



The Neutron Series

Gigabit Managed PoE+ Switches

Full-Featured Layer 2 Switches with WLAN Controller Built-In

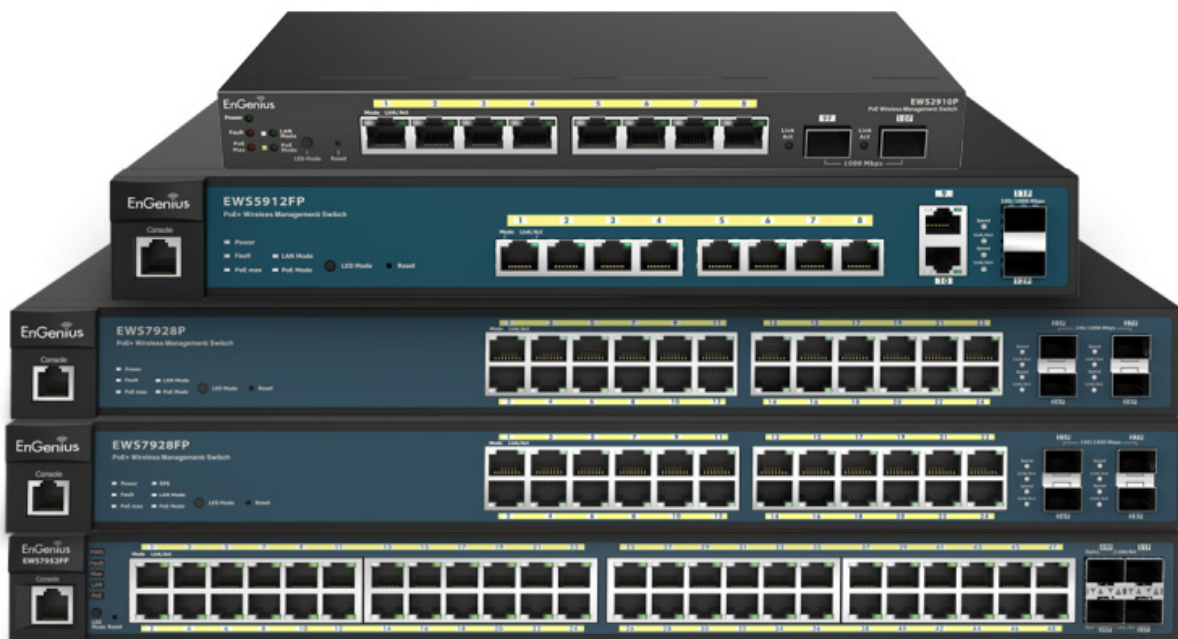
EnGenius' Neutron Gigabit Managed PoE+ Switches are a powerful, full-feature platform capable of managing up to 50 Neutron Managed Access Points. Available in 8-, 24- and 48-port Power-over-Ethernet-capable models, Neutron PoE+ Switches offer enterprise-class features, simplified network configuration, monitoring and robust management options.

Neutron Gigabit Managed PoE+ Switches provide future expandability for broader device connectivity and redundant management between Neutron APs and ezMaster Network Management Software with its SmartSync Redundancy feature.

Doubling as a switch and a wireless network controller, Neutron Switches give IT administrators visibility into all Neutron connected devices. Group equipment with the same settings and policies and apply them automatically for streamlined management updates.

