



The Neutron Series

Distributed Network Management Solution

Flexible, Scalable, Enterprise-Class Management for Networks Both Large and Small

Today's networks must be flexible, robust and as effective as the organizations they serve. Often comprised of different sizes, infrastructures and locations, these distributed networks can place an enormous burden on in-house IT personnel or managed service providers looking to manage, monitor and upgrade a potentially vast number of Access Points and Switches.

Fortunately, EnGenius has the answer: the **Neutron Series Distributed Network Management Solution**.

This highly flexible, scalable, fully integrated solution offers simplified configuration and management with enterprise-class performance, feature-rich Managed Access Points, WLAN Controller Switches and ezMaster™ Centralized Network Management, at an incredible price point – **with NO AP licensing, subscription or tech support fees**.

The Neutron Series is ideal for deploying into:

- > Managed Service Providers (MSPs)
- > The Public Sector
- > School Districts
- > Large, Geographically Diverse Organizations
- > Healthcare Facilities
- > Hotels & Resorts

Features and Benefits

- > Complete Scalability
 - Manage 1 – 1,000+ APs & Switches
 - 10,000+ Concurrent Users
 - Unlimited Number of Distributed Networks
- > Unlimited Flexibility
 - Operate Neutron APs Standalone or Managed
 - Locally Manage up to 50 APs per Switch
 - Manage Unlimited APs & Switches with ezMaster™
 - Deploy ezMaster via Cloud-Based* Service, on a Remote or Local Server
- > Greater Affordability
 - NO AP Licensing, NO Annual Subscriptions, NO Technical Support Fees
 - Affordable Hardware
 - Save Time & Resources
 - Lower TCO per Deployment
- > Neutron Series Distributed Network Management
 - Centralized Management with ezMaster
 - Full Featured WLAN Controller Switches
 - Versatile Access Point Portfolio
- > Optimize Wireless Performance
- > Create Secure, Branded Captive Portals
- > Simplified Deployment & Provisioning
- > Comprehensive Network Protection
- > Rich Reporting & Analytics
- > Enterprise-Class Performance
- > Comprehensive Pre/Post Sales & Customer Support

*Feature available 2016

The EnGenius® Neutron™ Series Distributed Network Management Solution includes:



