The Neutron-series

Distributed network management solution

Datasheet

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 access point 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+ access points & switches
- 10,000+ concurrent users
- Unlimited number of distributed networks

> Unlimited flexibility
- Operate Neutron access points alone or:
- Locally manage up to 50 access points per switch
- Manage unlimited access points & switches with ezMasterTM
- Deploy ezMaster via cloud-based* service, on a remote or local server

> Greater affordability
- NO access point licensing, NO annual subscriptions, NO technical support fees
- Affordable hardware
- Save time & resources
- Lower TCO per deployment

> The 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 Q1 2016

The EnGenius® Neutron-series distributed network management solution includes:

Neutron managed access points

Neutron WLAN controller switches

ezMaster™ network management software

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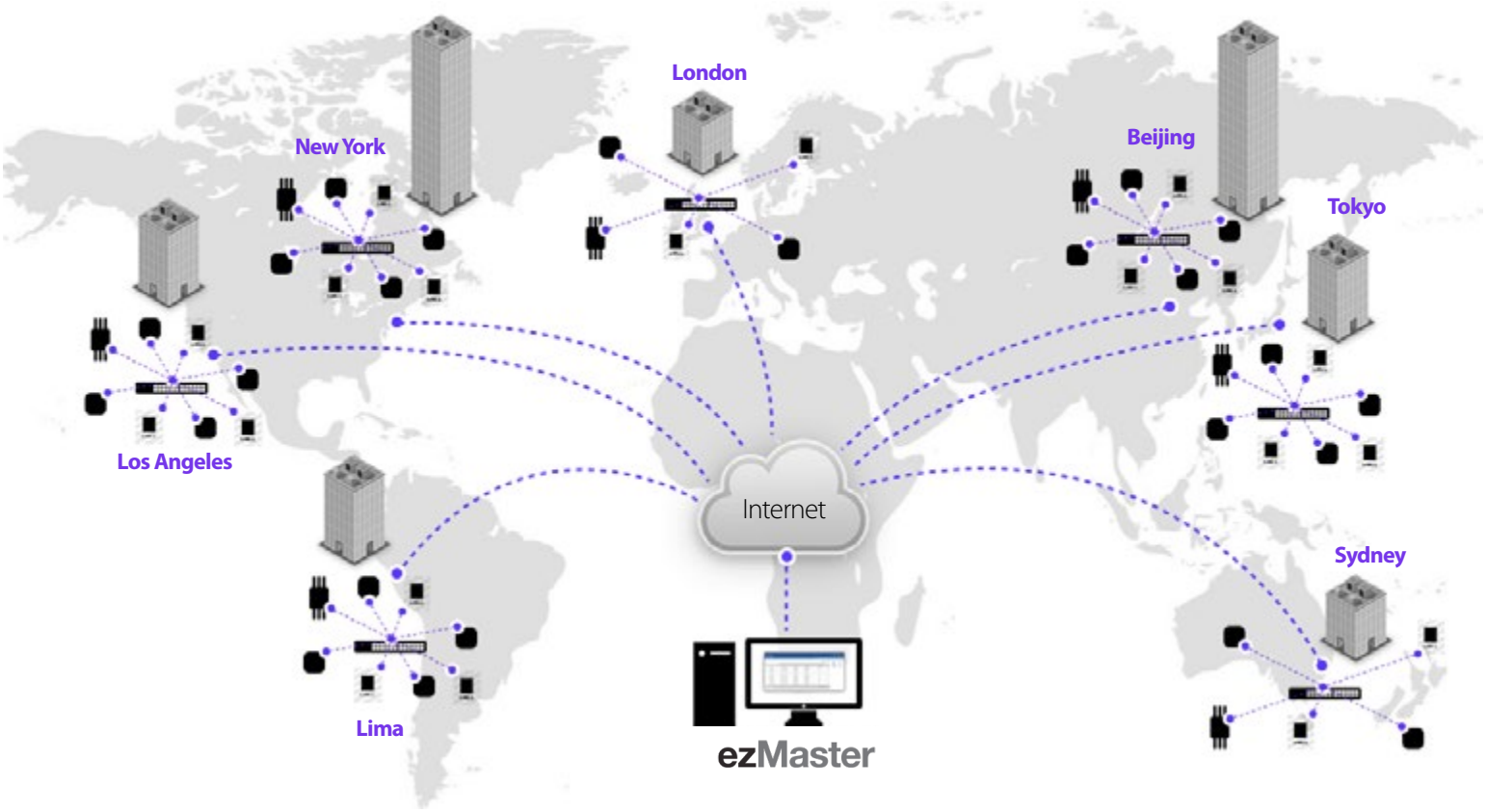
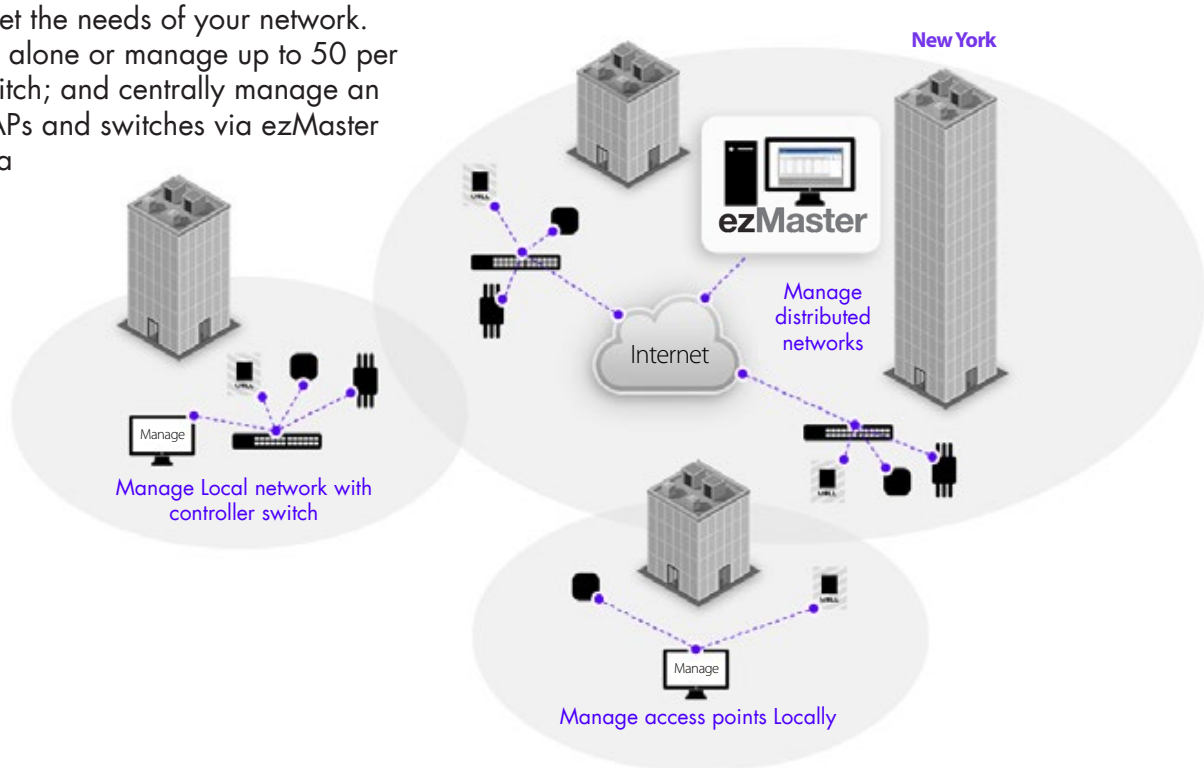
Complete scalability regardless of size

