FIBERROAD®

UNMANAGED
INDUSTRIAL ETHERNET SWITCH

Product Data Sheet

The Fiberroad 7N Series Unmanaged Industrial Ethernet Switch stands out as a robust and budget-friendly solution specifically designed for the demanding environments of outdoor space CCTV cameras and diverse industrial networking requirements. Engineered to withstand harsh weather conditions, this unmanaged industrial Ethernet switch offers seamless connectivity, ensuring that surveillance systems operate flawlessly even in challenging settings. Its optional support for IEEE 802.3 af/at/bt Power Over Ethernet Standard further enhances its versatility by allowing power delivery along with data transmission through the same cable, simplifying installations and reducing clutter. With multiple ports available for quick integration into existing networks, this unmanaged industrial Ethernet switch provides reliable performance while keeping operational costs low—a perfect match for industries looking to enhance their network infrastructure without compromising on quality or efficiency.

Main Features

- 4 x 10/100Base-TX RJ45 Ports
- 2 x 100BASE-X SFP Slots
- **Optionally support IEEE 802.3 af/at/bt Power Over Ethernet Standard**
- Supports IEEE 802.3x flow control for Full Duplex mode and backpressure for Half Duplex mode
- Non-blocking switching architecture that forwards and filters packets at full wire-speed for maximum throughput
- Auto-MDI/MDIX eliminates the need for crossover cables
- Supports MAC address auto-learning and auto-aging
- Auto-negotiation ports provide smart integration between 10Mbps and 100Mbps hardware.
- IEEE 802.1Q VLAN Transparency
- Plug and Play design simplifies installation.

Industrial Case and Installation
- IP40 Aluminium case, Fanless design
- 9-56V DC redundant power with reverse polarity protection
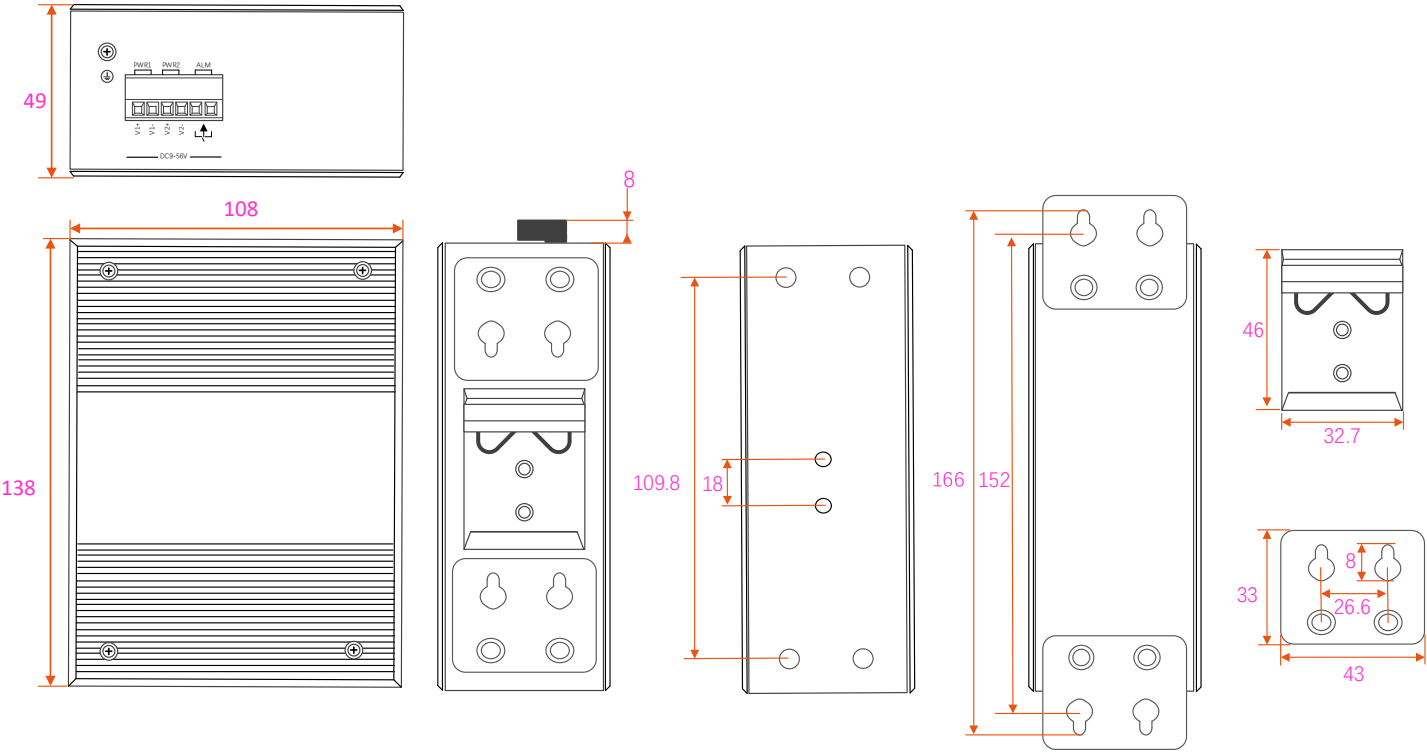- DIN-rail and wall mount installation
- -40 to +75℃ operating temperature

