

FIBERROAD

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°C
- ❖ 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.



An unmanaged industrial Ethernet switch is a critical component in ensuring efficient and reliable communication within industrial networks. These switches are designed to withstand the harsh conditions often found in industrial environments, such as extreme temperatures, humidity, and vibrations. By providing plug-and-play functionality, unmanaged switches simplify network installation and maintenance processes. With their rugged construction and robust performance capabilities, these switches can handle high levels of data traffic without compromising network stability or speed. Additionally, their compact size makes them ideal for space-constrained industrial settings where every inch counts. Overall, an unmanaged industrial Ethernet switch is a valuable tool for optimizing network connectivity and enhancing overall operational efficiency in industrial applications.

Product Specifications

Ethernet Interface		
Model	FR-9N3224	FR-9N3224P/FR-9N3224BT
Ports	24x10/100/1000Base-T Port(RJ45) 2x1000Base-X SFP	
Port Mode(Tx)	Auto Negotiation Full/Half Duplex Mode Auto MDI/MDI-X Connection	
Standards	IEEE 802.3 for 10BaseT IEEE 802.3u for Fast Ethernet IEEE 802.3ab Gigabit Ethernet IEEE 802.3x for flow control and back pressure 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 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
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 30W PoE Mode: 48-56VDC 90W PoE Mode: 52-56VDC(IEEE802.3bt model)	
Connector	1 removable 6-contact terminal blocks 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.
FAIL(Only For PoE)	ON	PoE Status is abnormal
	OFF	PoE Status is normal
MAX(Only For PoE)	ON	Total PoE Power out of maximum power budget
	OFF	Total PoE Power under maximum power budget

Product Specifications

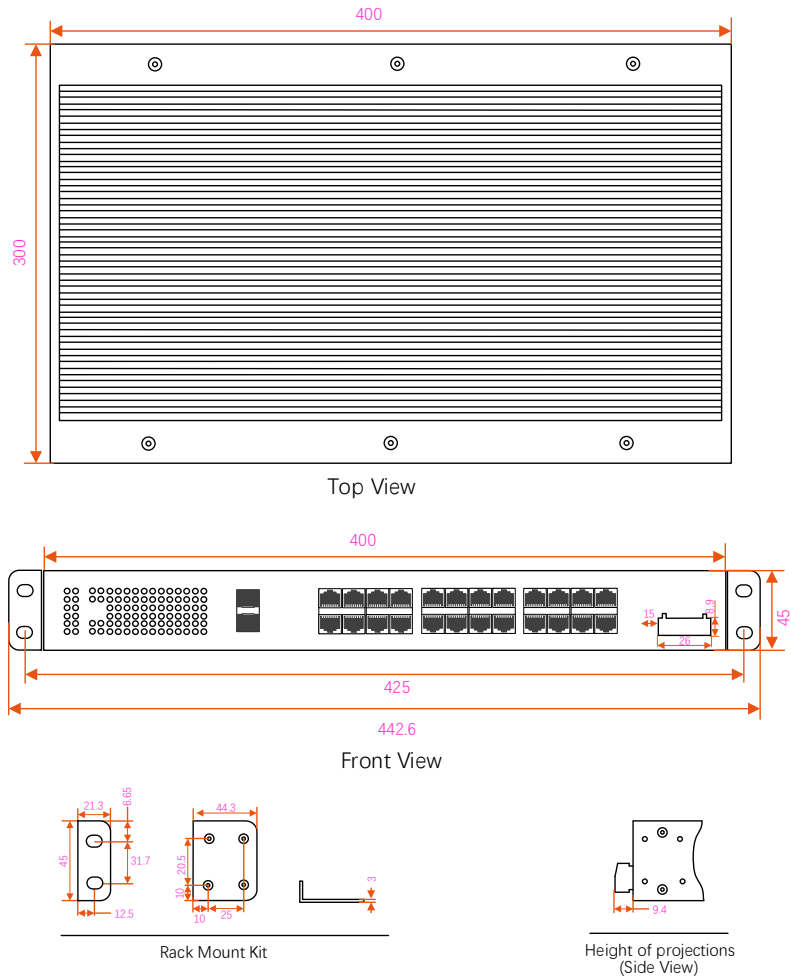
Physical Characteristics	
Housing	Aluminum case
IP Rating	IP40
Dimensions	400mm x 300mm x 45mm
Installation	DIN Rail/Wall Mount
Weight	2.6kg

Environmental	
Operating Temperature	-40°C~75°C (-40 to 167 °F)
Operating Humidity	5%~95% (non-condensing)
Storage Temperature	-40°C~85°C (-40 to 185 °F)
MTBF	500,000
Heat Dissipation	34 BTU/h (non-PoE mode) 853 BTU/h (with 240W PoE load)
Cooling	Passive Cooling, Fanless Design
Noise Level	0 dBA
Electrostatic Discharge	Contact discharge: 8kV Discharge in air: 15kV
Surge Protection	Power Supply(Common mode): ±8kV/DM 2kV RJ45 Port: ±4kV

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 2x Wall-Mount Kits
Documentation	1 x Quick Start Guide 1 x Warranty card 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°C-85°C (-40°F - 185°F)
FRSX-1L341C-I	1.25Gb/s 1310nm 40km SFP, wide operation temperature range of -40°C-85°C (-40°F - 185°F)
FRSX-1L5X1C-I	1.25Gb/s 1550nm 80/100km SFP, wide operation temperature range of -40°C-85°C (-40°F - 185°F)
FRSX-1L3523/5323C-I	1.25Gb/s 1310nm/1550nm 20km BiDi SFP, wide operation temperature range of -40°C-85°C (-40°F - 185°F)
Armored Fiber Patch Cable / LAN Cable	
FRPC-A-LC	Armored LSZH LC UPC to LC UPC Duplex OS2 single mode 7.0mm for Outdoor 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-9N3224	24	2	LC	—	DC9-56V	-40 to +75°C
FR-9N3224P	24	2	LC	IEEE802.3af/at	DC9-56V	-40 to +75°C
FR-9N3224BT	24	2	LC	IEEE802.3af/at/bt	DC9-56V	-40 to +75°C

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

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