mA 3 mA 225 mA	1100 mW 15 mW 1120 mW	Image F	9002/13-199-225-001	158921	110 g
1 2 1 + 2	20 ... 35 V DC 22 V –	217 Ω – –	244 Ω – –	25.2 V 25.2 V 25.2 V	118 mA 0 mA 121 mA	740 mW 20 mW 760 mW	Image N	9002/13-252-121-041	158830	110 g
1 2 1 + 2	24 V DC 24 V –	322 Ω – –	359 Ω – –	28 V 28 V 28 V	90 mA 3 mA 93 mA	630 mW 21 mW 651 mW	Image F	9002/13-280-093-001	158852	110 g
1 2 1 + 2	24 V DC 24 V –	270 Ω – –	296 Ω – –	28 V 28 V 28 V	107 mA 3 mA 110 mA	749 mW 21 mW 770 mW	Image F	9002/13-280-110-001	158857	110 g
Series 9002/22, potential: Alternating/alternating										
Channel	Nominal voltage U _N	Minimum resistance R _{min}	Maximum resistance R _{max}	Maximum voltage U _o	Maximum current I _o	Maximum power P _o	Schematic	Product Type	Art. No.	Weight
1 2 1 + 2	0.7 V AC+DC 0.7 V 1.4 V	19.9 Ω 19.9 Ω –	20.1 Ω 20.1 Ω –	1.6 V 1.6 V 3.2 V	150 mA 150 mA 300 mA	60 mW 60 mW 120 mW	Image J	9002/22-032-300-111	158954	110 g
1 2 1 + 2	5.5 V AC+DC 5.5 V 11 V	84 Ω 84 Ω –	95 Ω 95 Ω –	7.9 V 7.9 V 15.8 V	100 mA 100 mA 200 mA	198 mW 198 mW 395 mW	–	9002/22-158-200-001	158952	110 g
1 2 1 + 2	9 V AC+DC 9 V 18 V	1051 Ω 1051 Ω –	1164 Ω 1164 Ω –	12 V 12 V 24 V	12 mA 12 mA 24 mA	40 mW 40 mW 80 mW	–	9002/22-240-024-001	158950	110 g
1 2 1 + 2	9 V AC+DC 9 V 18 V	158 Ω 158 Ω –	177 Ω 177 Ω –	12 V 12 V 24 V	80 mA 80 mA 160 mA	240 mW 240 mW 480 mW	Image M	9002/22-240-160-001	158948	110 g
Series 9002/33, evaluation barrier potential: Positive/evaluation barrier potential: Positive										
Channel	Nominal voltage U _N	Minimum resistance R _{min}	Maximum resistance R _{max}	Maximum voltage U _o	Maximum current I _o	Maximum power P _o	Schematic	Product Type	Art. No.	Weight
1 2 1 + 2	25.5 V DC 25.5 V –	0 – –	0 – –	28 V 28 V 28 V	0 mA 0 mA 0	0 0 0	Image I	9002/33-280-000-001	158913	110 g
Series 9002/77, star barrier/star barrier										
Channel	Nominal voltage U _N	Minimum resistance R _{min}	Maximum resistance R _{max}	Maximum voltage U _o	Maximum current I _o	Maximum power P _o	Schematic	Product Type	Art. No.	Weight
1 2 1 + 2	– – 6 V	492 Ω 492 Ω –	546 Ω 546 Ω –	9.3 V 9.3 V 9.3 V	20 mA 20 mA 40 mA	50 mW 50 mW 90 mW	Image K	9002/77-093-040-001	158905	110 g
1 2 1 + 2	– – 6 V	71.7 Ω 71.7 Ω –	81.5 Ω 81.5 Ω –	9.3 V 9.3 V 9.3 V	150 mA 150 mA 300 mA	350 mW 350 mW 700 mW	Image K	9002/77-093-300-001	158897	110 g
1 2 1 + 2	– – 6 V	60.3 Ω 60.3 Ω –	68.9 Ω 68.9 Ω –	10 V 10 V 10 V	200 mA 200 mA 400 mA	500 mW 500 mW 1000 mW	–	9002/77-100-400-001	158893	110 g

