

STAHL Intrinsicly Safe Isolators



Overview

STAHL's easy-to-connect and user-friendly isolating barriers provide intrinsic safety and galvanic separation between the control system and the field device, insulating the field device from other parts of the system. Their isolating barrier range is easy to use and boasts an impressive range of functions and a long service life.

Features

- Compact: Dual Channel modules for most functions
- Analog cards are HART capable
- Analog and digital cards are rated for SIL applications
- pac-Bus provides time-saving system for wiring

STAHL Intrinsicly Safe Isolators Selection Guide

| Part Number | Price | Isolator Type | Field Device | Channels | Controller Side (PLC/DCS) | Drawing |
|---|----------|-------------------------|--------------------------|--------------|---|---------------------|
| Analog Input (From Hazardous Area) | | | | | | |
| 9260-13-11-10S | \$471.00 | Transmitter (1 channel) | 0 to 20 mA or 4 to 20 mA | 1 in / 1 out | Output range will match input range (active or passive) | PDF |
| 9260-19-11-10S | \$665.00 | Transmitter (splitter) | 0 to 20 mA or 4 to 20 mA | 1 in / 2 out | Output range will match input range (active) | PDF |
| 9260-23-11-10S | \$746.00 | Transmitter (2 channel) | 0 to 20 mA or 4 to 20 mA | 2 in / 2 out | Output range will match input range (active) | PDF |

| | | | | | | |
|--|----------|--------------------|--|--------------|-----------------------------|---------------------|
| Analog Output (To Hazardous Area) | | | | | | |
| 9165-16-11-11S | \$526.00 | Isolating repeater | Output range will match input range (active) | 1 in / 1 out | 0 to 20 mA or 4 to 20 mA | PDF |
| 9265-26-11-10S | \$750.00 | Isolating repeater | Output range will match input range (active) | 2 in / 2 out | 0 to 20 mA or 4 to 20 mA | PDF |

| | | | | | | |
|--|----------|---|---|--------------|---------------------------------------|---------------------|
| Digital Input (From Hazardous Area) | | | | | | |
| 9270-11-16-14S | \$291.00 | Switching repeater, 1 channel DC power | NAMUR sensor* or dry contacts | 1 in / 1 out | 1 changeover contact (SPDT relay) | PDF |
| 9170-11-13-21S | \$212.00 | Switching repeater, 1 channel AC power | NAMUR sensor* or dry contacts | 1 in / 2 out | 2 changeover contacts (2 SPDT relays) | PDF |
| 9270-21-17-14S | \$337.00 | Switching repeater, 2 channel DC power | NAMUR sensor* or dry contacts | 2 in / 2 out | 1 NO relay (max 250V / 2A) | PDF |
| 9170-21-12-21S | \$261.00 | Switching repeater, 2 channel AC power | NAMUR sensor* or dry contacts | 2 in / 2 out | 1 changeover contact (SPDT relay) | PDF |
| 9172-20-11-00S | \$285.00 | Ex i relay module (2 channel) | Intrinsically safe coil (14 to 30 V) | 2 in / 2 out | 1 changeover contact (SPDT relay) | PDF |

| | | | | | | |
|---|----------|----------------|---------------------------------------|--------------|---|---------------------|
| Digital Output (To Hazardous Area) | | | | | | |
| 9275-10-24-48-11S | \$351.00 | Digital output | Open circuit: 24.3 V 48mA at 9.7 V | 1 in / 1 out | 15 to 30 V for ON 0 to 5 V for OFF | PDF |
| 9175-20-14-11S | \$490.00 | Digital output | Open circuit: 17.5 V 43mA at 12V | 2 in / 2 out | 15 to 31.2 V for ON 0 to 5 V for OFF | PDF |