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.



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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.

Compare	EnGenius Hybrid solution	Controller-based vendor	Cloud-based vendor
Access point	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. 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.

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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 Layer2 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.

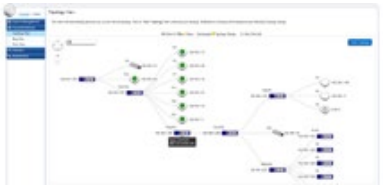
*Feature available Q1 2016

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.

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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 3.6GHz dual-core or above
RAM: 4GB minimum
HDD: 500GB (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 3.2GHz quad-core or above
RAM: 4GB minimum
HDD: 500GB (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.

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 2.4GHz 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
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
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, 2.4GHz 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

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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 Giga-bit 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 Layer2 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
EWS2910P: 20Gbps
EWS5912FP: 24Gbps
EWS7928P: 56Gbps
EWS7928FP: 56Gbps
EWS7952FP: 104Gbps

Forwarding mode
Store and forward

SDRAM
256MB

Flash memory
32MB

Port functions
EWS2910P
8* 10/100/1000Mbps ports in the front panel
2* 100/1000Mbps SFP slot
EWS5912FP
8* 10/100/1000Mbps ports in the front panel
2* 100/1000Mbps SFP slot
2* Gigabit uplink ports
1* RJ45 Console port
EWS7928FP/EWS7928P
24* 10/100/1000Mbps ports in the front panel
4* 100/1000Mbps SFP slot
1* RJ45 Console port
EWS7952FP
48* 10/100/1000Mbps ports in the front panel
4* 100/1000Mbps SFP slot
1* RJ45 Console port

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

LED indicators
1* Power LED
1* Fault LED
1* PoE max LED
1* LAN mode LED
1* PoE mode LED
Copper ports: LAN/PoE mode, Link/Act
SFP ports: Link/Act, speed (EWS2910P & EWS7952FP only)

Wireless management features (with Neutron-series access points & ezMaster)
EWS2910P : Manages up to 20 Neutron-series APs
EWS7952FP/EWS7928P/ EWS7928FP/EWS5912FP:
Manages up to 50 Neutron-series APs
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
Intelligent diagnostics
Kick/Ban clients

L2 features
802.3ad Link aggregation
Port mirroring
Port trunking
Spanning Tree Protocol
> 802.1D Spanning Tree (STP)
> 802.1w Rapid Spanning Tree (RSTP)
> 802.1s Multiple Spanning Tree (MSTP)
IGMP snooping v1/v2/v3
IGMP Fast leave
VLAN group
Voice VLAN
MLD snooping
Bandwidth control
Queue
> 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
802.1X Port-based access control
802.1X Guest VLAN
Port security
Storm control
Port isolation
Attack prevention
Access Control List (ACL)
PoE management
> Power On/Off per port
> Power class configuration
> Power feeding with priority
> User defined power limit
IEEE 802.3az (Energy Efficient Ethernet)
SSH server
Telnet server
TFTP client
TFTP upgrade
BootP/DHCP client
Web-based support
SNMP v1/v2c/v3 Support
Command Line Interface (CLI)
SNTP
RMONv1
SYSLOG
Cable diagnostics
MIB support
> RFC1213 / RFC1493 / RFC1757 / RFC2674

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)
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 / EWS7928FP
Weight: 7.82 lb (3.5 kg)
Width: 17.3" (439 mm)
Length: 10.24" (260 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)

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EnGenius Neutron-series indoor managed access points

Models	EWS360AP	EWS320AP	EWS310AP	EWS300AP	EWS510AP	EWS500AP
Standards	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	802.11a/b/g/n
Frequency	2.4GHz & 5GHz	2.4GHz & 5GHz	2.4GHz & 5GHz	2.4GHz	2.4GHz & 5GHz	2.4GHz
2.4GHz Max. data rate	450Mbps	450Mbps	300Mbps	300Mbps	300Mbps	300Mbps
5GHz Max. data rate	1,300Mbps	450Mbps	300Mbps	N/A	300Mbps	300Mbps
Radio chains/ streams	3 x 3:3	3 x 3:3	2 x 2:2	2 x 2:2	2 x 2:2	2 x 2:2
RF output power (2.4GHz)	28dBm	28dBm	29dBm	29dBm	20dBm	20dBm
RF output power (5GHz)	28dBm	28dBm	26dBm	N/A	20dBm	N/A
Ethernet ports	1* Gig Port (PoE+)	1* Gig Port (PoE+)	1* Gig Port (PoE+)	1* Gig Port (PoE+)	- 1* 10/100Mbps access port (PoE+) - 3* 10/100Mbps access ports - 1* Gig uplink Port (PoE) - 1* RJ45 pass through ports	- 1* 10/100Mbps access port (PoE+) - 3* 10/100Mbps access ports - 1* Gig uplink port (PoE) - 1* RJ45 pass through ports
110 Punch down block	-	-	-	-	1	1
Power-over-Ethernet	802.3at	802.3at	802.3af/at	802.3af	802.3af/at	802.3af/at
Power consumption (Peak)	22.8W	18.2W	15.6W	9.6W	10.8W	7.5W
Integrated antenna	3* 3dBi, 3* 5dBi	3* 3dBi, 3* 5dBi	4* 5dBi	2* 5dBi	2* 4dBi (2.4 GHz) 2* 5dBi (5 GHz)	2* 4dBi