Selection Table

Product variant		Series 9002/77, star barrier/star barrier								
Channel	Nominal voltage U _N	Minimum resistance R _{min}	Maximum resistance R _{max}	Maximum voltage U _o	Maximum current I _o	Maximum power P _o	Schematic	Product Type	Art. No.	Weight
1	–	112 Ω	126 Ω	15 V	150 mA	560 mW	Image K	9002/77-150-300-001	158889	110 g
2	–	112 Ω	126 Ω	15 V	150 mA	560 mW				
1 + 2	12 V	–	–	15 V	300 mA	1130 mW				
1	–	322 Ω	359 Ω	22 V	73 mA	400 mW	–	9002/77-220-146-001	158885	110 g
2	–	322 Ω	359 Ω	22 V	73 mA	400 mW				
1 + 2	18 V	–	–	22 V	296 mA	800 mW				
1	–	657 Ω	731 Ω	28 V	94 mA	330 mW	Image K	9002/77-280-094-001	158877	110 g
2	–	657 Ω	731 Ω	28 V	47 mA	330 mW				
1 + 2	24 V	–	–	28 V	94 mA	660 mW				

Safety barrier schematics are available online at r-stahl.com

Technical Data

Explosion Protection

IECEx gas explosion protection Ex ec [ia Ga] IIC T4 Gc

IECEx dust explosion protection [Ex ia Da] IIIC

ATEX gas explosion protection II 3 (1) G Ex ec [ia Ga] IIC T4 Gc

ATEX dust explosion protection II (1) D [Ex ia Da] IIIC

Certificates ATEX (PTB), Brazil (ULB), Canada (CSA), Canada (FM), China (CQST), IECEx (PTB), India (PESO), Japan (CML), Korea (KGS), USA (FM), USA (UL)

Declaration of conformity ATEX (EUK), China (CCC)

Further information See relevant certificate and operating instructions

Ambient Conditions

Ambient temperature -20 °C ... 60 °C

Storage temperature -20 °C ... 75 °C

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 mm²

Type of connection cable Solid
Finely stranded

Weight 110 g

Technical Drawings – Subject to Alterations

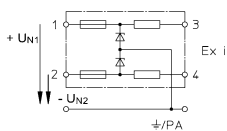


Image A

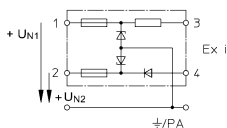


Image F

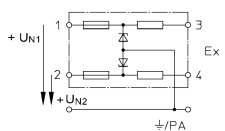


Image B

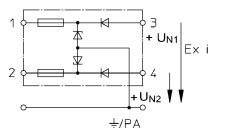


Image I

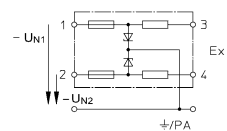


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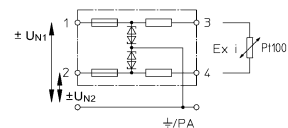


Image J

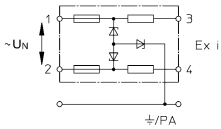


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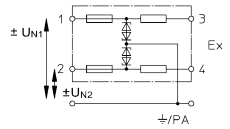


Image M

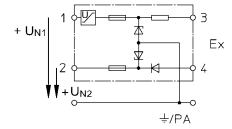
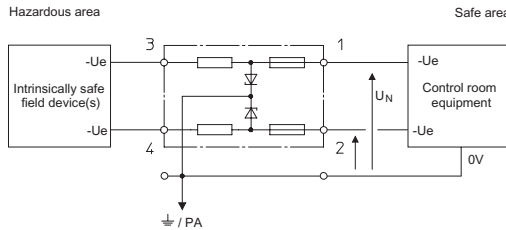
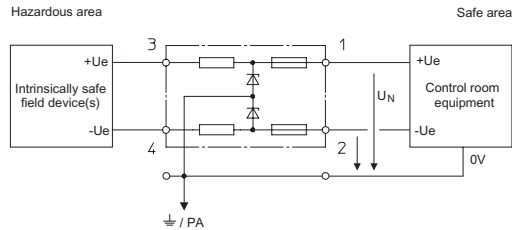


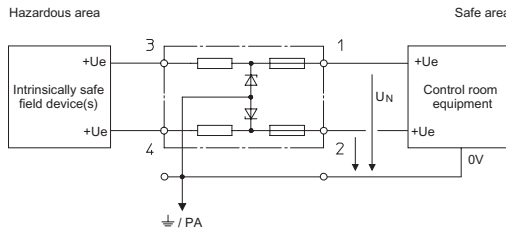
Image N



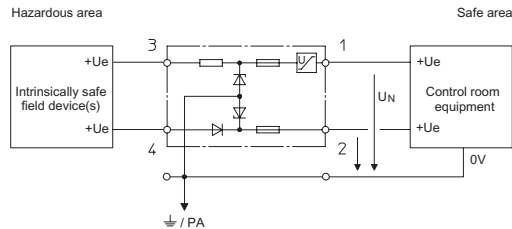
Dual-channel safety barriers, potential: - / -



