



Industrial Media Converters

FR-7N3101 • FR-7N3101P • FR-7N3101BT

Industrial 10/100/1000Base-TX (Non-PoE/PoE+/PoE++) to 1000Base-SFP
Ethernet Media Converter with Redundant DC Power Inputs

Product Data Sheet

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Overview

The Series is designed for reliable operation in outdoor surveillance and industrial networking environments. Developed to perform under harsh weather conditions, it provides stable Ethernet connectivity for CCTV systems and industrial devices deployed in demanding field installations.

It supports optional IEEE 802.3af/at/bt Power over Ethernet (PoE), enabling simultaneous data and power transmission over a single cable. This simplifies installation, reduces cabling requirements, and improves deployment efficiency in outdoor and industrial applications.

With multiple port options available, the switch allows straightforward integration into existing network infrastructures. Its industrial-grade design ensures stable performance and dependable operation while supporting cost-effective network expansion for surveillance and industrial projects.

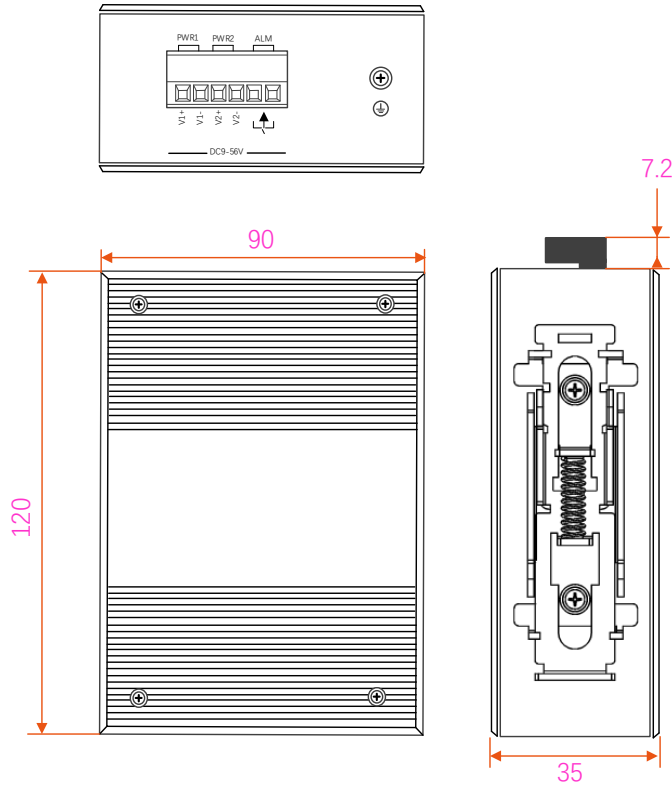
Product Specifications

Hardware Specifications			
Product	FR-7N3101	FR-7N3101P	FR-7N3101BT
Copper Ports	1x10/100/1000BASE-TX RJ45 Auto-MDI/MDI-X (Port 1)		
Fiber Ports	1x1000BASE-X SFP Slot (Port 2)		
Enclosure	IP40 aluminum case		
Installation	DIN-Rail and Wall-mount		
Dimension	120 x 90 x 35 mm		
Weight	370g(Bare weight), 470g(With package)		
Surge Protection	±6kV DC, ±4kV RJ45	±6kV DC, ±6kV RJ45	
Switching			
Switch Architecture	Store-and-Forward		
Switch Fabric	14Gbps/non-blocking		
Forward Filter Rate	14,880pps(10Mbps) 148,800pps(100Mbps) 1,488,000pps(1000Mbps)		
Packet Buffer Size	512 Kbits		
MAX. Packet Length	9K bytes		
MAC Address Table	2K entries, automatic source address learning and aging		

Product Specifications

Power Supply and PoE			
Product	FR-7N3101	FR-7N3101P	FR-7N3101BT
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	4 Watts Max (without PoE load)		
Protection	Reverse Polarity, Overload Current		
PoE Ports	\	Port 1 IEEE802.3 af/at	Port 1 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	\	35W	95W
Environmental			
Operating Temperature	-40°C to +75°C (-40 to 167 °F)		
Storage Temperature	-40°C to +85°C (-40 to 185 °F)		
Operating Humidity	5%~95% (non-condensing)		
Heat Dissipation	7 BTU/h (Non-PoE), 218 BTU/h (with 30W PoE load), 314 BTU/h (with 90W PoE load)		
Cooling	Passive Cooling		
MTBF	>500,000 hours @MIL-HDBK-217F GF 25°C		
LED Indicators			
P1 & P2	ON: Power is being supplied ,OFF: Power is not being supplied		
Fiber Port	ON: Port connection is active, Blinking: Data transmitted, OFF: Port connection is not active		
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 1000 Mb/s, OFF: Port is operating at 10/100 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-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: ±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 Fiber Media Converter		
Installation Kit	1 x DIN-Rail Clip		
Documentation	1 x Quick installation guide, 1 x Warranty card		

Dimensions Unit: mm



Ordering Information

Available Model	Description	Input Voltage	Operating Temp.
FR-7N3101	Industrial 10/100/1000Base-TX to 1000Base-SFP Ethernet Media Converter with Redundant DC Power Inputs	Dual DC9-56V	-40 to +75°C
FR-7N3101P	Industrial 10/100/1000Base-TX (PoE+) to 1000Base-SFP Ethernet Media Converter with Redundant DC Power Inputs	Dual DC9-56V	-40 to +75°C
FR-7N3101BT	Industrial 10/100/1000Base-TX (PoE++) to 1000Base-SFP Ethernet Media Converter with Redundant DC Power Inputs	Dual DC9-56V	-40 to +75°C

Optional Accessories (to be purchased 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	
(S)=SFP Option	Please select your SFP on our SFP Modules page for details.
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

Shipping

Model No.	FR-7N3101	FR-7N3101P	FR-7N3101BT
Classification Codes	HS Code: 851762		
	HTS: 8517.62.00		
NDA Compliant	Yes		
Individual Gross Weight	470g	480g	
Individual Package Dimension	175x153x43mm		
Package Quantity	50 Units		
Package Gross Weight	24kg	24.5kg	
Package Dimension	540x315x430mm		

Precautions

To prevent equipment damage or personal injury caused by improper operation, please observe the following precautions:

- ❖ Turn off the power before installation. Wear an anti-static wrist strap and ensure proper skin contact to prevent electrostatic discharge (ESD) damage.
- ❖ Ensure the power supply voltage matches the voltage specified on the switch.
- ❖ Before powering on the switch, verify that the power circuit is not overloaded to avoid abnormal operation or equipment damage.
- ❖ Do not open the chassis while the switch is operating. To avoid the risk of electric shock, do not disassemble the device.
- ❖ Disconnect the power before cleaning. Do not use a wet cloth or liquid cleaners.
- ❖ When installing in a rack, mount equipment from bottom to top to prevent overloading.
- ❖ Do not place heavy objects on the switch.

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