Network and Wireless Solutions

ISbus fieldbus technology Fieldbus power supply for Zone 2 with diagnostics

9412/00-310-11s Art. No. 200586

- For single or redundant power supply to FOUNDATION Fieldbus H1 segments (High Power Trunk)
- Output > 28 V, up to 1 A, galvanically separated
- Integrated advanced physical layer diagnostics

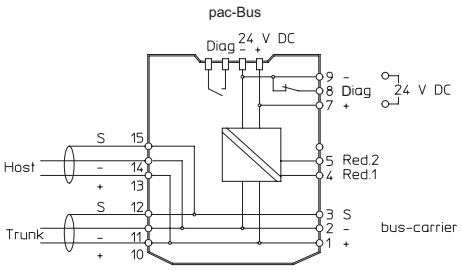
MY R. STAHL **9412A**

Single or redundant Series 9412 fieldbus power supply units are used to provide an FF H1 high-power trunk with up to 28 V/500 mA, and up to 1 A in Boost mode. In the background, they measure the advanced physical layer parameters, which can be reported via an Android smartphone or online via FF H1. 9419 bus-Carriers or DIN rails can be used for installation.

Technical Data

Explosion Protection	
Application range (zones)	2
IECEx gas certificate	IECEx BVS 09.0043X
IECEx gas explosion protection	Ex nA nC IIC T4 Gc
ATEX gas certificate	BVS 09 ATEX E 099 X
ATEX gas explosion protection	II 3 G Ex nA nC IIC T4 Gc
FMus certificate	3026646
cFM certificate	3026646C
Marking cFMus	Class I, Div. 2, Groups A,B,C,D; T4, Ta=70 °C Class I, Zone 2, AEx/Ex nA nC IIC T4 , Ta=70 °C See Doc. 9412 6 031 001 1
Certificates	ATEX (BVS), Brazil (ULB), Canada (FM), IECEx (BVS), International (FF), USA (FM)
Declaration of conformity	ATEX (EUK)
Safety Data	
Max. voltage U_o/V_{oc}	30.4 V
Max. voltage Uo note	ic as per EN 60079-11
Electrical Data	
Data interface	Serial, at the front (RS232)
Fieldbus specification	IEC 61158-2, FOUNDATION™ Fieldbus H1 FF-831
Output voltage electrical data	≥ 28 V DC
Simplex mode output current	10 to 500 mA
Redundancy mode output current	10 to 500 mA (2x250 mA per 9412)
Boost mode output current	10 mA to 1 A (2x500 mA per 9412)
EOL resistor	Integrated, switchable
Segment overload current	500 to 540 mA
Segment short-circuit current	≤ 0 mA (output disconnected)
Residual ripple	According to Section 22.6.2 of IEC 61158-2

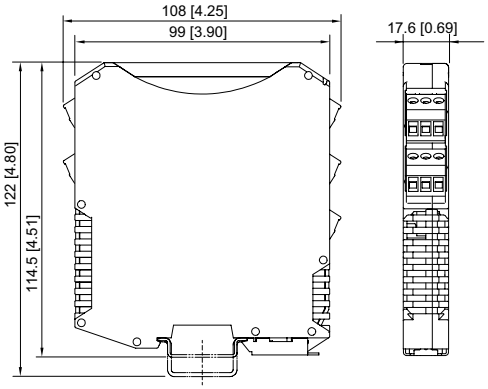
Connection diagram 9412



Auxiliary Power	
Nominal voltage V_{nom}	24 V DC
Auxiliary power voltage range	18 ... 32 V
Current consumption	730 mA @ 24 V
Max. power dissipation	3.35 W
Max. power dissipation note	At 500 mA output current and 24 V auxiliary power
Polarity reversal protection	Yes
Undervoltage monitoring	< 18 V
Output	
Error message	Overload, short circuit and physical layer values: Trunk voltage/current, signal level, noise, jitter, imbalance
Device Specific Data	
Error messaging device	Relay contact (30 V DC/100 mA),
LED operating conditions	"RUN" LED, green
LED error indication	"ERR" LED, red
Error detection	Overload Short circuit Physical layer values
LED segment	"SEG" LED, yellow
LED terminator	"TERM" LED, yellow
TERM DIP switch	ON OFF
BOOST DIP switch	ON OFF
Physical layer values	Trunk voltage/current Signal level Noise Jitter Imbalances
Segment overload detection	> 500 mA (output active)
Segment short-circuit detection	>540 mA (output disconnected)
Ambient Conditions	
Ambient temperature °C	-20 °C ... +70 °C
Ambient temperature °F	-4 °F ... +158 °F
Storage temperature °C	-40 °C ... +80 °C
Storage temperature °F	-40 °F ... +176 °F
Max. relative humidity	95% (without condensation)
Max. operating altitude	< 2000 m
Max. operating altitude, ft	< 6562 ft

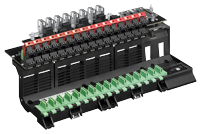
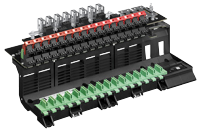
Ambient Conditions	
Electromagnetic compatibility	Tested to the following standards and regulations: EN 61326 (IEC/EN 61000-4-1 to 61000-4-6 and 61000-4-11; EN 55022 class B), NAMUR NE21
Mechanical Data	
Rigid single-wire connection	0.2 to 2.5 mm²
Flexible single-wire connection	0.2 to 2.5 mm²
Flexible single-wire connection with sleeve	0.25 to 2.5 mm²
Two-core connection, flexible	0.2 to 1.5 mm²
Two-core connection, rigid	0.2 to 1 mm²
Two-core connection, flexible with sleeve	0.25 to 1 mm²
Degree of protection (IP) (IEC 60529)	IP30 enclosure IP20 terminals
Module enclosure	PA 6.6
Fire resistance (UL 94)	V0
Width	17.6 mm
Width, inches	0.69 in
Length	108 mm
Length in inches	4.25 in
Mounting depth	114.5 mm
Mounting depth in inches	4.51 in
Weight	135 g
Mounting / Installation	
Mounting type	on NS 35/15 DIN rail (DIN EN 60715) In pac-Bus 9194 Or bus-Carrier 9419
Mounting orientation	Horizontal Vertical
Connection type	Screw terminal

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



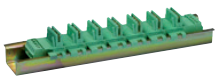
ISpac Series 9143, 9146, 9147, 9160, 9162, 9163, 9165, 9167, 9170, 9172, 9175, 9176, 9180, 9182, 9193, ISbus Series 9412 with screw terminal

Accessories

Yokogawa bus-Carrier		Art. No.
	Yokogawa bus-Carrier for four segments, redundant	221455
	Yokogawa bus-Carrier for eight segments, simplex	221454
	Yokogawa bus-Carrier for eight segments, redundant	221456

bus-Carrier		Art. No.
	bus-Carrier for four segments, redundant	208746
	bus-Carrier for eight segments, simplex	208745
	bus-Carrier for eight segments, redundant	208747

bus-Carrier for linking device		Art. No.
	bus-Carrier for linking device for four segments, simplex	250240
	bus-Carrier for linking device for four segments, redundant	250241
	bus-Carrier for linking device for eight segments, simplex	250242

pac-Bus		Art. No.
	Wiring auxiliary power and collective error message	160731

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