

L3 Gigabit Ethernet Switch

ECS4650-54T/ECS4650-54P



Product Highlights:

- -5°C to 45°C
- 6KV surge protection
- 32K MAC address table
- 48-port 1GE and 6-port 25G SFP28 uplink
- IEEE 802.3 af/at/bt support with 740W budget (ECS4650-54P)
- L3 dynamic routing support
- Web/CLI/SNMP/Cloud multi-management
- 3-year warranty

The Edgecore ECS4650-54T switch is a L3 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.

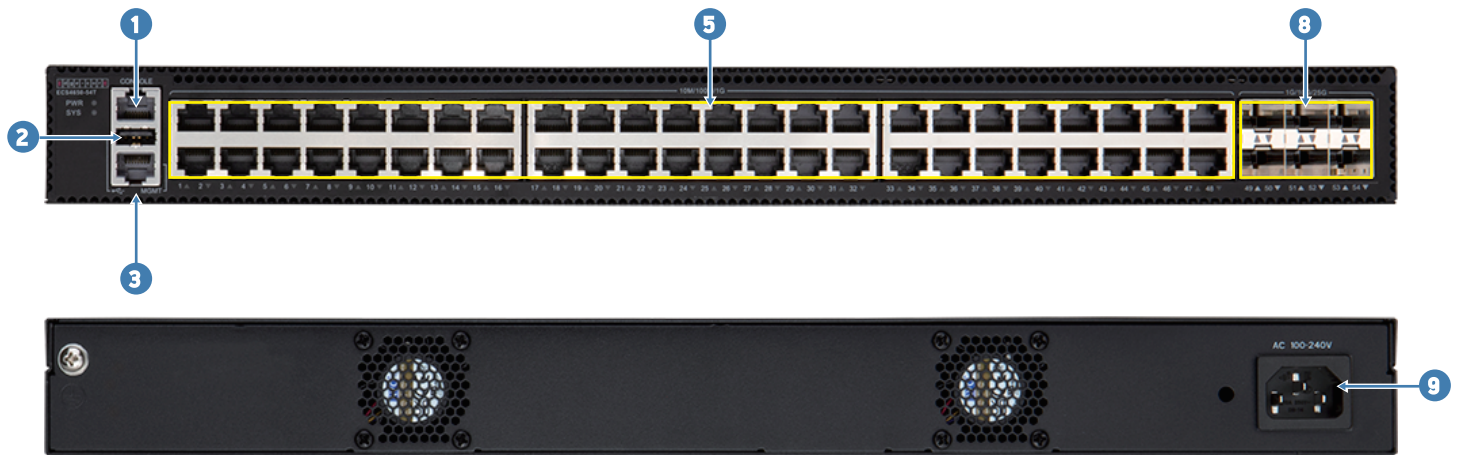
The ECS4650-54P is a PoE switch that can provide up to 90 Watts to power devices such as wireless access points, VoIP phones, surveillance cameras, IoT devices etc. over Cat 5 UTP cable, eliminating the need for individual power sources. The ECS4650-54T/ECS4650-54P is packed with features that bring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

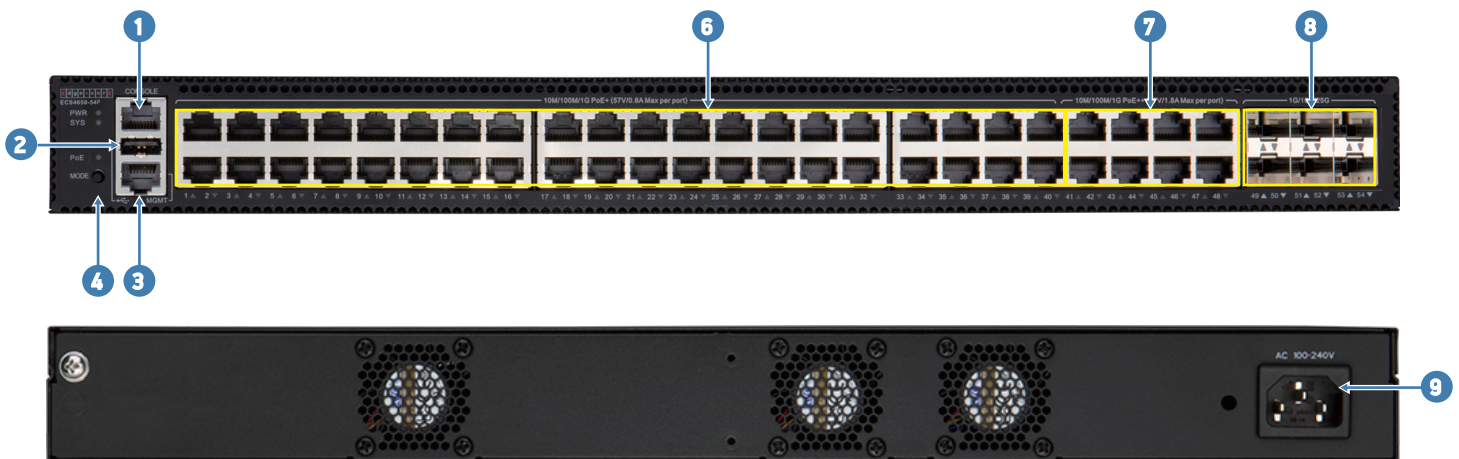
- Best price-performance Gigabit Ethernet access/aggregation switch with 25G uplinks
- ITU-T G.8032 ERPS L2 ring protection with <50 ms convergence time
- Comprehensive and field-proven software features for ISPs/ Carriers, providing broadband access, IPTV services
- Full L3 features with commonly-used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

