



# Intrinsically safe Ethernet Isolator

## EI-0D2-10Y-10B

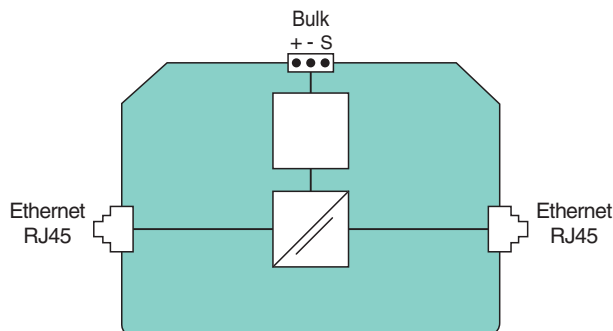
- Galvanic Isolation I.S. to non-I.S. Port
- 10/100 MBit/s according to IEEE 802.3/.3u
- Installation in Zone 2, Ethernet in Zone 1 or Zone 0
- Standard Ethernet patch or crossover cable
- DIN-Rail mounted and OEM Version



### Function

The Ethernet Isolator is an intrinsically safe isolated barrier. It enables cost effective and simple installation in hazardous areas up to Zone 0. It supports high-speed Ethernet and can be mounted in Zone 2. At each end of the trunk, an Ethernet Isolator is installed. In combination, they provide the intrinsically safe energy limitation. The Ethernet Isolator offers a wire-based alternative to wireless LAN, fiber optic solutions, and Ex e installations. In safe area applications, a single Ethernet Isolator can be used for galvanic isolation. The Ethernet Isolator is compatible with all IEEE standards. It provides high noise immunity and low heat dissipation in a compact housing.

### Connection



Zone 2/Div. 2

### Technical Data

#### Supply

Rated voltage	$U_r$	19.2 ... 35 V DC
Rated current	$I_r$	150 ... 100 mA
Power dissipation		3 W

#### Ethernet Interface

Intrinsically safe port		10 BASE-T/100 BASE-TX
Non-intrinsically safe port		10 BASE-T/100 BASE-TX
Connection type		2 x RJ-45 , IEC 60603-7
Connector pinout		socket ; TIA/EIA-568-B
Transfer rate		10/100 Mbit/s , Auto-Negotiation

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## Technical Data

Operating mode		Half/Full Duplex
Cable type		CAT5e S/FTP AWG 24, Installation cable, L/R ratio max. 10 $\mu\text{H}/\Omega$ of all strand combinations
I.S. cable length		typ. 100 m/20 °C
Total cable length		typ. 200 m/20 °C
Number of isolators		max. 2 in series connection
<b>Indicators/operating means</b>		
LED PWR		green: Power on
LED ACT		yellow: communication active
LED 10/100		yellow ON: Transfer rate 100 MBit/s , OFF: 10 MBit/s
<b>Directive conformity</b>		
Electromagnetic compatibility		
Directive 2014/30/EU		EN 61326-1:2013
<b>Standard conformity</b>		
Galvanic isolation		EN 50020
Degree of protection		IEC 60529
Climatic conditions		DIN IEC 721
Shock resistance		EN 60068-2-27
Vibration resistance		EN 60068-2-6
Ethernet		IEEE 802.3 , IEEE 802.3u
<b>Ambient conditions</b>		
Ambient temperature		-40 ... 60 °C (-40 ... 140 °F)
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
Relative humidity		$\leq 95$ % non-condensing
Shock resistance		15 g 11 ms
Vibration resistance		1 g 10 ... 150 Hz
Pollution degree		max. 2, according to IEC 60664
<b>Mechanical specifications</b>		
Connection type		Terminals
Core cross-section		up to 2.5 mm <sup>2</sup>
Housing material		Polyamide PA 66
Degree of protection		IP20 according to EN 60529
Mass		195 g
Mounting		DIN rail mounting
<b>Data for application in connection with hazardous areas</b>		
EU-Type Examination Certificate		PTB 07 ATEX 2025 X
Marking		Ⓜ II (1) G [Ex ia Ga] IIB , Ⓜ II (1) D [Ex ia Da] IIIC , Ⓜ II 3(1)G Ex nA [ia Ga] IIB T4 Gc Ⓜ II 3 (1D) G Ex nA [ia IIIC Da] IIB T4 Gc Ⓜ I (M1) [Ex ia Ma] I
Supply		
Maximum safe voltage	U <sub>m</sub>	253 V AC
Directive conformity		
Directive 2014/34/EU		EN 60079-0:2012 , EN 60079-11:2012 , EN 60079-15:2010
<b>International approvals</b>		
CSA approval		CSA 15.70016295
Control drawing		116-B032
Approved for		Class I, Zone 2, AEx/Ex nA [ia Ga] IIB T4 Gc Class I, Zone 2, AEx/Ex nA [ia Da IIIC] IIB T4 Gc
IECEx approval		IECEx PTB 09.0053X
Approved for		[Ex ia Ga] IIB [Ex ia Da] IIIC Ex nA [ia Ga] IIB T4 Gc Ex nA [ia IIIC Da] IIB T4 Gc [Ex ia Ma] I
<b>Certificates and approvals</b>		

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**Technical Data**

Patents	This product may be covered by the following patent: US7,687,791
<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> .

