ECS4510-12PD
L2 Gigabit Ethernet PD PSE Switch

Product Overview

The Edge-Core ECS4510-12PD is a Layer 2 Gigabit Ethernet PD PSE switch featuring 12 ports; with 8 10/100/1000BASE-TX PoE PD ports, 2 Gigabit Ethernet ports, and 2 Gigabit fiber SFP ports. The ECS4510-12PD is compliant with IEEE 802.3at as a PoE Power Device (PD) on ports 1 to 8, and as an IEEE 802.3af-compliant PoE Power Sourcing Equipment (PSE) device on port 10. The ECS4510-12PD is designed to support wireless, IP video, and other applications for the retail and enterprise customer. This switch is packed with features and is a cost-effective solution that brings continuous availability, enhanced security, and advanced QoS to the network edge, while maintaining simplicity of management.

Key Features and Benefits

Performance and Scalability

The ECS4510-12PD is a high-performance Gigabit Ethernet Layer 2 managed switch with 24 Gbps switching capacity. It delivers wire-speed switching performance on all Gigabit ports, allowing users to take full advantage of existing high-performance Gigabit integrated servers and PCs by significantly improving the responsiveness of applications and file transfer times.

The device also has two Gigabit Ethernet (RJ-45 and SFP) ports, providing the flexibility of copper or fiber high-speed uplinks to servers or the network backbone. This switch also supports digital diagnostic monitoring (DDM) for SFP transceivers.

Continuous Availability

IEEE 802.1w Rapid Spanning Tree Protocol provides a loop-free network and redundant links to the core network with rapid convergence, ensuring a faster recovery from failed links and enhancing overall network stability and reliability.

IEEE 802.1s Multiple Spanning Tree Protocol runs STP per VLAN base, providing Layer 2 load sharing on redundant links for up to 16 instances.

The ECS4510-12PD supports IEEE 802.3ad Link Aggregation Control Protocol (LACP). It increases bandwidth by automatically aggregating several physical links together as a logical trunk and offers load balancing and fault tolerance for uplink connections.

Comprehensive QoS

The ECS4510-12PD offers advanced QoS for marking, classification, and scheduling to deliver best-in-class performance for data, voice, and video traffic at wire speed. Four egress queues per port enable differentiated management of up to four traffic types through the switch.

Traffic is prioritized according to 802.1p and DSCP to provide optimal performance for real-time applications. Weighted Round Robin (WRR) and strict priority ensure differential prioritization of packet flows and avoid congestion of ingress and egress queues.

Asymmetric bidirectional rate-limiting, per port or per traffic class, preserves network bandwidth and allows maximum control of network resources.

Enhanced Security

Port Security limits the total number of devices from using a switch port and protects against MAC flooding attacks.

IEEE 802.1X port-based or MAC-based access control ensures all users are authorized before being granted access to the network. When a user is authenticated, the VLAN, QoS, and security policy are automatically applied to the port where the user is connected, otherwise the user is grouped in a guest VLAN with limited access.

DHCP snooping allows a switch to protect a network from rogue DHCP servers that offer invalid IP addresses.

Access Control Lists (ACLs) can be used to restrict access to sensitive network resources by denying packets based on source and destination MAC addresses, IP addresses, or TCP/UDP ports. ACLs are hardware supported, so switching performance is not compromised.

Secure Shell (SSHv1.5/v2.0)) and Secure Sockets Layer (SSL/HTTPS) encrypt Telnet and web access to the switch, providing secure network management.

Radius/TACACS+ Authentication, the ECS4510-12PD support both RADIUS /TACACS+ authentication methods to secure your network.

Simple Management

An industry-standard command-line interface (CLI), accessed through the console port or Telnet, provides a familiar user interface and command set for users to manage the switch.

PD and PSE Feature

The ECS4510-12PD supports PoE as a Powered Device (PD) and is compliant with IEEE 802.3at. Copper ports 1 to 8 can receive 48 VDC primary power supplied by a PSE device.

Port 10 serves as a PoE PSE port and is compliant with IEEE 802.3af. This feature is enabled only when the switch is powered from at least one 802.3at PSE source or from the AC power adapter.

L2 Gigabit Ethernet PD PSE Switch

Features

Physical Ports

8 Gigabit Ethernet RJ-45 ports (ports 1~8)
2 Gigabit Ethernet RJ-45 uplink ports (ports 9~10)
2 Gigabit SFP ports for fiber uplinks (ports 11~12)
Ports 1~ 8 support PoE as a powered device compliant with 802.3at
Port 10 supports PoE as power sourcing equipment compliant with 802.3af
1 RJ-45 console port

Performance

Switching Capability: 24 Gbps
Forwarding Rate: 17.9 Mpps
MAC Address Table: 16 K
Flash: 32 MByte
SDRAM: 128 MByte

L2 Features

Auto-negotiation for port speed and duplex mode
Flow Control:
- IEEE 802.3x for full-duplex mode
- Back-pressure for half-duplex mode

Spanning Tree Protocol:
- IEEE 802.1D Spanning Tree Protocol (STP)
- IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
- IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)
- BPDU Guard
- BPDU filtering
- Root Guard

