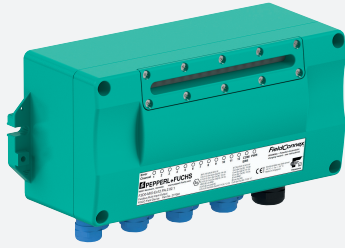


# Multi-Input/Output Device with Aluminum Housing



## F2D0-MIO-Ex12.FF.\*

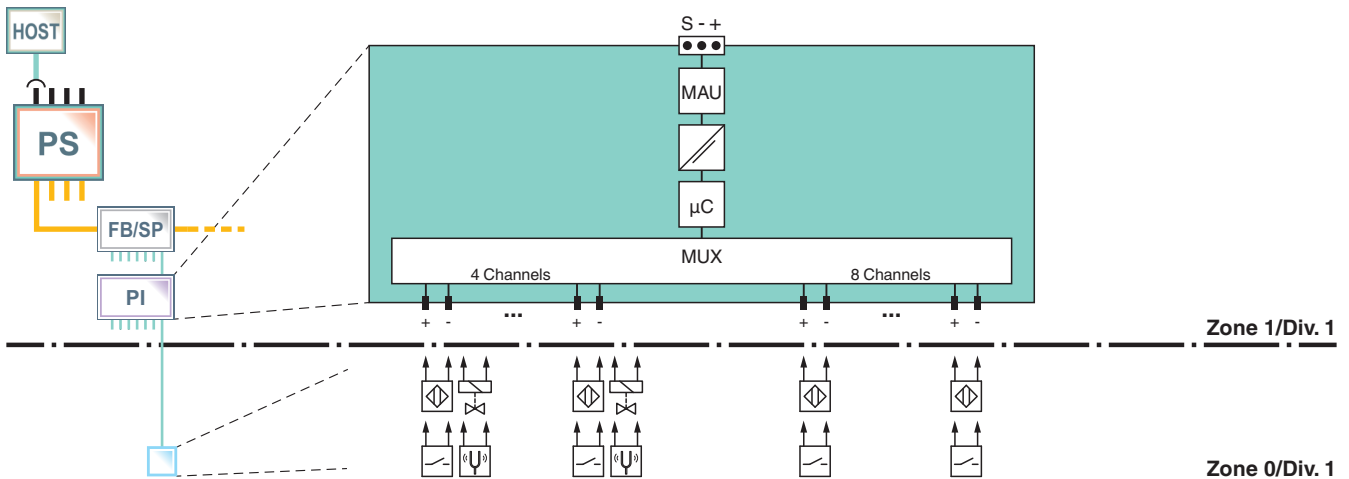
- For discrete inputs and outputs
- Aluminum cast iron, IP66
- Configurable cable entries for bus lines and field signal lines
- International approvals
- For FOUNDATION Fieldbus H1
- Installation in Zone 1/Div. 1, intrinsically safe
- Sensors in Zone 0/Div. 1
- Monitors sensor condition
- Removable terminals
- Power, Com, Diagnostics, and Error LEDs
- Test points for easy troubleshooting



### Function

This fieldbus junction box holds a multi-input/output (MIO) for transferring signals from discrete inputs and valves to the control system. The MIO offers the same functionality as the components FD0-VC-Ex\* and FD0-BI-\*. The fieldbus junction box can be installed in Zone 1/Div. 1 with sensors and actuators located in Zone 0/Div. 1. The housing, type F2, is made of sturdy cast aluminum for installation in rough environments. Fieldbus and field device entrances can be selected individually from a range of cable glands. Optionally, either screw terminals or spring terminals can be chosen.

### Connection



### Technical Data

#### General specifications

Design / Mounting	Outside installation
Electronic component	Binary multi-input/output R8D0-MIO-Ex12.FF* For technical data on installed electronic component see data sheet.
<b>Fieldbus interface</b>	
Fieldbus type	FOUNDATION Fieldbus
<b>Galvanic isolation</b>	
Foundation Fieldbus/Field circuit	safe galvanic isolation acc. to EN 60079-11, voltage peak value 375 V
<b>Directive conformity</b>	

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

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

USA: +1 330 486 0002  
pa-info@us.pepperl-fuchs.com

Germany: +49 621 776 2222  
pa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091  
pa-info@sg.pepperl-fuchs.com

