ECS4110 Series
L2 Gigabit Ethernet Standalone Switch

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Enterprise Solution

Product Overview

The Edge-Core ECS4110 Series is a family of Layer 2 switches featuring 28 or 52 ports; with 24/48 10/100/1000BASE-T ports, and 4 SFP uplink ports. The switches support enterprise-class Layer 2 switching features including advanced QoS, security, and intuitive management, allowing network administrators to build high-performing robust networks affordably.

Key Features and Benefits

Performance and Scalability

The ECS4110 Series includes high-performance Gigabit Ethernet L2 access switches with 56/104 Gbps switching capacity. The switches deliver wire-speed switching performance on all Gigabit ports, taking full advantage of existing high-performance PCs by significantly improving the responsiveness of applications and file transfer times.

Continuous Availability

The 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.

The IEEE 802.1s Multiple Spanning Tree Protocol runs STP per VLAN base, providing Layer 2 load sharing on redundant links.

The ECS4110 Series 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 ECS4110 Series offers advance 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 across the network.

Traffic is prioritized according to 802.1p, DSCI, IP precedence and TCP/UDP to provide optimal performance for real-time applications such as voice and video.

Weight Round Robin (WRR) and strict priority ensure differential prioritization of packet flows and avoid congestion of ingress and egress queues.

PoE Features

The ECS4110-52P can provide up to 30 Watts of power to attached devices, such as VoIP phones, wireless access points, surveillance cameras, etc, all over existing Cat. 5 cables. The switch can deliver up to 30 Watts on 13 ports, 15.4 Watts on 25 ports, or 7.5 Watts on 48 ports.

PoE eliminates the need for individual power sources for devices in the network, saving on costs for power cables and avoiding power outlet availability issues. If the power demand exceeds the switch's maximum power budget, ports can be prioritized to receive power.

Enhanced Security

Port Security limits the total number of devices 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 port 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.

Dynamic ARP Inspection (DAI) is a security feature that validates Address Resolution Protocol (ARP) packets in a network. DAI allows a network administrator to intercept, log, and discard ARP packets with invalid MAC-to-IP address bindings.

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.

Green Ethernet

The ECS4110 Series incorporates a range of green Ethernet technologies to help you save energy costs for your network. The switches do not only use the latest Energy Efficient Ethernet standard to make efficient use of the Ethernet ports, they also detect link status and cable length, powering down when a port is not connected and reducing power for shorter cables.

* IPv6 Ready Logo for ECS4110-28P/ECS4110-52P under certification process

ECS4110 Series Product Specifications

Features

Product Model		ECS4110-28T	ECS4110-28P	ECS4110-52T	ECS4110-52P
Port	RJ-45 10/100/1000 Ports	24	24	48	48
	SFP Uplink Ports	4	4	4	4
	PoE Ports	X	24	X	48
	RJ-45 Console Port	O	O	O	O
Performance	Switching Capacity	56 Gpbs	56 Gpbs	104 Gpbs	104 Gpbs
	Forwarding Rate	41.7 Mpps	41.7 Mpps	77.4 Mpps	77.4 Mpps
	Flash Memory	32 MB	32 MB	32 MB	32 MB
	DRAM	128 MB	128 MB	128 MB	128 MB
	MAC Address Table Size	16K	16K	16K	16K
	Jumbo Frames	10K	10K	10K	10K
	Auto-negotiation, Auto-MDI/MDIX	O	O	O	O
PoE	Support on all Gigabit ports based on IEEE 802.3af	X	O	X	O
	PoE+ based on IEEE 802.3at	X	O	X	O
	Auto disable after exceeding power budget	X	O	X	O
	Dynamic Power Allocation	X	O	X	O
	PoE Power Budget	X	390 W	X	410 W
Mechanical	Rack Space	19"	19"	19"	19"
	Dimension (W x D x H)	44 x 28 x 4.4	44 x 28 x 4.4	44 x 28 x 4.4	44 x 37.9 x 4.4
	Weight	2.68 kg	3.58 kg	3.14 kg	5.27 kg
Power Supply	100-240 VAC, 50/60 Hz	O	O	O	O
	Max System Power Consumption (Watts)	31 W	450 W	65 W	530 W
Environment	Operating Temperature	0ºC to 50ºC	0ºC to 50ºC	0ºC to 50ºC	0ºC to 50ºC
	Storage Temperature	-40ºC to 70ºC	-40ºC to 70ºC	-40ºC to 70ºC	-40ºC to 70ºC
	Operating Humidity (non-condensing)	10% to 90%	10% to 90%	10% to 90%	10% to 90%
	Storage Humidity (non-condensing)	10% to 90%	10% to 90%	10% to 90%	10% to 90%
	Environmental Regulation compliance: WEEE	O	O	O	O
	Environmental Regulation compliance: RoHS	O	O	O	O
Certification	FCC Class A	O	O	O	O
	CE	O	O	O	O
	Safety Compliance: CB	O	O	O	O
	Safety Compliance: UL	O	O	O	O

Features

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
- Spanning Tree Fast Forwarding
- Loopback Detection
- Auto EdgePort
- BPDU Forward

