## Datasheet



EdgeSwitch 24 🚥



### Managed Gigabit Switches with SFP

Models: ES-24-Lite, ES-48-Lite

Non-Blocking Throughput Switching Performance

Gigabit Ethernet RJ45 Ports

SFP+/SFP Fiber Connectivity Options





### Advanced Switching Technology for the Masses

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

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

### **Switching Performance**

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

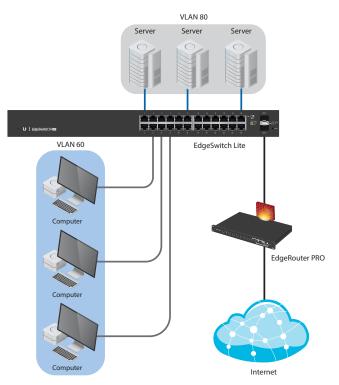
For its total, non-blocking throughput, the 24-port models support up to 26 Gbps, while the 48-port models support up to 70 Gbps.

### **Fiber Connectivity**

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

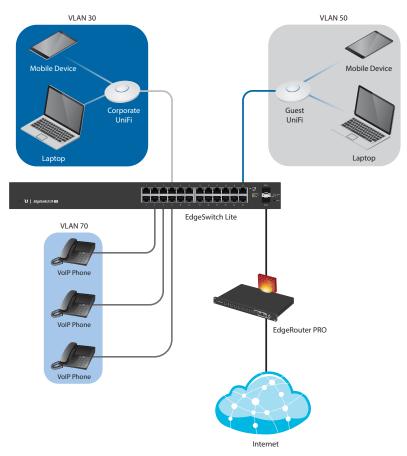
For high-capacity uplinks, the 48-port models include two SFP and two SFP+ ports, providing up to 10 Gbps uplinks.

### **Deployment Examples**



VLANs for Servers and Computers

The EdgeSwitch Lite connects to the Ubiquiti EdgeRouter<sup>™</sup> 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 Lite.

### Comprehensive User Interface

Designed for convenient management, the EdgeSwitch Lite Configuration Interface allows administrators to configure and monitor switch features in a graphical user interface.

For advanced users, an industry-standard command-line interface (CLI) is available through the serial console port, telnet, and SSH.



### **Powerful Functionality**

The EdgeSwitch Lite uses a sophisticated operating system that provides basic switching features, and a variety of advanced features including:

- MSTP/RSTP/STP
- VLAN, Private VLAN, Voice VLAN
- Link Aggregation
- DHCP Snooping, IGMP Snooping
- TACACS+, RADIUS, 802.1X, MAC Filtering, ACL
- DiffServ, CoS
- Static Routing, Policy-Based Routing

EdgeMAX EdgeSwitch 24 Port Lite			8 Save Configuration Log Out						
System > Summary > Dashboard		System *	Switching * Routing * Security * QoS *						
Dashboard Description Invent	tory MAC Address Ta	te .	) i i i i i i i i i i i i i i i i i i i						
EdgeSwitch			GENEINE - FREDUCT 2						
System Information									
System Description		EdgeSwitch 24-Port Lite, 1.1.2.4767216, Linux 3.6.5-f4a26ed5							
System Name		UBNT EdgeSwitch							
System Location									
System Contact									
IP Address		10.1.10.28							
Burned In MAC Address		04:18:D6:07:7C:41							
System Up Time		14 days, 2 hours, 19 mins, 13 secs							
Device Information									
Machine Type		EdgeSwitch 24-Port Lite							
Machine Model		ES-24-Lite							
Serial Number		0418D5077C41							
Software Version		1.1.2.4767216							
System Resource Usage									
CPU Utilization (60 Second Average)		34 %							
Memory Usage		38 %	38 X						
Temperature Status		Normal							
Logged In Users User Name		Connection From	Idle Time						
User Name		EIA-232	00:00:00						
ubnt		10.1.10.7	00:32:04						
ubnt		10.1.10.7	00:32:04						
ubnt		10.0.2.184	00:00:00						
Recent Log Entries									
Log Time	Severity	Description							
Jan 15 02:17:26	Info	HTTP Session 6 started for user ubnt connected from 10.0.2.184							
Jan 15 01:46:29	Info	HTTP Session 5 started for user ubnt connected from 10.1.10.7							
Jan 14 02:05:49	Notice	Spanning Tree Topology Change Received: MSTID: 0 0/23							
Jan 14 02:05:47	Notice	Spanning Tree Topology Change Received: MSTID: 0 0/23							
Jan 14 01:54:52	Notice	Spanning Tree Topology Change Received: MSTID: 0 0/23							
		Refrosh							
			© Copyright 2013-2014 Ubiquiti Networks, Inc.						

