

FL SWITCH 1924 - Industrial Ethernet Switch



2891057

<https://www.phoenixcontact.com/us/products/2891057>

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Ethernet switch, 24 Ethernet ports on the front in RJ45 format, automatic detection of 10, 100 or 1000 Mbps data transmission rate, coupling of network segments with different transmission speeds, auto crossing function, installs in 19-in. (482 mm) rack



Product description

Ethernet interface

The FL SWITCH 1924 has 24 Ethernet ports in RJ45 format. It is mounted in a 19-in. (482 mm) rack with AC power. The data transmission speed is 10 Mbps, 100 Mbps or 1000 Mbps. The switch also supports jumbo frames.

Each port has an auto crossing function. It is not necessary to make a distinction between 1:1 or crossover Ethernet cables. Mounting brackets and power cords for EEC (CEE 7/4) and North America (NEMA 5-15) are included. User supplies screws for bracket to rack connection.

Switching properties of FL SWITCH 1924

–Store-and-forward:

All data telegrams that are received by the switch have their validity checked. Invalid or faulty data packets (>9216 bytes or CRC errors) and fragments (<64 bytes) are rejected. Valid data telegrams are forwarded by the switch. The switch always forwards the data using the data transmission speed that is used in the destination network segment.

–Multi-address function:

The switch independently learns the addresses for termination devices, which are connected via a port, by evaluating the source addresses in the data telegrams. Only packets with unknown addresses, with a source address of this port or with a multicast/broadcast address in the destination address field are forwarded via the corresponding port. The switch can store up to 8192 MAC addresses in its address table.

–Quality of service (QoS): IEEE 802.1P/Q

The FL SWITCH 1924 switches are capable of reading Ethernet packets that have already been assigned a priority level by a managed switch. In case of heavy traffic, packets with a priority level between 4 and 7 are considered high priority and processed before packets with a priority level between 0 and 3 (2:1 ratio). After prioritization the packets are forwarded without modification.

–Grounding

The metal RJ45 socket housings are connected to earth/ground. For maximum noise immunity, shielded RJ45 connectors and cables should be used.

Your advantages

- Quality of service (QoS) support (2 queues)
- Jumbo frame support (frame size up to 9216 bytes/frame)
- Power supply range of 100 V AC ... 240 V AC at 50/60 Hz
- MAC address table size is 8192 (8k) entries
- Two power cords are included. For North America, a NEMA 5-15 3-pin plug (type A). For EEC, a CEE 7/4 (type F)

Commercial data

| | |
|------------------------|---------|
| Item number | 2891057 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | DN19 |
| Product key | DNN115 |

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| | |
|--------------------------------------|---------------|
| GTIN | 4046356763158 |
| Weight per piece (including packing) | 3,589.4 g |
| Weight per piece (excluding packing) | 2,730 g |
| Customs tariff number | 85176200 |
| Country of origin | TW |

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Technical data

Dimensions

| | |
|--------|--------|
| Width | 482 mm |
| Height | 44 mm |
| Depth | 210 mm |

Notes

Note on application

| | |
|---------------------|-------------------------|
| Note on application | Only for industrial use |
|---------------------|-------------------------|

Utilization restriction

| | |
|----------|---|
| EMC note | EMC: class A product, see manufacturer's declaration in the download area |
|----------|---|

Material specifications

| | |
|-----------------|------------------|
| Color (Housing) | black (RAL 9005) |
|-----------------|------------------|

Mounting

| | |
|---------------|-----------------------------|
| Mounting type | Rack mounting (with holder) |
| Holder system | 19" rack |

Interfaces

Ethernet

| | |
|----------------------|-------------------------|
| Connection method | RJ45 |
| Transmission speed | 10/100/1000 Mbps |
| Transmission physics | Twisted pair connection |
| Transmission length | 100 m (per segment) |
| Signal LEDs | Activity, link status |
| No. of channels | 24 (RJ45 ports) |

Product properties

| | |
|----------------|---|
| Product type | Switch |
| Product family | Unmanaged Switch 1900 |
| Type | Stand-alone |
| MTTF | 30.4 Years (MIL-HDBK-217F standard, temperature 25°C, operating cycle 100%) |

Switch functions

| | |
|----------------------------------|---|
| Basic functions | Unmanaged switch / auto negotiation, complies with IEEE 802.3, store and forward switching mode |
| MAC address table | 8192 |
| Status and diagnostic indicators | LEDs: U _S , link and activity per port |
| Additional functions | Autonegotiation |

