Features

- 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

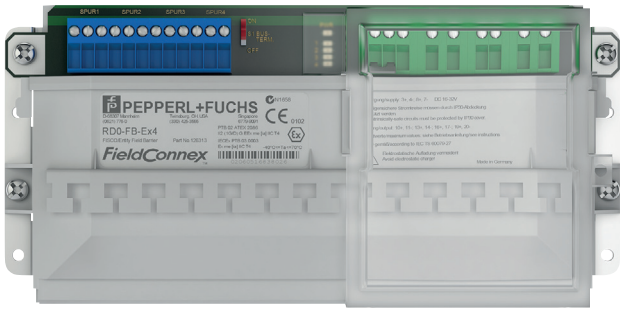
Function

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.

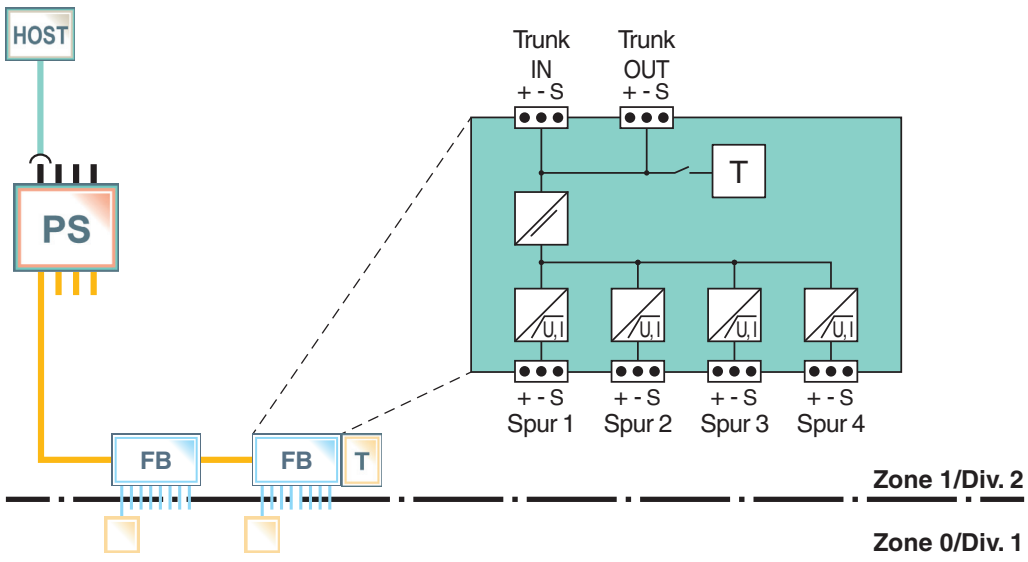
High power on the trunk enables maximum cable lengths and device count in any hazardous area. The integrated fieldbus terminator features high-availability design and is selectable.

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.

Assembly



Connection



Release date 2016-11-22 09:52 Date of issue 2016-11-22 t25484_eng.xml

General specifications		
Design / Mounting		Cabinet installation
Fieldbus interface		
Main cable (Trunk)		
Connection		input (Trunk IN): terminals 3+, 4-, 5s output (Trunk OUT): terminals 7-, 8+, 6s
Rated voltage		32 ... 16 V DC
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		≤ 43 mA
Short-circuit current		50 mA
Terminating impedance		100 Ω switchable
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		fixed terminals, plug-in terminals
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		mounting on DIN rail in cabinet
Data for application in connection with hazardous areas		
EU-Type Examination Certificate		PTB 02 ATEX 2086
Marking		⟨Ex⟩ II 2 (1)G Ex e mb [ia Ga] IIC T4 Gb , ⟨Ex⟩ II 2 G (1D) Ex e mb [ia IIIC Da] IIC T4 Gb
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 60079-0:2012 , EN 60079-7:2007 , EN 60079-11:2012 , EN 60079-18:2009 , EN 60079-31:2009 (only F2* types)
International approvals		
FM approval		CoC 3015728
Control drawing		No. 116-0226

Release date 2016-11-22 09:52 Date of issue 2016-11-22 t25484_eng.xml

Approved for	Class I, Division 2, Groups A, B, C, D / Class I, Zone 2, AEx nA [ia] IIC T4
CSA approval	CoC 1592754
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 me [ia] IIC T4
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.

Type Code/Order Designation

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

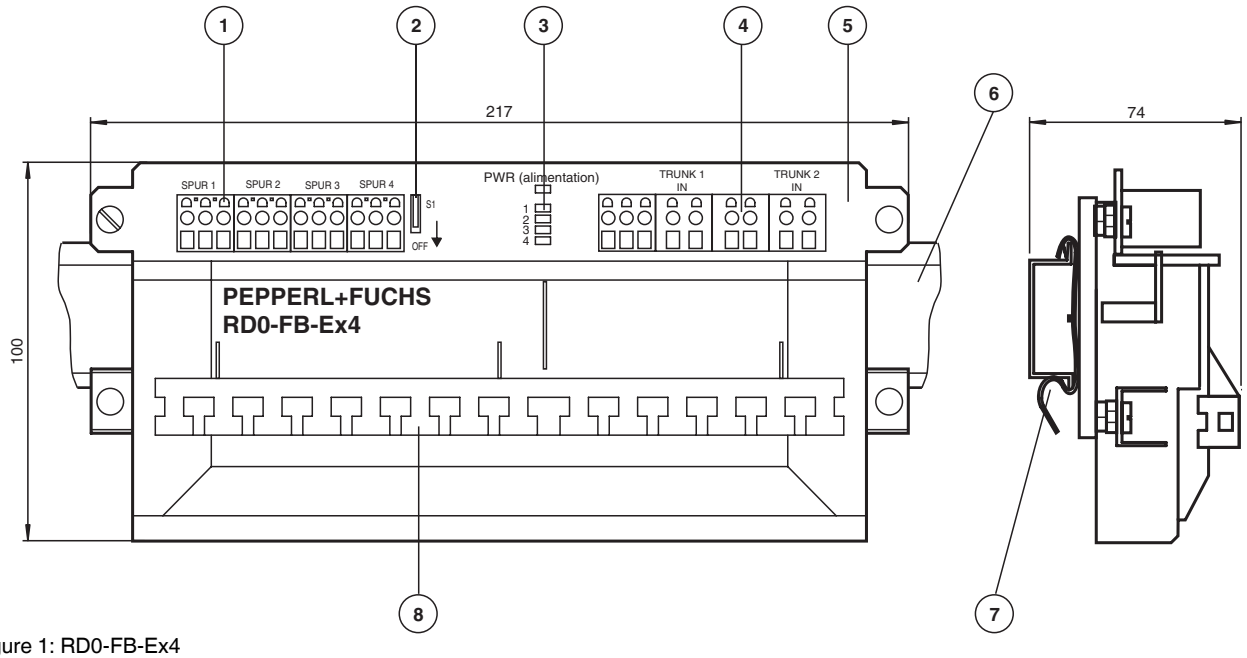


Figure 1: RD0-FB-Ex4

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

Release date 2016-11-22 09:52 Date of issue 2016-11-22 t25484_eng.xml

Fieldbus Interface

Table 1: 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

Electrical Connection

Table 1: 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

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.

Installation Note

See manual

Release date 2016-11-22 09:52 Date of issue 2016-11-22 t25484_eng.xml