



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 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

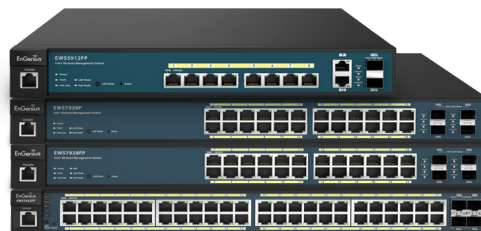
- > Complete Scalability
 - Manage 1 – 1,000+ APs & Switches
 - 10,000+ Concurrent Users
 - Unlimited Number of Distributed Networks
- > Unlimited Flexibility
 - Operate Neutron APs Standalone or Managed
 - Locally Manage up to 50 APs per Switch
 - Manage Unlimited APs & Switches with ezMaster™
 - Deploy ezMaster via Cloud-Based* Service, on a Remote or Local Server
- > Greater Affordability
 - NO AP Licensing, NO 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

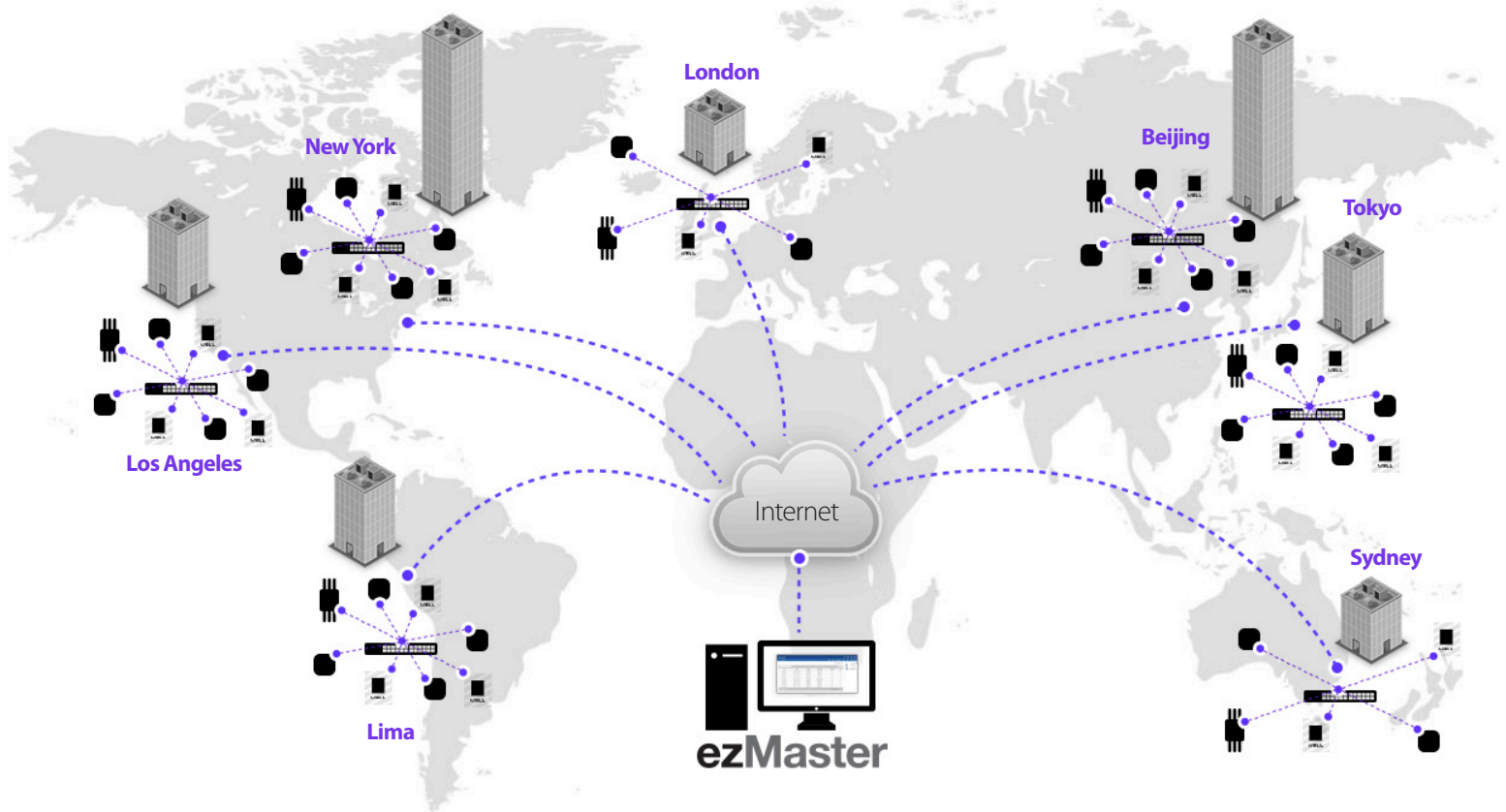


ezMaster™ Network Management Software

Complete Scalability Regardless of Size

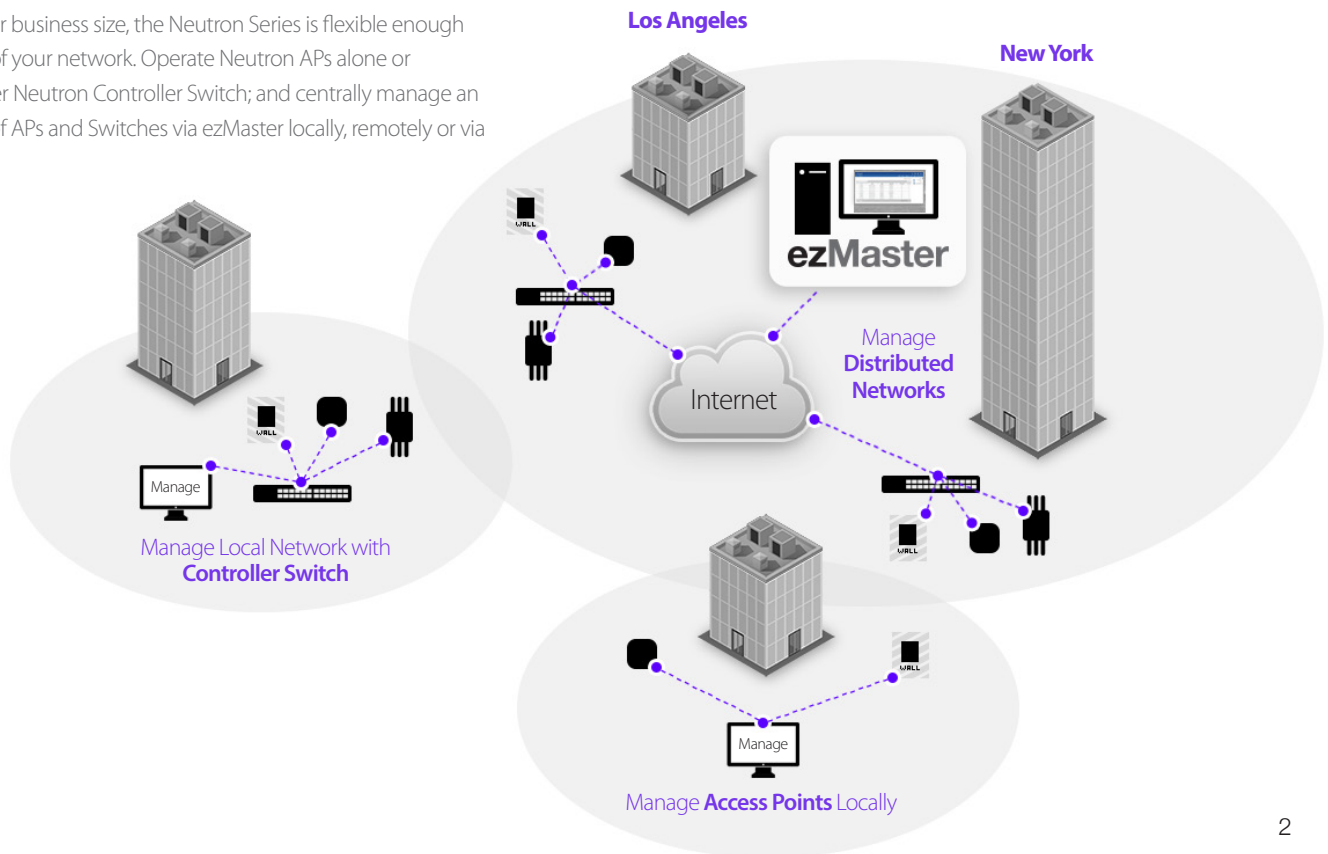
Want to start small or go big? You can do both with the Neutron Series. The Solution makes it easy to deploy and manage a few or 1,000+ APs, and