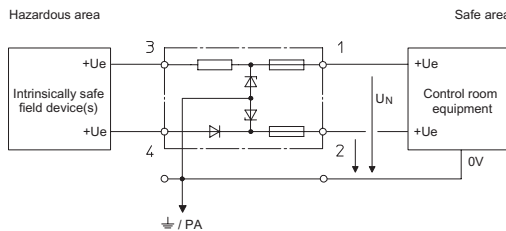
Dual-channel safety barriers, potential: + / -



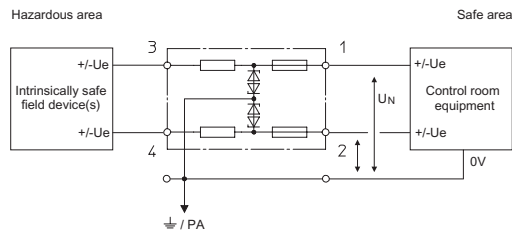
Dual-channel safety barriers, potential: + / +



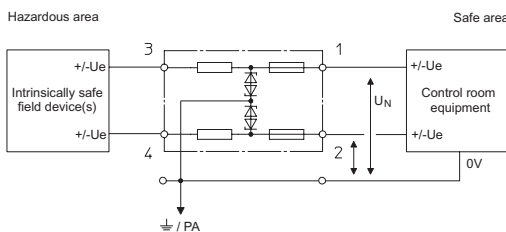
Dual-channel safety barriers, safety barrier potential:
+ / evaluation barrier potential: +



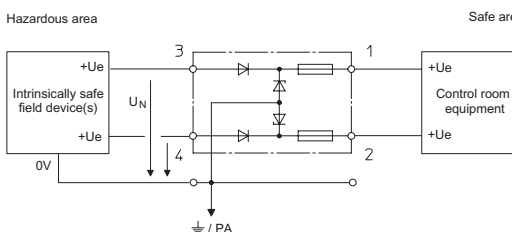
Dual-channel safety barriers, safety barrier potential:
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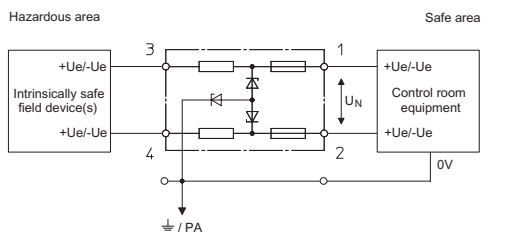
Dual-channel safety barriers, potential: ~ / ~



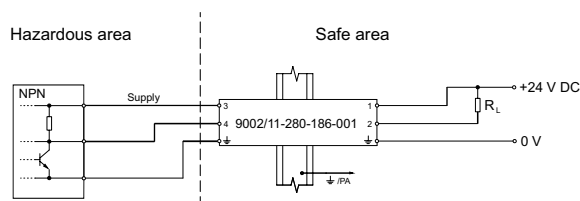
Dual-channel safety barriers, potential: ~ / ~



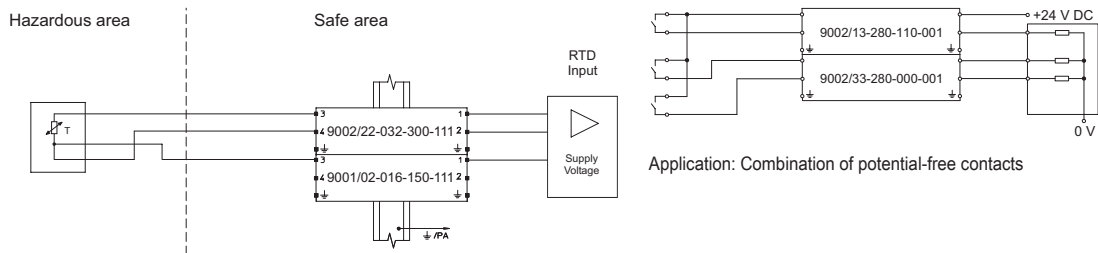
Dual-channel safety barriers, evaluation barrier
potential: + / evaluation barrier potential: +



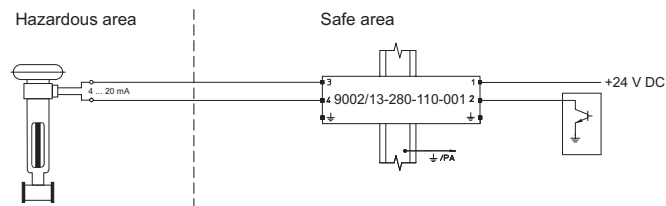
Dual-channel safety barriers, star barrier/star barrier



