

Network isolator - FL ISOLATOR 100-M12



2902985

<https://www.phoenixcontact.com/pc/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) according to 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
Product Key	DNC332
Catalog Page	Page 365 (C-6-2019)
GTIN	4046356727815
Weight per Piece (including packing)	151.8 g
Weight per Piece (excluding packing)	149.6 g
Customs tariff number	85045000
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
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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

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Dimensional drawing	
Width	66 mm
Height	91 mm
Depth	34 mm

Material specifications

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

Cable / line

Shielding	No connection to protective earth ground (PE) Capacitive isolation between both shield connections
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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 %

Approval data

CE

Certificate	CE-compliant
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Corrosive gas test

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

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
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Fast transients (burst)

Standards/regulations	EN 61000-4-4
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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
	Data cables in accordance with SELV EN 50153 and IEC 60950-1.

Mounting

Mounting type	Wall mounting
Mounting position	Wall mounting

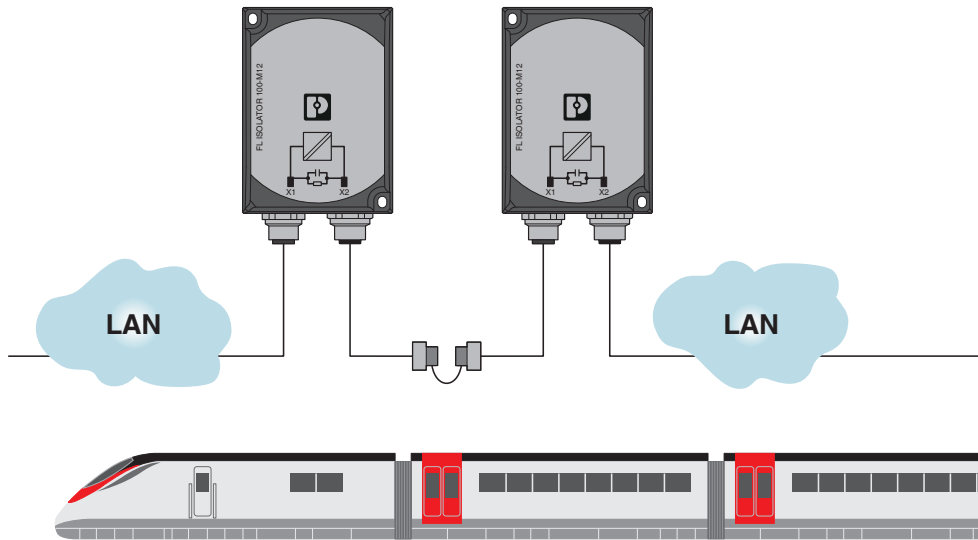
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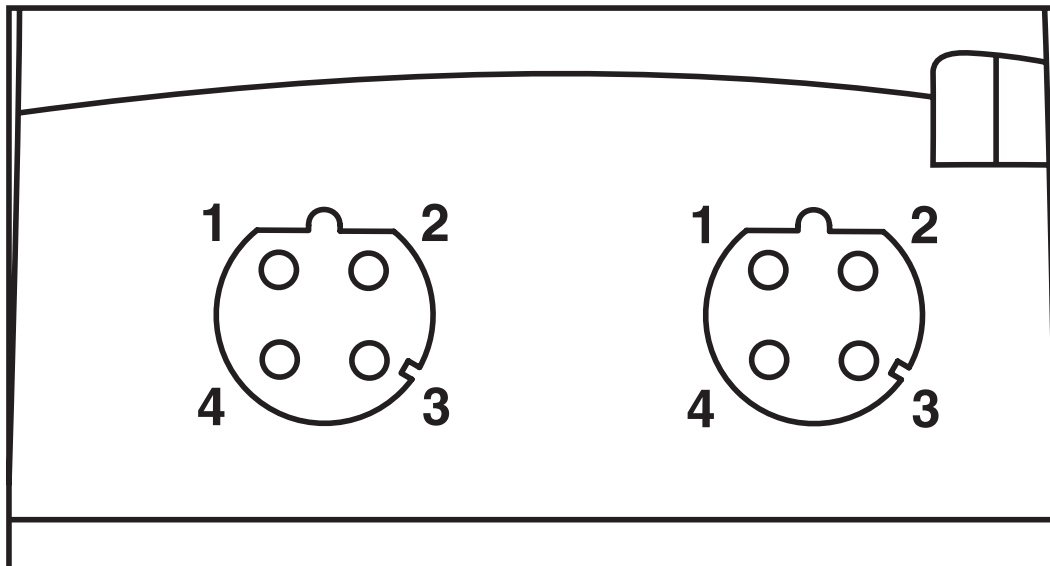
Drawings

