Neutron Series
Indoor Managed Access Points

High Performance Reliability

EnGenius' Neutron Series line of Managed Indoor Access Points provides wireless connectivity that's flexible, scalable and reliable for a broad range of indoor applications.

Whether you are looking to connect a luxury home or office or need to provide ultra-fast Wi-Fi access to a large resort or campus, Neutron EWS Access Points meet the high-bandwidth requirements of today's mobile users.

No matter what size network you need to support, Neutron EWS Access Points are flexible enough to meet your needs. Start small and grow or go big. Deploy and manage a few or 1,000+ APs on an unlimited number of networks distributed across various locations—regardless of their size and infrastructures. Neutron Series easily scales with your networking needs.

Features & Benefits

- High-Capacity 11ac Wave 2 Speeds to 2.5 Gbps
- Dual-Radio MU-MIMO Improves Performance, Expands Capacities
- Beamforming Technology Optimizes Signal, Reception & Reliability
- Operate as a Stand-Alone AP or Centrally Manage
- Remotely Manage 1-1,000+ APs via ezMaster™
- Versatile 4x4, 3x3 & 2x2 11ac & Affordable Single-Band 11n Models
- No Access Point Licensing or Subscription Fees
- GigE PoE-Compliant Ports Expand Deployment & Power Options
- Low-Profile Ceiling-, Wall-Mount & Wall-Plate Designs Blend with Environment

Flexibility in Deployment

Neutron's versatile line of high-performance, managed, indoor ceiling- and wall-mount access points range from single-band 11n models to high-capacity 4x4 dual-band 11ac Wave 2 versions. Wall-plate models serve as all-in-one communication "hubs" for in-room wireless connectivity. Configure APs individually as stand-alone units, locally manage up to 50 per Neutron Switch or use ezMaster software to control 1,000+ APs.

Ultra-Fast 11ac Wave 2 Speeds

EnGenius' 11ac Wave 2 Access Points deliver the highest available speeds for Wi-Fi devices reaching 2.5 Gbps. Beamforming technology focuses signals directly to client devices, providing optimal, reliable reception even in densely crowded environments. Four spatial streams and dual-concurrent MU-MIMO radio operation sends beams to multiple users simultaneously, creating increased network capacity.

Optimized Connectivity

Neutron EWS APs feature dual-band[1] concurrent wireless coverage, high speeds, and high-device capacities. Band Steering optimizes network traffic flow by automatically directing dual-band clients to the less congested 5 GHz band. Fast Roaming capability ensures seamless, reliable connectivity for mobile users as they move between access points.
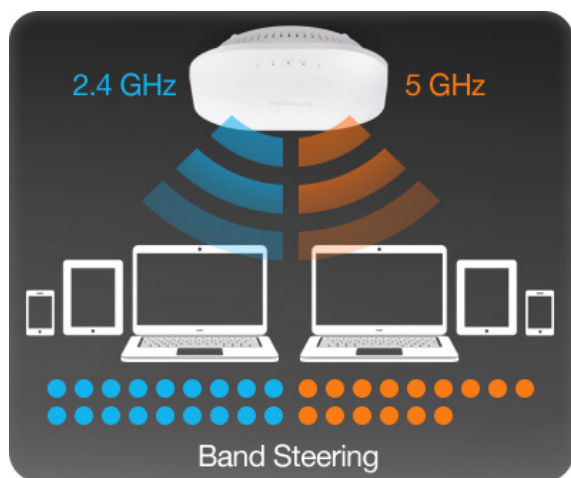
Protected by Advanced Encryption

With Neutron EWS APs, your network is protected from attacks at multiple levels through advanced wireless encryption standards such as Wi-Fi Protected Access Encryption and authentication. 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.

Secure Guest Networks

Organizations that offer Internet access to patrons or visitors—notably hotels, retail shops and restaurants—will appreciate Neutron's guest network capabilities. Establish a secure guest network that blocks access to main corporate computers. Create separate Virtual LANs for increased security, network reliability and bandwidth conservation.

Power-over-Ethernet Convenience

All Neutron EWS Access Points feature at least one Gigabit PoE port, enabling placement in discreet locations where power outlets are scarce or unavailable. Power the APs through a connected Ethernet cable directly to a Neutron Managed Gigabit PoE+ Switch or with a PoE adapter up to 328 feet from the power source.

