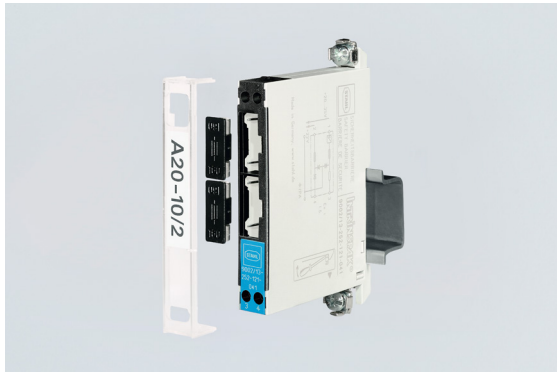


9002/77-093-300-001 Art. No. 158897



- 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 INTRINSPAK 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.

## Technical Data

| Explosion Protection             |                                                                                                                                                                                                                                                         |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Application range (zones)        | 2                                                                                                                                                                                                                                                       |
| Ex interface zone                | 0, 1, 2, 20, 21, 22                                                                                                                                                                                                                                     |
| IECEEx gas certificate           | IECEEx PTB 08.0057X                                                                                                                                                                                                                                     |
| IECEEx gas explosion protection  | Ex ec [ia Ga] IIC T4 Gc                                                                                                                                                                                                                                 |
| IECEEx dust certificate          | IECEEx PTB 08.0057X                                                                                                                                                                                                                                     |
| IECEEx dust explosion protection | [Ex ia Da] IIIC                                                                                                                                                                                                                                         |
| ATEX gas certificate             | PTB 01 ATEX 2053 X                                                                                                                                                                                                                                      |
| ATEX gas explosion protection    | II 3 (1) G Ex ec [ia Ga] IIC T4 Gc                                                                                                                                                                                                                      |
| ATEX dust certificate            | PTB 01 ATEX 2053 X                                                                                                                                                                                                                                      |
| ATEX dust explosion protection   | II (1) D [Ex ia Da] IIIC                                                                                                                                                                                                                                |
| FMus certificate                 | 3010778                                                                                                                                                                                                                                                 |
| Marking FMus                     | NONINCENDIVE FOR, Class I, Div. 2, Groups A,B,C,D; T4;<br>Class I, Zone 2, Group IIC T4<br>IS connections for Class I,II,III, Div. 1, Groups A,B,C,D,E,F,G;<br>Class I, Zone 0, Groups IIC/IIB<br>Hazardous location when inst. per doc. 90 026 11 31 1 |
| Certificate ULus                 | E81680V1S3                                                                                                                                                                                                                                              |
| Marking ULus                     | For use in Hazardous location, Class I, Div. 2, Groups A,B,C,D; T4<br>Providing IS circuits for<br>Class I,II,III, GROUPS A,B,C,D,E,F,G;<br>per doc. 90 026 11 31 3                                                                                     |
| Inmetro gas certificate          | UL-BR 12.0354                                                                                                                                                                                                                                           |
| Inmetro dust certificate         | UL-BR 12.0354                                                                                                                                                                                                                                           |
| Certificates                     | ATEX (PTB), Brazil (ULB), Canada (FM), China (NEPSI), IECEEx (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                                                                                                                                                                                                     |