Schematic diagram



Railway application: isolation of train sections

Schematic diagram

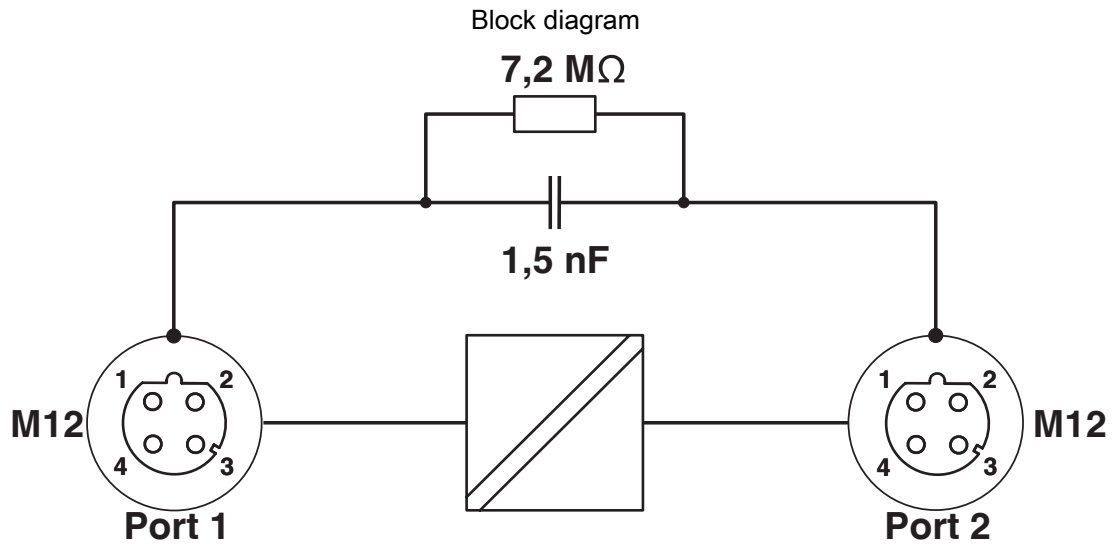


View from below

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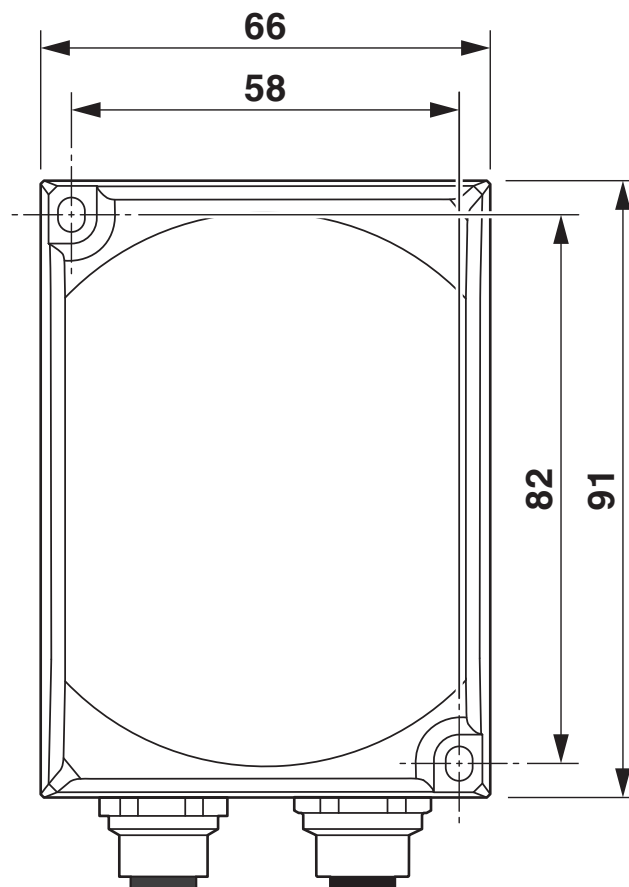
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Basic circuit diagram

