FL ISOLATOR 100-M12 - Network isolator

2902985

https://www.phoenixcontact.com/gb/products/2902985

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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).

Product description

The FL ISOLATOR 100-M12 has been specifically developed for use in the railway industry. Featuring M12 connection technology and optional wall mounting, this network isolator can be used flexibly.

Your advantages

- No power supply required
- Dielectric strength of up to 4 kV
- Continuous insulation voltage of 250 VRMS
- 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
- Wall mounting
- Extended temperature range of -40 °C ... +75 °C

Commercial data

Item number	2902985
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DNC332
Product key	DNC332
Catalog page	Page 365 (C-6-2019)
GTIN	4046356727815
Weight per piece (including packing)	145.7 g
Weight per piece (excluding packing)	149.6 g
Customs tariff number	85176990
Country of origin	DE

Technical data

Product properties

Product type	Network isolator
MTTF	18372 Years (SN 29500 standard, temperature 25°C, operating cycle 21%)
	13381 Years (SN 29500 standard, temperature 40°C, operating cycle 34.25%)
	3348 Years (SN 29500 standard, temperature 40°C, operating cycle 100%)
MTBF	38062 Years (Telcordia standard, 25°C temperature, 21% operating cycle (5 days a week, 8 hours a day))
	12264 Years (Telcordia standard, 40°C temperature, 34.25% operating cycle (5 days a week, 12 hours a day))

Electrical properties

Electrical isolation	Port X1//port X2
Insulation voltage input/output	250 V_{rms}
Test voltage data interface/data interface	4 kV AC (50 Hz, 1 min.)

Supply

Supply voltage range	passive module, no supply voltage required

Interfaces

Signal	Ethernet
	PROFINET

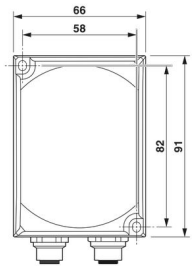
Data: Ethernet interface, 10/100Base-T(X) in accordance with IEEE 802.3

Serial transmission speed	10/100 Mbps
Connection method	M12 connectors (D-coded, female)
No. of channels	1
Tightening torque	≤ 2 Nm
Transmission length	≤ 100 m (Total length across both ports (dependent on data rate and cable used))
Protocols supported	Transparent protocol for IPv4 and IPv6

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

Connection method	M12 connectors (D-coded, female)
No. of channels	1

Dimensions

Dimensional drawing	
Width	66 mm
Height	91 mm
Depth	34 mm

Material specifications

Color (Housing)	black (RAL 9005)
Material Upper part	Polycarbonate PC
Material Lower part	PC/ABS

Cable/line

Shielding	no connection to protective earth ground (PE)
	capacitive isolation between both shield connections

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP54
Ambient temperature (operation)	-40 °C ... 75 °C (85°C for 10 min.; thereafter function can no longer be guaranteed - check device)
Ambient temperature (storage/transport)	-40 °C ... 75 °C
Altitude	≤ 5000 m (For restrictions, see the manufacturer's declaration for altitude operation)
Permissible humidity (operation)	10 % ... 95 %
Permissible humidity (storage/transport)	5 % ... 95 %

Approvals

CE

Certificate	CE-compliant

Corrosive gas test

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

EMC data

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU

Fast transients (burst)

