

FIBERROAD®

UNMANAGED INDUSTRIAL ETHERNET SWITCH

Product Data Sheet



6N Series Unmanaged Industrial Ethernet Switch

The Fiberroad 6N Series Unmanaged Industrial Ethernet Switch stands out as a reliable and cost-effective solution tailored for semi-outdoor space CCTV cameras and various industrial networking applications. Engineered to thrive in challenging environments, this robust switch supports both 100M and 1000M ethernet connections, ensuring high-speed data transfer without compromising performance. With its impressive operating temperature range of -20°C to +70°C, the Fiberroad 6N Series is designed to withstand harsh conditions while maintaining optimal functionality. Its compact design allows for easy deployment in tight spaces, making it an ideal choice for enhancing surveillance systems or facilitating seamless communication across industrial networks. Whether used in factories or outdoor monitoring setups, this Industrial Ethernet Switch guarantees stability and efficiency where it matters most.

Main Features

- 5 x 10/100Base-TX RJ45 Ports
- 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, 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
- -20 to +70°C operating temperature



Product Specifications

Hardware Specifications	
Product	FR-6N1005
Copper Ports	5x10/100BASE-TX RJ45 Auto-MDI/MDI-X (Port 1-5)
Fiber Ports	\
Enclosure	IP40 aluminum case
Installation	DIN-Rail and Wall-mount
Dimension	120 x 90 x 35 mm
Weight	380g(Bare weight), 460g(With package)
Surge Protection	±4kV DC, ±2kV RJ45
Switching	
Switch Architecture	Store-and-Forward
Switch Fabric	1.8Gbps/non-blocking
Forwarding Rate	0.74 Mpps(64-byte packet size)
Packet Buffer Size	1 Mbits
Maximum 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	
Power Input	2
Power Connector	1 removable 5-contact terminal blocks Pin 1/2 for Power 1, Pin 4/5 for Power 2
Operating Voltage	9-56V DC
Power Consumption	5 Watts Max
Protection	Reverse Polarity Overload Current
Environmental	
Operating Temperature	-20°C~70°C (-4 to 158 °F)
Storage Temperature	-40°C~85°C (-40 to 185 °F)
Operating Humidity	5%~90% (non-condensing)
Heat Dissipation	10 BTU/h
Cooling	Passive Cooling
MTBF	>500,000 hours @MIL-HDBK-217F GF 25°C
LED Indicators	
PWR	ON: Power is being supplied OFF: Power is not being supplied
LINK & ACT (Port 1-5)	ON: Port connection is active OFF: Port connection is not active

Product Specifications

Regulatory & Warranty

Standard Compliance	IEEE 802.3 Ethernet IEEE 802.3u Fast Ethernet IEEE 802.3x Full-Duplex Flow Control IEEE 802.3az Energy Efficient Ethernet
ISO	Manufactured in ISO-9001 facility
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: ±4kV; RJ45:±2kV
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

Accessories(Sold Separately)

Power Supply

FR-I-40-24	DIN-rail 24 VDC power supply with 40W/1.7A, 85 to 264 VAC, or 120 to 370 VDC input, -20 to 70°C operating temperature
FR-I-60-24	DIN-rail 24 VDC power supply with 60W/2.5A, 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)