Simplified Deployment & Provisioning

In combination with Neutron Switches and ezMaster Network Management Software, Neutron EWS APs are automatically discovered and provisioned. One-click individual or bulk configurations and upgrades save time. In addition, these access points are quickly and easily deployed and operated by users with limited networking experience.

Manage Up to 50 APs with Neutron Switches

In small settings, any Neutron Managed Switch can act as a wireless controller capable of managing up to 50 Neutron EWS Access Points. IT administrators have access to all connected Neutron devices and a full array of Layer 2 management tools. Choose between PoE+ and non-PoE switch models with flexible deployment and management options.

[1]Exception: the single-band (2.4 GHz) EWS300AP

ezMaster™
Network Management Software

Flexible Distributed Network Management

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

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

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

Powerful, Scalable Options

EzMaster scales with your growing business needs. Manage 1,000+ Neutron EWS devices 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.
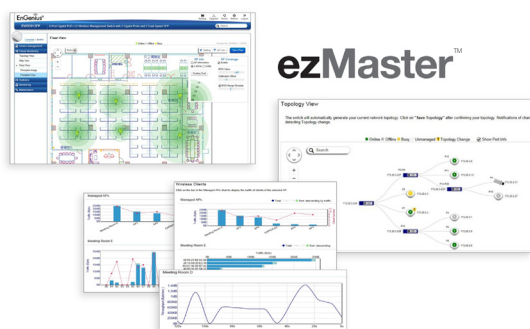
System Requirements

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
  - Kick/Ban Clients
  - One-Click Update
  - Remote Logging
  - Seamless Migration
  - Syslog

EnGenius Neutron Series Indoor Managed Access Points

Models	CEILING-MOUNT						WALL PLATE	
	EWS371AP	EWS370AP	EWS360AP	EWS350AP	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	802.11b/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 GHz	2.4 & 5 GHz	2.4 GHz
2.4 GHz Max. Data Rate	800 Mbps	800 Mbps	450 Mbps	300 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	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	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	29 dBm	29 dBm	20 dBm	20 dBm
RF Output Power (5 GHz)	27 dBm	27 dBm	28 dBm	26 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 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	N/A	N/A	N/A	N/A	N/A	N/A	1	1
Power-over-Ethernet	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	15.6W	9.6W	10.8W	7.5W
Integrated Antenna	N/A	4 x 3 dBi (2.4 GHz) 4 x 3 dBi (5 GHz)	6 x 5 dBi	4 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)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Technical Specifications

Frequency

EWS310AP / 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 / 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 on the 2.4 GHz frequency band

EWS310AP / EWS510APP Up to 300 Mbps on both frequency bands

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

Data Rates continued

EWS360AP

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

EWS370AP / EWS371AP

Up to 2.5 Mbps; Up to 800 Mbps on the 2.4 GHz band; Up to 1,733 Mbps on the 5 GHz band

Memory

EWS300AP 64MB

EWS310AP / EWS350AP / EWS360AP / EWS500AP / EWS510AP 128MB

Flash Memory

16MB

4

Technical Specifications continued

Power Consumption

EWS300AP Up to 9.6W	
EWS310AP Up to 15.6W	
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

EWS360AP

3 x 5 dBi 2.4 GHz Internal Antennas

3 x 5 dBi 5 GHz Internal Antennas

EWS370AP

4 x 3 dBi (RP-SMA) 2.4 GHz Internal Antennas

4 x 3 dBi (RP-SMA) 5 GHz Internal Antennas

EWS371AP

4 x 3 dBi 2.4 GHz Detachable Antennas

4 x 3 dBi 5 GHz Detachable 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

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 / 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 ± 10%, 50/60 Hz
(depends on different countries)

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

EWS310AP / WS350AP / EWS360AP / EWS370AP / EWS371AP 12V/2A

EWS500AP / EWS510AP 48V/0.8A

Modulations

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

Radio Technologies

802.11b: Direct-Sequence Spread Spectrum (DSSS)

802.11a/g/n/ac: Orthogorial Frequency Division Multiflexing (OFDM)

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

EWS350AP / EWS360AP / EWS370AP / EWS371AP
Wireless Mode: 11a/11b/11g/11n/11ac

Channel Selection (settings vary by country)

All EWS 11ac APs

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

EWS300AP

Channel Bandwidth (Auto, 20 MHz, 40 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

EWS370AP / EWS371AP

Tx Beamforming (Tx BF)