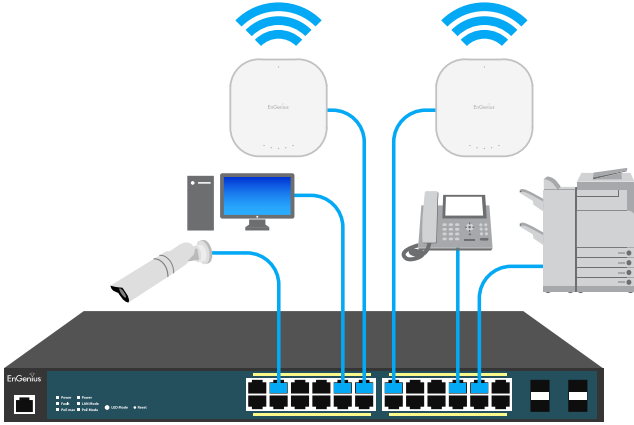
Features & Benefits:

- 10/100/1000 Mbps GbE Ports
- Onboard Tools Manage Wired & Wireless Devices
- Power Devices via 802.3at/af PoE+ Up to 328 Feet from Switch
- PoE Per Port Budget Management
- SFP Slots Support Extended Connectivity via Fiber Uplinks, Redundancy & Failover
- Full-Featured Layer 2 Management Tools
- Network Troubleshooting, Monitoring & Email Alerts
- Centrally Manage Wired & Wireless Networks via ezMaster™
- Configure, Manage & Monitor Up to 50 Neutron APs Locally via Controller Mode
- Security: Access Control List/Port Security; 802.1X & RADIUS Authentication
- IGMP & MLD Snooping Provides Advanced Multicast Filtering & Network Efficiency
- 802.3ad Link Aggregation (LACP) Supports Traffic Load Balancing
- Voice VLAN for Fast, Reliable Deployment of VoIP Services
- Advanced QoS with IPv4/IPv6 Ingress Traffic Filtering (ACLs) & Prioritization
- Energy Efficient Ethernet (802.3az) Improves Energy Savings with Compliant Devices



Power & Connect Multiple Devices

Utilize the Neutron Gigabit Managed PoE+ Switch to optimize the installation and power management of network devices such as access points, IP cameras, and VoIP phones. Provide 802.3at/af PoE+ power and data on all ports and regulate power budgets according to device requirements.



High Performance Gigabit & Management Flexibility

Each of Neutron Gigabit Managed PoE+ Switch's Gigabit Ethernet ports ensures seamless, high-speed access for networked devices while reducing bottlenecks that can interrupt critical communications. The Switch offers the deployment and management flexibility needed to support both wired and wireless networks efficiently.

Simplified Network Management & Visibility

Achieve network management, visibility and troubleshooting locally through the Switch's onboard Web interface tools or remotely with ezMaster software. Its Network Topology view automatically maps the deployment, displaying device relationships across the infrastructure, and is useful for troubleshooting issues without manual tracking.

Wireless Device Management

Quickly discover, configure, and monitor Neutron EWS Access Points and manage up to 50 devices within the local subnet through the Switch's built-in wireless network controller features.