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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/ EWS360AP/EWS510AP
2.4GHz and 5GHz frequency bands
EWS300AP/EWS500AP
2.4GHz frequency band

Standards
EWS300AP/EWS310AP/EWS320AP
IEEE 802.11a/b/g/n
EWS360AP
IEEE 802.11a/b/g/n/ac
EWS500AP/EWS510AP
IEEE 802.11b/g/n

Radio I
11b/g/n: 2.412~2.484GHz

Radio II (Dual band models only)
11a/n: 5.18-5.24 & 5.26-5.32 & 5.5-5.7 & 5.745-5.825GHz

Data rates
EWS300AP/EWS500AP Up to 300Mbps in 2.4GHz frequency band
EWS310AP/EWS510AP Up to 300Mbps in both frequency bands
EWS320AP Up to 450Mbps in both frequency bands
EWS360AP Up to 450Mbps in the 2.4GHz frequency band; Up to 1300Mbps in the 5GHz band

Memory
EWS300AP 64MB
EWS310AP/EWS320AP/EWS360AP/ EWS500AP/EWS510AP 128MB

Flash memory
16MB

Power consumption
EWS300AP Up to 9.6W
EWS310AP Up to 15.6W
EWS320AP Up to 18.2W
EWS360AP Up to 22.8W
EWS500AP Up to 7.5W
EWS510AP Up to 10.8W

Antennas
EWS300AP
2* 5dBi Internal high gain antennas
EWS310AP
2* 5dBi 2.4GHz internal antennas
2* 5dBi 5GHz internal antennas
EWS320AP
3* 3dBi 2.4GHz internal antennas
3* 5dBi 5GHz internal antennas
EWS360AP
3* 5dBi 2.4GHz internal antennas
3* 5dBi 5GHz internal antennas
EWS500AP
2* 4dBi internal antennas
EWS510AP
2* 4dBi 2.4GHz internal antennas
2* 5dBi 5GHz internal antennas

Physical interface
1* RJ45 Gigabit Ethernet 10/100/1000 PoE capable
1* Reset button, 1* Power connector
EWS500AP/EWS510AP
1* 10/100/1000Mbps uplink port with 802.3af/at PoE
3* 10/100Mbps access ports
1* 10/100Mbps access port with PoE output (support 802.3af output when PoE input is 802.3at)
2* RJ45 Pass through ports
1* 110 Punch down block
1* DC Power connector
1* Reset button

LED indicators
EWS300AP
1* Power
1* WLAN
1* LAN
EWS310AP/EWS320AP/EWS360AP
1* Power
1* WLAN (Wireless connection)
1* LAN
EWS500AP/EWS510AP
1* Power
1* WAN
1* 2.4GHz
1* 5GHz
1* LAN 1-4

Power requirements
Power supply: 100 to 240 VDC ± 10%, 50/60Hz (depends on different countries)
Active Ethernet (Power-over-Ethernet, IEEE 802.3at/af)
EWS300AP Power-over-Ethernet, IEEE 802.3af
EWS300AP 12VDC/1A
EWS310AP/EWS320AP/EWS360AP 12V/2A
EWS500AP/EWS510AP 48V/0.8A

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

Operating channels
2.4GHz US/Canada 1-11
5GHz (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
EWS360AP
Wireless mode: 11a/11b/11g/11n/11ac
Channel selection (settings vary by country)
Channel bandwidth (Auto, 20MHz, 40MHz, 80MHz)

Transmission rate
2.4GHz 11n only, 11b/b/n mix, 11b only, 11b/g, 11g only
5GHz (Dual band models only): 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 (Dual band models only)
Traffic shaping
Fast handover
Fast roaming
RSSI threshold
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
Intelligent diagnostics
Kick/Ban clients

Tx power control
Adjust transmit power by dBm

Configuration
Web-based configuration (http)

Firmware upgrade
Via web browser, settings are reserved after upgrade

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 fields
L2 Isolation (access point mode)

QoS (Quality of Service)
WMM (Wireless multimedia)

