



**L3 Aggregation Industrial PoE Switch**

## TI-5016GPH-8GC-4XS-D

28-port Aggregation Industrial Ethernet L3 PoE Switch

*L3 Rack-mountable PoE switch with 10Gbps fiber uplink interfaces*

### Overview

Teroline's TI-5016GPH-8GC-4XS-D is an L3 rack-mountable PoE Aggregation Industrial Ethernet Switch with 16 x 10/100/1000Base-T RJ45 ports with 802.3af/at/bt PoE (ports 1 and 2 support 90W PoE++), 8 x 1GbE Combo and 4 x 1G/2.5G/10GbE SFP+ ports, DI/DO/RS485/Modbus data port as well as a USB port for configuration and firmware upgrade. It is featured with L3 static and dynamic routing with full L2 features as well as IPv4/6 based network management.

TI-5016GPH-8GC-4XS-D is an ideal solution designed with dual redundant 44-57VDC power supplies and over-voltage protection, enclosed in a robust standard 1RU 19-inch rack mountable IP40 fan-less housing to support extended operation temperature from -40°C to 75°C as well as enhanced EMI/EMC capability. It is a powerful and easy-to-deploy L2 aggregation switch for most industrial environment, such as manufacturing, transportation, electricity, oil & gas, chemistry, video surveillance and other various industry automation networks.

### Key features

- > 4 x 1G/2.5G/10GbE SFP+ fiber interfaces, 16 x 10/100/1000BASE-T RJ45 and 8 x 1GbE Combo LAN interfaces, 1 DI/DO/RS485/Modbus interface and 1 USB interface
- > L3 static and dynamic routing, full L2 switching functions and network management
- > ITU-T G.8032 standard ERPS Ring with sub-20ms switchover time
- > Up to 10K Bytes Jumbo Frame support
- > IP40 protection level, Fan-less design, and DIN-rail mounted
- > 6KV surge protection; ESD: 8KV/contact, 15KV/air protection
- > Dual redundant 44-57VDC power supplies, with reverse & over-voltage protection
- > Operation temperature from -40 to +75°C

