DATASHEET



EdgeSwitch[®]12 FBER

Managed Gigabit Fiber Switch

Model: ES-12F

Non-Blocking Throughput Switching

High Performance and Low Latency

Gigabit Ethernet SFP and RJ45 Ports





Advanced Switching Technology for the Masses

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

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

Switching Performance

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

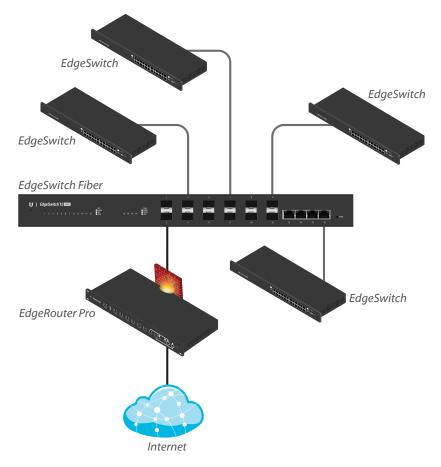
For its total, non-blocking throughput, the EdgeSwitch Fiber supports up to 16 Gbps.

Distribution Layer

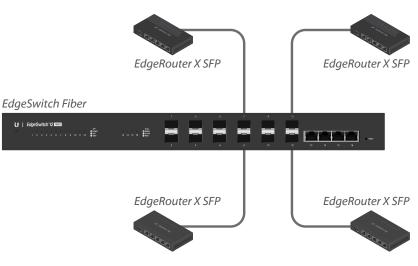
The EdgeSwitch Fiber offers high performance and low latency as an aggregation switch.

For fiber connectivity, it features 12 SFP ports, eight of which also support 100 Mbps. For copper connectivity, the EdgeSwitch Fiber offers four Gigabit RJ45 ports.

Deployment Examples



Multiple EdgeSwitches connect to the EdgeSwitch Fiber, which has an SFP uplink to the Ubiquiti® EdgeRouter[™] Pro.



The EdgeSwitch Fiber connects multiple Ubiquiti EdgeRouter X SFP devices.

Comprehensive User Interface

Designed for convenient management, the EdgeSwitch 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 Fiber 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
- DHCP Server Functionality

Basic > Dashboard				Basic + System +	Switching +	Routing - Security -			
Dashboard Port Summary	VLAN Port Channel (L	AG) Port Mirroring Fin	mware Upgrade Restart Switch						
EdgeSwitch						ERNUINE ME PRODUC	7 ?		
System Information									
System Description		EdgeSwitch 12-4	Port Fiber, 1.3.0.4831995, Linux 3.6.5-f4a26e	15					
System Name		UBNT EdgeSwitc	h						
System Location									
System Contact									
IP Address		10.17.111.110							
Burned In MAC Address		04:18:D6:A0:09	DE						
System Up Time		0 days, 0 hours,	3 mins, 43 secs						
Device Information	_	_	_	_	-	_			
Machine Type		EdgeSwitch 12-6	Port Fiber						
Machine Model		ES-12F							
Serial Number 0									
Software Version		1.3.0.4831995							
System Resource Usage									
CPU Utilization (60 Second Averag	e)		31 %						
Memory Usage			39 %						
Temperature Status									
Logged In Users									
	Name		Connection From	Idle Time					
ubnt		10.17.111.77		00:01:10					
ubnt		10.17.111.77		00:00:09					
ubnt		10.242.1.20			00:00:01				
Recent Log Entries				_					
Log Time	Severity			Description					
Jan 1 00:03:39	Info	HTTP Session 6 started for use	er ubnt connected from 10.242.1.20						
Jan 1 00:02:41	Info	HTTP Session 5 started for use	er ubnt connected from 10.17.111.77						
Jan 1 00:02:15	Notice	Cold Start: Unit: 0							
Jan 1 00:01:24	Notice	Spanning Tree Topology Chan	ge Received: MSTID: 0 0/16						
Jan 1 00:01:23	Notice	Entity Database: Configuration	Changed						
			Refresh						

