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

- 24x10/100/1000BASE-T Gigabit Ethernet RJ45
- 4x100/1000BASE-X and 4x10/100/1000BASE-T RJ45 Combo Port
- 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 FIRO 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-5M3424	FR-5M3424P	FR-5M3424BT
Copper Ports	24x10/100/1000BASE-T RJ45 Auto-MDI/MDI-X (Port 1-24)		
Fiber Ports	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 1 to 24 IEEE802.3 af/at	Port 1 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	\	400W (Default)	400W (On Demand)
Environmental			
Operating Temperature	0 ℃ to 50 ℃		
Storage Temperature	-20℃ to 70℃		
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) 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 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 Model)

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	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 (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 AC Power Cable (Regional Power Plug)
Installation Kit	2 x Rack-Mount Kits
Documentation	1 x Quick start guide 1 x Warranty card

Dimensions   Unit: mm

Top View
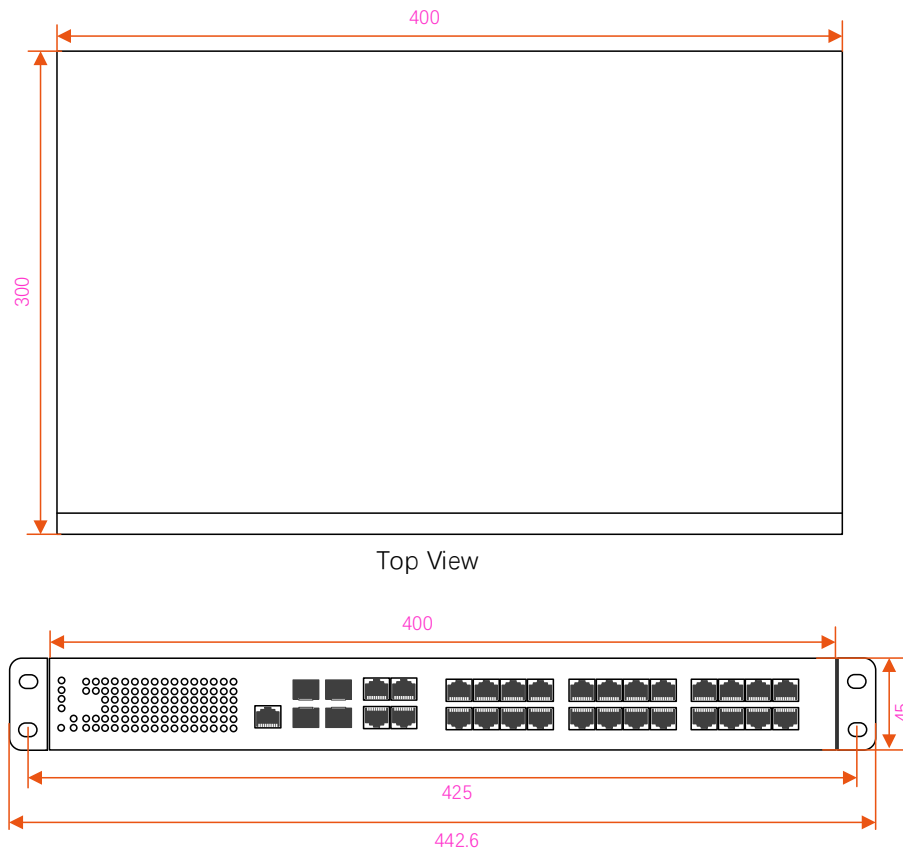
Regulatory & Warranty	
ISO	Manufactured in ISO-9001facility
Safety	IEC62368-1:2020+A11:2020
EMI	FCC Part 15B Class A, IEC 61000-3-2
EMS	IEC61000-4-2 ESD: Contact:±8kV, Air:±15kV IEC61000-4-5 Surge: Power: ±6kV; RJ45:±4kV/±6kV(PoE)
Environmental	RoHS 2011/65/EU Annex II(EU)
Warranty	3 Years, Details See: https://fiberroad.com/warranty

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	10/100/1000Base-T RJ45	Gigabit Combo Port	PoE Standard	Input Voltage	Operating Temp.
FR-5M3424	24	4	\	1xAC220V	0 ℃ to 50 ℃
FR-5M3424P	24	4	Port 1-24 802.3 af/at	1xAC220V	0 ℃ to 50 ℃
FR-5M3424BT	24	4	Port 1-24 802.3 af/at/bt	1xAC220V	0 ℃ to 50 ℃

Shipping

Model No.	FR-5M3424	FR-5M3424P/BT
Classification Codes	HS Code: 851762	
	HTS: 8517.62.00	
NDAA 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

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