Neutron Managed Access Points



Neutron WLAN Controller Switches

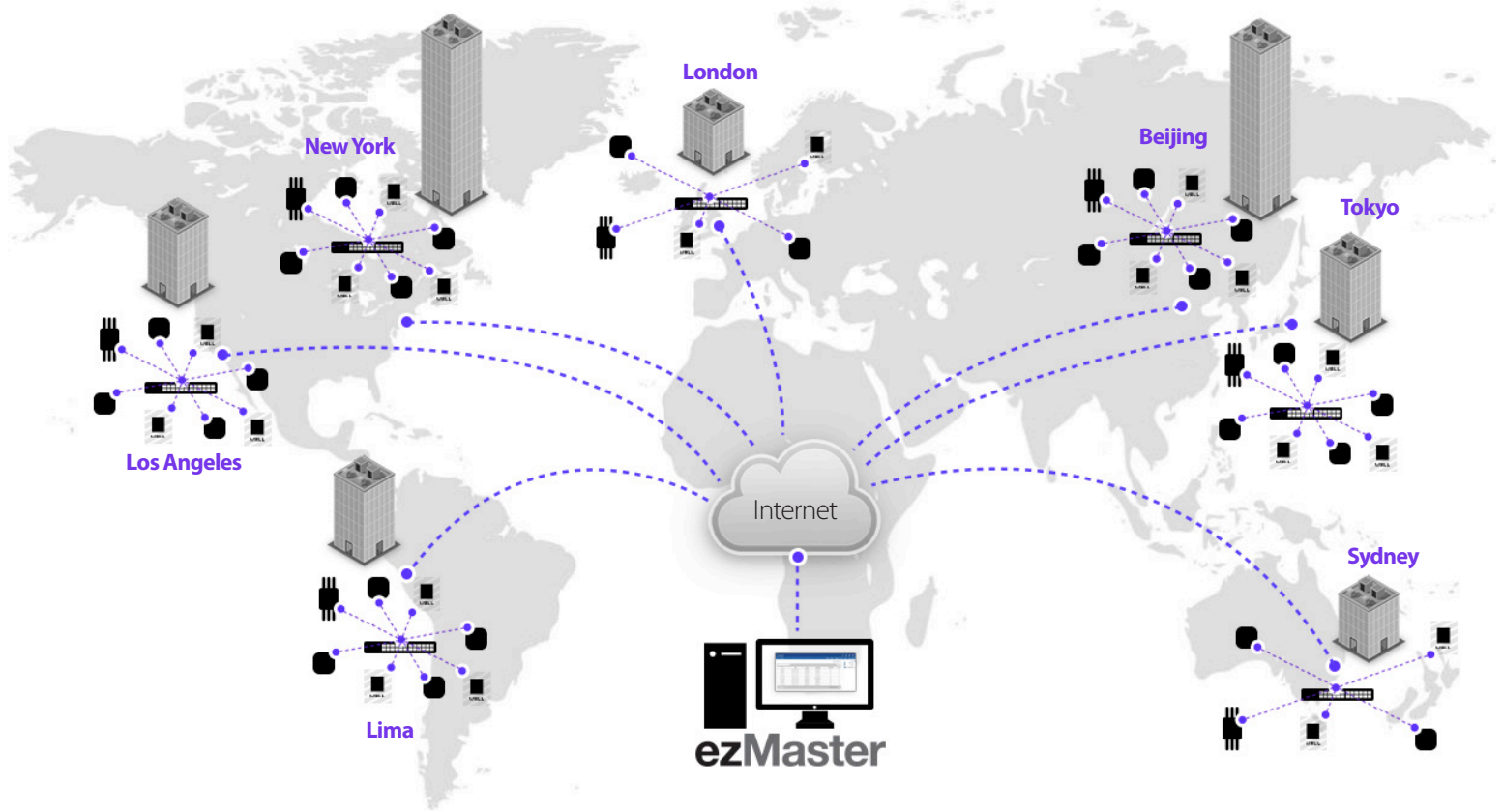


ezMaster™ Network Management Software

Complete Scalability Regardless of Size

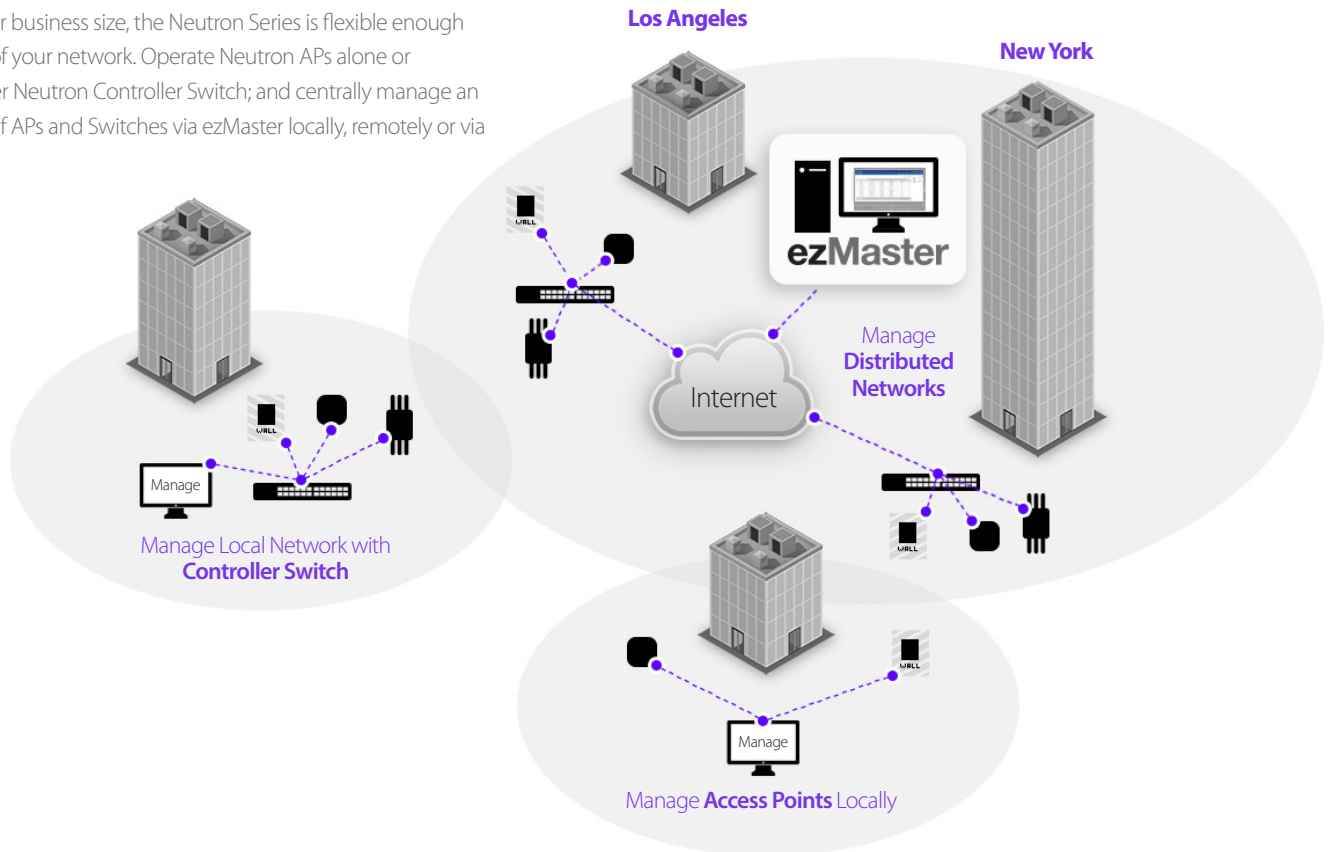
Want to start small or go big? You can do both with the Neutron Series. The Solution makes it easy to deploy and manage a few or 1,000+ APs, and

Switches and 10,000+ concurrent users on an unlimited number of networks distributed across various cities, regions or countries, regardless of their size and infrastructure.



Unlimited Flexibility

No matter what your business size, the Neutron Series is flexible enough to meet the needs of your network. Operate Neutron APs alone or manage up to 50 per Neutron Controller Switch; and centrally manage an unlimited number of APs and Switches via ezMaster locally, remotely or via the Cloud.



Enjoy Lower Capital & Operating Expenses

Many competing solutions require costly hardware, per AP licensing, and annual subscription and tech support fees. Not with the Neutron Series.

Since it's also easy to deploy, manage and operate, you'll save valuable time and resources, all translating to affordable, predictable costs – and a lower TCO per deployment.

The Price Paid Over One Year for 25 APs

Compare	EnGenius Hybrid Solution	Controller-based Vendor	Cloud-based Vendor
Access Points	11ac 3x3 : 3 Streams EWS360AP \$599	11ac 3x3 : 3 Streams \$795	11ac 3x3 : 3 Streams \$1,399
HW Controller	0	1	0
Subscription	0	0	\$3,750 per year
License	0	\$4,000	0
Firmware Upgrade	0	\$3,600	0
Total Cost (USD)	\$14,975	\$27,475	\$38,725

Features & Benefits

The Neutron Series delivers enterprise-class features that simplify deployment and management, maximizing wireless performance for any size network, no matter where it's located.

Optimized Wireless Performance

Continuously monitor the RF environment, including neighboring APs, with **Background Scanning**, and enable **automatic** control of AP **transmission power** and **channel allocation** ensuring optimized RF coverage and wireless performance. Configure multiple APs for **Fast Roaming**, securing seamless connectivity as mobile users move between Access Points.

Provide for maximum client performance as **Band Steering** automatically directs clients to the appropriate RF channel, while **Band Balancing** intelligently works to maintain a balanced number of clients per AP.

