

FIBERROAD®

# LAYER 2 MANAGED GIGABIT SWITCH

Product Data Sheet



The Layer 2 Managed Ethernet Switch delivers advanced networking control with full Gigabit Layer 2 management, enabling efficient traffic handling, VLAN segmentation, QoS prioritization, and robust security features. Designed for scalability, it offers flexible management via CLI, WebGUI, or NMS (Network Management System), simplifying configuration and monitoring for IT administrators. Available with an optional IEEE 802.3af/at/bt PoE support, this switch powers high-demand devices such as IP cameras, wireless access points, and VoIP phones while maintaining reliable performance. With advanced features like port mirroring, STP/RSTP, and IGMP snooping, this switch provides a high-performance, future-proof networking solution.

## Main Features

- 8x10/100/1000BASE-T Gigabit Ethernet RJ45
- 16x100/1000BASE-X SFP Slots
- 4x100/1000BASE-X and 10/100/1000BASE-T RJ45 Combo
- Optionally support IEEE 802.3 af/at/bt Power Over Ethernet Standard
- Supports the WEB management mode, which is easy and efficient so that it makes installation and debugging convenient.
- Build up a redundant network topology with STP/RSTP/MSTP/ERPSv2
- Port-based VLAN, IEEE 802.1Q VLAN, and GVRP to ease network planning
- Supports priority retagging and complicated flow classification based on VLAN, MAC, source address, destination address, IP or priority to better streamline carrier's services.
- Supports SNMP and FRO NMS management platform to realize automatic equipment discovery, network topology management, equipment configuration management, performance data statistics and analysis and trouble management.



| Hardware Specifications            |                                                                                                                                      |                               |                                  |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|----------------------------------|
| Product                            | FR-5M34F8                                                                                                                            | FR-5M34F8P                    | FR-5M34F8BT                      |
| Copper Ports                       | 8x10/100/1000BASE-T RJ45 Auto-MDI/MDI-X (Port 17-24)                                                                                 |                               |                                  |
| Fiber Ports                        | 16x100/1000BASE-X SFP Slots (Port 1 -Port 17)<br>4x100/1000BASE-X SFP Slots (Port 25 -Port 28) / 4x10/100/1000BASE-T RJ45 Combo Port |                               |                                  |
| Console                            | 1x RJ45-to-RS232 Serial Port(115200)                                                                                                 |                               |                                  |
| RAM                                | 128Mbyte                                                                                                                             |                               |                                  |
| FLASH                              | 32MByte                                                                                                                              |                               |                                  |
| Reset Button                       | <5 sec: System Reboot; > 10 sec: Factory Default                                                                                     |                               |                                  |
| Surge Protection                   | ±4kV DC, ±4kV RJ45                                                                                                                   | ±4kV DC, ±6kV RJ45            |                                  |
| Enclosure                          | IP30 Metal                                                                                                                           |                               |                                  |
| Installation                       | 19inch Rack Mount or Desktop                                                                                                         |                               |                                  |
| Dimension                          | 440mm*300mm*45mm                                                                                                                     |                               |                                  |
| Switching                          |                                                                                                                                      |                               |                                  |
| Switch Architecture                | Store-and-Forward                                                                                                                    |                               |                                  |
| Switch Fabric                      | 56Gbps/non-blocking                                                                                                                  |                               |                                  |
| Forwarding Rate                    | 41.66Mpps(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                                                               |                               |                                  |
| Power Supply & Power over Ethernet |                                                                                                                                      |                               |                                  |
| Power Input                        | 1                                                                                                                                    |                               |                                  |
| Input Voltage                      | AC 100-240V, 50/60Hz 0.15A                                                                                                           |                               |                                  |
| Power Consumption                  | 15 Watts Max (without PoE Load)                                                                                                      |                               |                                  |
| PoE Ports                          | \                                                                                                                                    | Port 17 to 24 IEEE802.3 af/at | Port 17 to 24 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                   | \                                                                                                                                    | 240W (Default)                | 240W (On Demand)                 |
| Environmental                      |                                                                                                                                      |                               |                                  |
| Operating Temperature              | 0 °C to 50 °C                                                                                                                        |                               |                                  |
| Storage Temperature                | -20°C to 70°C                                                                                                                        |                               |                                  |
| Operating Humidity                 | 5%~95% (non-condensing)                                                                                                              |                               |                                  |
| MTBF                               | 147,595 hours (Non-PoE Models) 126,424 hours (PoE Models) @MIL-HDBK-217F GB                                                          |                               |                                  |
| Heat Dissipation                   | 102 BTU/h (non-PoE mode)<br>1672 BTU/h (with Max PoE load)                                                                           |                               |                                  |
| Cooling                            | Passive Cooling, Fanless Design                                                                                                      |                               |                                  |
| Noise Level                        | 0 dBA                                                                                                                                |                               |                                  |

