

## ES4612

### L3 Gigabit Ethernet Standalone Switch

The Edge-Core ES4612 is a Gigabit Ethernet Layer 3 Standalone switch featuring 12 ports; 8 SFP ports and 4 combo GE RJ-45/SFP ports. It is ideal for use in the distribution layer of three-tier networks and provides long distance fiber connections to aggregate access layer switches that are dispersed in different buildings. It also an excellent choice as a core switch for small enterprises.



#### Key Features and Benefits

##### Performance and Scalability

With 24Gbps switching capacity, the ES4612 delivers wire-speed performance on all ports for Layer 2 switching and Layer 3 IP routing, interconnecting L2 switches in the access Layer for unicast traffic routing between different VLANs.

The SFP ports support various optional Gigabit Ethernet mini GBIC transceivers, available by Edge-Core, for different distance fiber connections.

##### Continuous Availability

IEEE 802.1w Rapid Spanning Tree Protocol provides a loop-free network and redundant links to the core network with rapid convergence.

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

IEEE 802.3ad Link Aggregation Control Protocol (LACP) increases bandwidth by automatically aggregating several physical links together as a logical trunk and providing load balancing and fault tolerance for uplink connections.

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

Optional Redundant Power Supply provides uninterrupted power.

##### L3 Features

The ES4612 delivers high-performance, hardware based IP routing.

RIP and OSPF provide dynamic routing through the exchange routing information with other routers or Layer 3 switches.

DVMRP, PIM-DM Multicast Routing Protocols send IP multicast traffic from one subnet to another.

VRRP prevents your system from failing by dynamically backing up multiple L3 switches for routing.

##### Comprehensive QoS

8 egress queues per port enable differentiated management of up to 8 traffic types.

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 a switch port based on MAC address.

IEEE 802.1X port-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.

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, TCP/UDP ports.

SSL, Web Management Encryption, RADIUS and TACACS+ protect data communication and ensure data privacy.

Private VLAN isolates edge ports to ensure user privacy.

##### Simple Management

Industry standard Command Line Interface (CLI) via console port or Telnet provides a common user interface and command set for users to manipulate the switch.

Embedded user friendly web interface helps users quickly and simply configure switches.

Supports four groups of RMON.

Backup and restore firmware and configuration files via TFTP.



## Features

### Physical Ports

- 8 1000Base-X SFP ports
- 4 Combo G (RJ-45/SFP) ports
- 1 RS-232 DB-9 console port
- 1 Redundant Power Supply Connector

### Performance

- Switching Capacity: 24Gbps
- Forwarding Rate: 17.9Mpps
- MAC Address Table Size: 16K
- Packet Buffer Size: 1MB

### L2 Features

- Auto-negotiation for port speed and duplex mode
- Flow Control: IEEE 802.3x & Back-Pressure
- 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)
- VLANs:
  - Supports 255 IEEE 802.1Q VLANs, port-based VLANs, GVRP
  - IEEE 802.1v Protocol-based VLANs
  - Private VLAN
- Link Aggregation:
  - Static Trunk, IEEE 802.3ad Link Aggregation Control Protocol
  - Trunk groups: 6, Trunk links: 2~8
- IGMP Snooping: IGMP v1, v2 snooping and IGMP Querier
- MVR
- Supports jumbo frames up to 9KB

### L3 Features

- 4K IP Address entries
- 256 static routes
- ARP
- Multi-netting, Super-netting (CIDR)
- RIPv1, RIPv2
- OSPF
- DVMRP, PIM-DM
- VRRP
- DHCP/BootP relay
- DHCP server
- DNS proxy

### QoS Features

- Priority Queues: 8 hardware queues per port
- Traffic classification based on IEEE 802.1p CoS, IP Precedence, DSCP, TCP/UDP port number, Access Control List
- Supports WRR and Strict scheduling
- Bandwidth Control: Egress and Ingress rate limiting

### Security

- Supports IEEE 802.1X port-based access control
- RADIUS and TACACS+ authentication
- Dynamic ARP Inspection
- Access Control List
- SSH (v1.5/v2.0)
- SSL

### Management

- Switch Management:
  - CLI via console port or Telnet
  - WEB management
  - SNMP v1, v2c
- Firmware & Configuration:
  - Dual firmware images
  - Firmware upgrade via TFTP server
  - Multiple configuration files
  - Configuration file upload/download via TFTP server
- Supports RMON (groups 1, 2, 3 and 9)
- Supports BOOTP, DHCP for IP address assignment
- Supports SNTP
- Event/Error Log/Syslog
- (Optional) ECview, a powerful network management software that maximizes the managed capabilities of Edge-Core devices with:
  - Topology Management
  - Performance Management
  - Configuration Management
  - Event Management
  - SNMP Management

### Mechanical

- Dimensions (H x W x D): 4.4 x 44.0 x 32.4 cm (1RU)
- LED Indicators: Port, Uplink, System, Diagnostic

### Safety

- CSA/NRTL (UL1950, CSA 22.2.950)
- TUV/GS (EN60950)
- CB

### Electromagnetic Compatibility

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

### Environmental Specifications

- Temperature:
  - IEC 68-2-14
  - 0°C to 50°C (Standard Operating)
  - -40°C to 70°C (Non-Operating)
- Humidity: 5% to 95% (Non-condensing)
- Vibration: IEC 68-2-36, IEC 68-2-6
- Shock: IEC 68-2-29
- Drop: IEC 68-2-32

### Warranty

- Limited Lifetime warranty

## Ordering Information

### Optional Accessories

RPS600WA

ET4201-SX  
ET4201-LX  
ET4201-LHX  
ET4201-ZX

ECview

### Product Description

4 DC output redundant power supply connectors (Supports Max. power output 150W/12V per port)

Small Form Factor Pluggable (Distance: 500m; Wavelength: 850nm)  
Small Form Factor Pluggable (Distance: 10km; Wavelength: 1310nm)  
Small Form Factor Pluggable (Distance: 40km; Wavelength: 1310nm)  
Small Form Factor Pluggable (Distance: 80km; Wavelength: 1550nm)

SNMP Network Management Software