Vlans:
- Supports 4K IEEE 802.1Q VLANs
- Port-based VLANs
- GVRP
- Mac-based VLANs
- Private VLAN (Traffic Segmentation per port)
- Support Q-in-Q
- Support MVR

Link Aggregation:
- Static Trunk
- IEEE 802.3ad Link Aggregation Control Protocol
- 2~8 port/trunk
- Up to 6 trunk groups

IGMP Snooping:
- IGMP v1/v2/v3 snooping
- IGMP Proxy
- IGMP Filtering
- IGMP Throttling
- IGMP Immediate Leave

Supports jumbo frames up to 10 K

IPv6 Features

IPv4/IPv6 dual protocol stack
IPv6 Address Type Stack: Unicast
IPv6 Neighbor Discovery
Stateless auto configuration
Manual configuration
SNMP over IPv6
HTTP over IPv6
SSH over IPv6
IPv6 Telnet
IPv6 DNS Resolver
IPv6 Syslog
IPv6 SNTP
IPv6 TFTP Remote
IPv6 ACL

QoS Features

Priority Queues: 4 hardware queues per port
Traffic classification based on IEEE 802.1p CoS, IP Precedence, DSCP, TCP/UDP port number
Supports WRR and Strict scheduling
Rate Limiting (Ingress and per port base)
DiffServ Marking/Remarking

Security Features

User/Password protected system management terminal (Telent ,Web)
Support L2/L3/L4 access control list (512 rules, extended mode 256 rules.)
RADIUS AAA
TACACS AAA
TACACS+3.0
SSH v1.5/v2.0(Secured Telnet session)
HTTPS/SSL
IEEE 802.1x port-based security
MAC Based Authentication
IP source guard
Security(drop or copy) for multiple packet types
Ethernet Type II
IEEE 802.1q
MAC address
SA/DA MAC address
IEEE 802.1p /D priority
Ethernet type field
TCP/UDP port numbers
SA/DA IP address
Protocol
EXtented Ipv6 ACL

Management

Switch Management:
- CLI via console port or Telnet
- Web management
- SNMP v1, v2, v3

Firmware and Configuration:
- Firmware upgrade via TFTP server
- Supports dual image
- Supports auto configuration provision
- Supports auto firmware upgrade
- Multiple configuration files
- Configuration file upload/download via TFTP server

Supports RMON (groups 1, 2, 3 and 9)
Supports BOOTP, DHCP client for IP address assignment
Supports DHCP snooping
Supports SNTP (RFC 2030)
Supports IP clustering up to 36 switches
Event/error log, Syslog
Support Public and private MIB
Supports LLDP (802.1ab)
Supports IPv6 management

Power Supply

DC Power Input
- 48 VDC, 0.65 A

Mechanical

Dimensions: 180 x 165 x 37.5 (mm) (W x D x H)
Weight: 0.69 kg (1.52 lb)
19" Rack Space

Safety

UL 60950-1 CB (IEC60950-1)

Electromagnetic Compatibility

CE Mark
FCC Class A
EN55022 (CISPR22) Class A

Environmental Specifications

Temperature:
- 0º C to 50º C (standard operating)
- -40º C to 70º C (non-operating)

Operating Humidity: 10% to 90% (non-condensing)
Storage Humidity: 10% to 90% (non-condensing)

IEEE Standards

IEEE 802.3 10BASE-T [1]
IEEE 802.3u 100BASE-TX and 100BASE-FX [2]
IEEE 802.3x flow control Supports
IEEE 802.1D (Bridging), 1993
IEEE 802.1Q (Virtual LAN) 1998
IEEE 802.1x, port-based network access control, 2001

Warranty

Please check www.edge-core.com for the warranty terms in your country.

For More Information

To find out more about Edge-Core Networks products and solutions, visit www.edge-core.com.

About Edge-Core Networks

Edge-Core Networks is in the business of providing innovative network solutions. In the service provider network, in the data center or in the cloud, Edge-Core Networks delivers the software and systems that transform the way the world connects. Edge-Core Networks serves customers and partners worldwide. Additional information can be found at www.edge-core.com.

To purchase Edge-Core Networks solutions, please contact your Edge-Core Networks representative at 886 3 563 8888 or authorized reseller.

Ordering Information

Optional Accessories	Product Description
ET4201-SX	1Gbps, Small Form Factor Pluggable (Distance: 500 m; Wavelength: 850nm)
ET4201-LX	1Gbps, Small Form Factor Pluggable (Distance: 10 km; Wavelength: 1310 nm)
ET4201-LHX	1Gbps, Small Form Factor Pluggable (Distance: 40 km; Wavelength: 1310 nm)
ET4201-ZX	1Gbps, Small Form Factor Pluggable (Distance: 80 km; Wavelength: 1550 nm)
ET4202-SX	1Gbps, Small Form Factor Pluggable (Distance: 500 m; Wavelength: 850 nm, DDM)
ET4202-LX	1Gbps, Small Form Factor Pluggable (Distance: 10 km; Wavelength: 1310nm, DDM)
ECView Pro	SNMP Network Management Software