

L3 2.5G Multi-Gig Ethernet Switch

ECS4655-30T/ECS4655-30P



Product Highlights:

- -5°C to 50°C
- 6KV surge protection
- 32K MAC address table
- 24-port 2.5GE and 6-port 25G SFP28 uplink
- IEEE 802.3 af/at/bt support with 750W budget (ECS4655-30P)
- Web/CLI/SNMP/CLOUD multi-management
- 3-year warranty

The Edgecore ECS4655-30T or ECS4655-30P switch is a Layer3 versatile 1G/2.5G multi-Gigabit Ethernet access/aggregation switch designed to meet the needs of Internet Service Providers (ISPs) and Multiple System Operators (MSOs). With six 1G/10G/25G SFP28 uplinks, the device provides high-speed connectivity for a range of applications. The switch is ideal for delivering third-party services to home users with a maximum bandwidth of 2.5 Gigabits per second (Gbps) to end devices, making it well-suited for cloud-edge access and connecting IoT and other devices in Enterprises and SMB deployments. Additionally, the ECS4655-30P variant offers Power-over-Ethernet (PoE) capabilities, delivering up to 90 Watts to power devices such as wireless access points, VoIP phones, surveillance cameras, POS, and IoT devices over Cat 5e UTP cable. Packed with advanced features for high availability, security, multicast control, and QoS, the ECS4655-30T/ECS4655-30P ensures reliable and efficient network operations while supporting the latest IPv6 management, security, and multicast control standards to accommodate the growth of IPv6 deployment.

Key Features and Benefits

- Best price-performance 2.5G multi-Gigabit Ethernet access/aggregation switch with 25G uplinks
- ECS4655-30P offers PoE++ up to 90 W per port with total power budget 750 W
- Full L3 features with commonly-used unicast and multicast routing protocols, redundant routing protocols, and DHCP relay and server.
- Low audible noise with smart-fan control design
- ITU-T G.8032 ERPS L2 Ring protection with <50 ms convergence time
- Comprehensive and field-proven software features for ISPs/carriers to provide broadband access, IPTV services
- L2+/Lite L3 feature upgrades the L2 switch with routing functionality
- 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

Product Model		ECS4655-30T	ECS4655-30P
Product Image			
Port	RJ-45 1G/2.5G BASE-T Ports	24	24
	SFP28 1G/10G/25G Uplink Ports	6	6
	RJ-45 Console Port	1	1
	RJ-45 Out-of-Band Management Port	1	1
	USB Port (Type A)	1	1
Performance	Switching Capacity	420 Gbps	420 Gbps
	Forwarding Rate	310 Mpps	310 Mpps
	Flash Memory (NOR/eMMC)	8 MB/16 GB	8 MB/16 GB
	DRAM	4 GB	4 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), 4KV(Power)	6KV(RJ-45), 4KV(Power)
	MTBF (at 25°C)	> 500,000 hrs	> 500,000 hrs
	Heat Dissipation (BTU/hr)	300	3240
	Acoustic Noise (at 25°C)	< 35 dBA	< 50 dBA
PoE	IEEE 802.3af/at	x	Yes
	IEEE 802.3bt (Up to 90 W)	x	Yes
	Power Budget	x	750 W
	Auto Disable Exceeding Power Budget	x	Yes
	Dynamic Power Allocation	x	Yes
Mechanical	Dimension (W x D x H) cm	44 x 28 x 4.4	44 x 28 x 4.4
	Weight	3.85 kg (8.49 lb)	4.79 kg (10.56 lb)
Power Supply	AC 100-240 VAC, 50/60 Hz	Yes	Yes
	Max System Power Consumption (Watts)	88 W	950 W
Environmental	Operating Temperature	-5°C to 50°C	-5°C to 50°C
	Storage Temperature	-40°C to 70°C	-40°C to 70°C
	Operating Humidity (non-condensing)	5% to 95%	5% to 95%
	Storage Humidity (non-condensing)	5% to 95%	5% to 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
ecCLOUD/TIP(OLS) Management		Supported	Supported
Layer 3 Features	IPv4/IPv6 L3 Routing	Static Route, RIPv1/v2, OSPF, BGP4+, IGMP v2/v3, PIM-SM, PIM-SSM, VRRP, PBR, ECMP	

L2 Features

- 10M/100M/1G/2.5G BASE-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 (25G BASE-SR)
 - IEEE 802.3cc (25G BASE-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
 - BPDUGuard
 - BPDUGuard filtering Root Guard
 - BPDUGuard 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 Excluded VLANs)
- 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 (v3: only support ASM)
 - 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
 - 25G: 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 secure Telnet
- SSL for HTTPS
- SNMPv1/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 (email notification)
- Supports LLDP (802.1ab)
- sFlow v4, v5
- IPv6 sFlow

L3 Features IPv4/IPv6

- Static route, RIP v1/v2
- ECMP, OSPF, BGP4+, IGMP v2/v3
- PIM-SM, PIM-SSM
- VRRP, PBR, ARP, Proxy ARP, UDP Helper
- Loopback interface, null interface

Dying Gasp (via MGMT port)

6KV Surge Protection (BASE-T ports)

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 62368-1 and UL62368-1)
- CB (IEC62368-1)
- 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/ZR/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.

Electromagnetic Compatibility

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

Environmental Specifications

- Temperature:
 - 5°C to 50°C (standard operating)
 - 40°C to 70°C (non-operating)
- Humidity: 5% to 95% (non-condensing)

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.

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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-ZR	10Gbps, (Distance: 80 km; Wavelength: 1550 nm, DDM)
ET5402-RJ45	10Gbps, (Distance:100 m)
ET5402-BD32-10-I	10Gbps, SFP+ BIDI TX1330 nm/RX1270 nm, 10 km, LC (I-Temp)
ET5402-BD23-10-I	10Gbps, SFP+ BIDI TX1270 nm/RX1330 nm, 10 km, LC (I-Temp)
ET5402-ZR-DW-Cxy	10Gbps, 10G DWDM SFP+ (with CDR), Channel Cxy, 80 km, C-Temp (xy= 17~61)
ET5402-ZR-DW-Ixy	10Gbps, 10G DWDM SFP+ (with CDR), Channel Cxy, 80 km, I-Temp (xy= 17~61)
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	