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
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

- S = Screw Terminals
- Vendor Specific Number
- 1 = One Channel
  2 = Two Channel
  (Does not apply to accessories)
- 0-4 = Inputs
  5-9 = Outputs
- 4 = Frequency
  6 = Analog
  7 = Digital
  8 = Temperature
  9 = Accessories (Terminals)
- 91 = Standard Profile (17.6 mm wide)
  92 = Slim Profile (12.5 mm wide)

STAHL Intrinsically Safe Isolators Analog

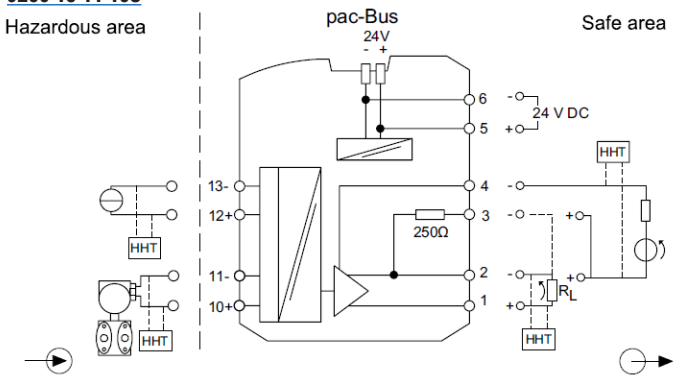
STAHL Analog Intrinsically Safe Isolators Specifications

		Analog Input			Analog Output	
		9260-13-11-10S	9260-19-11-10S	9260-23-11-10S	9165-16-11-11S	9265-26-11-10S
Isolator Type		Transmitter (1 channel)	Transmitter (splitter)	Transmitter (2 channel)	Isolating repeater	Isolating repeater
Explosion Protection	Installation Location (per NEC 500)	Class I, Division 2	Class I, Division 2	Class I, Division 2	Class I, Division 2	Class I, Division 2
	Ex Interface (per NEC 500)	Class I, II, III Division 1 or 2	Class I, II, III Division 1 or 2	Class I, II, III Division 1 or 2	Class I, II, III Division 1 or 2	Class I, II, III Division 1 or 2
	Agency Approvals	ATEX (BVS), Canada / USA (UL), IEC Ex (BVS), SIL (BVD)	ATEX (BVS), Canada / USA (UL), IEC Ex (BVS), SIL (BVD)	ATEX (BVS), Canada / USA (UL), IEC Ex (BVS), SIL (BVD)	ATEX (BVS), Canada (FM), EAC (ENDCE), IECEx (BVS), India (PESO), Korea (KTL), Russia (Meteorological certificate), SIL (exida), USA (FM)	ATEX (BVS), Canada/USA (UL), EAC (ENDCE), IECEx (BVS), Korea (KTL), SIL (BVS)
Safety Data	Max Voltage (U_o)	25.2 V	25.2 V	25.2 V	25.6 V	25.2 V
	Max Current (I_o)	93mA	93mA	93mA	96mA	93mA
	Max Power (P_o)	587mW	587mW	587mW	605mW	587mW
Functional Safety	Safety Integrity Level (SIL)	2	2	2	2	2
Electrical Data	Number of Channels	1 in / 1 out	1 in / 2 out	2 in / 2 out	1 in / 1 out	2 in / 2 out
	Line Fault Detection Relay	No	No	No	Yes	No
	Auxiliary Power Range	19.2 to 30VDC	19.2 to 30VDC	19.2 to 30VDC	18 to 31.2 VDC	19.2 to 30 VDC
	Nominal Current	76mA	75mA	100mA	55mA	85mA
	Power Consumption	1.8 W	1.8 W	2.4 W	1.3 W	2W
	Max Power Dissipation	1.2 W	1.45 W	1.45 W	1.1 W	1.4 W
	Operation Indication	Green LED "PWR"	Green LED "PWR"	Green LED "PWR"	Green LED "PWR" Red LED "LF1"	Green LED “PWR”
	Input Function	Galvanic isolated transmitter power supply	Galvanic isolated transmitter power supply	Galvanic isolated transmitter power supply	Galvanic isolated current repeater	Galvanic isolated current repeater
	Input Type	0 to 20 mA or 4 to 20 mA	0 to 20 mA or 4 to 20 mA	0 to 20 mA or 4 to 20 mA	0 to 20 mA or 4 to 20 mA	0 to 20 mA or 4 to 20 mA
	Output (Channel A)	Output range will match input range (active or passive)	Output range will match input range (active)	Output range will match input range (active)	Output range will match input range (active)	Output range will match input range (active)
	Output Load Resistance Max (R_L)	1000Ω	450Ω	450Ω	800Ω	700Ω
	HART Compatible	Yes - transparent to HART	Yes - transparent to HART (output channel A)	Yes - transparent to HART	Yes - transparent to HART	Yes - transparent to HART
	Supply Voltage for Transmitter	≥ 16V at 20mA	≥ 16V at 20mA	≥ 16V at 20mA	–	–
	Output (Channel B)	–	Output range will match input range (active) (without HART)	Output range will match input range (active)	–	Output range will match input range (active)
Ambient Conditions	Operating Temperature (Group Assembly)	-20°C to 60°C [-4°F to 140°F]	-20°C to 60°C [-4°F to 140°F]	-20°C to 60°C [-4°F to 140°F]	-20°C to 60°C [-4°F to 140°F]	-40°C to 70°C [-40°F to 158°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]	-40°C to 80°C [-40°F to 176°F]	-40°C to 80°C [-40°F to 176°F]	-40°C to 80°C [-40°F to 176°F]	-40°C to 85°C [-40°F to 185°F]
Mechanical Data	Degree of Protection	IP20	IP20	IP20	IP20	IP20
	Width	12.5 mm [0.49 in] (slim profile)	12.5 mm [0.49 in] (slim profile)	12.5 mm [0.49 in] (slim profile)	17.6 mm [0.69 in] (standard)	12.5 mm [0.49 in] (slim profile)
	Mounting Type	DIN rail	DIN rail	DIN rail	DIN rail	DIN rail
	Wire Gauge Range	24 - 12 AWG	24 - 12 AWG	24 - 12 AWG	24 - 12 AWG	16 - 12 AWG
	Mounting Position	Vertical or horizontal	Vertical or horizontal	Vertical or horizontal	Vertical or horizontal	Vertical or horizontal
	Weight	0.23 lb [103g]	0.24 lb [108g]	0.23 lb [105g]	0.25 lb [114g]	0.43 lb [195g]

