EnJet™ Outdoor
Advanced 11ac Wave 2 PtP/MP AP's & Bridges

EnGenius Outdoor Access Point and Bridges turbocharge high bandwidth wireless speed, coverage, and reliability in point-to-point and point-to-multipoint connections. It makes powerful, next generation Wave 2, business-class Wi-Fi affordably accessible for small to mid-size businesses and large residences.

EnGenius EnJet™ 5 GHz Outdoor 802.11ac Wave 2 Wireless Access Point/Bridge cuts through RF-congested environments by dividing a signal into different time slots and assigning them to every stations for Point-to-Point/MultiPoint applications.

Optimizes Maximum Airtime Efficiency

EnJet™ technology provides steady maximum throughput and high link reliability by dividing a signal into different time slots and assigning them to every stations even when bandwidth demands increase and devices are added. EnJet™ reduces collisions and interference when devices can't "see" one another on a channel when transmitting to the same device at the same time. The EnJet™ AP & Bridge built-in Quality of Service prioritizes video and voice transmissions for a strong, uninterrupted streaming with low latency.

Turbocharged Wireless Performance

Reaching speeds to 867 Mbps on the 5 GHz frequency band, the EnStationAC's powerful Qualcomm® processor turbocharges wireless performance and efficiency

Features & Benefits

- EnJet technology that cuts through RF-congested environments within point-to-point/multipoint applications.
- 11ac Wave 2 wireless speeds up to 867 Mbps on 5 GHz
- High 26 dBm transmit power extends Wi-Fi to yard or building-to-building.
- MU-MIMO improves performance & increases user device capacities.
- Beamforming optimizes antenna signal, reception & reliability for clients.
- IP55-Rated weatherproof & dustproof housing
- GigE PoE port & adapter included for placement where power is limited. Use the EnStationAC's secondary PoE pass through Gigabit port to power an additional PoE-compliant device such as an IP surveillance camera.9
- High Gain 19 dBi Integrated Directional Antennas extends wireless networks up to 5 miles point-to-point.
  [Model Number: EnStationAC and EnStation5-AC]
- High Gain 14 dBi Integrated Directional Antennas extends wireless networks up to 2 miles point-to-point.
  [Model Number: ENS500-AC]
- Two detachable, 5 dBi 360° SMA-type antenna.
  [Model Number: ENS500EXT-AC]
- 3-Axis pivoting arm locks for precise alignment.
  [Model Number: EnStationAC and EnStation5-AC]
- Includes a suite of advanced AP management & security features
- Flexible Operation Modes: AP, Client Bridge & WDS
- Simple, Intuitive interface via EnWiFI app for local AP configuring & monitoring.
- Remotely & centrally manage via EnGenius Managed Switches, SkyKey Mini-controller or ezMaster™ software

ENS500EXT-AC

ENS500AC

EnStationAC
EnStation5-AC

EnJet™ Technology

Optimized Maximum Airtime Efficiency

By dividing a signal into different time slots and assigning them, the EnJet™ system provides steady maximum troughout and high link reliability to every client—even when bandwidth demands increase & devices are added.

Location 1

Location 2

2

Location 4

Location 3

Access Point
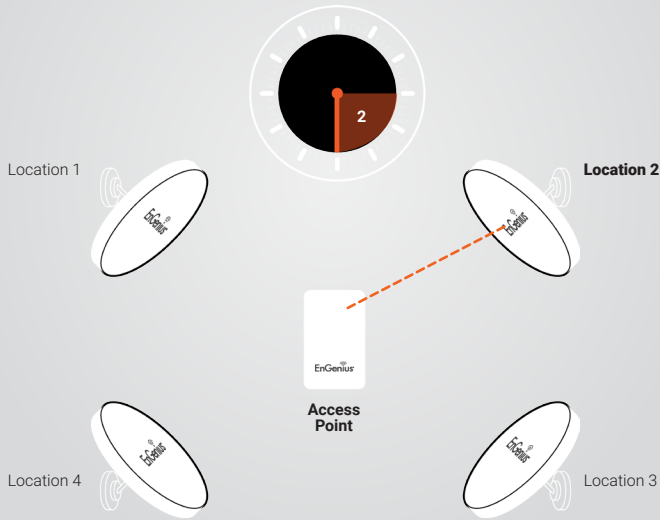
Avoids Hidden Node Issues

No more collisions and interferences caused by devices that can't "see" each other on a channel & transmit simultanously.
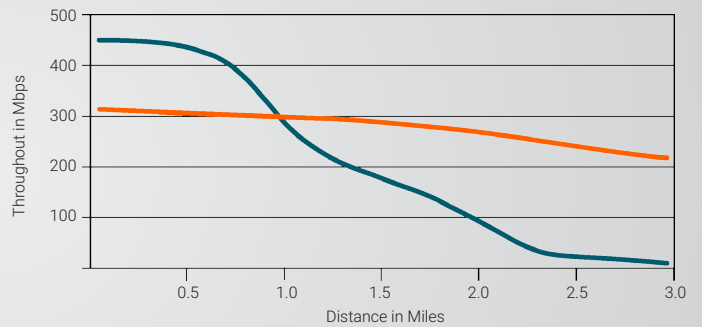
Location 1   Location 2

