

# ECS4210 Series

## L2 Gigabit Ethernet Access Switch



### Product Overview

The Edge-Core ECS4210 series is a high-performance Gigabit Ethernet Layer 2/4 switch featuring 12/28 ports; 8/24 10/100/1000Base-TX ports and Gigabit Ethernet SFP (Small Form Factor Pluggable) ports. It is ideal for Internet Service Provider to provide up to Gigabit bandwidth service to home user or business user. It is also ideal for enterprise Gigabit to the desktop and wiring closet installations. 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

It's a high performance Gigabit Ethernet access switch with 56Gbps switching capacity, delivers wire-speed switching performance to take full advantage of existing high-performance on PCs and laptops by significantly improving the responsiveness of applications and file transfer times.

The device also has four Gigabit Ethernet SFP ports for uplink flexibility, allowing the insertion of copper or fiber transceiver to create uplinks port for high speed uplinks to servers or backbones.

#### Continuous Availability

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

Multicast VLAN Registration (MVR) is designed for applications such as Media-on-Demand is using multicast traffic across an Ethernet network.

IGMP snooping prevents flooding of IP multicast traffic and limits bandwidth intensive video traffic to only the subscribers.

The voice VLAN feature enables access ports to carry IP voice traffic from an IP phone.

The IEEE 802.1Q-in-Q VLAN Tag is purpose to expand the VLAN space by tagging the tagged packets.

#### Comprehensive QoS

Traffic is prioritized according to 802.1p, DSCP, IP precedence and TCP/UDP port number, giving optimal performance to real-time applications such as voice and video.

Asymmetric bidirectional rate-limiting, per port or per traffic class, preserves network bandwidth and allowing 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 will be automatically applied the port where the user connected, otherwise it will be grouped to guest VLAN with limited access.

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

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, TCP/UDP ports. This is done by hardware, so switching performance is not compromised.

Security Shell (SSHv1.5/v2.0) and Secure Sockets Layer (SSL/HTTPS) encrypt network management information via Telnet and web, providing secure network management.

DAI (Dynamic ARP Inspection) 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 address to IP address bindings.

#### Simple Management

Industry standard Command Line Interface (CLI) via console port or Telnet provides a common user interface and command set for users to manipulate the switch.

IP Source Guard is enabled on a trunk port with a large number of VLANs that have DHCP snooping enabled, you might run out of ACL

DHCP Option 82 is feature has a device add information to client TCP/IP configuration requests that it relays to a DHCP server.

## Technical Specification

Product Model		ECS4210-12T	ECS4210-12P	ECS4210-28T	ECS4210-28P
<b>Port</b>	RJ-45 10/100/1000 Ports	8	8	24	24
	RJ-45 10/100/1000 Uplink Ports	X	2	X	X
	SFP Uplink Ports	4	2	4	4
	PoE Port	0	8	0	24
	RJ-45 Console Port	O	O	O	O
<b>Performance</b>	Switching Capacity	24Gbps	24Gbps	56Gbps	56Gbps
	Forwarding Rate	17.9Mpps	17.9Mpps	41.7Mpps	41.7Mpps
	Flash Memory	32M	32M	32M	32M
	DRAM	128M	128M	128M	128M
	MAC Address Table Size	16K	16K	16K	16K
	Jumbo Frames	13K	13K	13K	13K
	Auto-negotiation, Auto-MDI/MDIX	O	O	O	O
<b>PoE</b>	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	150W	X	400W
<b>Mechanical</b>	Rack Space	19"	19"	19"	19"
	Dimension (W x D x H) cm	18 x 16.41 x 3.75	28 x 22 x 4.4	44 x 22 x 4.4	44 x 22 x 4.4
	Weight	0.7kg	2.3kg	2.16kg	3.13kg
<b>Power Supply</b>	100-240 VAC, 50/60Hz	O	O	O	O
	Max Power Consumption (Watts)	9.1W	189W	17.2W	460W
<b>Environmental</b>	Operating Temperature	0°C to 50°C	0°C to 50°C	0°C to 50°C	0°C to 50°C
	Storage Temperature	-40°C to 70°C	-40°C to 70°C	-40°C to 70°C	-40°C to 70°C
	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
<b>Electromagnetic Compatibility</b>	Power Surge Protection	4KV	2KV	4KV	2KV
	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

# ECS4210 Series Product Specifications

## Features

### L2 Features

- Tri-speed (10/100/1000Base-T) copper interfaces
- Auto-negotiation for port speed and duplex mode
- Auto MDI/MDI-X
- SFP port support changeable 1000Base-SX/LX/LHX/ZX/TX transceiver
- Digital Diagnostic Monitoring (DDM)
- Flow Control:
  - IEEE 802.3x for full duplex mode
  - Back-Pressure for half duplex mode
- Storm Control
  - Broadcast
  - Multicast
  - Unknown Unicast
- 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
  - BPDU transparent
  - Loopback detection
- VLANs:
  - Supports 4K VLAN
  - Port-based VLAN
  - IEEE 802.1Q VLAN
  - GVRP (256 VLANs)
  - IEEE 802.1v Protocol-based VLAN
  - Subnet based VLAN
  - MAC-based VLAN
  - Traffic Segmentation
  - Support Voice VLAN
  - VLAN Trunking
- L2 Virtual Private VLAN
  - QinQ
- Link Aggregation:
  - Static Trunk
  - IEEE 802.3ad Link Aggregation Control Protocol
  - Trunk groups: 8, up to 8 ports per group
  - Load balance based on MAC SA/DA, Ethertype, SIP, DIP, Source (TCP/UDP) port, Destination (TCP/UDP) port
- IGMP Snooping:
  - IGMP v1/v2/v3 snooping
  - IGMP Proxy reporting
  - IGMP Filtering
  - IGMP Throttling
  - IGMP Immediate Leave
  - IGMP Querier
- MVR (Multicast VLAN Registration)
  - Support 5 Multicast VLAN
- Port Mirroring
- VLAN Mirroring
- MAC Based Mirroring
- Remote Port Mirroring (RSPAN)
- Supports jumbo frames up to 13KB