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Security functions

| | |
|-----------------|---|
| Basic functions | Unmanaged switch / auto negotiation, complies with IEEE 802.3, store and forward switching mode |
|-----------------|---|

Electrical properties

| | |
|---|----------------------------|
| Local diagnostics | US Power present Green LED |
| Maximum power dissipation for nominal condition | 88 W |
| Transmission medium | Copper |

Supply

| | |
|-----------------------------|----------------------------------|
| Supply voltage (AC) | 120 V AC 220 V AC |
| Supply voltage range | 100 V AC ... 240 V AC (50/60 Hz) |
| Inrush current | 23 A (200 µs @ 230 V AC) |
| Max. current consumption | 0.4 A (maximum) |
| Typical current consumption | 312 mA (100 V AC) |

Supply: Module electronics

| | |
|----------------------|-----------------------|
| Supply voltage range | 100 V AC ... 240 V AC |
| Current consumption | 1 A (maximum) |

Connection data

| | |
|-------------------|------|
| Connection method | RJ45 |
|-------------------|------|

Environmental and real-life conditions

Ambient conditions

| | |
|---|--|
| Degree of protection | IP20 |
| Ambient temperature (operation) | 0 °C ... 60 °C |
| Ambient temperature (storage/transport) | -25 °C ... 70 °C |
| Permissible humidity (operation) | 5 % ... 95 % (non-condensing) |
| Air pressure (operation) | 86 kPa ... 108 kPa (2000 m above mean sea level) |

EMC data

| | |
|---------------------------------|---|
| Electromagnetic compatibility | Conformance with EMC directive 2004/108/EC and for low-voltage directive 2006/95/EC |
| Conformance with EMC directives | IEC 61000-6-2 EN 61000-4-2 (ESD) Criterion B |
| | EN 61000-4-3 (radiated noise immunity) Criterion A |
| | EN 61000-4-4 (EFT burst) Criterion B |
| | EN 61000-4-5 (surge) Criterion B |
| | EN 61000-4-6 (line noise immunity) Criterion A |
| | EN 61000-4-8 (electromagnetic fields) Criterion A |
| | EN 61000-4-11 |
| | EN 61000-6-3 |
| Noise immunity | EN 61000-6-2:2005 |

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Noise emission

Standards/regulations

EN 61000-6-4

System properties

Functionality

Basic functions

Unmanaged switch / auto negotiation, complies with IEEE 802.3, store and forward switching mode

Signaling

Status display

LEDs: U_S, link and activity per port

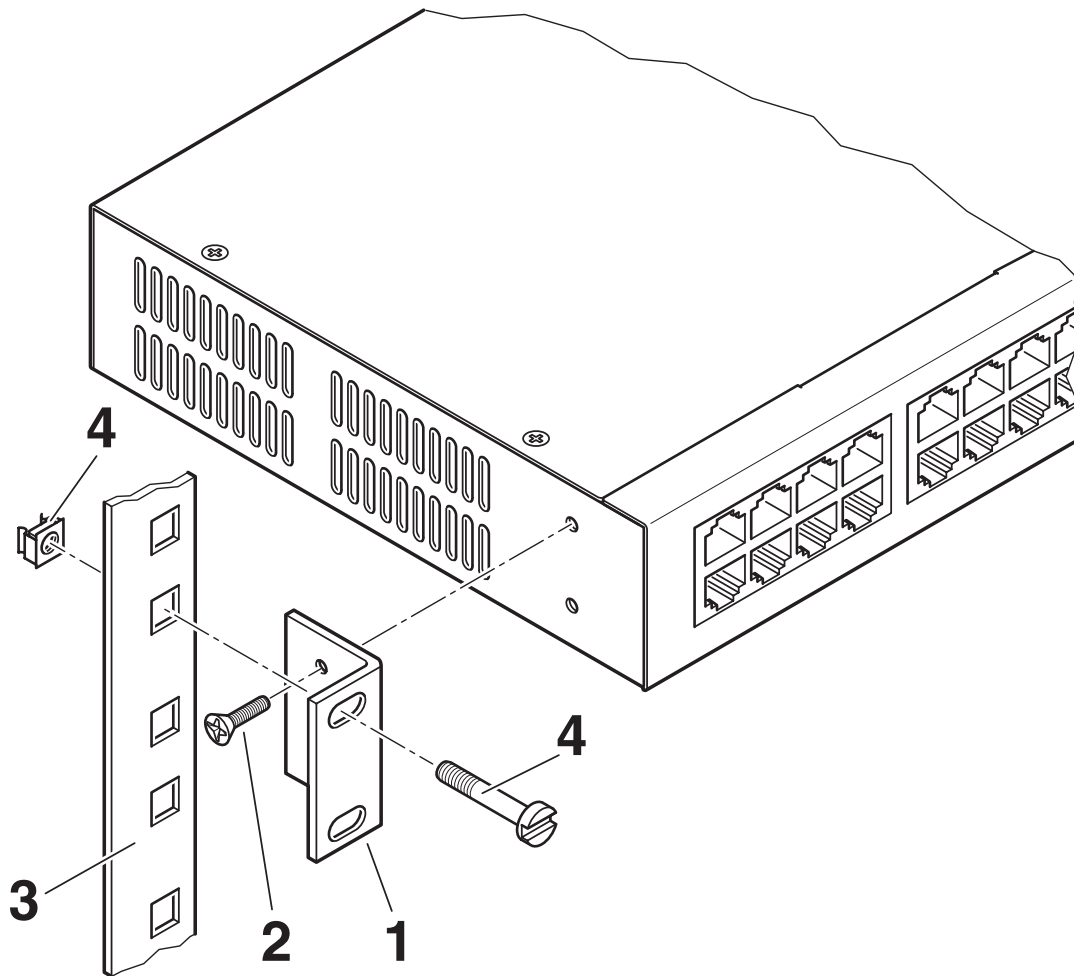
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Drawings