Access Point
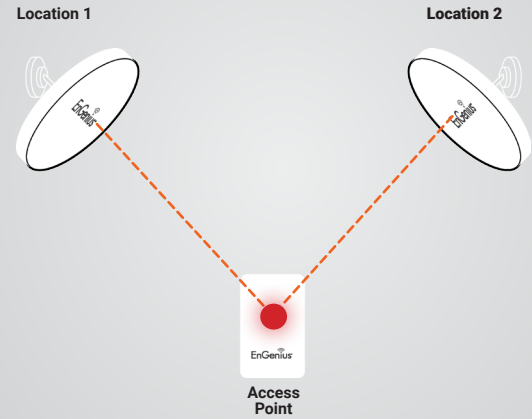
Data Transmission Collisions

Retain Stable Performance

With EnJet™ you can keep the total throughout consistently high while even when the number of wireless stations increase in your outdoor network department
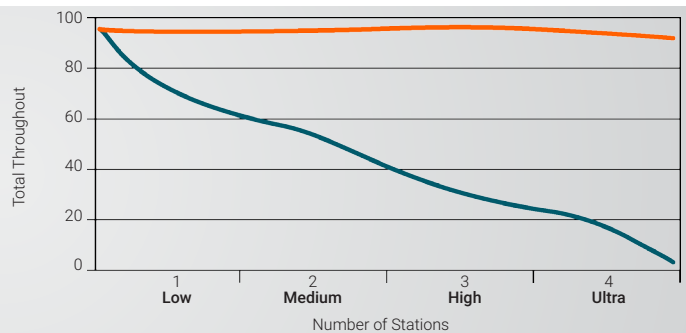
■ With EnJet

■ Without EnJet

Throughout in Mbps

500
400
300
200
100

0.5   1.0   1.5   2.0   2.5   3.0

Distance in Miles

Steady, Uninterrupted Streaming

EnJet provides steady maximum throughput over long distances. Ideal for Video & Voice transmission for strong, uninterrupted steaming with low latency.

■ With EnJet

■ Without EnJet

Total Throughout

100
80
60
40
20
0

1   2   3   4
Low   Medium   High   Ultra

Number of Stations

Prioritize Your Important Data

Achieve the speed your network needs for its most critical applications. Voice transmissions are latency-intensive and slotted at a higher priority than video recordings. Both receive higher priority than HTML pages.

Voice

Video

Data

Improve wireless performance to outdoor areas and point-to-point by replacing your old wireless with new, advanced 11ac Wave 2 Technology.

Improved Signal Reliability

Beamforming Antenna technology directs and adjusts signal beams ensuring optimal signal and reception reliability for users moving through outdoor coverage areas.

Increased User Capacities

Multi-User (MU) MIMO sends dedicated wireless streams to multiple user devices at the same time, improving your network's efficiency.

Outdoor Access Points

Provide broad-reaching, fast 11ac Wave 2 access to users in a variety of settings. EnJet™ Outdoor APs are flexible and small enough for use in either indoor or outdoor environments. Achieve high-powered, long-range connections with integrated or detachable antenna options.

Create Wi-Fi Hot-Spots

The ENS500EXT-AC with EnGenius' sector antennas to create a powerful wireless base station with 120° sector-wide coverage. Offer high-capacity, long-range, point-to-multipoint coverage and create large Wi-Fi hotspots for:
• Outdoor Shopping Centers
• Warehouses & Arenas
• Campus Quads & Stadiums
• Campgrounds & Marinas
• Outdoor Theaters & Recreational Facilities
• Internet Service Provider

Outdoor Long-Range Bridges

Extend the wireless network in locations where cabling is not possible or practical while eliminating the expense of extended cable runs. Connect a secondary device such as an IP surveillance camera or access point for greater deployment flexibility.

