ECS4100-28P/ECS4100-52P
L2+/L3 Lite Gigabit Ethernet PoE Access Switch

Product Overview

The Edgecore ECS4100-28P/ECS4100-52P switch are Gigabit Ethernet PoE access switch with four Gigabit SFP uplink ports. The switch is ideal for SMB, enterprise, and campus networks to connect power devices such as VoIP phones, wireless access points, surveillance cameras etc , both power and data traffic can be transferred over existing Cat. 5 cables, eliminates the need for individual power sources for devices in the network, saving on costs for power cables. The ECS4100-28P/ECS4100-52P switch is packed with features that bring high availability, comprehensive security, robust multicast control, and advance QoS to the network edge, while maintaining simple management. The switch also supports the most advance IPv6 management, IPv6 security, and IPv6 multicast control in accordance with the growth of IPv6 deployment..

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Key Features and Benefits

Performance and Scalability

The EdgeCore ECS4100-28P/ ECS4100-52P is a high-performance Gigabit Ethernet L2+/L3 Lite managed switch with 56/104 Gbps switching capacity. The switch delivers wire-speed switching performance on all Gigabit ports, taking full advantage of existing high-performance 11n/ac Wi-Fi APs, IP phones, IP survellence camera, sensors etc, significantly improving the responsiveness of applications and file transfer times.

The four 1G SFP ports provide uplink flexibility, allowing the insertion of fiber or copper gigabit transceivers, to create up to 4Gbps high-speed uplinks to service provider, corporate, campus networks, reducing bottlenecks and increasing the performance of the access network

The Fan-less design of ECS4100-28P/ ECS4100-52P ensures noiseless operation and increase the reliability of the system.

Reliability and Energy Efficiency

The design of the ECS4100-28P/ ECS4100-52P incorporates high energy efficiency in order to reduce the impact on the environment. The Green Ethernet power-saving features and fan-less design significantly reduce the power consumption.

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, to ensure faster recovery from failed links, 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 up to 64 instances.

The ECS4100-28P/ ECS4100-52P 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.

The ECS4100-28P/ ECS4100-52P supports G.8032 Ethernet Ring Protection Switching with the ability for the network to detect and recover from incidents without impacting users, meeting the most demanding quality and availability requirements. Rapid recovery time when problems do occur is as low as 50ms

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 policies are automatically applied 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.

IP Source Guard prevents users from using IP addresses that were not assigned to them.

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.

Private VLANs (traffic segmentation per port) isolate edge ports to ensure user privacy.

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-to-IP address bindings.

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

The ECS4100-28P/ ECS4100-52P also supports both RADIUS and TACACS+ authentication methods to secure your network.

Comprehensive QoS

The ECS4100-28P/ ECS4100-52P offers advanced QoS for marking, classification, and scheduling to deliver best-in-class performance for data, voice, and video traffic at wire speed. Eight egress queues per port enable differentiated management of up to eight 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.

Robust Multicast Control

IGMP snooping prevents the flooding of multicast traffic by dynamically configuring switch ports so that multicast traffic is forwarded to only those ports associated with an IP multicast receiver. IGMP increases the performance of networks by reducing multicast traffic flooding.

IGMP groups allow you to create customer packages for IP-TV channels, making switch configuration easy. IGMP Filtering prevents subscribers seeing unsubscribed IP-TV channels. And, IGMP Throttling allows you to set how many IP-TV channels a subscriber can receive simultaneously.

Multicast VLAN Registration (MVR) is designed for applications such as Media-on-Demand that send multicast traffic across an Ethernet network.
Multicast VLANs are shared in the network, while subscribers remain in separate VLANs. This increases network security and saves bandwidth on core links. Multicast streams do not have to be routed in core L3 switches, which saves CPU power.

IPv6 Support

The switch supports a number of IPv6 features, including IPv6 Management, DCHPv6 Snooping with Option 37, IPv6 Source Guide, and MVR6.

Superior 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.

An embedded user-friendly web interface helps users to quickly and simply configure switches.

The ECS4100-28P/ ECS4100-52P supports SNMPv1,2c,3 and four-group RMON. The switch provides a complete private MIB for the configuration of most functions via the SNMP protocol.

Administrators can backup and restore firmware and configuration files via TFTP or FTP. The switch also provides the configuration of auto-provision for ease of use in large deployments.

AAA (Authentication, Authorization and Accounting) via RADIUS, TACACS+, enables centralized control of the switches. Access rights can be authorized per user and account for all actions performed by administrators.

Service Monitoring and Management

The ECS4100-28P/ ECS4100-52P supports IEEE 802.1ag and ITU-T Y.1731, allowing service providers to monitor end-to-end services, identify connectivity and performance issues, and isolate problems from a remote location without dispatching an engineer onsite.

The switch also provides the capability to monitor service availability, delay, jitter, and dropped packets for verifying SLA conformance (for billing purposes) and providing advance indication of performance degradation before a service outage occurs.