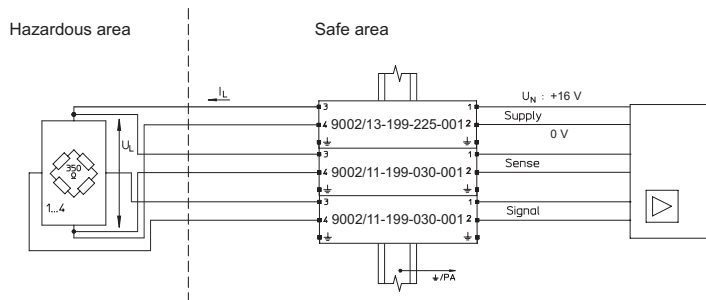
Application: 3-wire NPN inputs (negative switching) of
proximity switches, photocells and encoders



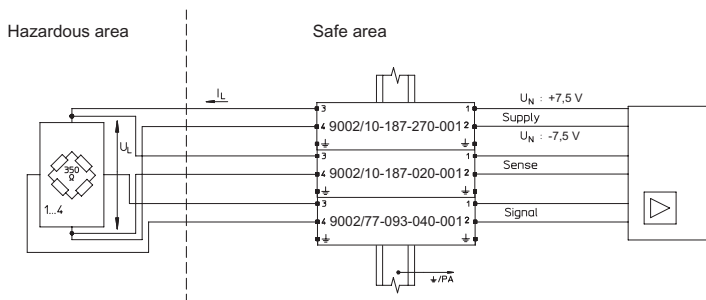
Application: Pt100, 3-wire circuit, field circuit unearthed



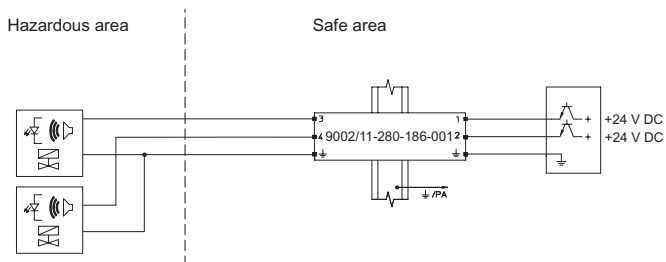
Application: 2-wire 4 to 20 mA I/P converters and control valves – standard and HART, 4 to 20 mA indicators



Application: Load cell (DMS) 350 Ω or 700 Ω 6-wire + 16 V field circuit unearthed

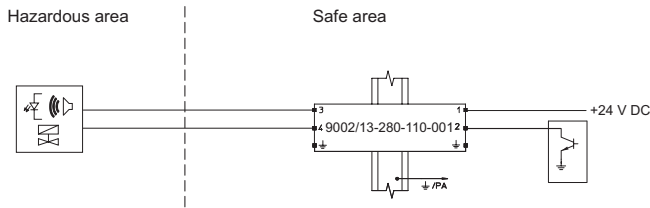


Application: Load cell (DMS) 350 Ω or 700 Ω 6-wire ± 7.5 V (15 V) field circuit unearthed

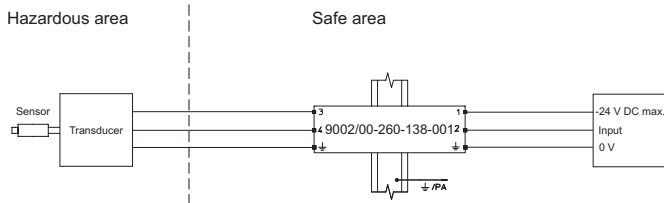


Application: Discrete 2-wire output for solenoid valves, LEDs and signalling devices

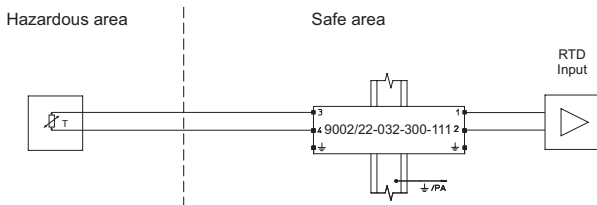
A2



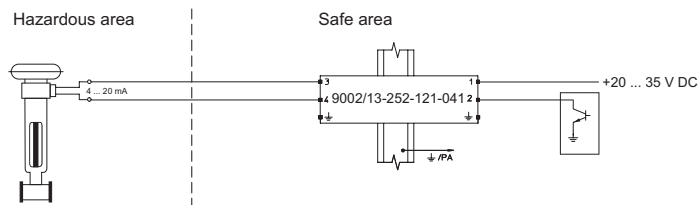
Application: Discrete 2-wire output for solenoid valves, LEDs and signalling devices