Centrally Manage the Wired & Wireless Network

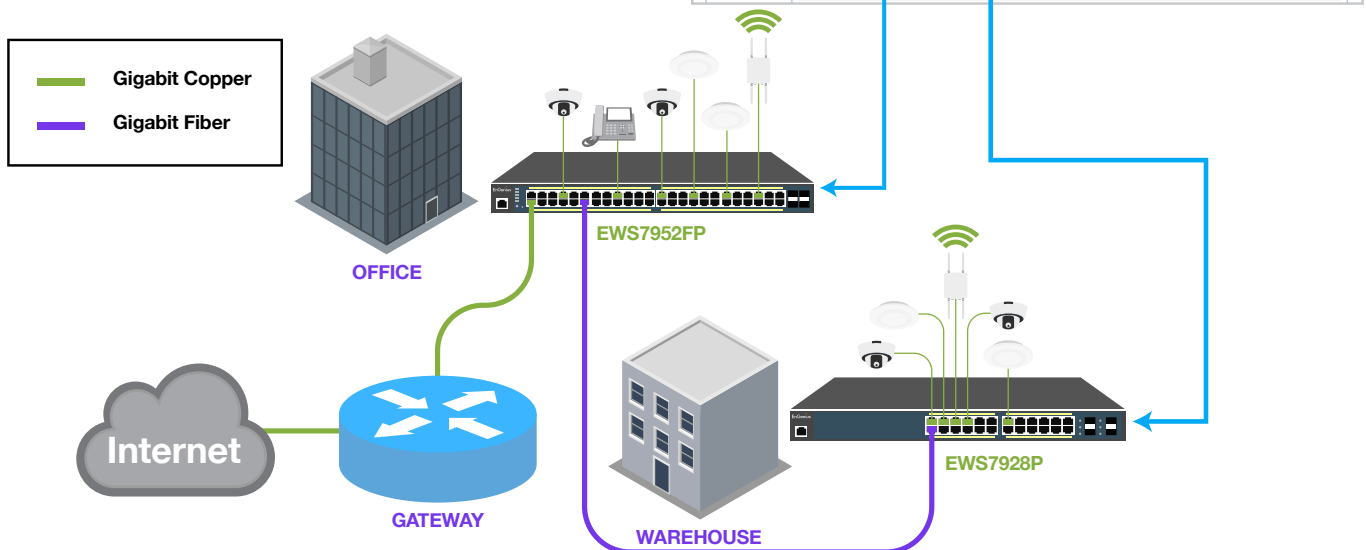
Remotely manage Neutron EWS Access Points, Switches, and IP Cameras through ezMaster Network Management Software. Centrally manage hundreds of EWS devices across the network regardless of its size or location without licensing or subscription fees.

VLAN/Voice & Quality of Service

Segment the network by departments or traffic types for increased performance and security with 802.1Q VLAN. Prioritize compliant VoIP and video traffic using 802.1p Class of Service (CoS) ensuring high bandwidth, and time-sensitive data is forwarded immediately for clear, smooth voice and video delivery across the network.

Secure Guest Networks

Establish secure Guest Network VLANs that blocks access to central computers and limits Internet resources for visitors. Safeguard the network from sophisticated Trojans and malware that can use guests' mobile devices to attack it.



ezMaster™

Network Management Software

Flexible Distributed Network Management

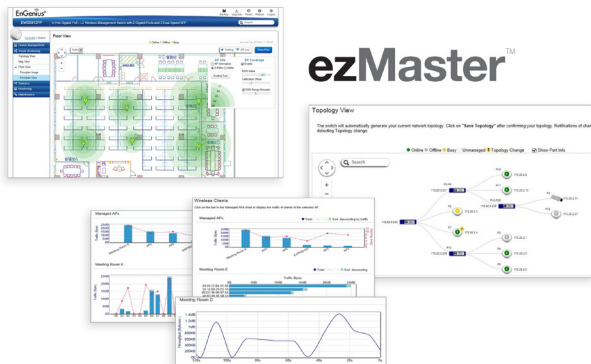
EzMaster Network Management Software expands the flexibility and scalability of Neutron Series EWS Managed Access Points and Switches.

EzMaster allows organizations, such as branch offices and managed service providers, to easily and affordably deploy, monitor and manage a large number of Neutron APs, Controller Switches and Managed Smart Switches across geographically diverse properties. Centrally manage an unlimited number of independent distributed networks in the same subnet or cross-subnet from a single, at-a-glance network dashboard, no matter where they're located.

Deploy ezMaster locally, remotely or via a Cloud-based service with or without an onsite controller.

Powerful, Scalable Options

EzMaster scales with your growing business needs. Manage 1,000+ Neutron EWS Access Points and Switches and 10,000+ concurrent users. Together, Neutron APs, Switches and ezMaster provide a flexible, fully integrated solution with redundancy support and future expandability for broader device connectivity.