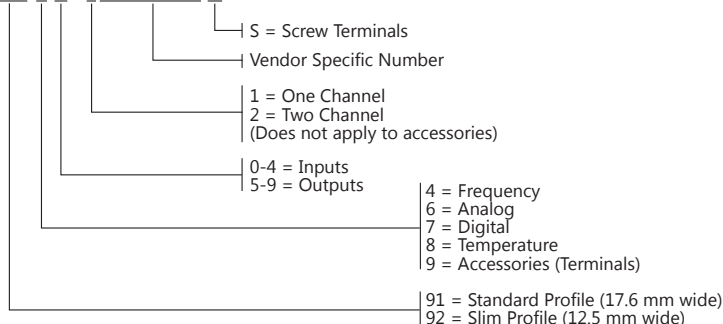
| | | | | | | |
|--|----------|-------------------------|----------------------|--------------|-----------------------------------|---------------------|
| Temperature Converter (From Hazardous Area) | | | | | | |
| 9182-10-51-11S | \$602.00 | Temperature transmitter | Thermocouple and RTD | 1 in / 1 out | 0 to 20 mA or 4 to 20 mA (active) | PDF |
| 9180-10-77-11S | \$506.00 | RTD repeater | RTD (PT 100) | 1 in / 1 out | Equal to input signal (resistor) | PDF |
| 9180-20-77-11S | \$740.00 | RTD repeater | RTD (PT 100) | 2 in / 2 out | Equal to input signal (resistor) | PDF |

| | | | | | | |
|--|----------|-----------------------|---------------------------------|--------------|---|---------------------|
| Frequency Transmitter (From Hazardous Area) | | | | | | |
| 9146-10-11-12S | \$743.00 | Frequency transmitter | NAMUR sensor* or voltage pulses | 1 in / 1 out | 0 to 20 mA or 4 to 20 mA (active) with two configurable dry contacts | PDF |
| 9146-20-11-11S | \$964.00 | Frequency transmitter | NAMUR sensor* or voltage pulses | 2 in / 2 out | 0 to 20 mA or 4 to 20 mA (active) | PDF |

* A NAMUR sensor is an intrinsically safe 2-wire sensor which supplies one of two signal levels depending on sensor state.

