



16+8+4 Industrial Managed Ethernet Rack Mount Switch

ETH-R160804GXM-DC-1

High Density Industrial Ethernet Switch with 10G Uplinks

RLH managed industrial switches are engineered to provide reliable network performance in demanding environments. The ETH-R160804GXM-DC-1 provides 16 copper Gigabit Ethernet ports, 8 fiber Gigabit Ethernet SFP ports, and 4 high-speed 1G/2.5G/10G SFP+ uplink ports for high-bandwidth aggregation and backbone connectivity in industrial networks. A comprehensive set of Layer 2 and Layer 3 management features provides extensive configuration, security, redundancy, and monitoring capabilities required for industrial networking and automation applications.

Advanced management functionality includes VLAN support, QoS traffic prioritization, Static Routing, OSPF, ERPS ring protection, link aggregation, SNMP, SSH, HTTPS, and IPv4/IPv6 management support. Standardized ITU-T G.8032 ERPS v1/v2 ring protection provides network recovery times of less than 50ms, helping maintain network uptime in mission-critical industrial and utility applications.

This environmentally hardened industrial Ethernet switch features a rugged fanless design, redundant 12~48VDC power inputs, and a wide operating temperature range of -40°C~75°C for deployment in harsh environments. The ETH-R160804GXM-DC-1 is housed in a compact 1RU rack mount enclosure and is engineered to meet the demands of utility, transportation, automation, security, and industrial Ethernet networks where reliability and high port density are critical.

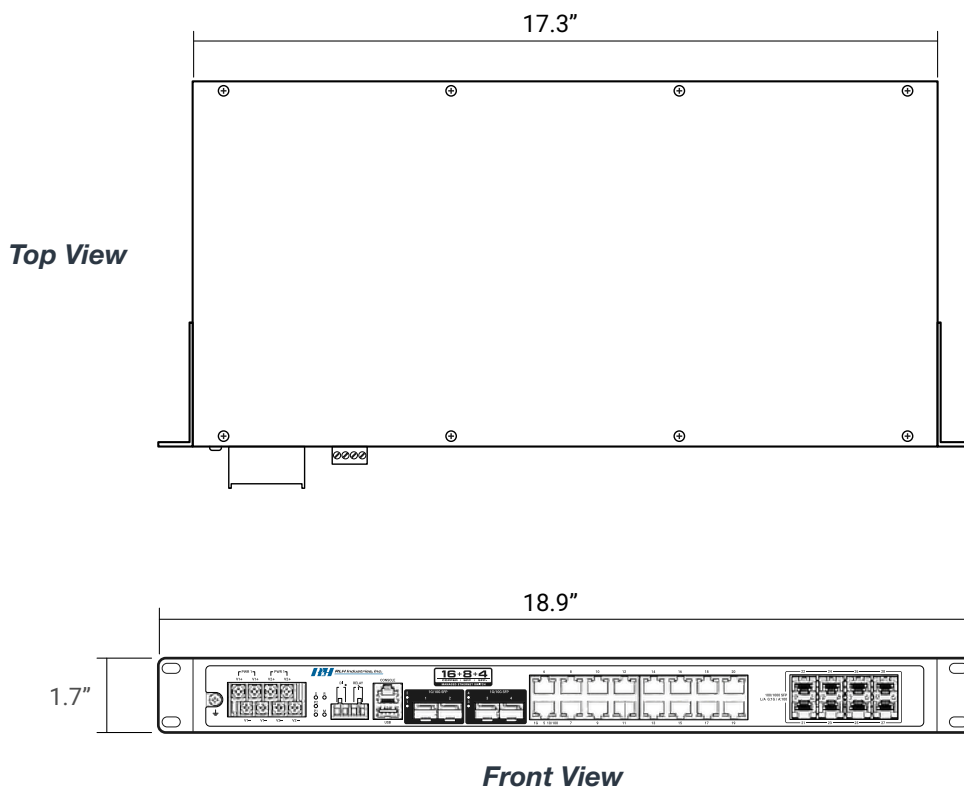
*16+8+4 Industrial Managed Ethernet Rack Mount Switch*