System Requirements

Recommended environment for managing up to 500 APs
CPU: Intel® Core™ i3 3.6 GHz dual-core or above
RAM: 4 GB minimum
HDD: 500 GB (actual requirement dependent on log size)
OS: Microsoft® Windows® 7 or later + VMware® Player 7.0 or compatible virtualization software

Recommended environment for managing up to 1,000+ APs
CPU: Intel® Core™ i5 3.2 GHz quad-core or above
RAM: 4 GB minimum
HDD: 500 GB (actual requirement dependent on log size)
OS: Microsoft® Windows® 7 or later + VMware® Player 7.0 or compatible virtualization software

Browser Requirements
Internet Explorer 10 or better
Firefox 34.0 or better
Chrome 31.0 or better
Safari 8.0 or better

Network Topology Requirements
At sites where APs are deployed: A DHCP-enabled network for APs to obtain an IP address

Simplified Device Management

EzMaster Network Management Software makes centralized device management easy. How? Through centralized bulk configuration, provisioning and monitoring, a comprehensive at-a-glance network dashboard, rich analytics and reporting, and much more.

ezMaster Software Features

- Centralized Management
 - Configure, Managed & Monitor 1,000+ Neutron Devices
 - Cross-Network AP Management
 - AP Group Configuration
- Access Point Configuration & Management
 - Auto Channel Selection
 - Auto Tx Power
 - Background Scanning
 - Band Steering (Auto Band Steering & Band Balancing)
 - Client Isolation
 - Client Limiting
 - Fast Roaming
 - L2 Isolation
 - LED On/Off Control
 - Multiple SSID
 - RSSI Threshold
 - Secure Guest Network
 - Traffic Shaping
 - VLAN Isolation
 - VLAN Tag
- Comprehensive Monitoring
 - Device Status Monitoring
 - Floor Plan View
 - Map View
 - Rogue AP Detection
 - System Status Monitoring
 - Visual Topology View
 - Wireless Client Monitoring
 - Wireless Coverage View
 - Wireless Traffic & Usage Statistics
- Management & Maintenance
 - Bulk Firmware Upgrade
 - Captive Portal
 - Email Alert
 - ezRedundancy (Available 2016)
 - Kick/Ban Clients
 - One-Click Update
 - Remote Logging
- Seamless Migration
- SmartSync Redundancy (Available 2016)
- Syslog

EnGenius Neutron Series Gigabit Managed PoE+ Switches



Models	EWS7952FP	EWS7928FP	EWS7928P	EWS5912FP	EWS2910P
10/100/1000 Base-T, POE+	48	24	24	8	8
10/100/1000 SFP Ports	4	4	4	2	2
RJ45 Console Port	•	•	•	•	-
Auto Uplink Gigabit Ports	-	-	-	•	-
Rackmount	19" 1U	19" 1U	19" 1U	13" 1U	9.45" (desktop)
Total PoE Budget	740W	370W	185W	130W	61.6W
PoE+ Capable Ports	1-48	1-24	1-24	1-8	1-8 (802.3af only)
Switching Capacity	104 Gbps	56 Gbps	56 Gbps	24 Gbps	20 Gbps
Forwarding Mode	Store-and-forward	Store-and-forward	Store-and-forward	Store-and-forward	Store-and-forward
MAC Address Table	8k	8k	8k	8k	8k
Packet Buffer Memory	1.5 MB	512 KB	512 KB	512 KB	512 KB
Power Source	100 to 240 VAC 50/60Hz	100 to 240 VAC 50/60Hz	100 to 240 VAC 50/60Hz	100 to 240 VAC 50/60Hz	100 to 240 VAC 50/60Hz
Full Load Power Consumption	885.23 Watts	452.06 Watts	235.3 Watts	152.8 Watts	79.4 Watts
Management	Wireless AP Controller, ezMaster Network Management Software, Web GUI, CLI, SNMP, RMON, HTTPS, Dual Image				
Wireless Controller Supports EWS APs	Up to 50	Up to 50	Up to 50	Up to 50	Up to 20
Advanced QoS with IPv4/IPv6 Multicast Filtering	IGMP and MLD Snooping				
Auto-VoIP	•	•	•	•	•
VLANs	Max 4094 Static Groups, Voice VLAN				
Network Standards	IEEE 802.3 Ethernet IEEE 802.3i 10Base-T Ethernet IEEE 802.3u 100Base-TX Fast Ethernet IEEE 802.3ab 1000Base-T Gigabit Ethernet IEEE 802.3x Full-Duplex Flow Control IEEE 802.3z Gigabit Ethernet 1000Base-SX/LX IEEE 802.3ad Link Aggregation (Trunking) IEEE 802.1D Spanning Tree Protocol (STP) IEEE 802.1w Rapid Spanning Tree Protocol (RSTP) IEEE 802.1s Multiple Spanning Tree Protocol (MSTP) IEEE 802.1Q VLAN Tagging IEEE 802.1ab Link Layer Discovery Protocol (LLDP) IEEE 802.1p Quality of Service IEEE 802.1X RADIUS Access Control IEEE 802.3az Energy Efficient Ethernet				