Deliver precise short and long-range point-to-point links in settings such as:
• Between Buildings
• Across Large Campuses & Stadiums
• Over Vast Acreage: Parks, Golf Courses, Ranches
• City Blocks, Parking Lots & Marinas
• In Sizeable Indoor Structures: Distribution Centers & Arenas

EnStation-AC & EnStation5-AC: Precise, Long-Range Point-to-Point Connectivity

The EnJet™ EnStation-AC & EnStation5-AC offers high 26 dBm output power and high receive sensitivity. This coupled with its embedded 19 dBi high-gain directional antennas that emit a narrow signal beam, deliver stable connectivity, optimal bandwidth and high-speed data rates over extremely long distances – up to 5 miles in clear, line of sight point-to-point deployments.
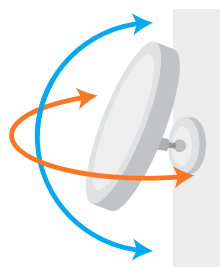
Position for Maximum Connectivity

Easily position EnStation5-AC/EnStationAC for maximum connectivity with its 360-degree, 3-axis pivoting arm that locks in place to ensure precise alignment between other EnStation5-AC/EnStationAC devices.

PoE Supports Flexible Power Options

Connect and power EnJet™ Outdoor APs and Bridges via their dual-PoE Gigabit ports and included PoE Adapter for placement in locations where power outlets are unavailable such as on roofs, poles or other remote areas.
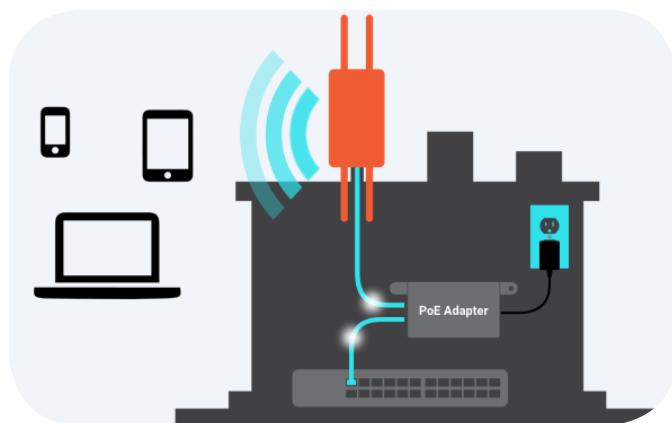
Flexible Operation & Configuration Options

Access Point, Client Bridge, and WDS mode configurations broaden the Outdoor APs and Bridge's adaptability to your network needs. With multiple operation modes, these flexible devices offer versatility in point-to-point or point-to-multipoint deployments.

Optimal Performance in Harsh Environments

EnJet™ Outdoor APs and Bridges are designed to perform in harsh conditions and feature ruggedized IP55-rated enclosures. Ensure your network operates in extreme outdoor climates and indoor industrial environments where temperature is a factor. EnJet™ is protected from prolonged exposure to sunlight, cold, frost, snow, rain, hail, heat and humidity.

EnSky Network Management Solution

The EnJet outdoor can operate as a stand-alone AP or as part of EnGenius Wireless Network Management Solution, locally managed by EnWiFi app, locally managed by EnGenius Switch (monitor only when EnJet™ enabled), centrally managed by SkyKey and ezMaster™ (monitor only when EnJet enabled). Users can get an overall view of their network or dive into the most granular data from anywhere via ezMaster or SkyKey..

Management via EnWiFi Mobile Application

Easily install, configure and manage EnStationAC with the intuitive EnWiFi mobile app. With EnWiFi app, you can easily configure a single or group of EnJet outdoor AP, view the status of your EnGenius wireless network at a glance, quickly identify healthy or offline EnJet outdoor devices.

Management via EnWiFi Mobile Application

Any EnGenius Gigabit Managed Switch can manage up to 50 EnJet outdoor. Through the switch, gain access to all connected EnGenius APs and a full array of wireless and Layer 2 management tools. Choose between 8/24/48 Ports PoE+ switch models with flexible deployment and management options with no AP license or subscription fees.

Local & Remote Network Management via SkyKey Mini-Controller or ezMaster Software

The SkyKey mini-controller is an integrated computer with ezMaster Network Management Software. It features Qualcomm® Qual-Core processor with 1GB DRAM and 4GB eMMC flash. No need for a dedicated server or computer, simply connect the SkyKey to a PoE (802.3af) switch port and locally or remotely manage EnGenius Access Points and switches.

