

# STAHL Intrinsicly Safe Zener Barrier



9002-77-093-300001

## Overview

The Zener Barrier provides intrinsically safe operation of thermocouple applications or any other intrinsically safe device that falls within the safety data and electrical data parameters of the Zener Barrier.

This compact, space-saving device is easy to install on a DIN rail. Simply snapping the barrier onto a grounded DIN rail provides a connection to ground.

## Features

- Thermocouple input
- Space-saving design
- Easily grounded via the DIN rail
- Convenient grounding lugs on top and bottom of barrier

**The Zener Barrier must be grounded in accordance with Article 504/505 of the National Electrical Code or the Canadian Electrical Code, Part 1, whichever applies. There are multiple ways to ground the Zener Barrier:**

- The DIN rail connection can provide a path to ground if the DIN rail is properly grounded.
- Ground the Zener Barrier by utilizing the top or bottom grounding lug.

**Refer to the installation manual for full installation instructions.**

**NOTE: An isolator barrier can be used if grounding is unavailable.**

## STAHL Intrinsicly Safe Zener Barrier Selection Guide

| Part Number                        | Price    | Barrier Type          | Field Device            | Controller Side (PLC/DCS) | Drawing             |
|------------------------------------|----------|-----------------------|-------------------------|---------------------------|---------------------|
| <a href="#">9002-77-093-300001</a> | \$202.00 | Thermocouple repeater | Ungrounded thermocouple | Equal to input signal     | <a href="#">PDF</a> |

## Replacement Fuses

### STAHL Zener Barrier Replacement Fuses Selection Guide

| Part Number            | Price   | Quantity Per Package | For Use With         |
|------------------------|---------|----------------------|----------------------|
| <a href="#">158964</a> | \$40.50 | 5                    | STAHL Zener Barriers |



158964

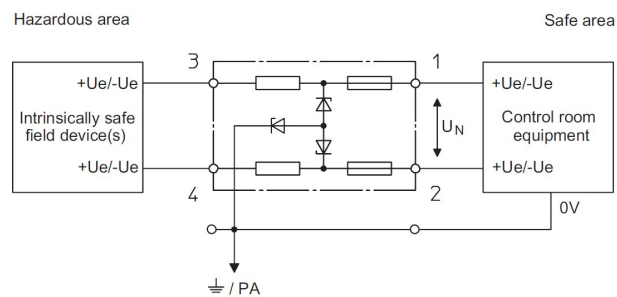
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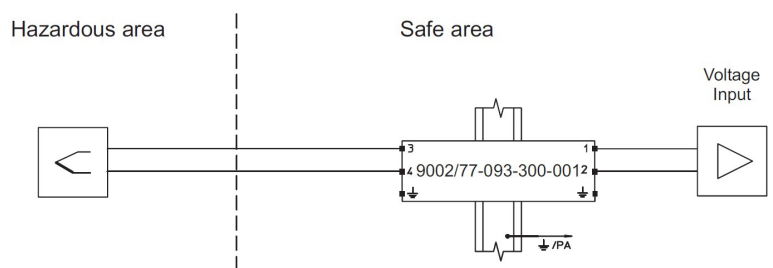
| STAHL Intrinsically Safe Zener Barrier Specifications |                                                               |                                                                                                                                          |
|-------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| <b>9002-77-093-300001</b>                             |                                                               |                                                                                                                                          |
| <b>Zener Barrier Type</b>                             | Thermocouple repeater                                         |                                                                                                                                          |
| <b>Explosion Protection</b>                           | Installation Location (per NEC 500)                           | Class I, Division 2                                                                                                                      |
|                                                       | Ex Interface (for intrinsically safe interface) (per NEC 500) | Class I, II, III<br>Division 1 or 2                                                                                                      |
|                                                       | Agency Approvals                                              | ATEX (PTB), Brazil (ULB), Canada (CSA), China (CQST), EAC (STV), IECEx (PTB), India (PESO), Japan (CML), Korea (KGS), USA (FM), USA (UL) |
| <b>Safety Data</b>                                    | Max Voltage ( $U_0$ )                                         | 9.3 V                                                                                                                                    |
|                                                       | Max Current ( $I_0$ )                                         | 150mA                                                                                                                                    |
|                                                       | Max Power ( $P_0$ )                                           | 350mW                                                                                                                                    |
| <b>Electrical Data</b>                                | Number of Channels                                            | 2 in / 2 out (or 1 thermocouple in/out)                                                                                                  |
|                                                       | Nominal Voltage ( $V_{nom}$ )                                 | 6.00 V                                                                                                                                   |
|                                                       | Minimum Resistance ( $R_{min}$ )                              | 71.7 $\Omega$                                                                                                                            |
|                                                       | Maximum Resistance ( $R_{max}$ )                              | 81.5 $\Omega$                                                                                                                            |
|                                                       | Thermocouple Input Type                                       | Ungrounded thermocouples (all types)                                                                                                     |
|                                                       | Output                                                        | Equal to input signal                                                                                                                    |
| <b>Ambient Conditions</b>                             | Operating Temperature                                         | -20°C to 60°C [-4°F to 140°F]                                                                                                            |
|                                                       | Storage Temperature                                           | -20°C to 75°C [-4°F to 167°F]                                                                                                            |
| <b>Mechanical Data</b>                                | Degree of Protection                                          | IP20                                                                                                                                     |
|                                                       | Mounting Type                                                 | DIN rail                                                                                                                                 |
|                                                       | Wire Gauge Range                                              | 16AWG for terminals<br>12AWG for ground connections                                                                                      |
|                                                       | Weight                                                        | 0.24 lb [110g]                                                                                                                           |

## Connection Diagrams

**9002-77-093-300001**



Two-channel safety barriers, star barrier / star barrier



Application: Thermocouples

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# Safety Products



*Warning: Safety products sold by AutomationDirect are Safety components only. The purchaser/installer is solely responsible for the application of these components and ensuring all necessary steps have been taken to assure each application and use meets all performance and applicable safety requirements and/or local, national and/or international safety codes as required by the application. AutomationDirect cannot certify that our products, used solely or in conjunction with other AutomationDirect or other vendors' products, will assure safety for any application. Any person using or applying any products sold by AutomationDirect is responsible for learning the safety requirements for their individual application and applying them, and therefore assumes all risks, and accepts full and complete responsibility, for the selection and suitability of the product for their respective application.*

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