FIBERROAD®

L3 Managed Ethernet Switches

FR-9T4424 • FR-9T4424P • FR-9T4424BT

Industrial L3 Managed 24-port 10/100/1000Base-TX (Non-PoE/PoE+/PoE++) + 4-port 10GBase-SFP Ethernet Switch with Redundant DC Power Inputs

Product Data Sheet

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Main Features

- IEEE 802.3af/at/bt PoE++ Standard, without damaging not-PoE devices.
- Advanced PoE management functions : PoE output setting, Smart PoE, PoE scheduling and PoE Budget Management.
- Priority system for PoE Port, it will supply power to the high priority level port first when the power budget is insufficient.
- Layer 3 Model support OSPFv2, RIPv2, Static Route
- TACACS+, SNMPv3, IEEE 802.1X, HTTPS and SSH to enhance network security
- Link Aggregation, STP/RSTP/MSTP/ERPS for network redundancy
- ROMON for proactive and efficient network monitoring
- Fanless, IP40 Rating, -40 ° C ~ 75℃ operation temperature design to ensure that the equipment adapts to a variety of harsh environments
- Redundant dual DC/AC power supplies are optional, anti-reverse connection, overcurrent protection

Overview

L3 Managed Industrial PoE Switch is a multi-port, high-standard Industrial Managed PoE Ethernet Switch independently developed by Fiberroad for industrial ethernet network. This product adopts industry-leading technical standards and can provide stable and reliable Ethernet transmission with high-quality design and reliability. They are designed in a rack mount aluminum housing and have 24 Ethernet ports in total (depending on model). Plus an additional 4*10Gigabit Ethernet Ports, supports Layer 3 routing functionality to facilitate the deployment of applications across networks. As a result, it can supply power to PD terminal equipment like wireless AP, webcam, VoIP, and IIoT Devices intercom through network cable and meet the infrastructure requirements of a high-density PoE/PoE+/PoE++ supply.

Industrial Ethernet switches adopt mature technologies and open standards. They are equipped with a redundant power supply, high-temperature resistant, anti-electromagnetic interference, low-temperature resistance, anti-vibration, and anti-shake features. They can also operate at -40 to 75°C and have 19” rack mounts that meet IP 40 protection standards. Industrial Ethernet switches are perfect for harsh environments such as military, utility market applications, and industrial networking.

Ethernet Interface	
Model	FR-9T4424/P/BT
Ports	4×10Gigabit SFP plus 24×10/100/1000M Base-TX RJ45
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 802.3ae for 10 Gigabit Ethernet 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

Physical Characteristics	
Housing	Aluminum case
IP Rating	IP40
Dimensions	400mmx300mmx45mm
Installation	Rack Mount
Weight	2800g
Environmental	
Operating Temperature	-40℃~75℃ (-40 to 167 ℉)
Operating Humidity	5%~90% (non-condensing)
Storage Temperature	-40℃~85℃ (-40 to 185 ℉)
MTBF	＞250,000@Telcordia(Bellcore)GB
Heat Dissipation	75 BTU/h(Non-PoE Load) 1672 BTU/h(with MAX PoE Load)
Cooling	Passive Cooling, Fanless Design
Noise Level	0 dBA

Software Features	
Management Interface	CLI(Console/Telnet(RFC854)), WebUI(HTTPS), SNMPv3
Management	ARP, Flow Control, DDM, DHCP Server/Client, IPv4/IPv6, LLDP, LLDP-MED, UDLD, Port Mirror, RMON, SNMPv1/v2c/v3, Syslog, Telnet,
File Management	Firmware Upgrade/Backup, Dual Images, Configuration Download/Backup, Multiple Configuration, TFTP(RFC783), HTTP, UART
Management Access	Management VLAN, Management ACL(256)
Filter	802.1Q, GMRP, GVRP, IGMP Snooping v1/v2/v3, IGMP Querier V2/V3 QinQ VLAN
Redundant Network	Link Aggregation, STP/RSTP/MSTP/ERPSv2, Auto Edge Port, BPDU Filtering, Self Loop Detection
VLAN	Support IEEE 802.1Q 4K VLAN, QINQ, Double VLAN, Voice LAN, Surveillance VLAN(Auto/Manual), Multicast VLAN Registration(MVR)
Time Management	Local, SNTP, NTP
Unicast Routing	OSPFv2, RIPv1/v2, Static Route
QOS	Support Queue Scheduling(WRR, WFQ, Strict Priority , Hybrid(WRR+SP or WFQ+SP); Priority Queue(8 queues/port); Class of Service(Port-based, 802.1p, IP TOS Precedence, IP DSCP), Trusted QoS, Rate Limitation
ACL Type	L2/L3/L4, MAC-based, IPv4-based, IPv6-based
Diagnostic Maintenance	Support port mirroring, Syslog, Ping
POE Management	PoE working status Scheduling of PoE operation
Security	Broadcast Storm Control, HTTPS/SSLv2v3,TLSv1 RADIUS, TACACS+,AAA SSHv1/v2,Support DHCP Snooping, Option 43/82, 802.1X security access, Support user hierarchical management, ACL access control list, Support DOS, port-based MAC filtering/binding, MAC whitelist
MIB	Ethernet-like MIB, MIB-II, MIB-I, Bridge MIB, Bridge MIB extensions, RMON MIB(1,2,3 & 9 groups, RFC2737 Entity, RFC2863 Interface Group, SNMP-Community-MIB