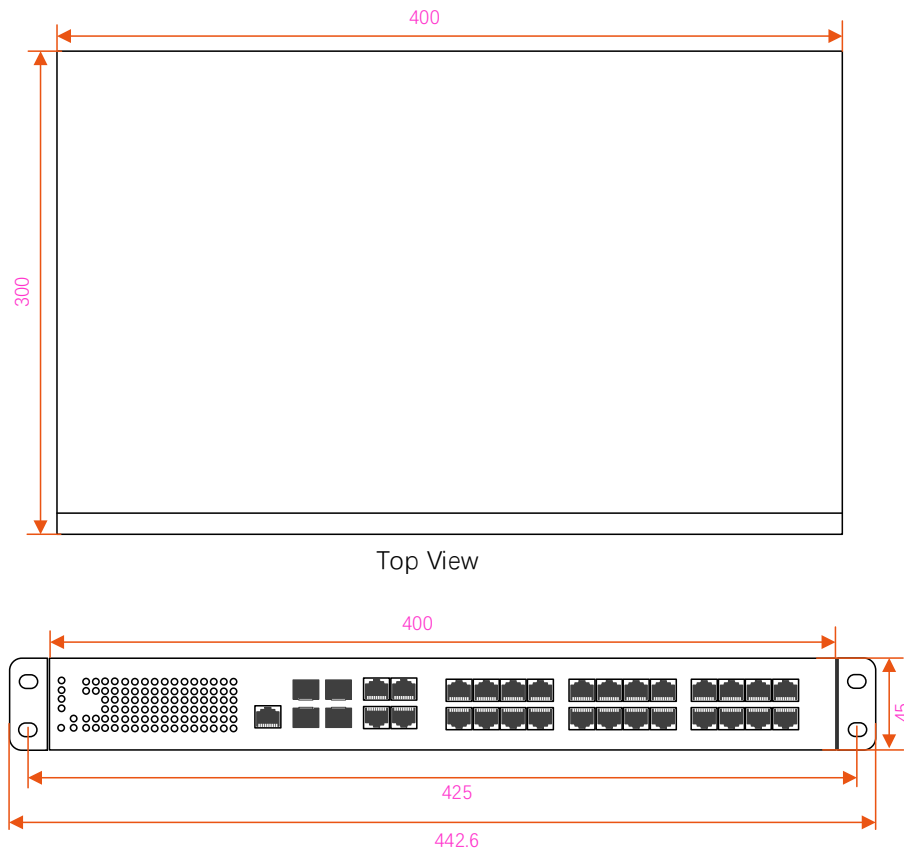
| Software Features                   |                                                                                                                                                                                                                                                              |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Port Configuration                  | Port(Admin Status) disable/enable<br>Copper Port: Auto-negotiation 10/100/1000Mbps full and half duplex mode selection<br>Fiber Port: 100M/1000M speed selection<br>Flow Control disable/enable<br>Power saving(EEE) disable/enable<br>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<br>IEEE 802.1Q tag-based VLAN<br>IEEE 802.1AD Q-in-Q tunneling(Double VLAN)<br>GVRP(Generic VLAN Registration Protocol)                                                                                           |
| Link Aggregation                    | IEEE 802.3ad LACP/Static trunk<br>Supports 6 trunk groups with 4 ports per trunk                                                                                                                                                                             |
| Spanning Tree Protocol              | IEEE 802.1D Spanning Tree Protocol<br>IEEE 802.1w Rapid Spanning Tree Protocol<br>IEEE 802.1s Multiple Spanning Tree Protocol                                                                                                                                |
| Multicast                           | Dynamic/Static Multicast groups<br>IGMP Snooping v1,2,3<br>Port-based IGMP Snooping Fast Leave<br>GMP Querier                                                                                                                                                |
| Rate Limitation                     | Per Port Rate Limitation<br>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<br>8-level priority for switching<br>-Port number<br>-802.1p priority<br>-802.1Q VLAN tag<br>-DSCP/TOS field in IP Packet                                                                              |
| ACL                                 | IP-based ACL/MAC-based ACL<br>ACL based on:<br>-MAC Address<br>-IP Address<br>-Ethertype<br>-Protocol Type<br>-VLAN ID<br>-DSCP<br>-802.1p Priority                                                                                                          |
| Security                            | Port Security<br>Static MAC address<br>IEEE 802.1x port-based network access control<br>RADIUS authentication<br>DHCP Snooping, DHCP option 82                                                                                                               |
| PoE Management Functions(PoE Model) |                                                                                                                                                                                                                                                              |
| PoE System Management               | PoE Port status monitoring<br>Total PoE power budget control<br>PoE usage threshold and temperature threshold<br>PoE port Priority<br>PoE mode(PoE/PoE+/PoE++)<br>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<br>Configuration upload/download through HTTP<br>Remote syslog, System log<br>LLDP protocol, SNTp<br>PREVIEW NMS<br>Alarm(Relay, Led, Temperature, Trap, Power) |  |

