



8+12 Managed Gigabit SFP Ethernet Switch

PRELIMINARY

High SFP Port Count Industrial Ethernet Switch

RLH managed industrial switches are engineered to provide reliable network performance in demanding environments. The 8+12 Managed Gigabit SFP switch provides 8 copper Gigabit Ethernet ports and 12 fiber Gigabit Ethernet SFP ports for maximum connectivity in a compact form factor. A comprehensive set of management features provide a wide array of configuration and monitoring options required for various industrial applications.

This environmentally hardened, layer 3 Ethernet switch may be DIN rail or wall mounted, and is engineered to meet the demands of networking, utility and automation environments.

Features

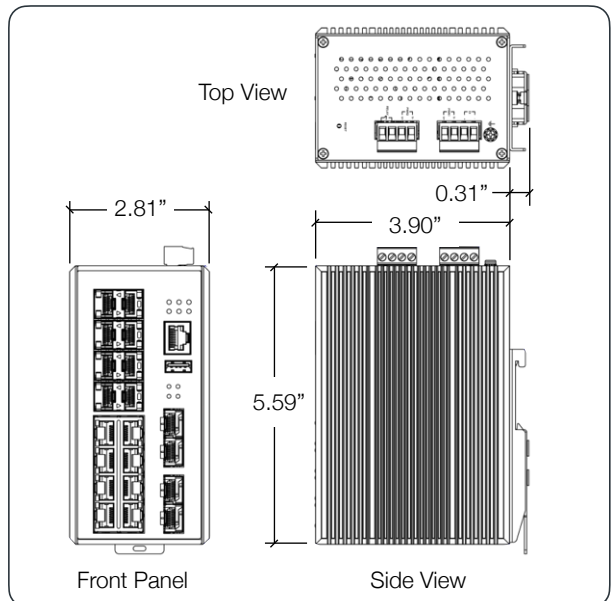
- Hardened design has a wide operating temperature range -40°F to +167°F (-40°C to +75°C)
- 8 ports - 10/100/1000Base-T(X) Ethernet
- 12 ports - 100/1000Base-(FX SFP slots)
- Supports Jumbo Frames
- Auto MDI/MDI-X
- Store-and-forward switching architecture
- Rugged IP30 housing
- 12~48VDC redundant power inputs with built-in alarm relay
- Overload and reverse polarity protection
- DIN rail & wall mountable

Management

- Layer 3 switch
- Static Routing
- Configuration via Web, CLI command, Telnet, SNMP & SSH
- Supports SNMPv3
- Supports IEEE 802.1q VLANs



8+12 Managed Gigabit SFP Ethernet Switch



Dimensions





Specifications

Switch Characteristics

Data Process	Store & Forward
Standards	IEEE 802.3 10Base-T Ethernet IEEE 802.3u 100Base-TX Fast Ethernet IEEE 802.3ab 1000Base-T Gigabit Ethernet IEEE 802.3z 1000Base-X Gigabit Fiber IEEE 802.3x Flow Control IEEE 802.1d STP (Spanning Tree Protocol) IEEE 802.1w RSTP (Rapid Spanning Tree Protocol) IEEE 802.1s MSTP (Multiple Spanning Tree Protocol) ITU-T G.8032 / Y.1344 ERPS v1/v2(Ethernet Ring Protection Switch) IEEE 802.1Q Virtual Local Area Network (VLAN) IEEE 802.1p QoS/CoS Protocol for Traffic Prioritization IEEE 802.1X Network Authentication IEEE 802.1AB Link Layer Discovery Protocol (LLDP) IEEE 802.3ad Link Aggregation (LACP)

Processing Type	Store and Forward
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Flow Control	IEEE 802.3x flow control, back pressure flow control
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Network Management

Management	IPv4/IPv6, SNMP v1/v2c/v3, LLDP, LLDP-MED, HTTP, HTTPS, SSHv2 telnet, DHCP client, DHCPv6 client, DHCP server, Port Mirror, DNS client/proxy, IP based Access Filter, ICMPv6, syslog, Time Zone /Daylight Saving, NTP client, RMON, sFlow, Loop detection, Console Port, USB configuration backup/restore, Power lost warning, relay trigger
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Security	Port-based/Single/Multi 802.1X, ACL(Port/Rate Limiters/ACE), MAC-based Authentication, VLAN assignment, QoS Assignment, Private VLAN, Guest VLAN, RADIUS accounting, TACACS+, IP MAC binding, WEB/CLI authentication, Authorization (15 levels), Port Security Limit Control, ACLs for filtering/policing/port copy, IP source guard, ARP Inspection
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L2 Switching	Port/MAC/Protocol/IP Subnet-based VLAN, GARP/GVRP, Loop Guard, Link Aggregation static/LACP, BPDU guard, Error disable recovery, IGMP snooping v2/v3, MLD snooping v1/v2, IGMP filtering, IPMC throttling / filtering leave proxy, DHCP snooping, G.8032 v1/v2
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L3 Switching	DHCP option82, static routes
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QoS	802.1p Queueing, Input priority mapping, Storm control for Unicast/Multicast/Broadcast, Port/Queue/ACL policer, Port egress shaper, Queue egress shaper, DiffServ (DSCP), Tag remarking, Scheduler mode
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Power Saving	ActiPHY, PerfectReach, IEEE 802.3az EEE power management
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Network Redundancy	STP/RSTP/MSTP, port trunk with LACP, ERPS v1/v2 (<50ms)
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Configuration	HTTP, HTTPS, Telnet, SSH, CLI, TFTP, SNMP v3
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System Diagnostics	Dual Image Protection, PING, PING6
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SNMP MIBs & RFC Standards	<p>RFC 2674 VLAN MIB IEEE-802.1Q bridge MIB 2008 RFC 2819 RMON (group 1, 2, 3, and 9) RFC 1213 MIB II RFC 1215 TRAPS RFC 4188 bridge RFC 4292 IP forwarding table RFC 4293 management information base for the Internet Protocol (IP) RFC 5519 multicast group membership discovery RFC 4668 RADIUS auth. client RFC 4670 RADIUS accounting RFC 3635 Ethernet-like RFC 2863 interface group MIB using SMI v2 RFC 3636 802.3 MAU RFC 4133 entity MIB v3 RFC 3411 SNMP management frameworks RFC 3414 user-based security model for SNMPv3 RFC 3415 view-based access control model for SNMP RFC 2613 SMON – PortCopy IEEE 802.1 MSTP IEEE 802.1AB LLDP-MIB (LLDP MIB included in a clause of the STD) IEEE 802.3ad (LACP MIB included in a clause of the STD) IEEE 802.1X (PAE MIB included in a clause of the STD) TIA 1057 LLDP-MED (MIB is part of the STD) Private MIB support</p>
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Switch Properties