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 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

*MSRP Oct. 2015 - Not including cost of Power Source or Ethernet Switches.

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 4x4 Dual-Band 11ac Wave 2 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 2016

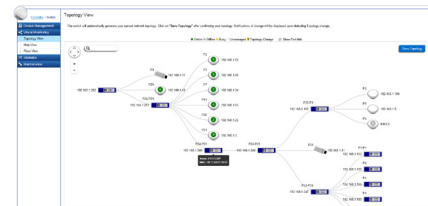
Rich Reporting & Analytics

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.



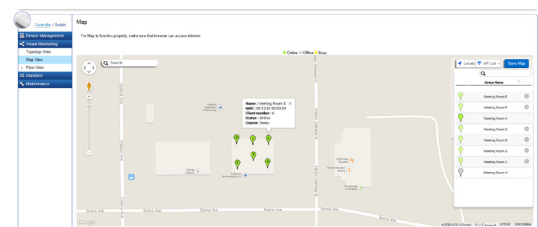
- > **Topology View** automatically maps network deployment and displays device relationships.



- > **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

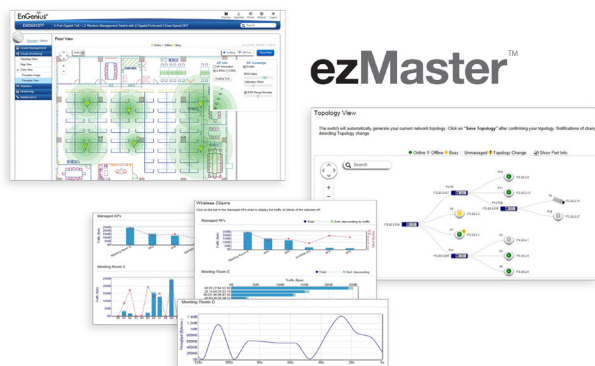
EzMaster Network Management Software expands the flexibility and scalability of Neutron Series Managed Access Points and WLAN Controller Switches.

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 (Available 2016)
- Kick/Ban Clients
- One-Click Update
- Remote Logging
- Seamless Migration
- SmartSync Redundancy (Available 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
EWS370AP	Dual-Band 11ac Wave 2 4x4:4 MU-MIMO Ceiling-Mount Wireless Managed Indoor Access Point
EWS371AP	Dual-Band 11ac Wave 2 4x4:4 MU-MIMO Wireless Managed Indoor Access Point – External Antennas
EWS500AP	Single-Band 11n 2x2:2 Wall Plate Wireless Managed Indoor Access Point / Switch
EWS510AP	Dual-Band 11n 2x2:2 Wall Plate Wireless Managed Indoor Access Point / Switch
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
EWS870AP	Dual-Band 11ac Wave 2 4x4:4 MU-MIMO Wireless Managed Ruggedized Outdoor Access Point
EWS871AP	Dual-Band 11ac Wave 2 4x4:4 MU-MIMO Wireless Managed Ruggedized Outdoor Access Point – External Antennas

