

Fieldbus Isolating Repeater

Series 9185/12



- > Fieldbus RS-422, RS-485
- > Galvanic isolation between RS-422 / RS-485, RS-232, RS-422, RS-485 and power supply
- > Transmission speed adjustable between 1.2 kBit/s and 1.5 MBit/s
- > Automatic setting of transmission speed for Profibus DP
- > Bitrefresh

A3



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Basic function: Isolating repeater for communication signals
 The fieldbus isolating repeater enables an interference free transmission of Profibus, Modbus and R. STAHL Servicebus signals by means of a high quality galvanic isolation combined with the "Bitrefresh" function. The repeater blocks equalization currents and protects sensitive devices against transient noise. The repeater supports RS-485 as well as RS-422. In addition it offers the interface adaption RS-232 to RS-485 / RS-422. This functions enables to connect a standard PC with RS-232 with RS-485 / RS-422 interfaces. The signal conversion of RS-232 based signals towards RS-485 / RS-422 allows to reach longer transmission distances.

	ATEX / IECEx							NEC 505							NEC 500					
	0	1	2	20	21	22		Zone	0	1	2	20	21		22	Division	1	2	1	2
Installation in			x			x	Installation in			x			x	Installation in		x		x		x

WebCode 9185B

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Selection Table

Version	Interface X3	Interfaces X1, X2	Connection type	Order number
Fieldbus isolating repeater Type 9185	RS-422, RS-485	RS-232, RS-422, RS-485	Screw terminals	9185/12-45-10s
	RS-422, RS-485	RS-232, RS-422, RS-485	Spring clamp terminals	9185/12-45-10k

Explosion Protection

Global (IECEX)

Gas and dust	IECEX BVS 06.0004X Ex nA IIC T4 Gc
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Europe (ATEX)

Gas and dust	BVS 10 ATEX E 105 X II 3G Ex nAc IIC T4
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Certifications and certificates

Certificates	IECEX, ATEX, Brazil (INMETRO), India (PESO), Canada (CSA), Kazakhstan (GOST K), Russia (GOST R), Serbia (SRPS), Ukraine (TR), USA (FM), Belarus (operating authorisation)
Ship approval	DNV, ABS, RS

Further parameters

Installation	in Zone 2, Div. 2 and in the safe area
Further information	see respective certificate and operating instructions

Technical Data

Electrical data

Auxiliary power	
Nominal voltage U_N	24 V UC
DC voltage range	18 ... 31.2 V
AC voltage range	24 V \pm 15 %
Residual ripple within DC voltage range	\leq 3.6V _{SS}
Nominal current (24 V)	80 mA
Power input	1.6 W
Operation indication	LED green "PWR"
Undervoltage monitoring	yes
Galvanic separation	
Test voltages	
acc. to standard	EN 60079-11
X3 interface to X1, X2 interfaces	1.5 kV
Interface to auxiliary power	1.5 kV
X1, X2 interfaces to auxiliary power	500 V
Field side interface (X3)	
Version	RS-485/RS-422
Level	EIA RS 485, EIA RS 422
Connections	Sub-D socket X3, 9-pole
Transmission rate	1.2 kBit/s ... 1.5 MBit/s
Settings	fixes transmission speed or automatic detection > 9.6 kBit/s (only with Profibus DP)
Conductor length	depends on transmission rate and cable
Terminating resistor	to be set in external plug
Data transmission indication	LED green "RxD3"
System side interface (X1)	
Version	RS-232 C
Connection	Sub-D plug X1, 9-pole
Level	EIA RS-232 C
Transmission rate	1.2 ... 93.75 kBit/s
Settings	fixed transfer rate or automatic detection > 9.6 kBit/s (only with Profibus DP)
Conductor length	\leq 20 m
Terminating resistor	Ø Ø
Data reception indication	LED green "RxD1"

Technical Data

Electrical data

System side interface (X2)	RS-485/RS-422 (switchable)	
Version		
Connection	Sub-D plug X2, 9-pole	
Level	EIA RS-485, EIA RS-422	
Transmission rate	1.2 kBit/s ... 1.5 MBit/s	
Settings	Keying RS-422 transmitter on/off	
Conductor length	depends on transmission rate and cable	
EOL resistor	to be connected in external plug	
Data reception indication	LED green "RxD2"	
Fault control		
Short-circuit data lines	T ≥ 13 x bit time	
Indication	LED red "ERR" on	
Baud rate search	with automatic detection: LED red "ERR" flashes	
Electromagnetic compatibility	Tested under the following standards and regulations: EN 61326-1 Use in industrial environment; NAMUR NE 21	
Connection diagram	for types Safe area 9185/12-45-10. Division 2 Zone 2	