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## Technical Data

Electromagnetic compatibility		
Directive 2014/30/EU		EN 61326-1:2013
Low voltage		
Directive 2014/35/EU		EN 61010-1:2010
<b>Standard conformity</b>		
Galvanic isolation		EN 60079-11
Electromagnetic compatibility		NE 21:2011
Degree of protection		IEC 60529
Fieldbus standard		IEC 61158-2
Shock resistance		EN 60068-2-27
Vibration resistance		EN 60068-2-6
<b>Ambient conditions</b>		
Ambient temperature		-40 ... 70 °C (-40 ... 158 °F) hazardous area
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
Relative humidity		≤ 95 % non-condensing
Shock resistance		15 g , 11 ms
Vibration resistance		10 g , 10 ... 150 Hz
Corrosion resistance		acc. to ISA-S71.04-1985, severity level G3
<b>Mechanical specifications</b>		
Connection type		plug-in terminals , spring terminal and screw terminal
Core cross-section		
Bus		up to 2.5 mm <sup>2</sup>
Inputs		up to 2.5 mm <sup>2</sup>
Cable diameter		see table 2
Cable gland		sensor inputs M16, fieldbus M20
Housing material		EN 1780-1 46000 , ISO AISi9Cu3(Fe) , anodized
Degree of protection		IP66
Mass		1800 g
Mounting		wall mounting
<b>Data for application in connection with hazardous areas</b>		
EU-type examination certificate		BVS 16 ATEX E 075 X
Marking		Ⓜ II 2 (1) G Ex ib [ia Ga] IIC T4 Gb , Ⓜ II 3 (1) G Ex ic [ia Ga] IIC T4 Gc , Ⓜ II 3 (1) G Ex ec [ia Ga] IIC T4 Gc , Ⓜ I (M1) [Ex ia Ma] I , Ⓜ II (1) D [Ex ia Da] IIC , Ⓜ II 2 (1) D Ex tb [ia Da] IIC T130 °C Db
Bus		FISCO see EC-Type Examination Certificate
Directive conformity		
Directive 2014/34/EU		EN 60079-0:2012 , EN 60079-7:2015 , EN 60079-11:2012 , EN 60079-31:2014
<b>International approvals</b>		
FM approval		pending
IECEx approval		IECEx BVS 16.0051X
Approved for		Ex ib [ia Ga] IIC T4 Gb , Ex ic [ia Ga] IIC T4 Gc , Ex ec [ia Ga] IIC T4 Gc , [Ex ia Ma] I , [Ex ia Da] IIC , Ex tb [ia Da] IIC T130 °C Db
<b>Certificates and approvals</b>		
Marine approval		pending
<b>General information</b>		
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 <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> .

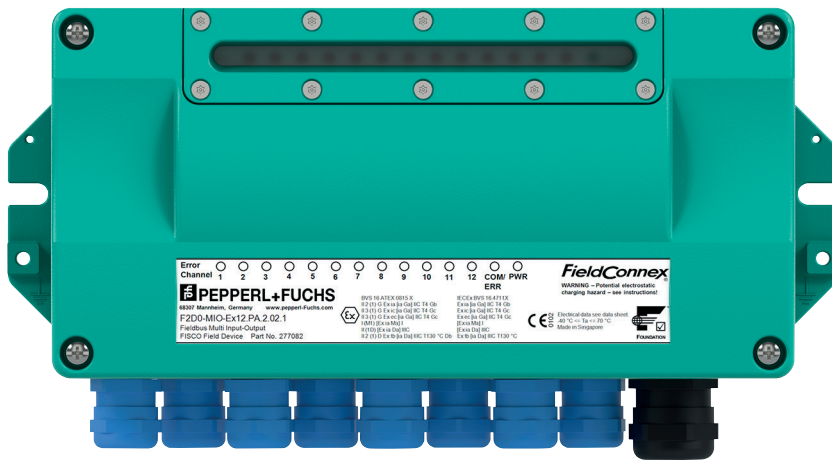
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Pepperl+Fuchs Group  
[www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)USA: +1 330 486 0002  
pa-info@us.pepperl-fuchs.comGermany: +49 621 776 2222  
pa-info@de.pepperl-fuchs.comSingapore: +65 6779 9091  
pa-info@sg.pepperl-fuchs.com