Distributed Control, Centralized Management with ezMaster™

Centrally manage an **unlimited number** of independent **distributed networks** from a single, at-a-glance dashboard, no matter where they're located. **Manage 1,000+** Neutron APs and Controller Switches and **10,000+** concurrent users.

EzMaster makes centralized network management easy through bulk configuration, provisioning and monitoring; rich analytics, reporting, and much more. Monitor APs with or without an onsite Controller Switch, and have the flexibility to **deploy** ezMaster on a **local** or **remote** server or via a **Cloud**-based service.

Simplified Deployment & Provisioning

Save time and resources with Neutron Series' easy-to-use **web interface**, **simplified management** and **one-click updates**. **Automated AP provisioning** and **intuitive configuration tools** help streamline mass AP deployments. And since the Neutron Series is easy to deploy, manage and operate, with **no extensive learning curve**, you'll spend less on administrative overhead, travel costs and training.

Neutron Controller Switches, A Full-Featured WLAN Platform

A powerful, **full-featured platform** capable of **managing up to 50** Neutron APs each, Neutron Controller Switches offer redundant management between APs and ezMaster with **SmartSync Redundancy***; and **future expandability** for broader device connectivity and management. Neutron Switches also act as a **wireless controller**, giving IT administrators visibility into all connected Neutron devices and a full array of **Layer 2 management tools**.

Versatile AP Portfolio Features High-Capacity 11ac

Neutron's versatile line of high-performance, managed, **indoor ceiling-mount** and **outdoor ruggedized** APs range from **Single-Band 11n** models to **high-capacity 3x3 Dual-Band 11ac** versions, all featuring **Power-over-Ethernet (PoE)** convenience. For added versatility, Neutron APs can **operate as a standalone device**, be **managed** through a Neutron Controller Switch or centrally managed via ezMaster software.

Create Secure, Branded Captive Portals

Organizations that offer Internet access to patrons or visitors – notably hotels, retail shops and restaurants – will appreciate Neutron's **Captive Portal** and Guest Network capabilities.

Establish a secure **Guest Network** that blocks access to main corporate computers and create separate Virtual LANs for increased security, network reliability and bandwidth conservation.



Comprehensive Network Protection

With the Neutron Series, your network is protected from attacks at multiple levels through advanced wireless encryption standards such as Wi-Fi **Protected Access Encryption** and authentication database, **802.1X** with **RADIUS** server. Network threats are quickly detected and avoided through **rogue AP detection**, **email alerts** and **real-time wireless invasion monitoring**, allowing for immediate action to divert network hacks and other security threats.

*Feature available Q1 2016

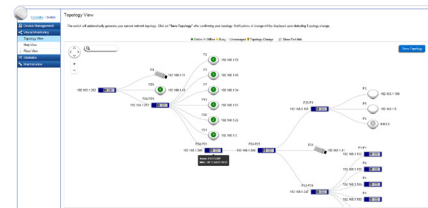
Rich Reporting & Analytics

A wealth of invaluable reporting, analytics and real-time monitoring tools, with email alerts, give IT management instant insight into system efficiencies and issues. With tools like **wireless client monitoring**, and **traffic** and **usage statistics**, potential problems can be pinpointed and addressed before they effect users. Neutron provides **centralized network visibility** in areas such as **traffic flow, demand, network topology** and more.

- > **Statistics View** provides real-time and historical visibility of traffic flow.



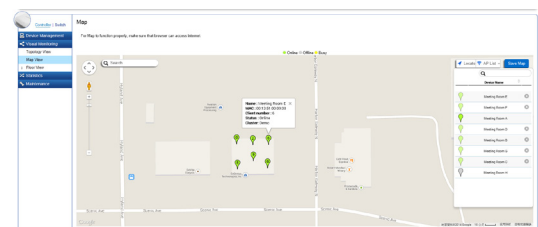
- > **Topology View** automatically maps network deployment and displays device relationships.



- > **Floor View** allows administrators to upload floor plans and drop AP markers for a visual representation of any network on the system.



- > With **Google® Map View** you can quickly drop AP markers and locate deployed APs across cities, regions or countries.



Perfect Flexibility for Managed Service Providers

If you're a managed service provider (MSP) the EnGenius Neutron Series is ideal for you. Easily provision, configure, manage and update network devices for all of your customers – from a single console and login, regardless of network size, location, infrastructure or ISP. Saving you a tremendous amount of time, travel and cost.

Flexible Distributed Network Management

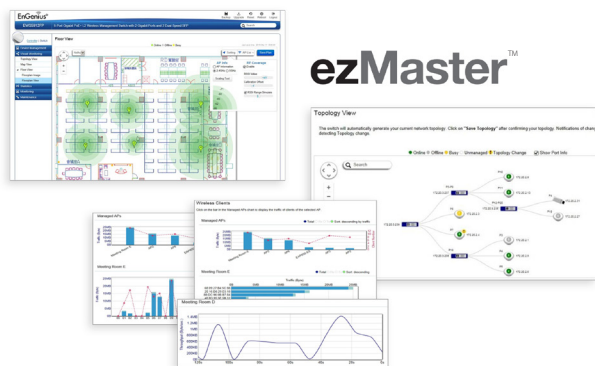
EzMaster Network Management Software expands the flexibility and scalability of Neutron Series Managed Access Points and WLAN Controller Switches.

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 and Controller 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 WLAN Controller Switch.

