

# FL ISOLATOR 1000-RJ/RJ - Network isolator

2313915

<https://www.phoenixcontact.com/us/products/2313915>



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Passive network isolator for electrical isolation in Ethernet networks. This protects Ethernet devices from potential differences of up to 4 kV. Can be used for transmission speeds of up to 1 Gbps. Possible to connect two RJ45 plugs.

## Product description

The **FL ISOLATOR** is used for electrical isolation in copper-based Ethernet networks. In industrial environments, potential differences pose a constant problem with regard to interference-free data transmission. The high-quality isolation for up to 4 kV provides reliable protection for Ethernet devices and interfaces. This results in considerably higher immunity to interference in industrial applications.

## Your advantages

- No power supply required
- Dielectric strength of up to 4 kV
- Protection against aggressive environmental influences, particularly harsh industrial environments, thanks to coated PCB
- Approval for railway applications (rolling stock) in accordance with EN 50155 and EN 50121
- Electrical isolation of data cables and cable shielding
- Extended temperature range of -25 °C ... +85 °C
- Mounting on EN DIN rails
- Transmission speed of up to 1000 Mbps
- Continuous insulation voltage of 250 VRMS
- Shipbuilding approval in accordance with DNV GL

## Commercial data

Item number	2313915
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN07
Product key	DNC332
GTIN	4046356574563
Weight per piece (including packing)	118.5 g
Weight per piece (excluding packing)	118.5 g
Customs tariff number	85176990
Country of origin	DE

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## Technical data

### Notes

#### Note on application

Note on application

Only for industrial use

### Product properties

Product type	Network isolator
MTBF	5446 Years (Telcordia standard, 25°C temperature, 21% operating cycle (5 days a week, 8 hours a day))
	2959 Years (Telcordia standard, 40°C temperature, 34.25% operating cycle (5 days a week, 12 hours a day))

### Electrical properties

Electrical isolation	Ethernet // Ethernet
Insulation voltage input/output	250 V <sub>rms</sub>
Test voltage data interface/data interface	4 kV AC (50 Hz, 1 min.)

### Connection data

Supply	
Tightening torque	0.56 Nm ... 0.79 Nm

### Interfaces

Signal	Ethernet
	PROFINET

Data: Ethernet interface, 10/100/1000Base-T(X) in accordance with IEEE 802.3

Serial transmission speed	10/100/1000 Mbps
Connection method	RJ45 jack
No. of channels	1
Transmission length	≤ 100 m (Total length across both ports (dependent on data rate and cable used))

Data: Ethernet interface, 10/100/1000Base-T(X) in accordance with IEEE 802.3

Serial transmission speed	10/100/1000 Mbps
Connection method	RJ45 jack
No. of channels	1

### Dimensions

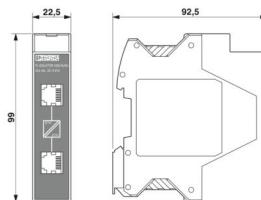
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Dimensional drawing



Width

22.5 mm

Height

99 mm

Depth

92 mm

## Material specifications

Color (Housing)	green (RAL 6021)
Material (Housing)	PA 6.6-FR

## Mechanical tests

Vibration resistance in accordance with EN 60068-2-6/IEC 60068-2-6	Vibration (operation): 5g, 10...150 Hz, 2.5 h, in XYZ direction
Shock in accordance with EN 60068-2-27/IEC 60068-2-27	Shock (operation): 25g, 11 ms period, half-sine shock pulse

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 75 °C
Ambient temperature (storage/transport)	-25 °C ... 85 °C
Altitude	≤ 5000 m (For restrictions, see the manufacturer's declaration for altitude operation)
Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	5 % ... 95 % (non-condensing)

## Approvals

### CE

Certificate	CE-compliant
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### UL, USA/Canada

Identification	508 Listed
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### Corrosive gas test

Identification	ISA-S71.04-1985 G3 Harsh Group A
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### Shipbuilding

Identification	DNV GL
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### Shipbuilding data

Temperature	B
Humidity	A

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Vibration	A
EMC	B
Enclosure	Required protection according to the Rules shall be provided upon installation on board

