

# ECS3510-52T

## L2 Fast Ethernet Standalone Switch



### Product Overview

The Edgecore ECS3510-52T is a high-performance Fast Ethernet Layer 2/4 switch featuring 52 ports; 48 10/100Base-TX ports and 4 combo Gigabit Ethernet RJ-45/SFP (Small Form Factor Pluggable) ports. It is ideal for desktop Fast Ethernet connectivity and wiring closet installations. This switch is packed with features and is a cost-effective solution that brings continuous availability, enhanced security and advanced QoS to the network edge, while maintaining simplicity of management.

### Key Features and Benefits

#### High Availability

It's a great entry level managed with 17.6Gbps switching capacity delivers wire-speed switching performance to take full advantage of existing high-performance on PCs and laptops by significantly improving the responsiveness of applications and file transfer times.

The device also has four Gigabit Ethernet combo ports for uplink flexibility, allowing copper or fiber uplinks to servers or the network backbone.

The ECS3510-52T 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.

#### Continuous Availability

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.

IEEE 802.1s Multiple Spanning Tree Protocol runs STP per VLAN base, providing Layer 2 load sharing on redundant links.

Multicast VLAN Registration (MVR) is designed for applications such as Media-on-Demand that sends multicast traffic across an Ethernet network.

IGMP snooping prevents flooding of IP multicast traffic and limits bandwidth-intensive video traffic to only the subscribers.

The voice VLAN feature enables access ports to carry IP voice traffic from an IP phone.

Support for IEEE 802.1Q-in-Q VLAN tags expands the VLAN space by double tagging packets.

#### Comprehensive QoS

Traffic is prioritized according to 802.1p, DSCP, IP precedence and TCP/UDP port number, giving optimal performance to real-time applications such as voice and video.

Asymmetric bidirectional rate-limiting, per port or per traffic class, preserves network bandwidth and allows maximum control of network resources.

#### Enhanced Security

Port Security ensures access to switch ports based on MAC address, limits the total number of devices from 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. User authentication is carried out using any standard-based RADIUS server, with support for dynamic VLAN assignment and a guest VLAN.

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.

Security Shell (SSHv1.5/v2.0) and Secure Sockets Layer (SSL/HTTPS) encrypt network management information via Telnet and web, providing secure network management.

TACACS+ Authentication for applications such as network access or IP mobility enables centralized control of the switch and restricts unauthorized users from altering the configuration of the switch.

Private VLANs isolate edge ports to ensure user privacy.

#### Simple Management

An industry-standard command-line interface (CLI), accessed through the console port or Telnet, provides a convenient way to configure and troubleshoot the switch.

DHCP snooping provides security by filtering un-trusted DHCP messages and by building and maintaining a DHCP snooping binding table.

If you run out of ACLs, IP Source Guard can be enabled on a trunk port with a large number of VLANs that have DHCP snooping enabled.

DHCP Option 82 is a feature that adds device information to client TCP/IP configuration requests, which are relayed to a DHCP server.

## Features

### Physical Ports

- 48 RJ-45 10/100BASE-TX ports
- 4 Combo Gigabit (RJ-45/SFP) ports
- 1 RS-232 DB-9 console port

### Performance

- Switching Capability: 17.6 Gbps
- Forwarding Rate: 13.1Mpps
- Packet Buffer Size: 8 Mb
- MAC Address Table: 16K

### 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)
- Loopback Detection
- BPDU Filter/Guard
- Root Guard
- ITU-T G.8032 Ethernet Ring Protection Switch
- VLANs:
  - Supports 4K IEEE 802.1Q VLANs
  - Port-based VLANs
  - IEEE 802.1v Protocol-based VLANs
  - Private VLAN
  - GVRP
  - Q-in-Q
  - Voice VLANs
- Link Aggregation:
  - Static Trunk
  - IEEE 802.3ad Link Aggregation Control Protocol
  - Trunk groups: 16, 2~8 ports trunk for FE and 4 ports trunk for GE
- IGMP Snooping:
  - IGMP v1/v2/v3 snooping
  - IGMP querier and filtering
- MVR (Multicast VLAN Registration)
- Jumbo frames up to 10 KB