Virtual Private Networks

The ECS4100-28P/ ECS4100-52P supports Layer 2 VPNs by using Q-in-Q functions, where an 802.1Q tag from a customer VLAN (called CE-VLAN ID) is encapsulated in a second 802.1Q tag from a service-provider network (called an SP-VLAN ID). The switch supports rewriting the VLAN tag of egress traffic when the ingress traffic is tagged.

The switch also supports Layer 2 Protocol Tunneling for STP, CDP, VTP, PVST+, with Cisco-proprietary multicast address (01-00-0c-cd-cd-d0) replacement.

PoE Features

The ECS4100-28P/ECS4100-52P 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 13/26 ports, 15.4 Watts on 24/48 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 and the power allocation is configurable

The PoE power can be enabled or disabled remotely or by time range, for example during off duty hour all the PoE devices can be shut down for Power saving without human intervention.

Features

Product Model	ECS4100-28P	ECS4100-52P
Product Image		

		ECS4100-28P	ECS4100-52P
Port	RJ-45 10/100/1000 Ports	24	48
	100/1000 SFP Ports	4	4
	10/100/1000 Combo Ports	0	0
	SFP+ 10 Gigabit Uplink Ports	0	0
	GE out of band Management Port	No	No
	RJ-45 Console Port	1	1
Performance	Switching Capacitny	56 Gbps	104 Gbps
	Forwarding Rate	41.6 Mpps	77.4 Mpps
	Flash Memory	32 MB	32 MB
	DRAM	256 MB	256 MB
	MAC Address Table Size	16K	16K
	Jumbo Frames	12KB	12KB
	Auto-negotiation, Auto-MDI/MDIX	Yes	Yes
PoE	Support on all Gigabit ports based on IEEE 802.3af	Yes	Yes
	PoE+ based on IEEE 802.3at	Yes	Yes
	Auto disable after exceeding power budget	Yes	Yes
	Dynamic Power Allocation	Yes	Yes
	PoE Power Budget	190 W	370 W
Mechanical	Rack Space	19"	19"
	Dimension (W x D x H)	440 x 330 x 44 mm	440 x 330 x 44 mm
	Weight	4.53kg(TBC)	4.53kg (TBC)
	Acoustics	53 dB(A)	56 dB(A)
Power Supply	100-240 VAC, 50/60 Hz	Yes (Front Panel)	Yes (Rear Panel)
	Max System Power Consumption (Watts)	Max 260 W	Max 460 W
Environment	Operating Temperature	0ºC to 50ºC	0ºC to 45ºC
	Storage Temperature	-40ºC to 70ºC	-40ºC to 70ºC
	Operating Humidity (non-condensing)	10% to 90%	10% to 90%
	Storage Humidity (non-condensing)	10% to 90%	10% to 90%
	Environmental Regulation compliance: WEEE	Yes	Yes
	Environmental Regulation compliance: RoHS	Yes	Yes
Certification	FCC Class A	Yes	Yes
	CE	Yes	Yes
	Safety Compliance: CB	Yes	Yes
	Safety Compliance: UL	Yes	Yes

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Features

L2 Features

Tri-speed (10/100/1000BASE-T) copper interfaces
Auto-negotiation for port speed and duplex mode
Auto MDI/MDI-X

1G fiber interfaces
DDM

IP Clustering (Single IP management , stack up to 36 units)

Flow Control:
- IEEE 802.3x for full duplex mode
- Back-Pressure for half duplex mode

Jumbo frames 12KB

Broadcast/Multicast/ Unknown Unicast Storm Control

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), 64 instances
- BPDU Guard
- BPDU filtering
- Root Guard
- Loopback detection

Non-Spanning Tree Loopback detection

ITU-T G.8032 Ethernet Ring Protection
- Sub 50 msec convergence
- Revertive operation mode
- Multiple-ring network

VLANs:
- Supports 4K VLAN
- Port-based VLAN
- IEEE 802.1Q VLAN
- GVRP
- IEEE 802.1v Protocol-based VLAN
- IP Subnet-based VLAN
- MAC-based VLAN
- Traffic Segmentation

L2 Virtual Private VLAN
- Q-in-Q
- L2 Protocol tunneling (xSTP, CDP, VTP, PVST+, LLDP)
- CDP/PVST+ Filtering

Link Aggregation:
- Static Trunk
- IEEE 802.3ad Link Aggregation Control Protocol
- Trunk groups: 16, up to 8 GE ports per group
- Load Balancing: SA+DA, SA, DA, SIP+DIP, SIP, DIP

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

MVR (Multicast VLAN Registration)
- Supports 5 multicast VLANs

Port mirroring
Remote port mirror (RSPAN)

QoS Features

Priority Queues: 8 hardware queues per port

Traffic classification
- IEEE 802.1p CoS
- IP Precedence
- DSCP
- MAC Access control list (Source/Destination MAC, Ether type, Priority ID/ VLAN ID)
- IP Standard access control list (Source IP)
- IP extended access control list (Source/Destination IP, Protocol, TCP/UDP port number)

Traffic Scheduling
- Strict Priority
- Weighted Round Robin
- Strict + WRR

Ingress policy map (police rate, remark CoS)
Egress policy map (police rate, remark CoS/DSCP)

