

# Isolators

## Isolating repeater

Ex i field circuit ISpac

9265/26-11-10s Art. No. 261404



- Compact one- two-channel Ex i output isolating repeater
- Slim design saves space – just 12.5 mm wide
- For use up to SIL 2 (IEC/EN 61508)

MY R. STAHL 9265A



The Series 9265 Ex i isolating repeaters are used for the intrinsically safe operation of control valves, I/P converters and indicators. They transmit superimposed HART communication signals in both directions. The input, output and auxiliary power are galvanically separated from one another. The two channels in the two-channel variants are galvanically separated from one another.

### Technical Data

Explosion Protection	
Application range (zones)	2
Ex interface zone	0, 1, 2, 20, 21, 22
IECEX gas certificate	IECEX BVS 20.0035X
IECEX gas explosion protection	Ex ec [ia Ga] IIC T4 Gc
IECEX dust certificate	IECEX BVS 20.0035X
IECEX dust explosion protection	[Ex ia Da] IIIC
IECEX firedamp certificate	IECEX BVS 20.0035X
IECEX firedamp protection	[Ex ia Ma] I
ATEX gas certificate	BVS 20 ATEX E 045 X
ATEX gas explosion protection	⊕ II 3 (1) G Ex ec [ia Ga] IIC T4 Gc
ATEX dust certificate	BVS 20 ATEX E 045 X
ATEX dust explosion protection	⊕ II (1) D [Ex ia Da] IIIC
ATEX firedamp certificate	BVS 20 ATEX E 045 X
ATEX firedamp protection	⊕ I (M1) [Ex ia Ma] I
cULus certificate	E81680
Marking cULus	Associat. apparatus for use in, Class I, Div. 2, Groups A,B,C,D; Class I, Zone 2, Group IIC prov. intr. safe circ. f.u.in Class I,II,III, Div. 1, Groups A,B,C,D,E,F,G; Class I, Zone 0, Group IIC See doc. 9265 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 $U_o$	25.2 V
Max. current $I_o$	93 mA

#### Safety Data

Max. power $P_o$	587 mW					
Max. permissible external capacity $C_o$ for IIC	0.107 $\mu$ F					
Max. permissible external inductance $L_o$ for IIC	2 mH					
Max. permissible external capacity $C_o$ for IIB	0.817 $\mu$ F					
Max. permissible external inductance $L_o$ for IIB	4 mH					
Max. permissible external capa.IIA	2.9 $\mu$ F					
Max. permissible external inductance $L_o$ for IIA	10 mH					
Max. permissible external capacity $C_o$ for IIIC	0.817 $\mu$ F					
Max. permissible external inductance $L_o$ for IIIC	4 mH					
Max. permissible external capacity $C_o$ for I	0.817 $\mu$ F					
Max. permissible external inductance $L_o$ for I	4 mH					
Internal capacitance	Negligible					
Internal inductance	Negligible					
Safety-related max. voltage	253 V					
Intrinsically safe limiting values inductance $L_o$ /capacitance $C_o$	Jointly connectable inductance $L_o$ /capacitance $C_o$					
IIC	$L_o$ [mH]	2 mH	1 mH	0.500 mH	0.200 mH	
	$C_o$ [ $\mu$ F]	0.046 $\mu$ F	0.060 $\mu$ F	0.077 $\mu$ F	0.104 $\mu$ F	
IIB	$L_o$ [mH]	4 mH	1 mH	0.500 mH	0.200 mH	0.10 mH
	$C_o$ [ $\mu$ F]	0.367 $\mu$ F	0.427 $\mu$ F	0.507 $\mu$ F	0.657 $\mu$ F	0.817 $\mu$ F
IIA	$L_o$ [mH]	10 mH	1 mH	0.500 mH	0.200 mH	0.100 mH
	$C_o$ [ $\mu$ F]	0.587 $\mu$ F	0.627 $\mu$ F	0.717 $\mu$ F	0.907 $\mu$ F	1.100 $\mu$ F
IIIC	$L_o$ [mH]	4 mH	1 mH	0.500 mH	0.200 mH	0.10 mH
	$C_o$ [ $\mu$ F]	0.367 $\mu$ F	0.427 $\mu$ F	0.507 $\mu$ F	0.657 $\mu$ F	0.817 $\mu$ F
I	$L_o$ [mH]	4 mH	1 mH	0.500 mH	0.200 mH	0.100 mH
	$C_o$ [ $\mu$ F]	0.367 $\mu$ F	0.427 $\mu$ F	0.507 $\mu$ F	0.657 $\mu$ F	0.817 $\mu$ F

