



FR-7M3208S

HIGH-STANDARD SMART INDUSTRIAL ETHERNET SWITCH

Product Data Sheet

Ver. 3.0.0



FR-7M3208S

FR-7M3208S is a new-generation Smart Industrial Ethernet Switch with 8-Port 10/100/1000Base-TX and 2-Port 100/1000Base-FX SFP with 2 x RS485/422/232, which provides stable and reliable Ethernet transmission by Fiberroad.

Main Features

- Provide SC/FC/ST/LC interface fiber port, support single/dual fiber transmission
- Supports IEEE802.3/802.3u/802.3ab/802.3z/802.3x
- Supports IEEE802.3az Energy Efficient Ethernet technology
- ERPS, RSTP/STP and MSTP for network redundancy
- RADIUS, SNMPv3, IEEE 802.1x, HTTPs, SSH and sticky MAC address to enhance network security
- EtherNet/IP and Modbus TCP protocols supported for device management and monitoring
- Supports buffer up to 4Mbit, smooth transfer 4K video
- Electric 8KV surge protection Complete status indicator, working state at a glance
- Power input polarity protection design, no worry about wrong operation
- Aluminum case, no fan design
- Installation method: DIN rail /Wall mounting



With dual power input design, FR-7M3208S can offer redundant mechanisms for critical applications that need always-on connections. It can also operate either at standard operating temperature range -40 to 75° C. Housed in rugged DIN rail or wall mountable IP40 enclosures, these switches are perfect choices for harsh environments, such as industrial networking, intelligent transportation systems (ITS) and are also suitable for many military and utility market applications where environmental conditions exceed commercial product specifications.

Product Specifications

Ethernet Interface	
Ports	8x10/100/1000Base-T(X) Ports(RJ45 connector) 2x100/1000Base-FX (SFP Slots) 2x RS485/422/232(5-pin Serial Terminal)
Ports Mode(Tx)	Auto Negotiation Speed Full/Half Duplex Mode Auto MDI/MDI-X Connection
Standards	IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT(X) and 100BaseFX IEEE 802.3ab for 1000BaseT(X) IEEE 802.3z for 1000BaseSX/LX/LHX/ZX IEEE 802.3x for flow control IEEE 802.1D-2004 for Spanning Tree Protocol IEEE 802.1w for Rapid Spanning Tree Protocol IEEE 802.1s for Multiple Spanning Tree Protocol IEEE 802.1p for Class of Service IEEE 802.1Q for VLAN Tagging IEEE 802.1X for authentication IEEE 802.3ad for Port Trunk with LACP
Packet Buffer Size	4Mbits
Maximum Packet Length	Up to 10K
MAC Address Table	8K
Transmission Mode	Store and Forward (full/half duplex mode)
Exchange Property	Delay time: < 7μs Backplane bandwidth: 20Gbps; Packet forwarding rate: 14.88Mpps
Packet Buffer	4Mbits
IGMP GroupS	2048
Max. No. of VLAN	64
VLAN ID Range	VID 1 to 4094

Series Port	Parameters
Ports	2 x RS485/422/232
Signals	RS-232: a:TXD、 b:RXD、 c:Na、 d:Na、 e:GND RS-422: a:T+、 b:T-、 c:R+、 d:R-、 e:GND RS-485: : a: Na、 b: Na、 c:D+、 d:D-、 e:GND
Baud rate	2400-115200bps
Terminal	5-Pin Terminal
Load Capacity	RS-485/422 supports 128 points polling environment
Movement	RS-485 adopts automatic data flow control technology
Interface Protection	RS-232 15KV static protection Isolation voltage 2KV, electrostatic protection 15KV
Management Features	
Serial Protocol	TCP Server/Client, UDP, Modbus ASCII TCP Server/Client, Modbus RTU Server/Client
Interconnection	Data Bits, Parity, Stop Bits Configuration
Serial Statistics	Bytes and Packets Statistics

Product Specifications

Ethernet Software Features	
Redundant Network	Support STP/RSTP/MSTP, Support EAPS、ERPS, Support manual aggregation, support static/dynamic LACP
Multicast Support	Support IGMP Snooping V1/V2/V3, support GMRP, GVMPP
VLAN	Support IEEE 802.1Q 4K VLAN, support QINQ, Double VLAN,
Time Management	SNTP
QOS	Support COS、DSCP, 8 queues, support WRR、SP、WFQ, QOS
POE Management	Support total power control, POE on/ off, port power sequencing, POE timing
Diagnostic Maintenance	Support port mirroring, Syslog, Ping
Industrial Protocol	Modbus TCP(ASCII and RTU, Server and Client)
Management Function	Support CLI、WEB、SNMPv1/v2/v3, Telnet server for management,EEE,LLDP, DHCP Server/Client(IPv4/IPv6)
Alarm Management	Support 1 way relay alarm output, RMON, TRAP
Security	Broadcast Storm Protection, HTTPS/SSL, RADIUS, SSH Support DHCP Snooping, Option 82, 802.1X security access, Support user hierarchical management, ACL access control list, Support DDOS, port-based MAC filtering / binding, MAC whitelist

