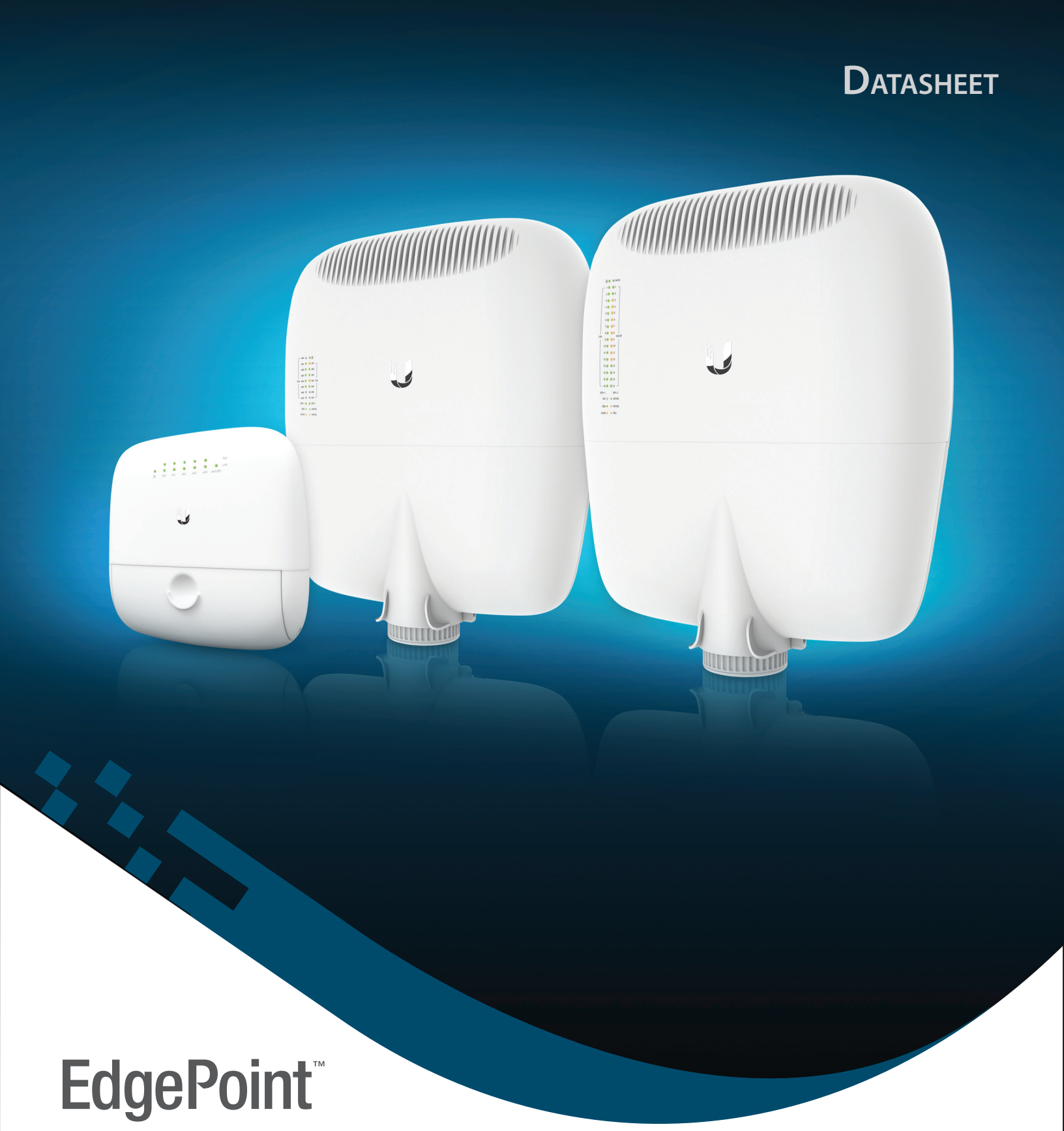
DATASHEET



EdgePoint™

Intelligent WISP Control Point with FiberProtect™

Models: EP-R6, EP-R8, EP-S16

Weatherproof Enclosure for Outdoor Use

Powerful Routing or Switching Features

Fiber Backhaul Capability

UBIQUITI® NETWORKS

EdgeMAX®

Overview

Ubiquiti Networks introduces the EdgePoint™, part of the EdgeMAX® platform. The first application-specific designed WISP control point, the EdgePoint combines the advanced routing capabilities of EdgeMAX with fiber backhaul and versatile powering capabilities.