Application drawing



Attach the brackets to each side of the switch with the included screws (as shown).

Install the switch in the rack using the rack hardware.

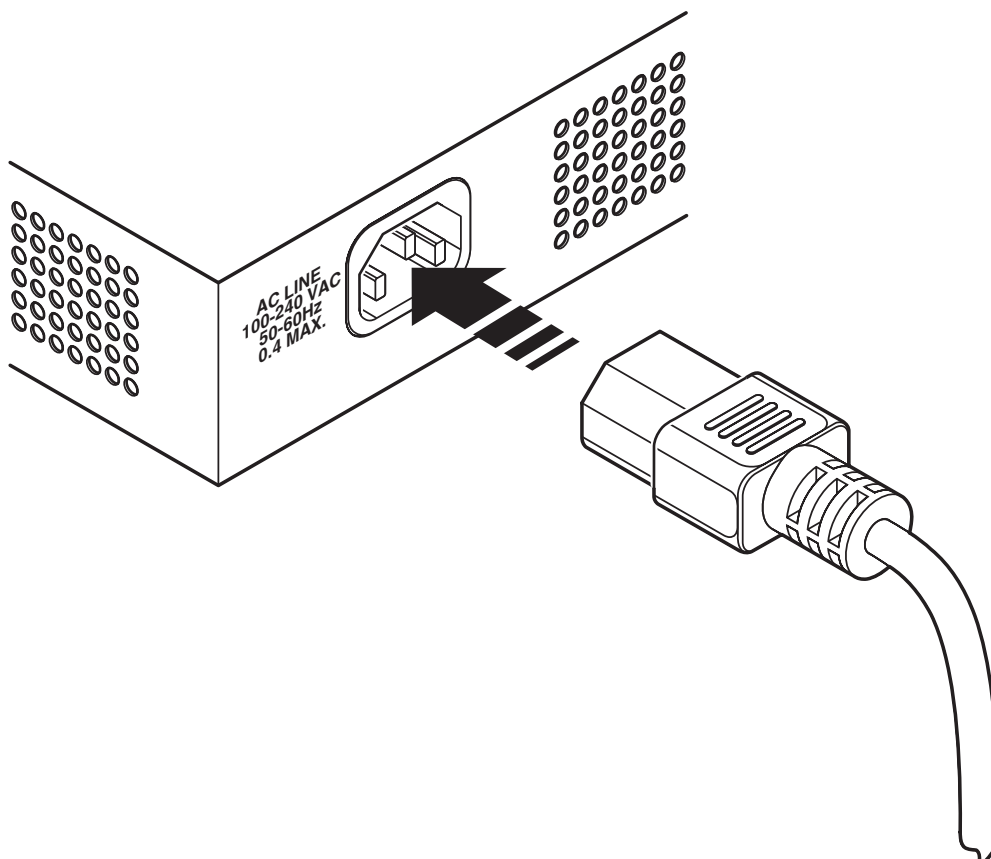
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Schematic diagram