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System	> Port > Summary											ystem 👻	Switching	; ¥ Ro	uting 👻	Security 👻	
Sume	mary Descripti	on Cab	le Test	Mirroring													
Port	Summary																?
Display	10 : rows							Showin	g 1 to	10 of 32 entries					Filter		
	Interface 0	Interface Index	0	Туре	¢	Admin Mode	¢	Physical Mode	0	Physical Status	0	STP Mode	٥	LACP Mode	٥	Link Status	o
	0/1	1		Normal		Enabled		Auto		1000 Mbps		Enabled		Enabled		Unk Up	
	0/2	2		Normal		Enabled		Auto				Enabled		Enabled		Link Down	
	0/3	3		Normal		Enabled		Auto				Enabled		Enabled		Link Down	
	0/4	4		Normal		Enabled		Auto				Enabled		Enabled		Unk Down	
	0/5	5		Normal		Enabled		Auto				Enabled		Enabled		Link Down	
	0/6	6		Normal		Enabled		Auto				Enabled		Enabled		Link Down	
	0/7	7		Normal		Enabled		Auto				Enabled		Enabled		Link Down	
	0/8	8		Normal		Enabled		Auto				Enabled		Enabled		Link Down	
	0/9	9		Normal		Enabled		Auto				Enabled		Enabled		Link Down	
	0/10	10		Normal		Enabled		Auto				Enabled		Enabled		Link Down	
								First Previous	1 Sefresh								

System > Statistics > System > Switch		System • Switching • Routing • Security • QoS
Switch Port Summary Port Detailed Network	DHCPv6	
Switch Statistics		2
Statistics	Transmit	Receive
Octets Without Error	333344749	328375038
Packets Without Errors	2656216	2238900
Packets Discarded	0	0
Unicast Packets	139663	60632
Multicast Packets	2437849	141567
Broadcast Packets	78704	2036701
Status	FDB Entries	VLANs
Current Usage	23	1
Peak Usage	33	1
Maximum Allowed	16384	255
Static Entries	1	1
Dynamic Entries	22	0
Total Entries Deleted	N/A	0
System		
Interface	65	
Time Since Counters Last Cleared	14d:02:36:34	
	Refresh Clear Counters	

### Models

### **EdgeSwitch 24 Lite**

Model: ES-24-Lite

- (24) Gigabit RJ45 Ports
- (2) SFP Ports
- (1) Serial Console Port
- Non-Blocking Throughput: 26 Gbps
- Switching Capacity: 52 Gbps
- Forwarding Rate: 38.69 Mpps
- Maximum Power Consumption: 25W
- Rack- or Wall-Mountable
- DC Input Option (Redundant or Stand-Alone)

U   EdgeSwitch 24 🚥		SFP 1 ▲
	Front Panel	



Back Panel

### **EdgeSwitch 48 Lite**

#### Model: ES-48-Lite

- (48) Gigabit RJ45 Ports
- (2) SFP+ Ports
- (2) SFP Ports
- (1) Serial Console Port
- Non-Blocking Throughput: 70 Gbps
- Switching Capacity: 140 Gbps
- Forwarding Rate: 104.16 Mpps
- Maximum Power Consumption: 56W
- Rack- or Wall-Mountable
- DC Input Option (Redundant or Stand-Alone)



Front Panel



Back Panel

E Datasheet

## *Edge*Switch<sup>®</sup>24 **III** Hardware Specifications

	ES-24-Lite
Dimensions	443 x 43 x 221 mm (17.44 x 1.69 x 8.70")
Weight Rack-Mount Brackets Included Rack-Mount Brackets Excluded	2.6 kg (5.7 lb) 2.51 kg (5.53 lb)
Total Non-Blocking Throughput	26 Gbps
Switching Capacity	52 Gbps
Forwarding Rate	38.69 Mpps
Max. AC Power Consumption	25W
Power Method AC DC	100-240VAC/50-60 Hz, Universal Input DC 25W, 25 to 16V, with 2.5 mm DC Power Inline Connector
Power Supply	AC/DC, Internal, 25W DC
LEDs Per Port Serial Console Port RJ45 Data Ports SFP Data Ports	N/A Speed/Link/Activity Speed/Link/Activity
Networking Interfaces	(24) 10/100/1000 Mbps RJ45 Ethernet Ports (2) 1 Gbps SFP Ethernet Ports
Management Interface	(1) RJ45 Serial Port, 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

