



L2+ Managed Ethernet Switches

FR-7M3008L

Industrial L2+ Managed 8-port 10/100/1000Base-TX Ethernet Switch  
with Redundant DC Power Inputs

Product Data Sheet



# FR-7M3008L

## Main Features



- 8x10/100/1000BASE-T Gigabit Ethernet RJ45
- Full gigabit L2+ management, easy to manage the network by CLI/WebGUI/NMS.
- Build up a redundant industrial network with STP/RSTP/MSTP/ERPSv2
- Port-based VLAN, IEEE 802.1Q VLAN, and GVRP to ease network planning
- Traffic Classification Based on IEEE 802.1p, CoS, WRR, and Strict Mode
- SNMPv1/v2c/v3 for different levels of network management
- Wide operating temperature range -40 to 75°C (-40 to 167°F)
- All-aluminum Case, Compact and Fanless Design

## Overview

The Layer 2+ Managed Industrial Ethernet Switch is designed for demanding industrial environments requiring high reliability and stable network performance. It supports advanced Layer 2+ management functions to ensure efficient traffic control and secure Ethernet transmission in factories, outdoor installations, and other harsh operating conditions. Its rugged construction ensures reliable operation in industrial applications.

Engineered for continuous operation, the switch features dual power inputs to enhance system availability and ensure uninterrupted connectivity. It is housed in an IP40-rated metal enclosure and supports DIN-rail or wall mounting for flexible deployment. With an operating temperature range of -40 to 75°C, the switch is suitable for use in extreme industrial environments.

<b>Hardware Specifications</b>	
Product	FR-7M3008L
Copper Ports	8x10/100/1000BASE-T RJ45 Auto-MDI/MDI-X (Port 1-8)
Fiber Ports	\
Console	1x RJ45-to-RS232 Serial Port(115200)
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
Alarm	One relay output for power failure, Alarm relay current carry ability: 1A@24V DC
RAM	128Mbyte
FLASH	32MByte
Reset Button	<5 sec: System Reboot; > 10 sec: Factory Default
Surge Protection	±6kV DC, ±4kV RJ45
Enclosure	IP40 aluminum case
Installation	DIN-Rail and Wall-mount
Dimension	138 x 108 x 49mm
Net Weight	700g(Bare weight)
<b>Switching</b>	
Switch Architecture	Store-and-Forward
Switch Fabric	16Gbps/non-blocking
Forwarding Rate	11.9Mpps(64-byte packet size)
Packet Buffer Size	4 Mbits
Maximum Packet Length	10K bytes
MAC Address Table	8K entries, automatic source address learning and aging
Flow Control	IEEE 802.3x pause frame for full duplex, Back pressure for half duplex
<b>Power Supply</b>	
Number of Input	2
Input Voltage	DC9-56V
Power Consumption	8 Watts Max
<b>Environmental</b>	
Operating Temperature	-40°C~75°C (-40 to 167 °F)
Storage Temperature	-40°C~85°C (-40 to 185 °F)
Operating Humidity	5%~95% (non-condensing)
MTBF	907,476 hours @ Telcordia SR-332 Standard
Heat Dissipation	27.28 BTU/h (non-PoE mode)
Cooling	Passive Cooling, Fanless Design
Noise Level	0 dBA

