

Isolator Barriers

Transmitter supply unit

Ex i field circuit

9260/23-11-10s Art. No. 261386



- Can be used universally for transmitters
- Slim design – just 12.5 mm wide – for one- and two-channel versions
- For use up to SIL 2 (IEC/EN 61508)

MY R. STAHL 9260A



Series 9260 Ex i transmitter supply units are used for the intrinsically safe operation of transmitters. The device transmits HART signals in both directions. The range includes one- and two-channel devices, as well as 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 17.0081X
IECEX gas certificate	IECEX BVS 17.0081X
IECEX gas explosion protection	Ex ec [ia Ga] IIC T4 Gc
IECEX dust certificate	IECEX BVS 17.0081X
IECEX dust explosion protection	[Ex ia Da] IIIC
IECEX firedamp certificate	IECEX BVS 17.0081X
IECEX firedamp protection	[Ex ia Ma] I
ATEX gas certificate	BVS 17 ATEX E 089 X
ATEX gas certificate	BVS 17 ATEX E 089 X
ATEX gas explosion protection	⊕ II 3 (1) G Ex ec [ia Ga] IIC T4 Gc
ATEX dust certificate	BVS 17 ATEX E 089 X
ATEX dust explosion protection	⊕ II (1) D [Ex ia Da] IIIC
ATEX firedamp certificate	BVS 17 ATEX E 089 X
ATEX firedamp protection	⊕ I (M1) [Ex ia Ma] I
cULus certificate	E81680
Marking cULus	Class I, Div. 2, Groups A,B,C,D; Class I, Zone 2, AEx/Ex nA Group IIC AIS Class I,II,III, Div. 1, Groups A,B,C,D,E,F,G; Class I, Zone 0, [Ex ia] 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)

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Safety Data

Max. voltage U_o/V_{oc}	25.2 V					
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 μ F					
Max. permissible external inductance L_o/L_a for IIC	3 mH					
Max. permissible external capacitance C_o/C_a for IIB	0.82 μ F					
Max. permissible external inductance L_o/L_a for IIB	14 mH					
Max. permissible external capa.IIA	2.9 μ F					
Max. permissible external inductance L_o for IIA	26 mH					
Max. permissible external capacity C_o for IIIC	820 μ F					
Max. permissible external inductance L_o for IIIC	14 mH					
Max. permissible external capacity C_o for I	4.8 μ F					
Max. permissible external inductance L_o for I	40 mH					
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	
	C_o [μ F]	0.047 μ F	0.049 μ F	0.063 μ F	0.080 μ F	
IIB	L_o [mH]	16 mH	1 mH	0.500 mH	0.200 mH	0.10 mH
	C_o [μ F]	0.370 μ F	0.430 μ F	0.510 μ F	0.660 μ F	0.820 μ F
IIIC	L_o [mH]	16 mH	1 mH	0.500 mH	0.200 mH	0.10 mH
	C_o [μ F]	0.370 μ F	0.430 μ F	0.510 μ F	0.660 μ F	0.820 μ F

Functional Safety

SIL	3
HFT	0
SFF	92,27%
Lambda SU	316 FIT
Lambda DD	345 FIT
Lambda DU	55 FIT
Lambda, total	718 FIT
PFD _{avg} at T _{proof} 1 year	2,52E-04
PFD _{avg} at T _{proof} 2 years	4,94E-04
PFD _{avg} at T _{proof} 3 years	7,37E-04
PFD _{avg} at T _{proof} 4 years	9,79E-04
PFD _{avg} at T _{proof} 5 years	1,22E-03
PFD _{avg} at T _{proof} 7 years	1,71E-03

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Functional Safety

PFDavg at Tproof 10 years	2,43E-03
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Electrical Data

Number of channels	2
Transmitter feed operation	Yes
Isolation amplifier operation	No
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
Nominal current	100 mA
Max. power dissipation	1.45 W
Power consumption	2.4 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
Ex i input to Ex i input	60 V
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	Transmitter power unit
Input	4 to 20 mA with HART
Input signal	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

Output

Output	4 to 20 mA with HART
Output signal	4 to 20 mA active
Function range output	0 – 24 mA
Output A	4 to 20 mA
Output B	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 ... 450 Ω
Settling time 10-90%	< 200 μs
Deviations / error note	Information in % of the measuring range (20 mA) at U _N , 23 °C
Deviation	≤ 0,1 %
Typical deviation	0.05 %

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Output

Temperature influence error limits	< 0.1% / 10 K
Behaviour of the output	= input signal

Device Specific Data

Operating status LED designation	PWR
Operating conditions LED colour	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
Grid dimension	12.5 mm
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	195 g
Weight	0.43 lb

Mounting / Installation

Mounting type	DIN rail NS35/15, NS35/7.5
Mounting orientation	Horizontal Vertical
Connection type	Screw terminal
Min. rigid conductor cross section	0.2 mm ²
Max. rigid conductor cross section	2.5 mm ²
Min. flex conductor cross section	0.2 mm ²
Max. flex conductor cross section	2.5 mm ²
Connection cross-section AWG	24 ... 14

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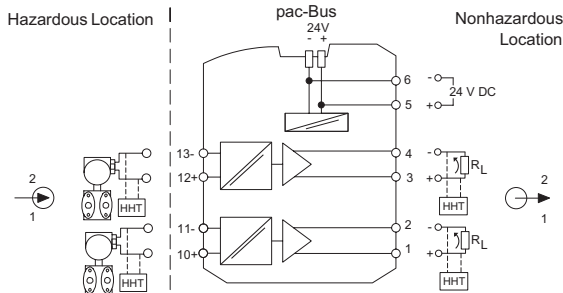
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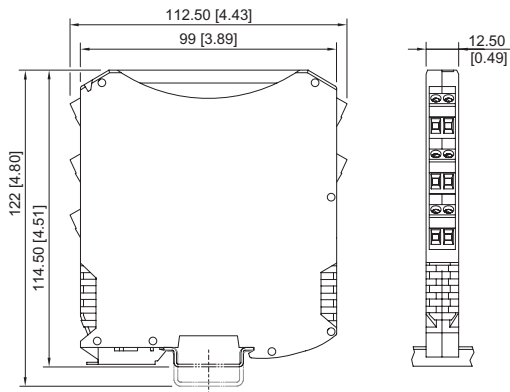


Technical Drawings – Subject to Alterations






Connection diagram 9260/23-11-10

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



ISpac Series 9260, 9265, 9270, 9275, 9276, 9282 with screw terminal

Accessories

Resistive coupling element		Art. No.
	Replacement for blue screw terminal (Ex i field circuit) Application: Use of the device for non-Ex i field circuits.	247644
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.