Storm Control (broadcast/multicast/unknown unicast)
VLANs:
- IEEE 802.1Q tagged-based VLANs
- Port-based VLANs
- MAC-based VLANs
- IP subnet-based VLANS
- Private VLANs (community)
- Traffic segmentation (port isolated)
- GVRP/GARP
- IEEE 802.1v protocol-based VLANs
- IPV6 VLANs
- VLAN trunking

Link Aggregation:
- Static trunk
- IEEE 802.3ad Link Aggregation Control Protocol
- Trunk groups: 16
- Maximum number of members per group: 8

IGMP Snooping:
- IGMP v1/v2/v3 Snooping
- IGMP Filtering
- IGMP Throttling
- IGMP Immediate Leave
- IGMP v1/v2 Querier
- IGMP SNP Proxy (V1/V2/V3)
- IGMP Authentication

MVR (Multicast VLAN Registration)
Supports Q-in-Q
Supports select Q-in-Q
G.8032v2 (ERPS)
Non-STP loopback detection
UDLD
Digital Diagnostic Monitoring (DDM)
L2 Protocol Tunneling (CDP,PVST,STP,LLDP)
Packet filtering of L2 control CDP/PVST

QoS Features

Priority Queues: 4 hardware queues per port
802.1p-based COS
IP DSCP-based COS
TCP/UDP Port-based COS
PHB (Per Hop Behavior – internal priority)
Port-based default priority
WRR priority scheduling
Strict piority scheduling
Hybrid (WRR +Strict)
Rate limiting (ingress and egress, per port base)
DiffServ

Future Release*

Security Features

Port security
IEEE 802.1X
- Port-based Authentication
- MAC-based Authentication
- Guest VLAN
- EAPOL frames pass-through

MAC authentication
Web authentication
802.1X supplicant support
Dynamic VLAN assignment
Dynamic QoS assignment
Intrusion Lock (link detection)
MAC filter
Access Control List
Dynamic ARP Inspection
AAA
- RADIUS authentication
- RADIUS accounting
- TACACS+ authentication
- TACACS+ authorization
- TACACS+ accounting

HTTPS and SSL
SSH (v1.5/v2.0)

IPv6 Features

IPv4/IPv6 dual protocol stack
IPv6 address type
- Unicast
- Multicast

ICMPv6
ICMPv6 Redirect (Host)
IPv6 Path MTU Discovery
IPv6 Neighbor Discovery
- Router discovery
- Duplicate address
- Parameter discovery
- Address resolution
- Unreachable neighbor detection

Stateless autoconfiguration
Manual configuration
SNMP over IPv6
HTTP over IPv6
SSH over IPv6
IPv6 Telnet support
IPv6 DNS resolver
IPv6 Syslog support
IPv6 SNTP support
IPv6 TFTP support
Remote IPv6 Ping
Ping over IPv6
Traceroute over IPv6
DHCPv6
- Client
- Snooping

MVR6
IPv6 Source Guard
RA Guard
MLD Snooping v1/v2
IPv6 ND Snooping
IPv6 ACL
IPv6 Diffserv

Features

Management

Switch Management:
- CLI via console port or Telnet
- Web management
- SNMP v1, v2c, v3

Telnet
- Client
- Server

Software download/upgrade
- TFTP
- FTP
- HTTP

Dual Images

Configuration download/upload
- TFTP
- HTTP
- FTP

Auto Upgrade
- TFTP
- FTP

SNMP
- v1
- v2c
- v3

RMON1 (1,2,3,9 group)

BOOTP

DHCP
- Client
- Relay
- Snooping
- Snooping option 82
- Dynamic provision (via Option 66,67)

IP source guard

Port mirroring

VLAN mirror

MAC-based mirror

ACL mirror

Remote port mirror (RSPAN)

Even/error logging
- Syslog
- Remote log
- SMTP (E-mail notification)

OAM
- IEEE 802.3ah
- IEEE 802.1ag (CFM)
- Y.1731

DNS
- Client
- Proxy

Remote Ping

SNTPv4

NTP

IP Clustering

LLDP (802.1ab)
- Link Layer Discovery Protocol (LLDP)
- LLDP-MED (VoIP related)
- IEEE 802.3at

Management-continued

MAC flush
Dynamic ARP Inspection (DAI)
Auto Traffic Control (ATC) (software rate limit)
PPPoE intermediate agent
Delay reload
Cable diagnostic/TDR
Green Ethernet
Traceroute
Denial of Service Protection (DoS)
Support MIB
Support 24 Static Route Entries with 8 IP Interface

IEEE Standards

IEEE 802.1p priority tags
IEEE 802.1X port authentication
IEEE 802.3x Ethernet frame start and stop requests and timers used for flow control on full-duplex links
IEEE 802.3u CSMA/CD access method and physical layer specifications for 100BASE-TX Fast Ethernet
IEEE 802.3z CSMA/CD access method and physical layer specifications for 1000BASE Gigabit Ethernet
IEEE 802.1q Virtual LAN
IEEE 802.1d Spanning Tree Protocol
IEEE 802.3ad Link Aggregation Control Protocol
IEEE 802.1s Rapid Spanning Tree Protocol
IEEE 802.1w Multiple Spanning Tree Protocol

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

Model	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