EWS370AP / EWS371AP

SU-MIMO

(4) Spatial Streams to 1733 Mbps to Single Client

EWS370AP / EWS371AP

MU-MIMO

(3) Spatial Streams to 1300 Mbps to (3) MU-MIMO-Capable Devices Simultaneously

Technical Specifications continued

Wireless Management Features (with ezMaster & Neutron Switch)

Access Point Auto Discovery and Provisioning

Access Point Auto IP Assignment

Access Point Group Management

Remote Access Point Rebooting

Access Point Device Name Editing

Access Point Radio Settings

Band Steering (Dual-Band models only)

Traffic Shaping

Fast Roaming (802.11k & 802.11r)

Pre-Authentication (802.11i & 802.11x)

PMK Caching (802.11i)

RSSI Threshold

Access Point Client Limiting

Client Fingerprinting

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

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

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

Wi-Fi Scheduler

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 and hold for 2 seconds).
Reset to Factory Default (press and hold for 10 seconds)

Auto-Channel Selection

Automatically Selecting Least Conjested 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

Wireless Security continued

MAC Address Filtering, Up to 50 Entries

L2 Isolation

EWS370AP / EWS371AP

WEP Encryption 64/128/152 bit

QoS (Quality of Service)

IEEE 802.11e

WMM (Wireless Multimedia)

Temperature Range

Operating: 32ºF to 104ºF (0ºC to 40ºC)

Storage Temperature: -4ºF to 140ºF (-20ºC to 60ºC)

Humidity (non-condensing)

Operating: 90% or less

Operating: 90% or less

Physical Security

Kensington Security Slot (N/A for EWS500AP/EWS510AP)

Device Dimensions and Weights

EWS300AP

Weight: 0.45 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)

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)

EWS500AP / EWS510AP

Weight: 0.65 lbs. (296 g)

Length: 1.45" (37 mm)

Width: 4.33" (110 mm)

Height: 5.19" (130 mm)

Technical Specifications continued

Package Contents

EWS300AP

Power Adapter (12V/1A)

T-Rail Mounting Kits

Ceiling and Wall Mount Screw Kits

Mounting Brackets

Quick Installation Guide

EWS310AP / EWS350AP / EWS360AP

RJ45 Ethernet Cable

EWS370AP / EWS371AP

Power Adapter (12V/2A)

EWS371AP

8 x Detachable RP-SMA Antennas

EWS500AP / EWS510AP

Power Adapter (48VDC/0.8A)
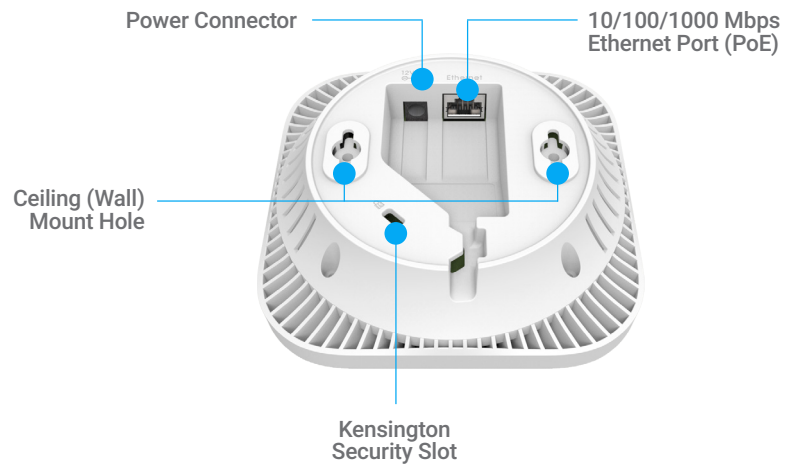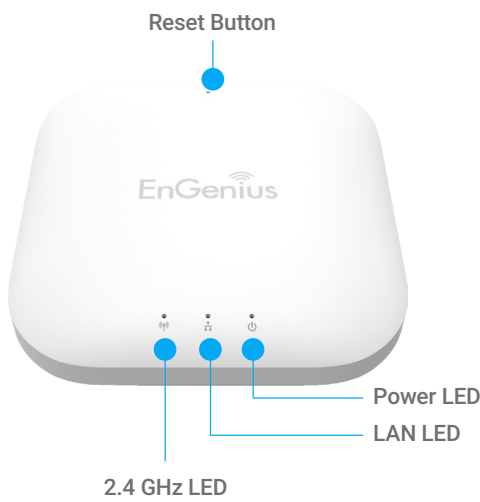
Mounting Bracket