Key Features

- 16 x 10/100/1000mbps RJ-45 Ethernet ports
- 8 x Gigabit 100/1000 SFP fiber ports
- 4 high-speed 1G/2.5G/10G SFP+ uplink ports
- Wide operating temperature range: -40°C~75°C
- Fanless industrial design
- Redundant 12~48VDC power inputs
- Embedded web management interface
- Layer 2 and Layer 3 management features
- Supports Static Routing, OSPF, RIP, and VRRP
- IEEE 802.1Q VLANs and QoS
- RSTP, MSTP, and G.8032 ERPS ring protection
- SNMP v1/v2c/v3, SSH, HTTPS, and CLI management
- Supports LACP link aggregation
- 19" 1RU rack mount steel enclosure
- IP30 rated metal housing
- Low power consumption design



Dimensions



General Specifications

Interface	Copper Ports	16 x 10/100/1000BASE-T Gigabit Ethernet
		Auto-Negotiation, Full/Half Duplex, Auto-MDI/MDI-X
	Fiber Port	4 x 1G/2.5G/10GbE SFP+ slots, 8 x 100/1000BASE-X SFP slots
	Console Port	1 x RS232 in RJ45 connector, baud rate 115,200bps,8,N,1
	LED Indicators	System: Power 1, Power 2, Master (M), Ring (R), Status
	Ethernet ports	Speed/Link/Active
	SFP	Link/Active
	Relay Contact	24 VDC, 1A resistive
Switch Properties	DI	1 x Digital Input (DI): State 0: -30~8VDC / State 1: 10~30VDC, Max. input current: 8mA
	Switching Capacity	128Gbps
	Forwarding Rate	95.232 Mpps
	MAC Table Size	32k
	Packet Buffer	32Mbits
	Jumbo Frame	10Kbytes
	Max. VLAN Number	4095
	VLAN ID	1 to 4095
	IGMP Groups	1024
	Transfer Rate	14,880pps for Ethernet port 148,800pps for Fast Ethernet port 1,488,000pps for Gigabit Ethernet Port 14,880,000pps for 10 Gigabit Ethernet Port

General Specifications (continued)