Powerful, Scalable Options

EzMaster scales with your growing business needs. Manage 1,000+ Neutron Access Points and Controller 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 (coming 2016)
- Kick/Ban Clients
- One-Click Update
- Remote Logging
- Seamless Migration
- SmartSync Redundancy (coming 2016)
- Syslog

Complete Line of the Neutron Series Products






Managed Access Points

Model	Description
EWS300AP	Single-Band 11n 2x2:2 2.4 GHz Ceiling-Mount Wireless Managed Indoor Access Point
EWS310AP	Dual-Band 11n 2x2:2 Ceiling-Mount Wireless Managed Indoor Access Point
EWS320AP	Dual-Band 11n 3x3:3 Ceiling-Mount Wireless Managed Indoor Access Point
EWS350AP	Dual-Band 11ac 2x2:2 Ceiling-Mount Wireless Managed Indoor Access Point
EWS360AP	Dual-Band 11ac 3x3:3 Ceiling-Mount Wireless Managed Indoor Access Point
EWS500AP	Single-Band 11n 2x2:2 Wall Plate Wireless Managed Indoor Access Point
EWS510AP	Dual-Band 11n 2x2:2 Wall Plate Wireless Managed Indoor Access Point
EWS650AP	Dual-Band 11ac 2x2:2 Wireless Managed Outdoor Access Point
EWS660AP	Dual-Band 11ac 3x3:3 Wireless Managed Outdoor Access Point
EWS860AP	Dual-Band 11ac 3x3:3 Wireless Ruggedized Managed Outdoor Access Point

WLAN Controller Switches

Model	Description
EWS2910P	8-Port GigE 61W PoE WLAN Controller/Switch – Manage up to 20 Access Points
EWS2910P-KIT-300	WLAN Starter Kit (1) 8-Port GigE 61W PoE WLAN Controller/Switch – Manage up to 20 APs; (2) EWS300AP Single-Band 11n 2x2:2, 2.4 GHz Ceiling-Mount Wireless Access Points
EWS5912FP	8-Port GigE 130W PoE+ WLAN Management Controller / Switch - Manage up to 50 Access Points
EWS7928P	24-Port GigE 185W PoE+ WLAN Management Controller / Switch - Manage up to 50 Access Points
EWS7928FP	24-Port GigE 370W PoE+ WLAN Management Controller / Switch - Manage up to 50 Access Points
EWS7952FP	48-Port GigE 740W PoE+ WLAN Management Controller / Switch - Manage up to 50 Access Points

EnGenius Neutron Series WLAN Controller Switches

					
Models	EWS7952FP	EWS7928FP	EWS7928P	EWS5912FP	EWS2910P
Supported EWS AP	50	50	50	50	20
10/100/1000 Base-T, PoE+	48	24	24	8	8
Total PoE Budget	740W	370W	185W	130W	61.6W
PoE+ Capable Port	1-48	1-24	1-24	1-8	1-8 (802.3af only)
Rackmount	19" 1U	19" 1U	19" 1U	13" 1U	9.45" (desktop)
SFP Ports	4	4	4	2	2
Auto Uplink Gigabit Ports	-	-	-	●	-
RJ45 Console Port	●	●	●	●	-
Annual License Fee Per AP	\$0	\$0	\$0	\$0	\$0

Key Features

- > Access Point Auto Discovery & Provisioning
- > Access Point Auto IP-Assignment
- > Access Point Cluster 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
- > Fast Handover
- > 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)

Neutron Series WLAN Controller Switches

A Full-Featured Platform

EnGenius Neutron Series Controller Switches are a powerful, full-feature platform capable of managing up to 50 Neutron Managed Access Points per Switch, while providing future expandability for broader device connectivity and redundant management between Neutron APs and ezMaster with SmartSync Redundancy.

Acting as a **wireless network controller**, Neutron Controller Switches give IT administrators visibility into all Neutron Series connected devices. This allows them to be grouped into clusters with the same settings and policies applied automatically.

Available in 8-, 24- and 48-port models, each Neutron Series Controller Switch supports **Power-over-Ethernet** (PoE), delivering up to 30 watts per port for powering devices like APs, IP Cameras, and VoIP (Voice-over-IP) phone systems. Neutron Controller Switches also provide improved network efficiency, security, and AP management through **full Layer 2 management** tools.

When combined with ezMaster, Neutron Controller Switches support **SmartSync Redundancy**, which stores network analytic data even when Internet connectivity is not available. Once connectivity is restored, the Controller Switch will automatically re-synch and send analytics to ezMaster, meanwhile, the network itself would remain running the entire time.

