

Network isolator - FL ISOLATOR 100-M12 - 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 V_{rms}
- ✓ 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 to +75°C



Key Commercial Data

Packing unit	1 pc
GTIN	
GTIN	4046356727815
Weight per Piece (excluding packing)	155.000 g
Custom tariff number	85437090
Country of origin	Germany

Technical data

Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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Dimensions

Width	66 mm
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Network isolator - FL ISOLATOR 100-M12 - 2902985

Technical data

Dimensions

Height	91 mm
Depth	34 mm

Ambient conditions

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
Permissible humidity (operation)	10 % ... 95 %
Permissible humidity (storage/transport)	5 % ... 95 %
Altitude	≤ 5000 m (For restrictions, see the manufacturer's declaration for altitude operation)
Degree of protection	IP54

General

Electrical isolation	Port X1//port X2
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
Mounting position	Wall mounting
Net weight	155 g
Housing material	Plastic, FR 2010
	V0 (UL 94)
Color	black
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))
MTTF	18372 Years (SN 29500 standard, temperature 25 °C, operating cycle 21 % (5 days a week, 8 hours a day))
	13381 Years (SN 29500 standard, temperature 40 °C, operating cycle 34.25 % (5 days a week, 12 hours a day))
	3348 Years (SN 29500 standard, temperature 40 °C, operating cycle 100 % (7 days a week, 24 hours a day))

Power supply

Supply voltage range	passive module, no supply voltage required
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Interfaces

Interface 1	Ethernet interface, 10/100Base-T(X) in acc. with IEEE 802.3u
Interface	Ethernet
No. of ports	1
Connection method	M 12 connectors (D-coded, female)
Transmission length	≤ 100 m (Total length across both ports (dependent on data rate and cable used))
Protocols supported	Transparent protocol for IPv4 and IPv6
Serial transmission speed	10/100 Mbps

Network isolator - FL ISOLATOR 100-M12 - 2902985

Technical data

Interfaces

Interface 2	Ethernet interface, 10/100Base-T(X) in acc. with IEEE 802.3u
Interface	Ethernet
No. of ports	1
Connection method	M 12 connectors (D-coded, female)

Conformance/approvals

Designation	CE
Identification	CE-compliant
Designation	Corrosive gas test
Identification	ISA-S71.04-1985 G3 Harsh Group A

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	Vibration resistance according to IEC 61373, EN 61373
Test result	Category 1, Class B
Type of test	Shock in acc. with EN 60068-2-27/IEC 60068-2-27
Test result	15g, 11 ms period, half-sine shock pulse
Type of test	Shock in acc. with EN 60068-2-27/IEC 60068-2-27
Test result	30g, 18 ms period, half-sine shock pulse
Standards/regulations	EN 61000-4-2
	EN 61000-4-4
	EN 61000-6-4
	EN 50121 and EN 50155 (for railway applications)
	IEC 60571
	DIN EN 50153

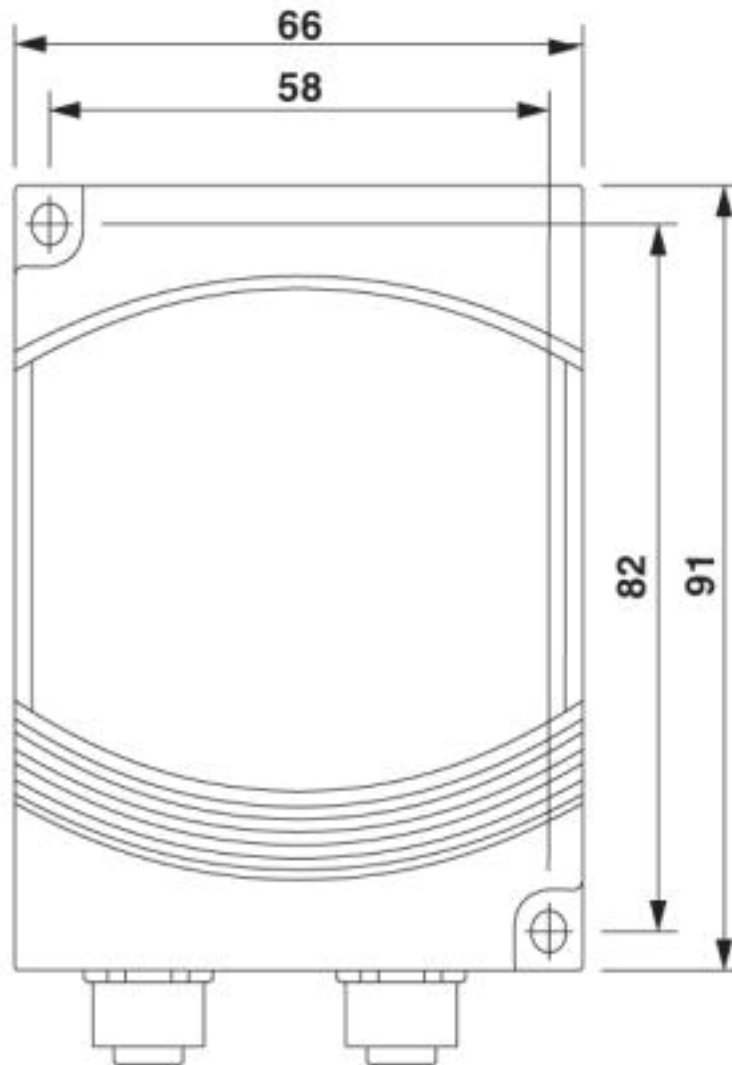
Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

