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Network isolator - FL ISOLATOR 1000-RJ/RJ - 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) according to EN 50155 and EN 50121

☑ Electrical isolation of data cables and cable shielding

☑ Extended temperature range of -25°C to +85°C

☑ Mounting on EN DIN rails

☑ Transmission speed of up to 1000 Mbps

☑ Continuous insulation voltage of 250 V_{rms}

☑ Shipbuilding approval in accordance with DNV GL

RoHS   PROFINET   Modbus   dnp Distributed Network Protocol

Key Commercial Data

Packing unit	1 pc
GTIN	4 046356 574563
GTIN	4046356574563
Weight per Piece (excluding packing)	119.000 g
Custom tariff number	85437090
Country of origin	Germany

Technical data

Dimensions

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Technical data

Dimensions

Width	22.5 mm
Height	99 mm
Depth	92 mm

Ambient conditions

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

General

Electrical isolation	Ethernet // Ethernet
Test voltage data interface/data interface	4 kV AC (50 Hz, 1 min.)
Insulation voltage input/output	250 V_{rms}
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Net weight	119 g
Housing material	PA 6.6-FR
Color	green
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))

Interfaces

Interface 1	Ethernet interface, 10/100/1000Base-T(X) according to IEEE 802.3u
Interface	Ethernet
No. of ports	1
Connection method	RJ45 socket, shielded
Transmission length	$\leq$ 100 m (Total length across both ports (dependent on data rate and cable used))
Serial transmission speed	10/100/1000 Mbps
Interface 2	Ethernet interface, 10/100/1000Base-T(X) according to IEEE 802.3u
Interface	Ethernet
No. of ports	1
Connection method	RJ45 socket, shielded
Serial transmission speed	10/100/1000 Mbps

Conformance/approvals

Designation	EAC
Identification	EAC
Designation	UL, USA/Canada

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Conformance/approvals

Identification	508 Listed
Designation	Corrosive gas test
Identification	ISA-S71.04-1985 G3 Harsh Group A
Designation	Shipbuilding
Identification	DNV GL
Temperature	B
Humidity	A
Vibration	A
EMC	B
Enclosure	Required protection according to the Rules shall be provided upon installation on board

Standards and Regulations

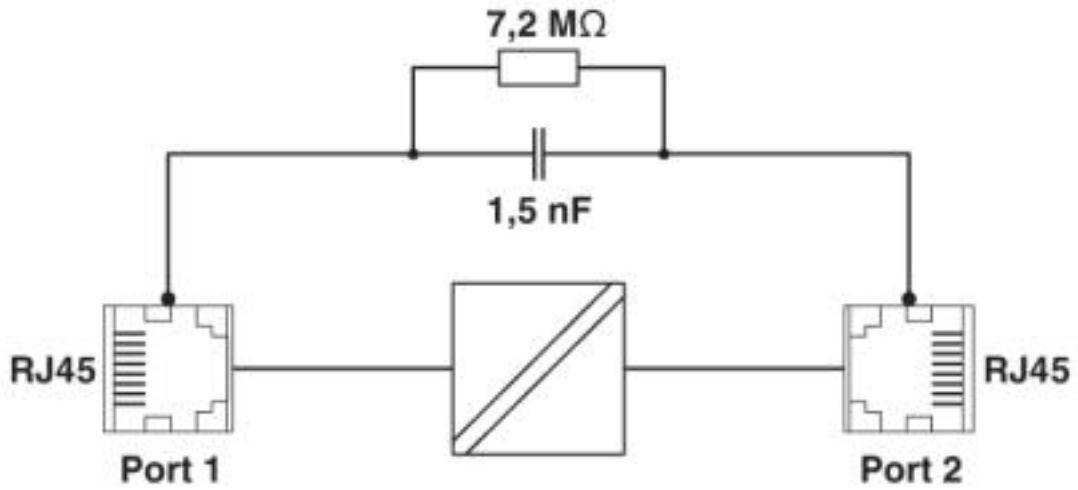|	
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Type of test	Vibration resistance in acc. with EN 60068-2-6/IEC 60068-2-6
Test result	5g, 10...150 Hz, 2.5 h, in XYZ direction
Type of test	Shock in acc. with EN 60068-2-27/IEC 60068-2-27
Test result	25g, 11 ms period, half-sine shock pulse
Standards/regulations	EN 61000-4-2
	EN 61000-4-3
Frequency range	26 MHz ... 3 GHz (Test Level 3)
Standards/regulations	EN 61000-4-4
	EN 61000-6-4
	EN 61000-4-6
Frequency range	0.15 MHz ... 80 MHz
Standards/regulations	EN 50121 and EN 50155 (for railway applications)