Dimensional drawing



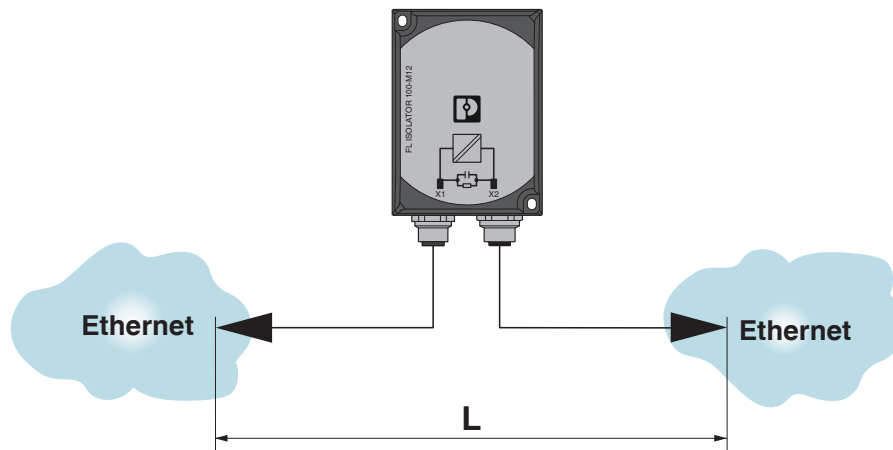
Dimensions and drill hole spacing in mm

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Application drawing



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Classifications

ECLASS

ECLASS-9.0	27240692
ECLASS-10.0.1	27240692
ECLASS-11.0	27240692

ETIM

ETIM 8.0	EC002584
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UNSPSC

UNSPSC 21.0	39121400
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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"

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Accessories

Network isolator

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

<https://www.phoenixcontact.com/pc/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.

Network isolator

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

<https://www.phoenixcontact.com/pc/products/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.

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Network isolator

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

<https://www.phoenixcontact.com/pc/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.

Patch panels

Patch panels - PP-RJ-RJ - 2703015

<https://www.phoenixcontact.com/pc/products/2703015>



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

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Patch panels

Patch panels - PP-RJ-SC - 2703016

<https://www.phoenixcontact.com/pc/products/2703016>



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

Patch panels

Patch panels - PP-RJ-SCC - 2703018

<https://www.phoenixcontact.com/pc/products/2703018>



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

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Patch panels

Patch panels - PP-RJ-IDC - 2703019

<https://www.phoenixcontact.com/pc/products/2703019>



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

Patch panels

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

<https://www.phoenixcontact.com/pc/products/2703020>



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

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Patch panels

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

<https://www.phoenixcontact.com/pc/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

Patch panels

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

<https://www.phoenixcontact.com/pc/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

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Patch panels

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

<https://www.phoenixcontact.com/pc/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

Patch panels

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

<https://www.phoenixcontact.com/pc/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

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Patch panels

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

<https://www.phoenixcontact.com/pc/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

DIN rail adapter

DIN rail adapter - FL EPA RMS - 2701133

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Set for mounting devices with EPA design on a DIN rail



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Network cable

Network cable - NBC-MSD/ 2,0-93E/R4RC SCO - 1407369

<https://www.phoenixcontact.com/pc/products/1407369>



Network cable, Ethernet CAT5 (100 Mbps), 4-position, shielded, Plug straight M12 SPEEDCON / IP67, coding: D, on Plug straight RJ45 Push Pull / IP67, cable length: 2 m

Network cable

Network cable - NBC-MSD/ 2,0-93E/R4QC SCO - 1407373

<https://www.phoenixcontact.com/pc/products/1407373>



Network cable, Ethernet CAT5 (100 Mbps), 4-position, shielded, Plug straight M12 SPEEDCON / IP67, coding: D, on Plug straight RJ45 Push Pull / IP67, cable length: 2 m

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Network cable

Network cable - NBC-MSD/ 2,0-93E/R4AC SCO - 1407361

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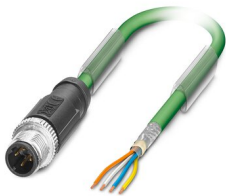


Network cable, Ethernet CAT5 (100 Mbps), 4-position, shielded (Advanced Shielding Technology), Plug straight M12 / IP67, coding: D, on Plug straight RJ45 / IP20, cable length: 2 m

Network cable

Network cable - NBC-M12MSD/ 2,0-93B CMC - 1524307

<https://www.phoenixcontact.com/pc/products/1524307>



Network cable, PROFINET CAT5 (100 Mbps), EtherCAT[®] CAT5 (100 Mbps), 4-position, shielded (Advanced Shielding Technology), Plug straight M12 / IP67, coding: D, on free cable end, cable length: 2 m

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PHOENIX CONTACT GmbH & Co. KG
Flachsmarktstraße 8
D-32825 Blomberg
+49 (0) 5235-3 00
info@phoenixcontact.com