Technical Specifications

Network Ports

EWS2910P

8 x 10/100/1000 Mbps Ports in the front panel

2 x 100/1000 Mbps SFP Slot

EWS5912FP

8 x 10/100/1000 Mbps Ports in the front panel

2 x 100/1000 Mbps SFP Slot

2 x Gigabit Uplink Ports

1 x RJ45 Console Port

EWS7928FP / EWS7928P

24 x 10/100/1000 Mbps Ports in the front panel

4 x 100/1000 Mbps SFP Slot

1 x RJ45 Console Port

EWS7952FP

48 x 10/100/1000 Mbps Ports in the front panel

4 x 100/1000 Mbps SFP Slot

1 x RJ45 Console Port

Switching Capacity

EWS2910P: 20 Gbps

EWS5912FP: 24 Gbps

EWS7928P: 56 Gbps

EWS7928FP: 56 Gbps

EWS7952FP: 104 Gbps

Forwarding Mode

Store and Forward

SDRAM

256MB

Flash Memory

32MB

PoE Capability

EWS2910P

PoE Standard: Ports 1~8 Support IEEE 802.3af

EWS5912FP

PoE Standard: Ports 1~8 Support IEEE 802.3at/af

EWS7928FP / EWS7928P

PoE Standard: Ports 1~24 Support IEEE 802.3at/af

EWS7952FP

PoE Standard: Ports 1~48 Support IEEE802.3at/af

PoE Capable Ports

EWS2910P Ports 1~8 Can Output Up to 15W

EWS5912FP Ports 1~8 Can Output Up to 30W

EWS7928P All Gigabit Ethernet Ports / Up to 30W

EWS7928FP All Gigabit Ethernet Ports / Up to 30W

EWS7952FP All Gigabit Ethernet Ports / Up to 30W

Power Source

100 to 240 VAC 50/60Hz

LED Indicators

1 x Power LED

1 x Fault LED

1 x PoE Max LED

1 x LAN Mode LED

1 x PoE Mode LED

Copper Ports: LAN/PoE Mode, Link/Act

SFP Ports: Link/Act, Speed (EWS2910P & EWS7952FP only)

Software Features

Layer 2 Features

802.3ad Link Aggregation

Port Mirroring

Port Trunking

Bandwidth Control

Spanning Tree Protocol

- 802.1D Spanning Tree (STP)

- 802.1w Rapid Spanning Tree (RSTP)

- 802.1s Multiple Spanning Tree (MSTP)

