



# EdgeSwitch™

Managed PoE+ Gigabit Switches with SFP

Models: ES-24-250W, ES-24-500W, ES-48-500W, ES-48-750W

Non-Blocking Throughput Switching Performance

Gigabit Ethernet RJ45 and SFP+/SFP Ports

Auto-Sensing IEEE 802.3af/at PoE





## Advanced Switching Technology for the Masses

Build and expand your network with Ubiquiti Networks® EdgeSwitch™, part of the EdgeMAX® line of products. The EdgeSwitch is a fully managed, PoE+ Gigabit switch, delivering robust performance and intelligent switching for growing networks.

The EdgeSwitch offers an extensive suite of advanced Layer-2 switching features and protocols, and also provides Layer-3 routing capability.

## Switching Performance

The EdgeSwitch offers the forwarding capacity to simultaneously process traffic on all ports at line rate without any packet loss.

For its total, non-blocking throughput, the 24-port models support up to 26 Gbps, while the 48-port models support up to 70 Gbps.

## PoE+ Flexibility

The EdgeSwitch models are available with 24 or 48 PoE Gigabit Ethernet ports of auto-sensing IEEE 802.3af/at or configurable 24V Passive PoE to simplify your infrastructure.

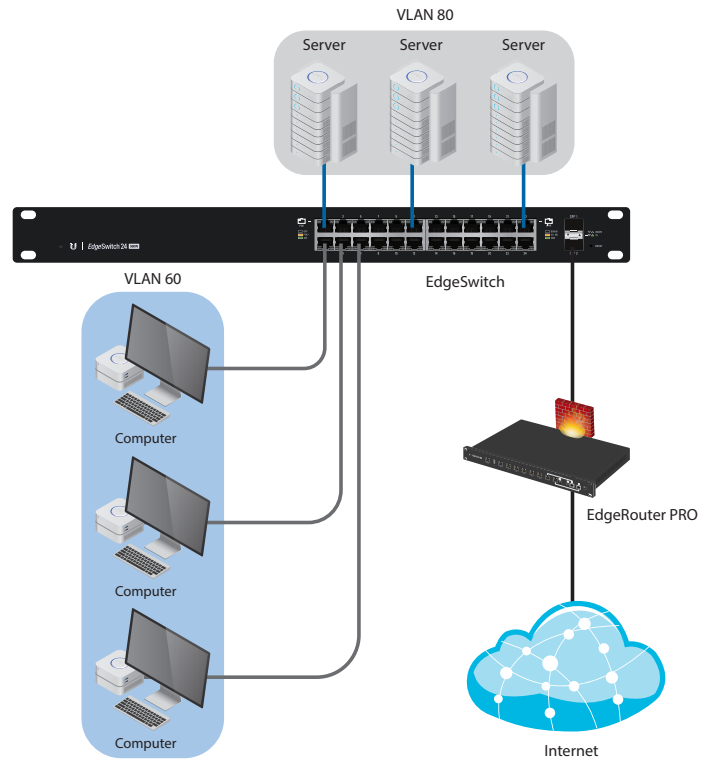
By default, the EdgeSwitch automatically detects 802.3af/at devices so they automatically receive PoE. For 24V Passive PoE devices, manually enable 24V passive PoE using the EdgeSwitch Configuration Interface.

## Fiber Connectivity

The EdgeSwitch provides fiber connectivity options for your growing networks. The 24-port models include two SFP ports, providing up to 1 Gbps uplinks.