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# *Edge*Switch 48 **G** Hardware Specifications

	ES-48-Lite
Dimensions	443 x 43 x 286 mm (17.44 x 1.69 x 11.26")
Weight Rack-Mount Brackets Included Rack-Mount Brackets Excluded	3.65 kg (8.05 lb) 3.56 kg (7.85 lb)
Total Non-Blocking Throughput	70 Gbps
Switching Capacity	140 Gbps
Forwarding Rate	104.16 Mpps
Max. AC Power Consumption	56W
Power Method AC DC	100-240VAC/50-60 Hz, Universal Input DC 56W, 25 to 16V, with 2.5 mm DC Power Inline Connector
Power Supply	AC/DC, Internal, 56W DC
LEDs Per Port Serial Console Port RJ45 Data Ports SFP+/SFP Data Ports	N/A Speed/Link/Activity 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	(1) RJ45 Serial Port, 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



## Software Specifications

	Software Information
Core Switching Features	<ul> <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 802.3u: 10BASE-T</li> <li>IEEE 802.3a: 10BASE-T</li> <li>IEEE 802.1ak: Virtual Bridged Local Area Networks - Amendment 07: Multiple Registration Protocol</li> <li>IEEE 802.3a: Link Aggregation</li> <li>IEEE 802.1b: Aggregation</li> <li>IEEE 802.1b: Aggregation</li> <li>IEEE 802.1b-2004: Generic Attribute Registration: Clause 12 (GARP)</li> <li>IEEE 802.10-2003: 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> <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>

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	Software Information
Platform Specifications	<ul> <li>DHCP Server</li> <li>Maximum Number of Pools: 8</li> <li>Maximum Number of Leases (Total): 128</li> <li>Routing <ul> <li>Number of Routes: 16</li> <li>Number of Routing Interfaces: 15</li> </ul> </li> <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>
System Facilities	<ul> <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 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> <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><li>Static Routing</li><li>Policy Based Routing</li></ul>

	Software Information
QoS	• Access Control Lists (ACLs), Permit/Deny Actions for Inbound IP and Layer 2 Traffic Classification Based on:
	Time-Based ACL
	Source/Destination IP Address
	TCP/UDP Source/Destination Port
	IP Protocol Type
	<ul> <li>Type of Service (ToS) or Differentiated Services (DSCP) Field</li> </ul>
	Source/Destination MAC Address
	• EtherType
	IEEE 802.1p User Priority
	• VLAN ID
	RFC 1858: Security Considerations for IP Fragment Filtering
	Optional ACL Rule Attributes
	<ul> <li>Assign Flow to a Specific Class of Service (CoS) Queue</li> </ul>
	Redirect Matching Traffic Flows
	Differentiated Services (DiffServ)
	<ul> <li>Classify Traffic Based on Same Criteria as ACLs</li> </ul>
	<ul> <li>Mark the IP DSCP or Precedence Header Fields, Optional</li> </ul>
	<ul> <li>Police the Flow to a Specific Rate with Two-Color Aware Support</li> </ul>
	• RFC 2474: Definition of the Differentiated Services Field (DS field) in the IPv4 and IPv6 Headers
	RFC 2475: An Architecture for Differentiated Services
	RFC 2597: Assured Forwarding Per-Hop Behavior (PHB) Group
	RFC 3246: An Expedited Forwarding PHB
	<ul> <li>RFC 3260: New Terminology and Clarifications for DiffServ</li> </ul>
	Class of Service (CoS) Queue Mapping Configuration
	AutoVoIP: Automatic CoS Settings for VoIP
	IP DSCP-to-Queue Mapping
	Configurable Interface Trust Mode (IEEE 802.1p, DSCP, or Untrusted)
	Interface Egress Shaping Rate
	Strict Priority versus Weighted Scheduling per Queue



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