Standards/regulations	EN 61000-4-4

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

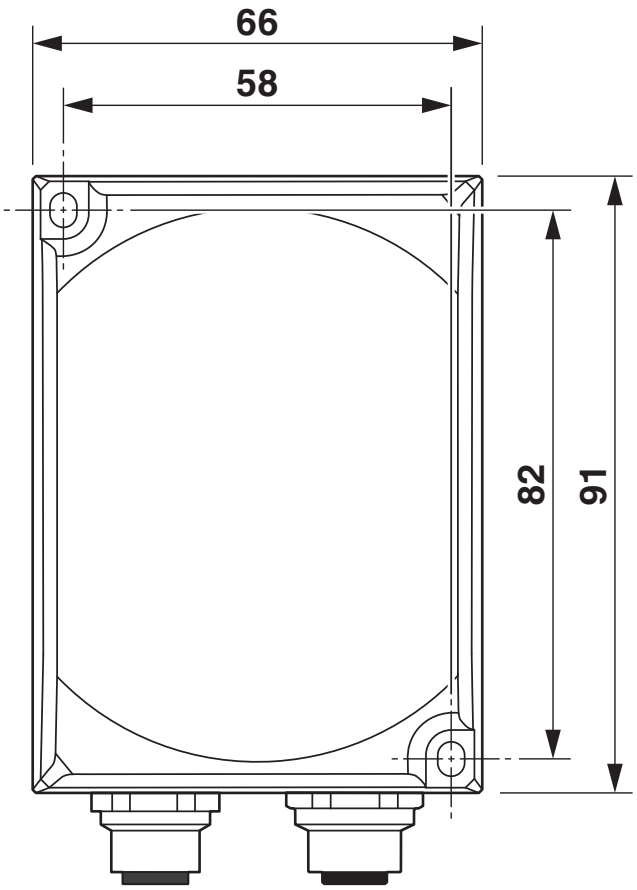
Standards/regulations	EN 50121 and EN 50155 (for railway applications)
	IEC 60571
	IEC 62368
	Suitable in accordance with SELV EN 50153

