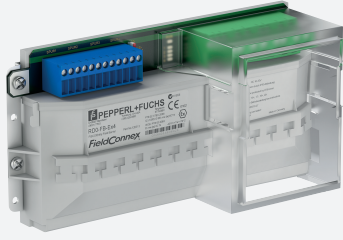


Fieldbus Barrier

FieldConnex® Fieldbus

RD0-FB-Ex4.*



- 4 outputs Ex ia IIC
- FieldBarrier in Zone 1/Div. 2
- Instruments in Zone 0...1/Div. 1
- Short circuit current limitation per output
- For FOUNDATION Fieldbus H1 and PROFIBUS PA
- Power, Com, and Error LEDs
- Supports FISCO and Entity
- Integrated cable tie-downs
- Supports all grounding methods

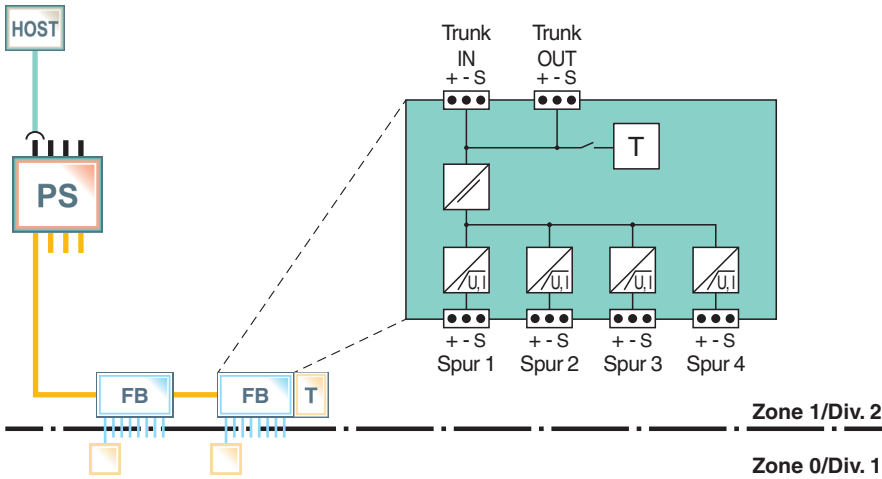
Fieldbus barrier, module for DIN rail mounting



Function

The FieldBarrier, a device coupler for DIN rail mounting, connects 4 instruments with intrinsic safety (Ex ia/Ex ib) and short circuit current limitation at each output. This ensures proper operation of the segment during faults or hot work at the spur. High power on the trunk enables maximum cable lengths and device count in any hazardous area. The integrated fieldbus terminator features high-availability design and is selectable. Output terminals with a choice of fixed or plug-in screw terminals connect 1 device each. LEDs simplify troubleshooting and help decrease repair time. Any grounding and shielding concept is possible based on FieldConnex® enclosure solutions.

Connection



Technical Data

General specifications	
Design / Mounting	Cabinet installation
Installation in hazardous area	Zone 1 / Div. 2
Fieldbus connection	
Main cable (Trunk)	
Connection	input (Trunk IN): terminals 3+, 4-, 5s output (Trunk OUT): terminals 7-, 8+, 6s
Rated voltage	32 ... 16 V DC

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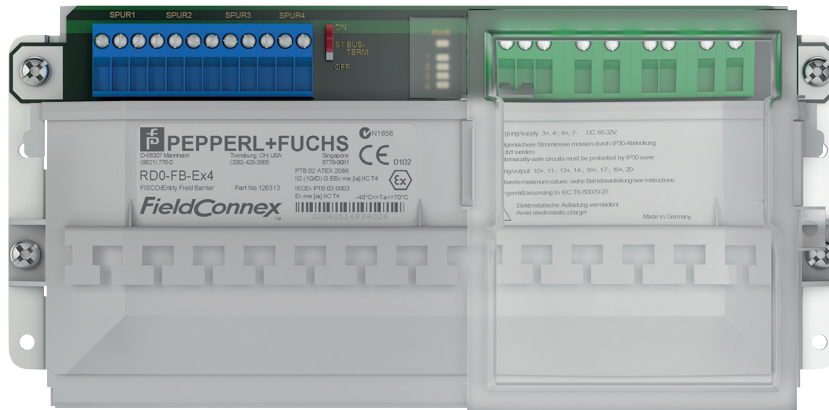
Technical Data