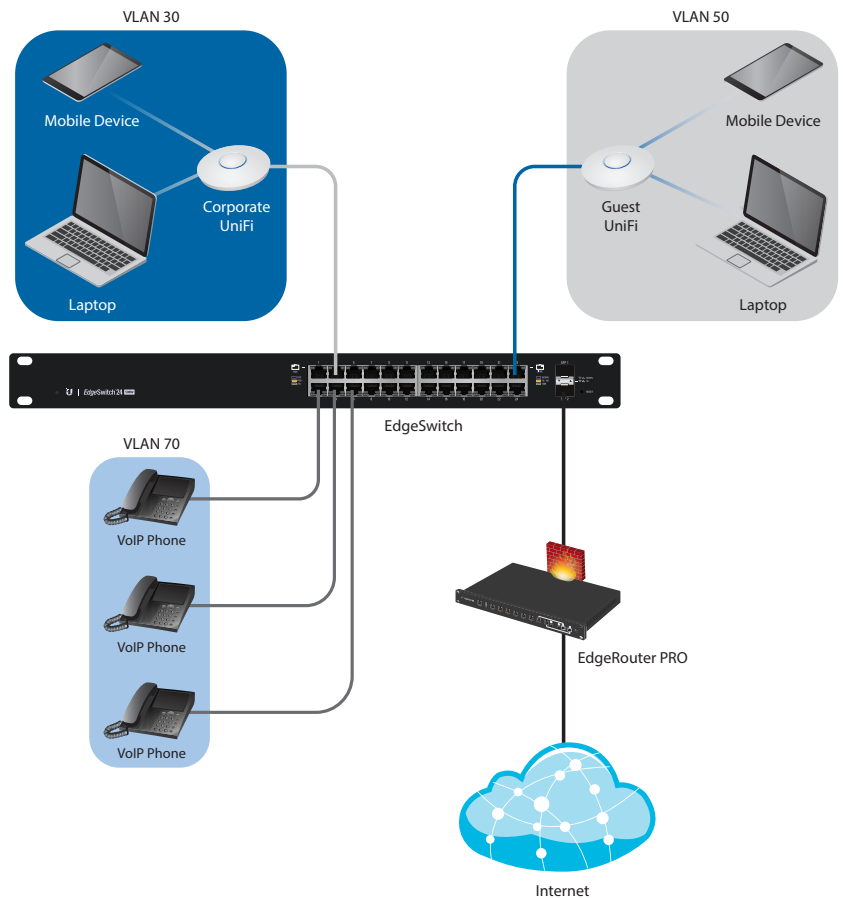
For high-capacity uplinks, the 48-port models include two SFP and two SFP+ ports, providing up to 10 Gbps uplinks.

## Deployment Examples



VLANs for Servers and Computers

The EdgeSwitch connects to the Ubiquiti EdgeRouter™ PRO via an SFP uplink.



VLANs for Corporate Wireless, Guest Wireless, and VoIP

For wireless access, two Ubiquiti UniFi® Access Points connect to the EdgeSwitch.

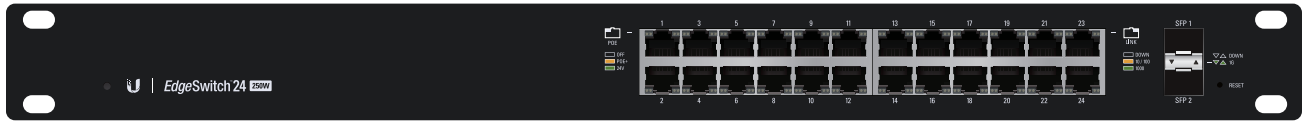


# Models

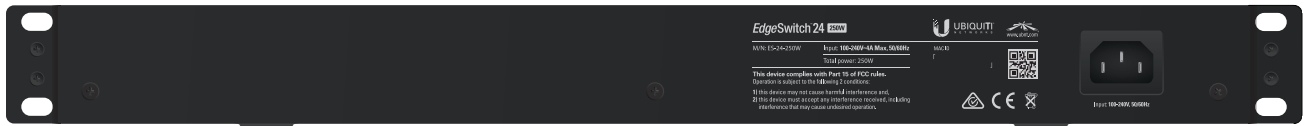
## EdgeSwitch 24 (250W Model)

Model: ES-24-250W

- (24) Gigabit RJ45 ports
- (2) SFP ports
- Total, non-blocking throughput: 26 Gbps
- Maximum power consumption: 250W
- Supports POE+ IEEE 802.3at/af and 24V Passive PoE
- Rackmountable



