

# ECS4630-54F

## L3 Multigigabit Ethernet Stackable Switch



### Product Overview

The Edgecore ECS4630-54F is a high-performance multigigabit Ethernet Layer 3 switch featuring 48 1/2.5G SFP ports with 4 25G SFP28 uplink ports and 2 40G QSFP+ stacking ports. The switch is an ideal aggregation switch for Internet Service Providers (ISPs) and Multiple System Operators (MSOs) to aggregate fiber or copper switches which support 2.5G on 10G uplink ports by reducing the CAPAX of using expensive 10G aggregation switch while providing real 1G for home users. It is also an ideal aggregation switch for SMB, enterprise, and campus networks. The 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. ISPs can expand their services from home to business users by providing a more reliable and resilient network (ITU-T G.8032 ERPS), L2 VPNs, and advanced OAM (Operations, Administration, and Maintenance) functions to ensure service-level agreements.

### Key Features and Benefits Performance and Scalability

The ECS4630-54F is a high-performance multigigabit Ethernet Layer 3 managed switch with 600 Gbps switching capacity. The switch delivers wire-speed switching performance on all multigigabit ports, taking full advantage of existing high-performance network appliances by significantly improving the responsiveness of applications and file transfer times.

#### 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 for up to 32 instances.

The ECS4630-54F 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 ECS4630-54F 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.

#### Comprehensive QoS

The ECS4630-54F 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.

The ECS4630-54F supports Three Color Marker and Policing Single rate: Committed Information Rate (CIR) Two rate: CIR + Peak Information Rate (PIR) Traffic Policing: Which drop or remark the priority tags of packets when they exceed burst size.

#### Enhanced Security

Port Security limits the total number of devices 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 are automatically applied to 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 to offer invalid IP address.

IP Source Guard prevents people 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.

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

Private VLANs (traffic segmentation per port) isolates 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.

#### Simple 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.

#### Layer 3 Features IPv4 Static Route

The ECS4630-54F supports hardware-based IPv4 routing for maximum performance.

Routing protocols, such as OSPF, BGP4+, RIP v1/v2, and static routes are supported.\*

\*Future release with optional Layer 3 software license.

## Features

Product Model

ECS4630-54F

Product Image



<b>Port</b>	1G/2.5G SFP Ports	48
	25G SFP28 Ports	4
	40G QSFP+ Ports (Stacking port)	2
	RJ-45 Console Port	1
	Micro-USB Console (USB 2.0)	1
	RJ-45 Out-of-Band Management Port	1
<b>Performance</b>	Switching Capacity	600 Gbps
	Forwarding Rate	386.88 Mpps
	Flash Memory	256 MB
	DRAM	1 GB
	MAC Address Table Size	32 K
	Jumbo Frames	12 K
	Auto-negotiation, Auto-MDI/MDIX	N/A
<b>Mechanical</b>	Rack Space	19"
	Dimension (W x D x H) cm	44 x 35 x 4.4
	Weight	3.7 kg (TBD)
<b>Power Supply</b>	Redundant PSU 300W(90-264VAC/5A-3A)	1*
	Max System Power Consumption (Watts)	230 W (TBD)
<b>Environmental</b>	Operating Temperature	-5°C ~ 50°C
	Storage Temperature	-40°C to 70°C
	Operating Humidity (non-condensing)	10% to 90%
	Storage Humidity (non-condensing)	10% to 90%
	Environmental Regulation Compliance: WEEE	Yes
	Environmental Regulation Compliance: RoHS	Yes
	Acoustic Noise	55 dBA (TBD)
<b>Certification</b>	FCC Class A	Yes
	CE	Yes
	Safety Compliance: CB	Yes
	Safety Compliance: UL	Yes

\* This switch has 2 PSU slots, and is installed with 1 PSU300W. PSU is hot swappable.