asic > P	ort Summary											Basic -	System - Sv	vitching 🔻	Rout	ing + S	ecurity +	Qos	
Dashi	poard Por	t Summa	ry VLAN	Port Channel (LAG)	Port M	Irroring	Firmv	ware Upgrade	•	Restart Switch									
Port S	Summary																	1	?
Display	10 ¢ rows							Showing 1	to 10 o	f 22 entries						Filter:			
	Interface	C Po	rt Description		٥	Туре	¢	Admin Mode	¢	Physical Mode	¢	Physical Status	¢	STP Mode	٥	LACP Mode	0 Link	Status	0
	0/1					Normal		Enabled		Auto				Enabled		Enabled	Link	Down	
	0/2					Normal		Enabled		Auto				Enabled		Enabled	Link	Down	
	0/3					Normal		Enabled		Auto				Enabled		Enabled	Link	Down	
	0/4					Normal		Enabled		Auto				Enabled		Enabled	Link	Down	
0	0/5					Normal		Enabled		100 Mbps Fu Duplex	dl.	100 Mbps Full Duplex		Enabled		Enabled	Unk	Up	
	0/6					Normal		Enabled		Auto				Enabled		Enabled	Link	Down	
	0/7					Normal		Enabled		Auto				Enabled		Enabled	Link	Down	
	0/8					Normal		Enabled		Auto				Enabled		Enabled	Link	Down	
	0/9					Normal		Enabled		Auto				Enabled		Enabled	Link	Down	
	0/10					Normal		Enabled		Auto				Enabled		Enabled	Unk	Down	
									1 3	2 3 Next	Las								



Models

EdgeSwitch 12 Fiber

Model: ES-12F

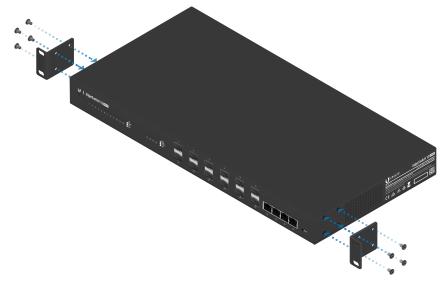
- (12) Gigabit SFP Ports
- (4) Gigabit RJ45 Ports
- (1) Serial Console Port
- Non-Blocking Throughput: 16 Gbps
- Switching Capacity: 32 Gbps
- Forwarding Rate: 23.81 Mpps
- Maximum AC Power Consumption: 56W
- Rackmountable with Rack-Mount Brackets (Included)
- DC Input Option (Redundant or Stand-Alone)