## EMC data

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Electrostatic discharge	
Standards/regulations	EN 61000-4-2
Electromagnetic HF field	
Standards/regulations	EN 61000-4-3
Electromagnetic HF field	
Frequency range	26 MHz ... 3 GHz (Test Level 3)
Field intensity	20 V/m
Comments	Criterion A
Fast transients (burst)	
Standards/regulations	EN 61000-4-4
Conducted interference	
Standards/regulations	EN 61000-4-6
Conducted interference	
Frequency range	0.15 MHz ... 80 MHz
Comments	Criterion A
Voltage	10 V
Emitted interference	
Standards/regulations	EN 61000-6-4
Radio interference voltage in acc. with EN 55011	Class B, area of application: Industry and residential
Emitted radio interference in acc. with EN 55011	Class B, area of application: Industry and residential

## Standards and regulations

Standards/regulations	EN 50121 and EN 50155 (for railway applications)
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## Mounting

Mounting type	DIN rail mounting
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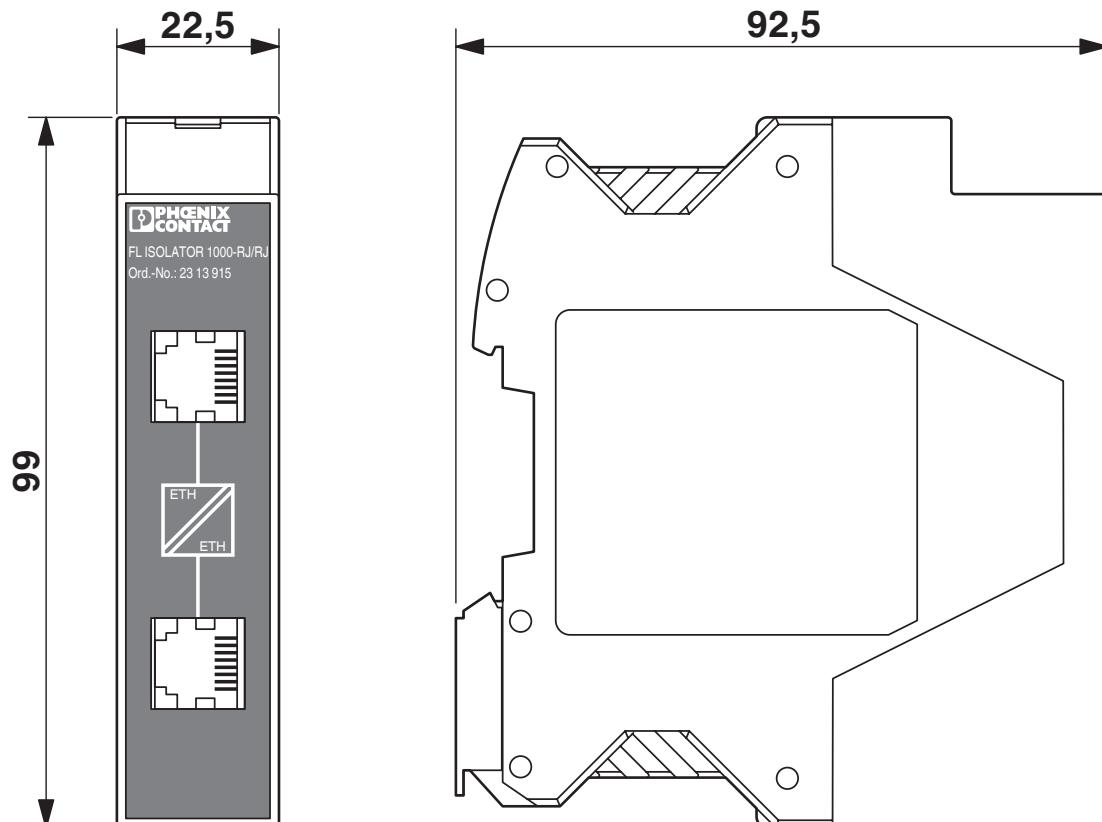
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## Drawings

