



L2+ Managed Ethernet Switches

FR-7M3008P • FR-7M3008BT

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

Product Data Sheet



FR-7M3008P • FR-7M3008BT

Main Features



- 8x10/100/1000BASE-T Gigabit Ethernet RJ45
- Optionally support IEEE 802.3 af/at/bt Power Over Ethernet Standard
- 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.

Hardware Specifications			
Product	FR-7M3008P	FR-7M3008BT	
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	±6kV DC, ±6kV RJ45	
Enclosure	IP40 aluminum case		
Installation	DIN-Rail and Wall-mount		
Dimension	138 x 108 x 49mm		
Weight	700g(Bare weight), 800g(With package)		
Switching			
Switch Architecture	Store-and-Forward		
Switch Fabric	36Gbps/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		
PoE & Power Supply			
PoE Ports	Port 1 to 8 IEEE802.3 af/at	Port 1 to 8 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	
Input Voltage	DC48-56V	DC52-56V	
Power Consumption	10 Watts Max (without PoE load)		
PoE Power Budget	Max 240W@dual 52VDC inputs	Max 470W@dual 52VDC inputs	
Environmental			
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	34 BTU/h (non-PoE mode) 853 BTU/h (with 240W PoE load)		
Cooling	Passive Cooling, Fanless Design		
Noise Level	0 dBA		

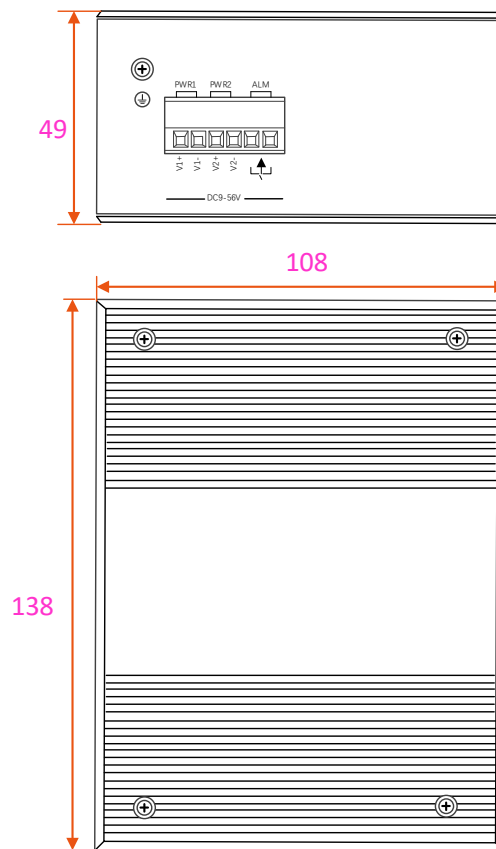
Software Features	
Port Configuration	Port(Admin Status) disable/enable Copper Port: Auto-negotiation 10/100/1000Mbps full and half duplex mode selection Fiber Port: 100M/1000M speed selection Flow Control disable/enable Power saving(EEE) disable/enable Each port description
Port Status	Display each 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
PoE Management Functions	
PoE System Management	PoE Port status monitoring Total PoE power budget control PoE usage threshold and temperature threshold PoE port Priority PoE mode(PoE/PoE+/PoE++) PD reboot(Zero Traffic Duration)
PoE Schedule	Absolute/Periodic Mode

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
PWR (P1&P2)	ON	Power is being supplied
	OFF	Power is not being Supplied.
RUN	Blinking	The system is running well
Link/ACT (1-8)	ON	Port connection is active
	Blinking	Data transmitted
	OFF	Port connection is not active
ALM	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: https://fiberroad.com/warranty

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-7M3008P	Industrial L2+ Managed 8-port 10/100/1000Base-TX (PoE+) Ethernet Switch with Redundant DC Power Inputs	Dual DC9-56V	-40 to +75°C
FR-7M3008BT	Industrial L2+ Managed 8-port 10/100/1000Base-TX (PoE++) 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

Optional Accessories (to be purchased separately)

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

Shipping

Model No.	FR-7M3008P/FR-7M3008BT
Classification Codes	HS Code: 851762
	HTS: 8517.62.00
NDAA Compliant	Yes
Individual Gross Weight	0.8kg
Individual Package Dimension	201x171x73mm
Package Quantity	20 Units
Package Gross Weight	17.6kg
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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