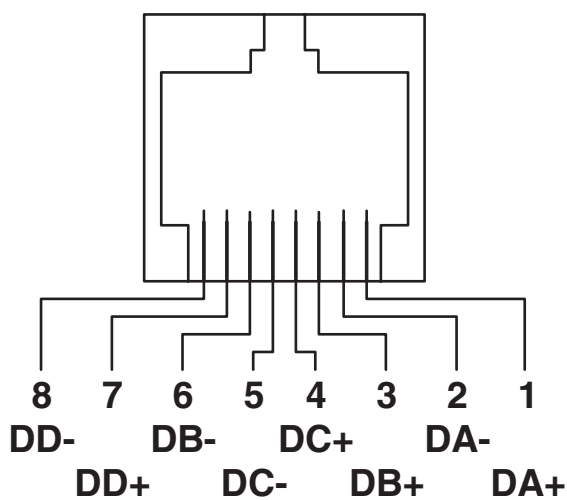
Two power cords are included and provide line, neutral and ground conductors:

For North American markets the power cord uses a NEMA 5-15 plug.

For European markets the power cord uses a CEE 7/4 plug.

Both power cords use a common plug (IEC 60320-1 type C13) for connecting to the FL SWITCH 1924.

Schematic diagram



RJ45 pinout for 1000 Mbps

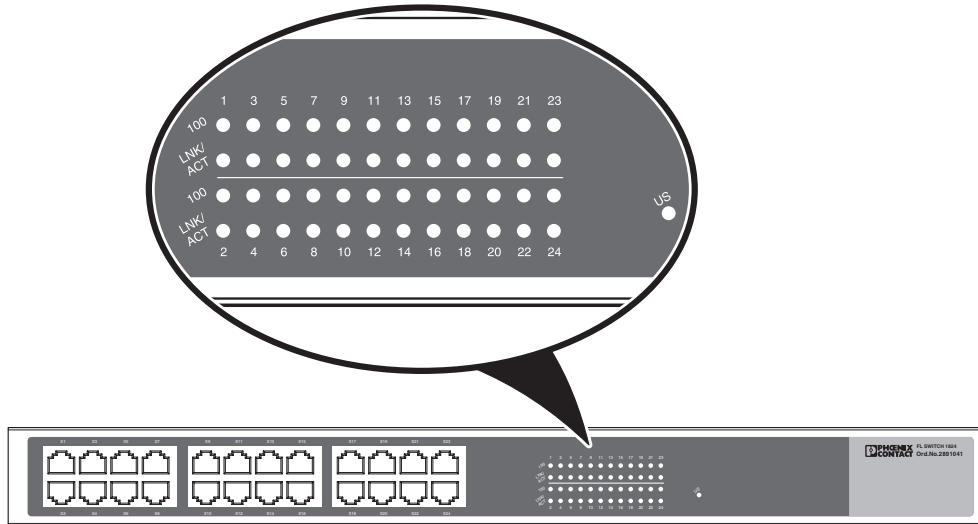
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Schematic diagram



The US LED indicates power is present.

Each port has 2 LEDs:

- When the 100 LED is illuminated, the port is operating at 100 Mbps. When off, it is operating at 10 Mbps.
- The LNK/ACT LED is illuminated when the port is connected and off when not connected. Flashing indicates data transfer (RX or TX).

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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2891057>



cULus Listed

Approval ID: US-UL-2338994-2



IECEE CB Scheme

Approval ID: DK-104833-UL



KC

Approval ID: MSIP-REI-PCK-2891057



cULus Listed

Approval ID: E140403-20180208

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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-13.0 | 19170402 |
| ECLASS-15.0 | 19170402 |

ETIM

| | |
|-----------|----------|
| ETIM 10.0 | EC000734 |
|-----------|----------|

UNSPSC

| | |
|-------------|----------|
| UNSPSC 21.0 | 43222600 |
|-------------|----------|

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Environmental product compliance

EU RoHS

| | |
|---|--------------------|
| Fulfills EU RoHS substance requirements | Yes |
| Exemption | 6(c), 7(a), 7(c)-I |

China RoHS

| | |
|--|---|
| Environment friendly use period (EFUP) | EFUP-10 |
| | An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required. |

EU REACH SVHC

| | |
|-------------------------------------|----------------------|
| REACH candidate substance (CAS No.) | Lead(CAS: 7439-92-1) |
|-------------------------------------|----------------------|

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