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# UNMANAGED INDUSTRIAL ETHERNET SWITCH

Product Data Sheet

# Unmanaged Industrial Ethernet Switch

The 26 Port Unmanaged Industrial Ethernet Switch is designed for industrial network applications. It provides an easy way to access Gigabit Ethernet. This switch's robust design makes it ideal for deployment in industrial and outdoor surveillance settings. It can optionally support DIN-Rail mounting or Wall mounting. LEDs provide visual monitoring of Ethernet-connected devices via twisted-pair RJ45 ports. The models are available in both non-PoE and PoE versions and can power the latest high-powered PoE devices over a wide industrial operating temperature range.

## Main Features

- Support up to 24x10/100/1000Base-T RJ45 and 2x100/1000Base-X SFP
- Full/Half-duplex self-adaptation
- MDI/MDIX automatic recognition
- Optionally support IEEE 802.3af/at/bt PoE Standard, without damaging not-PoE devices.
- Jumbo Frame up to 10K, 52G backplane bandwidth
- Operating temperature -40 to 75℃
- Wide-range DC9~56V power input
- Support power input polarity protection; no worries about the reverse connection
- All-Aluminium shell, fanless design
- Free fall, shock-proof and vibration-proof for industries
- All-aluminum Case, Compact and Fanless Design
- Plug and play,no software configuration.



**Industrial PoE Switch** used on all devices which are compatible with the PoE standards but don't support passive low voltage devices. It is also important not to let the power requirements of your devices exceed the total PoE budget of the switch when planning your installation. All models support Artificial intelligence features via dip switch and include, AI VLAN, AI QoS, AI PoE and AI Extend. Let's explore these in a little more detail.

- AI PoE: The AI PoE feature allows the switch to check the ports for activity periodically. If a port is not passing traffic for a certain amount of time, the switch will reset power on that specific port.
- AI QoS: When AI QoS is enabled on the 4 and 8 port models, all ports will prioritise Video and VoIP traffic flows over others.
- AI VLAN: AI VLAN is essentially port isolation on each of the RJ45 ports. All ports are only able to communicate with the SFP Port when this option is enabled.
- AI Extend: AI extend is a common ethernet switch feature designed to extend LAN transmission distance up to 250m. The downside is that port speeds will be limited to only 10Mbps.

| Ethernet Interface | | |
|---|---|---|
| Model | FR-7N3224 | FR-7N3224P/FR-7N3224BT |
| Ports | 24x10/100/1000Base-TX Port(RJ45)<br>2x1000Base-X SFP | |
| Port Mode(Tx) | Auto Negotiation<br>Full/Half Duplex Mode<br>Auto MDI/MDI-X Connection | |
| Standards | IEEE 802.3 for 10BaseT<br>IEEE 802.3u for Fast Ethernet<br>IEEE 802.3ab Gigabit Ethernet<br>IEEE 802.3x for flow control and back pressure<br>IEEE802.3az for Energy Efficient Ethernet(EEE) | |
| Packet Buffer Size | 4M | |
| Maximum Packet Length | 10K | |
| MAC Address Table | 8K | |
| Transmission Mode | Store and Forward (full/half duplex mode) | |
| Exchange Property | Delay time: < 7μs<br>Backplane bandwidth: 52G | |

| PoE & Power Supply(Base on model) | | |
|---|---|---|
| Model | FR-7N3224P | FR-7N3224BT |
| PoE Ports | Port 1 to 24 IEEE802.3af/at @PoE+ | Port 1 to 24 IEEE802.3af/at/bt @PoE++ |
| Power Supply Pin | Default: 1/2(+), 3/6(-) | Default: 1/2(+), 3/6(-) or 4/5(+), 7/8(-) |
| Max Power Per Port | 30W | 90W |
| Total PWR /Input Voltage | 480W(DC48-56V) (Model dependent) | 480W(DC52-56V) (Model dependent) |
| Power Consumption | 24 Watts Max(without PoE load) | |
| Power Inputs | 2 | |
| Input Voltage | 9-56VDC,Redundant dual inputs | |
| Operating Voltage | Non-PoE Mode: 9-56VDC<br>30W PoE Mode: 48-56VDC<br>90W PoE Mode: 52-56VDC(IEEE802.3bt model) | |
| Connector | 1 removable 6-contact terminal blocks<br>Pin 1/2 for Power 1, Pin 3/4 for Power 2, Pin 5/6 for fault alarm | |
| Protection | Overload Current Protection, Reverse Polarity Protection | |