PoE & Power Supply		
Model	FR-9T4424P	FR-9T4424BT
PoE Ports	Port 1-24	Port 1-24
Power Supply Pin	Default: 1/2(+), 3/6(-)	Default: 1/2(+), 3/6(-) ,4/5(+), 7/8(-)
Max Power Per Port	IEEE802.3 af/at 30W	IEEE802.3 af/at/bt 90W
Total PWR / Input Voltage	Max 600W@dual 52VDC inputs	Max 600W@dual 52VDC inputs
Power Consumption	24 Watts Max(without PoE load)	
Power Inputs		2
Input Voltage	9-56VDC,Redundant dual inputs	
Operating Voltage	Non-PoE Mode: 9-56VDC 30W PoE Mode: 48-56VDC 90W PoE Mode: 52-56VDC	
Connector	**DC**: 1 removable 6-contact terminal blocks Pin 1/2 for Power 1, Pin 3/4 for Power 2, Pin 5/6 for fault alarm	
Protection	Overload Current Protection, Reverse Polarity Protection	

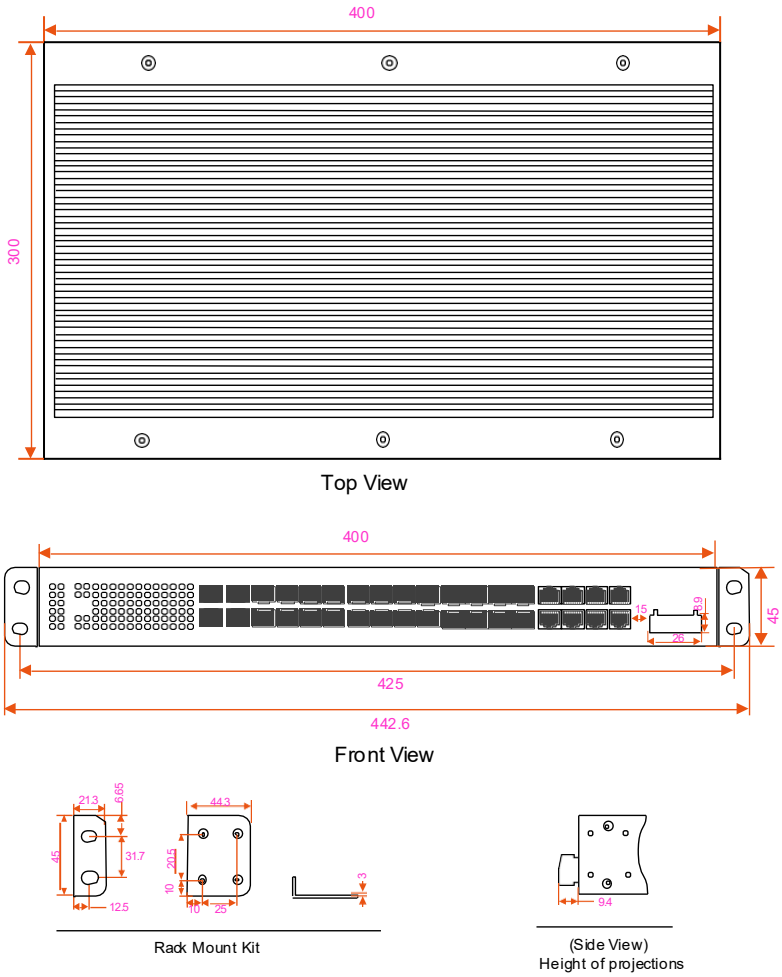
LED	State	Description
PWR (P1&P2)	ON	Power is being supplied
	OFF	Power is not being Supplied.
RUN	Blinking	The system is running well
	OFF	The system is running unwell
FAIL(Only For PoE)	ON	PoE Status is abnormal
	OFF	PoE Status is normal
MAX(Only For PoE)	ON	Total PoE Power out of maximum power budget
	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

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	2x Rack-Mount Kits
Documentation	1 x Quick Start guide 1 x Warranty card 1x Product notice

Dimensions

Unit: mm



Ordering Information

Available Model	Description	Input Voltage	Operating Temp.
FR-9T4424	Industrial L3 Managed 24-port 10/100/1000Base-TX + 4-port 10GBase-SFP Ethernet Switch with Redundant DC Power Inputs	Dual DC9-56V	-40 to +75℃
FR-9T4424P	Industrial L3 Managed 24-port 10/100/1000Base-TX (PoE+) + 4-port 10GBase-SFP Ethernet Switch with Redundant DC Power Inputs	Dual DC9-56V	-40 to +75℃
FR-9T4424BT	Industrial L3 Managed 24-port 10/100/1000Base-TX (PoE++) + 4-port 10GBase-SFP Ethernet Switch with Redundant DC Power Inputs	Dual DC9-56V	-40 to +75℃

Optional Accessories (to be purchased 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
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 Ourdoor Application , 1-50m
FRLC-A-CAT6	Armored Cat6 Snagless shielded(SFTP) Ethernet Network Patch Cable, 26AWG, 1000Base-T, 0.5m – 3m

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.