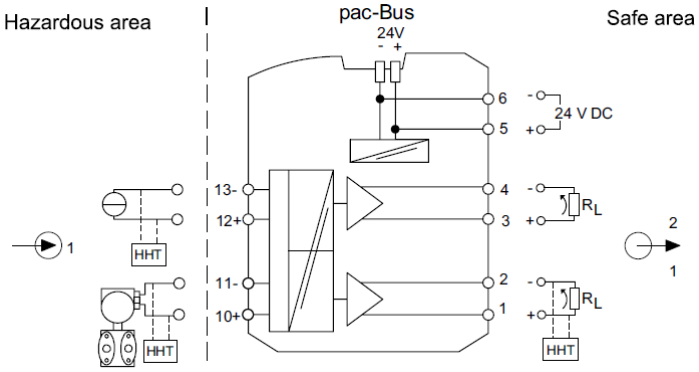
STAHL Intrinsically Safe Isolators Analog

Connection Diagrams

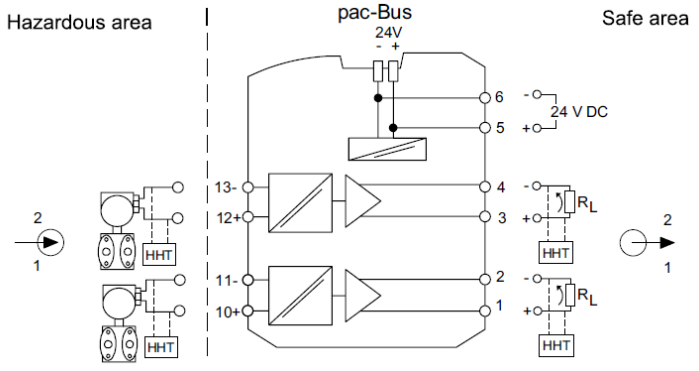
9260-13-11-10S



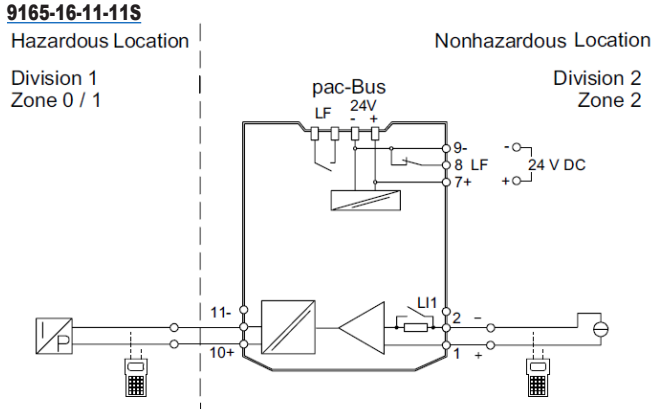
9260-19-11-10S



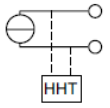
9260-23-11-10S



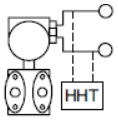
9165-16-11-11S



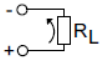
Legend



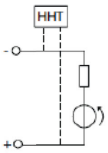
Active (4-wire) analog field device



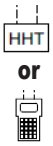
Passive (2-wire) analog field device



Active signal to PLC/DCS (sinking input)



Passive signal to PLC/DCS (sourcing input)