Part Number Nomenclature

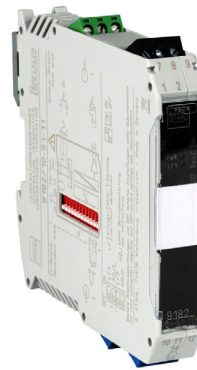
9260-13-11-10S



STAHL Intrinsicly Safe Isolators Temperature Converter

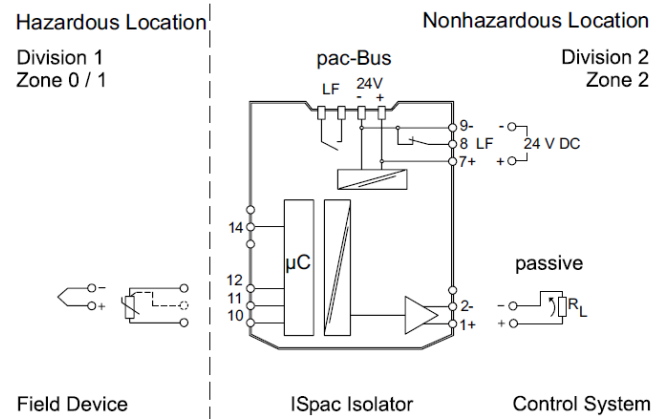


| STAHL Intrinsicly Safe Isolators Temperature Converter Specifications | | |
|--|---|---|
| | | Thermal Input |
| | | 9182-10-51-11S |
| Isolator Type | | Temperature transmitter |
| Explosion Protection | Installation Location (per NEC 500) | Class I, Division 2 |
| | Ex Interface (for intrinsicly safe interface) (per NEC 500) | Class I, II, III Division 1 or 2 |
| | Agency Approvals | ATEX (BVS), Brazil (ULB), Canada (FM), EAC (ENDCE), IECEx (BVS), India (PESO), Korea (KTL), Russia (Meteorological certificate), USA (FM), USA (UL) |
| Safety Data | Max Voltage (U_0) | 6.5 V |
| | Max Current (I_0) | 19.7 mA |
| | Max Power (P_0) | 32mW |
| Functional Safety | Safety Integrity Level (SIL) | - |
| Electrical Data | Number of Channels | 1 in / 1 out |
| | Line Fault Detection Relay | Yes |
| | Auxiliary Power Range | 18 to 31.2 VDC |
| | Nominal Current | 70mA |
| | Power Consumption | 1.9 W |
| | Max Power Dissipation | 1.9 W |
| | Operation Indication | Green LED "PWR" Red LED "LF" |
| | Input Function | 2 wire circuits, 3 wire circuits, or 4 wire circuits |
| | Thermocouple Input Type | B, E, J, K, N, R, T (Part 9191-VS-05 is required) |
| | Resistance Temperature Detector (RTD) Input Type | PT 100 |
| | HART Compatible | No |
| | Supply Voltage for Transmitter | Sensor current potentiometer < 0.25 mA |
| | Output | 0 to 20 mA or 4 to 20 mA (active) |
| Output Load Resistance Max (R_L) | 750Ω | |
| Ambient Conditions | Operating Temperature (Group Assembly) | -20°C to 60°C [-4°F to 140°F] |
| | Operating Temperature (Single Device Installation) | -20°C to 70°C [-4°F to 158°F] |
| | Storage Temperature | -40°C to 80°C [-40°F to 176°F] |
| Mechanical Data | Degree of Protection | IP20 |
| | Width | 17.6 mm [0.69 in] (standard) |
| | Mounting Type | DIN rail |
| | Wire Gauge Range | 16 - 12 AWG |
| | Mounting Position | Vertical or horizontal |
| | Weight | 0.28 lb [126 g] |



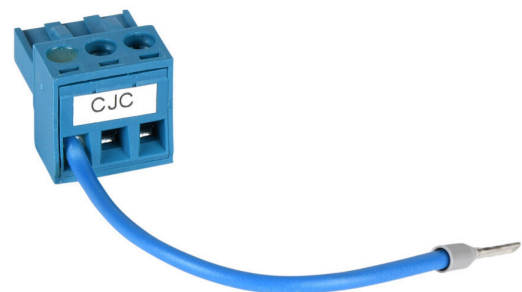
Connection Diagram

9182-10-51-11S



STAHL Temperature Converter Isolators Accessories Selection Guide

| Part Number | Price | Description | Weight |
|-------------------|----------|--|---------------|
| 9191-VS-05 | \$116.00 | External reference junction (cold junction compensation [CJC]) is required for thermocouple applications | 0.19 oz [5 g] |



External reference junction (CJC) is required for thermocouple applications with **9182-10-51-11S**

STAHL Intrinsically Safe Isolators Configuration Set



ISpac Wizard Software and Configuration Set

The 9199-20-02 configuration set allows serial communication between a PC and an isolator via the included USB-to-Serial Converter.

This set-up allows for quick programming. The software is provided on an included USB drive or as a free download. The software allows the user to save configuration files easily so that the same configuration can be duplicated on multiple cards. Windows operating system is required

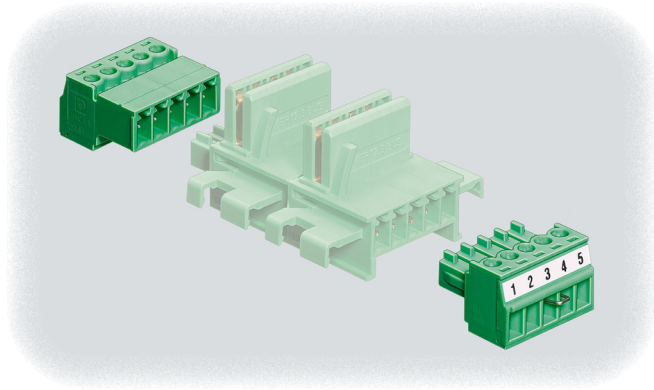
The configuration set will work with the following safety isolators:

- 9182 series Temperature Converter Isolator (for thermocouple applications)
- 9146 series Frequency Transmitter Isolator



| Configuration Set Selection Guide | | |
|-----------------------------------|----------|--|
| Part Number | Price | Description |
| 9199-20-02 | \$312.00 | STAHL configuration set, for use with STAHL 9146 and 9182 isolators. |

