

# Network technology

## Fieldbus isolating repeater

ISpac

9185/11-45-10s Art. No. 227599



- Simple, front-end parameterisation
- Bit refresh function improves the signal quality
- Adjustable transmission rates between 1.2 kbps and 1.5 Mbps
  - automatic with PROFIBUS DP
- Ex i field interface

MY R. STAHL 9185A



Series 9185/11 fieldbus isolating repeaters are the interface between intrinsically safe and non-intrinsically safe PROFIBUS DP segments, Modbus RTU segments and other similar fieldbus segments. These devices galvanically separate intrinsically safe bus interfaces (RS-422/RS-485) from non-intrinsically safe interfaces (RS-232, RS-422 or RS-485).

### Technical Data

#### Explosion Protection

Application range (zones)	2
Ex interface zone	1, 2, 21, 22
IECEX gas certificate	IECEX BVS 06.0004X
IECEX gas explosion protection	Ex nA [ib Gb] IIC T4 Gc
IECEX dust certificate	IECEX BVS 06.0004X
IECEX dust explosion protection	[Ex ib Db] IIIC
ATEX gas certificate	DMT 02 ATEX E 246 X
ATEX gas explosion protection	⊕ II 3 (2) G Ex nA [ib Gb] IIC T4 Gc
ATEX dust certificate	DMT 02 ATEX E 246 X
ATEX dust explosion protection	⊕ II (2) D [Ex ib Db] IIIC
FMus certificate	FM16US0122X
cFM certificate	FM16CA0067X
Marking cFMus	Class I, Div. 2, Groups A,B,C,D; Class I, Zone 2, AEx nA GP IIC; AIS Class I,II,III, Div. 1, Groups A,B,C,D,E,F,G; Class I, Zone 1, [AEx ib] IIC T4 at Ta = 70°C; See Doc. 91 856 01 31 1  Class I, Div. 2, Groups A,B,C,D; Class I, Zone 2, Ex nA GP IIC; AIS Class I,II,III, Div. 1, Groups A,B,C,D,E,F,G; Class I, Zone 1, [Ex ib] IIC T4 at Ta = 70°C; See Doc. 91 856 01 31 1
Certificates	ATEX (BVS), Canada (FM), China (NEPSI), IECEX (BVS), USA (FM)
Ship approval	ABS, BVIS, CCS, EU RO MR (DNV), KR, LR
Declaration of Conformity	ATEX (EUK), China (CCC)

#### Safety Data

Max. voltage $U_0$	5.88 V
Max. current $I_0$	50 mA
Max. power $P_0$	73.3 mW
Max. voltage $U_1$ connection (RS485-IS)	± 5,88 V

# Network technology

## Fieldbus isolating repeater

ISpac

9185/11-45-10s Art. No. 227599



### Safety Data

Max. permissible external capacity $C_o$ for IIC	43 $\mu$ F
Max. permissible external inductance $L_o$ for IIC	15 mH
Internal capacitance	Negligible
Internal inductance	Negligible
Safety-related max. voltage	253 V

### Electrical Data

Protocols	Modbus PROFIBUS DP ServiceBus R.STAHL (IS1) HART over RS485
Data rate	1.2 kbps ... 1.5 mbps
Data rate settings	Fixed transmission rate or automatic detection > 9.6 kbps (only for PROFIBUS DP)
Electric interface connection	Sub-D socket, 9-pole
Field side of interfaces	RS 422 Ex i RS 485 Ex i
Safe area interfaces	RS 232, RS 422, RS 485
Data transmission display	green RxD1, RxD2 and RxD3
Display error	Red "ERR" LED
Terminating resistor	To be connected in external plug
Line length	Depends on transmission rate and cable
RS232	Data rate: 1.2 ... 93.75 kBit/s Connection length: < 20 m

### Auxiliary Power

Auxiliary power	24 V AC / DC
Nominal voltage	24 V UC
Auxiliary power voltage range	24 V AC $\pm$ 15%, 18 to 31.2 V DC
Voltage range residual ripple	$\leq$ 3,6 $V_{ss}$
Nominal current	66 mA
Power consumption	1.6 W
Polarity reversal protection	Yes
Undervoltage monitoring	Yes
Operation indication	Green "PWR" LED