MAC Address Table

- 8K Entries

802.1ab Link Layer Discovery Protocol

IGMP Snooping

- IGMP v1/v2/v3 Snooping

- Supports 4094 IGMP Groups

- IGMP per VLAN

- IGMP Snooping Querier

- IGMP Snooping Fast Leave

MLD Snooping

- MDL Snooping v1/v2

- Supports 4,094 MLD Groups

- MLD per VLAN

Jumbo Frame

- Up to 9,216 Bytes

VLAN

Key Features

- 802.3at/af Power-over-Ethernet
- Access Point Auto Discovery & Provisioning
- Access Point Auto IP-Assignment
- Access Point Group Management
- Visual Topology View
- Floor Plan & Map View
- Wireless Coverage Display
- Access Point Status Monitoring
- Wireless Client Monitoring
- Wireless Traffic & Usage Statistics
- Real-Time Throughput Monitoring
- Bulk Firmware Upgrade Capability
- Remote Access Point Rebooting
- Fast Roaming
- Band Steering
- Traffic Shaping
- Intelligent Diagnostics
- Access Point Device Name Editing
- Access Point Radio Settings
- Access Point Client Limiting
- Wireless Security (WEP, WPA/ WPA2 Enterprise, WPA/WPA2 PSK)

QoS

802.1p Quality of Service

Queue Handling

- 802.1w Rapid Spanning Tree (RSTP)

- CoS-based on 802.1p Priority

- CoS-based on TOS

- CoS-based on DSCP

- CoS-based on Physical Port

Security

802.1X

- Guest VLAN

- Port-Based Access Control

Supports RADIUS Authentication

Port Security

Storm Control

Port Isolation

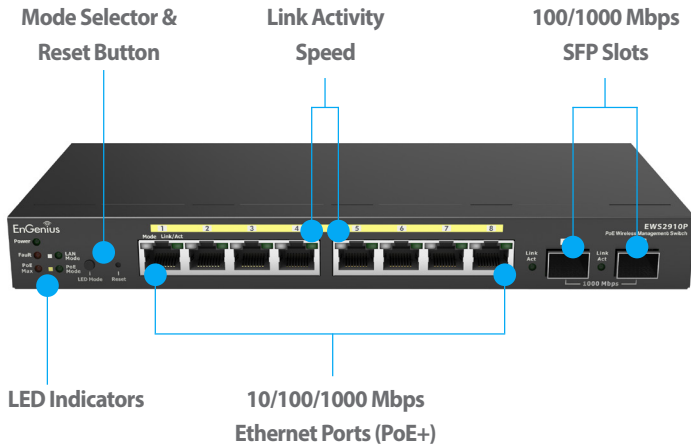
Technical Specifications continued

Security continued
DoS Attack Prevention
BPDU Attack Prevention
Access Control List (ACL)
PoE Management
Power On/Off Per Port
Power Class Configuration
Power Feeding with Priority
User Defined Power Limit
802.3az Energy Efficient Ethernet
802.3x Flow Chart
Management
SSH Server
Telnet Server
TFTP Client
TFTP Upgrade
HTTPs
BootP/DHCP Client
Web-based Support
SNMP v1 / v2c / v3 Support
Command Line Interface (CLI)
SNTP
RMONv1
SYSLOG
Port Statistics
Cable Diagnostics
Ping Test
Trace Route
MIB Support
- RFC1213 / RFC1493 / RFC1757 / RFC2674 / RFC2863
Configuration Restore/Backup
Email Alerts
Wireless Management Features (with Neutron Series Access Points & ezMaster)
Access Point Auto Discovery and Provisioning
Access Point Auto IP Assignment
Access Point Group Management
Remote Access Point Rebooting
Access Point Device Name Editing
Access Point Radio Settings
Band Steering
Traffic Shaping