Rated current	31 mA ... 26 mA (without load) 77 mA ... 115 mA (at 20 mA load per input) 120 mA ... 209 mA (at 40 mA load per input) 135 mA ... 241 mA (short-circuit on all outputs)	
Voltage drop	trunk IN to trunk OUT 100 mV max.	
Number of couplers	max. 4 per segment	
Outputs		
Number of devices per output	1	
Connection	output 1: terminals 10+, 11-, 12S shield; output 2: terminals 13+, 14-, 15S shield; output 3: terminals 16+, 17-, 18S shield; output 4: terminals 19+, 20-, 21S shield	
Rated voltage	10 ... 13 V	
Rated current	max. 43 mA	
Short-circuit current	50 mA	
Indicators/operating means		
LED voltage Fieldbus	green: on, bus voltage existent	
LED status output	red flashing: short-circuit	
Galvanic isolation		
Main wire/outputs	isolation is not affected by interference according to EN 50020, voltage peak value 375 V	
Directive conformity		
Electromagnetic compatibility		
Directive 2014/30/EU	EN 61326-1:2013	
Standard conformity		
Electromagnetic compatibility	NE 21:2006	
Degree of protection	IEC/EN 60529	
Fieldbus standard	IEC 61158-2	
Climatic conditions	DIN IEC 721	
Corrosion resistance	acc. to ISA-S71.04-1985, severity level G3	
Ambient conditions		
Ambient temperature	-50 ... 70 °C (-58 ... 158 °F)	
Storage temperature	-40 ... 85 °C (-40 ... 185 °F)	
Mechanical specifications		
Connection type	screw terminal	
Core cross section	up to 2.5 mm ²	
Housing	see figure 1	
Housing material	Polycarbonate	
R... DIN rail housing	PA 6.6	
Degree of protection	IP20	
Mass	1050 g	
Mounting	DIN rail mounting	
Data for application in connection with hazardous areas		
EU-type examination certificate	PTB 02 ATEX 2086	
Marking	Ⓢ II 2 (1) G Ex eb mb [ia Ga] IIC T4 Gb , Ⓢ II (1) D [Ex ia Da] IIIC	
Main cable (Trunk)		
Maximum safe voltage U_m	253 V AC	
Outputs		
Power	P_o	975 mW
Voltage	U_o	15.75 V
Current	I_o	248 mA
Directive conformity		
Directive 2014/34/EU	EN IEC 60079-0:2018+AC:2020 , EN 60079-7:2015+A1:2018 , EN 60079-11:2012 , EN 60079-18:2015+A1:2017	
International approvals		

Technical Data

FM approval	CoC 3015728
Control drawing	116-0266
Approved for	Class I, Division 2, Groups A, B, C, D / Class I, Zone 2, AEx nA [ia] IIC T4
CSA approval	CoC 1845315
Control drawing	116-0266
Approved for	Class I, Division 2, Groups A, B, C, D / Class I, Zone 2, Ex nA [ia] IIC T4
IECEx approval	
IECEx certificate	IECEx PTB 03.0003
IECEx marking	Ex eb mb [ia Ga] IIC T4 Gb [Ex ia Da] IIC
Certificates and approvals	
FOUNDATION Fieldbus	FF-846
General information	
Supplementary information	EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see www.pepperl-fuchs.com .

Assembly



Additional Information

Type Code

Type Code	Description
RD0-FB-Ex4	FieldBarrier with 4 outputs without field housing for mounting on DIN mounting rail in cabinet
RD0-FB-Ex4.COM	FieldBarrier with 4 outputs with plug-in terminals without field housing for mounting on DIN mounting rail in cabinet