### OAM

- IEEE 802.3ah Ethernet Link OAM
- IEEE 802.1ag Connectivity Fault Management
  - Connectivity check
  - Loopback
- ITU-T Y.1731 Performance and Throughput Management
  - Frame Delay
  - Frame Delay variation
- UDLD: Unidirectional Link Detection

### QoS Features

- Priority Queues: 4 hardware queues per port
- Traffic classification based on IEEE 802.1p CoS, IP Precedence, DSCP, TCP/UDP port number
- Supports WRR and Strict scheduling
- Rate Limiting (Ingress and Egress, per port base)
  - FE: Resolution 64Kbps ~ 100Mbps
  - GE: Resolution 64Kbps ~ 1000Mbps

### Management

- Switch Management:
  - CLI via console port or Telnet
  - Web management
  - SNMP v1, v2, v3
- Firmware and Configuration:
  - Firmware upgrade via TFTP server
  - Multiple configuration files
  - Configuration file upload/download via TFTP server
- RMON (groups 1, 2, 3 and 9)
- MIB I/II
- BOOTP, DHCP client for IP address assignment
- DHCP Option 82
- Layer 2 DHCP Relay
- Dynamic Provision (via Option 66,67)
- DHCP Snooping
- Dynamic ARP inspection
- SNTP event/error log/syslog, SMTP
- LLDP (802.1ab)
- IP source guard
- Port mirroring
- MAC Flush
- (Optional) ECView Pro, a powerful network management software that maximizes the managed capabilities of Edgecore devices with:
  - Topology management
  - Performance management
  - Configuration management
  - Event management
  - SNMP management

### IPv6 Features

- IPv4/IPv6 dual protocol stack
- IPv6 Address Types Stack: Unicast
- IPv6 Neighbor Discovery
- SNMP over IPv6
- HTTP over IPv6
- SSH over IPv6
- Remote IPv6 ping
- IPv6 source guard
- IPv6 Telnet Support
- IPv6 DNS Resolver
- DHCPv6 snooping
- DHCPv6 option 37
- MVR6

### Security

- Port security
- Support multiple IEEE 802.1X port based and MAC access control
- Dynamic VLAN Assignment, QoS Assignment, ACL Assignment
- MAC based authentication, Web authentication
- Voice VLAN, Guest VLAN
- RADIUS authentication
- TACACS + authorization and accounting
- TACACS+ 3.0
- L2/L3/L4 Access Control List
- SSH (v1.5/v2.0)
- SSL
- MAC filter

## Features

### Electromagnetic Compatibility

- CE
- FCC Class A
- VCCI Class A
- BSMI
- EN55022: 2010/AC: 2011, Class A
- EN61000-3-2: 2014
- EN61000-3-3: 2013
- EN55024: 2010
- RoHS compliant

### Safety

- UL/C-UL (CSA 22.2 No 60950-1 & UL 60950-1)
- CB (IEC 60950-1/EN60950-1)

### Environmental Specifications

- Temperature:
  - 0 °C to 55 °C (32 °F to 131 °F) standard operating
  - 20 °C to 70 °C (-40 °F to 158 °F) non-operating
- Humidity: 10% to 95% non-condensing
- Vibration: IEC 68-2-36, IEC 68-2-6
- Shock: IEC 68-2-29
- Drop: IEC 68-2-32

### Mechanical

- Dimensions (H x W x D): 4.3 x 44 x 23 cm (1.69 x 17.32 x 9 in)
- LED Indicators: Port, Uplink, System, Diagnostic
- Weight: 3 kg (6.6 lb)
- 19 inch rack space

### Power

- AC power cord
  - 100 to 240 V, 50-60 Hz, 1.5A
- Power supply
  - Internal, auto-ranging transformer: 100 to 240 VAC, 50 to 60 Hz

### 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

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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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## Ordering Information

Optional Accessories	Product Description
ET4201-SX	1Gbps, Small Form Factor Pluggable (Distance: 500 m; Wavelength: 850nm)
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)
ET4201-RJ-45	1000BASE-T Copper SFP transceiver
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: 1310nm, DDM)
ECView Pro	SNMP Network Management Software