Switching Fabric (Back-Plane)	40Gbps
Priority Queues	8
Max. Number of VLANs	4095
VLAN ID Range	VID 1 to 4095
Memory Buffer	4Mbits
Jumbo Frame	9.6Kbytes
MAC Table Size	8K
IGMP Group	1024
Transfer Rate	14,880pps for Ethernet port 148,800pps for Fast Ethernet port 1,488,000pps for Gigabit Ethernet port

Interface

RJ45 Ports	8*10/100/1000 Base-T(X) Auto-Negotiation, Full/Half Duplex, Auto-MDI/MDI-X
Fiber Port	12*100/1000Base-(F)X SFP slots
Wavelength	Depends on SFP modules
LED Indicators	System: Power 1, Power 2, Status, Master, Ring Ethernet ports: Speed/Link/Active SFP: Link/Active
RS232 Serial Console	1 - RS232 in RJ45 connector with console cable, baud rate 115,200bps,8,N,1
Configuration Backup	1 - USB 2.0 host (type-A) for configuration backup/restore
Relay Contact	24 VDC, 1A resistive
DI	1 - Digital Input (DI): State 0: -30~8VDC / State 1: 10~30VDC, Max. input current: 8mA



Network Cable	10Base-T: 2-pair UTP/STP Cat. 3, 4, 5 cable EIA/TIA-568 100-ohm (100m) 100Base-TX: 2-pair UTP/STP Cat. 5 cable EIA/TIA-568 100-ohm (100m) 1000Base-TX: 4-pair UTP/STP Cat.5/5E cable; EIA/TIA-568 100-ohm (100m)
Optical Cable	Multi-mode cable - 50/125um or 62.5/125um, Single-mode cable - 9/125um or 10/125um
Power Requirements	
Input Voltage	Dual 12-48VDC redundant power inputs
Power Connection	2 ea. removable 4-contact terminal blocks
Overload Current Protection	Slow-Blow Fuse
Reverse Polarity Protection	Built in
System Power Consumption	Max. 19W full loading
Physical Characteristics	
Housing	Metal, IP30 protection
Dimensions (W x H x D)	71.5 x 142 x 99 mm (2.81 x 5.59 x 3.9 inch)
Weight	Unit weight: 1.444 kg (3.18 lbs.), Shipping weight: 1.784 kg (3.93 lbs.)
Mounting	DIN-Rail Mounting, Wall Mounting
Environmental	
Operating Temperature	-40°C ~ 75°C (-40°F ~ 167°F)
Storage Temperature	-40°C ~ 85°C (-40°F ~ 185°F)
Ambient Relative Humidity	5 to 95%, (non-condensing)
Regulatory	
EMI	FCC Part 15 Subpart B Class A, CE EN55032/EN61000-6-4 Class A
EMS	CE EN55035/EN61000-6-2: IEC61000-4-2 (ESD), IEC61000-4-3 (RS), IEC61000-4-4 (EFT), IEC61000-4-5 (Surge), IEC61000-4-6 (CS), IEC61000-4-8 (Magnetic Field)
Free Fall	IEC60068-2-32
Shock	IEC60068-2-27
Vibration	IEC60068-2-6
Safety	CE, FCC Class A, UL 61010-1 and UL 61010-2-201, File Number: E544369, RoHS and REACH compliant
Compliance	NEMA TS2 (ITS)
MTBF (Telcordia SR-332, Issue 3, GB, 25°C)	481,511 hrs.
Warranty	Limited 5 years Visit www.fiberopticlink.com for warranty details

Ordering Information

Description	Part Number
8+12 Managed Gigabit Industrial Ethernet Switch (8) Gigabit Ethernet, (12) Dual Rate SFP Slots 12~48VDC	ETH-812GM-1

- SFP Transceivers are ordered separately. See a list of RLH SFP Transceivers at our website.
- Please contact your RLH sales representative for pricing and delivery information.