Technical Specifications

Switching Capacity	LED Indicators	L2 Features
EWS2910P: 20 Gbps	1 x Power LED	802.3ad Link Aggregation
EWS5912FP: 24 Gbps	1 x Fault LED	Port Mirroring
EWS7928P: 56 Gbps	1 x PoE Max LED	Port Trunking
EWS7928FP: 56 Gbps	1 x LAN Mode LED	Spanning Tree Protocol
EWS7952FP: 104 Gbps	1 x PoE Mode LED	> 802.1D Spanning Tree (STP)
	Copper Ports: LAN/PoE Mode, Link/Act	> 802.1w Rapid Spanning Tree (RSTP)
	SFP Ports: Link/Act, Speed (EWS2910P & EWS7952FP only)	> 802.1s Multiple Spanning Tree (MSTP)
Forwarding Mode		IGMP Snooping v1/v2/v3
Store and Forward		IGMP Fast Leave
	Wireless Management Features (with Neutron Series Access Points & ezMaster)	VLAN Group
SDRAM	EWS2910P : Manages up to 20 Neutron Series APs	Voice VLAN
256MB	EWS5912FP / EWS7952FP / EWS7928P / EWS7928FP: Manage up to 50 Neutron Series APs	MLD Snooping
	Access Point Auto Discovery and Provisioning	Bandwidth Control
Flash Memory	Access Point Auto IP Assignment	Queue
32MB	Access Point Cluster Management	> 802.1w Rapid Spanning Tree (RSTP)
	Remote Access Point Rebooting	> CoS-based on 802.1p Priority
Port Functions	Access Point Device Name Editing	> CoS-based on TOS
EWS2910P	Access Point Radio Settings	> CoS-based on DSCP
8 x 10/100/1000 Mbps Ports in the front panel	Band Steering	> CoS-based on Physical Port
2 x 100/1000 Mbps SFP Slot	Traffic Shaping	802.1X Port-based Access Control
EWS5912FP	Fast Handover	802.1X Guest VLAN
8 x 10/100/1000 Mbps Ports in the front panel	Fast Roaming	Port Security
2 x 100/1000 Mbps SFP Slot	Access Point Client Limiting	Storm Control
2 x Gigabit Uplink Ports	Client Fingerprinting	Port Isolation
1 x RJ45 Console Port	Wireless Security (WEP, WPA/WPA2 Enterprise, WPA/WPA2 PSK)	Attack Prevention
EWS7928FP / EWS7928P	AP VLAN Management	Access Control List (ACL)
24 x 10/100/1000 Mbps Ports in the front panel	VLANs for Access Point- Multiple SSIDs	PoE Management
4 x 100/1000 Mbps SFP Slot	Secured Guest Network	> Power On/Off Per Port
1 x RJ45 Console Port	Captive Portal	> Power Class Configuration
EWS7952FP	Access Point Status Monitoring	> Power Feeding with Priority
48 x 10/100/1000 Mbps Ports in the front panel	Rogue AP Detection	> User Defined Power Limit
4 x 100/1000 Mbps SFP Slot	Wireless Client Monitoring	IEEE 802.3az (Energy Efficient Ethernet)
1 x RJ45 Console Port	Background Scanning	SSH Server
	Email Alert	Telnet Server
PoE Capability	Wireless Traffic & Usage Statistics	TFTP Client
EWS2910P	Real-time Throughput Monitoring	TFTP Upgrade
PoE Standard: Ports 1~8 Support IEEE 802.3af	SmartSync Redundancy	BootP/DHCP Client
EWS5912FP	Visual Topology View	Web-based Support
PoE Standard: Ports 1~8 Support IEEE 802.3at/af	Floor Plan View	SNMP v1 / v2c / v3 Support
EWS7928FP / EWS7928P	Map View	Command Line Interface (CLI)
PoE Standard: Ports 1~24 Support IEEE 802.3at/af	Wireless Coverage Display	SNTP
EWS7952FP	Secure Control Messaging (SSL Certificate)	RMONv1
PoE Standard: Ports 1~48 Support IEEE802.3at/af	Local MAC Address Database	SYSLOG
	Remote MAC Address Database (RADIUS)	Cable Diagnostics
PoE Capable Ports	Unified Configuration Import / Export	MIB Support
EWS2910P Ports 1~8 Can Output Up to 15W	Bulk Firmware Upgrade Capability	> RFC1213 / RFC1493 / RFC1757 / RFC2674
EWS5912FP Ports 1~8 Can Output Up to 30W	One-Click Update	
EWS7928P All Gigabit Ethernet Ports / Up to 30W	Intelligent Diagnostics	
EWS7928FP All Gigabit Ethernet Ports / Up to 30W	Kick/Ban Clients	
EWS7952FP All Gigabit Ethernet Ports / Up to 30W		

Technical Specifications continued

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%

Certifications

FCC, IC, CE

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)

Device Dimensions and Weights continued

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)

Device Dimensions and Weights continued

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)

Warranty

1-Year Standard

EnGenius Neutron Series Indoor Managed Access Points

	CEILING MOUNT					WALL PLATE	
Models	EWS360AP	EWS350AP	EWS320AP	EWS310AP	EWS300AP	EWS510AP	EWS500AP
Standards	802.11a/b/g/n/ac	802.11a/b/g/n/ac	802.11a/b/g/n	802.11a/b/g/n	802.11b/g/n	802.11a/b/g/n	802.11b/g/n
Frequency	2.4 & 5 GHz	2.4 & 5 GHz	2.4 & 5 GHz	2.4 & 5 GHz	2.4 GHz	2.4 & 5 GHz	2.4 GHz
2.4 GHz Max. Data Rate	450 Mbps	300 Mbps	450 Mbps	300 Mbps	300 Mbps	300 Mbps	300 Mbps
5 GHz Max. Data Rate	1,300 Mbps	867 Mbps	450 Mbps	300 Mbps	N/A	300 Mbps	300 Mbps
Radio Chains/Streams	3 x 3:3	2 x 2:2	3 x 3:3	2 x 2:2	2 x 2:2	2 x 2:2	2 x 2:2
RF Output Power (2.4 GHz)	15 dBm	15 dBm	15 dBm	15 dBm	15 dBm	15 dBm	15 dBm
RF Output Power (5 GHz)	15 dBm	15 dBm	15 dBm	15 dBm	N/A	15 dBm	N/A
Ethernet Ports	1 x Gig Port (PoE+)	1 x Gig Port (PoE+)	1 x Gig Port (PoE+)	1 x Gig Port (PoE+)	1 x Gig Port (PoE+)	- 1 x 10/100 Mbps Access Port (PoE+) - 3 x 10/100 Mbps Access Ports - 1 x Gig Uplink Port (PoE) - 1 x RJ45 Pass Through Ports	- 1 x 10/100 Mbps Access Port (PoE+) - 3 x 10/100 Mbps Access Ports - 1 x Gig Uplink Port (PoE) - 2 x RJ45 Pass Through Ports
110 Punch Down Block	-	-	-	-	-	1	1
Power-over-Ethernet	802.3at	802.3at	802.3at	802.3af/at	802.3af	802.3af/at	802.3af/at
Power Consumption (Peak)	22.8W	18W	18.2W	15.6W	9.6W	10.8W	7.5W
Integrated Antenna	6 x 5 dBi	4 x 5 dBi	6 x 5 dBi	4 x 5 dBi	2 x 5 dBi	2 x 4 dBi (2.4 GHz) 2 x 5 dBi (5 GHz)	2 x 4 dBi

Key Features

- > Sectorized 3D Antenna (selected models)
- > Dynamic Channel Optimization
- > Dual-Band (select models)
- > Band Steering (Dual-Band models)
- > Seamless Roaming, Fast Handover
- > Supports Connectivity of 100+ Users
- > 16 SSIDs (8 SSIDs per frequency band)
- > Wireless Traffic Shaping
- > QoS
- > SSID-to-VLAN Mapping
- > Email Alert
- > Wi-Fi Scheduler
- > Auto-Reboot
- > AP Detection

Neutron Series Managed Access Points

Versatile Portfolio of Managed Access Points

EnGenius offers one of the broadest Access Point portfolios available. The Neutron Series' versatile line of high-performance, managed indoor and outdoor APs range from **affordable, Single-Band 11n models** to **high-capacity 3x3 Dual-Band 11ac versions**, all with Power-over-Ethernet (PoE) convenience.