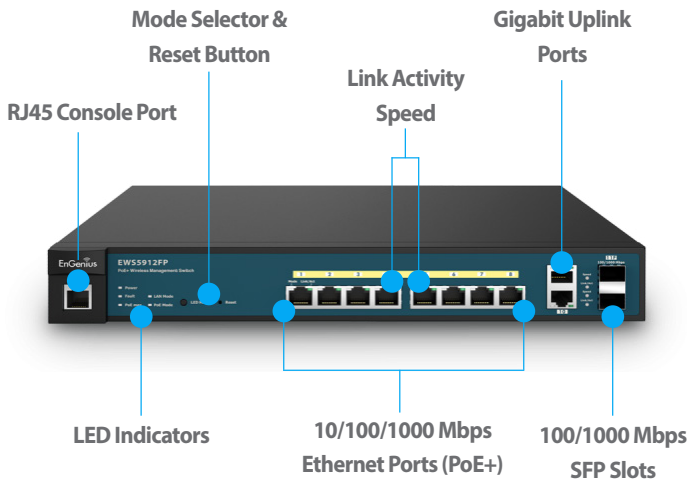
Fast Roaming (802.11k & 802.11r)
Pre-Authentication (802.11i & 802.11x)
PMK Caching (802.11i)
RSSI Threshold
Access Point Client Limiting
Client Fingerprinting
Wireless Security
(WEP, WPA/WPA2 Enterprise, WPA/WPA2 PSK)
Access Point VLAN Management
VLANs for Access Point- Multiple SSIDs
Secured Guest Network
Captive Portal
Access Point Status Monitoring
Rogue AP Detection
Wireless Client Monitoring
Background Scanning
Email Alert
Wireless Traffic & Usage Statistics
Real-Time Throughput Monitoring
SmartSync Redundancy
Visual Topology View
Floor Plan View
Map View
Wireless Management Features (with Neutron Series Access Points & ezMaster) continued
Wireless Coverage Display
Secure Control Messaging (SSL Certificate)
Local MAC Address Database
Remote MAC Address Database (RADIUS)
Unified Configuration Import / Export
Bulk Firmware Upgrade Capability
One-Click Update
Intelligent Diagnostics
Kick/Ban Clients
Wi-Fi Scheduler
Temperature Range
EWS2910P
Operating: 32°F to 104°F (0°C to 40°C)
Storage Temperature: -40°F to 158°F (-40°C to 70°C)
EWS5912FP / EWS7928P / EWS7928FP / EWS7952FP
Operating: 32°F to 122°F (0°C to 50°C)
Storage Temperature: -40°F to 158°F (-40°C to 70°C)
Humidity (non-condensing)
Operating: 5% - 95%

Device Dimensions and Weights
EWS2910P
Weight: 1.36 lbs. (620 g)
Width: 9.45" (240 mm)
Length: 4.13" (105 mm)
Height: 1.06" (27 mm)
EWS5912FP
Weight: 4.4 lbs. (1.9 kg)
Width: 13.00" (330.20 mm)
Length: 9" (228.60 mm)
Height: 1.73" (43.94 mm)
EWS7928P
Weight: 7.82 lbs. (3.5 kg)
Width: 17.3" (439 mm)
Length: 10.24" (260 mm)
Height: 1.73" (44 mm)
EWS7928FP
Weight: 10.36 lbs. (4.7 kg)
Width: 17.3" (439 mm)
Length: 12.2" (310 mm)
Height: 1.73" (44 mm)
EWS7952FP
Weight: 14.15 lbs. (6.4 kg)
Width: 17.32" (439.9 mm)
Length: 16.14" (409.9 mm)
Height: 1.73" (43.9 mm)
Package Contents
1x EWS Gigabit Managed PoE+ Switch
1x Quick Installation Guide
EWS2910P
1x Power Adapter
1x Power Cord
1x Wall Mount Kit
1x Ground Screw Set
EWS5912FP / EWS7928P / EWS7928FP / EWS7952FP
1x Power Cord
1x RJ45 Console Cable
1x Rack Mount Kit
Certifications
FCC, IC, CE
Warranty
1-Year Standard