## Features

### L2 Features

Auto-negotiation for port speed and duplex mode

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

Loopback detection

Spanning Tree Fast Forwarding

Auto Edge-Port

BPDU Forward

Storm Control (broadcast/multicast/unknown unicast)

VLANs:

Supports 4K IEEE 802.1Q VLANs

Port-based

GVRP/GARP

VLAN Translation

IEEE 802.1v Protocol-based VLANs

MAC-based VLANs

IP subnet-based VLAN

Private VLAN (Community)

Traffic Segmentation (port isolated)

Guest VLAN

Voice VLAN

VLAN trunking

Link Aggregation:

Static trunk

IEEE 802.3ad Link Aggregation Control Protocol

Trunk groups: 16

Trunk links:

2~8 ports for Gigabit Ethernet ports

2~4 ports for 10 Gigabit Ethernet ports

Load Balance: SA+DA, SA, DA, SIP+DIP, SIP, DIP

IGMP Snooping:

IGMP v1/v2/v3 snooping

IGMP Filtering

IGMP Throttling

IGMP Immediate Leave

IGMP Querier v1/v2

IGMP SNP Proxy (v1/v2/v3)

IGMP Authentication

Source Filtering Mode Data Forwarding

Non-STP loopback Detection

L2 Protocol Tunneling (CDP,PVST,STP,LLDP)

MVR (Multicast VLAN Registration)

Supports Q-in-Q

Supports select Q-in-Q

UDLD

G.8032 v2 (ERPS)

Supports jumbo frames up to 10 KB

Supports Digital Diagnostic Monitoring (DDM)

Packet filtering of L2 control CDP/PVST

Cable diagnostics

HW Stacking up to 4 units (TBC)

### QoS Features

Priority Queues: 8 hardware queues per port

Traffic classification:

IEEE 802.1p CoS

DSCP

Traffic Scheduling:

Strict Priority

Weighted Round Robin

Strict + WRR traffic scheduling

PHB (Per Hop Behavior – internal priority)

Port-based default priority

Diffserv

Rate Limiting (ingress and egress, per port base)

GE: Resolution 64 Kbps ~ 1000 Mbps

### Security

Port security

IEEE 802.1X port-based and MAC-based authentication

IEEE 802.1X EAPOL frames pass-through

IEEE 802.1X supplicant support

Dynamic VLAN assignment

Dynamic QoS assignment

MAC authentication, Web authentication

Voice VLAN, Guest VLAN

Access Control List

L2/L3/L4

•L2 ACL filter SA/DA/VLAN

•L3 IP SA/DA, subnet based

•L4 TCP/UDP port

•IPv6

Time-based (time range)

DHCP Snooping

DHCP Snooping Option 82

IP Source Guard

Dynamic ARP Inspection

Instruction lock (link detection)

PPPoE Intermediate Agent

RADIUS authentication and accounting

TACACS + authentication, authorization, and accounting

Management Security

HTTPS and SSL (secured Web)

Denial of Service (DoS) protection

SSH 1.5/V2.0 (secured telnet session)

Management interface access filtering (SNMP, Web, Telnet)

### OAM Features

IEEE 802.3ah link

IEEE 802.1ag Connectivity Fault Management (CFM)

ITU-T Y.1731 performance and throughput management

## Features

### IPv6 Features

- IPv4/IPv6 dual protocol stack
- IPv6 address types (unicast/multicast only used internally)
- ICMPv6 & ICMPv6 Redirect
- IPv6 Path MTU Discovery
- IPv6 Neighbor Discovery:
  - Duplicate address
  - Static cache entry
  - Address resolution
  - Unreachable neighbor detection
- Manual configuration
- SNMP over IPv6
- HTTP over IPv6
- SSH over IPv6
- Ping over IPv6
- Traceroute over IPv6
- IPv6 Telnet support
- IPv6 DNS resolver
- IPv6 Syslog
- IPv6 SNTp
- IPv6 sFlow
- IPv6 TFTP (CLI not support)
- Remote IPv6 Ping
- DHCPv6 Snooping
- MVRv6
- IPv6 DiffServ
- IPv6 ACL support
- IPv6 Source Guard
- RA Guard
- IPv6 ND Snooping
- MLD Snooping v1/v2