Power	Input Voltage	Dual 12-48VDC redundant power inputs
	Power Connection	Fixed 8-contact terminal block
	Overload Current Protection	Present (Slow-Blow Fuse)
	Reverse Polarity Protection	Present
	System Power Consumption	Max. 38.5W full loading
Mechanical Characteristics	Housing	Metal, IP30 protection
	Dimensions	17.32"(W) x 1.73"(H) x 8.46"(D) (440 x 44 x 215 mm)
	Weight	Unit weight: 4.26 kg (9.39 lb)
	Mounting	Rack 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)
Software Features	VLAN	Private VLAN, Port-based VLAN, IP Subnet-based VLAN, GVRP, Guest VLAN, MAC-based VLAN, Protocol-based VLAN, VLAN Trunking
	L2 Features	STP, MSTP, Port Mirror, Loop Guard, BPDU Guard, MEP, RSTP, G.8032 ERPS v1/v2, Loop Detection, LACP, Error Disable Recovery
	L2 Multicast	IGMPv1/v2/v3 Snooping, IGMP Filtering, IPMC Filtering Leave Proxy, MLDv1/v2 Snooping, IPMC Throttling
	L3 Features	ARP, NAT, Static Route, RIPv2, RIPv3, OSPFv2, OSPFv3, VRRPv2, VRRPv3
	QoS	802.1p, Port/Queue/ACL Policer, Queue Egress Shaper, Tag Remarking, Input Priority Mapping, Port Egress Shaper, DiffServ (DSCP), Scheduler Mode
	Power Saving	802.1p, Port/Queue/ACL Policer, Queue Egress Shaper, Tag Remarking, Input Priority Mapping, Port Egress Shaper, DiffServ (DSCP), Scheduler Mode
	Security	SSHv2, Port-based 802.1X, MAC-based Authentication, QoS Assignment, TACACS+, Web/CLI Authentication, Port Security, IP Source Guard, DHCP Snooping, Secure Copy Protocol (SCP), IP Based Access Filter, Access Control List (ACL), ACL for Filtering/Policing/Port Copy, VLAN Assignment, IP MAC Binding, User Privilege (15 levels), RADIUS Authentication and Accounting, ARP Inspection, Broadcast/Multicast/Unicast Storm Control
	Management	Secure FTP, IPv4/IPv6, LLDP / LLDP-MED, DHCP Client, DHCP Server, DNS Proxy, Syslog, Daylight Saving, RMON, Command Line Interface (CLI), Relay Trigger, Telnet Server and Client, Dual Image Protection, Ping6, DDMI, SMTP, SNMP v1/v2c/v3, HTTP / HTTPS, DHCPv6 Client, DNS Client, ICMPv6, Time Zone, NTP Client, sFlow, Power Lost Warning, DHCP Option 82, TFTP, Ping, USB Configuration Backup/Restore, Modbus TCP
	Ethernet Standards	IEEE 802.3 10BASE-T Ethernet, IEEE 802.3u 100BASE-TX Fast Ethernet, IEEE 802.3ab 1000BASE-T, IEEE 802.3z 1000BASE-X Gigabit Fiber, IEEE 802.3ae 10 Gigabit Ethernet, IEEE 802.3x Flow Control
Standards and MIBs	Spanning Tree / Redundancy	IEEE 802.1D STP, IEEE 802.1w RSTP, IEEE 802.1s MSTP, ITU-T G.8032/Y.1344 ERPS v1/v2
	VLAN / QoS	IEEE 802.1Q VLAN, IEEE 802.1p QoS/CoS
	Authentication / Discovery	IEEE 802.1X, IEEE 802.1AB LLDP, TIA 1057 LLDP-MED
	Link Aggregation	IEEE 802.3ad LACP
	RFC Standards	RFC 2674 VLAN MIB, RFC 2819 RMON, FC 1215 TRAPS, RFC 4292 IP forwarding table, RFC 5519 multicast group membership discovery, RFC 4670 RADIUS accounting, RFC 2863 interface group MIB, RFC 4133 entity MIB v3, RFC 3414 SNMPv3 security model, RFC 2613 SMON – PortCopy, RFC 1213 MIB II, RFC 4188 bridge, RFC 4293 IP MIB, RFC 4668 RADIUS auth client, RFC 3635 Ethernet-like, RFC 3636 802.3 MAU, RFC 3411 SNMP frameworks, RFC 3415 VACM for SNMP



General Specifications (continued)

Regulatory Compliance	EMI	FCC Part 15 Subpart B Class A, EN61000-6-4 Class A, CE EN55032
	EMS	CE EN55035, IEC61000-4-2 (ESD), IEC61000-4-4 (EFT), IEC61000-4-6 (CS), EN61000-6-2, IEC61000-4-3 (RS), IEC61000-4-5 (Surge), IEC61000-4-8 (Magnetic Field)
	Free Fall	IEC60068-2-32
	Shock	IEC60068-2-27
	Vibration	IEC60068-2-6
	Green Compliance	RoHS Compliant
	Safety	UL Pending, ISA 12.12.01
	Compliance	IEC-61850-3 (Pending)
	MTBF	195,504 hrs. (Telcordia SR-332, Issue 3, GB, 25°C)

Ordering Information

Description	Part Number
16+8+4 Managed Layer 3 Industrial Ethernet Switch, Rack Mount	ETH-R160804GXM-DC-1

- Contact your RLH Sales Representative for more information

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