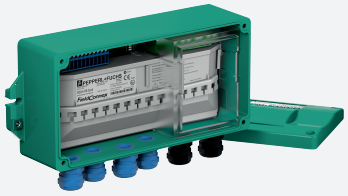


Fieldbus Barrier

FieldConnex® Fieldbus

F2D0-FB-Ex4.*

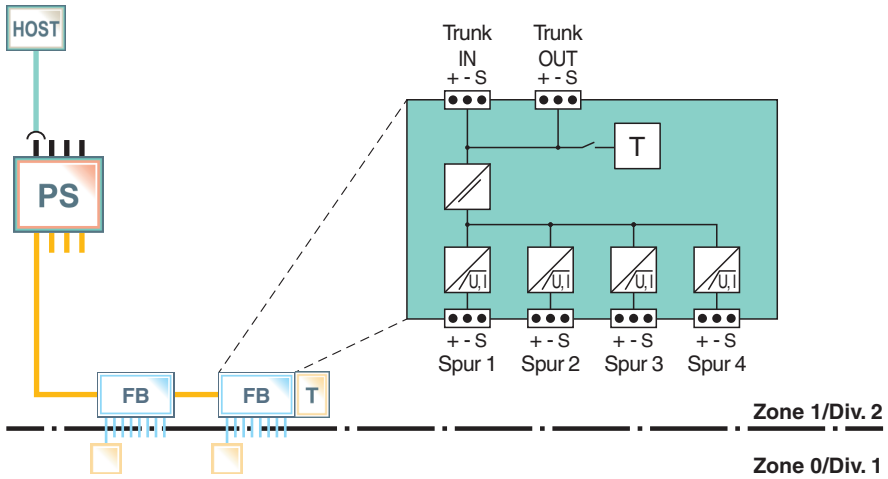
- 4 outputs Ex ia IIC
- FieldBarrier in Zone 1/Div. 2
- Instruments in Zone 0...1/Div. 1
- Short circuit current limitation per output
- For FOUNDATION Fieldbus H1 and PROFIBUS PA
- Power, Com, and Error LEDs
- Supports FISCO and Entity
- Integrated cable tie-downs

Fieldbus barrier, stand-alone device in aluminum housing for field installation

Function

The FieldBarrier, a device coupler in an aluminum housing, 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. The F2 housing is made of sturdy cast aluminum for installation in rough environments.
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.
A choice of fixed screw or spring output terminals connect 1 device each. LEDs simplify troubleshooting and help decrease repair time. Hard and capacitive grounding and shielding concepts can be chosen via jumper.

Connection



Technical Data

General specifications		
Design / Mounting		Outside installation
Installation in hazardous area		Zone 1 / Div. 2
Electronic component		FieldBarrier RD0-FB-Ex4.* For technical data on installed electronic component see datasheet.
Fieldbus connection		
Main cable (Trunk)		
Cable entry type		cable gland and stopping plug options see separate table
Outputs		
Cable entry type		cable gland and stopping plug options see separate table

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Technical Data

Conformity		
Degree of protection		EN 60529
Shock resistance		EN 60068-2-27
Vibration resistance		EN 60068-2-6
Ambient conditions		
Ambient temperature		see table 2
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
Mechanical specifications		
Connection type		screw terminal , fixed
Enclosure cover		detachable cover with retaining screws
Housing material		Aluminum
Degree of protection		IP67
Material		
Surface		painted green
Seal		silicone , one-piece
Mass		3350 g
Dimensions		see figure 1 and see table 2
Mounting		wall mounting
Grounding		M5 threading for grounding bolt
Data for application in connection with hazardous areas		
EU-type examination certificate		PTB 02 ATEX 2086
Marking		⟨Ex⟩ II 2 (1) G Ex eb mb [ia Ga] IIC T4 Gb , ⟨Ex⟩ II 2 (1) D Ex tb [ia Da] IIIC 130 °C Db
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 , EN 60079-31:2014
International approvals		
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 tb [ia Da] IIIC 130 °C Db
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.