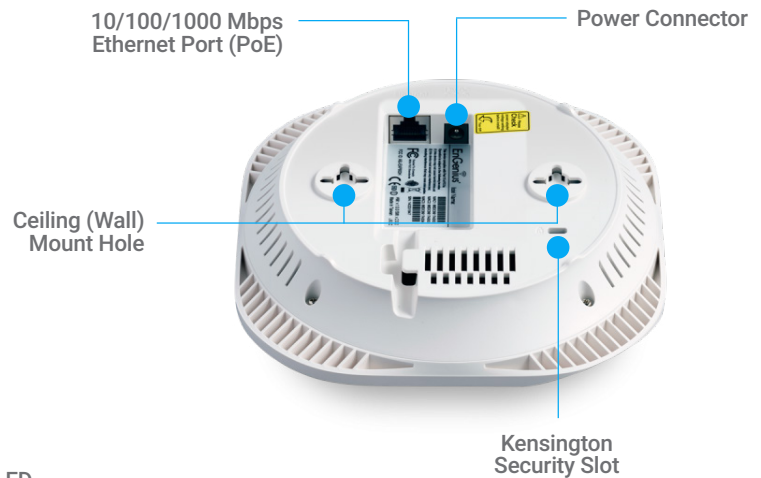Bracket Screws

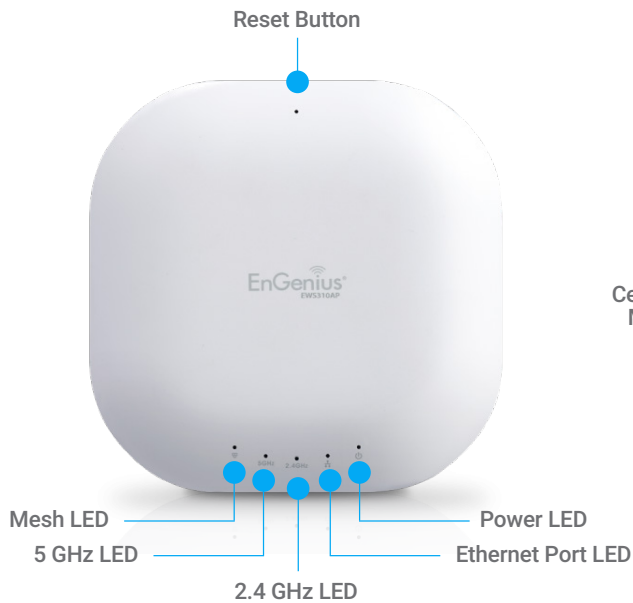Quick Installation Guide
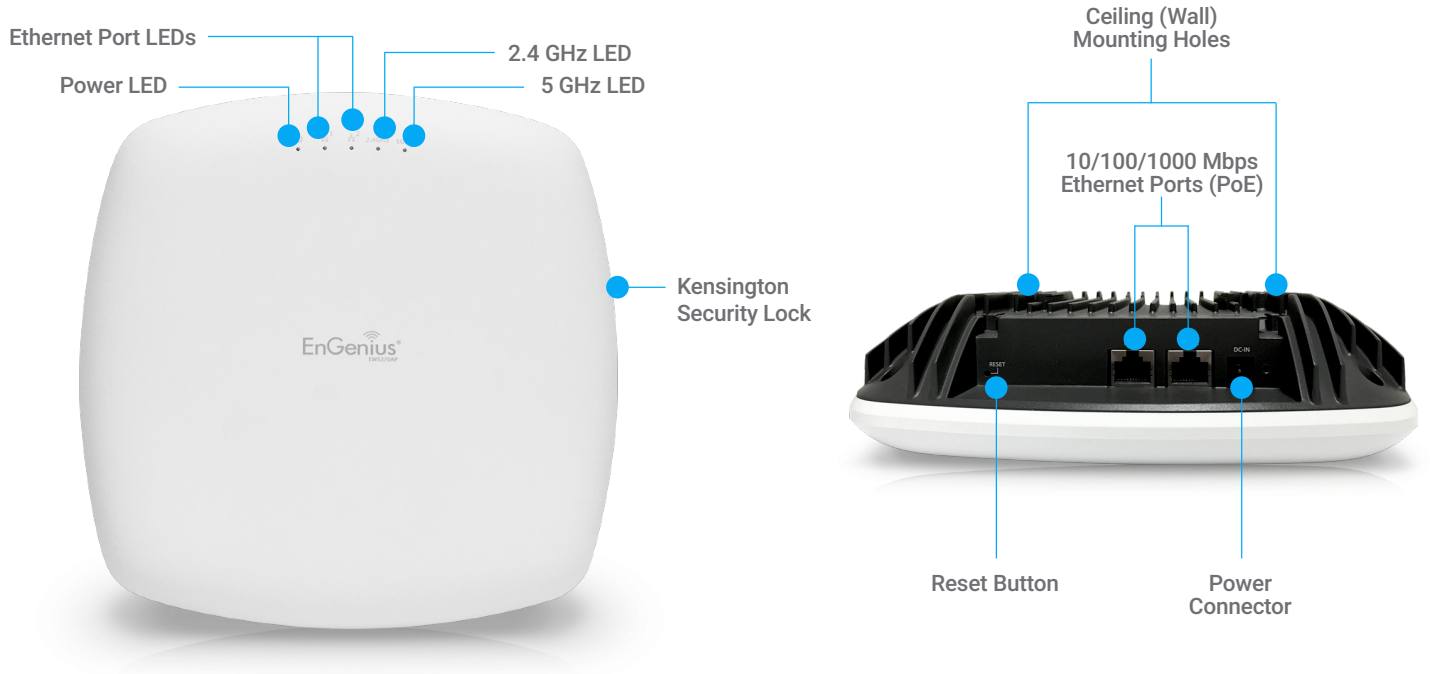
Certifications