### Management

- Switch Management:
  - CLI via console port or Telnet
  - Web management
  - SNMP v1, v2c, v3
- Firmware and Configuration:
  - Firmware upgrade via TFTP server
  - Supports dual image
  - Supports auto configuration provision
  - Supports auto firmware upgrade
  - Multiple configuration files
  - Software download/upgrade via TFTP or HTTP server
  - Configuration file download/upgrade via TFTP or HTTP server
- RMON (groups 1, 2, 3 and 9)
- BOOTP, DHCP client for IP address assignment
- SNTp, NTP
- IP clustering
- Port mirroring
- VLAN mirror
- sFlow
- Event/error log/syslog, remote log, SMTP
- MIB I/II
- LLDP (802.1ab)
- Auto traffic control
- DHCP: Relay, dynamic provision (via Option 66,67), DHCPINFO, SERVER
- MAC-based mirror
- ACL mirror
- Remote port mirror (RSPAN)
- DNS client, proxy
- Link Layer Discovery Protocol (LLDP)
- LLDP-MED (VoIP related)

\*Future Release

### L3 Features IPv4

- Static unicast routes
- Equal cost multipath routing (ECMP)\*
- RIP v1/v2
- OSPF\*
- BGP4\*
- PIM-DM
- IGMP v1/v2
- IGMP v1/v2 proxy
- IGMP v3
- IGMP v3 proxy
- PIM-SM\*
- VRRP\*
- Proxy ARP
- UDP Helper

### L3 Features IPv6\*

- PIM-DM6
- PIM-SM6
- IPv6 static route
- OSPFv3
- MLD v1/v2

### IEEE Standard

- IEEE 802.1p priority tags
- IEEE 802.1X port authentication
- IEEE 802.3x Ethernet frame start and stop requests and timers used for flow control on full-duplex links
- IEEE 802.3u CSMA/CD access method and physical layer specifications for 100BASE-TX Fast Ethernet
- IEEE 802.3z CSMA/CD access method and physical layer specifications for 1000BASE Gigabit Ethernet
- IEEE 802.1q Virtual LAN
- IEEE 802.1d Spanning Tree Protocol
- IEEE 802.3ad Link Aggregation Control Protocol
- IEEE 802.1s Rapid Spanning Tree Protocol
- IEEE 802.1w Multiple Spanning Tree Protocol

### Regulatory

- EMI
  - CE Mark (EN55022 Class A)
  - FCC Part 15 Class A
  - EN 61000-3-2/3
  - VCCI Class A
- Immunity
  - EN 61000-4-2/3/4/5/6/8/11
- Safety
  - UL 60950-1 & CSA 60950-1
  - IEC 60950-1 & EN 60950-1 UL/CUL
  - Country of Origin: Taiwan (TAA Compliant)

## Features

### 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 Edgecore Networks Corporation products and solutions, visit [www.edge-core.com](http://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](http://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.

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Preliminary

Optional Accessories	Product Description
ET4201-SX	1Gbps, Small Form Factor Pluggable (Distance: 500 m; Wavelength: 850 nm)
ET4201-LX	1Gbps, Small Form Factor Pluggable (Distance: 10 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: 1310 nm, DDM)
ET5402-SR	10Gbps, Small Form Factor Pluggable (Distance: 300 m; Wavelength: 850 nm)
ET5402-LR	10Gbps, Small Form Factor Pluggable (Distance: 10 km; Wavelength: 1310 nm)
ET5402-ER	10Gbps, Small Form Factor Pluggable (Distance: 40 km; Wavelength: 1550 nm)
EM4510-10GSFP+	10G SFP+ Dual port module
ECView Pro	Network Management Software