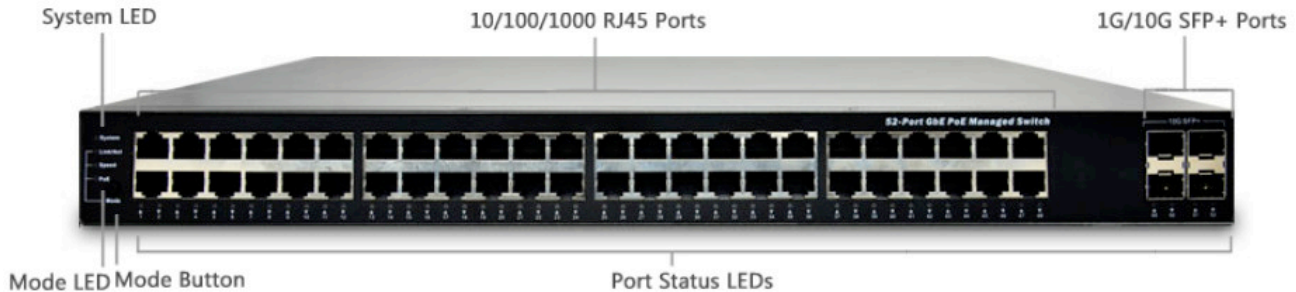# 1048-4XGPoE EI PoE Switch

Overview

1048-4XGPoE PoE+ Switch is a next-generation Ethernet Switch offering full suite of L2 features, additional 10GbE uplink connections, better PoE functionality and usability, including advanced L3 features such as Static Route that delivers better cost performance and lower total cost of ownership in Enterprise networks via fiber or copper connections.

1048-4XGPoE delivers 48 (10M/100M/1G) RJ45/PoE+ (Support 802.3at/af, and total up to 740W) ports, 4 GbE/10G SFP+ ports and DB9 Console port. 1048-4XGPoE provides high HW performance and environment flexibility for SMBs and Enterprises.

1048-4XGPoE is ideal to deliver management simplicity, optimum user experience, and lower total cost of ownership. The embedded Device Managed System is designed to be extremely easy-to-use/manage/install IP Phone, IP Cam, or Wifi-AP for Enterprise Applications.

Key Features

- L2+ Managed features provide easier manageability, robust security and QoS.
- Built in Device Management System (DMS)
- DHCP Server
- IPv4/IPv6 L3 static route
- PoE Port configuration and scheduling
- 802.3at high power PoE plus standard
- IEEE 802.3az EEE Energy Efficient Ethernet standard for green Ethernet

Benefits

- Feature-rich Ethernet Switch for Enterprise-class

  The switch delivers advanced functionality in L2+ managed switch including Layer 3 static route, DHCP server, IPv6 support, LLDP, etc. It also has comprehensive security features such as IP source guard and ACL to guard your network from unauthorized access.

  It helps users to build on the market-leading price/performance with L2+ Managed GbE PoE switch, and provide secure, reliable and ease of use for enterprise/SMB deployments.

- Easy to Install, Configure and Troubleshoot by Device Management System

  The DMS provides embedded functions to facilitate devices management at anytime and anywhere. Its user-friendly interface helps users to manage devices intuitively.

  It supports various IP device types (e.g. IP-phone, IP-camera, WiFi-AP) for end users to enhance manageability and save time/cost during installation/maintenance stages.

- Lower Total Cost of Ownership (TCO) with Energy-efficient Design

  It is designed to help customers to reduce power consumption and lower the TCO by Energy Efficient Ethernet (IEEE 802.3az) features. It can be used for customers to build a green Ethernet networking environment.

- Advanced Power over Ethernet Management

  The model includes PoE+ options to power IP devices with power-saving features like Power scheduling and PoE configuration.

Specifications

Port Configuration

Total Ports	RJ45 (10M/100M/1G)	Uplinks (100M/1G/10G)	Console
52	48	4 SFP+	DB9

Hardware Performance

Forwarding Capacity	Switching Capacity	Mac Table	Jumbo Frames
130.944 Mpps	176 Gbps	32 K	10056 Bytes

Environmental Range

Operating Temperature		Storage Temperature		Altitude	
Fahrenheit	Centigrade	Fahrenheit	Centigrade	Feet	Meters
32 to 113	0 to 45	-4 to 158	-20 to 70	< 10000.	< 3000

Dimension, Weights, Humidity

Dimension (WxHxD)		Weight		Operating Humidity
Millimeter	Inches	Kilograms	Pounds	
442 x 44 x 385	17.4 x 1.73 x 15.2	5.8	12.8	10% to 90% non-condensing

Voltage and Frequency

AC Input Voltage and Frequency	
Voltage	100-240 VAC
Frequency	50~60 Hz

PoE Power Capacity

Available PoE Power	Number of Ports That Support PoE(15.4W) and PoE+(30.0W)
740W	Each of port 1 - 48 support PoE/ PoE+ within available PoE Power