Drawings

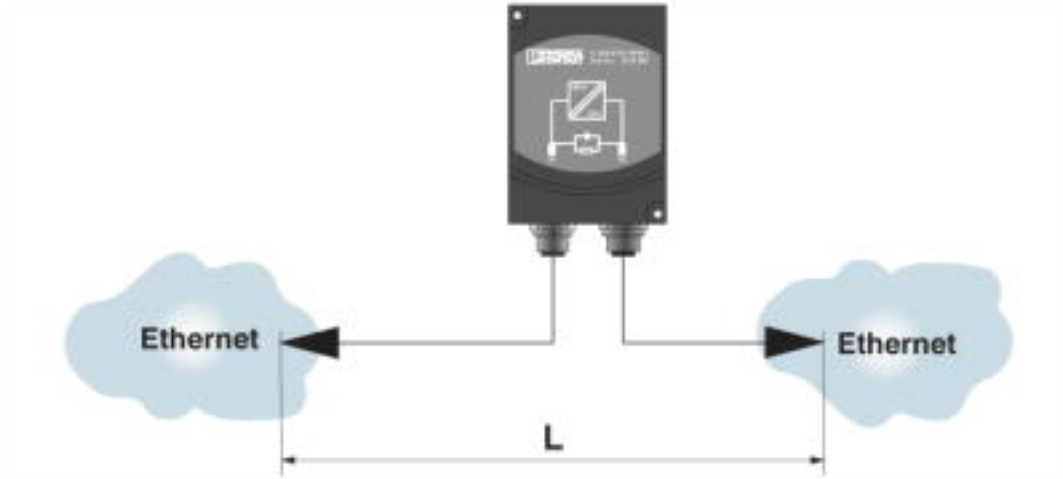
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Dimensional drawing