EnGenius ezMaster Software's simple, intuitive Web-based interface allows flexible access point monitoring locally or remotely. Quickly and easily set up, manage, monitor, and troubleshoot multiple APs at the same time. See real-time network performance and monitor AP traffic through ezMaster's at-a-glance dashboard.

ezMaster provides business-class features, unlimited scalability and centralized management of hundreds of EnGenius access points and switches locally, remotely or via a cloud-based service with no licensing or subscription fees.

ezMaster Software Features

- **Centralized Management**
  - Configure, Manage & Monitor
  - Cross-Network AP Management
  - AP Group Configuration
- **Access Point Configuration & Management**
  - 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
  - System Status Monitoring
  - Visual Topology View
  - Wireless Client Monitoring
  - Wireless Coverage View
  - Wireless Traffic & Usage Statistics
- **Management & Maintenance**
  - Bulk Firmware Upgrade
  - Email Alert
  - Kick/Ban Clients
  - One-Click Update
  - Remote Logging
  - Seamless Migration
  - Syslog

System Requirements

Recommended environment for managing up to 500 APs
CPU: Intel® Core™ i7 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

**Recommended environment for managing up to 1,000+ APs**
CPU: Intel® Xeon® Processor E3 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
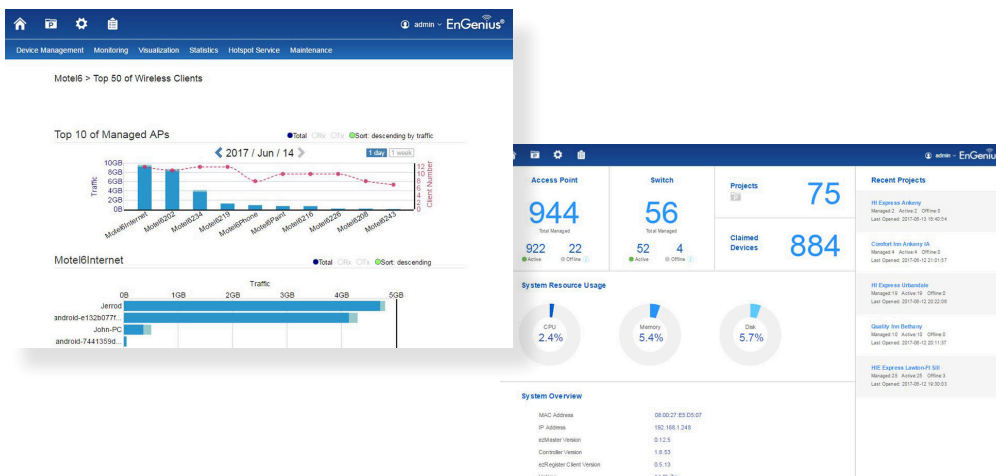
EnTurbo Series Outdoor APs & Bridges

Access Point

Models	ENS500EXT-AC
Standard	802.11ac Wave 2
Frequency	5 GHz
Max. Data Rates	867 Mbps
Radio Chains/Streams	2 x 2:2
Transmit Power	26 dBm
Ethernet Ports	2x Gigabit PoE
Power-over-Ethernet	24V Propriety PoE
Power Consumption (Peak)	6.3W
Antennas	2 x 5 dBi Omni-Directional SMA-Type (Detachable)
Ingress Protection Rating	55

Bridges

Models	EnStationAC	EnStation5-AC	ENS500-AC
Standard	802.11ac Wave 2	802.11ac Wave 2	802.11ac Wave 2
Frequency	5 GHz	5 GHz	5 GHz
Max. Data Rates	867 Mbps	867 Mbps	867 Mbps
Streams	2 x 2:2	2 x 2:2	2 x 2:2
Transmit Power	26 dBm	26 dBm	26 dBm
Ethernet Ports	2x Gigabit PoE (Secondary PoE Pass Through Gigabit Port)	2x Gigabit PoE	2x Gigabit PoE
Power-over-Ethernet	802.3 at	24V Propriety PoE	24V Propriety PoE
Power Consumption (Peak)	8.3W	6.3W	6.3W
Antennas	19 dBi Directional (Integrated)	19 dBi Directional (Integrated)	14 dBi Directional (Integrated)
Ingress Protection Rating	55	55	55

Technical Specifications

Standards

IEEE802.11a/n/ac on 5 GHz

Processor

Qualcomm®

Antenna

EnStation5-AC

2 x 19 dBi Directional Integrated

EnStation5-AC

2 x 19 dBi Directional Integrated

ENS500EXT-AC

2 x 5 dBi Omni-Directional Detachable (SMA-Type)

ENS500-AC

2 x 14 dBi Directional Integrated

Physical Interface

2 x 10/100/1000 Gigabit Ethernet Ports

Reset Button

LED Indicators

ENS500EXT-AC/ENS500-AC

Power

LAN 1

LAN 2

WLAN

Signal

EnStation5-AC/EnStationAC

Power

WLAN

LAN

Power Source

Power-over-Ethernet: Proprietary 24V PoE

IEEE 802.11e Compliant Source

Active Ethernet (PoE)