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: Manages 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	EWS371AP	EWS370AP	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/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 & 5 GHz	2.4 & 5 GHz	2.4 GHz	2.4 & 5 GHz	2.4 GHz
2.4 GHz Max. Data Rate	800 Mbps	800 Mbps	450 Mbps	300 Mbps	450 Mbps	300 Mbps	300 Mbps	300 Mbps	300 Mbps
5 GHz Max. Data Rate	1,733 Mbps	1,733 Mbps	1,300 Mbps	867 Mbps	450 Mbps	300 Mbps	N/A	300 Mbps	N/A
Radio Chains/Streams	4 x 4:4	4 x 4:4	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)	27 dBm	27 dBm	28 dBm	26 dBm	28 dBm	29 dBm	29 dBm	20 dBm	20 dBm
RF Output Power (5 GHz)	27 dBm	27 dBm	26 dBm	26 dBm	28 dBm	26 dBm	N/A	20 dBm	N/A
Ethernet Ports	2 x Gig Port (PoE+)	2 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 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	802.3at	802.3at	802.3af/at	802.3af/at	802.3af/at	802.3af/at
Power Consumption (Peak)	21W	21W	22.8W	18W	18.2W	15.6W	9.6W	10.8W	7.5W
Integrated Antenna	-	4 x 3 dBi (2.4 GHz) 4 x 3 dBi (5 GHz)	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
External Antenna	8 x 3 dBi (RP-SMA)	-	-	-	-	-	-	-	-

Key Features

- > 11ac Wave 2 4x4 Models
- > Beamforming Technology
- > Sectorized 3D Antenna (selected models)
- > Dynamic Channel Optimization
- > Dual-Band (selected 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 4x4 Dual-Band 11ac Wave 2 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 / EWS370AP / EWS371AP / 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 / EWS370AP / EWS371AP
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/ac: 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

EWS370AP / EWS371AP Up to 2.5 GHz; Up to 800 Mbps in the 2.4 GHz band; Up to 1,733 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

EWS370AP Up to 21W

EWS371AP Up to 21W

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

EWS370AP

8 x 3 dBi (RP-SMA) 2.4 GHz External/Internal Antennas

8 x 3 dBi (RP-SMA) 5 GHz External/Internal Antennas

EWS371AP

8 x 3 dBi 2.4 GHz Internal Antennas

8 x 3 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

EWS370AP / EWS371AP

1 x Power

2 x WLAN

1 x LAN 2.4 GHz

1 x LAN 5 GHz

2 x RJ45 10/100/1000 Gigabit Ethernet Ports (Link Aggregation Achieves 2 Gbps Throughput)

- LAN1: 802.3at PoE Input

- LAN2: Pass Through Port

1 x Reset Button

1 x DC 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

LED Indicators continued

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 / EWS370AP / EWS371AP 12V/2A

EWS500AP / EWS510AP 48V/0.8A

Modulations

OFDM: BPSK, QPSK, 26-QAM (EWS300AP) 16-QAM, 64-QAM, 256-QAM (EWS371AP / EWS370AP) 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