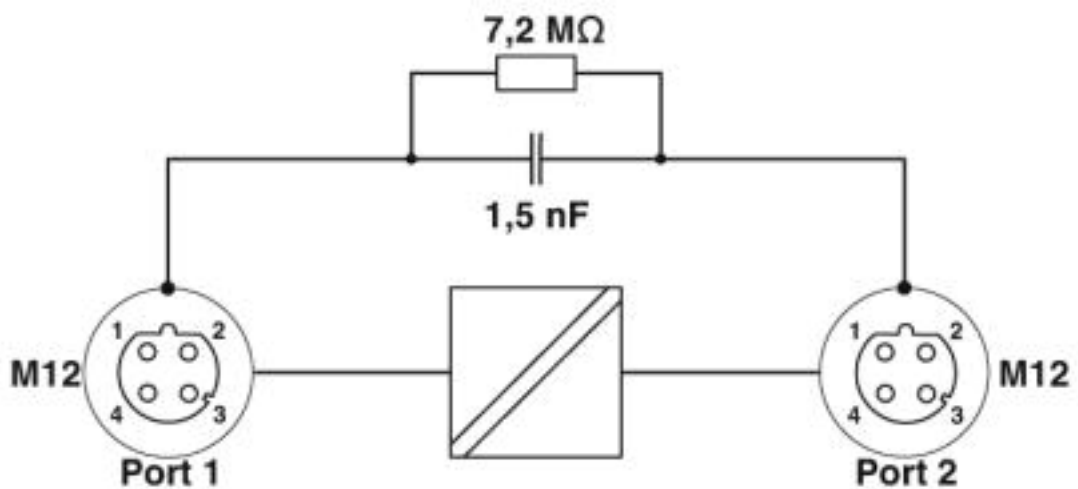


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Application drawing

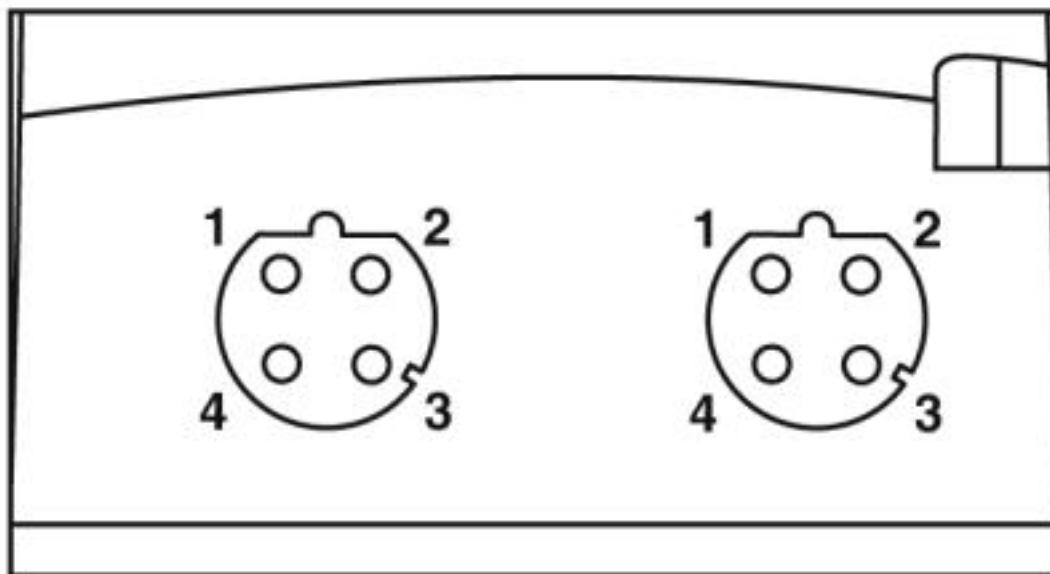


Block diagram



Network isolator - FL ISOLATOR 100-M12 - 2902985

Schematic diagram



View from below

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	27189200
eCl@ss 7.0	27189268
eCl@ss 8.0	27249290
eCl@ss 9.0	27240692

ETIM

ETIM 3.0	EC000313
ETIM 4.0	EC002006
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	39121103

Network isolator - FL ISOLATOR 100-M12 - 2902985

Classifications

UNSPSC

UNSPSC 18.0	39121552
UNSPSC 19.0	39121552
UNSPSC 20.0	39121552
UNSPSC 21.0	39121552

Accessories

Accessories

Data cable preassembled

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



Network cable, Ethernet CAT5 (100 Mbps), 4-position, PUR, water blue RAL 5021, shielded, Plug straight M12 SPEEDCON / IP67, coding: D, on Plug straight RJ45 Push Pull / IP67, cable length: 2 m

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



Network cable, Ethernet CAT5 (100 Mbps), 4-position, PUR, water blue RAL 5021, shielded, Plug straight M12 SPEEDCON / IP67, coding: D, on Plug straight RJ45 Push Pull / IP67, cable length: 2 m

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



Network cable, Ethernet CAT5 (100 Mbps), 4-position, PUR, water blue RAL 5021, shielded, Plug straight M12 SPEEDCON / IP67, coding: D, on Plug straight RJ45 / IP20, cable length: 2 m

Bus system cable - SAC-4P-M12MSD/ 2,0-933 - 1524307



Bus system cable, PROFINET CAT5 (100 Mbps), 4-position, PVC/PVC, green RAL 6018, shielded, Plug straight M12, D-coded, on free cable end, cable length: 2 m

Mounting rail adapter

Network isolator - FL ISOLATOR 100-M12 - 2902985

Accessories

DIN rail adapter - FL EPA RMS - 2701133

Set for mounting devices with EPA design on a DIN rail



Network isolator

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-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 1000-RJ/RJ - 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 panel

Patch panels - PP-RJ-RJ - 2703015



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

Network isolator - FL ISOLATOR 100-M12 - 2902985

Accessories

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

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

Network isolator - FL ISOLATOR 100-M12 - 2902985

Accessories

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

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