

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

Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)



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.

### 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
- ✓ Extended temperature range of -25°C to +85°C
- ✓ Continuous insulation voltage of 250 V<sub>rms</sub>
- ✓ Electrical isolation of data cables and cable shielding
- ✓ Mounting on EN DIN rails
- ✓ Shipbuilding approval in accordance with DNV GL



### Key Commercial Data

|              |  |
|--------------|--|
| Packing unit | 1 pc   |
| GTIN         |  |
| GTIN         | 4046356575089  |

### Technical data

#### Dimensions

|        |         |
|--------|---------|
| Width  | 22.5 mm |
| Height | 99 mm   |
| Depth  | 92 mm   |

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

## Technical data

### 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                                 | ≤ 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 <sub>rms</sub>  |
| Electromagnetic compatibility              | Conformance with EMC Directive 2014/30/EU   |
| Net weight                                 | 118.9 g   |
| Housing material                           | PA 6.6-FR   |
| Color                                      | green   |
| MTBF                                       | 7993 Years (Telcordia standard, 25°C temperature, 21% operating cycle (5 days a week, 8 hours a day))     |
|  | 4201 Years (Telcordia standard, 40°C temperature, 34.25% operating cycle (5 days a week, 12 hours a day)) |

### Interfaces

|                           |  |
|---------------------------|--|
| Interface 1               | Ethernet interface, 10/100Base-T(X) in accordance with IEEE 802.3                |
| Interface                 | Ethernet   |
| No. of ports              | 1  |
| Connection method         | RJ45 socket, shielded  |
| Transmission length       | ≤ 100 m (Total length across both ports (dependent on data rate and cable used)) |
| Serial transmission speed | 10/100 Mbps  |
| Interface 2               | Ethernet interface, 10/100Base-T(X) in accordance with IEEE 802.3                |
| Interface                 | Ethernet   |
| No. of ports              | 1  |
| Connection method         | RJ45 socket, shielded  |
| Serial transmission speed | 10/100 Mbps  |

### Conformance/approvals

|                |                                  |
|----------------|----------------------------------|
| Designation    | EAC                              |
| Identification | EAC                              |
| Designation    | UL, USA/Canada                   |
| Identification | 508 Listed                       |
| Designation    | Corrosive gas test               |
| Identification | ISA-S71.04-1985 G3 Harsh Group A |
| Designation    | Shipbuilding                     |
| Identification | DNV GL                           |

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

### Technical data

#### Conformance/approvals

|             |   |
|-------------|---|
| 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)             |