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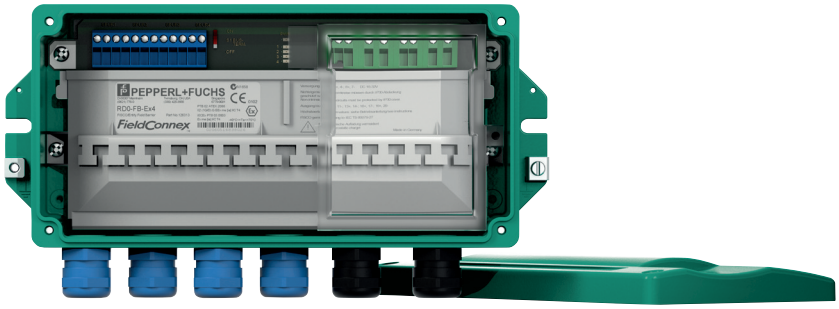
Assembly



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Additional Information

Type Code

Type of housing
F2D0 Field housing, aluminum, IP67

Type of device
FB FieldBarrier, 4 outputs Ex ia, trunk Ex e

Type of protection
Ex intrinsically safe outputs Ex ia

Number of outputs
4

Fieldbus type (omit if cable glands are used)
FF Field housing with plug connection for FOUNDATION Fieldbus
PA Field housing with plug connection for PROFIBUS PA

Connection of trunk (omit if identical with the type code in G)
CG Cable gland, plastic, M20
CGB Cable gland, nickel plated brass, M20
CGS Cable gland, stainless steel, M20
CGAB Cable gland for armored cables, nickel plated brass, M20

Connection of output cable
COM Variant without field housing, plug-in terminals
CG Cable gland, plastic, M16
CGB Cable gland, nickel plated brass, M16
CGS Cable gland, stainless steel, M16
CGAB Cable gland for armored cables, nickel plated brass, M20
CG2 Cable gland, plastic, M20
CGS2 Cable gland, stainless steel, M20
M12B Plug connection, nickel plated brass, M12 x 1
M12S Plug connection, stainless steel, M12 x 1

F2D0	-	FB	-	Ex	4	.		.		.	
A		B		C	D		E		F		G

Example:

F2D0-FB-EX4.PA.CG.M12B: FieldBarrier with aluminum housing, connection of trunk, cable gland plastic M20, 4 intrinsically safe outputs, plug connection nickel plated brass M12, pinout for PROFIBUS PA.

Note:

In order to check the availability of individual variants, contact your Pepperl+Fuchs representative.

