

# Modular Segment Protector for Cabinet Installation

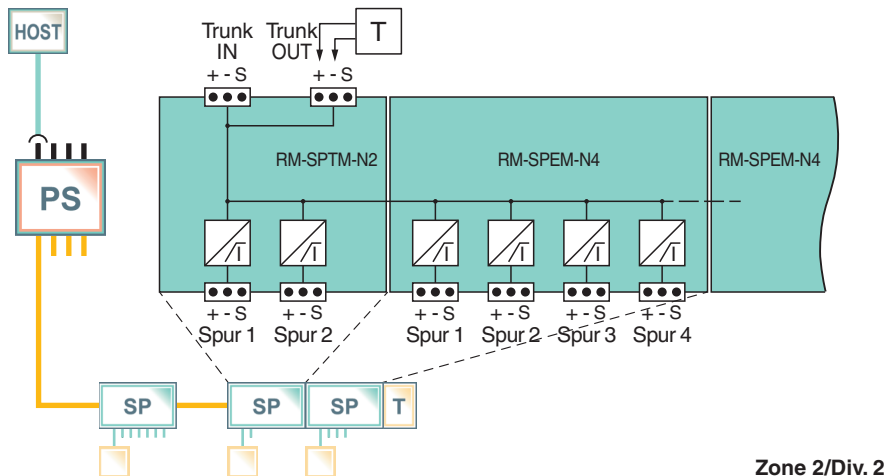


## RM-SP\*

- 2 outputs Ex nL, expandable to up to 26 with short-circuit protection
- High-power trunk for high device count and long cable lengths
- Segment Protector in Zone 2/Div. 2
- Instruments in Zone 2/Div. 2
- For FOUNDATION Fieldbus H1 and PROFIBUS PA
- Power, Com, and Error LEDs
- Integrated overvoltage protection



### Connection



### Technical Data

General specifications	
Design / Mounting	Cabinet installation
Fieldbus connection	
Power dissipation	see table "Technical data depending on model"
Main cable (Trunk)	
Rated voltage	9 ... 31 V DC
Rated current	max. 4.5 A
Outputs	
Number of outputs	see table "Technical data depending on model"
Rated voltage	max. 31 V
Rated current	max. 43 mA
Short-circuit current	max. 58 mA
Self current consumption	see table "Technical data depending on model"
Voltage drop main cable/outputs	max. 1.3 V
Terminating resistor	100 Ω external
Surge protection	Trunk overvoltage protection if voltage exceeds typ. 39 V, max. 41 V
Indicators/operating means	

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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

USA: +1 330 486 0002  
pa-info@us.pepperl-fuchs.com

Germany: +49 621 776 2222  
pa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091  
pa-info@sg.pepperl-fuchs.com

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## Technical Data

LED ERR		red: short-circuit
LED PWR		green: Fieldbus voltage > 10 V
LED COM		yellow: bus activity
<b>Directive conformity</b>		
Electromagnetic compatibility		
Directive 2004/108/EC		EN 61326-1:2006
<b>Standard conformity</b>		
Electromagnetic compatibility		
		NE 21:2006
Degree of protection		IEC 60529
Fieldbus standard		IEC 61158-2
Shock resistance		EN 60068-2-27
Vibration resistance		EN 60068-2-6
<b>Ambient conditions</b>		
Ambient temperature		-40 ... 70 °C (-40 ... 158 °F)
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
Relative humidity		< 95 % non-condensing
Shock resistance		15 g 11 ms
Vibration resistance		1 g , 10 ... 150 Hz
Corrosion resistance		acc. to ISA-S71.04-1985, severity level G3
<b>Mechanical specifications</b>		
Connection type		screw terminals, removable
Core cross section		max. 2.5 mm <sup>2</sup> /AWG 12-24
Housing material		Polyamide PA 66
Housing width		17.5 mm per device
Housing height		94 mm
Housing depth		54 mm
Degree of protection		IP20
Mass		75 g per device
Mounting		DIN rail mounting
<b>Data for application in connection with hazardous areas</b>		
Main cable (Trunk)		
Rated current		see Statement of Conformity
Outputs		
Voltage	U <sub>o</sub>	24 V for IIC gas group, defined by trunk voltage 32 V for IIB gas group
Current	I <sub>o</sub>	65 mA for IIC and IIB gas groups
Inductance	L <sub>o</sub>	0.25 mH for IIC and IIB gas groups
Capacitance	C <sub>o</sub>	60 nF for IIC and IIB gas groups
Certificate		TÜV 11 ATEX 081152 X
Marking		⊕ II 3G Ex nA [nL] IIC T4
Directive conformity		
Directive 94/9/EC		EN 60079-15:2005 , EN 60079-0:2006
<b>International approvals</b>		
UL approval		E106378
Approved for		Class I, Division 2, Groups A, B, C, D
<b>Certificates and approvals</b>		
Marine approval		DNV A-10798
<b>General information</b>		
Supplementary information		Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> .