Front Panel



Back Panel



Attaching Rack-Mount Brackets to the EdgeSwitch Fiber

EdgeSwitch[®]12 FBER

Hardware Specifications

	ES-12F						
Dimensions		443 x 221 x 43 mm (17.44 x 8.70 x 1.69")					
Weight	Rack-Mount Brackets Included	Rack-Mount Brackets Excluded					
	2.68 kg (5.91 lb)	2.59 kg (5.71 lb)					
Enclosure Characteristics	SGCC Stee						
Total Non-Blocking Throughput	16 Gbps						
Switching Capacity	32 Gbps						
Forwarding Rate		23.81 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					
Supported Voltage Range	100 to 240VAC 25 to 16VDC						
Power Supply	AC/DC, Internal, 56W DC						
LEDs Per Data Port		Speed/Link/Activity					
Networking Interfaces	(-	(8) 100/1000 Mbps SFP Ethernet Ports (4) 1000 Mbps SFP Ethernet Ports 4) 10/100/1000 Mbps RJ45 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	 ANSI/TIA-1057: LLDP-Media Endpoint Discovery (MED) IEEE 802.1AB: Link Layer Discovery Protocol (LLDP) IEEE 802.1D: Spanning Tree Compatibility IEEE 802.1S: Multiple Spanning Tree Compatibility IEEE 802.1W: Rapid Spanning Tree Compatibility IEEE 802.1Q: Virtual LANs with Port-Based VLANs IEEE 802.1p: Ethernet Priority with User Provisioning and Mapping IEEE 802.1y: Port-Based Authentication with Guest VLAN Support IEEE 802.3u: 10BASE-T IEEE 802.3u: 100BASE-T IEEE 802.1ak: Virtual Bridged Local Area Networks - Amendment 07: Multiple Registration Protocol IEEE 802.3ac: VLAN Tagging IEEE 802.3a: Link Aggregation IEEE 802.3a: Flow Control IEEE 802.1D-2004: Generic Attribute Registration Protocol: Clause 12 (GARP) IEEE 802.1Q-2003: Dynamic VLAN registration: Clause 11.2 (GVRP) RFC 4541: Considerations for Internet Group Management Protocol (IGMP) Snooping Switches RFC 5171: Unidirectional Link Detection (UDLD) Protocol
Advanced Layer 2 Features	 Broadcast Storm Recovery Broadcast/Multicast/Unknown Unicast Storm Recovery DHCP Snooping IGMP Snooping Querier Independent VLAN Learning (IVL) Support Jumbo Ethernet Frame Support Port MAC Locking Port Mirroring Protected Ports Static MAC Filtering TACACS+ Voice VLANs Unauthenticated VLAN Internal 802.1X Authentication Server

	Software Information
Platform Specifications	 DHCP Server Maximum Number of Pools: 8 Maximum Number of Leases (Total): 128 Routing Number of Routes: 16 Number of Routing Interfaces: 15 VLANs: 255 MAC Addresses: 8k MSTP Instances: 4 LAGs: 6 ACLs: 100 with 10 Rules per Port Traffic Classes (Queues): 8
System Facilities	 Event and Error Logging Facility Run-Time and Configuration Download Capability PING Utility FTP/TFTP Transfers via IPv4/IPv6 Malicious Code Detection BootP and DHCP RFC 2021: Remote Network Monitoring Management Information Base Version 2 RFC 2030: Simple Network Time Protocol (SNTP) RFC 2819: Remote Network Monitoring Management Information Base RFC 2865: RADIUS Client RFC 2866: RADIUS Accounting RFC 2868: RADIUS Attributes for Tunnel Protocol Support RFC 2869: RADIUS Extensions RFC 3579: RADIUS Support for EAP RFC 3580: IEEE 802.1X RADIUS Usage Guidelines RFC 3164: BSD Syslog Protocol
Management	 Web UI Industry-Standard CLI IPv6 Management Password Management Autoinstall Support for Firmware Images and Configuration Files SNMP v1, v2, and v3 SSH 1.5 and 2.0 SSL 3.0 and TLS 1.0 Secure Copy (SCP) Telnet (Multi-Session Support)
Layer 3 Routing	Static Routing

	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 TCCP/UDP Source/Destination Port IP Protocol Type Type of Service (ToS) or Differentiated Services (DSCP) Field Source/Destination MAC Address EtherType IEEE 802.1p User Priority VLAN ID RFC 1858: Security Considerations for IP Fragment Filtering Optional ACL Rule Attributes Assign Flow to a Specific Class of Service (CoS) Queue Redirect Matching Traffic Flows Differentiated Services (DiffServ) Classify Traffic Based on Same Criteria as ACLs Mark the IP DSCP or Precedence Header Fields, Optional Police the Flow to a Specific Rate with Two-Color Aware Support RFC 2475: An Architecture for Differentiated Services RFC 2475: An Architecture for Differentiated Services RFC 2475: An Architecture for Differentiated Services RFC 2476: An Expedited Forwarding PHB RFC 3246: An Expedited Forwarding PHB RFC 3246: An Expedited Forwarding PHB RFC 3260: New Terminology and Clarifications for DiffServ Class of Service (CoS) Queue Mapping Configuration AutoVolP: Automatic CoS Settings for VolP 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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