Neutron Access Points include sleek, low profile **Indoor Ceiling-Mount APs** and **Wall Plate AP/ Switches** that provide an all-in-one communications hub for hotel guest rooms, and multi-tenant dwellings to powerful, slim line, **IP-rated Outdoor** and **industrial, ruggedized APs** that extend the network beyond. Neutron Managed APs are sure to meet a variety of application needs for both large and small networks alike.

For added versatility, **deploy as a standalone Access Point** or **part of a scalable Neutron Solution** managed via a Neutron Controller Switch or centrally managed with ezMaster software.

Technical Specifications

Frequency

EWS310AP / EWS320AP / EWS350AP / EWS360AP / EWS510AP

2.4 and 5 GHz Frequency Bands

EWS300AP / EWS500AP

2.4 GHz Frequency Band

Standards

EWS300AP / EWS500AP

IEEE 802.11b/g/n

EWS310AP / EWS320AP / EWS510AP

IEEE 802.11a/b/g/n

EWS350AP / EWS360AP

IEEE 802.11a/b/g/n/ac

Radio I

11b/g/n: 2.412~2.484 GHz

Radio II (Dual-Band models only)

11a/n: 5.18-5.24 & 5.26-5.32 & 5.5-5.7 & 5.745-5.825 GHz

Data Rates

EWS300AP / EWS500AP Up to 300 Mbps in 2.4 GHz frequency band

EWS310AP / EWS510AP Up to 300 Mbps in both frequency bands

EWS320AP Up to 450 Mbps in both frequency bands

EWS350AP Up to 300 Mbps in the 2.4 GHz frequency band; Up to 867 Mbps in the 5 GHz band

EWS360AP Up to 450 Mbps in the 2.4 GHz frequency band; Up to 1300 Mbps in the 5 GHz band

Memory

EWS300AP 64MB

EWS310AP / EWS320AP / EWS350AP / EWS360AP / EWS500AP / EWS510AP 128MB

Flash Memory

16MB

Power Consumption

EWS300AP Up to 9.6W

EWS310AP Up to 15.6W

EWS320AP Up to 18.2W

EWS350AP Up to 18W

EWS360AP Up to 22.8W

EWS500AP Up to 7.5W

EWS510AP Up to 10.8W

Antennas

EWS300AP

2 x 5 dBi Internal High Gain Antennas

EWS310AP / EWS350AP

2 x 5 dBi 2.4 GHz Internal Antennas

2 x 5 dBi 5 GHz Internal Antennas

EWS320AP

3 x 3 dBi 2.4 GHz Internal Antennas

3 x 5 dBi 5 GHz Internal Antennas

EWS360AP

3 x 5 dBi 2.4 GHz Internal Antennas

3 x 5 dBi 5 GHz Internal Antennas

EWS500AP

2 x 4 dBi Internal Antennas

EWS510AP

2 x 4 dBi 2.4 GHz Internal Antennas

2 x 5 dBi 5 GHz Internal Antennas

Physical Interface

1 x RJ45 Gigabit Ethernet 10/100/1000 — PoE Capable

1 x Reset Button, 1 x Power Connector

EWS500AP / EWS510AP

1 x 10/100/1000 Mbps Uplink Port with 802.3af/at PoE

3 x 10/100 Mbps Access Ports

1 x 10/100 Mbps Access Port with PoE Output (support 802.3af output when PoE input is 802.3at)

2 x RJ45 Pass Through Ports

1 x 110 Punch Down Block

1 x DC Power Connector

1 x Reset Button

LED Indicators

EWS300AP

1 x Power

1 x WLAN

1 x LAN

1 x 2.4 GHz

EWS310AP / EWS320AP / EWS350AP / EWS360AP

1 x Power

1 x WLAN (Wireless Connection)

1 x LAN

1 x 2.4 GHz

1 x 5 GHz

EWS500AP / EWS510AP

1 x Power

1 x WAN

1 x 2.4 GHz

1 x 5 GHz (EWS510AP only)

1 x LAN 1-4

Power Requirements

Power Supply: 100 to 240 VDC \pm 10%, 50/60 Hz (depends on different countries)

Active Ethernet (Power-over-Ethernet, IEEE 802.3at/af)
EWS300AP Power-over-Ethernet, IEEE 802.3af

EWS300AP 12V/1A

EWS310AP / EWS320AP / EWS350AP / EWS360AP 12V/2A

EWS500AP / EWS510AP 48V/0.8A

Modulations

OFDM: BPSK, QPSK, 26-QAM (EWS210AP / EWS300AP) 16-QAM, 64-QAM, DBPSK, DQPSK, CCK

Operating Channels

2.4 GHz US/Canada 1-11

5 GHz (Dual-Band models only): Country dependent for the following ranges:
36, 40, 44, 48, 52, 56, 60, 64, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140, 149, 153, 157, 161, 165

Operation Modes

Access Point

Multiple BSSID

Supports up to 8 SSIDs Per Radio

SSID-to-VLAN Tagging

Supports 802.1q SSID-to-VLAN Tagging

Spanning Tree

Supports 802.1d Spanning Tree Protocol

Wireless

EWS300AP / EWS500AP
Wireless Mode: 11b/11g/11n

EWS310AP / EWS320AP / EWS510AP
Wireless Mode: 11a/11b/11g/11n

EWS350AP / EWS360AP
Wireless Mode: 11a/11b/11g/11n/11ac

Channel Selection (settings vary by country)

Channel Bandwidth (Auto, 20 MHz, 40 MHz, 80 MHz)

Transmission Rate

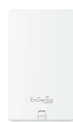
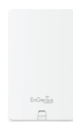
2.4 GHz 11n only, 11b/b/n mix, 11b only, 11b/g, 11g only