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Assembly



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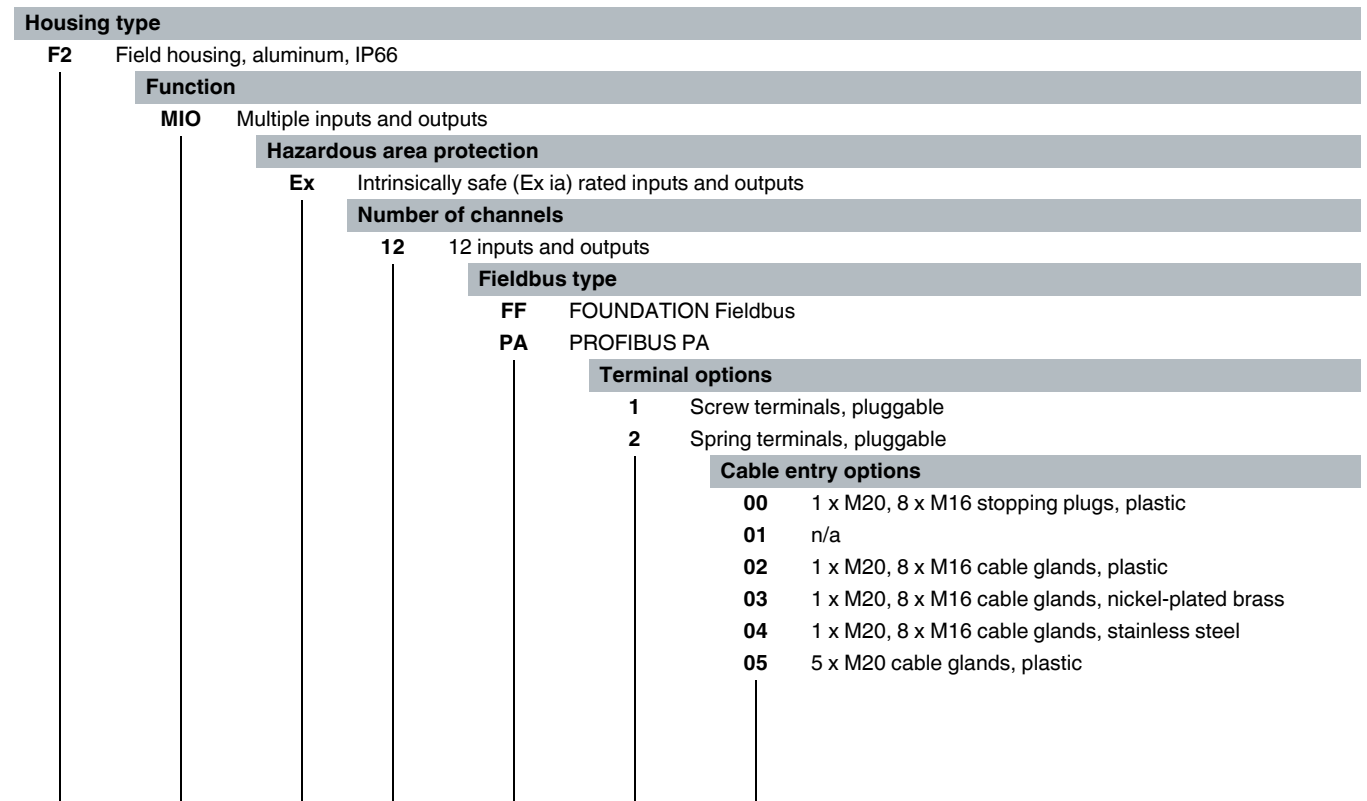
USA: +1 330 486 0002  
pa-info@us.pepperl-fuchs.com

Germany: +49 621 776 2222  
pa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091  
pa-info@sg.pepperl-fuchs.com

**PF** PEPPERL+FUCHS

**Type Code**



F2	-	D0-MIO	-	Ex	12	.	.	.	.
A	-	B	-	C	D	.	E	.	F

**Example:**

F2D0-MIO-Ex12.FF.1.02: Multi-input/output in aluminum housing with cable glands made of plastic and 12 inputs/outputs with pluggable screw terminals.

**Note:**

Contact your Pepperl+Fuchs representative to check the availability of individual variants.