Temperature range
Operating: 32° to 104°F (0 to 40°C)
Storage temperature: -4°F to 140°F (-20°C to 60°C)

Humidity (non-condensing)
Operating: 90% or less
Operating: 90% or less

Physical security
Kensington security slot (N/A for EWS500AP/EWS510AP)

Certifications
FCC, IC, CE

Device dimensions and weights

EWS300AP
Weight: .45 lbs. (204.1 g)
Length: 5.07″ (128.7 mm)
Width: 5.07″ (128.7 mm)
Height: 1.73″ (43.9 mm)

EWS310AP
Weight: 0.80 lbs. (362.8 g)
Length: 6.36″ (161.5 mm)
Width: 6.36″ (161.5 mm)
Height: 1.64″ (41.6 mm)

EWS320AP
Weight: 0.80 lbs. (362.8 g)
Length: 6.5″ (165.1 mm)
Width: 6.5″ (165.1 mm)
Height: 1.64″ (4.6 mm)

EWS360AP
Weight: 0.80 lbs. (362.8 g)
Length: 6.5″ (165.1 mm)
Width: 6.5″ (165.1 mm)
Height: 1.64″ (4.6 mm)

EWS500AP/EWS510AP
Weight: .65 lbs. (296 g)
Length: 1.45″ (37 mm)
Width: 4.33″ (110 mm)
Height: 5.19″ (130 mm)

The Neutron-series

Distributed network management solution

Datasheet

EnGenius Neutron-series outdoor managed access points

Models	EWS860AP	EWS66AP
Standards	802.11a/b/g/n/ac	802.11a/b/g/n/ac
Frequency	2.4GHz & 5GHz	2.4GHz & 5GHz
2.4GHz max. data rate	450Mbps	450Mbps
5GHz max. data rate	1,300Mbps	1,300Mbps
Radio chains/streams	3 x 3:3	3 x 3:3
RF output power	29dBm	29dBm
Ingress protection rating	68	55
Primary Ethernet port	1* Gigabit port	1*Gigabit port
Secondary Ethernet port	1* Gigabit port (PoE Output)	-
PoE compliant	802.3at (PoE+)	802.3at (PoE+)
Power consumption (Peak)	35.7W	23W
Integrated antennas	N/A	6* 5dBi
External antennas	2.4GHz: 3* 5dBi 5GHz: 3* 7dBi	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: 2.4GHz and 5GHz frequency bands

Standards
IEEE 802.11a/b/g/n/ac

Radio I
11b/g/n: 2.412~2.484GHz

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

Data rates
EWS660AP/EWS860AP
Up to 450Mbps in 2.4GHz;
Up to 1300Mbps in 5GHz

Memory
256MB

Flash memory
16MB

Power consumption
EWS660AP Up to 23W
EWS860AP Up to 34W

Antenna array
EWS660AP
Internal high gain antenna array supporting both 2.4GHz and 5GHz
EWS860AP
External high gain antennas 3* 5dBi for 2.4GHz
External high gain antennas 3* 7dBi for 5GHz

Physical interface
2* RJ45 Gigabit Ethernet (10/100/1000Mbps) PoE capable 802.3at
1* Reset button
1* Power connector

LED indicators
1* Power
1* 2.4GHz
1* 5GHz
1* WLAN (Wireless connection)
1* LAN

Power requirements
Power supply: 100 to 240V DC +/-10% 50/60Hz
Active Ethernet (Power-over-Ethernet IEEE802.3at)
PoE Injector DC IN, 48V/0.8A

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

Operating channels
2.4GHz US/Canada 1-11
5GHz 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
Wireless mode: 11a/11b/11g/11n/11ac
Channel selection (settings vary by country)
Channel bandwidth (Auto, 20MHz, 40MHz,
80MHz)

Transmission rate
2.4GHz 11n only, 11b/b/n mix, 11b only, 11b/g,
11g only
5GHz 11ac only, 11n only, 11a/n mix, 11a only

QoS
WMM (Wireless Multimedia)

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802.1X RADIUS authenticator: MD5/TLS/TTLS, PEAP
SSID Broadcast enable/disable
MAC address filtering, Up to 50 fields
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)
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
EWS660AP IP55-rated enclosure
EWS860AP IP68-rated enclosure

Certifications
FCC, IC, CE

Device dimensions and weights
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)

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