



8+12 Managed Gigabit SFP Ethernet Switch

ETH-812GM-1

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

- Wide operating temperature range of -40°C to +75°C (-40°F to +167°F)
- 8 ports - 10/100/1000Base-T(X) Ethernet
- 12 ports - 10/100/1000Base-F(X) 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

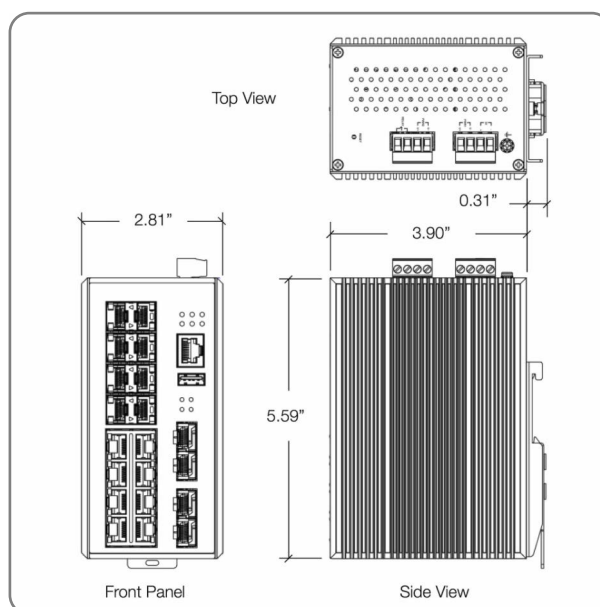
Network Management

- 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 and Forward

Standards:	IEEE 802.3 10Base-T (Ethernet)	IEEE 802.1d STP (Spanning Tree Protocol)
	IEEE 802.3u 100Base-TX (Fast Ethernet)	IEEE 802.1w RSTP (Rapid Spanning Tree Protocol)
	IEEE 802.1p Quality of Service (QoS)	IEEE 802.1s MSTP (Multiple Spanning Tree Protocol)
	IEEE 802.3af Power over Ethernet (PoE)	IEEE 802.1Q Virtual Local Area Network (VLAN)
	IEEE 802.3at Power over Ethernet Plus (PoE+)	IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
	IEEE 802.3ad Link Aggregation (LACP)	ITU-T G.8032/Y.1344 ERPS (Ethernet Ring Protection Switching)
	IEEE 802.3x Flow Control	IEEE 802.1X Network Authentication

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

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

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

L3 Switching: DHCP option82, static routes

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

Power Saving: ActiPHY, PerfectReach, IEEE 802.3az EEE power management

Network Redundancy: STP/RSTP/MSTP, port trunk with LACP, ERPS v1/v2 (<50ms)

Configuration: HTTP, HTTPS, Telnet, SSH, CLI, TFTP, SNMP v3

System Diagnostics: Dual Image Protection, PING, PING6

SNMP MIB & RFC Standards:	RFC 1213 MIB II	IEEE-802.1Q bridge MIB 2008
	RFC 1215 TRAPS	IEEE 802.1 MSTP
	RFC 2613 SMON – PortCopy	IEEE 802.1AB LLDP-MIB (LLDP MIB included in a clause of the STD)
	RFC 2674 VLAN MIB	IEEE 802.3ad (LACP MIB included in a clause of the STD)
	RFC 2819 RMON (group 1, 2, 3, and 9)	IEEE 802.1X (PAE MIB included in a clause of the STD)
	RFC 2863 interface group MIB using SMI v2	TIA 1057 LLDP-MED (MIB is part of the STD) Private MIB support
	RFC 3635 Ethernet-like	RFC 3411 SNMP management frameworks
	RFC 3636 802.3 MAU	RFC 3414 user-based security model for SNMPv3
	RFC 4133 entity MIB v3	RFC 3415 view-based access control model for SNMP
	RFC 4188 bridge	RFC 4292 IP forwarding table
	RFC 4668 RADIUS auth. client	RFC 4293 management information base for the Internet Protocol (IP)
	RFC 4670 RADIUS accounting	RFC 5519 multicast group membership discovery



Specifications (cont'd)

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) with PoE-PSE (30W/Port) 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
Overload Current Protection:	2 ea. removable 4-contact terminal blocks
Reverse Polarity Protection:	Slow-Blow Fuse
System Power Consumption:	Built in
Max. PoE Power Budget:	Max. 19W full loading



Specifications (cont.)

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: 1.562 kg (3.44 lbs.), Shipping weight: 1.902 kg (4.19 lbs.)
Mounting:	DIN-Rail Mounting, Wall Mounting

Environmental

Operating Temperature:	-40°F ~ 167°F (-40°C ~ 75°C)
Storage Temperature:	-40°F ~ 185°F (-40°C ~ 85°C)
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)
Physical:	IEC60068-2-32 (Free Fall), IEC60068-2-27 (Shock), IEC60068-2-6 (Vibration)
Safety:	CE, FCC Class A, UL 61010-1, UL 61010-2-201, File Number: E544369
Compliance:	NDAA, TAA, NEMA TS2 (ITS), RoHS and REACH compliant
MTBF:	481,511 hrs. Telcordia SR-332, Issue 3, GB, 25°C
Warranty:	5 years Visit www.fiber optic link.com for warranty details

Ordering Information

Description	Part Number
8+12 Managed Gigabit Industrial Ethernet Switch, (8) Gigabit Ethernet PoE (12) Dual Rate SFP Slots, 12-48VDC	ETH-42MP-04-2

- Single fiber (bi-directional) systems must always be paired, side A and side B

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