

ECS4810-12M

L2 Gigabit Ethernet Carrier Grade Switch



Product Overview

The Edge-Core ECS4810-12M is a Carrier Ethernet access switch ideal for Ethernet service demarcation, extension and aggregation.

ECS4810-12M allows service provider to deliver managed converged services such as voice, video and data over virtual Ethernet, MPLS/VPLS and IP networks. Flexible combo, QoS, advanced operation, administration and maintenance (OAM), ITU-T Synchronous Ethernet (Sync-E) and support for extended temperature range environments, the ECS4810-12M is an add value and builds differentiated services over Carrier Ethernet networks.

Key Features and Benefits

Carrier-class design

The Edge-Core ECS4810-12M is a carrier grade aggregation switch consists of 12 Combo Gigabit Ethernet ports.

Any of the Combo Gigabit port can be flexibly assigned as 1000BaseX fiber or 10/100/1000BaseT copper access port for connecting to subscriber side. Any other Combo Gigabit port can be flexibly assigned as network interface for Service side. It is ideal for locating at the edge of Broadband Access Aggregation Network to aggregate traffic from Broadband access Network for multiple services.

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

The ECS4810-12M is a carrier grade switch which provides dual power input with AC and DC and the operating temperature is ranging from -25°C -65°C.

The Fan-less design of ECS4810-12M ensures noiseless operation and increase the reliability of the system.

The design of the ECS4810-12M is green consumption and high energy efficiency in order to reduce the effect of the global warming. The 55nm switch controller chipset and Green Ethernet power saving features significantly reduce the power consumption. The Fan-less design also reduce the power consumption.

With Dying gasp support, when there is a detection of Loss of Power, the dying gasp allow 200msec for the system to notice administrator via SNMP trap and OAM.

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 50ms.

Service Monitoring and Management

The ECS4810-12M supports IEEE 802.1ag Connectivity Fault Management (CFM) and ITU-T Y.1731, allowing service provider to monitor end to end services, identify connectivity and performance issues and isolate the problem from a remote location without dispatching engineer onsite.

It 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.

Advanced Synchronization

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

ECS4810-12M support Bit-layer clock recovery solutions ITU-T G.8261 Synchronous Ethernet, provide a highly robust hop-by-hop frequency mechanism

Comprehensive QoS

ECS4810-12M supports Three Color Marker and Policing Single rate: Committed Information Rate (CIR) Two rate: CIR + Peak Information Rate (PIR) Traffic Policing: Drop or remark the priority tag of packets exceeds burst size

Virtual Private Network

ECS4810-12M supports L2 VPN by using QinQ functions in which 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).

Support rewrite the VLAN tag of egress traffic if the ingress traffic is VLAN tagged

Support L2 Protocol Tunneling for STP, CDP, VTP, 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.

Features

Physical Ports

- 12 Gigabit Combo (RJ-45/SFP) ports
- Dual power input with 1 AC and 1 DC Power Connector
- 1 out of band 1000Mbps RJ45 Management Port
- 1 RJ45 Console Port
- 1 DB15 Alarm

Performance

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

L2 Features

- Tri-speed (10/100/1000Base-T) copper interfaces
- Auto-negotiation for port speed and duplex mode
- Dual-speed(100M and 1000M) fiber interfaces
- SFP port support changeable 1000Base-SX/LX/LHX/ZX transceiver
- 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 VLAN
 - Port-based VLAN
 - IEEE 802.1Q VLAN
 - IEEE 802.1v Protocol-based VLAN and Subnet –based VLAN
 - MAC-based VLAN
 - Traffic Segmentation
 - GVRP
- L2 Virtual Private VLAN
 - QinQ
 - selective QinQ
 - L2 Protocol tunneling (xSTP, CDP, VTP & PVST+)
 - CDP/PVST+ Filtering
 - Support Voice VLAN
- Link Aggregation:
 - Static Trunk
 - IEEE 802.3ad Link Aggregation Control Protocol
 - Trunk groups: 12, 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 VLAN
- Port Mirroring
- Supports jumbo frames up to 10KB

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 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 64Kbps ~ 1000Mbps
- Bundle Rate Control

Security

- Port security
- IEEE 802.1X port based and MAC based authentication
- Dynamic VLAN Assignment, Auto QoS, Auto ACL
- 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
- IP Source Guard
- Dynamic ARP Inspection
- PPPoE IA
- Login Security
- RADIUS authentication
- TACACS + authorization and accounting
- TACACS+ 3.0
- Management Security
- SSH (v1.5/v2.0) for security Telnet
- 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

Operating System of Switch

- EdgeCOS

Features

Synchronous Ethernet

- ITU-T g.8262 Synchronous Ethernet

Green Ethernet

- Cable Diagnostic

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 & 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)
 UPnP
 IP clustering
 (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

Mechanical

Dimensions (W x D x H): 252 mm x 440 mm x 44 mm
 Weight : 3.32kg
 LED Indicators: Port, Uplink, System, Diagnostic

Safety

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

Electromagnetic Compatibility

CE Mark
 FCC Class A
 CISPR Class A

Environmental Specifications

Temperature:

- IEC 68-2-14
- -25°C to 65°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

Dual power input

- AC 110V ±10V, 60Hz ±3Hz
- DC -42V~-56V

■ Internal, auto-ranging transformer: 100 to 240 VAC, 50 to 60 Hz
 Power Consumption
 ■ 16.1 Watts maximum
 Dying gasp

Warranty

3 Years lifetime warranty

Ordering Information

Optional Accessories

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

Product Description

1Gbps, Small Form Factor Pluggable (Distance: 500m; Wavelength: 850nm)
 1Gbps, Small Form Factor Pluggable (Distance: 10km; Wavelength: 1310nm)
 1Gbps, Small Form Factor Pluggable (Distance: 40km; Wavelength: 1310nm)
 1Gbps, Small Form Factor Pluggable (Distance: 80km; Wavelength: 1550nm)
 SNMP Network Management Software