The EdgePoint is available in three models:

- **EP-R6** Layer-3 router
- **EP-R8** Layer-3 router
- **EP-S16** Layer-2 switch with some layer-3 capabilities

Breakthrough in Tower Deployment

The EdgePoint features FiberProtect to significantly reduce electrostatic discharge (ESD) failures and electromagnetic interference (EMI), greatly improve data signal integrity, and consolidate the wired data backhaul to a single fiber cable run for long-distance connectivity.

All-in-One Design

A single, compact controller efficiently eliminates clutter, expensive cabinets, extraneous installations, and excessive maintenance.

Robust Construction

The ruggedized case withstands outdoor conditions, including wind, rain, and snow. The included cable sleeve protects the cables and cable opening. If you prefer, you can swap it out for your own conduit.

Advanced Applications

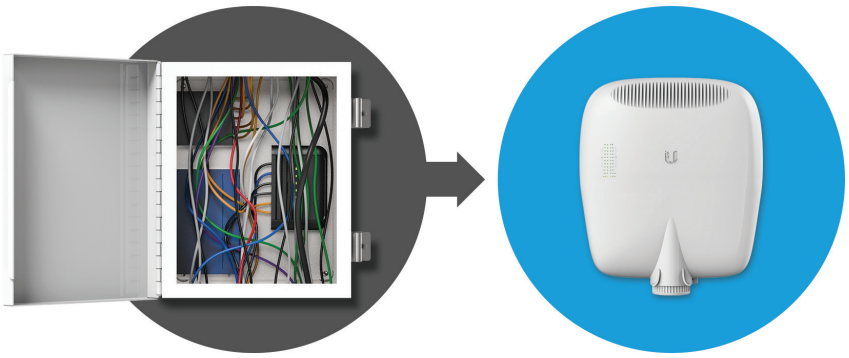
For the EP-R6 and EP-R8, powerful routing features – such as link balancing – provide redundancy and increased performance for outdoor wireless links.

For the EP-S16, layer-2 link aggregation provides similar redundancy and increased performance benefits.

Versatile Power Options

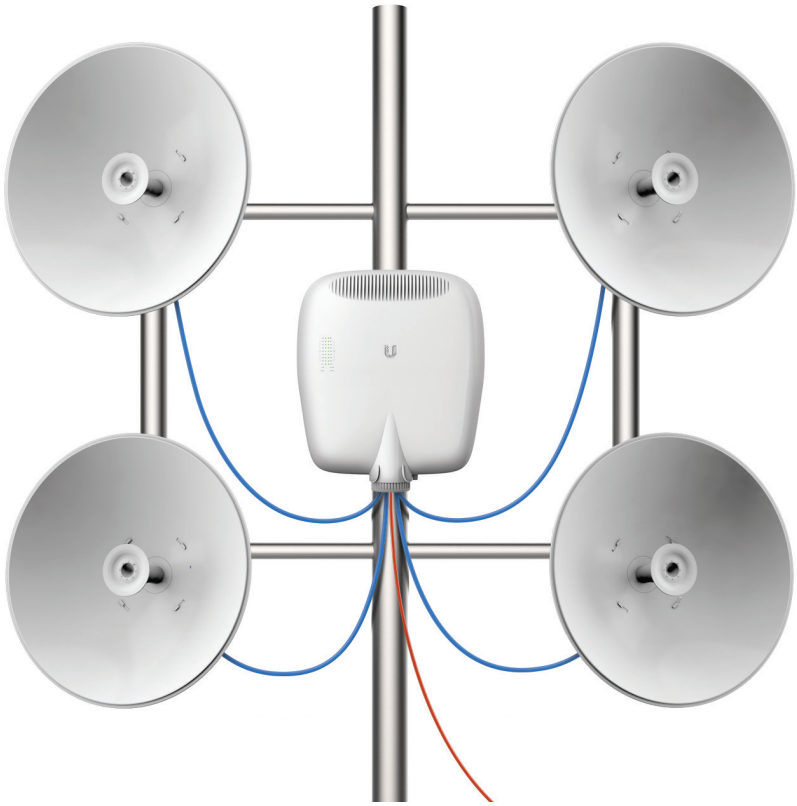
Powered by 54VDC or by PoE, the EP-R8 and EP-S16 can support 54 or 24V passive PoE to power all Ubiquiti® products, including airFiber® and airMAX®.