Certification

Electromagnetic Emissions (EMC)
CE, FCC Part 15 Class A

Software Features

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 • Up to 26 groups • Up to 4 ports per group
VLAN	Supports up to 4K VLANs simultaneously (out of 4096 VLAN IDs) • Port-based VLAN • 802.1Q tag-based VLAN • MAC-based VLAN • Management VLAN • Private VLAN Edge (PVE) • Q-in-Q (double tag) VLAN • Voice VLAN • GARP VLAN Registration Protocol (GVRP)
DHCP Relay	• Relay of DHCP traffic to DHCP server in different VLAN. • Works with DHCP Option 82
IGMP v1/v2/v3 Snooping	IGMP limits bandwidth-intensive multicast traffic to only the requesters. Supports 1024 multicast groups
IGMP Querier	IGMP querier is used to support a Layer 2 multicast domain of snooping switches in the absence of a multicast router
IGMP Proxy	IGMP snooping with proxy reporting or report suppression actively filters IGMP packets in order to reduce load on the multicast router
MLD v1/v2 Snooping	Delivers IPv6 multicast packets only to the required receivers
Device Management System (DMS)	
Graphical Monitoring	• Topology view: Support intuitive way to configure and manage switches and devices with visual relations • Floor view: It's easy to drag and drop PoE devices and help you to build smart workforces • Map view: Enhance efficiency to drag and drop devices and monitor surroundings on google map
Find my Switch	Search your real switches quickly and manage directly.
Traffic Monitoring	Display visual chart of network traffic of all devices and monitor every port at any time from switches
Trouble Shooting	• Network diagnostic between master switch and devices • Support protection mechanism, such as rate-limiting to protect your devices from brute-force downloading

Layer 3 Switching	
IPv4 Static Routing	IPv4 Unicast: Static routing
IPv6 Static Routing	IPv6 Unicast: Static routing

Security	
Secure Shell (SSH)	SSH secures Telnet traffic in or out of the switch, SSH v1 and v2 are supported
Secure Sockets Layer (SSL)	SSL encrypts the http traffic, allowing advanced 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 (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 address
IP Source Guard	Prevents illegal IP address from accessing to specific port in the switch
RADIUS/ TACACS+	Supports RADIUS and TACACS+ authentication. Switch as a client
Storm Control	Prevents traffic on a LAN from being disrupted by a broadcast, multicast, or unicast storm on a port
DHCP Snooping	A feature acts as a firewall between untrusted hosts and trusted DHCP servers
ACLs	Supports up to 512 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 ● TCP flag
Quality of Service	
Hardware Queue	Supports 8 hardware queues
Scheduling	● Strict priority and weighted round-robin (WRR) ● Queue assignment based on DSCP and class of service
Classification	● Port based ● 802.1p VLAN priority based ● IPv4/IPv6 precedence / DSCP based ● Differentiated Services (DiffServ) ● Classification and re-marking ACLs
Rate Limiting	● Ingress policer ● Egress shaping and rate control ● Per port
Management	
DHCP Server	Support DHCP server to assign IP to DHCP clients
Zero Touch Upgrade	Upgrade single switch automatically when you get notification
Remote Monitoring (RMON)	Embedded RMON agent supports RMON groups 1,2,3,9 (history, statistics, alarms, and events) for enhanced traffic management, monitoring and analysis
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.

UPnP	The Universal Plug and Play Forum, an industry group of companies working to enable device-to-device interoperability by promoting Universal Plug and Play
s-Flow	The industry standard for monitoring high speed switched networks. It gives complete visibility into the use of networks enabling performance optimization, accounting/billing for usage, and defense against security threats
IEEE 802.1ab (LLDP)	- Used by network devices for advertising their identities, capabilities, and neighbors on an IEEE 802ab local area network - Support LLDP-MED extensions
Web GUI Interface	Built-in switch configuration utility for browser-based device configuration
CLI	For users to configure/manage switches in command line modes
Dual Image	Independent primary and secondary images for backup while upgrading
SNMP	SNMP version1, 2c and 3 with support for traps, and SNMP version 3 user-based security model (USM)
Firmware Upgrade	- Web browser upgrade (HTTP/ HTTPs) and TFTP - Upgrade through console port as well
NTP	Network Time Protocol (NTP) is a networking protocol for clock synchronization between computer systems over packet-switched
Other Management	- HTTP/HTTPs; SSH - DHCP Client/ DHCPv6 Client - Cable Diagnostics - Ping - Syslog - Telnet Client - IPv6 Management
Power over Ethernet (PoE)	
Port Configuration	Supports per port PoE configuration function
PoE Scheduling	Supports per port PoE scheduling to turn on/off the PoE devices (PDs).
Auto-checking	Check the link status of PDs. Reboot PDs if there is no responses.
Power Delay	The switch provides power to the PDs based on delay time when PoE switch boots up, in order to protect switch from misuse of the PDs