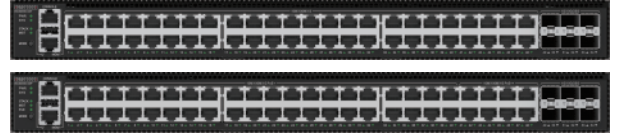


## L3 Gigabit Ethernet Switch

ECS4650-54T/ECS4650-54P



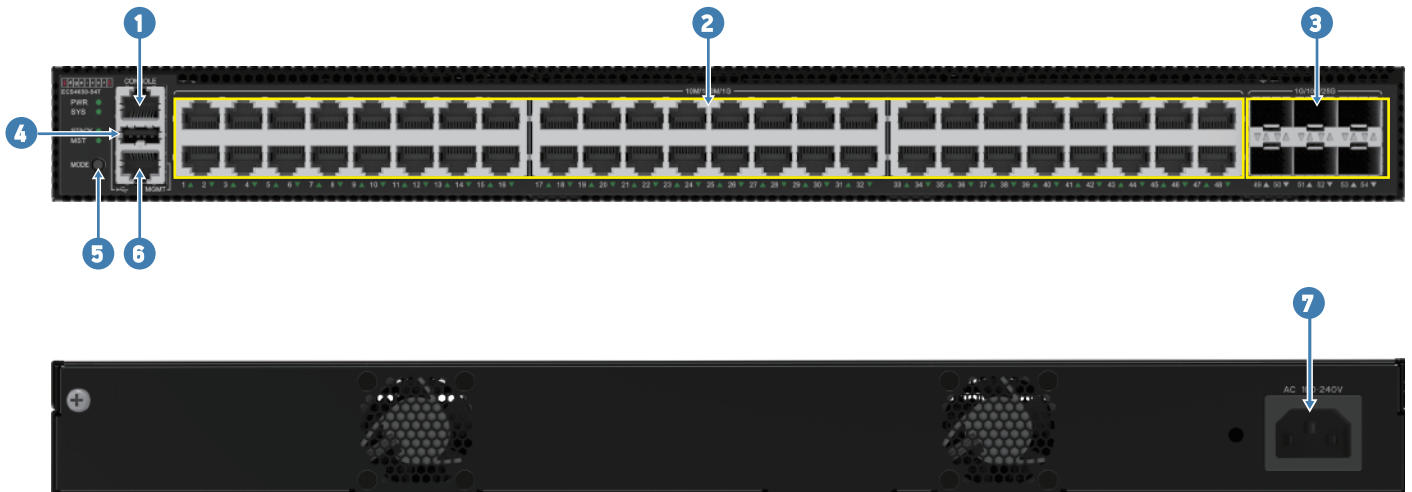
The Edgecore ECS4650-54T switch is a Gigabit Ethernet access/aggregation switch with six 25G SFP28 uplinks. The switch is ideal as a high-performance Gigabit access/aggregation switch with 1 Gigabit downlinks, or as an enterprise core switch. This switch is also positioned as a cloud edge access/aggregation switch, connecting IOT and other devices in enterprise and SMB deployments. It is also an ideal Gigabit access/aggregation switch for SMB, enterprise, and campus networks.

The ECS4650-54P is a PoE switch that can provide up to 90 Watts to power devices such as wireless access points, VoIP phones, surveillance cameras, IoT devices etc. over Cat 5 UTP cable, eliminating the need for individual power sources. The ECS4650-54T/ECS4650-54P 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.

### Key Features and Benefits



- Best price-performance Gigabit Ethernet access/aggregation switch with 25G uplinks
- ITU-T G.8032 ERPS L2 Ring protection with <50 ms convergence time
- Comprehensive and field-proven software features for ISPs/ Carriers, providing broadband access, IPTV services
- Full L3 features with commonly-used unicast and multicast routing protocols, redundant routing protocols, and DHCP relay and server.
- Enhanced Security, IPv6, and Multicast features
- Simple management (CLI, SNMP, Web)
- Complete Private MIB to fully control and monitor the switch via customer's EMS

### Interfaces



### Description

- |   |   |
|---|---|
| 1. RJ-45 management port  | 5. Mode button for Stack and PoE LED select |
| 2. 48 x RJ-45 10/100/1000BASE-T ports (ECS4650-54T)<br>48 x RJ-45 10/100/1000BASE-T PoE ports (ECS4650-54P) | 6. RJ-45 console port                       |
| 3. 6 x SFP28 25G uplink ports   | 7. AC power input                           |
| 4. USB management port  |   |

Product Model		ECS4650-54T	ECS4650-54P
<b>Product Image</b>			
<b>Port</b>	RJ-45 10/100/1000BASE-T Ports	48	48
	SFP28 25G Uplink Ports	6	6
	RJ-45 Console Port	1	1
	1GE RJ-45 Management Port	1	1
	USB port	1	1
<b>Performance</b>	Switching Capacity	396 Gbps	396 Gbps
	Forwarding Rate	295 Mpps	295 Mpps
	NAND Flash Memory	512 MB	512 MB
	DRAM	2 GB	2 GB
	MAC Address Table	32 K	32 K
	Jumbo Frames	10 KB	10 KB
	Auto-negotiation, Auto-MDI/MDIX	Yes	Yes
<b>Mechanical</b>	Dimension (W x D x H) mm	442 x 420 x 43.6	442 x 420 x 43.6
	Weight	4.7 kg (10.36 lb)	5.5 kg (12.13 lb)
<b>Power Supply</b>	AC 100-240 VAC, 50/60 Hz	Yes	Yes
	Max System Power Consumption (Watts)	52 Watts	835 Watts
<b>PoE</b>	IEEE 802.3af	X	Yes
	IEEE 802.3at	X	Yes
	IEEE 802.3bt	X	Yes
	Power budget	X	740 W
	Auto disable exceeding power budget	X	Yes
	Dynamic power allocation	X	Yes
<b>Environmental</b>	Operating Temperature	-5 – 45°C	-5 – 45°C
	Storage Temperature	-40 – 70°C	-40 – 70°C
	Operating Humidity (non-condensing)	5% – 95%	5% – 95%
	Storage Humidity (non-condensing)	5% – 95%	5% – 95%
	Environmental Regulation compliance: WEEE	Yes	Yes
	Environmental Regulation compliance: RoHS	Yes	Yes
<b>Certification</b>	FCC Class A	Yes	Yes
	CE	Yes	Yes
	Safety Compliance: CB	Yes	Yes
	Safety Compliance: UL	Yes	Yes