Technical Specifications continued

Wireless continued	Wireless Management Features (with ezMaster & Neutron Switch) continued	Log
EWS350AP / EWS360AP / EWS370AP / EWS371AP Wireless Mode: 11a/11b/11g/11n/11ac	Unified Configuration Import / Export	SysLog and Local Log Support
Channel Selection (settings vary by country)	Bulk Firmware Upgrade Capability	
Channel Bandwidth (Auto, 20 MHz, 40 MHz, 80 MHz)	One-Click Update	LED Control
	Intelligent Diagnostics	On/Off
	Kick/Ban Clients	
Transmission Rate		AP Detection
2.4 GHz 11n only, 11b/b/n mix, 11b only, 11b/g, 11g only	Tx Power Control	Scanning for Available EnGenius APs
5 GHz (Dual-Band models only): 11ac only, 11n only, 11a/n mix, 11a only	Adjust Transmit Power by dBm	
		Wireless Security
Tx Beamforming (Tx BF)	Configuration	WPA/WPA2 Personal (WPA-PSK using TKIP or AES)
- EWS370AP / EWS371AP	Web-based Configuration (http)	WPA/WPA2 Enterprise (WPA-EAP using TKIP)
		802.1X RADIUS Authenticator: MD5/TLS/TTLS, PEAP
QoS (Quality of Service)	Firmware Upgrade	SSID Broadcast Enable/Disable
WMM (Wireless Multimedia)	Via Web Browser	MAC Address Filtering, Up to 50 Entries
		L2 Isolation (Access Point mode)
Wireless Management Features (with ezMaster & Neutron Switch)	Administrator Setting	QoS (Quality of Service)
Access Point Auto Discovery and Provisioning	Administrator Username and Password Change	WMM (Wireless Multimedia)
Access Point Auto IP Assignment		Temperature Range
Access Point Cluster Management	MIB	Operating: 32° to 104°F (0 to 40°C)
Remote Access Point Rebooting	MIB I, MIB II (RFC1213) and private MIB	Storage temperature: -4°F to 140°F (-20°C to 60°C)
Access Point Device Name Editing	System Monitoring	
Access Point Radio Settings	Status Statistic and Event Log	Humidity (non-condensing)
Band Steering (Dual Band models only)		Operating: 90% or less
Traffic Shaping	SNMP	Operating: 90% or less
Fast Handover	V1 / V2c / V3	
Fast Roaming	Traffic Shaping	Physical Security
RSSI Threshold	Incoming and Outgoing Wireless Traffic Shaping	Kensington Security Slot (N/A for EWS500AP/EWS510AP)
Access Point Client Limiting		Certifications
Client Fingerprinting	Reset Setting	FCC, IC, CE
Wireless Security (WEP, WPA/WPA2 Enterprise, WPA/WPA2 PSK)	Reboot (press and hold for 2 seconds). Reset to Factory Default (press and hold for 10 seconds)	Device Dimensions and Weights
AP VLAN Management		EWS300AP
VLANs for Access Point- Multiple SSIDs	Auto-Channel Selection	Weight: 0.45 lbs. (204.1 g)
Secured Guest Network	Automatically Selecting Least Congested Channel	Length: 5.07" (128.7 mm)
Captive Portal		Width: 5.07" (128.7 mm)
Access Point Status Monitoring	Bandwidth Measurement	Height: 1.73" (43.9 mm)
Rogue AP Detection	IP Range and Bandwidth Management	EWS310AP
Wireless Client Monitoring		Weight: 0.80 lbs. (362.8 g)
Background Scanning	Schedule Reboot	Length: 6.36" (161.5 mm)
Email Alert	Reboot Access Point by Minute, Hour, Day, or Week	Width: 6.36" (161.5 mm)
Wireless Traffic & Usage Statistics		Height: 1.64" (41.6 mm)
Real-time Throughput Monitoring	Backup and Restore	EWS320AP
SmartSync Redundancy	Save and Restore Settings via Web Interface	Weight: 0.80 lbs. (362.8 g)
Visual Topology View		Length: 6.5" (165.1 mm)
Floor Plan View	CLI	Width: 6.5" (165.1 mm)
Map View	Supports Command Line Interface	Height: 1.64" (41.6 mm)
Wireless Coverage Display		
Secure Control Messaging (SSL Certificate)	Diagnosis	
Local MAC Address Database	IP Pinging Statistics	
Remote MAC Address Database (RADIUS)		

Technical Specifications continued

Device Dimensions and Weights continued

EWS350AP / EWS360AP

Weight: 0.80 lbs. (362.8 g)

Length: 6.5" (165.1 mm)

Width: 6.5" (165.1 mm)

Height: 1.64" (41.6 mm)

EWS370AP / EWS371AP

Weight: 3.7 lbs. (1.67 kg)

Length: 8.46" (215 mm)

Width: 8.46" (215 mm)

Height: 2.2" (55.8 mm)

Device Dimensions and Weights continued

EWS500AP / EWS510AP

Weight: 0.65 lbs. (296 g)

Length: 1.45" (37 mm)