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Dimensions and Assembly

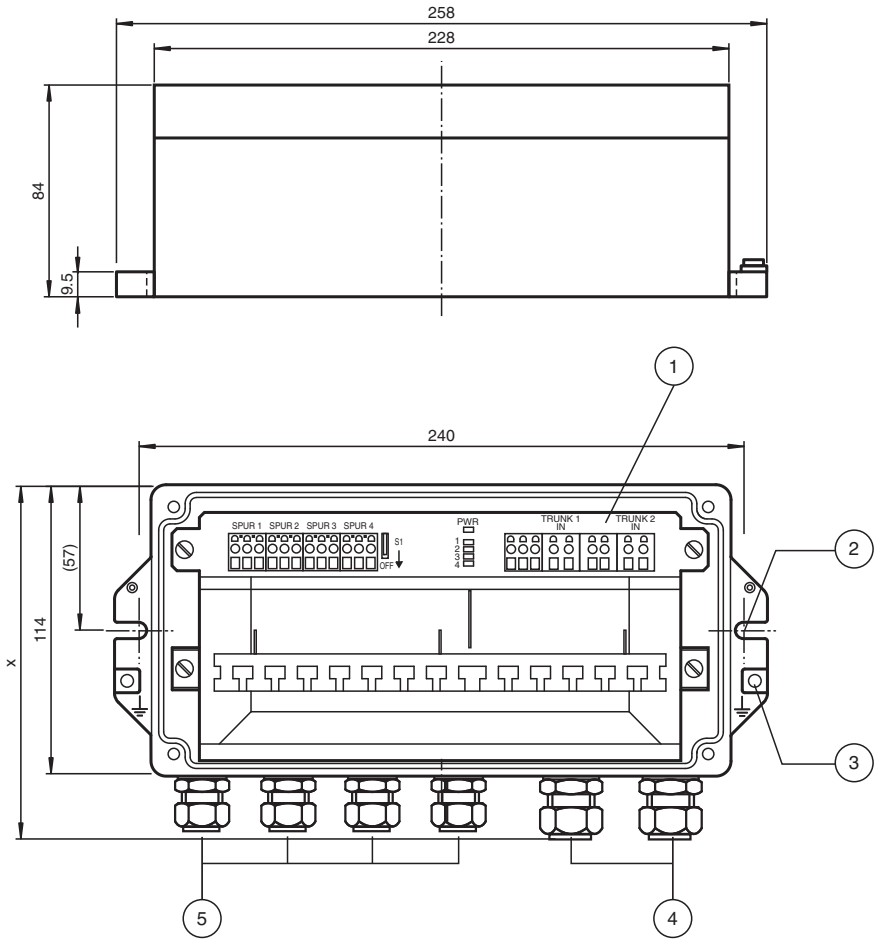

Figure 1: F2D0-FB-Ex4.*

All dimensions in millimeters.

1 For details on the component see datasheet on RD0-FB-*.
2 Notch for fixing the device housing with M6 screws
3 Grounding point
4 Trunk IN, trunk OUT, hexagon screws to be fixed with a spanner, size AF2
5 Spur outputs 1-4, hexagon screws to be fixed with a spanner, size AF1
X Height X, see Electrical Connection table 2

Installation

Fieldbus Interface

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: Maximum rated trunk input current

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Electrical Connection

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

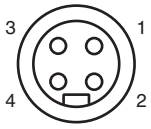
Table: Connection assignment of the terminals

The terminals 5s and 6s are connected internally with terminal 2B.
The terminals 12s, 15s, 18s and 21s are connected internally with terminal 1B.
The terminal PA is connected to the housing earthing point (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.

Pinout of Plug Connections

Outputs:

M12 x 1



7/8"

Pin	PROFIBUS PA	FOUNDATION Fieldbus
1	PA+	Data-
2	n.c. (GND)	Data+
3	PA-	Shield
4	Shield	n.c. (GND)

Note for connector variants: Outputs are always sockets (female).

Product Versions

Variations of Cable Connections, Housing Types, and Temperature Ranges

Type of connection, identification F, G	Type of cable connection	F2 housing, outside dimension "X" (mm)	SW1 (mm)	SW2 (mm)	Temperature range (°C)
CG	Terminals, cable glands plastic	140	20	24	-30 ... 70
CGB	Terminals, cable glands nickel plated brass	140	20	24	-40 ... 70
CGS	Terminals, cable glands stainless steel	140	22	24	-40 ... 70
CGAB	Terminals, cable glands nickel plated brass for armored cable	160	24	24	-40 ... 70
CG2	Terminals, cable glands plastic	140	24	24	-30 ... 70
CGS2	Terminals, cable glands stainless steel	140	24	24	-40 ... 70
M12B	Plug connection M12 x 1, nickel plated brass	135	n.a.	n.a.	-25 ... 70
M12S	Plug connection M12 x 1, stainless steel	135	n.a.	n.a.	-25 ... 70
7/8S	Plug connection 7/8", stainless steel	135	n.a.	n.a.	-40 ... 70

Cable Diameter depending on Cable Gland

Type of connection identification F, G	Output cable diameter (mm)	Trunk cable diameter (mm)
CG	5 ... 10	7 ... 12
CGB	5 ... 10	7 ... 12
CGS	5 ... 10	7 ... 12

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Type of connection identification F, G	Output cable diameter (mm)	Trunk cable diameter (mm)
CGAB	8.5 ... 16 outside 6 ... 12 inside 0 ... 1.25 armor	8.5 ... 16 outside 6 ... 12 inside 0 ... 1.25 armor
CG2	7 ... 12	7 ... 12
CGS2	7 ... 12	7 ... 12

Accessories

Socket M12 x 1:	stopping plug	VAZ-V1-B
Socket M20:	stopping plug	CG EX PLUG MT 20X
Socket 7/8":	stopping plug	V9-R-F-COV

Spare Parts

Electronic spare part for F2D0-FB-Ex4.* and F6D0-FB-Ex4.*

- SPD0-FB-Ex4, without housing, plastic cover, and plastic cord

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