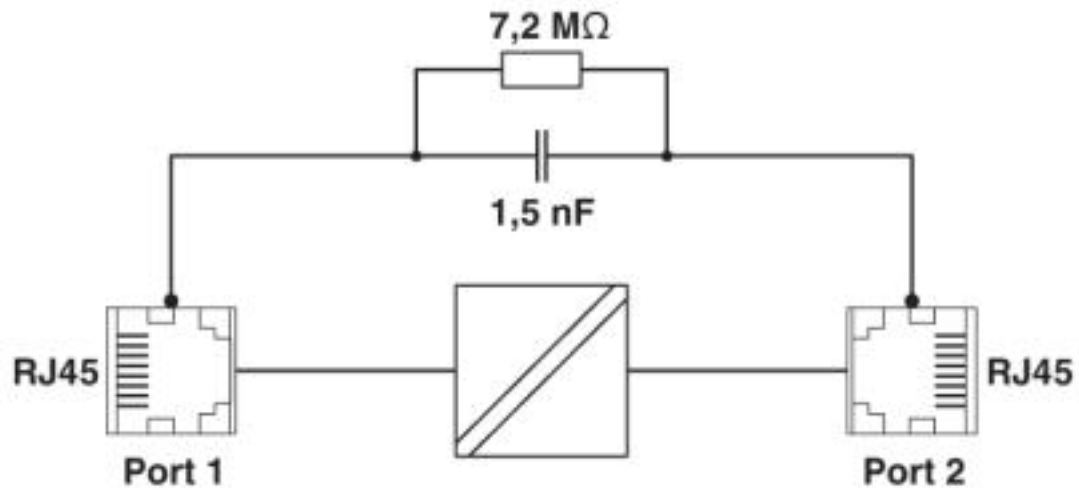
#### Environmental Product Compliance

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

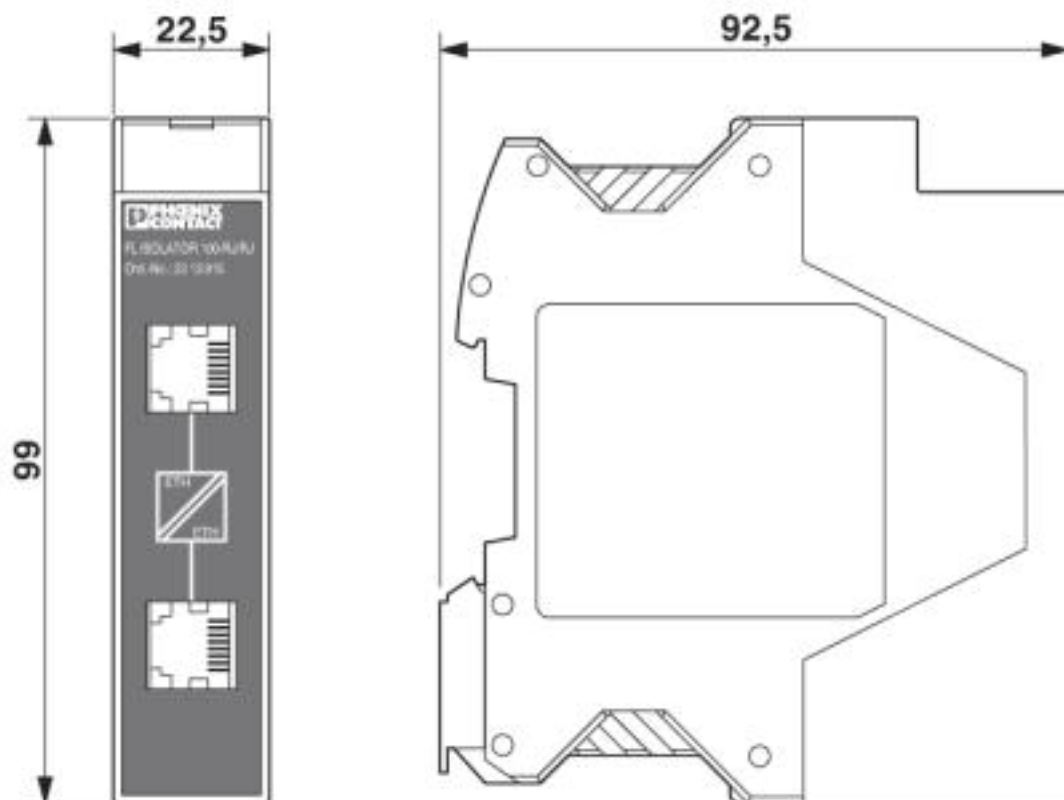
### Drawings

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

Block diagram

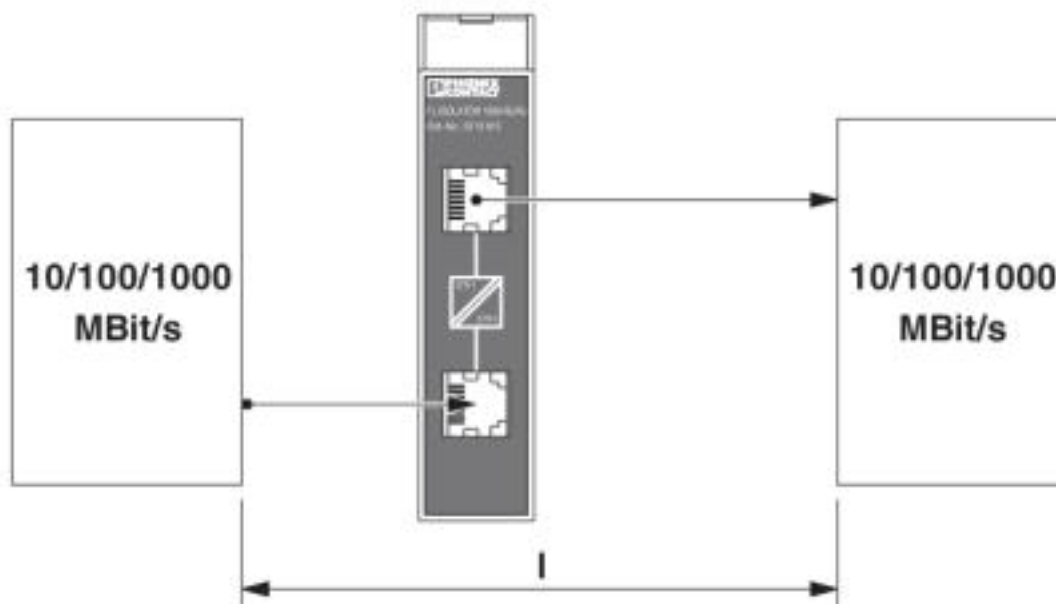


Dimensional drawing



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

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 |

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

### 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 |  | <a href="https://approvalfinder.dnvgl.com/">https://approvalfinder.dnvgl.com/</a> | TAA00001KR |
|--------|---|---|------------|

|           |   |   |               |
|-----------|---|---|---------------|
| UL Listed |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | FILE E 238705 |
|-----------|---|---|---------------|

|            |   |   |               |
|------------|---|---|---------------|
| cUL Listed |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | FILE E 238705 |
|------------|---|---|---------------|

|     |   |  |               |
|-----|---|--|---------------|
| EAC |  |  | EAC-Zulassung |
|-----|---|--|---------------|

|              |   |  |  |
|--------------|---|--|--|
| cULus Listed |  |  |  |
|--------------|---|--|--|

### Accessories

#### Accessories

Network isolator

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

### 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 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.

---

#### 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

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

### 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 100-RJ/RJ - 2313931

### 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

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

### Accessories

#### Patch panels - FL CAT5 TERMINAL BOX - 2744610



Patch panel, one RJ45 jack to 4 screw connection terminal blocks (assignment 1, 2, 3, 6), CAT5e, 10/100 Mbps, DIN rail adapter, IP20, option of shield contacting to the DIN rail via jumpers

---

#### Patch panels - PP-RJ-RJ - 2703015



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

---

#### Patch panels - PP-RJ-SC - 2703016



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

---

#### Patch panels - PP-RJ-SCC - 2703018



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

---

#### Patch panels - PP-RJ-IDC - 2703019



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

---

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

### Accessories

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



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

---

#### Patch panels - PP-RJ-SC-F - 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 - PP-RJ-SCC-F - 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

---

#### Patch panels - PP-RJ-IDC-F - 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 - FL-PP-RJ45-LSA - 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

---

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

### Accessories

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

---

Phoenix Contact 2020 © - all rights reserved  
<http://www.phoenixcontact.com>

PHOENIX CONTACT GmbH & Co. KG  
Flachsmarktstr. 8  
32825 Blomberg  
Germany  
Tel. +49 5235 300  
Fax +49 5235 3 41200  
<http://www.phoenixcontact.com>