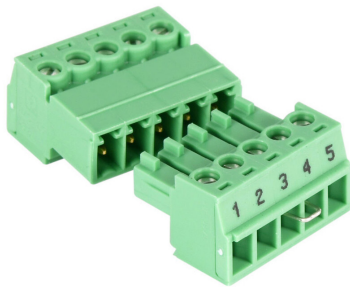
STAHL Intrinsicly Safe Isolators Accessories – pac-Bus System



Benefits of Using the pac-Bus System

- Quick, easy wiring
- Can be installed on standard DIN rail without tools by simply snapping into place
- Can be expanded at any time with additional pac-Bus units
- Suitable for industrial environments subject to vibration

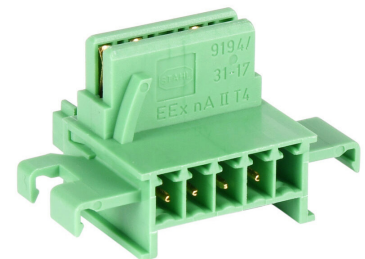
| STAHL Intrinsicly Safe Isolators Accessories (pac-Bus System) Selection Guide | | | |
|---|---------|---|---------------|
| Part Number | Price | Description | Weight |
| 9194-50-01 | \$22.50 | End terminal set for pac-Bus system | 0.29 oz [8 g] |
| 9294-31-12 | \$29.50 | pac-Bus terminal for 92xx (12.5 mm [0.49 in] width) isolators | 0.16 oz [5 g] |
| 9194-31-17 | \$22.50 | pac-Bus terminal for 91xx (17.6 mm [0.69 in] width) isolators | 0.16 oz [5 g] |



[9194-50-01](#)

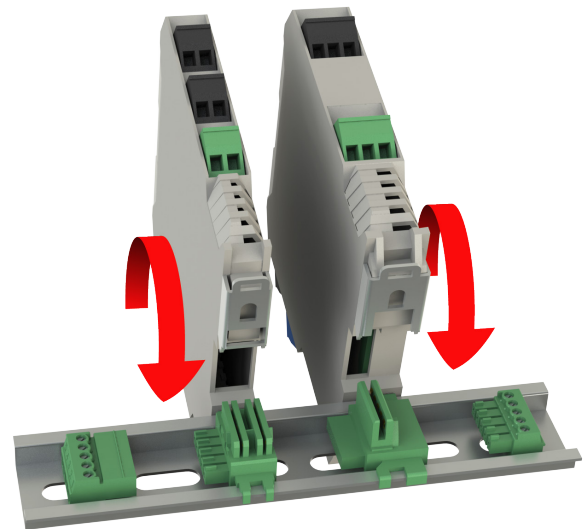
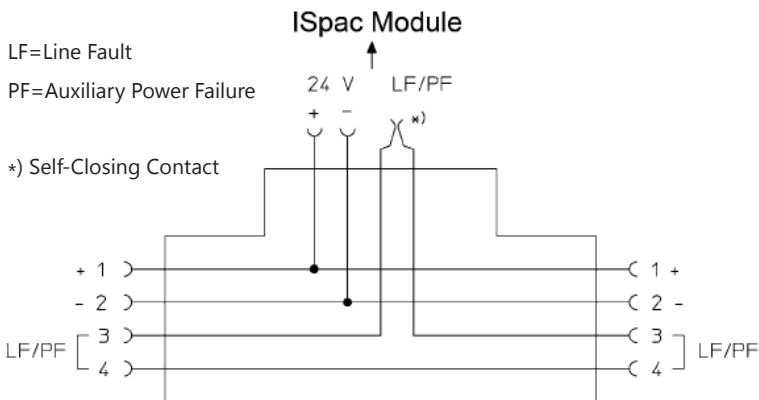


[9294-31-12](#)



[9194-31-17](#)

Connection Diagram



Refer to installation instructions for details

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.

AutomationDirect does not provide design or consulting services, and cannot advise whether any specific application or use of our products would ensure compliance with the safety requirements for any application.