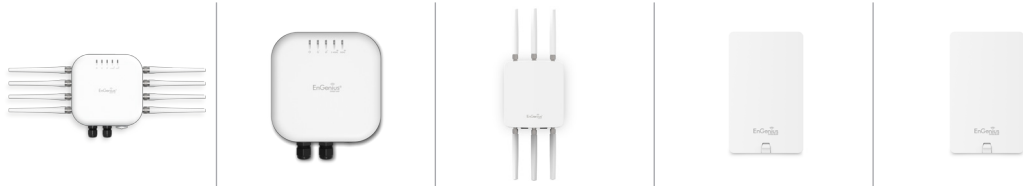
Width: 4.33" (110 mm)

Height: 5.19" (130 mm)

Warranty

1-Year Standard

EnGenius Neutron Series Outdoor Managed Access Points



Models	EWS871AP	EWS870AP	EWS860AP	EWS660AP	EWS650AP
Standards	802.11b/g/n/ac	802.11b/g/n/ac	802.11a/b/g/n/ac	802.11a/b/g/n/ac	802.11b/g/n/ac
Frequency	2.4 & 5 GHz	2.4 & 5 GHz	2.4 & 5 GHz	2.4 & 5 GHz	2.4 & 5 GHz
2.4 GHz Max. Data Rate	800 Mbps	800 Mbps	450 Mbps	450 Mbps	300 Mbps
5 GHz Max. Data Rate	1,733 Mbps	1,733 Mbps	1,300 Mbps	1,300 Mbps	867 Mbps
Radio Chains/Streams	4 x 4:4	4 x 4:4	3 x 3:3	3 x 3:3	2 x 2:2
RF Output Power	27 dBm	27 dBm	29 dBm	29 dBm	27 dBm
Ingress Protection Rating	67	67	68	55	55
Primary Ethernet Port	1 x Gig Port	1 x Gig Port	1 x Gig Port	1 x Gig Port	1 x Gig Port
Secondary Ethernet Port	1 x Gig Port	1 x Gig Port	1 x Gig Port (PoE Output)	1 x Gig Port	1 x Gig Port
Console Interface	1 x RJ45	1 x RJ45	N/A	N/A	N/A
PoE Compliant	802.3at (PoE+)	802.3at (PoE+)	802.3at (PoE+)	802.3at (PoE+)	802.3at (PoE+)
Power Consumption (Peak)	21W (w/o PSE) 36W (w/PSE over LAN2)	21W (w/o PSE) 36W (w/PSE over LAN2)	32W	20W	20W
Integrated Antennas	-	4 x 3 dBi (2.4 GHz) 4 x 3 dBi (5 GHz)	N/A	6 x 5 dBi	2 x 5 dBi
External Antenna (N-Type)	4 x 5 dBi (2.4 GHz) 4 x 7 dBi (5 GHz)	N/A	2.4 GHz: 3 x 5 dBi 5 GHz: 3 x 7 dBi	N/A	N/A

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
EWS870AP / EWS871AP Up to 2.5 GHz; Up to 800 Mbps in 2.4 GHz; up to 1733 Mbps in 5 GHz
Memory
256MB
Flash Memory
16MB
Power Consumption
EWS650AP Up to 23W
EWS660AP Up to 23W
EWS860AP Up to 34W
EWS870AP / EWS871AP Up to 21W (without PSE); Up to 36W (with PSE over LAN 2)
EWS871AP Up to 21W (without PSE)
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
EWS870AP Internal High Gain Antenna Array supporting both 2.4 GHz and 5 GHz
EWS871AP External High Gain N-Type Antennas 4 x 5 dBi for 2.4 GHz External High Gain N-Type Antennas 4 x 7 dBi for 5 GHz
Physical Interface
2 x RJ45 10/100/1000 Gigabit Ethernet Ports - PoE Capable 802.3at
1 x Reset Button
1 x Power Connector