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### Safety Data

|                                                                        |     |                  |                                                         |                |                |
|------------------------------------------------------------------------|-----|------------------|---------------------------------------------------------|----------------|----------------|
| Max. voltage $U_o$                                                     |     |                  | 9.3 V                                                   |                |                |
| Max. current $I_o$                                                     |     |                  | 150 mA                                                  |                |                |
| Max. power $P_o$                                                       |     |                  | 350 mW                                                  |                |                |
| Max. permissible external capacity $C_o$ for IIC                       |     |                  | 4.1 $\mu$ F                                             |                |                |
| Max. permissible external inductance $L_o$ for IIC                     |     |                  | 1.3 mH                                                  |                |                |
| Max. permissible external capacity $C_o$ for IIB                       |     |                  | 31 $\mu$ F                                              |                |                |
| Max. permissible external inductance $L_o$ for IIB                     |     |                  | 7 mH                                                    |                |                |
| Intrinsically safe limiting values Inductance $L_o$ /capacitance $C_o$ |     |                  | Jointly connectable inductance $L_o$ /capacitance $C_o$ |                |                |
| Channel 1                                                              | IIC | $L_o$ [mH]       | 2 mH                                                    | 1 mH           | 0.100 mH       |
|                                                                        |     | $C_o$ [ $\mu$ F] | 0.580 $\mu$ F                                           | 0.8200 $\mu$ F | 1.8000 $\mu$ F |
|                                                                        | IIB | $L_o$ [mH]       | 5 mH                                                    | 1 mH           | 0.1 mH         |
|                                                                        |     | $C_o$ [ $\mu$ F] | 3.10 $\mu$ F                                            | 5.30 $\mu$ F   | 11 $\mu$ F     |
| Channel 2                                                              | IIC | $L_o$ [mH]       | 2 mH                                                    | 1 mH           | 0.1 mH         |
|                                                                        |     | $C_o$ [ $\mu$ F] | 0.580 $\mu$ F                                           | 0.820 $\mu$ F  | 1.800 $\mu$ F  |
|                                                                        | IIB | $L_o$ [mH]       | 5 mH                                                    | 1 mH           | 0.1 mH         |
|                                                                        |     | $C_o$ [ $\mu$ F] | 3.10 $\mu$ F                                            | 5.30 $\mu$ F   | 11 $\mu$ F     |
| Channels 1 + 2                                                         | IIC | $L_o$ [mH]       |                                                         | 0.5 mH         | 0.10 mH        |
|                                                                        |     | $C_o$ [ $\mu$ F] |                                                         | 0.830 $\mu$ F  | 1.700 $\mu$ F  |
|                                                                        | IIB | $L_o$ [mH]       | 2 mH                                                    | 1 mH           | 0.1 mH         |
|                                                                        |     | $C_o$ [ $\mu$ F] | 3.400 $\mu$ F                                           | 4.70 $\mu$ F   | 11 $\mu$ F     |

### Electrical Data

|                                      |  |                         |  |  |  |  |
|--------------------------------------|--|-------------------------|--|--|--|--|
| Number of channels                   |  | 2                       |  |  |  |  |
| Type of voltage                      |  | AC/DC                   |  |  |  |  |
| Maximum resistance $R_{max}$         |  | 81.5 $\Omega$           |  |  |  |  |
| Minimum resistance $R_{min}$         |  | 71.7 $\Omega$           |  |  |  |  |
| Potential channel 1                  |  | Star barrier (positive) |  |  |  |  |
| Potential channel 2                  |  | Star barrier (negative) |  |  |  |  |
| Transmission frequency channel 1     |  | $\leq 50$ kHz           |  |  |  |  |
| $I_{leak}$ leakage current for $U_n$ |  | $\leq 2$ $\mu$ A        |  |  |  |  |

| Channel | Nominal voltage $U_N$ | Minimum resistance $R_{min}$ | Maximum resistance $R_{max}$ | Maximum voltage $U_o$ | Maximum current $I_o$ | Maximum power $P_o$ |
|---------|-----------------------|------------------------------|------------------------------|-----------------------|-----------------------|---------------------|
| 1       | 6 V                   | 71.70 $\Omega$               | 81.50 $\Omega$               | 9.30 V                | 150 mA                | 350 mW              |
| 2       |                       | 71.70 $\Omega$               | 81.50 $\Omega$               | 9.30 V                | 150 mA                | 350 mW              |
| 1 + 2   |                       |                              |                              | 9.30 V                | 300 mA                | 700 mW              |

### Auxiliary Power

|              |            |
|--------------|------------|
| Power supply | Controlled |
|--------------|------------|

### Output

|                       |                   |
|-----------------------|-------------------|
| Temperature influence | $\leq 0,25$ %/10K |
|-----------------------|-------------------|

### Ambient Conditions

|                     |                   |
|---------------------|-------------------|
| Ambient temperature | -20 °C ... +60 °C |
| Ambient temperature | -4°F ... +140°F   |