Software Features	
Port Configuration	Port(Admin Status) disable/enable Copper Port: Auto-negotiation 10/100/1000Mbps full and half duplex mode selection Fiber Port: 100M/1000M speed selection Flow Control disable/enable Power saving(EEE) disable/enable Each port description
Port Status	Display each ports' speed duplex mode, link status, flow control status, auto negotiation status, Fiber Port Information, Port Traffic
Port Mirroring	Source Ingress/ Egress Port/ Both, Many-to-1 monitor
VLAN	Up to 4K VLAN groups, out of 4094 VLAN IDs IEEE 802.1Q tag-based VLAN IEEE 802.1AD Q-in-Q tunneling(Double VLAN) GVRP(Generic VLAN Registration Protocol)
Link Aggregation	IEEE 802.3ad LACP/Static trunk Supports 6 trunk groups with 4 ports per trunk
Spanning Tree Protocol	IEEE 802.1D Spanning Tree Protocol IEEE 802.1w Rapid Spanning Tree Protocol IEEE 802.1s Multiple Spanning Tree Protocol
Multicast	Dynamic/Static Multicast groups IGMP Snooping v1,2,3 Port-based IGMP Snooping Fast Leave GMP Querier
Rate Limitation	Per Port Rate Limitation Ingress: 16-1000000 kbps/Egress: 16-1000000 kbps
Ring	ITU-T G.8032 ERPS, Recovery time < 10ms
QoS	Traffic classification based, strict priority and WRR 8-level priority for switching -Port number -802.1p priority -802.1Q VLAN tag -DSCP/TOS field in IP Packet
ACL	IP-based ACL/MAC-based ACL ACL based on: -MAC Address -IP Address -Ethertype -Protocol Type -VLAN ID -DSCP -802.1p Priority
Security	Port Security Static MAC address IEEE 802.1x port-based network access control RADIUS authentication DHCP Snooping, DHCP option 82

## Software Features

### Layer 3 Functions

IP Interfaces	Max. 8 VLAN interfaces
Routing Table	Max.32 routing entries
Routing	IPv4 software static routing

### Management

Basic Management Interface	Console; Telnet; Web browser; SNMPv1/v2c
Secure Management Interface	SSHv2, TLSv1.2, SNMPv3
System Management	Firmware Upgrade by HTTP protocol through Ethernet network Configuration upload/download through HTTP Remote syslog, System log LLDP protocol, Sntp PREVIEW NMS Alarm(Relay, Led, Temperature, Trap, Power)

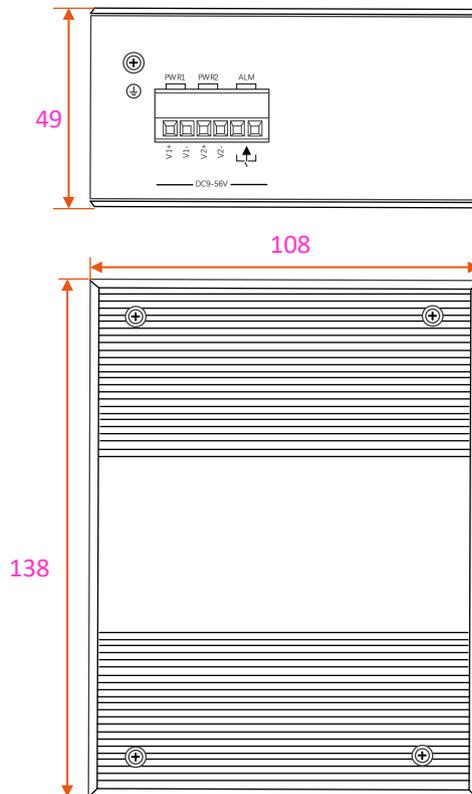
LED	State	Description
<b>PWR (P1&amp;P2)</b>	ON	Power is being supplied
	OFF	Power is not being Supplied.
<b>RUN</b>	Blinking	The system is running well
<b>Link/ACT (1-8)</b>	ON	Port connection is active
	Blinking	Data transmitted
	OFF	Port connection is not active
<b>ALM</b>	ON	Has alarm information
	OFF	No alarm information

## Regulatory & Warranty

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: <a href="https://fiberroad.com/warranty">https://fiberroad.com/warranty</a>

## Package Contents

Device	1 x Industrial Ethernet Switch
Cable	1 x DB9 female to RJ45
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-7M3008L	Industrial L2+ Managed 8-port 10/100/1000Base-TX Ethernet Switch with Redundant DC Power Inputs	Dual DC9-56V	-40 to +75°C

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

## Optional Accessories (to be purchased separately)

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(S/FTP) Ethernet Network Patch Cable, 26AWG, 1000Base-T, 0.5m – 3m

## Shipping

Model No.	FR-7M3008L
Classification Codes	HS Code: 851762
	HTS: 8517.62.00
NDA Compliant	Yes
Individual Gross Weight	0.72kg
Individual Package Dimension	201x171x73mm
Package Quantity	20 Units
Package Gross Weight	14.4kg
Package Dimension	422x385x375mm

## 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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