Environmental Product Compliance

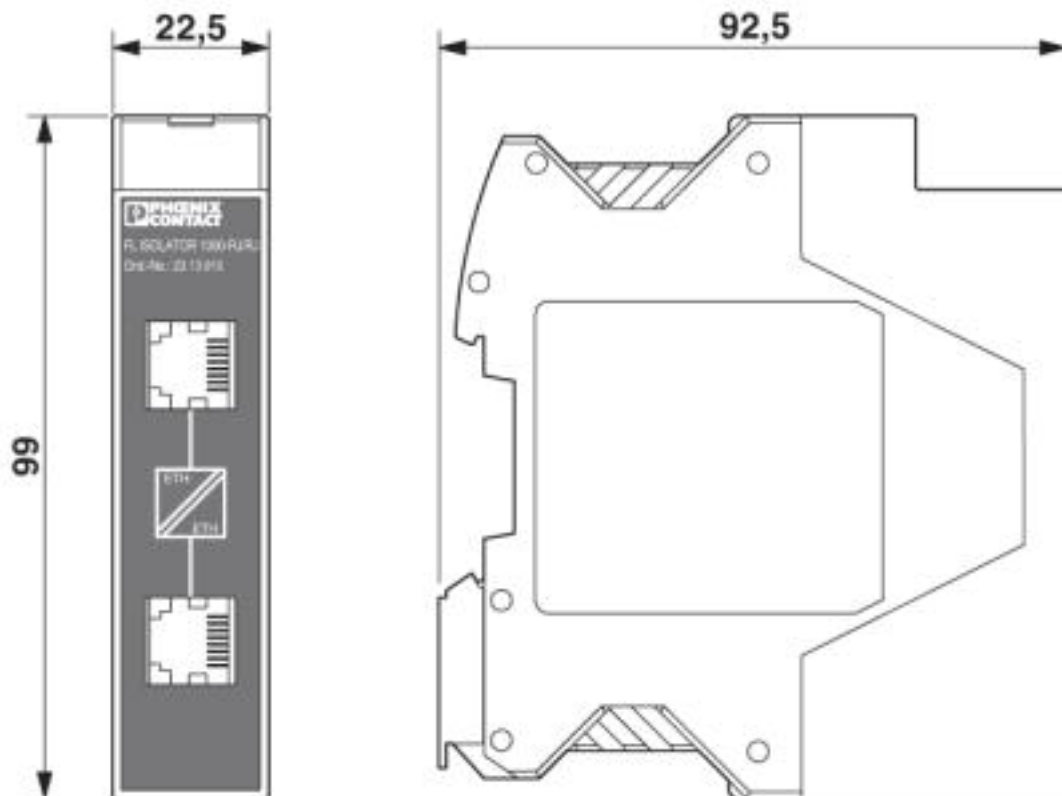|	
China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

