



FGS-2324K: 20-Port 100/1G SFP + 4-Port UTP/(100M/1G SFP) Combo L2+ Managed Fiber Switch

Key Features

- 20-port 100/1G SFP and 4-port RJ-45/(100/1G SFP) combo for scalable and flexible connection
- L2+ features provide better manageability, security, QoS, and performance
- ITU-T 8032 Ethernet Ring Protection Switching
- IPv4/IPv6 dual stack and sFlow supports
- Supports SNMP v1/v2c/v3 and DHCP Relay (Option 82)
- Supports AC (100~240VAC) and DC (-48VDC) dual power input for power redundancy application

Overview

The FGS-2324K, the next generation L2+ Ethernet fiber switches from Rubytch, is a 20-port 100/1G SFP, 4-port UTP/(100/1G SFP) combo L2+ Ethernet switch portfolio of affordable fiber switches and a standard switch that meets all IEEE 802.3/u/x/z/ab/ae standards. The switch delivers more intelligent features you need to improve the availability of your critical business applications, protects your sensitive information, and optimizes your network bandwidth to deliver information and applications more effectively. It provides the ideal combination of affordability and capabilities for fiber networking; includes ITU-T G.8032 Ethernet Ring Protection Switching for Ethernet switch management requirement. It is suitable for Ethernet switch applications and helps you create a more efficient, better-connected workforce. Among others, it supports AC and DC dual power input (100~240VAC/-48VDC) for power redundancy requirement.

Applications

Whether you want to create a high-performance Ethernet network to connect all clients' computers by using it as an access switch to connect to Ethernet or an application to deliver data, voice, and video services, the FGS-2324K provides a solution to fit your requirements. Possible implement scenarios include:

• Secure and High Performance connectivity:

The FGS-2324K fiber switch provides high performance and reliable connectivity. It will help speed file transfers and data processing, improve network performance and security, and keep the clients connected and productive.

• Secure and Quality Ethernet Fiber connectivity:

The FGS-2324K switch connected at Ethernet areas, collaborate in any place, and access networking from wherever they are. Gigabit Ethernet connectivity provides these clients to have the suitable bandwidth and quality performance they need. Through embedded security, the clients can work with confidence and authorized users can access networking and network devices.

• Unified communications with Ethernet open standards:

To be a managed network solution, it provides high performance and advanced networking quality to deliver all networking communications and data (such as IP telephony, IP surveillance, and Video Streaming) over a single network.

Benefits

The FGS-2324K provides security, performance, quality of services, central managed and other network control capabilities-optimized and customized, and at the reasonable price for access or enterprise solution. It provides:

• Excellent performance and reliability:

The FGS-2324K switch passed the rigorously testing to deliver excellent performance. As a managed switching solution, it also provides the flexibility to manage and prioritize suitable-bandwidth traffic.

• Strong security:

The switch provides an advanced security and gives you tight control to safeguard the network from unauthorized users. Advanced security features include:

- Embedded security to protect data traveling to and from the switch via SSL/SSH encrypt network communications.
- Extensive access control lists (ACLs) to restrict sensitive portions of the network from unauthorized users or guests.
- Guest virtual LANs (VLANs) provide internet connectivity to guests while isolating critical traffic from guest traffic.
- IP Source Guard to prevent datagram with spoofed addresses from being in the network.
- IEEE 802.1X port security to tightly limit access to specific segments of network.

• ITU-T G.8032:

The FGS-2324K supports ITU-T G.8032 for Ethernet redundancy requirement. This Ethernet protection protocol can improve the Ethernet services availability thus reduce the operation and maintenance cost.

• Advanced network management capabilities:

As managed switches, It helps you to use a variety of advanced managing features to manage traffic over your network. Features include:

---IPv6 Support:

As the IP network addressing scheme evolves to accommodate more devices, it supports IPv6, the newest version of the Internet Protocol, as well as the previous IPv4 standard. As the result, you have the ability to move up to the next generation of networking applications without an extensive equipment upgrade.

---Remote management:

Using Simple Network Management Protocol (SNMP) and IEEE802.1AB LLDP, you can configure and manage all switches and other Rubytch switches in the network remotely, instead of having to directly connect to them.

• Expansion ports:

Featuring 20 100/1G SFP fiber ports, the FGS-2324K also offers 4 RJ-45/(100/1G SFP) combo ports for uplinks to Fast Ethernet or Gigabit Ethernet by either UTP or fiber cables.

