ECS4810-12M

L2 Gigabit Ethernet Carrier Grade Switch

Product Overview

The Edgecore ECS4810-12M is a Carrier Ethernet access switch ideal for Ethernet service demarcation, extension, and aggregation. The ECS4810-12M allows service providers to deliver managed converged services, such as voice, video, and data over virtual Ethernet and IP networks. With flexible combination Gigabit ports, QoS, advanced operation, administration, and maintenance (OAM), ITU-T Synchronous Ethernet (Sync-E), and support for extended temperature range environments, the ECS4810-12M adds value and builds differentiated services over Carrier Ethernet networks.

Ethernet Carrier Grade Switch

Key Features and Benefits

Carrier-Class Design

The Edgecore ECS4810-12M is a carrier-grade aggregation switch that consists of 12 combination Gigabit Ethernet ports.

Any of the combination Gigabit ports can be flexibly assigned as 1000BASE-X fiber or 10/100/1000BASE-T copper connections to subscriber-side devices. The other ports can be assigned as network connections to service-side devices. The switch is ideal for locating at the edge of broadband-access networks to aggregate traffic from multiple services.

All interfaces of the ECS4810-12M are located on the same panel, including the CIT (Craft Interface Terminal) out-of-band management port, external alarm input/output interface, and power outlets.

The ECS4810-12M is a carrier grade switch that provides dual power inputs for AC and DC power, with an operating temperature range from 0ºC to 65ºC. The fan-less design of the switch ensures noiseless operation and increases the reliability of the system.

The ECS4810-12M is designed for high energy efficiency. The 55nm switch controller chipset and Green Ethernet power saving features significantly reduce power consumption.

Support for dying gasp. When a loss of power is detected, the dying gasp allows 200 msec for the switch to notify the system administrator by an SNMP trap.

Continuous Availability

The ECS4810-12M 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 50 msec.

Service Monitoring and Management

The ECS4810-12M supports IEEE 802.1ag Connectivity Fault Management (CFM) 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 having to dispatch an engineer to the site.

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

Advanced Synchronization

The ECS4810-12M provides synchronization options optimized for cellular operators looking to backhaul their data and voice traffic from base stations to their core network over Ethernet transport.

The ECS4810-12M supports bit-layer clock recovery solutions, ITU-T G.8261 Synchronous Ethernet, and provides a highly robust hop-by-hop frequency mechanism.

Comprehensive QoS

The ECS4810-12M supports Two Rate Three Color Marker and Policing, Committed Information Rate (CIR) two rate, CIR + Peak Information Rate (PIR) Traffic Policing, and drop or remark of priority tags for packets that exceed burst size.

Virtual Private Network

The ECS4810-12M supports L2 Virtual Private Networks (VPNs) by using Q-in-Q functions, where an 802.1Q tag from a customer VLAN (called a CE-VLAN ID) is encapsulated in a second 802.1Q tag from a service-provider network (called an SP-VLAN ID). The switch supports the rewrite of VLAN tags for egress traffic when the ingress traffic is VLAN tagged.

There is also support of L2 Protocol Tunneling for STP, CDP, LLDP, VTP, and PVST+, with Cisco proprietary multicast address (01-00-0C-CD-CD-D0) replacement.

Layer 2 PDU filtering allows a service provider to specify which Layer 2 PDUs are to be dropped at an ingress interface on a provider edge switch.

ECS4810-12M Product Specifications

www.edge-core.com

Features

Physical Ports

- 12 Gigabit combination (RJ-45/SFP) ports
- Dual power inputs with 1 AC and 1 DC power connector
- 1 out-of-band 1000 Mbps RJ-45 management port
- 1 RJ-45 console port
- 1 DB15 alarm port

Performance

- Switching Capability: 24 Gbps
- Packet Buffer Size: 8 MB
- MAC Address Table: 16K

L2 Features

- Tri-speed (10/100/1000BASE-T) copper interfaces
- Auto-negotiation for port speed and duplex mode
- Dual-speed(100 Mbps and 1000 Mbps) fiber interfaces
- SFP support for1000BASE-SX/LX/LHX/ZX transceivers
- Digital Diagnostic Monitoring (DDM)
- 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
  - BPDU transparent
  - Loopback detection
- ITU-T G.8032 Ethernet Ring Protection:
  - Sub 50 msec convergence
  - Revertive operation mode
  - Multiple-ring network
- VLANs:
  - Supports 4K VLANs
  - Port-based VLANs
  - IEEE 802.1Q VLANs
  - IEEE 802.1v Protocol-based VLANs and Subnet-based
- VLANs:
  - MAC-based VLANs
  - Traffic Segmentation
  - GVRP
- L2 Virtual Private VLANs:
  - Q-in-Q
  - Selective Q-in-Q
  - L2 protocol tunneling (xSTP, CDP, VTP, LLDP and PVST+)
  - Support Voice VLANs
- Link Aggregation:
  - Static trunks
  - IEEE 802.3ad Link Aggregation Control Protocol
  - Trunk groups: 6, up to 8 ports per group
- 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 VLANs
- Port Mirroring
- Supports Jumbo frames up to 10 KB