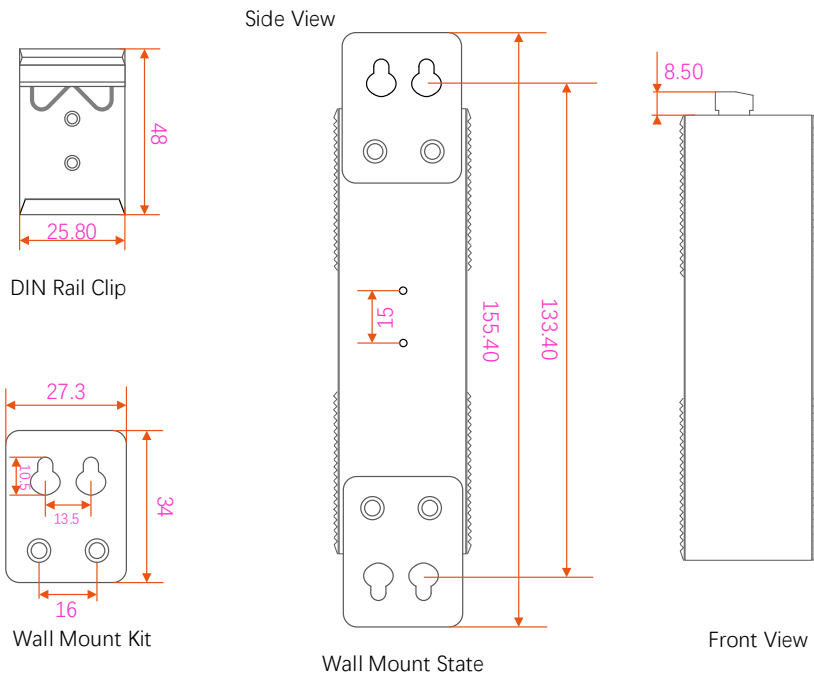
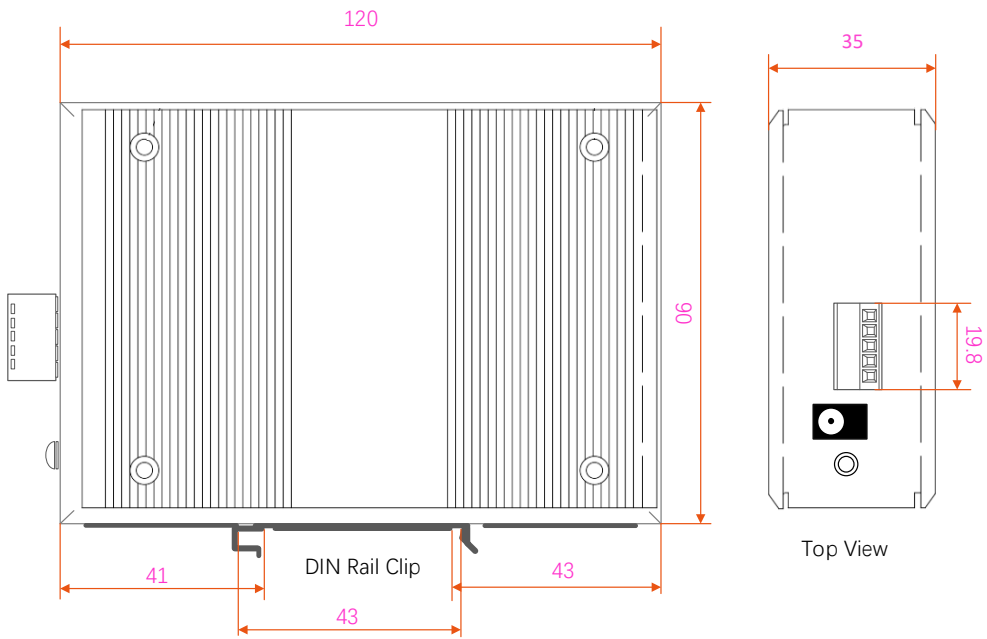
Armored Fiber Patch Cable / LAN Cable

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

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

Dimensions Unit: mm



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	10/100/1000Base-T, RJ45	100Base-X Port	1000Base-X Port	Optical Port Connector Option	Input Voltage	Operating Temp.
FR-6N1005	5	—	—	—	—	DC9-56V	-20 to +70°C
FR-6N1008	8	—	—	—	—	DC9-56V	-20 to +70°C
FR-6N3005	—	5	—	—	—	DC9-56V	-20 to +70°C
FR-6N3008	—	8	—	—	—	DC9-56V	-20 to +70°C
FR-6N1104	4	—	1	—	LC/SC/ST/FC	DC9-56V	-20 to +70°C
FR-6N3104	—	4	—	1	LC/SC/ST/FC	DC9-56V	-20 to +70°C

Shipping

Model No.	FR-6N1005
Classification Codes	HS Code: 851762
	HTS: 8517.62.00
NDA Compliant	Yes
Individual Gross Weight	460g
Individual Package Dimension	175x153x43mm
Package Quantity	50 Units
Package Gross Weight	21.4 kg
Package Dimension	540x315x430mm

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 Smart Industrial Ethernet series products, visit <https://www.fiberroad.com> or contact your local account representative.