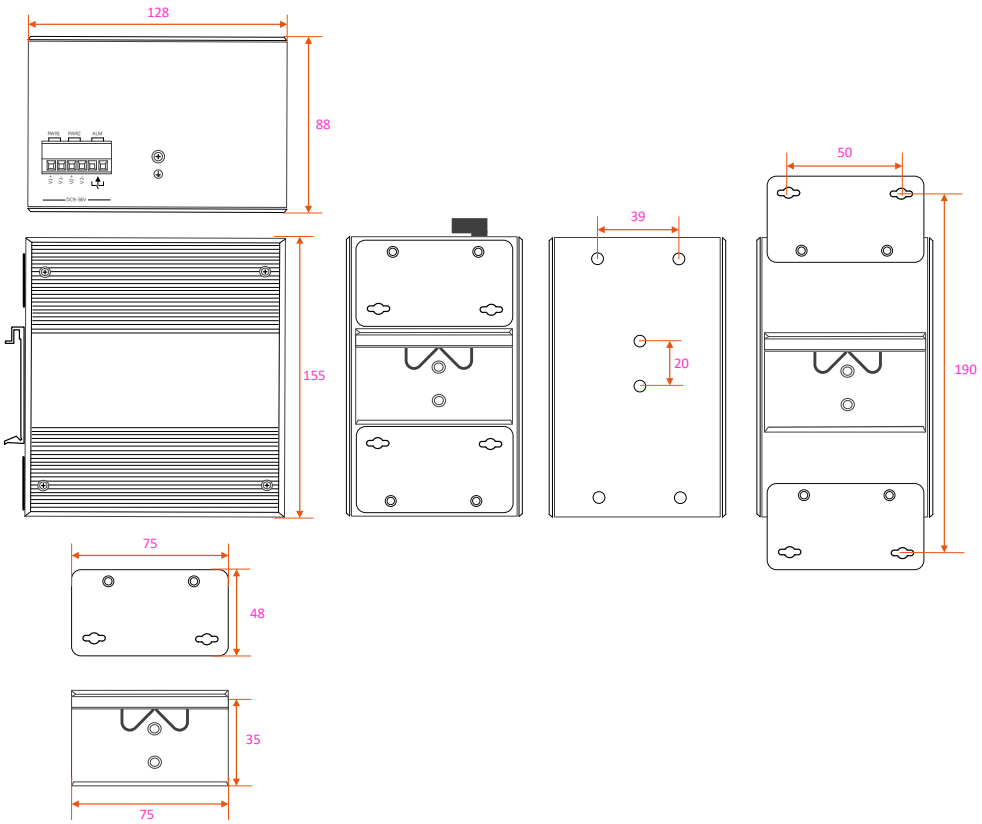
| LED | State | Description |
|---|---|---|
| **PWR (P1&P2)** | ON | Power is being supplied |
| | OFF | Power is not being Supplied. |
| **Link/ACT (1-26)** | ON | Port connection is active |
| | Blinking | Data transmitted |
| | OFF | Port connection is not active. |

| DIP Switch | Name | Status | Description |
|---|---|---|---|
| #1 | AI VLAN | OFF | Disable |
| | | ON | Enable |
| #2 | AI Extend | OFF | Disable |
| | | ON | Enable |
| #3 | AI QoS | OFF | Disable |
| | | ON | Enable |
| #4 | AI PoE | OFF | Disable |
| | | ON | Enable |

| **Physical Characteristics** | |
|---|---|
| Housing | Aluminum case |
| IP Rating | IP40 |
| Dimensions | 155mmx128mmx88mm |
| Installation | DIN Rail/Wall Mount |
| Weight | 1.35kg |
| **Environmental** | |
| Operating Temperature | -40℃~75℃ (-40 to 167 ℉) |
| Operating Humidity | 5%~95% (non-condensing) |
| Storage Temperature | -40℃~85℃ (-40 to 185 ℉) |
| MTBF | 907,476 hours @ Telcordia SR-332 Standard |
| Heat Dissipation | 34 BTU/h (non-PoE mode)<br>853 BTU/h (with 240W PoE load) |
| Cooling | Passive Cooling, Fanless Design |
| Noise Level | 0 dBA |
| **Regulatory & Warranty** | |
| Safety | IEC/EN 62368-1 |
| EMI | EN55032 Class A, CISPR 32 FCC Part 15B Class A |
| EMS | EN61000-4-2 (ESD) EN61000-4-3 (RS) EN61000-4-4 (EFT) EN61000-4-5 (Surge) EN61000-4-6 (CS) EN61000-4-8 (PFMF |
| Shock | IEC 60068-2-27 |
| Free Fall | IEC 60068-2-32 |
| Vibration | IEC 60068-2-6 |
| Environmental | RoHS |
| Warranty | 5 Years, Details See: www.fiberroad.com |
| **Package Contents** | |
| Device | 1x Industrial Ethernet Switch |
| Installation Kit | 1x DIN-Rail Clip<br>2x Wall-Mount Kits |
| Documentation | 1 x Quick Start Guide<br>1 x Warranty card<br>1x Product notice |