Front Panel

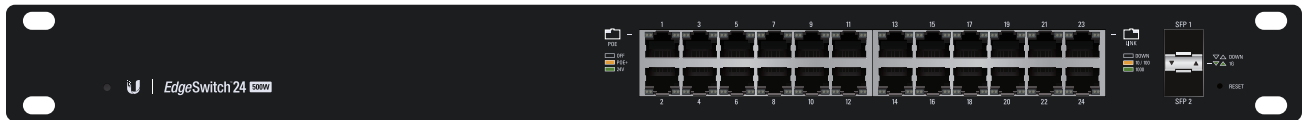


Back Panel

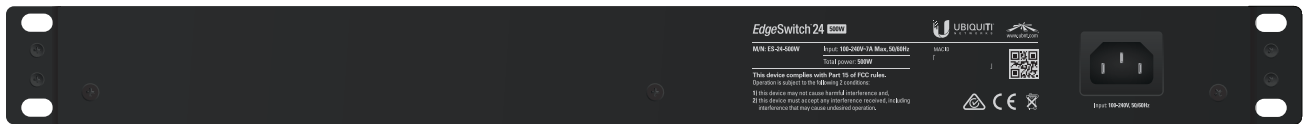
## EdgeSwitch 24 (500W Model)

Model: ES-24-500W

- (24) Gigabit RJ45 ports
- (2) SFP ports
- Total, non-blocking throughput: 26 Gbps
- Maximum power consumption: 500W
- Supports POE+ IEEE 802.3at/af and 24V Passive PoE
- Rackmountable



Front Panel



Back Panel

## EdgeSwitch 48 (500W Model)

Model: ES-48-500W

- (48) Gigabit RJ45 ports
- (2) SFP+ ports
- (2) SFP ports
- Total, non-blocking throughput: 70 Gbps
- Maximum power consumption: 500W
- Supports POE+ IEEE 802.3at/af and 24V Passive PoE
- Rackmountable



Front Panel



Back Panel

## EdgeSwitch 48 (750W Model)

Model: ES-48-750W

- (48) Gigabit RJ45 ports
- (2) SFP+ ports
- (2) SFP ports
- Total, non-blocking throughput: 70 Gbps
- Maximum power consumption: 750W
- Supports POE+ IEEE 802.3at/af and 24V Passive PoE
- Rackmountable



Front Panel



Back Panel

# EdgeSwitch™ 24

## Hardware Specifications

ES-24-250W, ES-24-500W	
Dimensions	485.04 x 44.45 x 285.6 mm (19.1 x 1.75 x 11.24")
Weight	3.7 kg (8.16 lb)
Total Non-Blocking Throughput	26 Gbps
Max. Power Consumption	
ES-24-250W	250W
ES-24-500W	500W
Power Method	100-240VAC/50-60 Hz, Universal Input
Power Supply	
ES-24-250W	AC/DC, Internal, 250W DC
ES-24-500W	AC/DC, Internal, 500W DC
LEDs Per Port	
RJ45 Data Ports	PoE, Speed/Link/Activity
SFP Data Ports	Speed/Link/Activity
Networking Interfaces	(24) 10/100/1000 Mbps RJ45 Ethernet Ports (2) 1 Gbps SFP Ethernet Ports
Management Interface	Ethernet In/Out Band
Certifications	CE, FCC, IC
Rackmount	Yes, 1U High
ESD/EMP Protection	Air: ±24 kV, Contact: ±24 kV
Operating Temperature	-5 to 40° C (23 to 104° F)
Operating Humidity	5 to 95% Noncondensing
Shock and Vibration	ETSI300-019-1.4 Standard

PoE Per Port	
PoE Interfaces	POE+ IEEE 802.3af/at (Pins 1, 2+; 3, 6-) 24VDC Passive PoE (Pins 4, 5+; 7, 8-)
Max. PoE+ Wattage per Port by PSE	34.2W
Voltage Range 802.3at Mode	50–57V
Max. Passive PoE Wattage per Port	17W
24V Passive PoE Voltage Range	20-27V