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## Overview of System Components

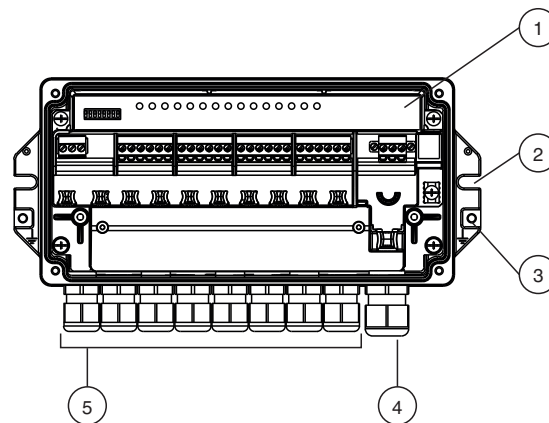


Figure 1: F2D0-MIO\*

- 1 For details on the electronic unit see datasheet on R8D0-MIO-\*
- 2 Notch for fixing the device housing with screw M6
- 3 Grounding point
- 4 Cable gland for fieldbus connection, fix with spanner, size see table 2, AF2
- 5 8 cable glands for up to 12 spur inputs/outputs, fix with spanner, size see table 2, AF1

## Dimensions

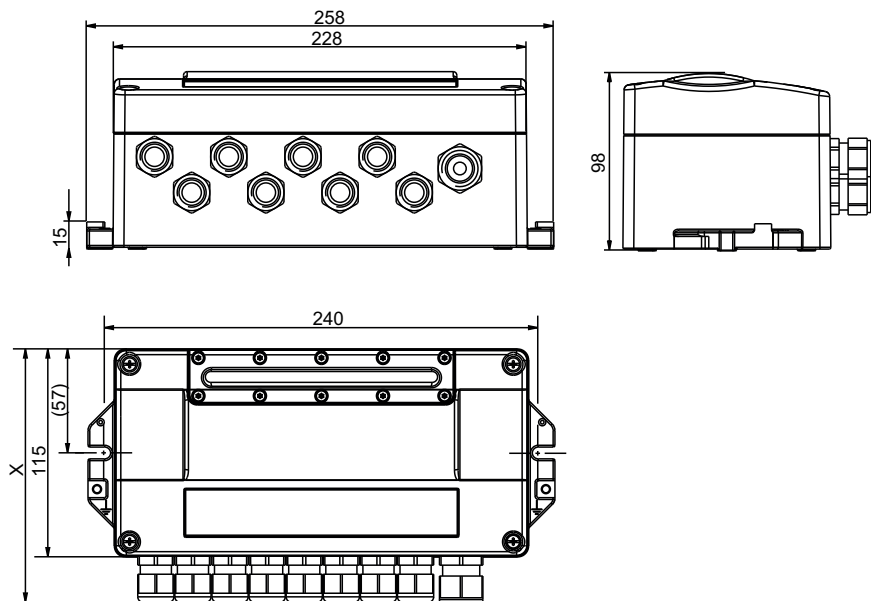


Figure 2: F2D0-MIO\* All dimensions in mm without tolerance indication.

- X** Height depending on the cable connection type used, see table 1

## Electrical Connection

Table 1: Variations of cable connections, housing types, and temperature ranges

Cable entry option	Type of cable connection	F2 housing, outside dimension "X" (mm)	Temperature range for use in hazardous area (°C)	Temperature range for use in safe area (°C)
00	M16 stopping plugs, plastic	121.5	-40 ... +70	-40 ... +70
01	n/a	--	--	--
02	M16 & M20 cable glands, plastic	146	-40 ... +70	-40 ... +70
03	M16 & M20 cable glands, nickel-plated brass	146	-40 ... +70	-40 ... +80
04	M16 & M20 cable glands, stainless steel	146	-40 ... +70	-40 ... +80
05	M20 cable glands, plastic	146	-40 ... +70	-40 ... +70

Table 2: Cable diameter depending on cable glands, spanner sizes

Cable entry option	CH1 ... CH12 Multiple Inputs/Outputs			Fieldbus		
	Description	Cable diameter (mm)	AF1 (mm)	Description	Cable diameter (mm)	AF2 (mm)
00	M16 stopping plug, plastic	--	19	M20, stopping plug, plastic	--	19
01	n/a	--	--	n/a	--	--
02	M16 cable gland, plastic	4 ... 8 mm	19	M20 cable gland, plastic	6 ... 12 mm	19
03	M16 cable gland, nickel-plated brass	4 ... 12 mm	22	M20 cable gland, nickel-plated brass	4 ... 12 mm	22
04	M16 cable gland, stainless steel	4 ... 12 mm	22	M20 cable gland, stainless steel	4 ... 12 mm	24
05	M20 cable gland, plastic	6 ... 12 mm	24	M20 cable gland, plastic	6 ... 12 mm	24