Physical Characteristics	
Housing	Aluminum case
IP Rating	IP40
Dimensions	138mm x 108mm x 49mm (L x W x H)
Installation Mode	DIN trail/wall-mountable
Weight	600g (With PoE: 650g)

Working Environment	
Operating Temperature	-40°C~75°C (-40 to 167 °F)
Operating Humidity	5%~90% (non-condensing)
Storage Temperature	-40°C~85°C (-40 to 185 °F)

LED Indicator	
Power	Connect-always
RJ45	Link/Act: connect-always; data exchange-twinkle
Fiber	Link/Act: connect-always; data exchange-twinkle

Power Information	
Redundant Power Input	DC 9-56V
Overload Protection	Yes
Power Reverse	Support
Power Consumption	Full Load<15W (Exclude PoE) Full Load<240W(Include PoE)

Product Specifications

Warranty

MTBF	500,000 hours
Defects Liability Period	3 year warranty, lifetime technical support

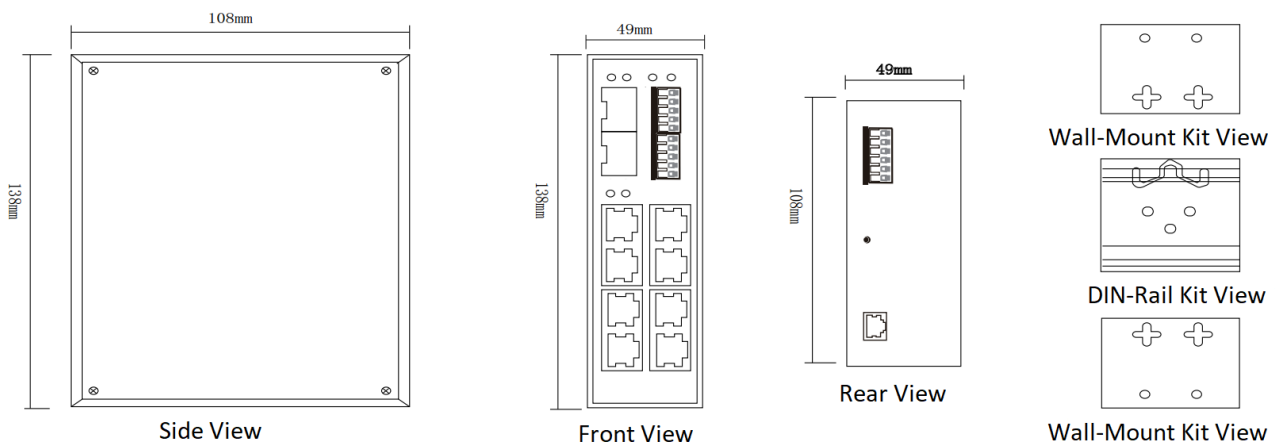
Certification Standard

EMC/EMI/EMS	FCC Part15 Class A CE-EMC/LVD RoHS EN61000-4-2 (ESD):LEVEL 4 IEC 6100-4-2 (EFT):LEVEL 4 IEC 6100-4-2 (Surge): LEVEL 4 IEC 6100-4-2 (CS): LEVEL 3 IEC 61000-4-2(PFMP) : LEVEL 5 EN61000-4-3 (RS):LEVEL 4
Shock	IEC60068-2-27
Vibration	IEC60068-2-6
Freefall	IEC60068-2-31
Safety	EN 60950-1, UL 60950-1, CSA C22.2 No.60950-1, UL 508

Package Contents

Device	1x Industrial Ethernet Switch
Cable	1xDB9 female to RJ45 10-pin
Installation Kit	2 x cap, plastic, for SFP Slots Or 2 x cap, plastic, for SC fiber port Or 2 x cap, plastic, for ST fiber port 1x DIN-Rail Clip 2x Wall-Mount Kits
Documentation	1 x quick installation guide 1 x warranty card 1x product notice

Dimensions Unit: mm



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
FR-45-24	45W/2A DIN-Rail 24 VDC power supply with universal 85 to 264 VAC or 120 to 370 VDC input, -10 to 50°C operating temperature
FR-75-24	75W/3.2A DIN-Rail 24 VDC power supply with universal 85 to 264 VAC or 120 to 370 VDC input, -10 to 50°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

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	Port Description
FR-7M3208S	Managed, Industrial Ethernet Switch, 8 x 10/100/1000M Base-TX + 2 x 100/1000M Base-FX SFP+2xRS485/422/232 Series Port, DC9~56V
FR-7M3208SP	Managed, Industrial Ethernet Switch, 8 x 10/100M Base-TX with PoE+ 2 x 100/1000M Base-FX SFP +2xRS485/422/232 Series Port, DC9~56V
FR-7M3208SA	Managed, Industrial Ethernet Switch, 8 x 10/100/1000M Base-TX + 2 x 100/1000M Base-FX SFP+2xRS485/422/232 Series Port, AC100V~240V

*Fiber port can add SFP module. RJ45 port with PoE optional.

The information in this document is subject to change without notice. Fiberroad Technology., Ltd has made all effects to ensure the accuracy of the information, but all information in this document does not constitute any kind of warranty. Visit our website 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.