### Galvanic Isolation

Test voltage as per standard	EN 60079-11
Test voltage as per standard	EN 50178
Ex interface to auxiliary power	1.5 kV AC
Ex interface to non-Ex i interface	1.5 kV AC
Auxiliary power to non-Ex i interface	500 V

### Ambient Conditions

Ambient temperature	-20 °C ... +70 °C (Single device) -20 °C ... + 60 °C (Group assembly)
Ambient temperature	-4°F ... +158°F (Single device) -4°F ... +140°F (Group assembly)
Storage temperature	-40°C ... +80°C

# Network technology

## Fieldbus isolating repeater



ISpac

9185/11-45-10s Art. No. 227599

### Ambient Conditions

Storage temperature	-40°F ... +176°F
Maximum relative humidity	95%
Use at the height of	< 2000 m

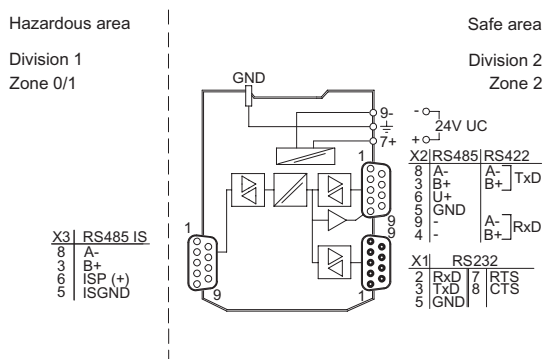
### Mechanical Data

Degree of protection (IP)	IP30
Degree of protection (IP) terminals	IP20
Fire resistance (UL 94)	V0
Enclosure material	Polyamide
Connection cross-section	0.2 to 2.5 mm <sup>2</sup> flexible 0.2 to 2.5 mm <sup>2</sup> rigid 0.25 to 2.5 mm <sup>2</sup> flexible with core end sleeve
Connection cross-section AWG	24 ... 14
Grid dimension	35.2 mm
Width	35.2 mm
Width, inches	1.39 in
Height	114.5 mm
Height in inches	4.51 in
Length	108 mm
Length in inches	4.25 in
Weight	350 g
Weight	0.77 lb

### Mounting / Installation

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>

### Technical Drawings – Subject to Alterations



Connection diagram 9185/11

# Network technology

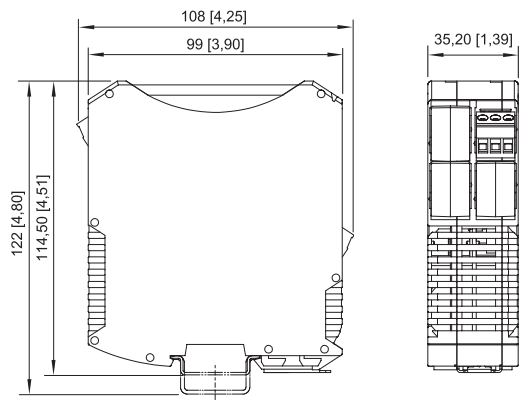
## Fieldbus isolating repeater



ISpac

9185/11-45-10s Art. No. 227599

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



ISpac Series 9185, 9192 with screw terminal

### Accessories

#### Sub-D plug, RS-485 IS, angled

Art. No.

	<p>9-pin for connecting fieldbus or ServiceBus to CPU &amp; power module Series 9440/22, 9185 fieldbus isolating repeater and 9786/12-11 media converter. The end-of-line resistor is installed and switchable. For RS 485 IS (according to Profibus standard). Ambient temperature: -40 °C to +70 °C</p>	<p>162693</p>
	<p>9-pin for connecting 9185 fieldbus isolating repeater and 9786/12-11 media converter. The end-of-line resistor is installed. For RS-485 IS (according to Profibus standard). Ambient temperature: -25 °C to +70 °C</p>	<p>201805</p>

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.