Physical Interface continued
EWS870AP / EWS871AP 2 x RJ45 10/100/1000 Gigabit Ethernet Ports (Link Aggregation achieves 2Gbps Throughput) - LAN1: Supports 802.3at PoE Input - LAN2: Data & 802.3af PoE Pass-Through 1 x Console Ethernet Port 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
EWS870AP / EWS871AP 1 x Power 2 x WLAN (Wireless Connection) 2 x LAN (2.4GHz & 5GHz)
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
EWS870AP / EWS871AP DC IN, 48 V/1.25A 802.3at/48V-54V Input Compliant Source Active Ethernet (PoE)
PSE Output
LAN2 802.3af power source w/ included power adapter
Surge Protection
4KV
ESD Protection
Contact: 6KV Air: 8 KV
Modulations
OFDM: BPSK, QPSK, 16-QAM, 26-QAM, 64-QAM, 256-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

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

SSID-to-VLAN Tagging

Supports 802.1q SSID-to-VLAN Tagging

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, 11g, 11g only

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

Tx Beamforming (Tx BF)

- EWS870AP / EWS871AP

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

Technical Specifications continued

Wireless Management Features (with ezMaster & Neutron Switch) continued	SNMP V1 / V2c / V3	Temperature Range continued EWS860AP / EWS870AP / EWS871AP Operating: -4°F to 158°F (-20°C to 70°C)
Remote Access Point Rebooting		
Access Point Device Name Editing		
Access Point Radio Settings	Traffic Shaping Incoming and Outgoing Wireless Traffic Shaping	Humidity (non-condensing) Operating: 90% or less Storage: 90% or less
Band Steering		
Traffic Shaping		
Fast Handover	Reset Settings Reboot (press & hold for 2 seconds). Reset to Factory Default (press & hold for 10 seconds)	
Fast Roaming		
Access Point Client Limiting	Auto-Channel Selection Automatically Selecting Least Congested Channel	Weatherproof EWS650AP IP55-Rated Enclosure EWS660AP IP55-Rated Enclosure EWS860AP IP68-Rated Enclosure EWS870AP / EWS871AP IP67-Rated Enclosure
Client Fingerprinting		
Wireless Security (WEP, WPA/WPA2 Enterprise, WPA/WPA2 PSK)	Bandwidth Measurement IP Range and Bandwidth Management	Certifications FCC, IC, CE
AP VLAN Management		
VLANs for Access Point- Multiple SSIDs	Schedule Reboot Reboot Access Point by Minute, Hour, Day, or Week	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)
Secured Guest Network	Backup and Restore Save and Restore Settings via Web Interface	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)
Captive Portal	CLI Supports Command Line Interface	EWS870AP / EWS871AP Weight: 6.61 lbs. (2.99 kg) Length: 9.5" (241.2 mm) Width: 8.23" (209 mm) Height: 2.36" (59.9 mm)
Access Point Status Monitoring	Diagnosis IP Pinging Statistics	
Rogue AP Detection	Log SysLog and Local Log Support	
Wireless Client Monitoring	LED Control On/Off	
Background Scanning	AP Detection Scanning for Available EnGenius APs	Warranty 1-Year Standard
Email Alert		
Wireless Traffic & Usage Statistics	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)	
Real-time Throughput Monitoring		
SmartSync Redundancy	QoS (Quality of Service) WMM (Wireless Multimedia)	
Visual Topology View		
Floor Plan View	Temperature Range EWS650AP / EWS660AP Operating: -4°F to 140°F (-20°C to 60°C) Storage: -22°F to 176°F (-30°C to 80°C)	
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		
Intelligent Diagnostics		
Kick/Ban Clients		
Tx Power Control		
Adjust Transmit Power by dBm		
Configuration		
Web-Based Configuration (http)		
Firmware Upgrade		
Administrator Settings		
Administrator Username and Password Change		
MIB		
MIB I, MIB II (RFC1213) and private MIB		
System Monitoring		
Status Statistic and Event Log		



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Version 7.0 - 4/29/16



Maximum data rates are based on IEEE 802.11 standards. Actual throughput and range may vary depending on distance between devices or traffic and bandwidth load in the network. Compliant with FCC - This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his/her own expense.