QoS Features

- Priority Queues: 8 hardware queues per port
- Traffic Classification:
  - IEEE 802.1p CoS
  - IP Precedence
  - DSCP
  - MAC access control lists (source/destination MAC, Ethertype, 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
  - Weighted Random Early Detection
- 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
- Bundle Rate Control

Security

- Port security
- IEEE 802.1X port-based and MAC-based authentication
- Dynamic VLAN assignment, QoS Assignment, ACL Assignment
- MAC authentication, Web authentication
- Voice VLAN, Guest VLAN
- L2/L3/L4 Access Control Lists:
  - MAC Access control lists (source/destination MAC, Ethertype, priority ID/VLAN ID)
  - IP standard access control lists (source IP)
  - IP extended access control lists (source/destination IP, protocol, TCP/UDP port number)
- IPv6 ACLs
- DHCP Snooping
- DHCP Option 82
- IP Source Guard
- Dynamic ARP Inspection
- Login Security
- RADIUS authentication
- TACACS + authorization and accounting
- TACACS+ 3.0
- Management Security
- SSH (v1.5/v2.0)
- SSL for HTTPS
- SNMPv3

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

Synchronous Ethernet

- ITU-T g.8262 Synchronous Ethernet

Green Ethernet

- Cable Diagnostics

TEL: +886-3-5638888 FAX: +886-3-6686111
No.1, Creation Rd. III, Hsinchu Science Park, Taiwan 30077
sales_ec@edge-core.com www.edge-core.com

TEL: +1 (949)-336-6801
20 Mason Irvine, CA 92618

ECS4810-12M Product Specifications

www.edge-core.com

Features

IPv6 Features

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

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 Edgecore devices with:
- Topology management
- Performance management
- Configuration management
- Event management
- SNMP management

Electromagnetic Compatibility

CE Mark
FCC Class A
CISPR Class A

Environmental Specifications

Temperature:
- IEC 68-2-14
- 0ºC to 60ºC (Standard Operating)
- -40ºC to 70ºC (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

Dual Power Inputs:
- AC 110 V ±10 V, 60 Hz ±3 Hz
- DC -42 V~-56 V
- Internal, auto-ranging transformer: 100 to 240 VAC, 50 to 60 Hz

Power Consumption: 16.1 Watts maximum
Dying gasp

Mechanical

Dimensions (W x D x H): 25.2 cm x 44 cm x 4.4 cm (0.82 x 17.3 x 1.73 in)
Weight : 3.32 kg (7.31 lb)
LED Indicators: Port, Uplink, System, Diagnostic

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 Edgecore Networks Corporation products and solutions, visit www.edge-core.com.

About Edgecore Networks Corporation

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

Edgecore Networks Corporation is a subsidiary of Accton Technology Corporation, the leading network ODM company. The Edgecore Data Center switches are developed and manufactured by Accton.

To purchase Edgecore Networks solutions, please contact your Edgecore Networks Corporation representatives at +886 3 563 8888 (HQ) or +1 (949)-336-6801 or authorized resellers.

Ordering Information

Optional Accessories	Product Description
ET3201-FXP	100BASE-FX, Small Form Factor Pluggable (Distance: 2 km; Wavelength:1310 nm)
ET3201-FX20	100BASE-FX, Small Form Factor Pluggable (Distance: 20 km; Wavelength:1310 nm)
ET4201-LX5	1Gbps, Small Form Factor Pluggable (Distance: 5 km; Wavelength: 1310 nm)
ET4201-LX15	1Gbps, Small Form Factor Pluggable (Distance: 15 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: 550 m; Wavelength: 850 nm, DDM)
ET4202-LX	1Gbps, Small Form Factor Pluggable (Distance: 10 km; Wavelength: 1310nm, DDM)
ECView Pro	Network Management Software

TEL: +886-3-5638888 FAX: +886-3-6686111
No.1, Creation Rd. III, Hsinchu Science Park, Taiwan 30077
sales_ec@edge-core.com www.edge-core.com

TEL: +1 (949)-336-6801
20 Mason Irvine, CA 92618