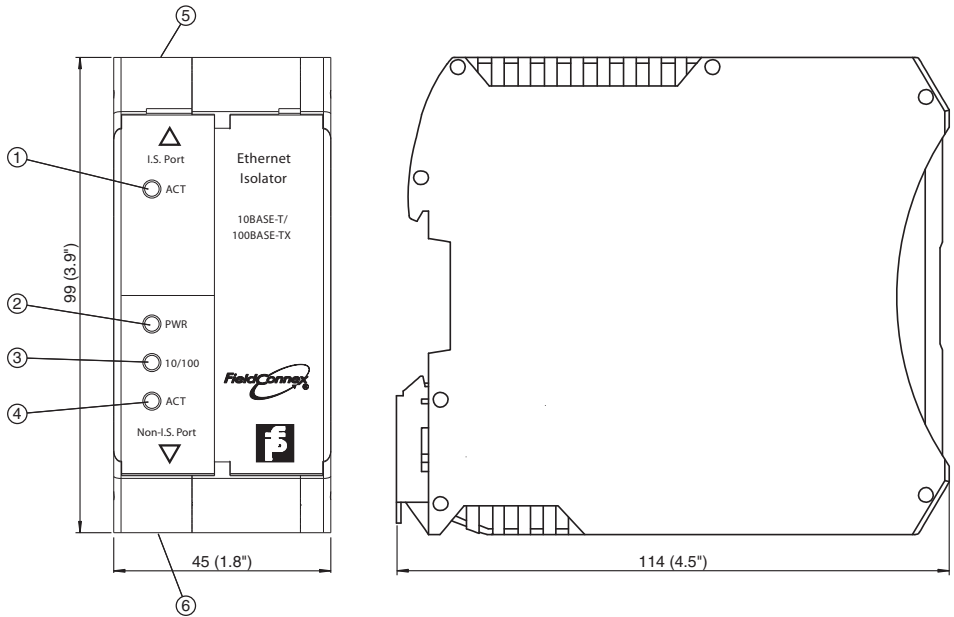
**Assembly**



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**Additional Information**

**Dimensions and Assembly**



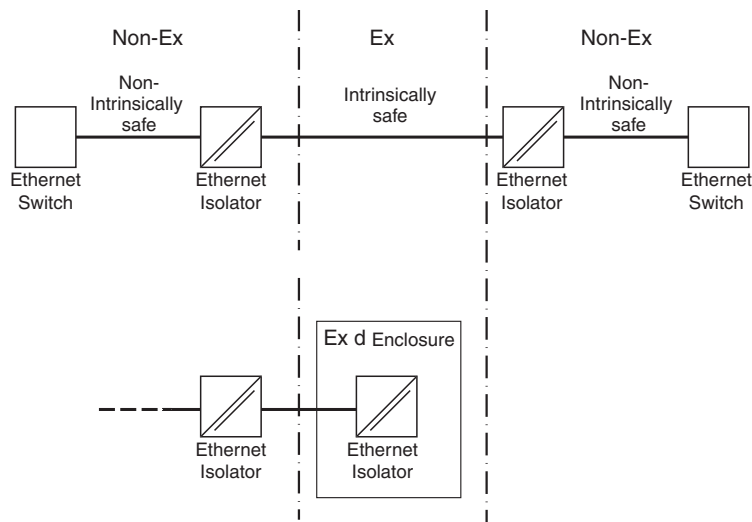
**Description:**

- 1 LED Communication active intrinsically safe port
- 2 LED Power
- 3 LED Transfer rate

- 4 LED Communication active non-intrinsically safe port
- 5 Intrinsically safe connector female
- 6 Non-Intrinsically safe connector female

**Installation**

**Examples**



Installation notes see manual.

**Ethernet Cable Overview for Interconnection**

The cross-table below gives a general idea which Ethernet cable has to be used for interconnection of two Ethernet Isolators or an Ethernet Isolator to another device.

	<b>Ethernet Isolator I.S.-port</b>	<b>Ethernet Isolator non-I.S.-port</b>
<b>Ethernet Isolator I.S.-port</b>	Crossover cable	not allowed
<b>Switched standard-port</b>	not allowed	Crossover cable
<b>Switch uplink-port</b>	not allowed	Standard patch cable
<b>Notebook</b>	not allowed	Standard patch cable
<b>Workstation</b>	not allowed	Standard patch cable

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<b>Device with auto-crossover functionality</b>	not allowed	Standard patch cable
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