The EP-R6 can support 24V passive PoE to power most Ubiquiti products.



Example of EdgePoint as WISP Control Point

The EdgePoint replaces a cabinet containing a patch panel, power rack, multiple PoE adapters, syslog server, AP (for EdgePoint management), switch, router, and modem.



Example of a Backhaul Deployment for the EdgePoint

The EdgePoint runs fiber to the top of the tower so no cabinet is needed and there are no long Ethernet cable runs.

Intuitive User Interface

The EdgePoint provides a graphical user interface designed for convenient setup and control.

Accessed via a network port and web browser, the user-friendly interface provides intuitive management with a virtual view of the ports, displaying physical connectivity, speed, and status.

Depending on whether you are configuring a router (EP-R6 or EP-R8) or switch (EP-S16), the configuration interface will differ.

Routing Configuration

The EP-R6 or EP-R8 offers robust features, including:

- VLAN interfaces for network segmentation
- Static routes and support of routing protocols: OSPF, RIP, and BGP
- Firewall policies and NAT rules
- Application identification with Deep Packet Inspection (DPI)
- DHCP services
- Quality of Service (QoS)
- Network administration and monitoring tools
- Administrator and operator accounts
- Comprehensive IPv6 support

Switching Configuration

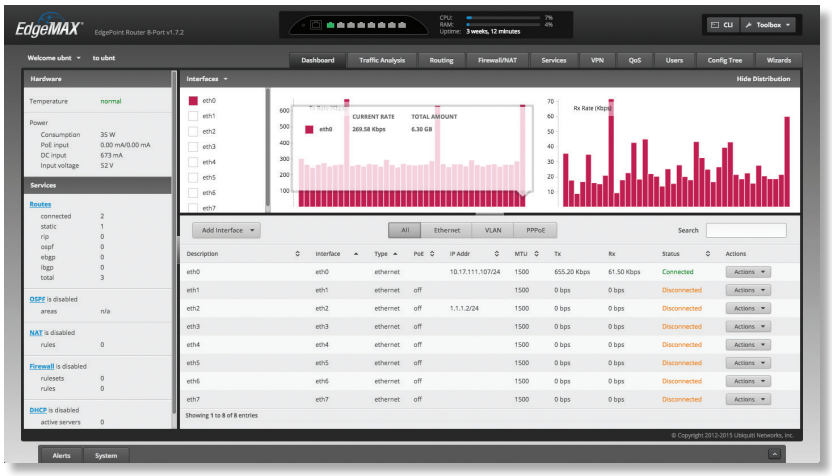
The EP-S16 provides advanced features, including:

- 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

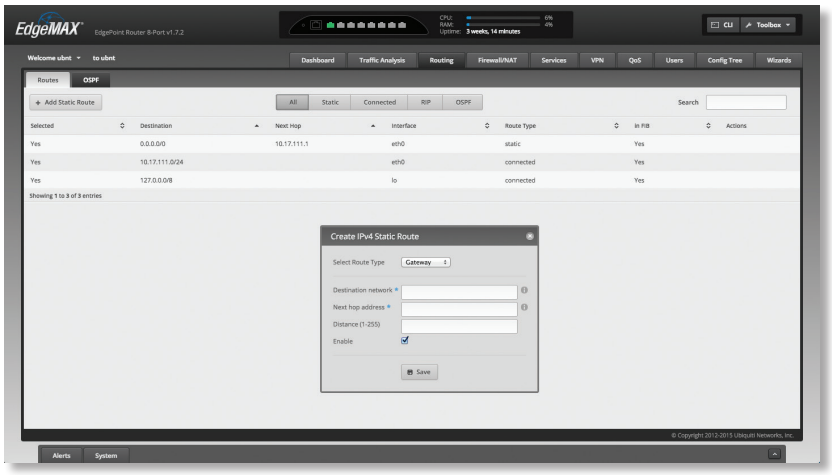
Configuration by CLI

The CLI provides quick and flexible configuration by command line and features the following:

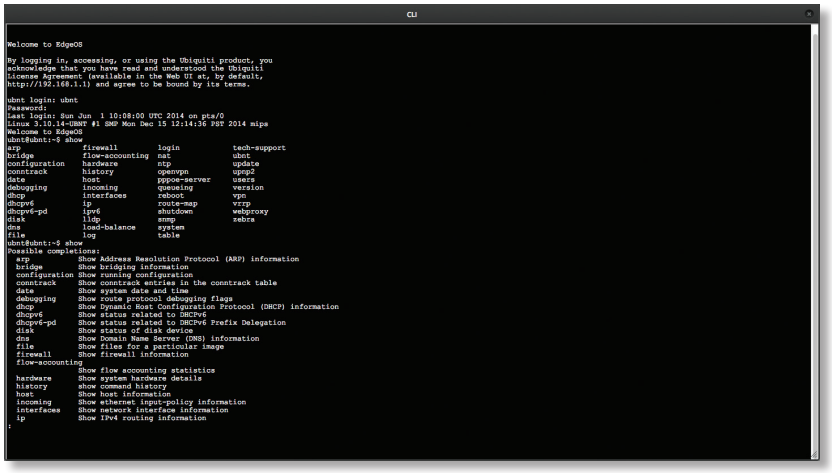
- For power users, configuration and monitoring of all advanced features
- Direct access to standard Linux tools and shell commands
- CLI access through the serial console port, SSH, Telnet, and the graphical user interface (EP-R6 or EP-R8 only)



For the EP-R8, the Dashboard *screen displays detailed statistics: IP information, MTU, transmit and receive speeds, and status for each interface.*



For the EP-R8, the Routing > Routes *screen displays static, connected, RIP, and/or OSFP routes. You can add static routes on this screen.*



An industry-standard command-line interface (CLI) is available for advanced users.

Hardware Overview

Three EdgePoint models offer a variety of hardware features for your application.

EP-R6

The EP-R6 features five RJ45 Ethernet ports and one SFP Ethernet port.

Bottom Panel

- Power Options
  - 24VDC, 3A Terminal Block
  - PoE Input
- (5) 24V, 0.7A Passive PoE Output Ports*
- (1) SFP Port

EP-R6 Bottom Panel

EP-R8

The EP-R8 features six RJ45 Ethernet ports and two combination RJ45/SFP Ethernet ports.

Bottom Panel

- Power Options
  - 54VDC, 6A Terminal Block
  - Dual PoE Input
- (1) Console Port
- Data Ports
  - (6) RJ45 Ports
  - (2) Combination RJ45/SFP Ports

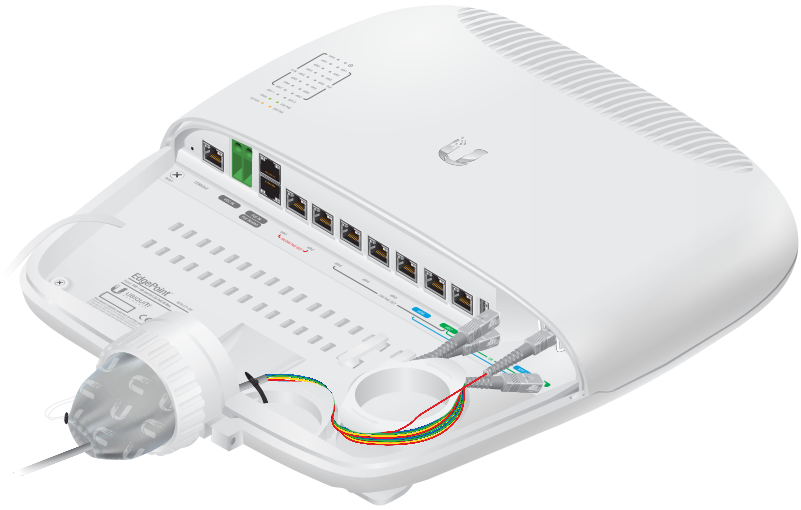
EP-R8 Bottom Panel

Nine RJ45 ports support PoE:

- PoE Input
  - (1) 54V, 1.5A (No Data)
  - (1) 54V, 1.5A
- PoE Output
  - (2) 54 or 24V, 1.4A Passive PoE Output Ports*
  - (5) 24V, 0.7A Passive PoE Output Ports*

Cabling Protection

- Strain Relief for Fiber Optic Strands
- Cable Sleeve and Option for Conduit (Not Included)
- Cable Tie Slots (Cable Ties Not Included)



EP-R8 Strain Relief for Fiber Optic Strands

Back Panel

- Lanyard Loop for Ease of Installation
- Slot for PicoStation®M2HP (Not Included) to Allow for Wireless Management
- Pole-Mount Bracket (Wall-Mount Bracket Also Included)
- Ground Bonding Point

* Check product specifications to verify PoE compatibility.

EP-S16

The EP-S16 features 16 RJ45 Ethernet ports and two SFP+ ports.

Bottom Panel

- Power Options
  - 54VDC, 6A Terminal Block
  - Dual PoE Input
- (1) Console Port
- Data Ports
  - (16) RJ45 Ports
  - (2) SFP+ Ports

Sixteen RJ45 ports support PoE:

- PoE Input or Output
  - (2) Ports with Two Options:

    54V, 1.5A Passive PoE Input

    or

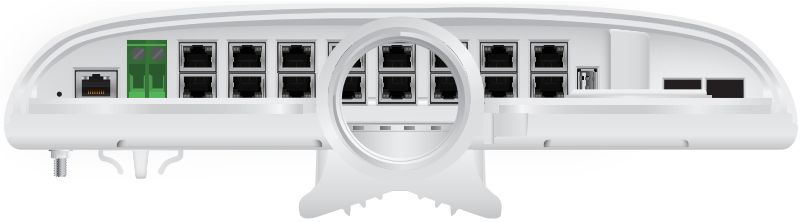
    54 or 24V, 1.4A Passive PoE Output*
- PoE Output
  - (2) 54 or 24V, 1.4A Passive PoE Output Ports*
  - (12) PoE+ or 24V, 0.7A Passive PoE Output Ports*

Cabling Protection

- FiberProtect Strain Relief for Fiber Optic Strands
- Cable Sleeve and Option for Conduit (Not Included)
- Cable Tie Slots (Cable Ties Not Included)

