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.
# ECS4210 Series Product Specifications

## Technical Specification

<table>
<thead>
<tr>
<th>Product Model</th>
<th>ECS4210-12T</th>
<th>ECS4210-12P</th>
<th>ECS4210-28T</th>
<th>ECS4210-28P</th>
</tr>
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<tbody>
<tr>
<td><strong>Port</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RJ-45 10/100/1000 Ports</td>
<td>8</td>
<td>8</td>
<td>24</td>
<td>24</td>
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<tr>
<td>RJ-45 10/100/1000 Uplink Ports</td>
<td>X</td>
<td>2</td>
<td>X</td>
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<tr>
<td>SFP Uplink Ports</td>
<td>4</td>
<td>2</td>
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<tr>
<td>PoE Port</td>
<td>0</td>
<td>8</td>
<td>0</td>
<td>24</td>
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<tr>
<td>RJ-45 Console Port</td>
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<tr>
<td><strong>Performance</strong></td>
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<tr>
<td>Switching Capacity</td>
<td>24Gbps</td>
<td>24Gbps</td>
<td>56Gbps</td>
<td>56Gbps</td>
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<tr>
<td>Forwarding Rate</td>
<td>17.9Mpps</td>
<td>17.9Mpps</td>
<td>41.7Mpps</td>
<td>41.7Mpps</td>
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<tr>
<td>Flash Memory</td>
<td>32M</td>
<td>32M</td>
<td>32M</td>
<td>32M</td>
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<tr>
<td>DRAM</td>
<td>128M</td>
<td>128M</td>
<td>128M</td>
<td>128M</td>
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<tr>
<td>MAC Address Table Size</td>
<td>16K</td>
<td>16K</td>
<td>16K</td>
<td>16K</td>
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<tr>
<td>Jumbo Frames</td>
<td>13K</td>
<td>13K</td>
<td>13K</td>
<td>13K</td>
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<tr>
<td>Auto-negotiation, Auto-MDI/MDIX</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
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<tr>
<td><strong>PoE</strong></td>
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<tr>
<td>Support on all Gigabit ports based on IEEE 802.3af</td>
<td>X</td>
<td>O</td>
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<tr>
<td>PoE+ based on IEEE 802.3at</td>
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<td>O</td>
<td>X</td>
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<tr>
<td>Auto disable after exceeding power budget</td>
<td>X</td>
<td>O</td>
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<tr>
<td>Dynamic Power Allocation</td>
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<td>PoE Power Budget</td>
<td>X</td>
<td>150W</td>
<td>X</td>
<td>400W</td>
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<tr>
<td><strong>Mechanical</strong></td>
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<tr>
<td>Rack Space</td>
<td>19”</td>
<td>19”</td>
<td>19”</td>
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<tr>
<td>Dimension (W x D x H) cm</td>
<td>18 x 16.41 x 3.75</td>
<td>28 x 22 x 4.4</td>
<td>44 x 22 x 4.4</td>
<td>44 x 22 x 4.4</td>
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<td>0.7kg</td>
<td>2.3kg</td>
<td>2.16kg</td>
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<tr>
<td><strong>Power Supply</strong></td>
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<td>100-240 VAC, 50/60Hz</td>
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<td>O</td>
<td>O</td>
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<tr>
<td>Max Power Consumption (Watts)</td>
<td>9.1W</td>
<td>189W</td>
<td>17.2W</td>
<td>460W</td>
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<td>Operating Temperature</td>
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<td>0°C to 50°C</td>
<td>0°C to 50°C</td>
<td>0°C to 50°C</td>
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<td>-40°C to 70°C</td>
<td>-40°C to 70°C</td>
<td>-40°C to 70°C</td>
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<td>Operating Humidity (non-condensing)</td>
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<td>10% to 90%</td>
<td>10% to 90%</td>
<td>10% to 90%</td>
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<tr>
<td>Storage Humidity (non-condensing)</td>
<td>10% to 90%</td>
<td>10% to 90%</td>
<td>10% to 90%</td>
<td>10% to 90%</td>
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<tr>
<td>Environmental Regulation Compliance: WEEE</td>
<td>O</td>
<td>O</td>
<td>O</td>
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<td>Environmental Regulation Compliance: RoHS</td>
<td>O</td>
<td>O</td>
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<tr>
<td><strong>Electromagnetic Compatibility</strong></td>
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<td></td>
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<tr>
<td>Power Surge Protection</td>
<td>4KV</td>
<td>2KV</td>
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<td>2KV</td>
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<tr>
<td>FCC Class A</td>
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<td>CE</td>
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<tr>
<td>Safety Compliance: UL</td>
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</tbody>
</table>
### 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

### 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

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### VLANs

- Supports 4K VLAN
- Port-based VLAN
- GVRP (256 VLANs)
- IEEE 802.1v Protocol-based VLAN
- IPv4/IPv6 dual protocol stack
- MAC Based Mirroring
- Remote Port Mirroring (RSPAN)
- Supports jumbo frames up to 13KB
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
- SNMP Management
- Event/Error Log/Syslog, SMTP
- Supports LLDP (802.1ab)
- Topology Management
- Performance Management
- Configuration Management
- Event Management
- SNMP Management

Safety

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

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

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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

Electromagnetic Compatibility

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

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