

Modular Segment Protector for Cabinet Installation



Wiring interface with individual short-circuit protection

- Extendable to up to 26 outputs per Segment Protector
- High-Power Trunk concept for maximum devices and long cable runs
- Outputs certified EEx nL, live working at the spur permitted
- For FOUNDATION Fieldbus H1 and PROFIBUS PA
- Installation in Zone 2/Class I, Div. 2
- Built-in overvoltage protection for trunk

Function

The Modular Segment Protector is a smart wiring interface for fieldbus according to IEC 61158-2 such as FOUNDATION Fieldbus H1 or PROFIBUS PA.

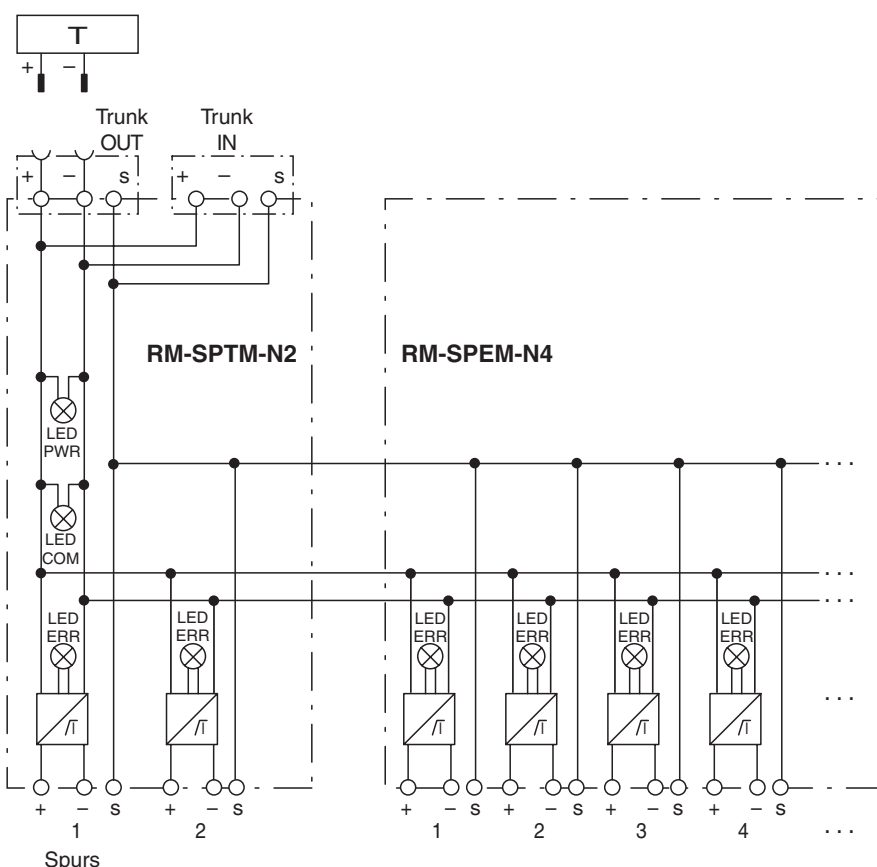
A Trunk Module connects the unit to the segment and has two outputs called spurs. Expansion Modules have four spurs and simply snap side-by-side on a DIN rail with a system plug for interconnection.

The Segment Protector provides a certified Ex nL energy limitation at each spur connection. The Segment Protector and the Field devices can be installed in Zone 2/Div. 2 and maintained while the system is energized.