5 GHz (Dual-Band models only): 11ac only, 11n only, 11a/n mix, 11a only

Technical Specifications continued

QoS		QoS (Quality of Service)
WMM (Wireless Multimedia)		WMM (Wireless Multimedia)
Wireless Management Features (with ezMaster & Neutron Switch)		Temperature Range
Access Point Auto Discovery and Provisioning		Operating: 32° to 104°F (0 to 40°C)
Access Point Auto IP Assignment		Storage temperature: -4°F to 140°F (-20°C to 60°C)
Access Point Cluster Management		Humidity (non-condensing)
Remote Access Point Rebooting		Operating: 90% or less
Access Point Device Name Editing		Operating: 90% or less
Access Point Radio Settings		Physical Security
Band Steering (Dual Band models only)		Kensington Security Slot (N/A for EWS500AP/EWS510AP)
Traffic Shaping		Certifications
Fast Handover		FCC, IC, CE
Fast Roaming		Device Dimensions and Weights
RSSI Threshold		EWS300AP
Access Point Client Limiting		Weight: 0.45 lbs. (204.1 g)
Client Fingerprinting		Length: 5.07" (128.7 mm)
Wireless Security (WEP, WPA/WPA2 Enterprise, WPA/WPA2 PSK)		Width: 5.07" (128.7 mm)
AP VLAN Management		Height: 1.73" (43.9 mm)
VLANs for Access Point- Multiple SSIDs		EWS310AP
Secured Guest Network		Weight: 0.80 lbs. (362.8 g)
Captive Portal		Length: 6.36" (161.5 mm)
Access Point Status Monitoring		Width: 6.36" (161.5 mm)
Rogue AP Detection		Height: 1.64" (41.6 mm)
Wireless Client Monitoring		EWS320AP
Background Scanning		Weight: 0.80 lbs. (362.8 g)
Email Alert		Length: 6.5" (165.1 mm)
Wireless Traffic & Usage Statistics		Width: 6.5" (165.1 mm)
Real-time Throughput Monitoring		Height: 1.64" (41.6 mm)
SmartSync Redundancy		EWS350AP / EWS360AP
Visual Topology View		Weight: 0.80 lbs. (362.8 g)
Floor Plan View		Length: 6.5" (165.1 mm)
Map View		Width: 6.5" (165.1 mm)
Wireless Coverage Display		Height: 1.64" (41.6 mm)
Secure Control Messaging (SSL Certificate)		EWS500AP / EWS510AP
Local MAC Address Database		Weight: 0.65 lbs. (296 g)
Remote MAC Address Database (RADIUS)		Length: 1.45" (37 mm)
Unified Configuration Import / Export		Width: 4.33" (110 mm)
Bulk Firmware Upgrade Capability		Height: 5.19" (130 mm)
One-Click Update		Warranty
Intelligent Diagnostics		1-Year Standard
Kick/Ban Clients		
Tx Power Control		
Adjust Transmit Power by dBm		
Configuration		
Web-based Configuration (http)		
Firmware Upgrade		
Via Web Browser		
Administrator Setting		
Administrator Username and Password Change		
MIB		
MIB I, MIB II (RFC1213) and private MIB		
System Monitoring		
Status Statistic and Event Log		
SNMP		
V1 / V2c / V3		
Traffic Shaping		
Incoming and Outgoing Wireless Traffic Shaping		
Reset Setting		
Reboot (press and hold for 2 seconds). Reset to Factory Default (press and hold for 10 seconds)		
Auto-Channel Selection		
Automatically Selecting Least Congested Channel		
Bandwidth Measurement		
IP Range and Bandwidth Management		
Schedule Reboot		
Reboot Access Point by Minute, Hour, Day, or Week		
Backup and Restore		
Save and Restore Settings via Web Interface		
CLI		
Supports Command Line Interface		
Diagnosis		
IP Pinging Statistics		
Log		
SysLog and Local Log Support		
LED Control		
On/Off		
AP Detection		
Scanning for Available EnGenius APs		
Wireless Security		
WPA/WPA2 Personal (WPA-PSK using TKIP or AES)		
WPA/WPA2 Enterprise (WPA-EAP using TKIP)		
802.1X RADIUS Authenticator: MD5/TLS/TTLS, PEAP		
SSID Broadcast Enable/Disable		
MAC Address Filtering, Up to 50 Entries		
L2 Isolation (Access Point mode)		

EnGenius Neutron Series Outdoor Managed Access Points



Models	EWS860AP	EWS660AP	EWS650AP
Standards	802.11a/b/g/n/ac	802.11a/b/g/n/ac	802.11a/b/g/n/ac
Frequency	2.4 & 5 GHz	2.4 & 5 GHz	2.4 & 5 GHz
2.4 GHz Max. Data Rate	450 Mbps	450 Mbps	300 Mbps
5 GHz Max. Data Rate	1,300 Mbps	1,300 Mbps	867 Mbps
Radio Chains/Streams	3 x 3:3	3 x 3:3	2 x 2:2
RF Output Power	15 dBm	15 dBm	15 dBm
Ingress Protection Rating	68	55	55
Primary Ethernet Port	1 x Gigabit Port	1 x Gigabit Port	1 x Gigabit Port
Secondary Ethernet Port	1 x Gigabit Port (PoE Output)	1 x Gigabit Port	1 x Gigabit Port
PoE Compliant	802.3at (PoE+)	802.3at (PoE+)	802.3at (PoE+)
Power Consumption (Peak)	35.7W	23W	23W
Integrated Antennas	N/A	6 x 5 dBi	2 x 5 dBi
External Antennas	2.4 GHz: 3 x 5 dBi 5 GHz: 3 x 7 dBi	N/A	N/A

Key Features

- > Tough IP68- and IP55-Rated Housings
- > 802.11ac Wireless Speeds
- > Dynamic Channel Optimization
- > Dual-Band
- > Band Steering
- > Seamless Roaming, Fast Handover
- > Supports Connectivity of 100+ Users
- > 16 SSIDs (8 SSIDs per frequency band)
- > Wireless Traffic Shaping
- > QoS
- > SSID-to-VLAN Mapping
- > Email Alert
- > Wi-Fi Scheduler
- > Auto-Reboot
- > AP Detection

