

# STAHL Intrinsically 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 Intrinsically Safe Isolators Selection Guide

Part Number	Price	Isolator Type	Field Device	Channels	Controller Side (PLC/DCS)	Drawing
<b>Analog Input (From Hazardous Area)</b>						
<a href="#">9260-13-11-10S</a>	\$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)	<a href="#">PDF</a>
<a href="#">9260-19-11-10S</a>	\$665.00	Transmitter (splitter)	0 to 20 mA or 4 to 20 mA	1 in / 2 out	Output range will match input range (active)	<a href="#">PDF</a>
<a href="#">9260-23-11-10S</a>	\$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)	<a href="#">PDF</a>

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

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

<b>Digital Output (To Hazardous Area)</b>						
<a href="#">9275-10-24-48-11S</a>	\$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	<a href="#">PDF</a>
<a href="#">9175-20-14-11S</a>	\$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	<a href="#">PDF</a>

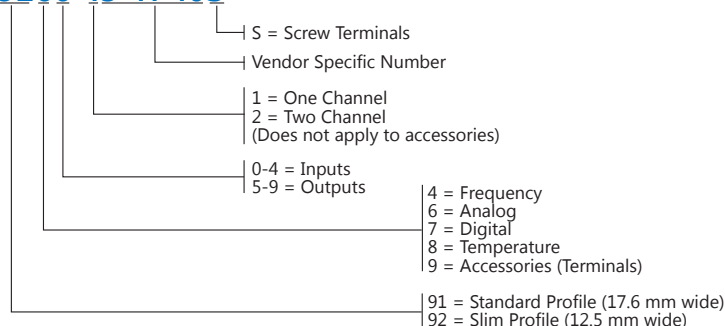
<b>Temperature Converter (From Hazardous Area)</b>						
<a href="#">9182-10-51-11S</a>	\$602.00	Temperature transmitter	Thermocouple and RTD	1 in / 1 out	0 to 20 mA or 4 to 20 mA (active)	<a href="#">PDF</a>
<a href="#">9180-10-77-11S</a>	\$506.00	RTD repeater	RTD (PT 100)	1 in / 1 out	Equal to input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

<b>Frequency Transmitter (From Hazardous Area)</b>						
<a href="#">9146-10-11-12S</a>	\$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	<a href="#">PDF</a>
<a href="#">9146-20-11-11S</a>	\$964.00	Frequency transmitter	NAMUR sensor* or voltage pulses	2 in / 2 out	0 to 20 mA or 4 to 20 mA (active)	<a href="#">PDF</a>

\* 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 Intrinsically Safe Isolators RTD Repeater



## STAHL Intrinsically Safe Isolators RTD Repeater Specifications

		<b>9180-10-77-11S</b>	<b>9180-20-77-11S</b>
<b>Isolator Type</b>		RTD repeater	RTD repeater
<b>Explosion Protection</b>	Installation Location (per NEC 500)	Class I, Division 2	Class I, Division 2
	Ex Interface (for intrinsically safe interface) (per NEC 500)	Class I, II, III Division 1 or 2	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)	ATEX (BVS), Brazil (ULB), Canada (FM), EAC (ENDCE), IECEx (BVS), India (PESO), Korea (KTL), Russia (Meteorological certificate), USA (FM)
<b>Safety Data</b>	Max Voltage ( $U_0$ )	6.5 V	6.5 V
	Max Current ( $I_0$ )	16.4 ma	16.4 ma
	Max Power ( $P_0$ )	27mw	27mw
<b>Functional Safety</b>	Safety Integrity Level (SIL)	–	–
<b>Electrical Data</b>	Number of Channels	1 in / 1 out	2 in / 2 out
	Line Fault Detection Relay	Yes	Yes
	Auxiliary Power Range	18 to 31.2 VDC	18 to 31.2 VDC
	Nominal Current	27mA	37mA
	Power Consumption	0.65 W	0.89 W
	Max Power Dissipation	0.6 W	0.72 W
	Operation Indication	Green LED "PWR" and Red LED "LF"	Green LED "PWR" and Red LED "LF"
	Input Function	2-wire, 3-wire, or 4-wire circuits	2-wire, 3-wire, or 4-wire circuits
	Resistance Temperature Detector (RTD) Input Type	PT 100	PT 100
	Measuring range	18 to 391Ω	18 to 391Ω
	HART Compatible	No	No
<b>Ambient Conditions</b>	Output	Equal to input signal (resistor)	Equal to input signal (resistor)
	Operating Temperature (Group Assembly)	-20°C to 60°C [-4°F to 140°F]	-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]	-20°C to 70°C [-4°F to 158°F]
	Storage Temperature	-40°C to 80°C [-40°F to 176°F]	-40°C to 80°C [-40°F to 176°F]
<b>Mechanical Data</b>	Degree of Protection	IP20	IP20
	Width	17.6 mm [0.69 in] (standard)	17.6 mm [0.69 in] (standard)
	Mounting Type	DIN rail	DIN rail
	Wire Gauge Range	16 - 12 AWG	16 - 12 AWG
	Mounting Position	Vertical or horizontal	Vertical or horizontal
	Weight	0.35 lb [160g]	0.4 lb [180g]