Drawings

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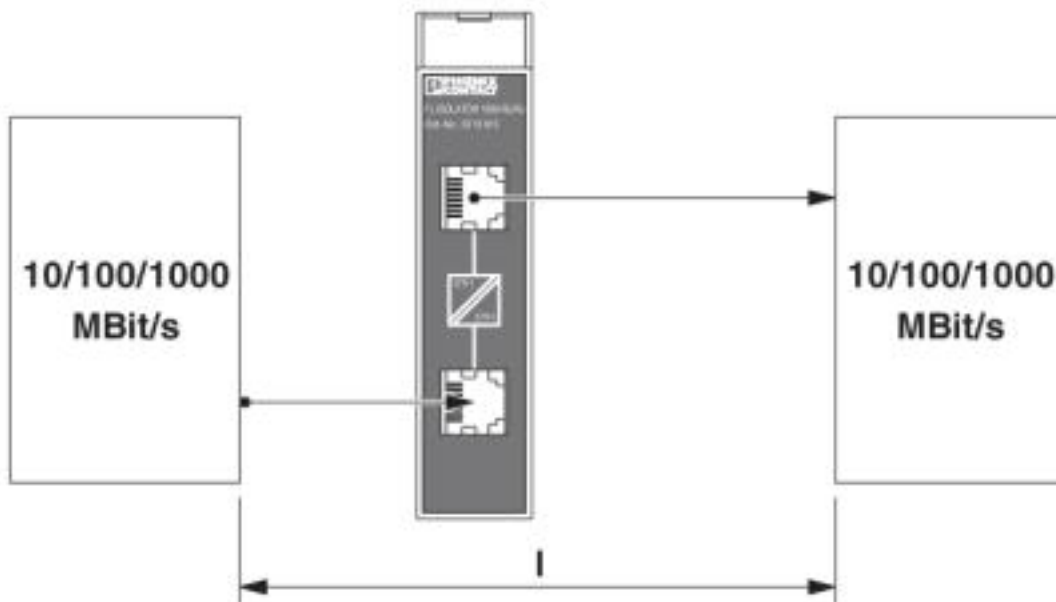# Network isolator - FL ISOLATOR 1000-RJ/RJ - 2313915

Block diagram

Dimensional drawing

Network isolator - FL ISOLATOR 1000-RJ/RJ - 2313915

Schematic diagram

Classifications

eCl@ss

eCl@ss 4.0	27250500
eCl@ss 4.1	27230200
eCl@ss 5.0	27061800
eCl@ss 5.1	27061800
eCl@ss 6.0	27249200
eCl@ss 7.0	27249290
eCl@ss 8.0	27249290
eCl@ss 9.0	27240692

ETIM

ETIM 3.0	EC000313
ETIM 4.0	EC000467
ETIM 5.0	EC002584
ETIM 6.0	EC002584
ETIM 7.0	EC002584

UNSPSC

UNSPSC 6.01	26121607
UNSPSC 7.0901	26121607
UNSPSC 11	26121607
UNSPSC 12.01	26121607
UNSPSC 13.2	39121552
UNSPSC 18.0	39121552

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Classifications

UNSPSC

UNSPSC 19.0	39121552
UNSPSC 20.0	39121552
UNSPSC 21.0	39121552

Approvals

Approvals

Approvals

DNV GL / UL Listed / cUL Listed / EAC / cULus Listed

Ex Approvals

Approval details

DNV GL		https://approvalfinder.dnvgl.com/	TAA00001KR

UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705

cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705

EAC			RU *-DE.A*30.B.01735

cULus Listed			

Accessories

Accessories

Network isolator

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Accessories

Network isolator - FL ISOLATOR 100-RJ/SC - 2313928

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 100 Mbps. Connection using RJ45 and COMBICON plug-in screw terminal block.

Network isolator - FL ISOLATOR 100-RJ/RJ - 2313931

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 100 Mbps. Possible to connect two RJ45 plugs.

Network isolator - FL ISOLATOR 100-M12 - 2902985

Passive network isolator for electrical isolation in Ethernet networks. For the protection of Ethernet devices against potential differences of up to 4 kV. Can be used for transmission speeds of up to 100 Mbps. Ethernet connection via two M12 sockets (D-coded).

