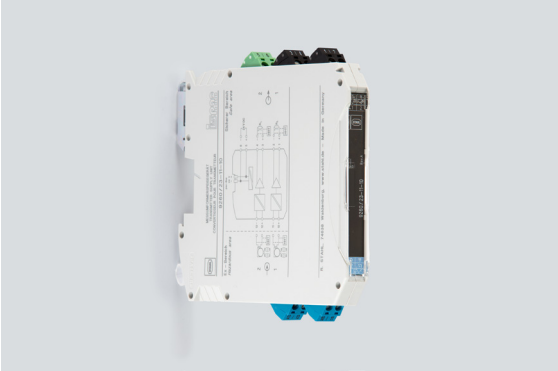
Isolator Barriers

Transmitter supply unit
Ex i field circuit
9260/13-11-10k Art. No. 261387



- Universal use for transmitters and mA sources (4-wire transmitter)
- Slim design – 12.5 mm wide – for one- and two-channel versions
- Can be used for safety levels up to SIL 2 (IEC/EN 61508)

MY R. STAHL **9260A**

Series 9260 Ex i transmitter supply units can be used for the intrinsically safe operation of transmitters or intrinsically safe mA sources such as 4-wire transmitters. The device allows HART signals to be transmitted in both directions. The portfolio includes one- and two-channel devices and a variant for signal duplication.

Technical Data

Explosion Protection	
Application range (zones)	2
Ex interface zone	0, 1, 2, 20, 21, 22
IECEx gas certificate	IECEx BVS 17.0079X
IECEx gas explosion protection	Ex ec [ia Ga] IIC T4 Gc
IECEx dust certificate	IECEx BVS 17.0079X
IECEx dust explosion protection	[Ex ia Da] IIIC
IECEX firedamp certificate	IECEx BVS 17.0079X
IECEx firedamp protection	[Ex ia Ma] I
ATEX gas certificate	BVS 17 ATEX E 087 X
ATEX gas explosion protection	Ⓔx II 3 (1) G Ex ec [ia Ga] IIC T4 Gc
ATEX dust certificate	BVS 17 ATEX E 087 X
ATEX dust explosion protection	Ⓔx II (1) D [Ex ia Da] IIIC
ATEX firedamp certificate	BVS 17 ATEX E 087 X
ATEX firedamp protection	Ⓔx I (M1) [Ex ia Ma] I
cULus certificate	E81680
Marking cULus	Class I, Div. 2, Groups A,B,C,D; Class I, Zone 2, Group IIC AIS Class I,II,III, Div. 1, Groups A,B,C,D,E,F,G; Class I, Zone 0, IIC T4 any mounting pos. Ta = 60°C See Doc. 9260 6 031 001 3
Certificates	ATEX (BVS), Canada (UL), China (CQM), IECEx (BVS), India (PESO), Korea (KTL), SIL (BVS), USA (UL)
Ship approval	DNV
Declaration of conformity	ATEX (EUK), China (CCC)
Safety Data	
Max. voltage U_o/V_{oc}	25.2 V

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Safety Data

Max. current I_o/I_{sc}		93 mA					
Max. power P_o		587 mW					
Max. permissible external capacitance C_o/C_a for IIC		0.107 µF					
Max. permissible external inductance L_o/La for IIC		3 mH					
Max. permissible external capacitance C_o/C_a for IIB		0.82 µF					
Max. permissible external inductance L_o/La for IIB		14 mH					
Max. permissible external capa.IIA		2.9 µF					
Max. permissible external inductance L_o for IIA		26 mH					
Max. perm. ext. capacit. IIIC		820 µF					
Max. permis. ext. induct. IIIC		14 mH					
Max. permissible ext. capac. I		4.8 µF					
Max. permissible external inductance L_o for I		40 mH					
Internal capacitance isolation amplifier		Negligible					
Internal inductance L_i isolation amplifier		Negligible					
Max. voltage U_i		30 V					
Max. current I_i		150 mA					
Internal capacitance		Negligible					
Internal inductance		Negligible					
Safety-related max. voltage		253 V AC					
Intrinsically safe limiting values inductance L_o/capacitance C_o		Jointly connectable inductance L_o/capacitance C_o					
IIC	L_o [mH]	2.200 mH	2 mH	1 mH	0.500 mH	0.200 mH	
	C_o [µF]	0.047 µF	0.049 µF	0.063 µF	0.080 µF	0.107 µF	
IIB	L_o [mH]	16 mH	0.500 mH	0.200 mH	0.100 mH		
	C_o [µF]	0.370 µF	0.510 µF	0.660 µF	0.820 µF		
IIA	L_o [mH]	26 mH	20 mH	1 mH	0.500 mH	0.100 mH	5.00 µH
	C_o [µF]	0.470 µF	0.570 µF	0.630 µF	0.720 µF	1.100 µF	2.90 µF
IIIC	L_o [mH]	16 mH	0.500 mH	0.200 mH	0.100 mH		
	C_o [µF]	0.370 µF	0.510 µF	0.660 µF	0.820 µF		
I	L_o [mH]	37 mH	0.350 mH	0.009 mH	0.001 µH		
	C_o [µF]	0.540 µF	1 µF	2.900 µF	4.150 µF		