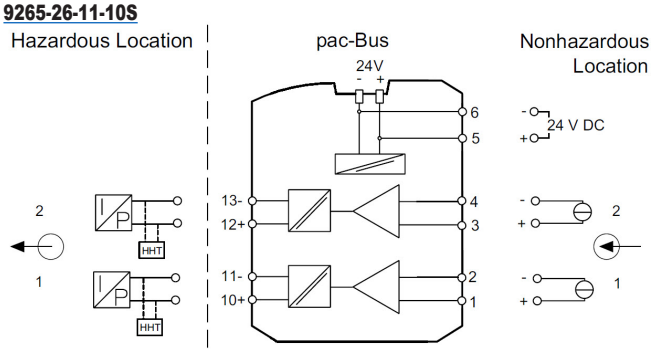


HART transparent

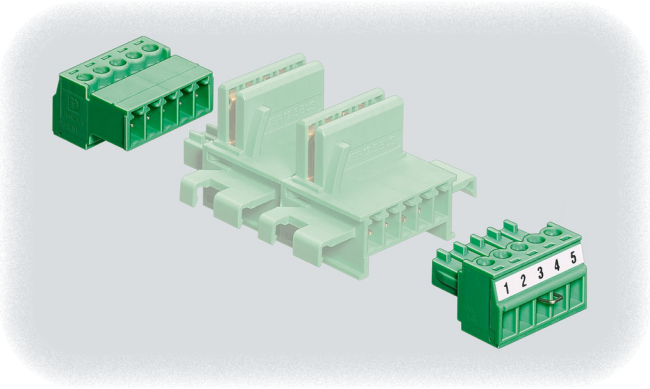
Analog field device (i.e., positioner)

Active signal from PLC/DCS

9265-26-11-10S



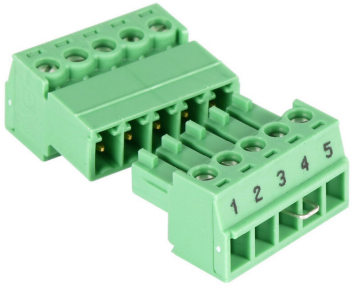
STAHL Intrinsically Safe Isolators Accessories – pac-Bus System



Benefits of Using the pac-Bus System

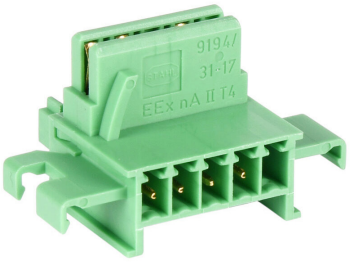
- Quick, easy wiring
- Can be installed on standard DIN rail without tools by simply snapping into place
- Can be expanded at any time with additional pac-Bus units
- Suitable for industrial environments subject to vibration

STAHL Intrinsically 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]



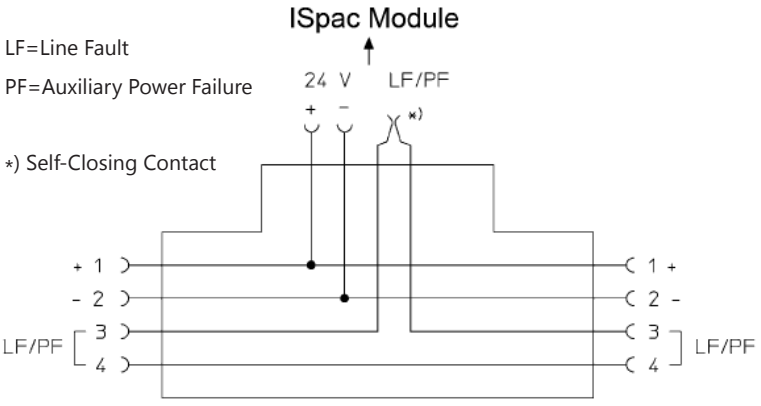
9194-50-01

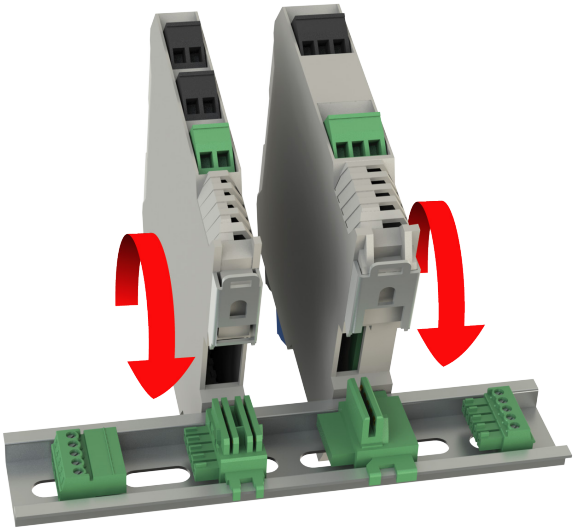
9294-31-12



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.

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