Mounting

Mounting type	Wall mounting
Mounting position	Wall mounting

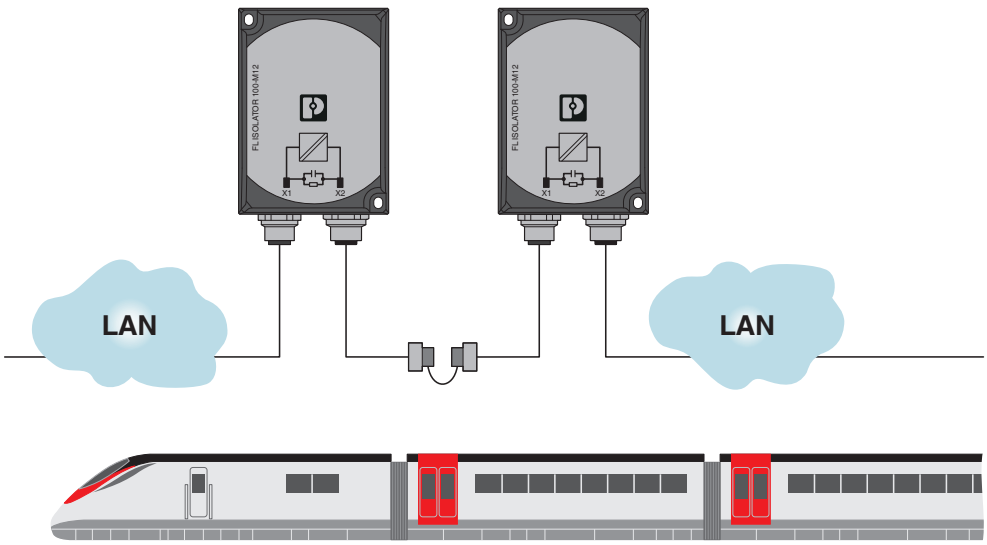
Drawings

Dimensional drawing



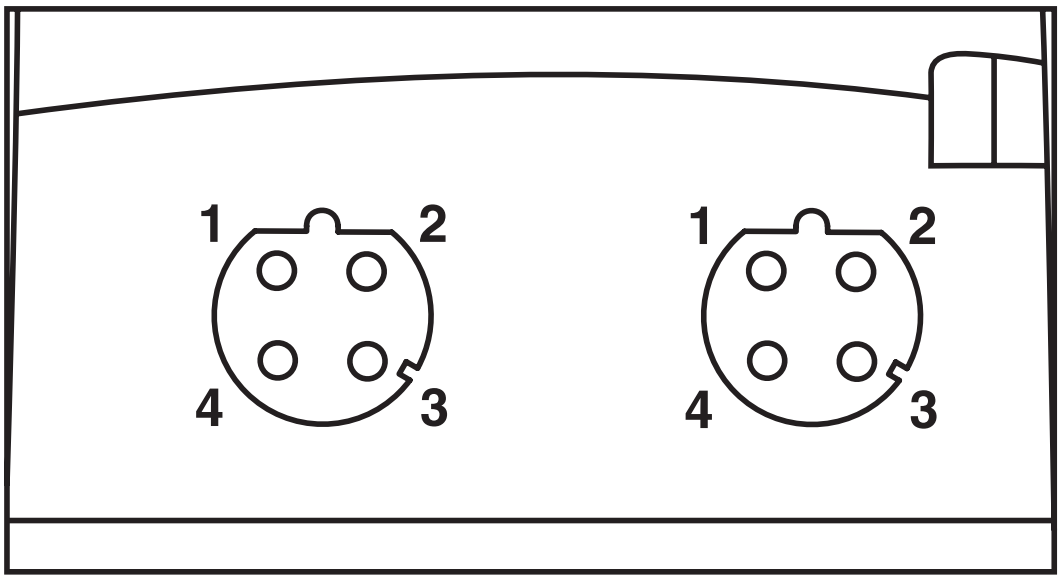
Dimensions and drill hole spacing in mm

Schematic diagram



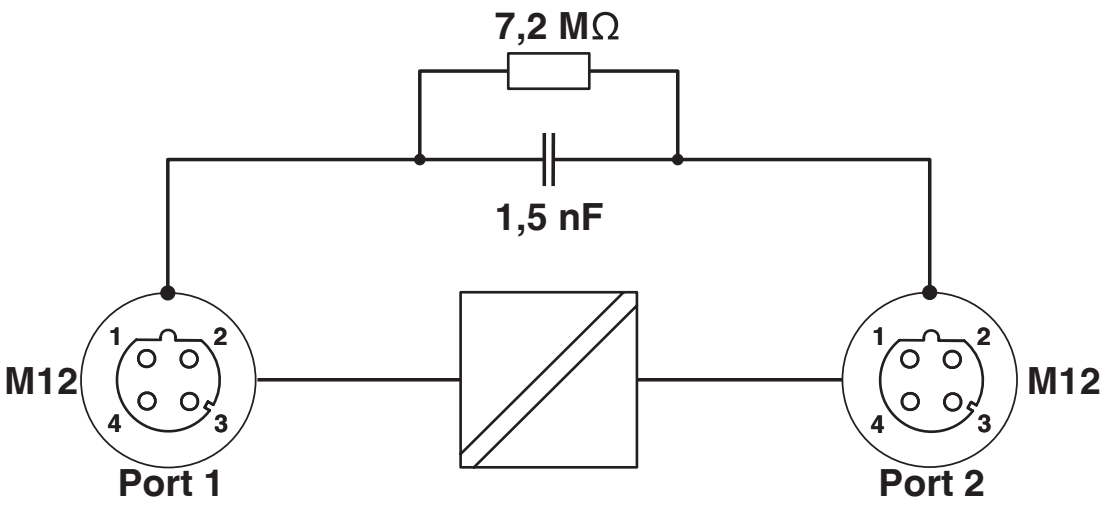
Railway application: isolation of train sections

Schematic diagram



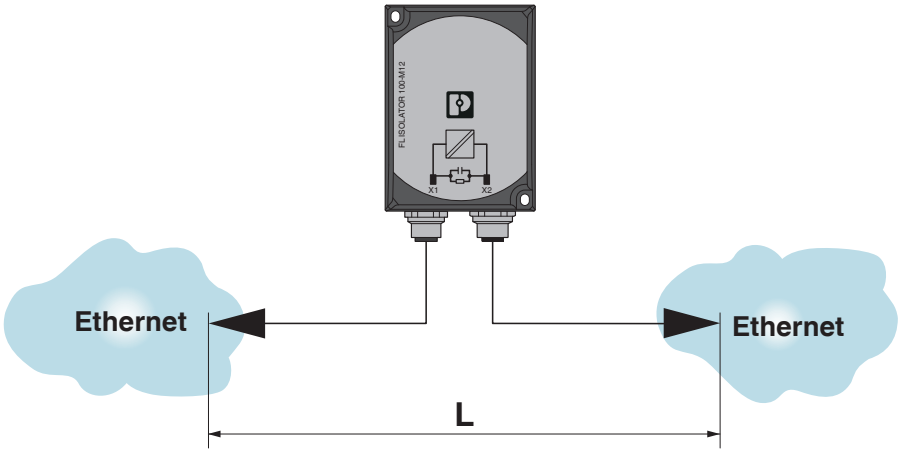
View from below

Block diagram



Basic circuit diagram

Application drawing



Classifications

ECLASS

ECLASS-11.0	27240692
ECLASS-13.0	27240692
ECLASS-12.0	27240692

ETIM

ETIM 9.0	EC002584

UNSPSC

UNSPSC 21.0	39121400

Environmental product compliance

REACh SVHC	Lead 7439-92-1

China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer’s declaration available under “Downloads”

Accessories

FL ISOLATOR 100-RJ/RJ - Network isolator

2313931

https://www.phoenixcontact.com/gb/products/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.