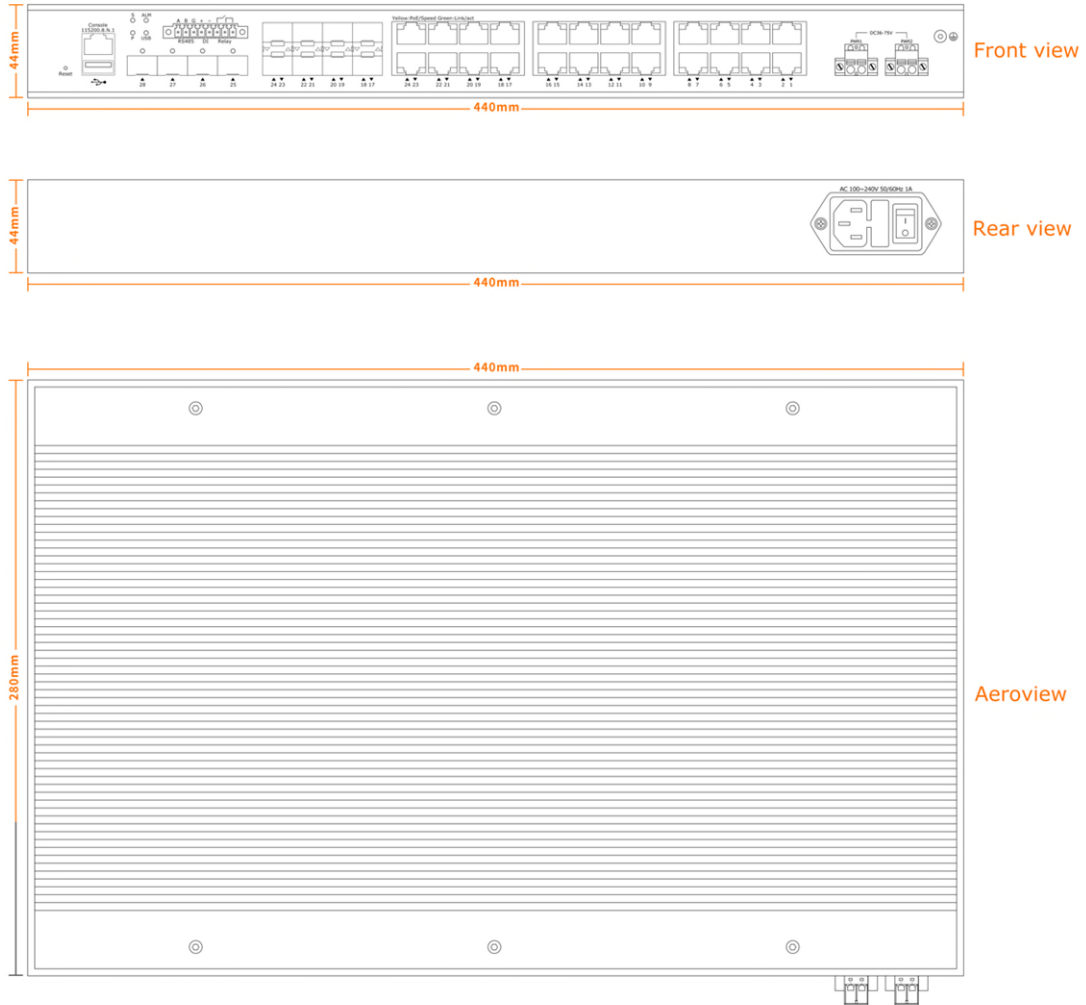
## Specifications

<b>Interface Specifications</b>	Fiber port	4 * 1GbE/2.5GbE/10GbE SFP+ 8 * 1000Base-X SFP (in Combo)
	Copper port	16 * 10/100/1000Base-T RJ45
	Management Port	1 * RJ45 Console 1 * USB 2.0 for configuration & upgrade
	Data Port	1 * RS-485 1 * Digital Input 1 * Digital Output
<b>Power Specifications</b>	Input voltage	44-57VDC Redundant power supplies
	Input current	9A max
	Power consumption	≤ 32W without PoE (full load) ≤ 370W with PoE (full load)
	Power interface	2 * 2-pin terminal block
	Reverse polarity protection	Supported
	Over-voltage protection	Supported
	Over-current protection	Supported
<b>LED Indicators</b>	1 – PWR (Green)	Power on indicator
	2 – SYS (Green)	PoE working status indicator
	3 – USB (Green)	USB port working status indicator
	4 – ALM (Red)	Fault alarm indicator
	5 – LNK/ACT (Green)	RJ45 port link up/down/act indicator per port
	6 – SPEED (Yellow)	RJ45 port PoE and speed indicator per port
	7 – LNK/ACT (Green)	SFP port link up/down/act indicator per port
<b>Specifications</b>	Switching capacity	128Gbps
	Packet forwarding rate	190.4Mpps
	MAC address table	16K
	VLAN	4K
	Buffer	12Mb
	Forwarding delay	< 5us
	Jumbo frame	10K bytes
	Auto MDI/MDIX	Supported
	Watchdog	Supported
	<b>L2 Switching</b>	Link Aggregation
Port-based Features		IEEE 802.3x flow control Port-based traffic statistics Port isolation Broadcast storm control
VLAN		Access, trunk and hybrid mode Port-based Q-in-Q Flexible Q-in-Q
Port Mirroring		Multiple to one port mirroring
Ring Protection		STP/RSTP/MSTP ITU-T G.8032 ERPS, sub-20ms switchover time
DHCP		DHCP Client DHCP Snooping
Multicast		IGMPv1, v2 & v3 IGMP Snooping

	ACL	ACL policies based on MAC/IP
	Quality of Service (QoS)	Ingress port-based rate-limiting Egress port-based rate-limiting QoS class remarking Support policy-based QoS SP and WRR queue scheduling
	Security	IEEE 802.1x port/MAC authentication RADIUS IP Source Guard, port/MAC/IP binding ARP inspection and filtering
	Management and Maintenance	HTTP/HTTPS web management SNMPv1/v2c/v3 support Support IPv6 for management Syslog and alarm classification Support RMON Support LLDP Support NTP Support optic transceiver DDM Support Ping/Tracert for diagnosis Support Telnet and SSH connection Support TFTP and web for upgrade Support USB port configuration and upgrade
<b>L3 Routing</b>	ARP	ARP table aging
	Routing entry	13K
	IPv4/IPv6	Static routing
	ECMP	ECMP ECMP max next-hop configuration Capacity balanced configuration
	Route policy	IPv4 prefix-list
	Redundancy	Support VRRP
	IP Routing Protocol	RIP v1/v2 OSPF v2 IS-IS v4 BGP4, supporting routing recursive ECMP Viewing the number of neighbors and states
<b>Standards</b>	IEEE 802.3	10BASE-T
	IEEE 802.3u	100BASE-TX
	IEEE 802.3ab	1000BASE-T
	IEEE 802.3z	1000Base-X
	IEEE 802.3ae	10Gb/s Ethernet
	IEEE 802.3x	Full-duplex flow control
	IEEE 802.1d/w	Spanning Tree/Rapid Spanning Tree
	IEEE 802.1Q	VLAN
	IEEE 802.1X	Port Authentication
	IEEE 802.1ab	LLDP
	IEEE 802.3ad	LACP
	ITU-T G.8032	ERPS
	IEEE 802.3af/at/bt	PoE/PoE+/PoE++
<b>Environment</b>	Operating temperature	-40°C to +75°C
	Storage temperature	-40°C to +80°C
	Relative humidity	5% to 95% (non-condensing)
	Thermal design	Fan-less, natural heat dissipation

	MTBF	100,000 hours
<b>Standards compliance</b>	Power surge protection	IEC 61000-4-5 (6KV/6KV) (8/20us)
	Ethernet port surge protection	IEC 61000-4-5 (6KV/2KV) (10/700us)
	ESD	IEC 61000-4-2 Level 4 (8K/15K)
	RS	IEC 61000-4-3 80MHz-1GHz: 10V/m
	EFT	IEC 61000-4-4 4K/2K
	CS	IEC 61000-4-6 10V
	Shock	IEC 60068-2-27
	Free fall	IEC 60068-2-32
	Vibration	IEC 60068-2-6
	EMI	FCC Part 15B Class A
<b>Physical parameters</b>	Certifications	CE, FCC, RoHS
	Dimensions	440(W)*280(D)*44(H)mm
	Weight	Net weight 5KG
	Protection Level	IP40
	Installation Method	19" 1U rack mounted
<b>Warranty</b>	Standard Warranty	5 years

## Physical dimensions



## Ordering information

Model	Description
<b>TI-5016GPH-8GC-4XS-D</b>	L3 Managed Industrial Ethernet PoE Switch, 16x10/100/1000Base-T RJ45 PoE + 8xGbE Combo + 4x1G/2.5G/10GbE SFP+ ports, dual redundant 44-57VDC power supplies, 19" 1RU rack mounted, operation temperature: -40°C to +75°C