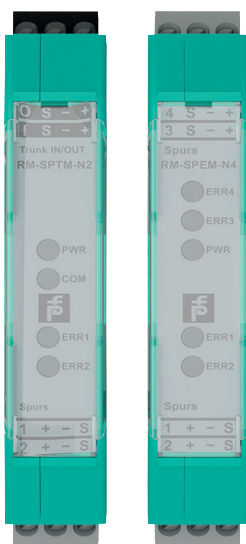
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[pa-info@us.pepperl-fuchs.com](mailto:pa-info@us.pepperl-fuchs.com)Germany: +49 621 776 2222  
[pa-info@de.pepperl-fuchs.com](mailto:pa-info@de.pepperl-fuchs.com)Singapore: +65 6779 9091  
[pa-info@sg.pepperl-fuchs.com](mailto:pa-info@sg.pepperl-fuchs.com)

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Assembly



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**Function**

The modular Segment Protector, a fieldbus coupler for DIN rail, connects instruments to the fieldbus segment. It features the most compact design and easily expandability for skid-mount applications.

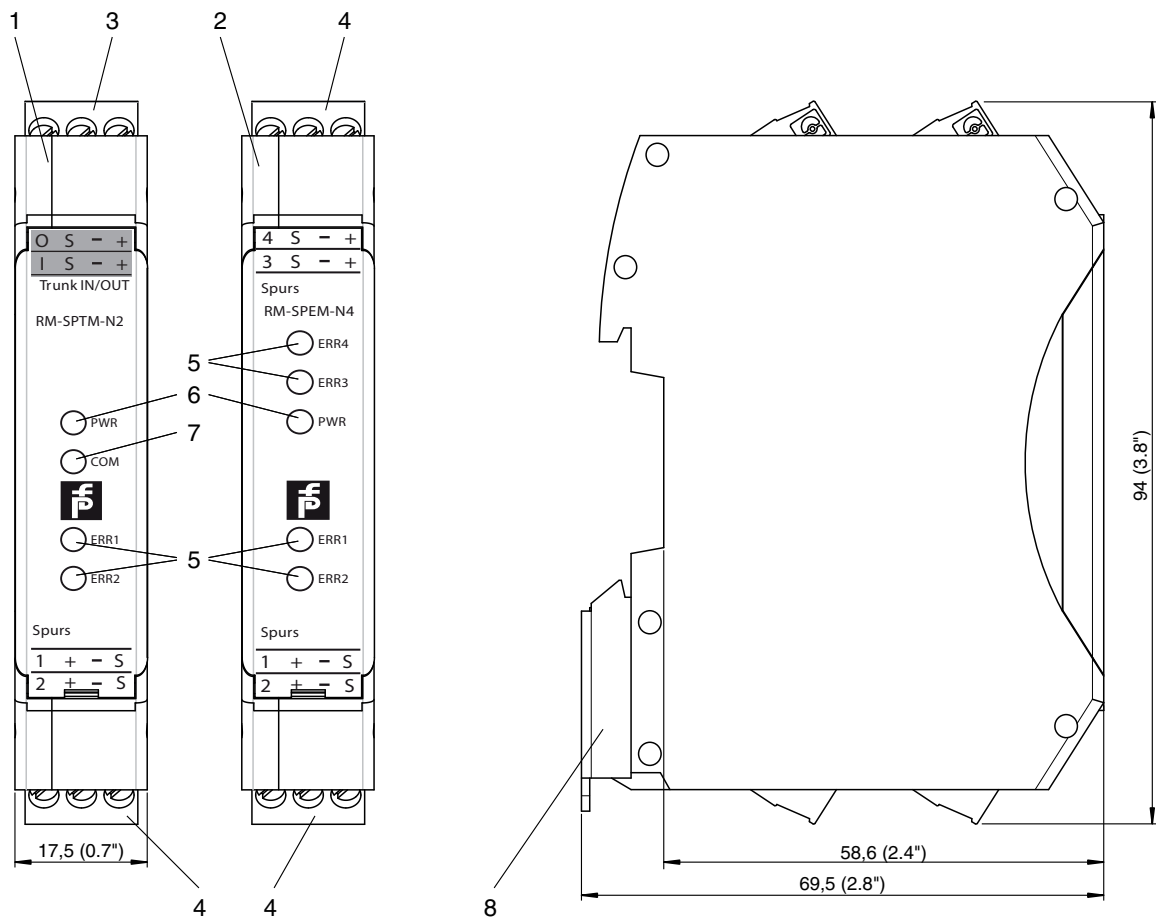
The trunk module connects the Segment Protector to the segment. Expansion modules snap side-by-side interconnected via a system plug. The high-availability terminator is mounted at the output. As it is removed for network extensions proper termination is always ensured.