Maximum Power Consumption

ENS500EXT-AC/ENS500-AC/EnStation5-AC 6.3W

EnStationAC 8.3W

Surge Protection

Line to Line: 1 KV

Line to Ground: 2 KV

ESD Protection

Contact: 4 KV

Air: 8 KV

Wireless & Radio Specifications

Operating Frequency

5 GHz

Operation Modes [EnJet Disable]

Access Point Mode (AP mode)

Client Bridge Mode (CB Mode)

WDS: WDS AP, WDS Bridge, WDS Station

Operation Modes [EnJet Enable]

Access Port Mode (AP Mode)

Client Bridge Mode (CB Mode)

WDS: WDS AP and WDS Station

Frequency Radio

5 GHz: 5180 MHz~5260 MHz, 5280 MHz~5320 MHz, 5500 MHz~5745 MHz, 5765 MHz~5805 MHz

Transmit Power

5 GHz: 26 dBm

Tx Beamforming (TxBF)

Radio Chains/Spatial Stream

2x2:2

SU-MIMO

Two (2) Spatial Stream SU-MIMO up to 867 Mbps to individual 2x2 VHT40 client devices

MU-MIMO

Two (2) Spatial Stream Multi User (MU) MIMO for up to 867 Mbps to two (2) MU-MIMO capable wireless devices simultaneously

Supported Data Rates (Mbps)

5 GHz: Max 867 Mbps

802.11a: 6, 9, 12, 18, 24, 36, 48, 54

802.11n: 6.5 to 300 Mbps (MCS0 to MCS15)

802.11ac: 6.5 to 867 Mbps (MCS0 to MCS9, NSS = 1 to 2)

Supported Radio Technologies

802.11a/n/ac: Orthogonal Frequency-Division Multi-plexing (OFDM)

802.11n/ac: 2x2 MIMO With 2 Streams

Channelization

802.11ac Supports Very High Throughput (VHT)—VHT 20/40/80 MHz

802.11n Supports High Throughput (HT)—HT 20/40 MHz

802.11n/ac Packet Aggregation: AMPDU, ASPDU

Supported Modulation

802.11a/n: OFDM 16-QAM, 64-QAM

802.11ac: OFDM 16-QAM, 64-QAM, 256-QAM

Management

Multiple BSSID

Supports 8 SSIDs [EnJet Disable]

Supports 1 SSID [EnJet Enable]

VLAN Tagging

Supports 802.1q SSID-to-VLAN Tagging

Management VLAN

VLAN Pass-Through

Spanning Tree

Supports 802.1d Spanning Tree Protocol

QoS (Quality of Service)

Complaint With IEEE 802.11e Standard

WMM

SNMP

v1, v2c, v3

MIB

I/II, Private MIB

Management Features

Deployment Options

Stand-Alone (Individually Managed/EnWiFi App)

Managed Mode (w/ezMaster/EWS Series Switch/Skykey)

Stand-Alone Management Features

Auto Channel Selection

Auto Transmit Power

Wireless STA (Client) Connected List

Guest Network (Support When EnJet Disabled)

Fast Roaming (802.11k & 802.11r)

Pre-Authentication (802.11i, 802.11x)

PMK Caching (802.11i)

RSSI Threshold

Traffic Shaping

VLANs for Access Point – Multiple SSIDs

Backup/Restore Settings

Auto Reboot

E-Mail Alert

Site Survey

Save Configuration as Users Default

Control Features

Operation Mode

Distance Control (ACK Timeout)

Multicast Supported

Wi-Fi Scheduler

Client Traffic Status

RADIUS Accounting

Power Save Mode (U-APSD Support)

CLI Support

HTTPS

Technical Specifications

Wireless Security

WPA2 PSK & Enterprise (AES)

Hide SSID in Beacons

MAC Address Filtering, Up to 32 MACs per SSID

Wireless STA (Client) Connected List

SSH Tunnel

Client Isolation

Wireless Management Features (w/ezMaster & EWS Switch) (Available in AP Mode) (Monitor When EnJet Enabled) (Support When EnJet Disabed)

AP Auto Discovery and Provisioning

AP Auto IP Assignment

AP Group Management

Auto AP Rebooting

AP Device Name Editing

AP Radio Settings

Traffic Shaping

Fast Roaming (802.11k & 802.11r)

Pre-Authentication (802.11i, 802.11x)

PMK Caching (802.11i)

RSSI Threshold

AP Client Limiting

Client Fingerprinting

AP VLAN Management

VLANs for AP - Multiple SSIDs

Secured Guest Network

Access Point Status Monitoring

Wireless Client Monitoring

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

Intelligent Diagnostics

Kick/Ban Clients

Wi-Fi Scheduler

Temperature Range

Operating: -4º F~140º F (-20º C~60º C)