FCC, IC, CE

Warranty
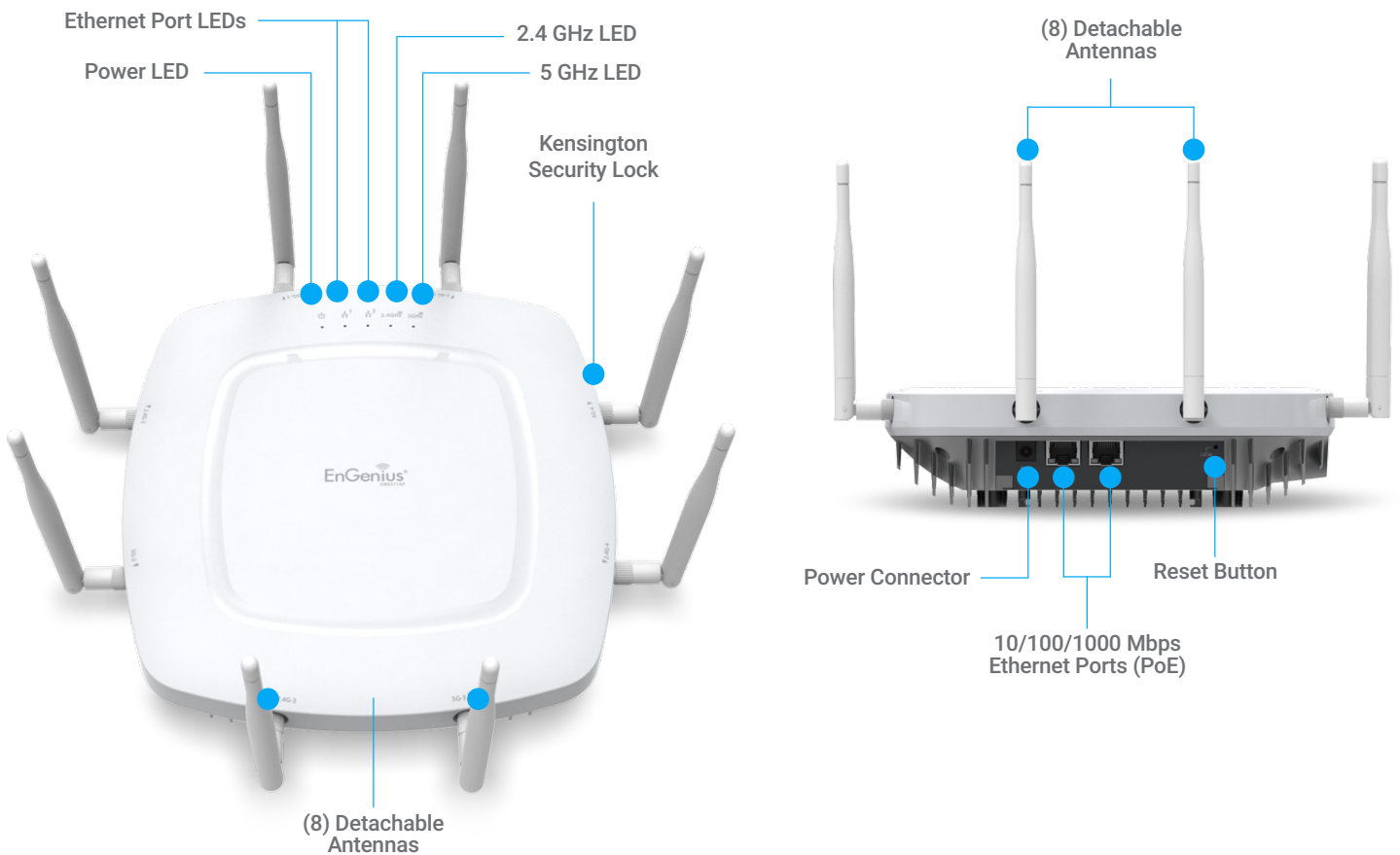
1-Year Standard

EWS300AP Indoor Access Point

Reset Button

Power LED

LAN LED

2.4 GHz LED

Power Connector

10/100/1000 Mbps Ethernet Port (PoE)

Ceiling (Wall) Mount Hole

Kensington Security Slot

EWS310AP / EWS350AP / EWS360AP Indoor Access Points

Reset Button

Mesh LED

5 GHz LED

2.4 GHz LED

Power LED

Ethernet Port LED

10/100/1000 Mbps Ethernet Port (PoE)

Power Connector

Ceiling (Wall) Mount Hole

Kensington Security Slot

EWS370AP Indoor Access Point

Ethernet Port LEDs
Power LED
2.4 GHz LED
5 GHz LED
Kensington Security Lock

Ceiling (Wall) Mounting Holes
10/100/1000 Mbps Ethernet Ports (PoE)
Reset Button
Power Connector

EWS371AP Indoor Access Point