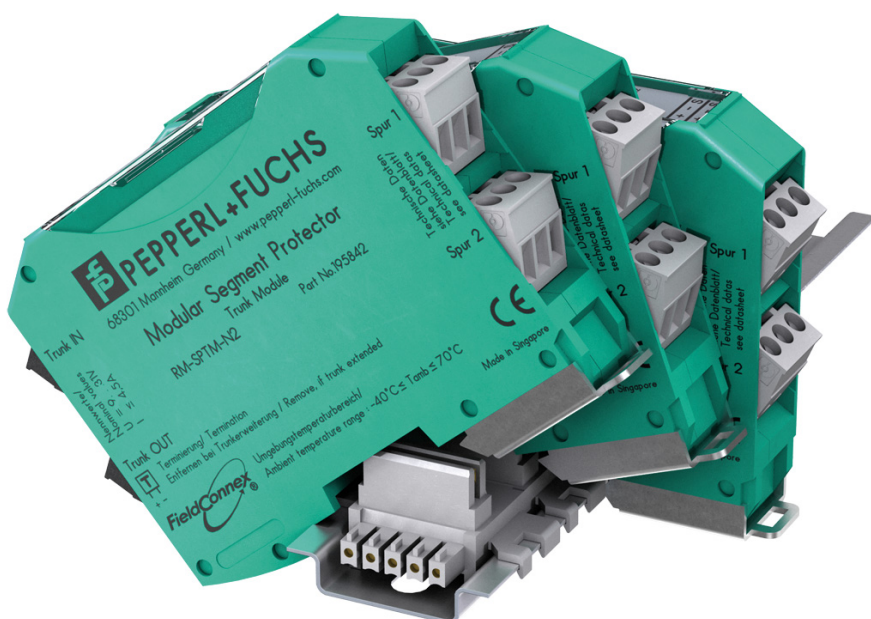
Each output is equipped with short-circuit current limitation. The spur connection automatically resumes operation when the fault is repaired. Current limitation and over-voltage protection make fieldbus segments equipped with Segment Protectors extremely reliable.

Segment Protectors implement the High-Power Trunk concept. This concept enables maximum cable lengths and highest number of devices in any Zone2/Div.2 hazardous area.