Interfaces

ECS4650-54T





ECS4650-54P



Description

- | | |
|---|--|
| <ul style="list-style-type: none"> 1. RJ-45 console port 2. USB management port 3. RJ-45 management port 4. Mode button PoE LED select (ECS4650-54P) 5. 48 x RJ-45 10/100/1000BASE-T ports (ECS4650-54T) | <ul style="list-style-type: none"> 6. 48 x RJ-45 10/100/1000BASE-T PoE ports (ECS4650-54P)
Port 1~40: PoE+ (max. 30 W) 7. 48 x RJ-45 10/100/1000BASE-T PoE ports (ECS4650-54P)
Port 41~48: PoE++ (max. 90 W) 8. 6 x SFP28 25G uplink ports 9. AC power input |
|---|--|

Product Model		ECS4650-54T	ECS4650-54P
Product Image			
Port	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
Performance	Switching Capacity	396 Gbps	396 Gbps
	Forwarding Rate	295 Mpps	295 Mpps
	NAND Flash Memory	512 MB	512 MB
	DRAM	2 GB	2 GB
	Packet Buffer	3 MB	3 MB
	MAC Address Table	32 K	32 K
	Jumbo Frames	10 KB	10 KB
	Auto-negotiation, Auto-MDI/MDIX	Yes	Yes
	Surge Protection	6KV (RJ-45), 6KV (Power)	6KV (RJ-45), 6KV (Power)
	MTBF (at 25°C)	516,924 hrs	361,493 hrs
	Heat Dissipation (BTU/hr)	177	2849
	Acoustic Noise (at 25°C)	< 16 dBA	< 36 dBA
Mechanical	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)
Power Supply	AC 100-240 VAC, 50/60 Hz	Yes	Yes
	Max System Power Consumption (Watts)	52 Watts	835 Watts
PoE	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
Environmental	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
Certification	FCC Class A	Yes	Yes
	CE	Yes	Yes
	Safety Compliance: CB	Yes	Yes
	Safety Compliance: UL	Yes	Yes
Layer 3 Features	IPv4/IPv6 L3 Routing	Static Route, RIPv1/v2, OSFP, BGP4+, IGMP v2/v3, PIM-SM, PIM-SSM, VRRP, PBR, ECMP	
ecCLOUD/TIP (OLS) Management		Supported	Supported

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 (v2) for security Telnet
- SSL for HTTPS
- SNMP v1/v2c/v3

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

Dying Gasp

Safety

- UL (CSA 22.2 NO 62368-1 and UL62368-1)
- CB (IEC/EN 62368-1)
- BSMI (CNS 15598-1)

Power Supply

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

Supported Transceivers and Cables

- 1000BASE-SX/LX/EX/ZX/RJ45
- 10GBASE-SR/LR/ER/RJ45
- 10GBASE-DAC/AOC Cable
- 25GBASE-SR/LR
- 25GBASE-DAC/AOC Cable
 - Note: More optics and detailed cabling information can be found at 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+
 - PBR
 - 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
- VCCI
- BSMI
- VCCI

Environmental Specifications

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

Ordering Information

Optional Accessories	Product Description
ET4202-SX	1Gbps, (Distance: 500 m; Wavelength: 850 nm, DDM)
ET4202-LX	1Gbps, (Distance: 10 km; Wavelength: 1310 nm, DDM)
ET4202-EX	1Gbps, (Distance: 40 km; Wavelength: 1310 nm, DDM)
ET4202-ZX	1Gbps, (Distance: 80 km; Wavelength: 1550 nm, DDM)
ET4202-RJ45	1Gbps, (Distance: 100 m)
ET4202-BD43-x0-I	1Gbps, SFP BIDI TX 1490 nm/RX 1310 nm, 10/20/40 km, I-temp (x=1,2,4)
ET4202-BD34-x0-I	1Gbps, SFP BIDI TX 1310 nm/RX 1490 nm, 10/20/40 km, I-temp (x=1,2,4)
ET5402-SR	10Gbps, (Distance: 3000 m; Wavelength: 850 nm, DDM)
ET5402-LR	10Gbps, (Distance: 10 km; Wavelength: 1310 nm, DDM)
ET5402-ER	10Gbps, (Distance: 40 km; Wavelength: 1550 nm, DDM)
ET5402-RJ45	10Gbps, (Distance: 100 m)
ET5402-DAC-xM	10Gbps, SFP+ DAC xM cable (x=1,3,5)
ET5402-AOC-xM	10Gbps, SFP+ AOC xM cable (x=3,5,7,10)
ET7302-SR	25Gbps, SFP28 Short Reach Transceiver
ET7302-LR	25Gbps, SFP28 Long Reach Transceiver
ET7302-DAC-xM	25Gbps, SFP28 DAC cable with xM (x= 1,3,5)
ET7302-AOC-xM	25Gbps, SFP28 AOC cable with xM (x= 5,7,10)
ecCLOUD Network Management Software	

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.

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