Functional Safety

SIL	2
HFT	0
SFF	89,20%
PFD_{avg} at T_{proof} 1 year	2,30E-04
PFD_{avg} at T_{proof} 2 years	4,58E-04
PFD_{avg} at T_{proof} 3 years	6,68E-04
PFD_{avg} at T_{proof} 4 years	9,14E-04
PFD_{avg} at T_{proof} 5 years	1,14E-03

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Electrical Data	
Number of channels	1
Transmitter feed operation	Yes
Isolation amplifier operation	Yes
LFD relay	No
Communication signal	HART
Auxiliary Power	
Auxiliary power	24 V DC
Auxiliary power nominal voltage	24 V DC
Auxiliary power voltage range	19.2 ... 30 V
Auxiliary pwr nom. voltage DC	24 V
Nominal current	76 mA
Max. power dissipation	1.2 W
Power consumption	1.8 W
Polarity reversal protection	Yes
Operation indication	Green "PWR" LED
Galvanic Isolation	
Test voltage as per standard	EN IEC 60079-11
Ex i input to output	375 V peak value
Ex i input to auxiliary power	375 V peak value
Test voltage as per standard	EN 61010 / EN 50178
Output to auxiliary power	300 V_{eff}
Output to output	300 V_{eff}
Input	
Input function	Isolation amplifier Transmitter power unit
Input	0/4 ... 20 mA with HART
Input signal	0/4 to 20 mA with HART
Function range input	0 ... 24 mA
Short-circuit current	≥ 22.5 mA
Supply voltage for transmitter	≥ 16 V at 20 mA
Isolation amplifier voltage drop	< 3,5 V
Output	
Output	0/4 to 20 mA with HART
Output signal	0/4 to 20 mA active/passive
Function range output	0 – 24 mA
Output A	0/4 to 20 mA
Behaviour of the output	= input signal
Output current at Ie=0	0 mA
Output residual ripple	< 20 mV_{eff}
Load resistance R_L	0 ... 1000 Ω
Settling time 10-90%	< 200 µs
Settling time note	Isolating repeater: < 600 µs
Deviations / error note	Information in % of the measuring range (20 mA) at U_N, 23 °C
Deviation	≤ 0,1 %
Typical deviation	0.05 %

Output	
Temperature influence error limits	< 0.1% / 10 K
Behaviour of the output	= input signal
Device Specific Data	
LED operating conditions	LED "PWR", green
Ambient Conditions	
Ambient temperature °C	-40 °C ... +70 °C (Single device) -40 °C ... 60 °C (Group assembly)
Ambient temperature °F	-40 °F ... +158 °F (Single device) -40 °F ... +140 °F (Group assembly)
Storage temperature °C	-40 °C ... +80 °C
Storage temperature °F	-40 °F ... +176 °F
Max. relative humidity	10 to 95%
Use at the height of	< 2000 m
Max. operating altitude	2000 m
Electromagnetic compatibility	EN 61326-1 Use in industrial environment Immunity according to EN 61000-6-2 Interference emission to EN 61000-6-4
Mechanical Data	
Degree of protection (IP)	IP30
Degree of protection (IP) terminals	IP20
Fire resistance (UL 94)	V0
Enclosure material	Polyamide
Min. rigid conductor cross section	0.2 mm²
Max. rigid conductor cross section	1.5 mm²
Min. flexible conductor cross section	0.2 mm²
Max. flexible conductor cross section	1.5 mm²
Width	12.5 mm
Width, inches	0.49 in
Height	114.5 mm
Height in inches	4.51 in
Length	112.5 mm
Length in inches	4.43 in
Weight	185 g
Weight	0.41 lb
Mounting / Installation	
Mounting type	DIN rail NS35/15, NS35/7.5
Grid dimension	12.5 mm
Mounting orientation	Horizontal Vertical
Connection type	Spring clamp terminal
Connection cross-section AWG	24 ... 16

Technical Drawings – Subject to Alterations

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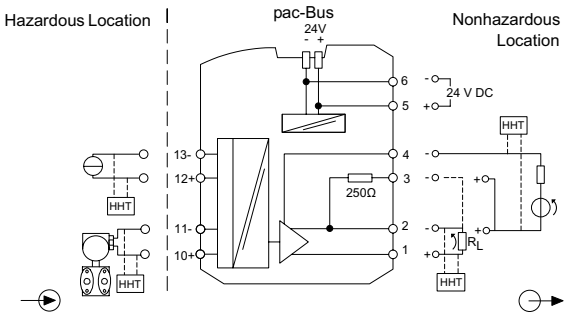

Connection diagram 9260/13-11-10

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

Accessories

Supply module		Art. No.
	Redundant supply of 24 V DC auxiliary power (with fuse) and reading out the collective error message from Series 92xx ISpac modules which support this function. Screw terminal connection	268183
	Redundant supply of 24 V DC auxiliary power (with fuse) and reading out the collective error message from Series 92xx ISpac modules which support this function. Spring clamp terminal connection	268184

pac-Bus		Art. No.
	Wiring auxiliary power and collective error message	262928

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.