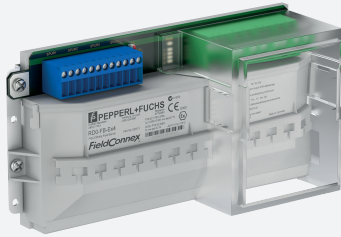


Fieldbus Barrier

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

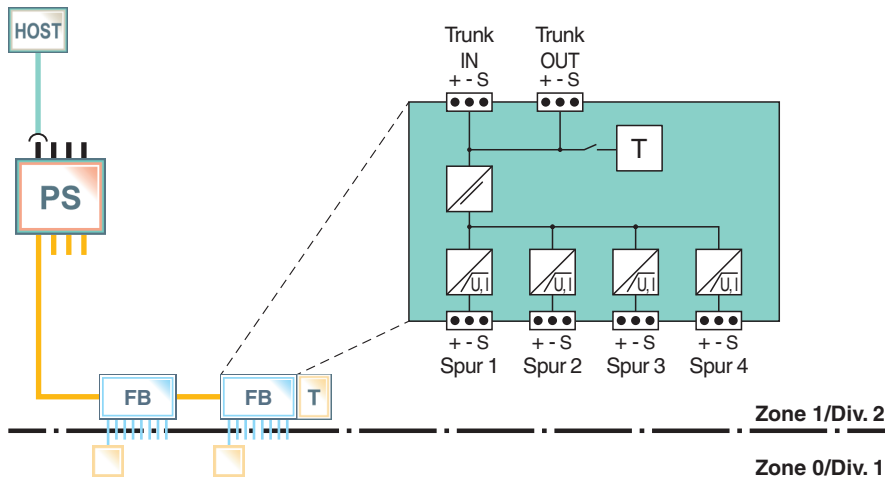
Fieldbus barrier, module for DIN rail mounting



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

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

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PEPPERL+FUCHS

Technical Data

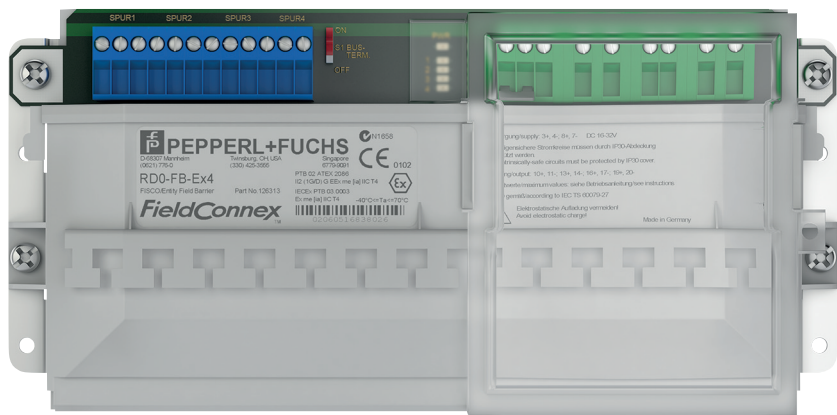
Rated current		31 mA ... 26 mA (without load) 77 mA ... 115 mA (at 20 mA load per input) 120 mA ... 209 mA (at 40 mA load per input) 135 mA ... 241 mA (short-circuit on all outputs)
Voltage drop		trunk IN to trunk OUT 100 mV max.
Number of couplers		max. 4 per segment
Outputs		
Number of devices per 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 mm²
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		

Release date: 2024-09-20 Date of issue: 2024-09-20 Filename: t25484_eng.pdf

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 PTB 03.0003
Approved for		Ex eb mb [ia Ga] IIC T4 Gb , [Ex ia Da] IIIC
Certificates and approvals		
FOUNDATION Fieldbus		FF-846
Marine approval		DNV A-14038
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



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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

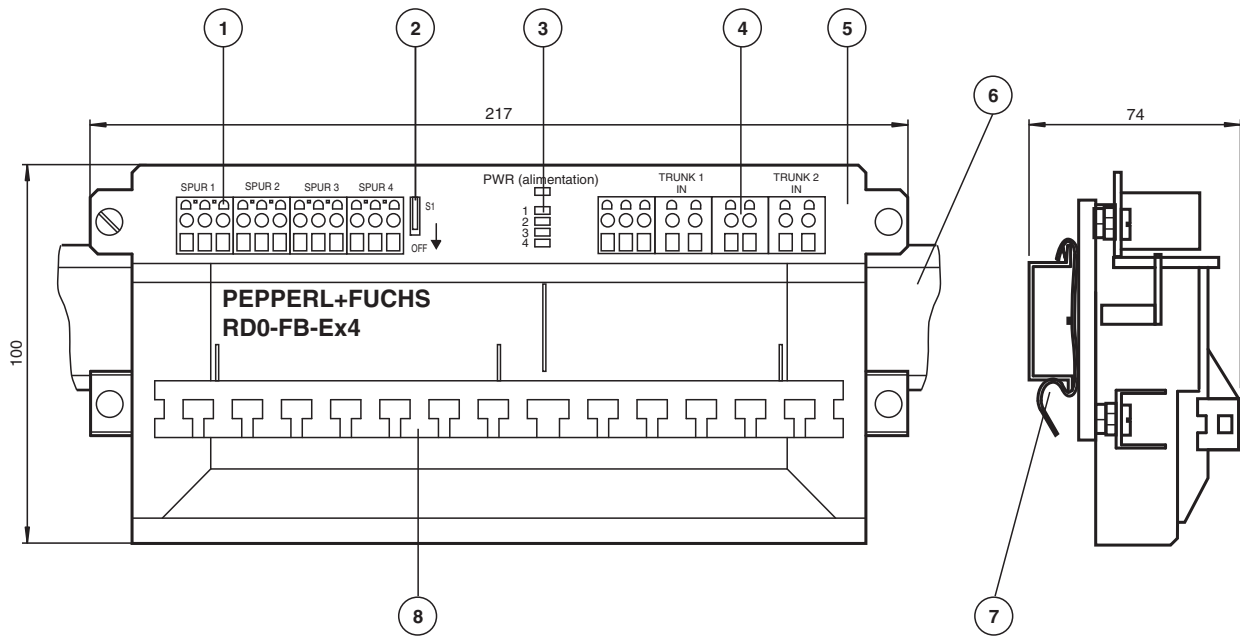


Figure 1: RD0-FB-Ex4

- 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.