Hardware Specifications

Product	FR-7N1204	FR-7N1204P	FR-7N1204BT
Copper Ports	4x10/100BASE-TX RJ45 Auto-MDI/MDI-X (Port 1-4)		
Fiber Ports	Default: 2x100BASE-X SFP Slot (Port 5 -6), Optional:1x9 Optical Module		
Enclosure	IP40 aluminum case		
Installation	DIN-Rail and Wall-mount		
Dimension	138 x 108 x 49mm		
Weight	620g(Bare weight), 720g(With package)		
Surge Protection	±6kV DC, ±4kV RJ45	±6kV DC, ±6kV RJ45	

Switching

Switch Architecture	Store-and-Forward
Switch Fabric	1.8Gbps/non-blocking
Forward Filter Rate	14,880pps(10Mbps),148,800pps(100Mbps)
Packet Buffer Size	1Mbits
MAX. Packet Length	1536 bytes
MAC Address Table	2K entries, automatic source address learning and aging
Flow Control	IEEE 802.3x pause frame for full duplex, Back pressure for half duplex

Power Supply and PoE

Power Input	2		
Power 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(As required)		
Operating Voltage	DC9-56V	DC48-56V	DC52-56V
Power Consumption	5 Watts Max (without PoE load)		
Protection	Reverse Polarity, Overload Current		
PoE Ports	\	Port 1 to 4 IEEE802.3 af/at	Port 1 to 4 IEEE802.3 af/at/bt
PoE Power Supply Type	\	End-span	End-span
Power Supply Pin	\	1/2(+), 3/6(-)	1/2(+), 3/6(-) or 4/5(+), 7/8(-)
Max Power Per Port	\	30W	90W
PoE Power Budget	\	120W (Depending on power input)	120W (Depending on power input)

Environmental

Operating Temperature	-40℃ to +75℃ (-40 to 167 ℉)
Storage Temperature	-40℃ to +85℃ (-40 to 185 ℉)
Operating Humidity	5%~95% (non-condensing)
Heat Dissipation	17 BTU/h (Non-PoE), 430BTU/h (with 120W PoE load)
Cooling	Passive Cooling
MTBF	＞500,000 hours @MIL-HDBK-217F GF 25℃

LED Indicators

P1 & P2	ON: Power is being supplied ,OFF: Power is not being supplied
RJ45 Port Amber LEDs	ON: Port connection is active, Blinking: Data transmitted, OFF: Port connection is not active
RJ45 Port Green LEDs	ON: Port is operating at 100 Mb/s, OFF: Port is operating at 10 Mb/s

Regulatory & Warranty

Standard Compliance	IEEE 802.3 Ethernet IEEE 802.3u Fast Ethernet IEEE 802.3ab Gigabit Ethernet IEEE 802.3x Full-Duplex Flow Control IEEE 802.3az Energy Efficient Ethernet
ISO	Manufactured in ISO-9001facility
Safety	IEC62368-1:2020+A11:2020
EMI	FCC Part 15B Class A, IEC 61000-3-2
EMS	IEC61000-4-2 ESD: Contact:±8kV, Air:±15kV IEC61000-4-5 Surge: Power: ±6kV; RJ45:±4kV/±6kV(PoE)
Shock	IEC 60068-2-27
Free Fall	IEC 60068-2-32
Vibration	IEC 60068-2-6
Environmental	RoHS 2011/65/EU Annex II(EU)
Warranty	5 Years, Details See: https://fiberroad.com/warranty

Package Contents

Device	1 x Industrial Ethernet Switch
Installation Kit	1 x DIN-Rail Clip 2 x Wall-Mount Kits
Documentation	1 x Quick installation guide 1 x Warranty card 1 x Product notice

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

IRSX-DL1P2C	155M SFP 850nm, 0.55km, DDM, LC, Industrial Grade
IRSX-DL3Q1C	155M SFP 1310nm, 2km, DDM, LC, Industrial Grade
IRSX-DL311C	155M SFP 1310nm, 10km, DDM, LC, Industrial Grade
IRSX-1L3523C/5323C	155M SFP 1310nm/1550nm, 20km, DDM, LC, Industrial Grade

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

Dimensions   Unit: mm

49

108

138

8

PWR1   PWR2   ALM

V1+ V1- V2+ V2-

DC9-56V

109.8

18

166 152

46

32.7

33

8

26.6

43

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	10/100Base-TX RJ45	100Base-X Port	Optical Fiber Port Option	PoE Standard	Input Voltage	Operating Temp.
FR-7N1204	4	2	LC/SC/ST/FC	\	2xDC9-56V	-40 to +75℃
FR-7N1204A	4	2	LC/SC/ST/FC	\	1xAC220V	-40 to +75℃
FR-7N1204P	4	2	LC/SC/ST/FC	Port 1-4 802.3 af/at	2xDC9-56V	-40 to +75℃
FR-7N1204BT	4	2	LC/SC/ST/FC	Port 1-4 802.3 af/at/bt	2xDC9-56V	-40 to +75℃

Shipping

Model No.	FR-7N1204	FR-7N1204P	FR-7N1204BT
Classification Codes	HS Code: 851762		
	HTS: 8517.62.00		
NDAA Compliant	Yes		
Individual Gross Weight	700g	750g	
Individual Package Dimension	201x171x73mm		
Package Quantity	20 Units		
Package Gross Weight	14kg	14.5kg	
Package Dimension	422x385x375mm		

The information in this document is subject to change without notice. Fiberroad Technology Co., Limited has made all effects to ensure the accuracy of the information, but all information in this document does not constitute any kind of warranty. Contact us 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.