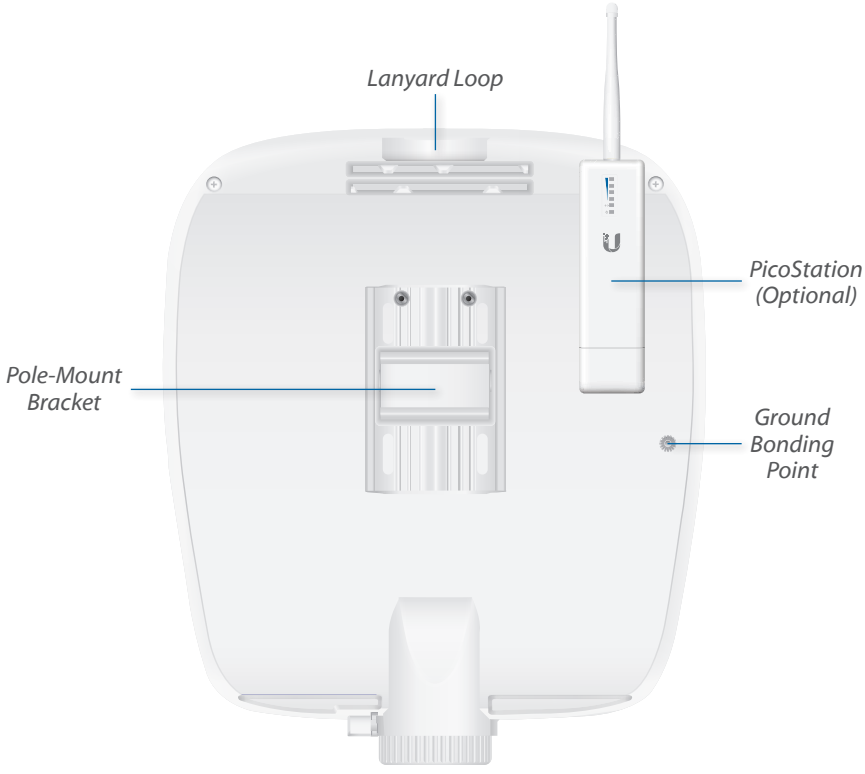
Back Panel

- Lanyard Loop for Ease of Installation
- Slot for PicoStationM2HP (Not Included) to Allow for Wireless Management
- Pole-Mount Bracket (Wall-Mount Bracket Also Included)
- Ground Bonding Point



EP-S16 Bottom Panel

EP-S16 Strain Relief for Fiber Optic Strands



EP-S16 Back Panel

EdgePoint™

Hardware Specifications

EP-R6	
Dimensions	188.6 x 177.1 x 49.8 mm (7.43 x 6.97 x 1.96")
Weight	605 g (1.33 lb)
Max. Power Consumption	7W (Excludes PoE Output)
Power Input	(1) DC Terminal Block or (1) RJ45 (eth0) (Self-Correcting Polarity Protection on DC Terminal Block Only, Diode ORed Protection on All Power Inputs)
Power Supply	Min. 24V / 0.3A (Excludes PoE Output Power)
VDC Input	24V, 3A
Passive PoE Input	(1) 24V / 1.4A, 4-Pair (+1, 2, 4, 5; -3, 6, 7, 8) Passive PoE, eth0 (Do NOT Configure eth0 in PoE Output Mode if You Are Using a PoE Input Power Source.)
Passive PoE Output	(5) 24V / 0.7A, 2-Pair (+4, 5; -7, 8) Passive PoE, eth0 to eth4
Power Monitoring	(1) DC Terminal Block, Input Power (1) RJ45, eth0, Input Power
Supported Voltage Range	26 to 16VDC
Button	Reset
LEDs System eth0 to eth4 eth5/SFP	 Power Speed/Link/Activity, PoE Speed/Link/Activity
Ports Data Ports	 (5) 10/100/1000 RJ45 Ports (1) 1 Gbps SFP Port
Processor	Dual-Core 880 MHz, MIPS1004Kc with Hardware Acceleration for Packet Processing
System Memory	256 MB DDR3-1600 RAM
Code Storage	256 MB NAND
Certifications	CE, FCC, IC
Pole Mount	Yes
Operating Temperature	-20 to 65° C (-4 to 149° F)
Operating Humidity	10 to 90% Noncondensing

EdgePoint™

Hardware Specifications

EP-R8	
Dimensions With Wall-Mount	326.6 x 382.7 x 88.8 mm (12.86 x 15.07 x 3.50") 326.6 x 382.7 x 105.5 mm (12.86 x 15.07 x 4.15")
Weight With Wall-Mount	3.4 kg (7.50 lb) 3.8 kg (8.38 lb)
Max. Power Consumption	40W (Excludes PoE Output)
Power Input	(1) DC Terminal Block or (2) RJ45 (PoE In and eth0) (Self-Correcting Polarity Protection on DC Terminal Block Only, Diode ORed Protection on All Power Inputs)
Power Supply	Min. 54V / 0.8A (Excludes PoE Output Power)
VDC Input	54VDC, 6A
Passive PoE Input	(2) 54V / 1.5A, 4-Pair (+1, 2, 4, 5; -3, 6, 7, 8) Passive PoE, eth0 and PoE In (PoE In is DC Only, No Data)
Passive PoE Output	(2) 54V or 24V / 1.4A, 4-Pair (+1, 2, 4, 5; -3, 6, 7, 8) Passive PoE, eth1 to eth2 (5) 24V / 0.7A, 2-Pair (+4, 5; -7, 8) Passive PoE, eth3 to eth7
Power Monitoring	(1) DC Terminal Block, Input Power (2) RJ45, PoE In and eth0, Input Power
Supported Voltage Range	56 to 42VDC
Button	Reset
LEDs System eth0 eth1 to eth7 SFP	 Power Speed/Link/Activity Speed/Link/Activity, PoE Speed/Link/Activity
Ports Serial Console Port PoE In Port Data Ports	 (1) RJ45 Serial Port (1) RJ45 Port (6) 10/100/1000 RJ45 Ports (2) 10/100/1000 RJ45/SFP Combination Ports
Processor	Dual-Core 600 MHz, MIPS64 with Hardware Acceleration for Packet Processing
System Memory	2 GB DDR3-1600 RAM
Code Storage	4 GB
Certifications	CE, FCC, IC
Pole/Wall Mount	Yes
Operating Temperature	-20 to 65° C (-4 to 149° F)
Operating Humidity	10 to 90% Noncondensing