Storage: -22º F~176º F (-30º C~80º C)

Humidity (non-condensing)

Operating: 90% or less

Storage: 90% or less

Waterproof

IP55-Rated Enclosure

Dimensions & Weights

ENS500EXT-AC/ENS500-AC

Weight: 0.65 lbs. (0.29 kg)

Width: 3.93" (100 mm)

Length: 7.20" (185 mm)

Height" 1.08" (27 mm)

EnStation5-AC/EnStationAC

Weight: 1.11 lbs. (460 g)

Depth: 7.48" (190 mm

Height: 1.49" (38 mm)

Package Contents

ENS500EXT-AC

ENS500EXT-AC Outdoor Access Point

PoE Adapter (EPA2406GP)

Pole-Mounting Brackets

Wall-Mount Screw Set

(2) 5 GHz 5 dBi SMA Antennas

Power Cord

Quick Installation Guide

ENS500-AC

ENS500-AC Outdoor Bridge

PoE Adapter (EPA2406GP)

Pole-Mounting Brackets

Wall-Mount Screw Set

Power Cord

Quick Installation Guide

EnStation5-AC

EnStation5-AC Outdoor Wireless Bridge

PoE Adapter (EPA2406GP)

Pole-Mounting Brackets

Wall-Mount Screw Set

Power Cord

Quick Installation Guide

EnStationAC

EnStation5-AC Outdoor Wireless Bridge

PoE Adapter (EPA5000GR)

