*Edge*Switch™ 12 FIBER

Managed Gigabit Fiber Switch

Model: ES-12F

Non-Blocking Throughput Switching

High Performance and Low Latency

Gigabit Ethernet SFP and RJ45 Ports

UBIQUITI®
N E T W O R K S

EdgeMAX®

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.
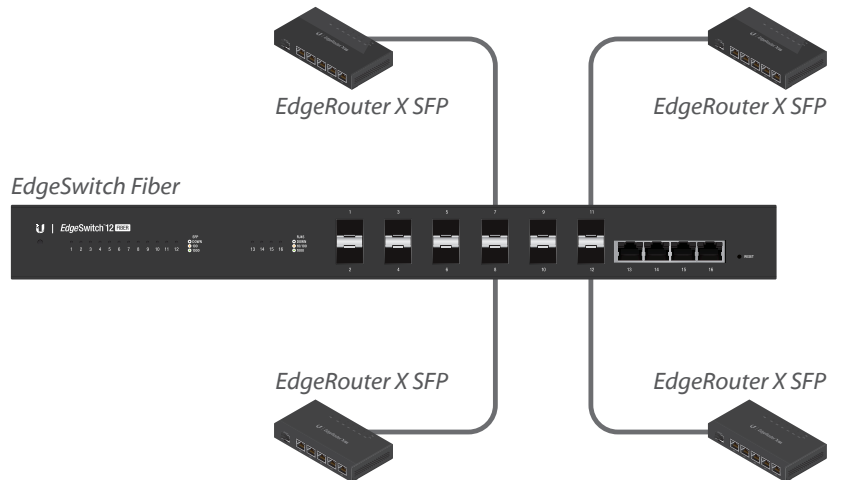
Distribution Layer

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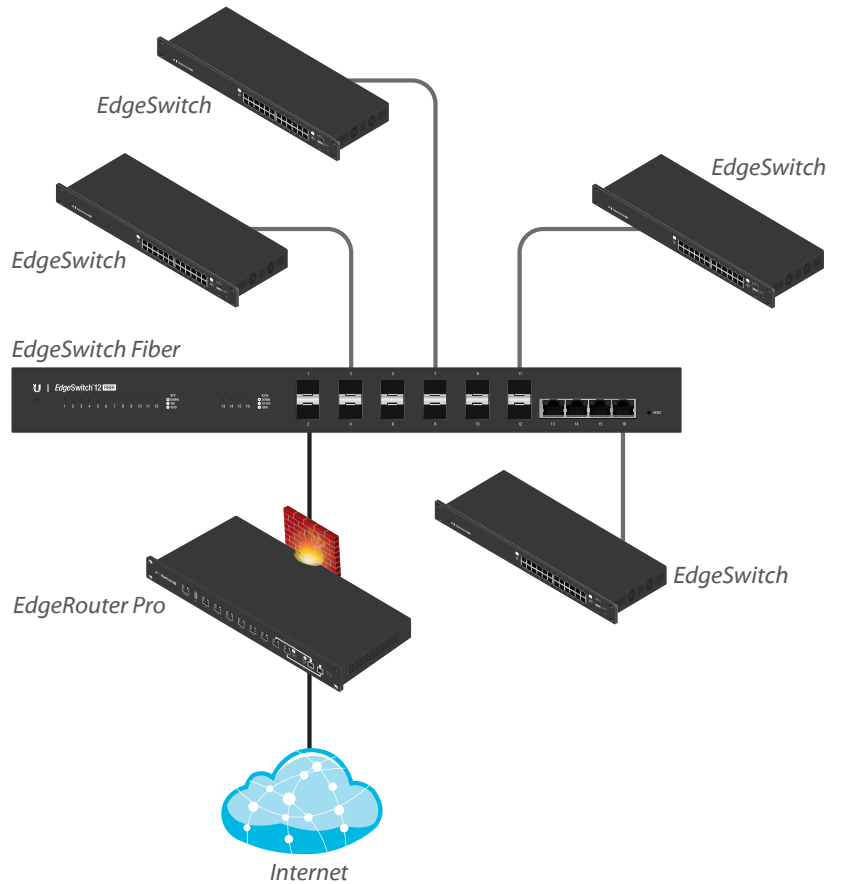
Multiple EdgeSwitches connect to the EdgeSwitch Fiber, which has an SFP uplink to the Ubiquiti® EdgeRouter™ Pro.

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
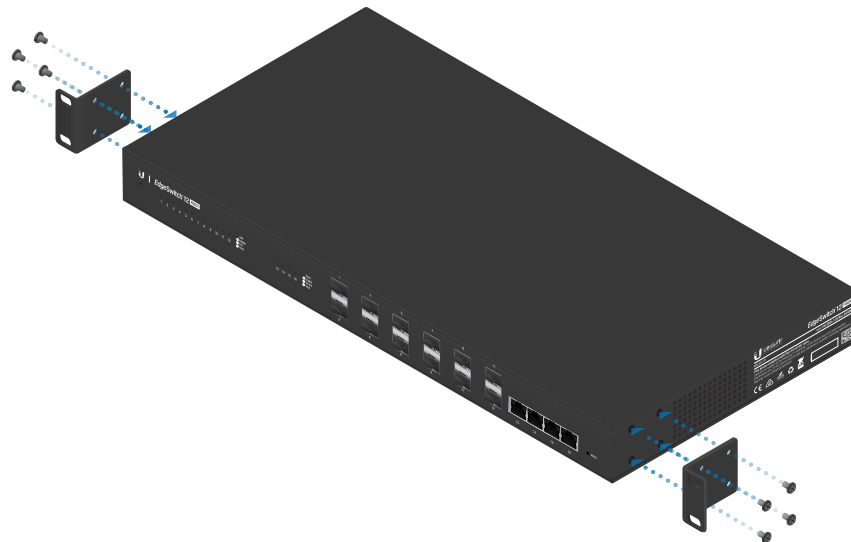
Models

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
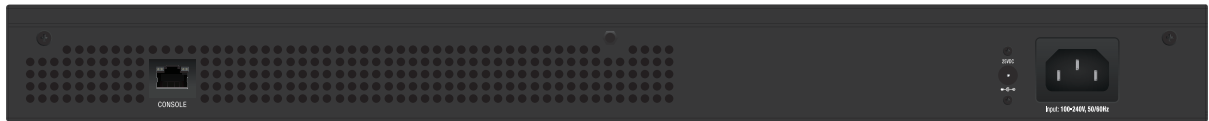
Back Panel

Attaching Rack-Mount Brackets to the EdgeSwitch Fiber

*Edge*Switch™ 12 FIBER

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 Steel
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

EdgeMAX®

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 802.1X: Port-Based Authentication with Guest VLAN Support • IEEE 802.3: 10BASE-T • IEEE 802.3u: 100BASE-T • IEEE 802.3ab: 1000BASE-T • IEEE 802.1ak: Virtual Bridged Local Area Networks - Amendment 07: Multiple Registration Protocol • IEEE 802.3ac: VLAN Tagging • IEEE 802.3ad: Link Aggregation • IEEE 802.3x: Flow Control • IEEE 802.1D-2004: Generic Attribute Registration Protocol: Clause 12 (GARP) • IEEE 802.1D-2004: Dynamic L2 multicast registration: Clause 10 (GMRP) • 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
      • TCP/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 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
      • RFC 3260: New Terminology and Clarifications for DiffServ
    • 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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