Dimensional drawing



Housing dimensions

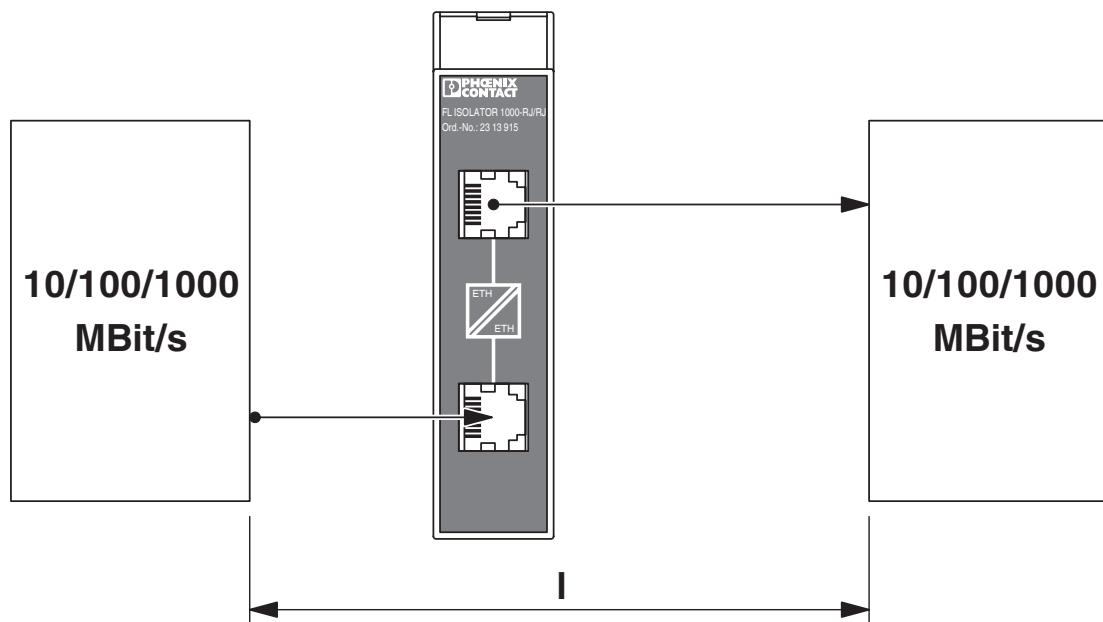
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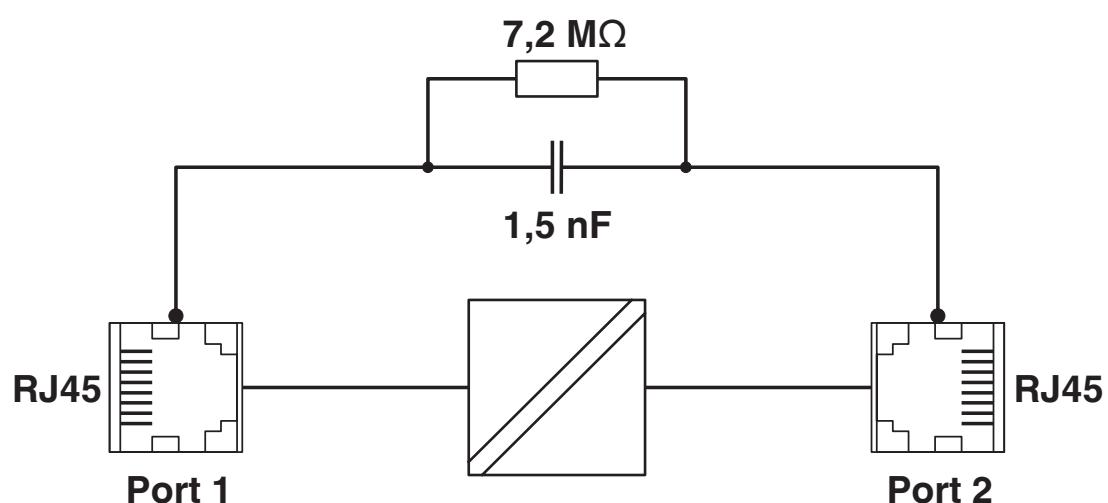
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Schematic diagram



Block diagram



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## Approvals

ⓘ To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2313915>



**DNV GL**

Approval ID: TAA00001KR



**cULus Listed**

Approval ID: E238705

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## Classifications

### ECLASS

ECLASS-13.0	27240692
ECLASS-15.0	27240692

### ETIM

ETIM 9.0	EC002584
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### UNSPSC

UNSPSC 21.0	39121400
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(c)-I

### China RoHS

Environment friendly use period (EFUP)	EFUP-50
An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.	

### EU REACH SVHC

REACH candidate substance (CAS No.)	No substance above 0.1 wt%
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