Short-circuit protection ensures proper operation of the segment in case of faults or hot work. Integrated LEDs simplify troubleshooting and help decrease repair time.

All connectors are plug-in type with receptacles for measuring tools, such as the mobile ADM. This leaves the wiring undisturbed. Any grounding and shielding concept is possible with FieldConnex enclosure solutions.

**Additional Information**

**Dimensions**



all dimensions in millimeters (mm) and inch (") without tolerance indication

Description:

- 1 Trunk Module RM-SPTM-N2
- 2 Extension Module RM-SPEM-N4
- 3 Trunk connection
- 4 Spur connection
- 5 LED Spur (Error)
- 6 LED PWR (Power)
- 7 LED COM (Communication)
- 8 Fixing strap

**Installation note**

see manual

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## Additional Information

### Technical data depending on model

	RM-SPTM-N2	RM-SPEM-N4
<b>Number of outputs</b>	2	4
<b>Power loss</b>	0.2 W	0.1 W
<b>Inherent current consumption</b>	7 mA	3.5 mA

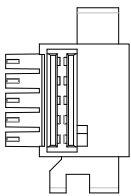
Calculations:

Total power loss =  $0.2 \text{ W} + n * 0.1 \text{ W}$

Total current consumption =  $7 \text{ mA} + n * 3.5 \text{ mA}$

n = number of Extension Modules RM-SPEM-N4

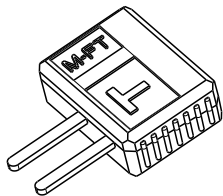
### Accessories



Bus Connector Module RM-BP (packaging unit = 3 pieces).

One Bus Connector Module included with each Trunk Module RM-SPTM-N2 and Expansion Module RM-SPEM-N4.

This DIN rail preassembled system plugs providing the interconnection of the Trunk Module RM-SPTM-N2 with one or more Expansion Modules RM-SPEM-N4. To create a combination of Modular Segment Protector Modules one Bus Connector Module is required for each of them.



Fieldbus Terminator M-FT (packaging unit = 3 pieces).

One Terminator included with each Trunk Module RM-SPTM-N2.