Connection



Composition

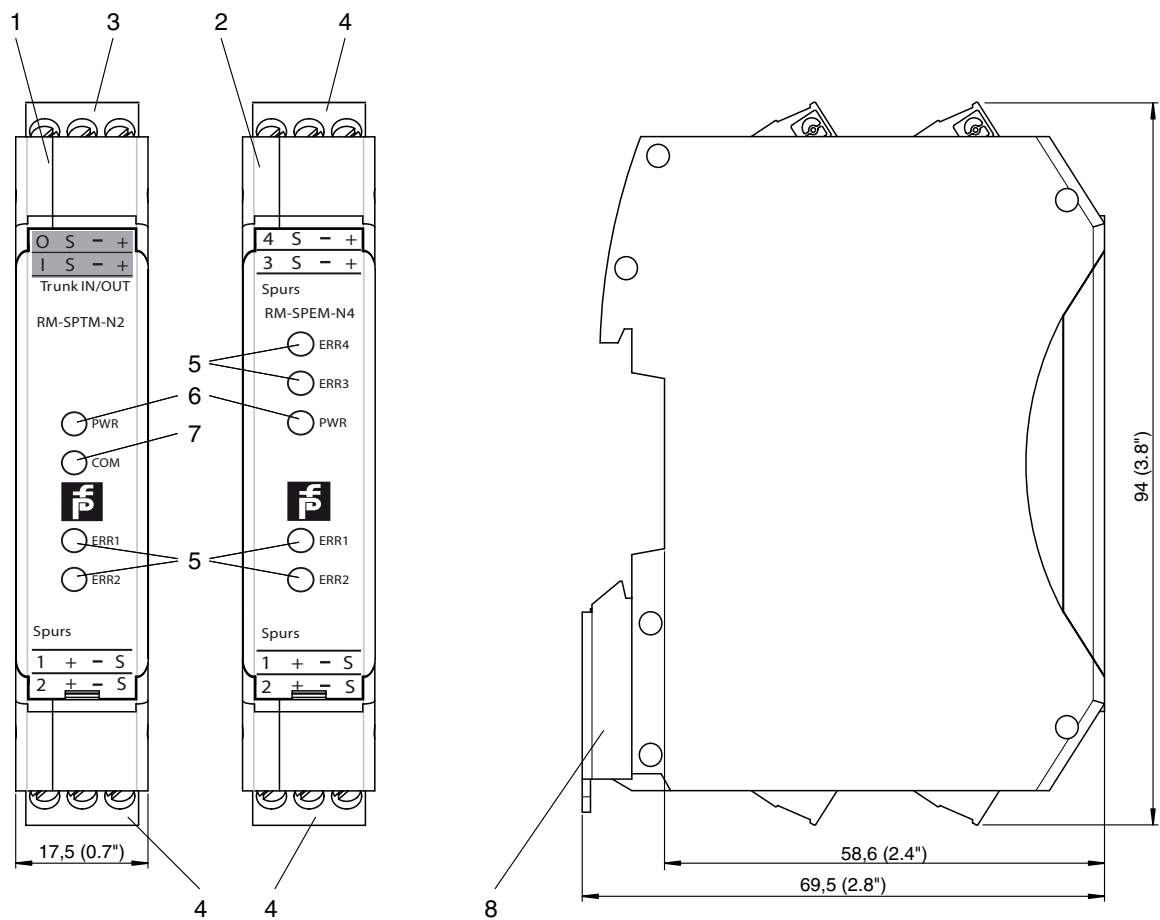


Fieldbus interface		
Power loss		see table "Technical data depending on model"
Main cable (Trunk)		
Rated voltage		9 ... 31 V DC
Rated current		≤ 4.5 A
Outputs		
Number of outputs		see table "Technical data depending on model"
Rated voltage		≤ 31 V
Rated current		≤ 43 mA
Short-circuit current		≤ 58 mA
Self current consumption		see table "Technical data depending on model"
Voltage drop main cable/outputs		≤ 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		
LED ERR		red: short-circuit
LED PWR		green: Fieldbus voltage > 10 V
LED COM		yellow: bus activity
Directive conformity		
Electromagnetic compatibility		
Directive 2004/108/EC		EN 61326-1:2006
Standard conformity		
Electromagnetic compatibility		NE 21:2006
Protection degree		IEC 60529
Fieldbus standard		IEC 61158-2
Shock resistance		EN 60068-2-27
Vibration resistance		EN 60068-2-6
Ambient conditions		
Ambient temperature		-40 ... 70 °C (233 ... 343 K)
Storage temperature		-40 ... 85 °C (233 ... 358 K)
Relative humidity		< 95 % non-condensing
Shock resistance		15 g 11 ms
Vibration resistance		1 g , 10 ... 150 Hz
Mechanical specifications		
Connection type		screw terminals, removable
Core cross-section		≤ 2.5 mm ² /AWG 12-24
Housing material		Polyamide PA 66
Housing width		17.5 mm per device
Height of housing		94 mm
Housing depth		54 mm
Protection degree		IP20
Mass		75 g per device
Mounting		DIN rail mounting
Data for application in conjunction with hazardous areas		
Main cable (Trunk)		
Rated current		see Statement of Conformity
Outputs		
Voltage	U _o	32 V
Current	I _o	70 mA
Inductance	L _o	0.25 mH
Capacitance	C _o	60 nF
Statement of conformity		TÜV 07 ATEX 553577 X
Group, category, type of protection, temperature classification		Ⓔ II 3G Ex nA [nL] IIC T4
Directive conformity		
Directive 94/9 EC		EN 60079-15:2005 EN 60079-0:2004

Supplementary information

EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity and instructions have to be observed. For information see www.pepperl-fuchs.com.

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

Technical data depending on model

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

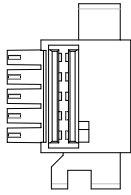
Calculations:

Total power loss = 0.2 W + n * 0.1 W

Total current consumption = 7 mA + n * 3.5 mA

n = number of Extension Modules RM-SPEM-N4

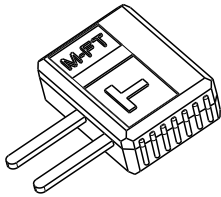
Accessories



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.