Patch cable

Patch cable - FL CAT5 PATCH 0,3 - 2832250

Patch cable, CAT5, assembled, 0.3 m

Patch cable - FL CAT5 PATCH 0,5 - 2832263

Patch cable, CAT5, assembled, 0.5 m

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Accessories

Patch cable - FL CAT5 PATCH 1,0 - 2832276

Patch cable, CAT5, assembled, 1 m

Patch cable - FL CAT5 PATCH 1,5 - 2832221

Patch cable, CAT5, assembled, 1.5 m

Patch cable - FL CAT5 PATCH 2,0 - 2832289

Patch cable, CAT5, assembled, 2 m

Patch cable - FL CAT5 PATCH 3,0 - 2832292

Patch cable, CAT5, assembled, 3 m

Patch cable - FL CAT6 PATCH 0,3 - 2891181

Patch cable, CAT6, pre-assembled, 0.3 m

Network isolator - FL ISOLATOR 1000-RJ/RJ - 2313915

Accessories

Patch cable - FL CAT6 PATCH 0,5 - 2891288

Patch cable, CAT6, pre-assembled, 0.5 m

Patch cable - FL CAT6 PATCH 1,0 - 2891385

Patch cable, CAT6, pre-assembled, 1.0 m

Patch cable - FL CAT6 PATCH 1,5 - 2891482

Patch cable, CAT6, pre-assembled, 1.5 m

Patch cable - FL CAT6 PATCH 2,0 - 2891589

Patch cable, CAT6, pre-assembled, 2.0 m

Patch cable - FL CAT6 PATCH 3,0 - 2891686

Patch cable, CAT6, pre-assembled, 3.0 m

Patch panel

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Accessories

Patch panels - FL CAT5 TERMINAL BOX - 2744610

Patch panel, one RJ45 socket to 4 screw connection terminal blocks (assignment 1, 2, 3, 6), CAT5e, 10/100 Mbps, DIN rail mounting, IP20, shield contacting on DIN rail

Patch panels - PP-RJ-RJ - 2703015

Patch panel, two RJ45 sockets, 10/100/1000 Mbps, DIN rail mounting, IP20

Patch panels - PP-RJ-SC - 2703016

Patch panel, RJ45 socket on screw terminal blocks, 10/100/1000 Mbps, DIN rail mounting, IP20, shield contacting with strain relief

Patch panels - PP-RJ-SCC - 2703018

Patch panel, RJ45 socket on Push-in terminal blocks, 10/100/1000 Mbps, DIN rail mounting, IP20, shield contacting with strain relief

Patch panels - PP-RJ-IDC - 2703019

Patch panel, RJ45 socket on IDC terminal blocks, 10/100/1000 Mbps, DIN rail mounting, IP20, shield contacting with strain relief

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Accessories

Patch panels - PP-RJ-RJ-F - 2703020

Patch panel, two RJ45 sockets, 10/100/1000 Mbps, DIN rail mounting, IP20, shield current monitoring, surge protection

Patch panels - PP-RJ-SC-F - 2703021

Patch panel, RJ45 socket on screw terminal blocks, 10/100/1000 Mbps, DIN rail mounting, IP20, shield contacting with strain relief, shield current monitoring, surge protection

Patch panels - PP-RJ-SCC-F - 2703022

Patch panel, RJ45 socket on Push-in terminal blocks, 10/100/1000 Mbps, DIN rail mounting, IP20, shield contacting with strain relief, shield current monitoring, surge protection

Patch panels - PP-RJ-IDC-F - 2703023

Patch panel, RJ45 socket on IDC terminal blocks, 10/100/1000 Mbps, DIN rail mounting, IP20, shield contacting with strain relief, shield current monitoring, surge protection

Patch panels - FL-PP-RJ45-LSA - 2901645

Patch panel, one RJ45 socket to 8 IDC connection terminal blocks (1:1 assignment), CAT5e, 10/100/1000 Mbps, DIN rail mounting, IP20, option of shield contacting on DIN rail via jumpers

Network isolator - FL ISOLATOR 1000-RJ/RJ - 2313915

Accessories

Patch panels - FL-PP-RJ45/RJ45-B - 2904933

Patch panel, narrow design width, extended temperature range, two RJ45 sockets, 1:1 assignment, consistent shield, CAT5e, 10/100 Mbps, DIN rail mounting, IP20