| LED                | State    | Description                                 |
|--------------------|----------|---------------------------------------------|
| PWR                | ON       | Power is being supplied                     |
|                    | OFF      | Power is not being Supplied.                |
| RUN                | Blinking | The system is running well                  |
|                    | OFF      | The system is running unwell                |
| FAIL(Only For PoE) | ON       | PoE Status is abnormal                      |
|                    | OFF      | PoE Status is normal                        |
| MAX(Only For PoE)  | ON       | Total PoE Power out of maximum power budget |
|                    | OFF      | Total PoE Power under maximum power budget  |
| R.O.               | ON       | Ring Owner                                  |
|                    | OFF      | Not Ring Owner                              |
| RING               | ON       | Ring is enabled                             |
|                    | OFF      | Ring is disabled                            |
| Link/ACT<br>(1-28) | ON       | Port connection is active                   |
|                    | Blinking | Data transmitted                            |
|                    | OFF      | Port connection is not active.              |
| RJ45 Port Speed    | ON       | 1000M is running                            |
|                    | OFF      | No 1000M is running                         |
| ALM                | ON       | Has alarm information                       |
|                    | OFF      | No alarm information                        |

| Package Contents |                                                                       |
|------------------|-----------------------------------------------------------------------|
| Device           | 1x Ethernet Switch                                                    |
| Cable            | 1 x DB9 female to RJ45 10-pin<br>AC Power Cable (Regional Power Plug) |
| Installation Kit | 2 x Rack-Mount Kits                                                   |
| Documentation    | 1 x Quick start guide<br>1 x Warranty card                            |

Dimensions      Unit: mm



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<br>IEC61000-4-5 Surge: Power: ±6kV; RJ45: ±4kV/±6kV(PoE) |
| Environmental | RoHS 2011/65/EU Annex II(EU)                                                                       |
| Warranty      | 3 Years, Details See: <a href="https://fiberroad.com/warranty">https://fiberroad.com/warranty</a>  |

Accessories(Sold Separately)

SFP Optical Transceiver

|                   |                                      |
|-------------------|--------------------------------------|
| FRSX-1L311C       | 1.25Gb/s 1310nm 10km SFP             |
| FRSX-1L341C       | 1.25Gb/s 1310nm 40km SFP             |
| FRSX-1L5X1C       | 1.25Gb/s 1550nm 80/100km SFP         |
| FRSX-1L3523/5323C | 1.25Gb/s 1310nm/1550nm 20km BiDi SFP |

## 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 | 10/100/1000 Base-T RJ45 | 100/1000 BASE-X SFP | Gigabit Combo Port | PoE Standard                 | Input Voltage | Operating Temp. |
|--------------|-------------------------|---------------------|--------------------|------------------------------|---------------|-----------------|
| FR-5M34F8    | 8                       | 16                  | 4                  | \                            | 1xAC220V      | 0 °C to 50 °C   |
| FR-5M34F8P   | 8                       | 16                  | 4                  | Port 17-14<br>802.3 af/at    | 1xAC220V      | 0 °C to 50 °C   |
| FR-5M34F8BT  | 8                       | 16                  | 4                  | Port 17-24<br>802.3 af/at/bt | 1xAC220V      | 0 °C to 50 °C   |

## Shipping

|                              |                 |  |               |  |
|------------------------------|-----------------|--|---------------|--|
| Model No.                    | FR-5M34F8       |  | FR-5M34F8P/BT |  |
| Classification Codes         | HS Code: 851762 |  |               |  |
|                              | HTS: 8517.62.00 |  |               |  |
| NDA Compliant                | Yes             |  |               |  |
| Individual Gross Weight      | 4.75kg          |  | 4.95kg        |  |
| Individual Package Dimension | 495*393*80mm    |  |               |  |
| Package Quantity             | 4 Units         |  |               |  |
| Package Gross Weight         | 20kg            |  | 21kg          |  |
| Package Dimension            | 520*345*418mm   |  |               |  |

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