## Dimensions

**Unit: mm**




## Accessories(Sold Separately)

| **Power Supply** | |
|---|---|
| FR-I-60-24 | DIN-rail 24 VDC power supply with 60W/0.6A, 85 to 264 VAC, or 120 to 370 VDC input, -20 to 70°C operating temperature |
| FR-I-120-48 | DIN-rail 48-58V VDC power supply with 120W/1.2A, , 85 to 264 VAC, or 120 to 370 VDC input, -20 to 70°C operating temperature |
| FR-I-240W-48 | DIN-rail 48-55V VDC power supply with 240W/2A, , 85 to 264 VAC, or 120 to 370 VDC input, -20 to 70°C operating temperature |
| FR-I-480W-48 | DIN-rail 48-55V VDC power supply with 480W/4A, , 85 to 264 VAC, or 120 to 370 VDC input, -20 to 70°C operating temperature |

| **SFP Optical Transceiver** | |
|---|---|
| FRSX-1L311C-I | 1.25Gb/s 1310nm 10km SFP, wide operation temperature range of -40℃-85℃ (-40℉ - 185℉) |
| FRSX-1L341C-I | 1.25Gb/s 1310nm 40km SFP，wide operation temperature range of -40℃-85℃ (-40℉ - 185℉) |
| FRSX-1L5X1C-I | 1.25Gb/s 1550nm 80/100km SFP，wide operation temperature range of -40℃-85℃ (-40℉ - 185℉) |
| FRSX-1L3523/5323C-I | 1.25Gb/s 1310nm/1550nm 20km BiDi SFP，wide operation temperature range of -40℃-85℃ (-40℉ - 185℉) |

| **Armored Fiber Patch Cable / LAN Cable** | |
|---|---|
| FRPC-A-LC | Armored LSZH LC UPC to LC UPC Duplex OS2 single mode 7.0mm for Ourdoor Application , 1-50m |
| FRLC-A-CAT6 | Armored Cat6 Snagless shielded(SFTP) Ethernet Network Patch Cable, 26AWG, 1000Base-T, 0.5m – 3m |

## Precautions

To avoid damage to the equipment and personal injury caused by improper use, please observe the following precautions:

- Keep the power off during installation, wear an anti-static wrist, and ensure that the anti-static wrist is in good contact with the skin to avoid potential safety hazards.
- The switch can work normally under the correct power supply. Please confirm that the power supply voltage matches the voltage indicated by the switch.
- Before powering on the switch, please make sure that the power circuit is not overloaded, so as not to affect the normal operation of the switch and even cause unnecessary damage.
- To avoid the risk of electric shock, do not open the case while the switch is working, even if it is not charged, do not open it yourself.
- Before cleaning the switch, pull out the power plug of the switch. Do not wipe with a wet cloth. Do not use liquid to clean it.
- The equipment installed in the rack is generally from bottom to top to avoid overload installation.
- Avoid placing other heavy objects on the surface of the switch to avoid accidents.

## Order Information

| Model Number | 10/100/1000Base-T(X), RJ45 | 100/1000Base-X Port | Optical Port Connector Option | PoE Standard | Input Voltage | Operating Temp. |
|---|---|---|---|---|---|---|
| FR-7N3224 | 24 | 2 | LC | — | DC9-56V | -40 to +75℃ |
| FR-7N3224P | 24 | 2 | LC | IEEE802.3af/at | DC9-56V | -40 to +75℃ |
| FR-7N3224BT | 24 | 2 | LC | IEEE802.3af/at/bt | DC9-56V | -40 to +75℃ |

The information in this document is subject to change without notice. Fiberroad has made all effects to ensure the accuracy of the information, but all information in this document does not constitute any kind of warranty. Visit our website for the most up-to-date product information

## For more information

For more information about Fiberroad Industrial Ethernet series products,
Visit https://www.fiberroad.com or contact your local account representative.