### QoS Features

- Priority Queues: 8 hardware queues per port
- Traffic Classification COS
  - IEEE 802.1p based COS
  - IP Precedence based COS
  - IP DSCP based COS
  - MAC access control lists (source/destination MAC, Ether type, priority ID/VLAN ID)
  - IP standard access control lists (source IP)
  - IP extended access control lists (source/destination IP, protocol, TCP/UDP port number)
- Traffic Scheduling
  - Strict Priority
  - Weighted Round Robin
  - Strict + WRR traffic scheduling
- Two Rate Three Color Marker
- Ingress traffic policing
- Egress traffic shaping
- Marking/remarking
- Rate Limiting (ingress and egress, per port base)
  - GE: Resolution 64 Kbps ~ 1000 Mbps
- DiffServ

### Security

- Port security
- IEEE 802.1X port-based and MAC-based authentication
- MAC authentication, Web authentication
- Voice VLAN, Guest VLAN, EAPOL frames pass through L2/L3/L4 Access Control Lists
- IPv6 ACL
- DHCP Snooping
- DHCP Option 82
- IP Source Guard
- Dynamic ARP Inspection
- RADIUS Authentication
- TACACS+ Authentication
- TACACS+ Authorization and Accounting
- HTTPS and SSL
- SSH (v1.5/v2.0)
- User name password authentication
  - Local authentication
  - Remote authentication via RADIUS/TACACS+
- Management Interface Access Filtering
  - SNMP
  - Web
  - Telnet/SSH
- MAC filter
- PPPoE intermediate agent\*

### IPv6 Features

- IPv4/IPv6 dual protocol stack
- IPv6 Address Types Stack: Unicast
- IPv6 Neighbor Discovery
- SNMP over IPv6
- HTTP over IPv6
- Remote IPv6 ping

## Features

### Management Features

- Switch Management:
  - CLI via console port or Telnet
  - WEB management
  - SNMP v1, v2c, v3
- Firmware and Configuration:
  - Firmware upgrade via TFTP server
  - Multiple configuration files
  - Configuration file upload/download via TFTP server
- RMON (groups 1, 2, 3 and 9)
- BOOTP, DHCP client for IP address assignment
- DHCP dynamic provision option 66,67
- SNTP
- Event/Error Log/Syslog, SMTP
- Supports LLDP (802.1ab)
- IP clustering
- (Optional) ECview Pro, powerful network management software that maximizes the managed capabilities of Edge-Core devices with:
  - Topology Management
  - Performance Management
  - Configuration Management
  - Event Management
  - SNMP Management

### Electromagnetic Compatibility

- CE Mark
- FCC Class A
- 4KV Surge Protection
- 8KV/15KV ESD Protection

### Environmental Specifications

- Temperature:
  - IEC 68-2-14
  - 0°C to 50°C (Standard Operating)
  - -40°C to 70°C (Non-Operating)
- Humidity: 10% to 90% (Non-condensing)
- Vibration: IEC 68-2-36, IEC 68-2-6
- Shock: IEC 68-2-29
- Drop: IEC 68-2-32

### Power Supply

- AC Power code
  - 100 to 240 V, 50-60 Hz
- Power Supply
  - Internal, auto-ranging transformer: 100 to 240 VAC, 50 to 60 Hz
- Power Consumption
  - TBD

### Safety

UL(CSA 22.2. NO 60950-1 & UL60950-1)  
CB (IEC60950-1)

### Warranty

Please check [www.edge-core.com](http://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](http://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](http://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.

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\* Future Release

## Ordering Information

### Optional Accessories

- ET4201-SX
- ET4201-LX
- ET4201-LHX
- ET4201-ZX
- ET4202-SX
- ET4202-LX
- ECView Pro

### Product Description

- Small Form Factor Pluggable (1000BASE-SX; Distance: 500m; Wavelength: 850nm)
- Small Form Factor Pluggable (1000BASE-SX; Distance: 10km; Wavelength: 1310nm)
- Small Form Factor Pluggable (1000BASE-SX; Distance: 40km; Wavelength: 1310nm)
- Small Form Factor Pluggable (1000BASE-SX; Distance: 80km; Wavelength: 1550nm)
- Small Form Factor Pluggable (1000BASE-SX; Distance: 500m; Wavelength: 850nm,DDM)
- Small Form Factor Pluggable (1000BASE-SX; Distance: 10km; Wavelength: 1310nm,DDM)
- Network Management Software



Proudly distributed in Australia and New Zealand by Alloy Computer Products Pty Ltd

**Melbourne**  
4/585 Blackburn Road, Notting Hill, VIC 3168  
Tel: (03) 85629000 Fax: (03) 8562 9099  
[www.alloy.com.au](http://www.alloy.com.au) [sales@alloy.com.au](mailto:sales@alloy.com.au)

**Sydney**  
Suite 204, Milsons Landing, 6A Glen Street,  
Milsons Point, NSW 2061  
Tel: (02) 8080 9600 Fax: (03) 8562 9099

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