# EdgeSwitch™ 48

## Hardware Specifications

ES-48-500W, ES-48-750W	
Dimensions	485.04 x 44.45 x 347.6 mm (19.1 x 1.75 x 13.69")
Weight	5.3 kg (11.68 lb)
Total Non-Blocking Throughput	70 Gbps
Max. Power Consumption	
ES-48-500W	500W
ES-48-750W	750W
Power Method	100-240VAC/50-60 Hz, Universal Input
Power Supply	
ES-48-500W	AC/DC, Internal, 500W DC
ES-48-750W	AC/DC, Internal, 750W DC
LEDs Per Port	
RJ45 Data Ports	PoE, Speed/Link/Activity
SFP+/SFP Data Ports	Speed/Link/Activity
Networking Interfaces	(48) 10/100/1000 Mbps RJ45 Ethernet Ports (2) 1/10 Gbps SFP+ Ethernet Ports (2) 1 Gbps SFP Ethernet Ports
Management Interface	Ethernet In/Out Band
Certifications	CE, FCC, IC
Rackmount	Yes, 1U High
ESD/EMP Protection	Air: ±24 kV, Contact: ±24 kV
Operating Temperature	-5 to 40° C (23 to 104° F)
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24V Passive PoE Voltage Range	20-27V



# Software Specifications

Software Information	
Core Switching Features	<ul style="list-style-type: none"> <li>• ANSI/TIA-1057: LLDP-Media Endpoint Discovery (MED)</li> <li>• IEEE 802.1AB: Link Layer Discovery Protocol (LLDP)</li> <li>• IEEE 802.1D: Spanning Tree Compatibility</li> <li>• IEEE 802.1S: Multiple Spanning Tree Compatibility</li> <li>• IEEE 802.1W: Rapid Spanning Tree Compatibility</li> <li>• IEEE 802.1Q: Virtual LANs with Port-Based VLANs</li> <li>• IEEE 802.1p: Ethernet Priority with User Provisioning and Mapping</li> <li>• IEEE 802.1X: Port-Based Authentication with Guest VLAN Support</li> <li>• IEEE 802.3: 10BASE-T</li> <li>• IEEE 802.3u: 100BASE-T</li> <li>• IEEE 802.3ab: 1000BASE-T</li> <li>• IEEE 802.1ak: Virtual Bridged Local Area Networks - Amendment 07: Multiple Registration Protocol</li> <li>• IEEE 802.3ac: VLAN Tagging</li> <li>• IEEE 802.3ad: Link Aggregation</li> <li>• IEEE 802.3x: Flow Control</li> <li>• IEEE 802.1D-2004: Generic Attribute Registration Protocol: Clause 12 (GARP)</li> <li>• IEEE 802.1D-2004: Dynamic L2 multicast registration: Clause 10 (GMRP)</li> <li>• IEEE 802.1Q-2003: Dynamic VLAN registration: Clause 11.2 (GVRP)</li> <li>• RFC 4541: Considerations for Internet Group Management Protocol (IGMP) Snooping Switches</li> <li>• RFC 5171: Unidirectional Link Detection (UDLD) Protocol</li> </ul>
Advanced Layer 2 Features	<ul style="list-style-type: none"> <li>• Broadcast Storm Recovery</li> <li>• Broadcast/Multicast/Unknown Unicast Storm Recovery</li> <li>• DHCP Snooping</li> <li>• IGMP Snooping Querier</li> <li>• Independent VLAN Learning (IVL) Support</li> <li>• Jumbo Ethernet Frame Support</li> <li>• Port MAC Locking</li> <li>• Port Mirroring</li> <li>• Protected Ports</li> <li>• Static MAC Filtering</li> <li>• TACACS+</li> <li>• Voice VLANs</li> <li>• Unauthenticated VLAN</li> <li>• Internal 802.1X Authentication Server</li> </ul>
Platform Specifications	<ul style="list-style-type: none"> <li>• VLANs: 255</li> <li>• MAC Addresses: 8k</li> <li>• MSTP Instances: 4</li> <li>• LAGs: 6</li> <li>• ACLs: 100 with 10 Rules per Port</li> <li>• Traffic Classes (Queues): 8</li> </ul>