EdgeOS™

Router Software Specifications

EdgeOS	
Interface/Encapsulation	Ethernet 802.1q VLAN PPPoE GRE IP in IP Bridging Bonding (802.3ad)
Addressing	Static IPv4/IPv6 Addressing DHCP/DHCPv6
Routing	Static Routes OSPF/OSPFv3 RIP/RIPng BGP (with IPv6 Support) IGMP Proxy
Security	ACL-Based Firewall Zone-Based Firewall Application Identification with Deep Packet Inspection (DPI) NAT
VPN	IPSec Site-to-Site and Remote Access OpenVPN Site-to-Site and Remote Access PPTP Remote Access L2TP Remote Access PPTP Client
Services	DHCP/DHCPv6 Server DHCP/DHCPv6 Relay Dynamic DNS DNS Forwarding VRRP RADIUS Client Web Caching PPPoE Server
QoS	FIFO Stochastic Fairness Queueing Random Early Detection Token Bucket Filter Deficit Round Robin Hierarchical Token Bucket Ingress Policing
Management	Web UI CLI (Console, SSH, Telnet) SNMP NetFlow LLDP NTP UBNT Discovery Protocol Logging

EdgePoint™

Hardware Specifications

EP-S16	
Dimensions With Wall-Mount	326.6 x 382.7 x 88.8 mm (12.86 x 15.07 x 3.50") 326.6 x 382.7 x 105.5 mm (12.86 x 15.07 x 4.15")
Weight With Wall-Mount	3.4 kg (7.50 lb) 3.8 kg (8.38 lb)
Max. Power Consumption	40W (Excludes PoE Output)
Power Input	(1) DC Terminal Block or (2) RJ45 (Ports 1 and 2) (Self-Correcting Polarity Protection on DC Terminal Block Only, Diode ORed Protection on All Power Inputs)
Power Supply	Min. 54V / 0.8A (Excludes PoE Output Power)
VDC Input	54VDC, 6A
Passive PoE Input	(2) 54V/1.5A, 4-Pair (+1, 2, 4, 5; -3, 6, 7, 8) Passive PoE, Ports 1 and 2 (Do NOT Configure Port 1 or 2 in PoE Output Mode if You Are Using PoE Input Power Sources.)
Passive PoE Output	(4) 54V or 24V /1.4A, 4-Pair (+1, 2, 4, 5; -3, 6, 7, 8) Passive PoE, Ports 1 to 4 (12) 802.3af/at or 24V/0.7A, 2-Pair (+4, 5; -7, 8) Passive PoE, Ports 5 to 16
Power Monitoring	(1) DC Terminal Block, Input Power (2) RJ45, Ports 1 and 2, PoE Input or Output Power (14) RJ45, Ports 3 to 16, PoE Output Power
Supported Voltage Range	56 to 42VDC
Button	Reset
LEDs System 1 to 16 SFP	 Power Speed/Link/Activity, PoE Speed/Link/Activity
Ports Serial Console Port Data Ports	 (1) RJ45 Serial Port (16) 10/100/1000 RJ45 Ports (2) 1/10 Gbps SFP+ Ports
Processor	ARM Cortex-A9 400 MHz
System Memory	256 MB DDR3 RAM
Code Storage	4 GB
Certifications	CE, FCC, IC
Pole/Wall Mount	Yes
Operating Temperature	-20 to 65° C (-4 to 149° F)
Operating Humidity	10 to 90% Noncondensing

EdgeMAX®

Switch 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 • Policy-Based 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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