Dimensions and Assembly

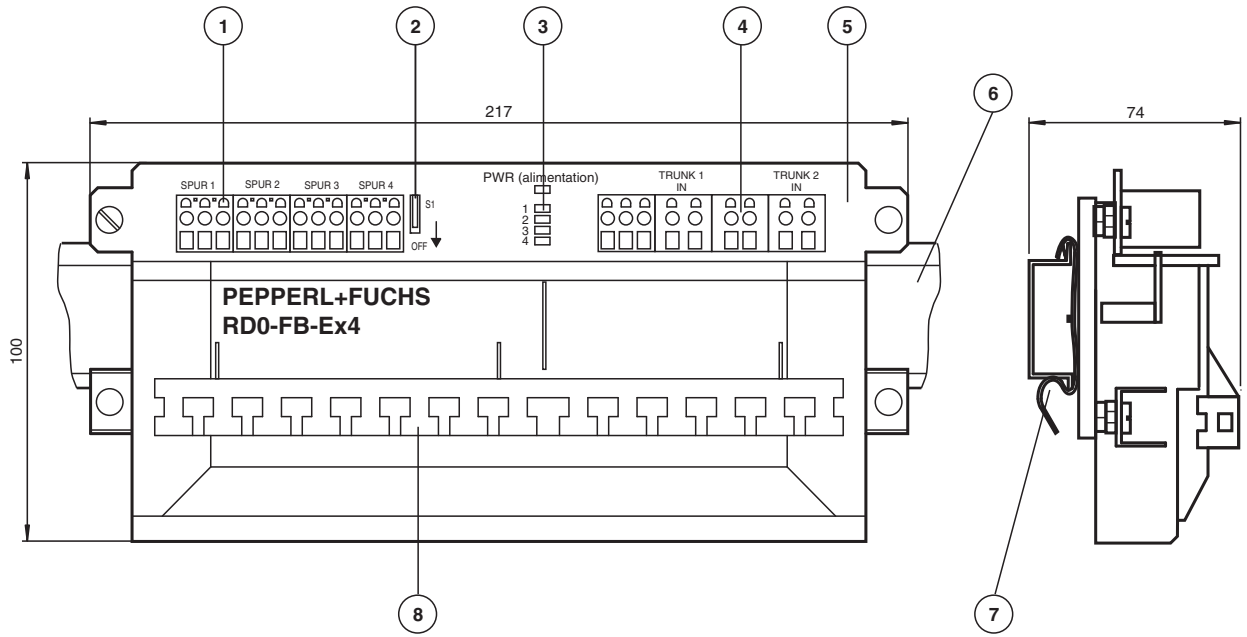


Figure 1: RD0-FB-Ex4

Description:

- 1 Ex ia terminals for output cables
- 2 Terminator, switchable
- 3 PWR LED
- 4 Ex e terminals for trunk cables
- 5 Cover for Ex e terminals
- 6 DIN mounting rail
- 7 Mounting on DIN mounting rail
- 8 Fixture for fixing cables with cable ties

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Technical Features

Fieldbus Interfaces

Maximum rated trunk input current

Trunk voltage	Spur load condition					
	No load	1 x 20 mA	4 x 20 mA	4 x 43 mA	3 x 20 mA, 1 x short circuit	4 x short circuit
16 V	31 mA	44 mA	115 mA	221 mA	140 mA	241 mA
32 V	26 mA	38 mA	77 mA	122 mA	84 mA	135 mA

Table 1

Installation

Electrical Connection

Connection of terminals

Terminals	Function
10+, 13+, 16+, 19+	Spur type of protection Ex ia +
11-, 14-, 17-, 20-	Spur type of protection Ex ia -
12s, 15s, 18s, 21s	Spur shield
3+	Trunk 1, type of protection Ex e +
4-	Trunk 1, type of protection Ex e -
5s	Trunk 1, shield
7-	Trunk 2, type of protection Ex e -
8+	Trunk 2, type of protection Ex e +
6s	Trunk 2, shield
1B	Spur, shield jumper
2B	Trunk, shield jumper
PA	Equipotential bonding

Table 1

The terminals 5s and 6s are connected internally with terminal 2B.

The terminals 12s, 15s, 18s, and 21s are connected internally via capacitor with terminal 1B for capacitive grounding techniques.

The terminal PA is connected to the grounding point of the housing (versions with field housing only).

Capacitive grounding is delivery standard for the cable shields. By bridging 1B and 2B, the trunk shields can be hard grounded.

For further information on the installation see manual.