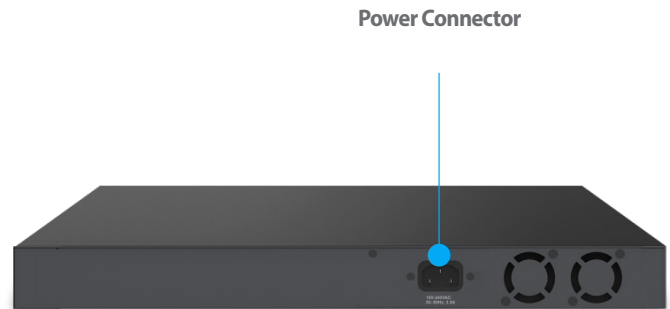
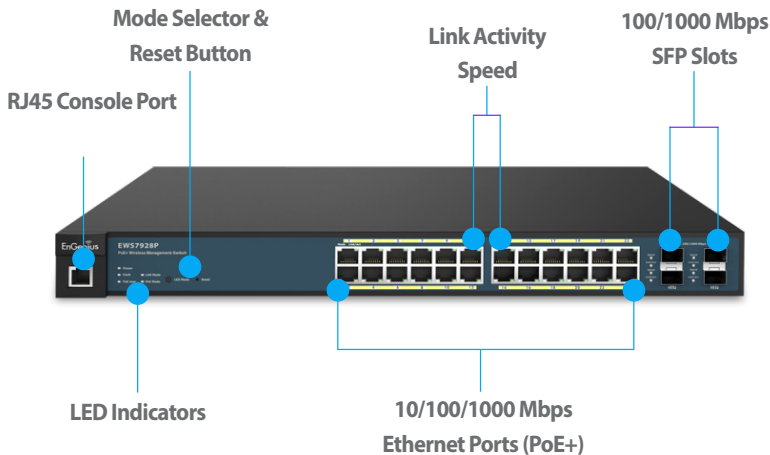
EWS2910P



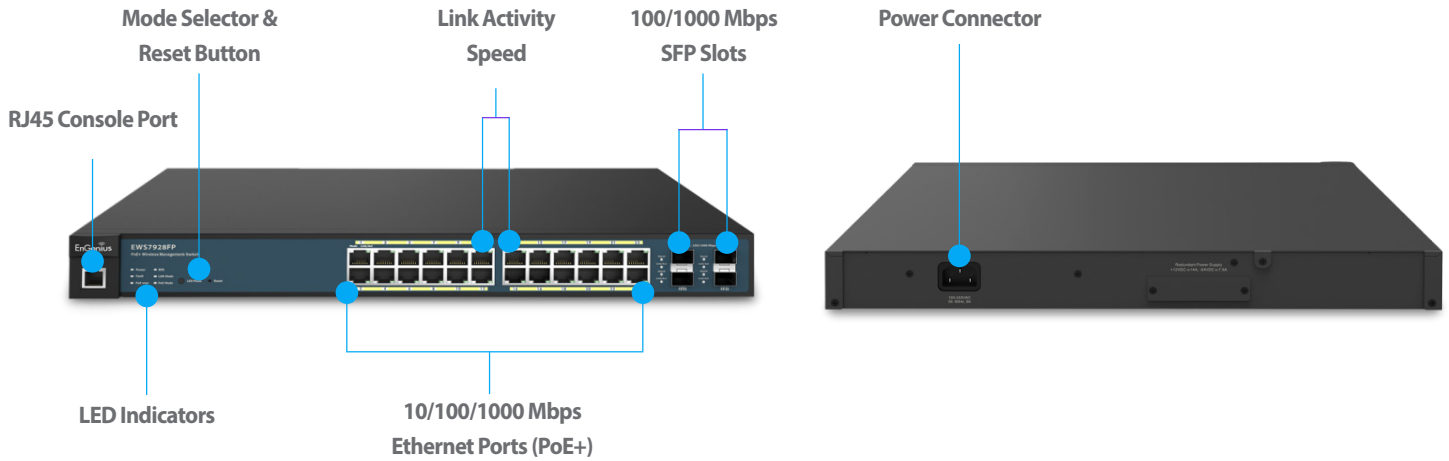
EWS5912FP



EWS7928P



EWS7928FP



EWS7952FP