FL ISOLATOR 1000-RJ/RJ - Network isolator

2313915

https://www.phoenixcontact.com/gb/products/2313915



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.

PP-RJ-RJ - Patch panel

2703015

https://www.phoenixcontact.com/gb/products/2703015



Patch panel, two RJ45 jacks, 10/100/1000 MBps, DIN rail adapter, IP20

PP-RJ-SC - Patch panel

2703016

https://www.phoenixcontact.com/gb/products/2703016



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

PP-RJ-SCC - Patch panel

2703018

https://www.phoenixcontact.com/gb/products/2703018



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

PP-RJ-IDC - Patch panel

2703019

https://www.phoenixcontact.com/gb/products/2703019



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

PP-RJ-RJ-F - Patch panel

2703020

https://www.phoenixcontact.com/gb/products/2703020



Patch panel, two RJ45 jacks, 10/100/1000 MBps, DIN rail adapter, IP20, shield current monitoring, surge protection

PP-RJ-SC-F - Patch panel

2703021

https://www.phoenixcontact.com/gb/products/2703021



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

PP-RJ-SCC-F - Patch panel

2703022

https://www.phoenixcontact.com/gb/products/2703022



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

PP-RJ-IDC-F - Patch panel

2703023

https://www.phoenixcontact.com/gb/products/2703023



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

FL-PP-RJ45-LSA - Patch panel

2901645

https://www.phoenixcontact.com/gb/products/2901645



Patch panel, one RJ45 jack to 8 LSA connection terminal blocks (1:1 assignment), CAT5e, 10/100/1000 Mbps, DIN rail adapter, IP20, option of shield contacting to the DIN rail via bridges

FL-PP-RJ45/RJ45-B - Patch panel

2904933

https://www.phoenixcontact.com/gb/products/2904933



Patch panel, narrow overall width, extended temperature range, two RJ45 jacks, 1:1 assignment, all-around shield, CAT5, 10/100 Mbps, DIN rail adapter, IP20

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FL EPA RMS - DIN rail adapter

2701133

https://www.phoenixcontact.com/gb/products/2701133

Set for mounting devices with EPA design on a DIN rail



NBC-MSD/ 2,0-93E/R4RC SCO - Network cable

1407369

https://www.phoenixcontact.com/gb/products/1407369



Network cable, Ethernet CAT5 (100 Mbps), 4-position, PUR halogen-free, water blue RAL 5021, shielded (Aluminum-coated foil, tinned copper braided shield), Plug straight M12 SPEEDCON, coding: D / IP67, on Plug straight RJ45 Push Pull / IP67, cable length: 2 m

NBC-MSD/ 2,0-93E/R4QC SCO - Network cable

1407373

https://www.phoenixcontact.com/gb/products/1407373



Network cable, Ethernet CAT5 (100 Mbps), 4-position, PUR halogen-free, water blue RAL 5021, shielded (Aluminum-coated foil, tinned copper braided shield), Plug straight M12 SPEEDCON, coding: D / IP67, on Plug straight RJ45 Push Pull / IP67, cable length: 2 m

NBC-M12MSD/ 2,0-93E/R4AC - Network cable

1407361

https://www.phoenixcontact.com/gb/products/1407361



Network cable, Ethernet CAT5 (100 Mbps), 4-position, PUR halogen-free, water blue RAL 5021, shielded (Aluminum-coated foil, tinned copper braided shield), Plug straight M12, coding: D / IP67, on Plug straight RJ45 / IP20, cable length: 2 m

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NBC-M12MSD/ 2,0-93B CMC - Network cable

1524307

https://www.phoenixcontact.com/gb/products/1524307



Network cable, PROFINET CAT5 (100 Mbps), EtherCAT® CAT5 (100 Mbps), 4-position, PVC/PVC, green RAL 6018, shielded (Aluminum-coated foil, tinned copper braided shield), Plug straight M12, coding: D / IP67, on free cable end, cable length: 2 m

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