## Software Information

System Facilities	<ul style="list-style-type: none"> <li>• Event and Error Logging Facility</li> <li>• Run-Time and Configuration Download Capability</li> <li>• PING Utility</li> <li>• FTP/TFTP Transfers via IPv4/IPv6</li> <li>• Malicious Code Detection</li> <li>• BootP and DHCP</li> <li>• RFC 2021: Remote Network Monitoring Management Information Base Version 2</li> <li>• RFC 2030: Simple Network Time Protocol (SNTP)</li> <li>• RFC 2131: DHCP Relay</li> <li>• RFC 2819: Remote Network Monitoring Management Information Base</li> <li>• RFC 2865: RADIUS Client</li> <li>• RFC 2866: RADIUS Accounting</li> <li>• RFC 2868: RADIUS Attributes for Tunnel Protocol Support</li> <li>• RFC 2869: RADIUS Extensions</li> <li>• RFC 3579: RADIUS Support for EAP</li> <li>• RFC 3580: IEEE 802.1X RADIUS Usage Guidelines</li> <li>• RFC 3164: BSD Syslog Protocol</li> </ul>
Management	<ul style="list-style-type: none"> <li>• Web UI</li> <li>• Industry-Standard CLI</li> <li>• IPv6 Management</li> <li>• Password Management</li> <li>• Autoinstall Support for Firmware Images and Configuration Files</li> <li>• SNMP v1, v2, and v3</li> <li>• SSH 1.5 and 2.0</li> <li>• SSL 3.0 and TLS 1.0</li> <li>• Secure Copy (SCP)</li> <li>• Telnet (Multi-Session Support)</li> </ul>
Layer 3 Routing	<ul style="list-style-type: none"> <li>• Static Routing</li> <li>• Policy Based Routing</li> </ul>

Software Information

QoS	<ul style="list-style-type: none"> <li>• Access Control Lists (ACLs), Permit/Deny Actions for Inbound IP and Layer 2 Traffic Classification Based on:             <ul style="list-style-type: none"> <li>• Time-Based ACL</li> <li>• Source/Destination IP Address</li> <li>• TCP/UDP Source/Destination Port</li> <li>• IP Protocol Type</li> <li>• Type of Service (ToS) or Differentiated Services (DSCP) Field</li> <li>• Source/Destination MAC Address</li> <li>• EtherType</li> <li>• IEEE 802.1p User Priority (Outer and/or Inner VLAN Tag)</li> <li>• VLAN ID (Outer and/or Inner VLAN Tag)</li> <li>• RFC 1858: Security Considerations for IP Fragment Filtering</li> </ul> </li> <li>• Optional ACL Rule Attributes             <ul style="list-style-type: none"> <li>• Assign Flow to a Specific Class of Service (CoS) Queue</li> <li>• Redirect Matching Traffic Flows</li> </ul> </li> <li>• Differentiated Services (DiffServ)             <ul style="list-style-type: none"> <li>• Classify Traffic Based on Same Criteria as ACLs</li> <li>• Mark the IP DSCP or Precedence Header Fields, Optional</li> <li>• Police the Flow to a Specific Rate with Two-Color Aware Support</li> <li>• RFC 2474: Definition of the Differentiated Services Field (DS field) in the IPv4 and IPv6 Headers</li> <li>• RFC 2475: An Architecture for Differentiated Services</li> <li>• RFC 2597: Assured Forwarding Per-Hop Behavior (PHB) Group</li> <li>• RFC 3246: An Expedited Forwarding PHB</li> <li>• RFC 3260: New Terminology and Clarifications for DiffServ</li> </ul> </li> <li>• Class of Service (CoS) Queue Mapping Configuration             <ul style="list-style-type: none"> <li>• AutoVoIP: Automatic CoS Settings for VoIP</li> <li>• IP DSCP-to-Queue Mapping</li> <li>• Configurable Interface Trust Mode (IEEE 802.1p, DSCP, or Untrusted)</li> <li>• Interface Egress Shaping Rate</li> <li>• Strict Priority versus Weighted Scheduling per Queue</li> </ul> </li> </ul>
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