Pole-Mounting Brackets

Wall-Mount Screw Set

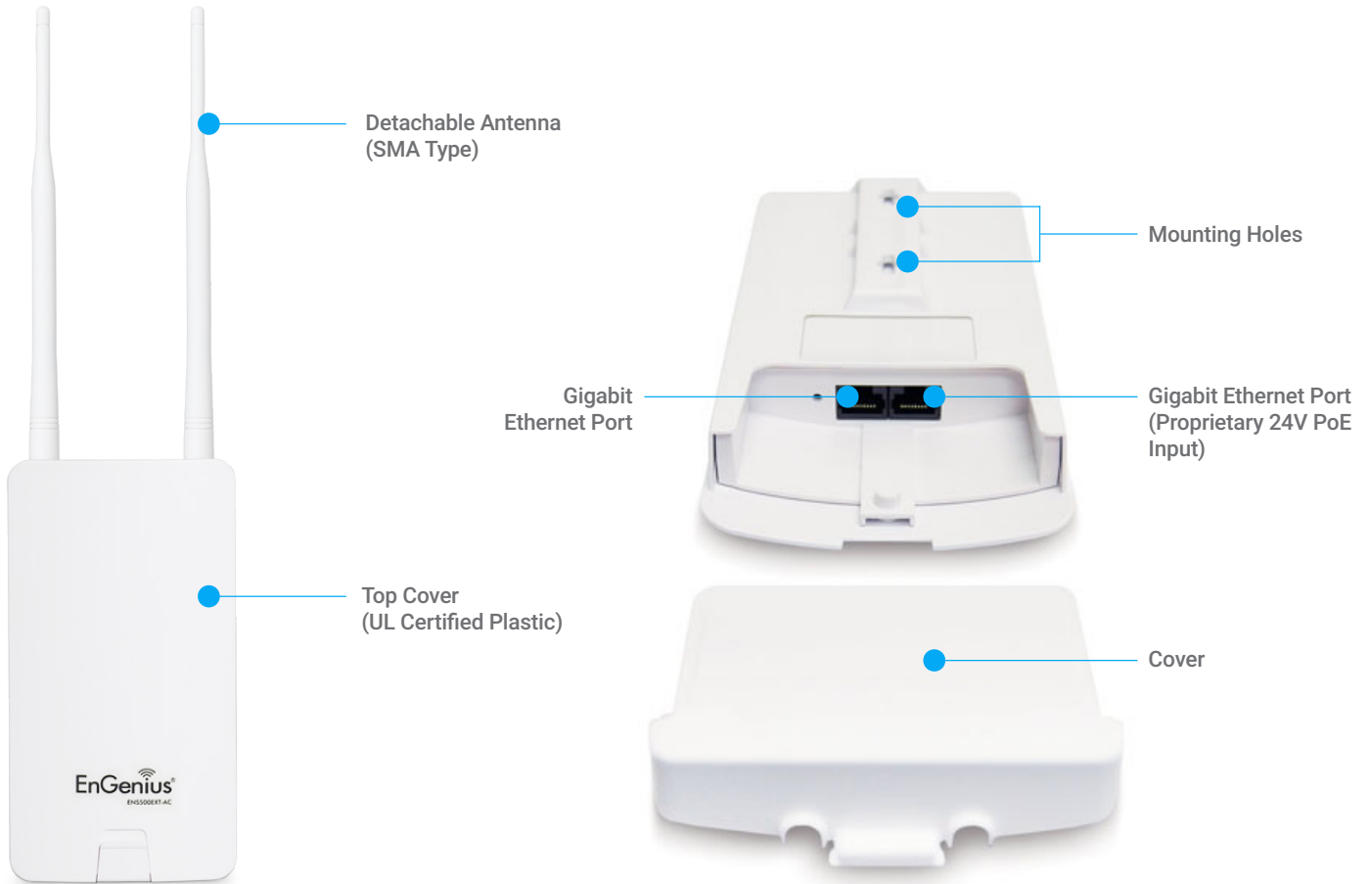Power Cord

Quick Installation Guide
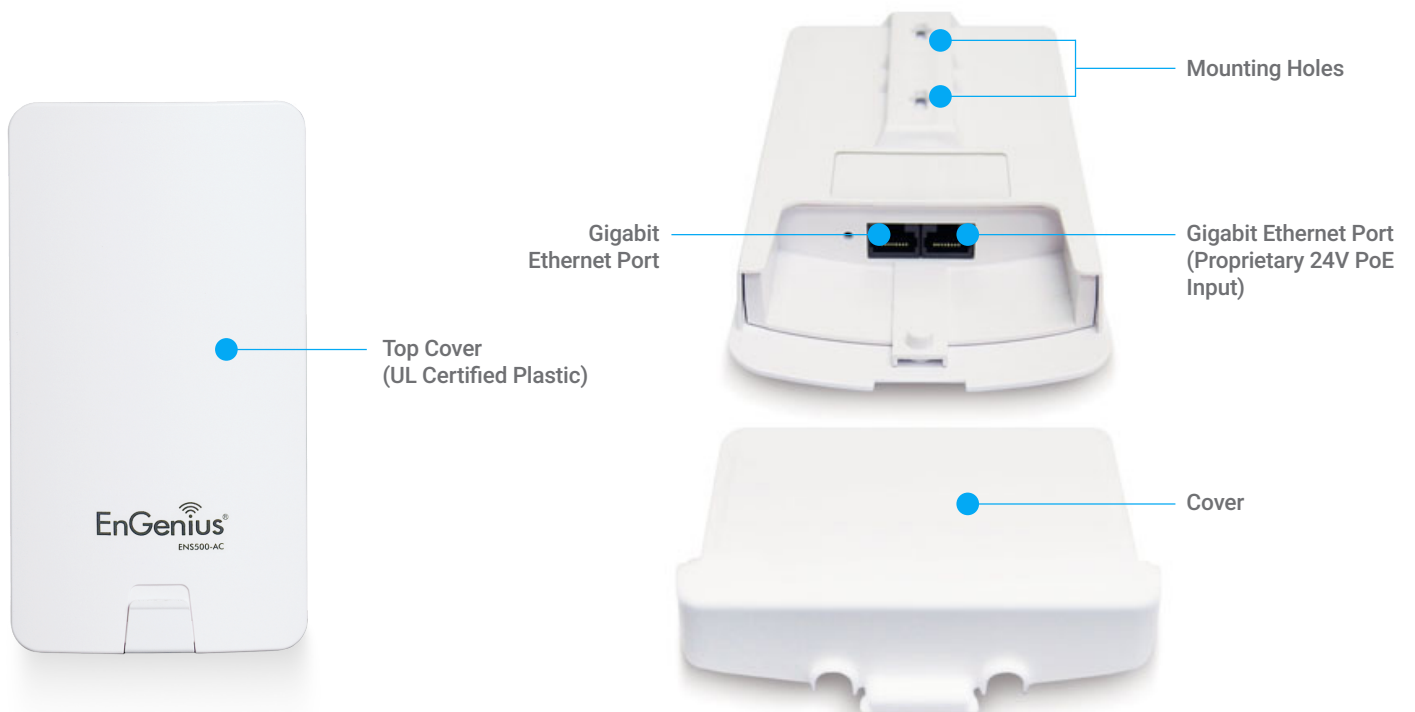
Certifications

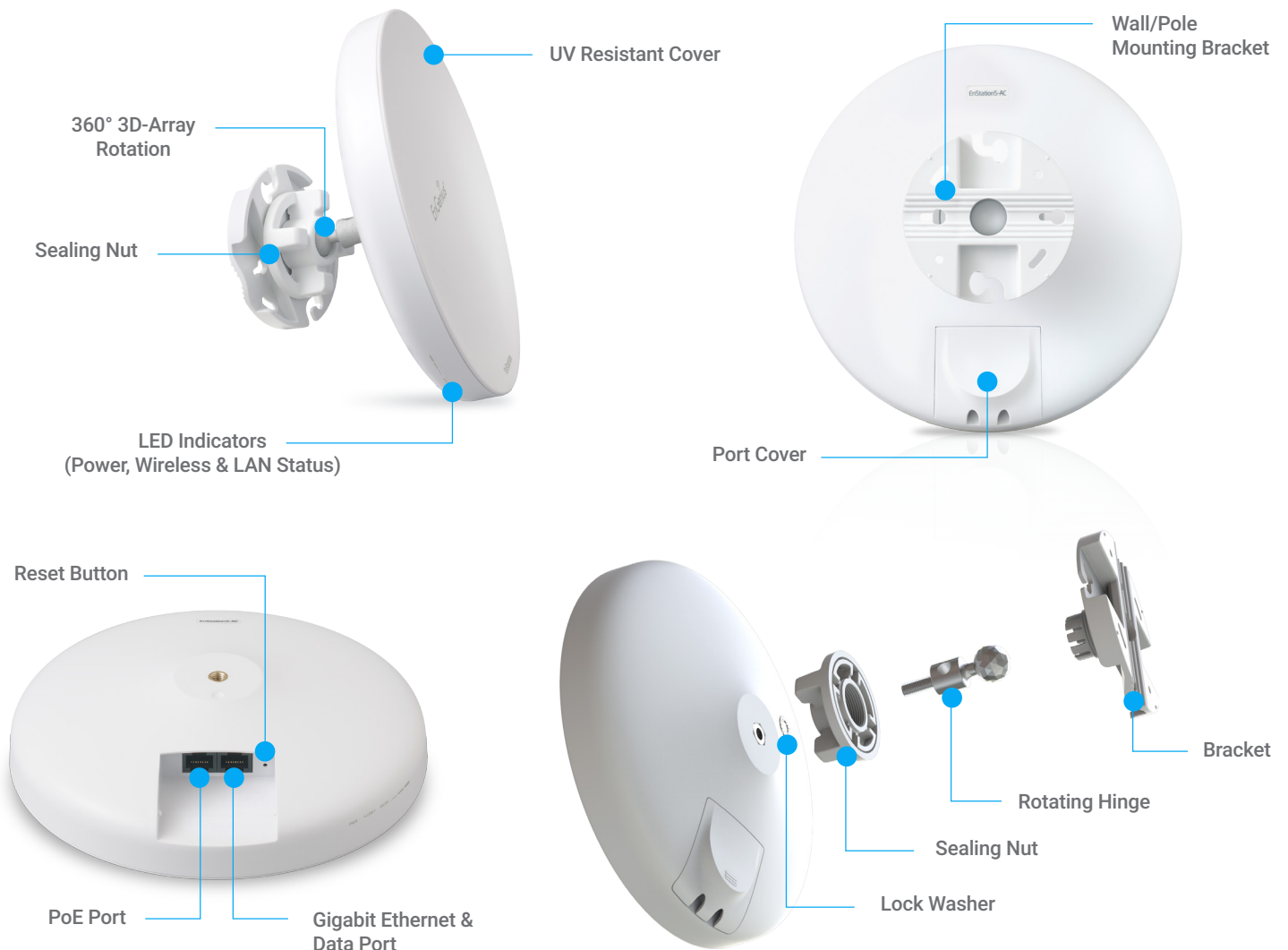FCC, CE

Warranty

1-Year Standard

ENS500EXT-AC Outdoor Access Point

Detachable Antenna
(SMA Type)

Mounting Holes

Gigabit
Ethernet Port

Gigabit Ethernet Port
(Proprietary 24V PoE
Input)

Top Cover
(UL Certified Plastic)

Cover

ENS500-AC Outdoor Bridge

Mounting Holes

Gigabit
Ethernet Port

Gigabit Ethernet Port
(Proprietary 24V PoE
Input)

Top Cover
(UL Certified Plastic)

Cover

EnStation5-AC/EnStationAC Outdoor Bridge

UV Resistant Cover

360° 3D-Array Rotation

Sealing Nut

LED Indicators
(Power, Wireless & LAN Status)

Wall/Pole
Mounting Bracket

Port Cover

Reset Button

PoE Port

Gigabit Ethernet &
Data Port

Bracket

Rotating Hinge

Sealing Nut

Lock Washer

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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