Ethernet Port LEDs
Power LED
2.4 GHz LED
5 GHz LED
Kensington Security Lock
(8) Detachable Antennas

(8) Detachable Antennas
Power Connector
Reset Button
10/100/1000 Mbps Ethernet Ports (PoE)

EWS500AP / EWS510AP Indoor Wall Plate Access Points
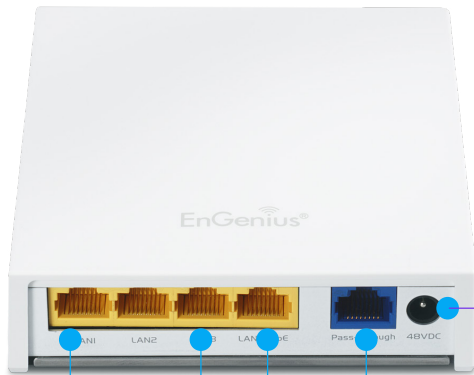
Power Connector

10/100/1000 Mbps
Ethernet Ports (PoE)
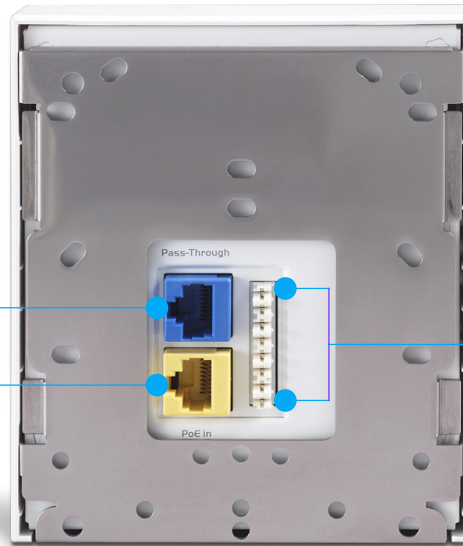
10/100 Mbps
Pass-Through
Port

10/100 Mbps Ethernet
Port (PoE out)

Power LED

WAN LED

2.4 GHz LED

5 GHz LED

Reset Button

10/100 Mbps
Pass-Through Port

10/100/1000 Mbps
Ethernet Uplink Port (PoE In)

10/100 Punch
Down Block

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.

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