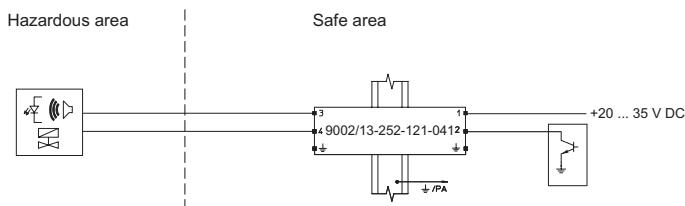
Application: Vibration sensor



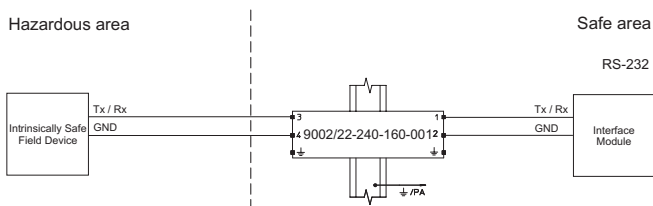
Application: Pt100, 2-wire circuit, field circuit unearthed



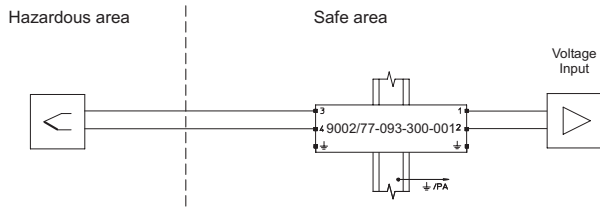
Application: Analogue output (power source) for I/P converters etc., field circuit unearthed



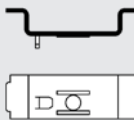
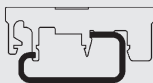
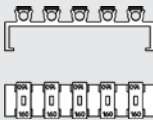
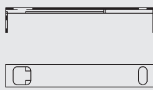
Application: Analogue output (power source) for I/P converters etc., field circuit unearthed

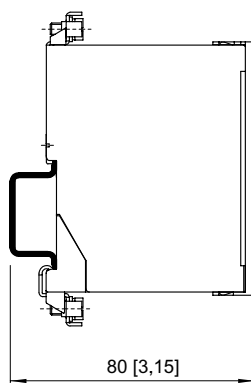
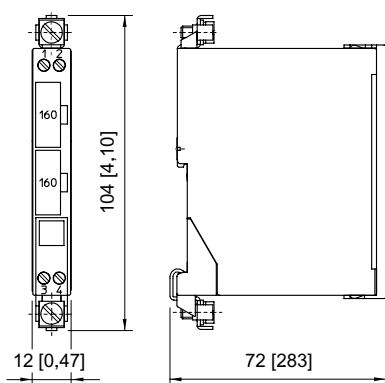


Application with RS 232

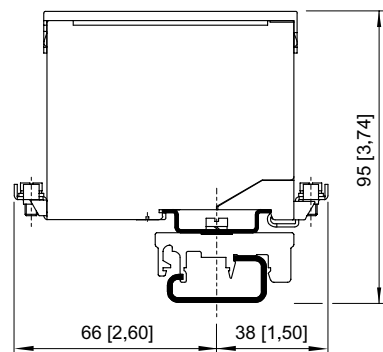


Application: Thermocouples

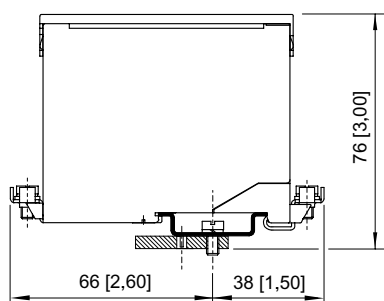
Accessories				
Figure	Description	Art. No.	Weight	
Terminal block				
	Phoenix Contact terminal block UT 4-PE	113057	1 g	
	Phoenix Contact terminal block UT 6-PE	113058	1 g	
Adaptor				
	The adaptor enables a safety barrier to be installed on a clamping base (Art. No. 165283) or mounting plate from a previous series.	158826	6 g	
Clamping base, moulded material				
	Enables the safety barrier to be mounted on a G-rail. The safety barrier is mounted using the adapter (Art. No. 158826).	165283	4 g	
Fuse holder				
	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	
Spare Parts				
Figure	Description	Art. No.	Weight	
Back-up fuse				
	For all series 9001, 9002 and 9004 safety barriers Packaging unit: 5 pieces	158964	8 g	
Label carrier				
	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