Product Specifications

Feature	Description		
Performance			
Switching capacity and forwarding rate	Model Name	Capacity in Millions of Packets per Second (mpps) (64-byte packets)	Switching Capacity in Gigabits per Second (Gbps)
	FGS-2324K	35.71	48
Layer 2 Switching			
Spanning Tree Protocol (STP)	Standard Spanning Tree 802.1d Rapid Spanning Tree (RSTP) 802.1w Multiple Spanning Tree (MSTP) 802.1s		
Trunking	Link Aggregation Control Protocol (LACP) IEEE 802.3ad <ul style="list-style-type: none"> • Up to 12 groups • Up to 8 ports per group 		
VLAN	Supports for up to 4K VLANs simultaneously (out of 4096 VLAN IDs) <ul style="list-style-type: none"> • Port-based VLAN • 802.1Q tag-based VLAN • MAC-based VLAN • Management VLAN • Private VLAN Edge (PVE) 		
Generic VLAN Registration (GVRP)	Protocols for automatically propagating and configuring VLANs in a bridged domain		
IGMP v1/v2/v3 snooping	IGMP limits bandwidth-intensive multicast traffic to only the requesters; supports 1024 multicast groups (source-specific multicasting is also supported)		
MLD v1/v2 snooping	Deliver IPv6 multicast packets only to the required receivers		
Security			
Secure Shell (SSH) Protocol	SSH secures Telnet traffic in or out the switch, SSH v1 and v2 are supported		
Secure Sockets Layer (SSL)	SSL Support: Encrypts the http traffic, allowing advance secure access to the browser-based management GUI in the switch		
IEEE 802.1X	IEEE802.1X: RADIUS authentication, authorization and accounting, MD5 hash, guest VLAN, single/multiple host mode and single/multiple sessions Supports IGMP-RADIUS based 802.1X Dynamic VLAN assignment		
Layer 2 isolation Private VLAN Edge (PVE)	PVE (also known as protected ports) provides L2 isolation between clients in the same VLAN, supports multiple uplinks		
Port Security	Locks MAC Addresses to ports, and limits the number of learned MAC addresses		
IP Source Guard	Prevents datagram with spoofed addresses from being in the network		
DHCP Relay (Option 82)	Option 82 was designed to allow a DHCP Relay Agent to insert circuit specific information into a request that is being forwarded to a DHCP server. Specifically the option works by setting two sub-options: Circuit ID and Remote ID		

Feature	Description					
DHCP snooping	DHCP snooping can prevent attackers from adding their own DHCP servers to the network					
RADIUS/ TACACS+	Supports RADIUS and TACACS+ authentication. Switch as a client					
Storm control	Broadcast, multicast, and unknown unicast					
ACLs	Support for up to 4096 entries Drop or rate limitation based on source and destination MAC, VLAN ID or IP address, protocol, port, differentiated services code point (DSCP) / IP precedence, TCP/ UDP source and destination ports, 802.1p priority, Ethernet type, Internet Control Message Protocol (ICMP) packets, IGMP packets, TCP flag					
Quality of Service						
Hardware Priority Queue	Supports 8 hardware queues					
Scheduling	Strict priority and weighted round-robin (WRR) Queue assignment based on DSCP and class of service (802.1p/ CoS)					
Classification	Port based; 802.1p VLAN priority based; IPv4/IPv6 precedence/ type of service (ToS) / DSCP based; Differentiated Services (DiffServ); classification and re-marking ACLs, trusted QoS					
Rate Limiting	Ingress policer; egress shaping and rate control; per VLAN, per port and flow based					
IPv6 applications	Web/ SSL, Telnet/ SSH, ping, Simple Network Time Protocol (SNTP), Trivial File Transfer Protocol (TFTP), SNMP, RADIUS, Syslog, DNS Client, protocol-based VLANs					
Management						
Web GUI interface	Built-in switch configuration utility for browser-based device configuration (HTTP/ HTTPS). Supports configuration, system dashboard, maintenance, and monitoring					
SNMP	SNMP version 1, 2c and 3 with support for traps, and SNMP version 3 user-based security model (USM)					
Remote Monitoring (RMON)	Embedded RMON software agent supports RMON groups 1, 2, 3, 9 (history, statistics, alarms, and events) for enhanced traffic management, monitoring and analysis					
IPv4 and IPv6 dual stack	Coexistence of both protocol stacks to migration					
Firmware upgrade	<ul style="list-style-type: none"> • Web browser upgrade (HTTP/ HTTPS) and TFTP • Upgrade through console port as well • RubyView to deploy the switch firmware 					
Port mirroring	Traffic on a port can be mirrored to another port for analysis with a network analyzer or RMON probe. Up to N-1 (N is switch's ports) ports can be mirrored to single destination port. A single session is supported					
General						
Jumbo frames	Frame sizes up to 9KB supported on Gigabit interfaces					
MAC Table	Up to 16K MAC addresses.					
Discovery						
Link Layer (LLDP) Discovery Protocol (IEEE802.1AB) with LLDP-MED extensions	Used by network devices for advertising their identities, capabilities, and neighbors on a IEEE 802 local area network, principally wired Ethernet.					
Interface						
Ports	Model Name	Total System Ports	(100/1G) SFP	UTP/SFP Combo	(1G/10G) SFP+	RJ-45 Port Out-of-band Management
	FGS-2324K	24	20	4	0	1
Environmental (preliminary)						
Dimensions	FGS-2324K : 442(W)x44(H)x 211.2(D)					
Weight	3.0Kg					
Power	100-240 VAC 50~60 Hz, internal , universal, -48VDC Dual Power input					
Certification	CE Mark, FCC Part 15 (CFR47) Class A					
Operating temperature	0 to 60°C					

Feature	Description
Storage temperature	-20°C to 70°C
Operating humidity	10% to 90% , relative, noncondensing

Package Contents

- Ethernet Access Switch
- Power Cord
- Mounting Kit
- Console Cable
- CD-ROM with user manual documentation (PDF) included
- QIG (Quick Install Guide)

Minimum Requirements

- Web browser: Mozilla Firefox version 2.5 or later, Microsoft Internet Explorer version 6 or later
- Category 5 Ethernet network cable
- TCP/IP, network adapter, and network operating system (such as Microsoft Windows, Linux, or Mac OS X) installed on each computer in network

Ordering Information

Model Name	Description
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