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Ambient conditions

Ambient temperature		
Single device	-20 ... +70 °C	
Group assembly	-20 ... +60 °C	
	The installation conditions affect the ambient temperature. "Installationsanleitung Schaltschrank" beachten	
Storage temperature	-40 ... +80 °C	
Relative humidity (no condensation)	≤ 95 %	

Mechanical data



Connection	Screw-type terminals	Spring-type terminals
Single-wire connection		
- rigid	0.2 ... 2.5 mm ²	0.2 ... 2.5 mm ²
- flexible	0.2 ... 2.5 mm ²	0.2 ... 2.5 mm ²
- flexible with core end sleeves (without / with plastic sleeve)	0.25 ... 2.5 mm ²	0.25 ... 2.5 mm ²
Two-wire connection		
- rigid	0.2 ... 1 mm ²	--
- flexible	0.2 ... 1.5 mm ²	--
- flexible with core end sleeves	0.25 ... 1 mm ²	0.5 ... 1 mm ²
Weight	approx. 205 g	
Mounting type	on DIN rail (NS35/15, NS35/7.5)	
Mounting orientation	horizontal or vertical	
Enclosure	IP30	
Terminals	IP20	
Enclosure material	PA 6.6	
Fire resistance (UL-94)	V0	

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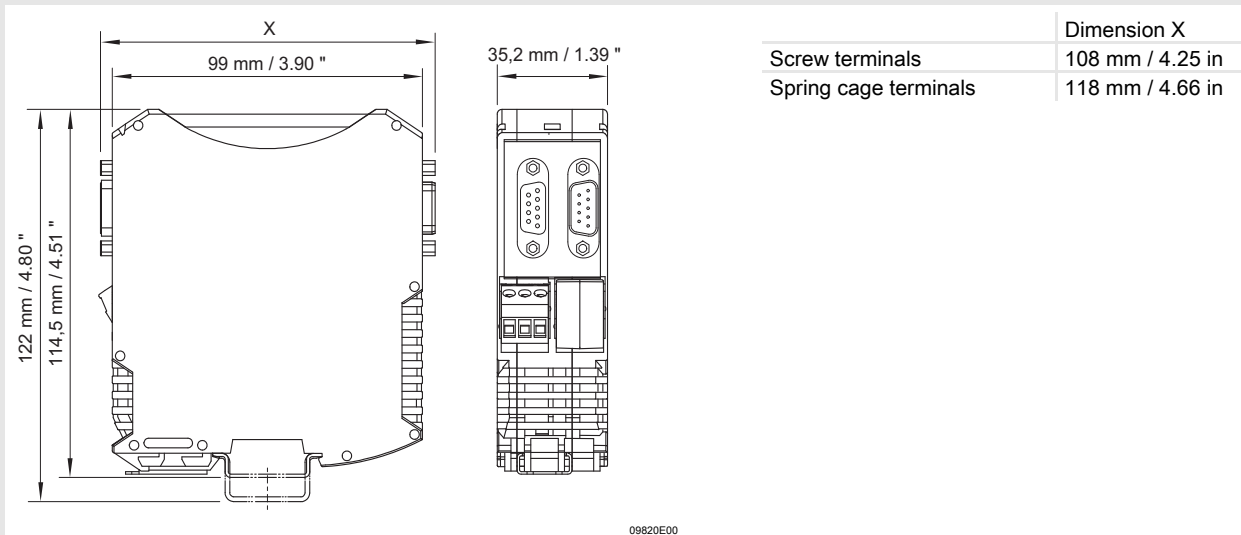
Series 9185/12



Accessories and Spare Parts

Designation	Figure	Description	Art. no.	Weight kg
Fieldbus isolating repeater Series 9185/11		<ul style="list-style-type: none"> • Equipment for installation in safe areas or Zone 2 / Div. 2 • For fieldbuses with RS-485 interface - Zone 1 / Class I, II, III Division 1 and Class I, II, III Zone 1 • Suitable for Profibus DP, Modbus, R. STAHL ServiceBus • Interface to automation system RS-232, RS-422, RS-485 • Automatic setting of transfer rate for Profibus DP • Adjustable transfer rate (1.2 kBit/s to 1.5 MBit/s) • Power supply 24 V AC/DC • Further information see data sheet Series 9185/11 	160587	0.273
Sub-D plug + PG interface		9-pin for connection of the fieldbus or ServiceBus to the CPU & power module Series 9440/15 and fieldbus-isolating repeater 9185. Integrated terminator can be switched on or off. For non-intrinsically safe RS-485.	105715	0.001

Dimensional Drawing (All Dimensions in mm / inches) - Subject to Alterations



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