## Connection Diagrams

### 9180-10-77-11S

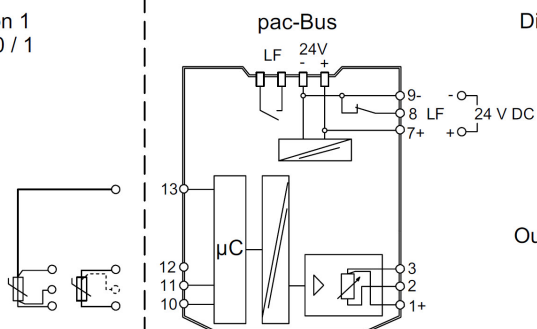
Hazardous Location

Division 1  
Zone 0 / 1

Nonhazardous Location

Division 2  
Zone 2

Input



### 9180-20-77-11S

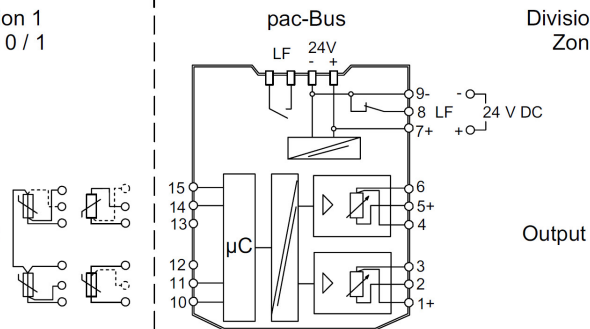
Hazardous Location

Division 1  
Zone 0 / 1

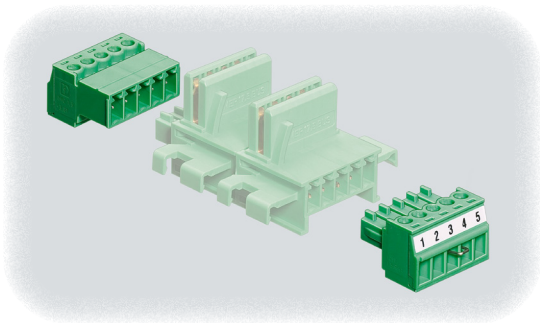
Nonhazardous Location

Division 2  
Zone 2

Input



# STAHL Intrinsically Safe Isolators Accessories – pac-Bus System

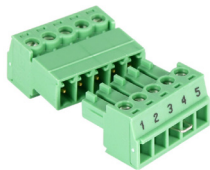


## Benefits of Using the pac-Bus System

- 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
- Optional power supply module 9193 enables refused redundant 24VDC supply and fault signalization