## L2 Features

- 1000BASE-T copper interfaces
- Auto-negotiation for port speed and duplex mode
- Auto MDI/MDI-X
- Multi-speed (1G, 10G, 25G) fiber interfaces
- SFP28 Ports Support:
  - IEEE 802.3ae changeable (10GBASE-SR/LR)
  - IEEE 802.3ay (25GBASE-SR)
  - IEEE 802.3cc (25GBASE-LR)
  - IEEE 802.3z (1000BASE-SX/LX) transceivers, and 10G/25G DAC/AOC
- Digital Diagnostic Monitoring (DDM) on 25G SFP28 port
- Flow Control:
  - IEEE 802.3x for full duplex mode
  - Back-Pressure for half duplex mode
- Jumbo frames 10KB
- 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
  - BPDU transparent
  - 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 (supports Exclude VLAN)
- L2 Virtual Private VLAN:
  - Q-in-Q
  - L2 Protocol tunneling (xSTP, CDP, VTP and PVST+, LLDP)
  - CDP/PVST+ Filtering
  - Selective Q-in-Q
- Link Aggregation:
  - Static Trunk
  - IEEE 802.3ad Link Aggregation Control Protocol
  - Trunk Groups: 16, up to 8 GE/4 10G ports per group
  - Load Balancing: SA+DA, SA, DA, SIP+DIP, SIP, DIP
- Multi-chassis Link Aggregation
- Static LACP
- IGMP Snooping:
  - IGMP Authentication
  - 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
  - VLAN Mirror/Mac Based Mirror/ACL Mirror
- 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 64 Kbps ~ 1,000 Mbps
  - 10G: Resolution 64 Kbps ~ 10,000 Mbps
  - 25GE: Resolution 64 Kbps~25,000 Mbps
- Auto Traffic Control

## Security

- Port security
- IEEE 802.1X port based and MAC based authentication
- IEEE 802.1X Supplicant
- Dynamic VLAN Assignment, Auto QoS
- 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 Info
- 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

## Dying Gasp

## 6KV Surge Protection (10/100/1000BASE-T ports)

## Green Ethernet

- IEEE 802.3az Energy-Efficient Ethernet (EEE)

## 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

- Zero Touch provisioning
- mDNS
- Switch Management:
  - CLI via console port or Telnet
  - Web management
  - SNMP v1, v2c, v3
- Firmware and 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)
- DHCP client for IP address assignment
- DHCP dynamic provision Option 66,67
- SNTp
- Syslog (local Flash)
- Remote log (RFC3164)
- SMTP (E-mail Notification)
- Supports LLDP (802.1ab)
- sFlow v4, v5
- IPv6 sFlow

## OAM

- IEEE 802.3ah EFM (Ethernet in the First Mile)
- IEEE 802.1ag Connectivity Fault Management
  - Cross check
  - Link Trace
  - Loopback
- ITU-T Y.1731 ETH OAM Performance Monitor

## Safety

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

## Power Supply

- Power input:
  - 100 to 240 VAC, 50/60 Hz

## Supported Transceivers and Cables

- 1000BASE-SX/LX
- 10GBASE-SR/LR/RJ45
- 10GBASE-DAC/AOC Cable
- 25GBASE-SR/LR
- 25GBASE-DAC/AOC
  - Note: More optics and detailed cabling information can be found at [www.edge-core.com](http://www.edge-core.com).

## Routing

- L3 Features IPv4
  - Multi-netting
  - CIDR (Classless Inter-Domain Routing)
  - Unicast Routing:
    - Static Routes (1 K)
    - RIPv1/v2
    - OSPFv2 (include RFC2328 PDC Encryption, RFC1370 Virtual Link, RFC3101 Route Aggregation, RFC1365 Route Filtering)
    - BGP4+
    - Equal Cost multipath routing (ECMP)
  - PIM-SM, PIM-SSM
  - IP Redundancy: VRRP RFC3768
  - DHCP Relay
- L3 Features IPv6
  - IPv6 Unicast Routing:
    - Static Routes (1 K)
    - OSPFv3
    - IPv6 ECMP
    - DHCPv6 Relay

## Electromagnetic Compatibility

- CE Mark
- FCC Class A
- CISPR Class A
- BSMI

## Environmental Specifications

- Temperature:
  - 5°C – 45°C (Standard Operating)
  - 40°C – 70°C (Non-Operating)
- Humidity: 5% – 95% (Non-condensing)

**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.

© Copyright 2023 Edgecore Networks Corporation. The information contained herein is subject to change without notice. This document is for informational purposes only and does not set forth any warranty, expressed or implied, concerning any equipment, equipment feature, or service offered by Edgecore Networks Corporation. Edgecore Networks Corporation shall not be liable for technical or editorial errors or omissions contained herein.