

Isolators

Ex i power supply

Ex i field circuit ISpac

9143/10-156-160-20s Art. No. 280054



- 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
IECEx gas certificate	IECEx BVS 12.0009X
IECEx gas explosion protection	Ex ec [ib Gb] IIB T4 Gc
IECEx dust certificate	IECEx BVS 12.0009X
IECEx dust explosion protection	[Ex ib Db] IIIC
IECEx firedamp certificate	IECEx BVS 12.0009X
IECEx 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] IIB 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), IECEx (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	15.6 V
Max. current I_o (Ex ib)	160 mA
Max. power P_o	2496 mW
Max. permissible external capacity C_o for IIB	3.03 μ F
Max. permissible external inductance L_o for IIB	0.34 mH
Max. perm. ext. capacit. IIIC	3.03 μ F

Safety Data

Max. permis. ext. induct. IIIC	0.34 mH				
Max. permissible ext. capac. I	14.2 μ F				
Max. permissible external inductance L _o for I	2.7 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				
IIB	C _o [μ F]		1.800 μ F	2 μ F	3.030 μ F
	L _o [mH]		0.200 mH	0.100 mH	0.010 mH
IIIC	C _o [μ F]		1.800 μ F	2 μ F	3.030 μ F
	L _o [mH]		0.200 mH	0.100 mH	0.010 mH
I	C _o [μ F]	2.600 μ F	3.700 μ F	5.100 μ F	7.300 μ F
	L _o [mH]	2 mH	1 mH	0.100 mH	0.010 mH

Electrical Data

Number of channels	1
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Auxiliary Power

Auxiliary power	110 / 115 / 230 V AC
Auxiliary power voltage range	85 ... 253 V AC
Auxiliary power frequency range AC	48 – 62 Hz
Nominal current	52 mA (at 110/115 V AC) 31 mA (at 230 V AC)
Power consumption	6 VA (at 110/115 V AC) 7 VA (at 230 V AC)
Max. power dissipation	2 W
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.	2.2 kV AC
Test voltage as per standard	EN 61010-1
Input to auxiliary power	2,2 kV AC

Input

Input voltage for ON	18 – 31.2 V
Input voltage for OFF	0 – 5 V
Control current	< 10 mA
Note on control current	at voltage < 26 V
Operating mode switchover	DIP switch, at the front

Output

Output voltage	14.3 V
Max. output current	0.14 A
$I_{off\ max}$	0.5 mA
Open-circuit voltage U_a	15 V
Output switching frequency	< 20 Hz

Output	
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 ... +50 °C (Group assembly)
Ambient temperature	-40 °F ... +158 °F (Single device) -40 °F ... +122 °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

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

Isolators

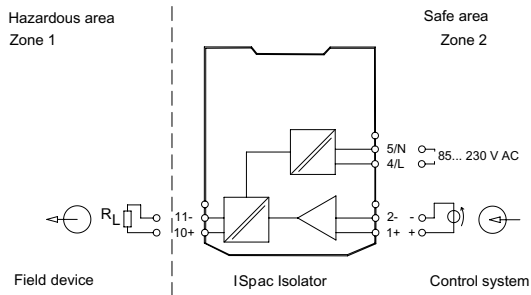
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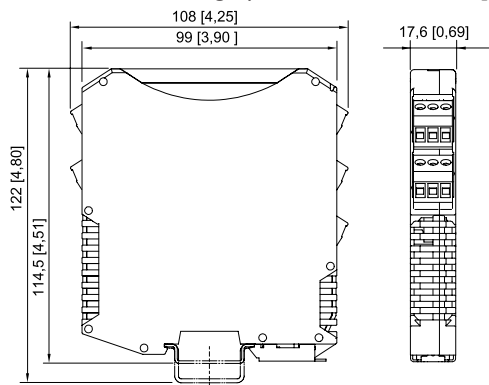
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STAHL

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.