Rate Limiting (Ingress and Egress, per port base)
- GE: Resolution 64Kbps ~ 1,000Mbps

Security

Port security
IEEE 802.1X port based and MAC based authentication
Dynamic VLAN Assignment
MAC authentication
Web authentication
Voice VLAN
Guest VLAN

L2/L3/L4 Access Control List
- MAC Access control list (Source/Destination MAC, Ether type, Priority ID/ VLAN ID)
- IP standard access control list (Source IP)
- IP extended access control list (Source/Destination IP, Protocol, TCP/UDP port number)

IPv6 ACL

DHCP Snooping
DHCP Option 82
DHCP Option 82 Relay
IP Source Guard

PPPoE IA

Dynamic ARP Inspection

Denial of Service

Login Security
RADIUS authentication
RADIUS accounting
TACACS + authentication
TACACS + accounting
TACACS + authorization

Management Interface Access Filtering (SNMP, WEB, Telnet)
SSH (v1.5/v2.0) for security Telnet
SSL for HTTPS
SNMPv3

Green Ethernet

- IEEE 802.3az Energy-Efficient Ethernet (EEE)

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ECS4100-28P/ ECS4100-52P Product Specifications

Features

IPv6 Features

IPv4/IPv6 Dual Protocol stack
IPv6 Address Types Stack: Unicast
IPv6 Neighbor Discovery
■ Duplicate address
■ Address resolution
■ Unreachable neighbor detection
Stateless auto-configuration
Manual configuration
Remote IPv6 ping
IPv6 Telnet support
HTTP over IPv6
SNMP over IPv6
IPv6 Syslog support
IPv6 TFTP support
MLD Snooping v1/v2
IPv6 source guard
DHCPv6 snooping
MVR6

Management

Switch Management:
■ CLI via console port or Telnet
■ WEB management
■ SNMP v1, v2c, v3

Firmware & Configuration:
■ Firmware upgrade via TFTP/HTTP/FTP/SFTP server
■ Multiple configuration files
■ Configuration file upload/download via TFTP/HTTP/FTP/SFTP server

RMON (groups 1, 2, 3 and 9)
BOOTP, DHCP client for IP address assignment
DHCP dynamic provision option 66,67
SNTP
Syslog (local Flash)
Remotelog (RFC3164)
SMTP (E-mail Notification)
Supports LLDP (802.1ab)
sFlow v4, v5

(Optional) ECview Pro, a powerful network management software
that maximizes the managed capabilities of Edge-Core devices with:
■ Topology Management
■ Performance Management
■ Configuration Management
■ Event Management
■ SNMP Management
Cable Diagnostic

Routing

IPv4 Static Route
IPv6 Static Route

OAM

IEEE 802.3ah Link
IEEE 802.1ag Connectivity Fault Management
■ Connectivity check
■ Loopback
■ Linktrace
ITU-T Y.1731 Performance and Throughput Management
■ Frame Delay
■ Frame Delay variation

Safety

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

Electromagnetic Compatibility

FCC Class A
CE Mark
CISPR Class A
BSMI

Environmental Specifications

Temperature:
■ 0℃ to 50ºC(ECS4100-28P0/45ºC (ECS4100-48T) (Standard Operating)
■ -40ºC to 70ºC (Non-Operating)
Humidity: 10% to 90% (Non-condensing)

Power Supply

Power input
■ 100~240 VAC, 50/60 Hz

Warranty

Refer to the policy published in Edge-Core Website

* Future Release

Ordering Information

Optional Accessories	Product Description
ET4201-SX	1Gbps, Small Form Factor Pluggable (Distance: 550m; Wavelength: 850nm)
ET4201-LX	1Gbps, Small Form Factor Pluggable (Distance: 10km; Wavelength: 1310nm)
ET4201-LHX	1Gbps, Small Form Factor Pluggable (Distance: 40km; Wavelength: 1310nm)
ET4201-ZX	1Gbps, Small Form Factor Pluggable (Distance: 80km; Wavelength: 1550nm)
ET4201-RJ45	1000BASE-T RJ45 transceiver, 100m
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)
ET4202-ZX	1Gbps, Small Form Factor Pluggable (Distance: 80 km; Wavelength: 1310nm, DDM)
ET4203-BX20	1Gbps, SFP (Distance: 20 km; Wavelength: Tx1310nm / Rx1490nm)
ET4203-BX20D	1Gbps, SFP (Distance: 20 km; Wavelength: Tx1490nm / Rx13100nm)
ET4204-BX10	1Gbps, SFP (Distance: 10 km; Wavelength: Tx1310nm / Rx1550nm)
ET4204-BX10D	1Gbps, SFP (Distance: 10 km; Wavelength: Tx1550nm / Rx1310nm)
ET4204-BX10DDMi	1Gbps, SFP (Distance: 10 km; Wavelength: Tx1310nm / Rx1550nm, DDM)
ET4204-BX10DDDMi	1Gbps, SFP (Distance: 20 km; Wavelength: Tx1550nm / Rx1310nm, DDM)
Ecview Pro	Network Management Software

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