### STAHL Intrinsically Safe Isolators Accessories (pac-Bus System) Selection Guide

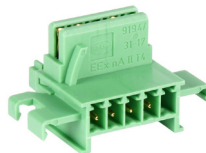
Part Number	Price	Description	Weight	Drawing
<b>9194-50-01</b>	\$22.50	End terminal set for pac-Bus system	0.29 oz [8 g]	<a href="#">PDF</a>
<b>9294-31-12</b>	\$29.50	pac-Bus terminal for 92xx (12.5 mm [0.49 in] width) isolators	0.16 oz [5 g]	<a href="#">PDF</a>
<b>9194-31-17</b>	\$22.50	pac-Bus terminal for 91xx (17.6 mm [0.69 in] width) isolators	0.16 oz [5 g]	<a href="#">PDF</a>
<b>9193/21-11-11S</b>	\$269.00	pac-Bus supply module	0.4 lb [180g]	<a href="#">PDF</a>
<b>111412</b>	\$40.00	Qty 10 spare fuses for use with pac-Bus supply module	0.07 lb [2g]	<a href="#">PDF</a>



**9194-50-01**



**9294-31-12**



**9194-31-17**

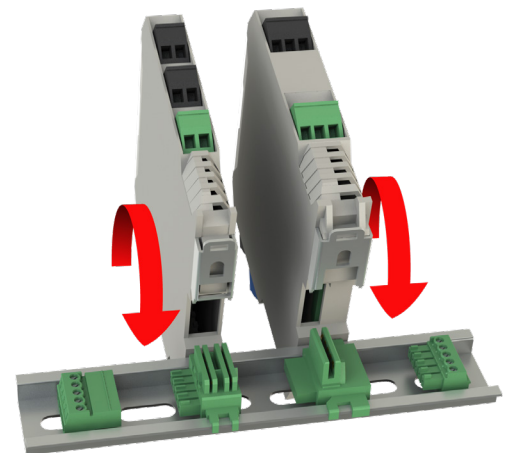
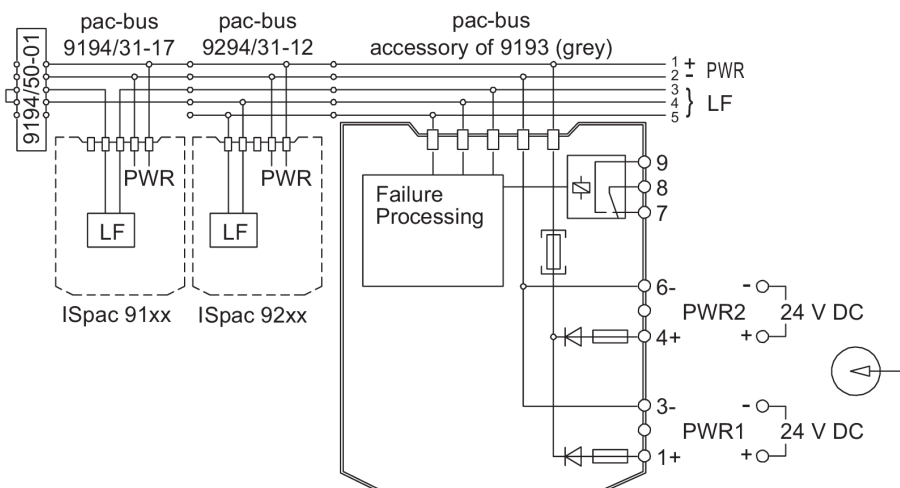


**9193/21-11-11S**



**111412**

## Connection Diagram



Refer to installation instructions for details

# STAHL Intrinsically Safe Isolators Accessories – pac-Bus System



STAHL pac-Bus Supply Module Specifications		
		<b><u>9193/21-11-11S</u></b>
<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 Division 1 or 2
	Agency Approvals	ATEX (BVS), Canada (FM), China (NEPSI), IECEx (BVS), India (PESO), USA (FM)
<b>Electrical Data</b>	Power Supply	24VDC 4A, primary and redundant
	Auxiliary Power Voltage Range	18.0 to 31.2 VDC
	Max Power Dissipation	2.5 W
<b>Ambient Conditions</b>	Operating Temperature	-40°C to 55°C [-40°F to 131°F]
	Storage Temperature	-40°C to 80°C [-40°F to 176°F]
<b>Mechanical Data</b>	Degree of Protection	IP20
	Mounting Type	DIN rail
	Wire Gauge Range	16AWG for terminals 12AWG for ground connections

# 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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