

Isolators

Ex i power supply

Ex i field circuit ISpac

9143/10-124-150-10s Art. No. 280052



- To provide 3- or 4-wire transmitters, solenoid valves, light barriers etc. with intrinsically safe power
- Stable, adjustable output voltage
- Additional switching input for control via binary output
- International approvals for global use

MY R. STAHL 9143B



The Series 9143 compact Ex i power supply is used to provide field devices , e.g. 3- or 4-wire transmitters, solenoid valves, light barriers with intrinsically safe power. It delivers a stable output voltage via intrinsically safe outputs. The additional switching input allows the Ex i power supply to be controlled by binary outputs from a PLC or DCS.

Technical Data

Explosion Protection	
Application range (zones)	2
Ex interface zone	1, 2, 21, 22
IECEEx gas certificate	IECEEx BVS 12.0009X
IECEEx gas explosion protection	Ex ec [ib Gb] IIC T4 Gc
IECEEx dust certificate	IECEEx BVS 12.0009X
IECEEx dust explosion protection	[Ex ib Db] IIIC
IECEEx firedamp certificate	IECEEx BVS 12.0009X
IECEEx firedamp protection	[Ex ib Mb] I
ATEX gas certificate	BVS 05 ATEX E 152 X
ATEX gas explosion protection	II 3 (2) G Ex ec [ib Gb] IIC T4 Gc
ATEX dust certificate	BVS 05 ATEX E 152 X
ATEX dust explosion protection	II (2) D [Ex ib Db] IIIC
ATEX firedamp certificate	BVS 05 ATEX E 152 X
ATEX firedamp protection	I (M2) [Ex ib Mb] I
Certificates	ATEX (BVS), IECEEx (BVS)
Declaration of conformity	ATEX (EUK)
Installation	in Zone 2 and in the safe area
Further information	See relevant certificate and operating instructions

Safety Data	
Max. voltage U_o	12.4 V
Max. current I_o (Ex ib)	150 mA
Max. power P_o	1860 mW
Max. permissible external capacity C_o for IIC	1.24 μ F
Max. permissible external inductance L_o for IIC	0.17 mH

Safety Data

Max. permissible external capacity C _o for IIB	7.9 μF				
Max. permissible external inductance L _o for IIB	2 mH				
Max. perm. ext. capacit. IIIC	7.9 μF				
Max. permis. ext. induct. IIIC	2 mH				
Max. permissible ext. capac. I	31 μF				
Max. permissible external inductance L _o for I	6.2 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	C _o [μF]		1.100 μF	1.240 μF	1.240 μF
	L _o [mH]		0.100 mH	0.050 mH	0.010 mH
IIB	C _o [μF]	2.800 μF	3.900 μF	7.200 μF	7.900 μF
	L _o [mH]	1 mH	0.500 mH	0.100 mH	0.010 mH
IIIC	C _o [μF]	2.800 μF	3.900 μF	7.200 μF	7.900 μF
	L _o [mH]	1 mH	0.500 mH	0.100 mH	0.010 mH
I	C _o [μF]	2.100 μF	5.300 μF	12 μF	31 μF
	L _o [mH]	5 mH	1 mH	0.100 mH	0.010 mH

Electrical Data

Number of channels	1
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Auxiliary Power

Auxiliary power	24 V DC
note nominal voltage	connect only to SELV
Auxiliary power voltage range	18 ... 31.2 V DC
Voltage range residual ripple	$\leq 3,26 V_{ss}$
Nominal current	100 mA
Power consumption	2.4 W
Max. power dissipation	1 W
Polarity reversal protection	Yes
Operation indication	Green "PWR" LED

Galvanic Isolation

Test voltage as per standard	EN IEC 60079-11
Ex i OFF to ON galv. sep.	350 V AC
Galv.sep. Exi outp.to aux.pow.	350 V AC
Test voltage as per standard	EN 61010-1
Input to auxiliary power	350 V AC

Input

note switching input	connect only to SELV
Input voltage for ON	18 – 31.2 V
Input voltage for OFF	0 – 5 V
Control current	< 10 mA

Input

Note on control current	at voltage < 26 V
Operating mode switchover	DIP switch, at the front

Output

Output voltage	11.4 V
Max. output current	0.13 A
I _{off} max	0.5 mA
Open-circuit voltage U _a	11,8 V
Output switching frequency	< 20 Hz
Typical make-time	< 1 s
Switching delay ON/OFF	typically 1 ms
Switching delay OFF/ON	typically 1 ms
Switching state indication	Yellow "OUT", LED
Short circuit error detection output	at the Ex i output
Short circuit indication	LED "ERR", red

Ambient Conditions

Ambient temperature	-40 °C ... +70 °C (Single device) -40 °C ... +60 °C (Group assembly)
Ambient temperature	-40 °F ... +158 °F (Single device) -40 °F ... +140 °F (Group assembly)
Note	Installation conditions influence the ambient temperature. Please observe the "Cabinet installation guide".
Storage temperature	-40 °C ... +80 °C
Storage temperature	-40 °F ... +176 °F
Maximum relative humidity	95%
Use at the height of	< 2000 m

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 mm ²
Max. rigid conductor cross section	2.5 mm ²
Min. flexible conductor cross section	0.2 mm ²
Max. flexible conductor cross section	2.5 mm ²
Width	17.6 mm
Width	17.6 mm
Width, inches	0.69 in
Height	114.5 mm
Height	114.5 mm
Height in inches	4.51 in
Length	108 mm
Length in inches	4.25 in
Weight	160 g
Weight	0.35 lb

Isolators



Ex i power supply

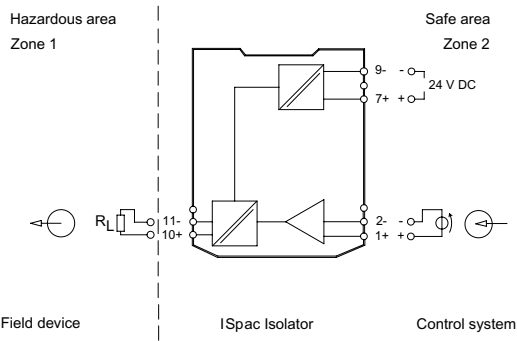
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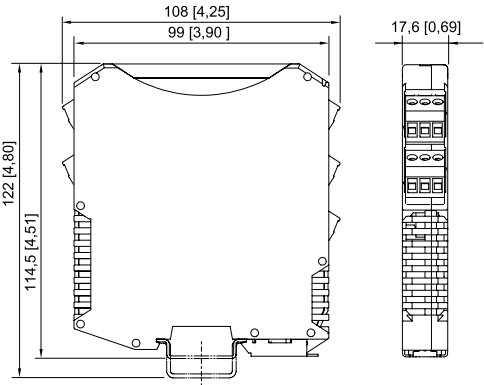
Mounting / Installation

Mounting type	DIN rail NS35/15, NS35/7.5
Grid dimension	17.6 mm
Mounting orientation	any
Connection type	Screw terminal

Technical Drawings – Subject to Alterations



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



ISpac Series 9143, 9146, 9147, 9160, 9162, 9163, 9165, 9167, 9170, 9172, 9175, 9176, 9180, 9182, 9193, ISbus Series 9412 with screw terminal

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.