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### Ambient Conditions

|                           |                              |
|---------------------------|------------------------------|
| 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 (IP) terminals | IP20                     |
| Enclosure material                  | Polyamide 6GF            |
| Number of connection terminals      | 4                        |
| Connection cross-section max.       | 1.5 mm <sup>2</sup>      |
| Connection cross-section AWG        | 16 AWG                   |
| Type of connection cable            | Finely stranded<br>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 mm <sup>2</sup> |
| 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

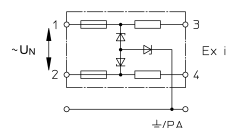
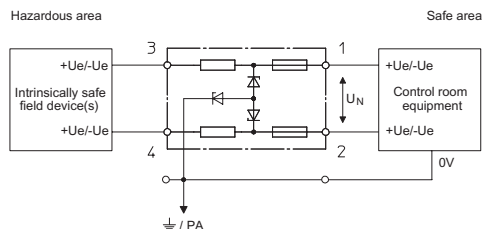
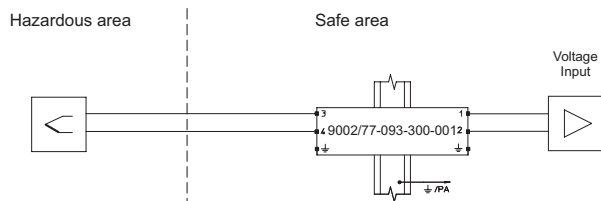


Image K



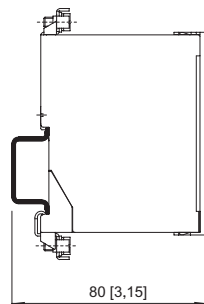
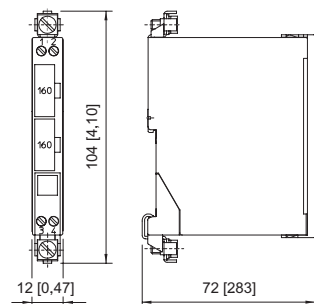
Dual-channel safety barriers, star barrier/star barrier



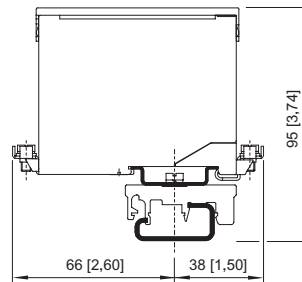
Application: Thermocouples

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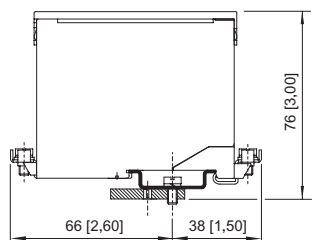
### Dimensional Drawings (All Dimensions in mm [inches]) – Subject to Alterations



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

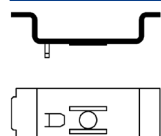


Phoenix Contact terminal block UT 4-PE  
Phoenix Contact terminal block UT 6-PE

### Art. No.

113057  
113058

### Adaptor

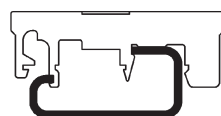


The adaptor enables a safety barrier to be installed on a clamping base (Art. No. 165283) or mounting plate from a previous series.

### Art. No.

158826

### Clamping base, moulded material

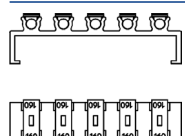


Enables the safety barrier to be mounted on a G-rail. The safety barrier is mounted using the adaptor (Art. No. 158826).

### Art. No.

165283

### 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).

### Art. No.

158834

## Spare Parts

### Back-up fuse

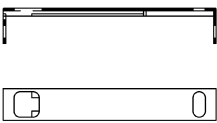


For all series 9001, 9002 and 9004 safety barriers  
Packaging unit: 5 pieces

### Art. No.

158964

9002/77-093-300-001    Art. No. 158897

| Label carrier                                                                    |                                 | Art. No. |
|----------------------------------------------------------------------------------|---------------------------------|----------|
|  | Transparent cover for the label | 158977   |

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