Technical Specifications

Frequency

RF: 2.4 and 5 GHz Frequency Bands

Standards

IEEE 802.11a/b/g/n/ac

Radio I

11b/g/n: 2.412~2.484 GHz

Radio II

11a/n/ac: 5.18-5.24 and 5.26-5.32 and 5.5-5.7 and 5.745-5.825 GHz

Data Rates

EWS650AP

Up to 300 Mbps in 2.4 GHz; up to 867 Mbps in 5 GHz

EWS660AP / EWS860AP

Up to 450 Mbps in 2.4 GHz; up to 1300 Mbps in 5 GHz

Memory

256MB

Flash Memory

16MB

Power Consumption

EWS650AP Up to 23W

EWS660AP Up to 23W

EWS860AP Up to 34W

Antenna Array

EWS650AP / EWS660AP

Internal High Gain Antenna Array supporting both 2.4 GHz and 5 GHz

EWS860AP

External High Gain Antennas 3 x 5 dBi for 2.4 GHz

External High Gain Antennas 3 x 7 dBi for 5 GHz

Physical Interface

2 x RJ45 Gigabit Ethernet (10/100/1000 Mbps) - PoE Capable 802.3at

1 x Reset Button

1 x Power Connector

LED Indicators

1 x Power

1 x 2.4 GHz

1 x 5 GHz

1 x WLAN (Wireless Connection)

1 x LAN

Power Requirements

Power Supply: 100 to 240V DC +/-10% 50/60 Hz

Active Ethernet (Power-over-Ethernet IEEE 802.3at)

PoE Injector DC IN, 48V/0.8A

Modulations

OFDM: BPSK, QPSK, 26-QAM, 64-QAM, DBPSK, DQPSK, CCK

Operating Channels

2.4 GHz US/Canada 1-11

5 GHz Country dependent for the following ranges: 36, 40, 44, 48, 52, 56, 60, 64, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140, 149, 153, 157, 161, 165

Operation Modes

Access Point

Multiple BSSID

Supports Up to 8 SSIDs Per Radio

SSID-to-VLAN Tagging

Supports 802.1q SSID-to-VLAN Tagging

Technical Specifications continued

Spanning Tree

Supports 802.1d Spanning Tree Protocol

Wireless

Wireless Mode: 11a/11b/11g/11n/11ac

Channel Selection (settings vary by country)

Channel Bandwidth (Auto, 20 MHz, 40 MHz, 80 MHz)

Transmission Rate

2.4 GHz 11n only, 11b/b/n mix, 11b only, 11b/g, 11g only

5 GHz 11ac only, 11n only, 11a/n mix, 11a only

QoS

WMM (Wireless Multimedia)

Wireless Management Features (with ezMaster & Neutron Switch)

Access Point Auto Discovery and Provisioning

Access Point Auto IP Assignment

Access Point Cluster Management

Remote Access Point Rebooting

Access Point Device Name Editing

Access Point Radio Settings

Band Steering

Traffic Shaping

Fast Handover

Fast Roaming

Access Point Client Limiting

Client Fingerprinting

Wireless Security (WEP, WPA/WPA2 Enterprise, WPA/WPA2 PSK)

AP 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 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

Wireless Management Features (with ezMaster & Neutron Switch) continued

Intelligent Diagnostics

Kick/Ban Clients

Tx Power Control

Adjust Transmit Power by dBm

Configuration

Web-Based Configuration (http)

Firmware Upgrade

Via Web Browser

Administrator Settings

Administrator Username and Password Change

MIB

MIB I, MIB II (RFC1213) and private MIB

System Monitoring

Status Statistic and Event Log

SNMP

V1 / V2c / V3

Traffic Shaping

Incoming and Outgoing Wireless Traffic Shaping

Reset Settings

Reboot (press & hold for 2 seconds).

Reset to Factory Default (press & hold for 10 seconds)

Auto-Channel Selection

Automatically Selecting Least Congested Channel

Bandwidth Measurement

IP Range and Bandwidth Management

Schedule Reboot

Reboot Access Point by Minute, Hour, Day, or Week

Backup and Restore

Save and Restore Settings via Web Interface

CLI

Supports Command Line Interface

Diagnosis

IP Pinging Statistics

Log

SysLog and Local Log Support

LED Control

On/Off

AP Detection

Scanning for Available EnGenius APs

Wireless Security

WPA/WPA2 Personal (WPA-PSK using TKIP or AES)

WPA/WPA2 Enterprise (WPA-EAP using TKIP)

802.1X RADIUS Authenticator: MD5/TLS/TTLS, PEAP

SSID Broadcast Enable/Disable

MAC Address Filtering, Up to 50 Entries

Guest Network

L2 Isolation (Access Point mode)

QoS (Quality of Service)

WMM (Wireless Multimedia)

Temperature Range

Operating:

EWS860AP -4°F to 158°F (-20°C to 70°C)

EWS650AP / EWS660AP -4°F to 140°F (-20°C to 60°C)

Storage: -22°F to 176°F (-30°C to 80°C)

Humidity (non-condensing)

Operating: 90% or less

Storage: 90% or less

Weatherproof

EWS650AP IP55-Rated Enclosure

EWS660AP IP55-Rated Enclosure

EWS860AP IP68-Rated Enclosure

Certifications

FCC, IC, CE

Device Dimensions and Weights

EWS650AP / EWS660AP

Weight: 1.89 lbs. (857.2 g)

Length: 11.97" (304 mm)

Width: 7.13" (181.1 mm)

Height: 1.81" (45.9 mm)

EWS860AP

Weight: 4.17 lbs. (1.8 kg)

Length: 11.22" (284.9 mm)

Width: 8.58" (217.9 mm)

Height: 2.10" (53.3 mm)

Warranty

1-Year Standard

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