#### Functional Safety

SIL	2
HFT	0
SFF	83,4%
Lambda SD	1,03 FIT
Lambda SU	156,1 FIT
Lambda DD	34,45 FIT
Lambda DU	38,01 FIT
PFD <sub>avg</sub> at T <sub>proof</sub> 1 year	1,67E-04
PFD <sub>avg</sub> at T <sub>proof</sub> 2 years	3,33E-04
PFD <sub>avg</sub> at T <sub>proof</sub> 3 years	5,00E-04
PFD <sub>avg</sub> at T <sub>proof</sub> 4 years	6,66E-04

#### Functional Safety

PFD <sub>avg</sub> at T <sub>proof</sub> 5 years	8,32E-04
PFD <sub>avg</sub> at T <sub>proof</sub> 6 years	9,99E-04
PFD <sub>avg</sub> at T <sub>proof</sub> 7 years	1,17E-03

#### Electrical Data

Number of channels	2
LFD relay	No
Communication signal	HART

#### Auxiliary Power

Auxiliary power	24 V DC
Nominal voltage	24 V DC
Auxiliary power voltage range	19.2 to 30 V
Nominal current	85 mA
Power consumption	2 W
Max. power dissipation	1.4 W
Polarity reversal protection	Yes
Undervoltage monitoring	Yes
Operation indication	Green "PWR" LED

#### Galvanic Isolation

Test voltage as per standard	EN IEC 60079-11
Ex i output to auxiliary power	375 V AC peak value
Ex i output to input	375 V AC peak value
Ex i output to Ex i output	60 V
Test voltage as per standard	EN 61010/EN 50178
Input to auxiliary power	300 V <sub>eff</sub>

#### Input

Input	0/4 ... 20 mA with HART
Input signal	0/4 to 20 mA with HART
Function range input	0 – 24 mA
Maximum input current	50 mA
Behaviour of the input with line fault	RE ≥ 1 MΩ

#### Output

Output	0/4 to 20 mA with HART
Output signal	0/4 to 20 mA with HART
Function range output	0 – 24 mA
Open-circuit voltage U <sub>o</sub>	27 V
Output residual ripple	≤ 20 mV
Load resistance R <sub>L</sub>	0 ... 700 Ω
Settling time 10-90%	≤ 140 μs
Settling time note	Valid for 4 to 20 mA
LF switch user adjustment	Activated/deactivated for SC
Line fault response threshold	I <sub>E</sub> > 0.2 mA
Wire break. err detection OFF	RL > 10 kΩ
Short circuit error detection output	RL < 50 ohm
Deviations / error note	Information in % of the measuring range (20 mA) at U <sub>N</sub> , 23 °C
Average measurement fault	0,10%

#### Output

Temperature influence error limits	≤ 0.1%/10 K
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#### Ambient Conditions

Ambient temperature	-40 °C ... +70 °C
Ambient temperature	-40 °F ... +158 °F
Storage temperature	-40 °C ... +85 °C
Storage temperature	-40 °F ... +185 °F
Maximum relative humidity	95%
Use at the height of	< 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

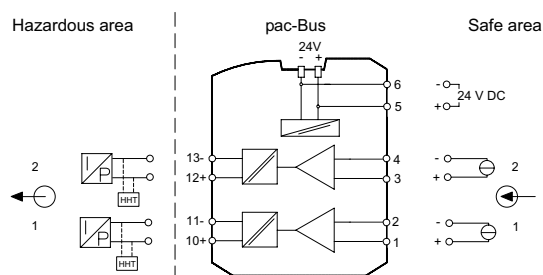
#### Mechanical Data

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	116 mm
Length in inches	4.57 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 <sup>2</sup>
Max. rigid conductor cross section	2.5 mm <sup>2</sup>
Min. flex conductor cross section	0.2 mm <sup>2</sup>
Max. flex conductor cross section	2.5 mm <sup>2</sup>
Connection cross-section AWG	24 ... 14

#### Technical Drawings – Subject to Alterations



Connection diagram 9265/26

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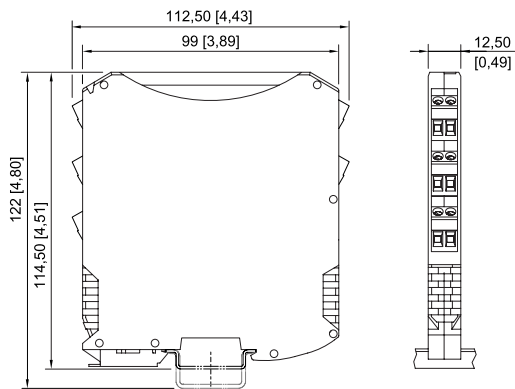
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### Ex i field circuit ISpac

9265/26-11-10s Art. No. 261404





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



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

## 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.