EnSky Series
Outdoor Managed Access Points

Optimal Performance in Harsh Environments

EnGenius' EnSky Series line of Managed Outdoor Access Points, provide wireless connectivity that's flexible, scalable and reliable for outdoor applications.

Whether you are looking to provide ultra-fast Wi-Fi access to a resort pool, campus quad, or other outdoor property, EnSky EWS Access Points meet the high-bandwidth requirements of today's mobile users.

No matter what size network you need to support, EnSky 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. EnSky Series easily scales with your networking needs.

Features & Benefits

- High-Capacity 11ac Speeds to 1.3 Gbps
- Industrial-Grade IP68 or Ruggedized IP55-Rated Housing
- Withstands Harsh Environments
- Dual-Radio Improves Performance, Expands Capacities
- Beamforming Technology Optimizes Signal, Reception & Reliability
- Versatile 3x3 11ac Models with Internal or Detachable Antennas
- Operate as a Stand-Alone AP or Centrally Managed
- Remotely Manage 1-1,000+ APs via ezMaster™
- No Access Point Licensing or Subscription Fees
- GigE PoE-Compliant Ports
- Secondary GigE Port Connects & Powers IP Cameras or APs (select models)
- High-Transmit Power Ensures Greater Coverage Ranges
- Mesh Wireless Support Simplifies Setup, Optimizes Signals &
- Self-Healing (select models)

Ultra-Fast 11ac Speeds

EnGenius' 11ac Access Points deliver the highest available speeds for Wi-Fi devices reaching 1.3 Gbps. Wireless users with 802.11ac laptops, tablets and other devices, who need to stream HD video or transfer large files will find these powerful AC Access Point more than up to those tasks.

Peak Performance in Harsh Environments

Designed to perform in harsh conditions, EnSky EWS Outdoor Access Points feature industrial-grade IP68 or IP55-rated enclosures, ensuring the APs can withstand extreme outdoor climates and indoor industrial environments where the temperature is a factor.
This includes prolonged outdoor exposure to sunlight, extreme cold, frost, snow, rain, hail, heat and humidity.

Optimize Connectivity with Wireless Mesh on Selected Models

Utilize mesh access point mode on select EnSky APs for retrofit or new install applications where wire runs are not possible. Mesh's smart sensing technology adds devices quickly, optimizes routes between APs, and automatically self-heals the network in the event an AP should ever lose connection.

Maximized Wi-Fi Coverage

EWS Outdoor APs are designed for peak performance in a variety of outdoor environments providing high-performance reception and long-range connections. High-transmit power reaches to 29dBm*, ensuring reliable, long-range device coverage.

Protected by Advanced Encryption

With EnSky 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 EnSky'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.

Flexible Power-over-Ethernet Power Options

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

Simplified Deployment & Provisioning

In combination with EnSky Switches and ezMaster Network Management Software, EnSky 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 EnSky Switches

In small settings, any EnSky Managed Switch can act as a wireless controller capable of managing up to 50 EnSky EWS Access Points. IT administrators have access to all connected EnSky devices and a full array of Layer 2 management tools. Choose between 8, 24, and 48-Port PoE+ switch models with flexible deployment and management options.

ezMaster

Network Management Software

Flexible Distributed Network Management

ezMaster Network Management Software expands the flexibility and scalability of EnSky 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 EnSky APs, Switches and IP Cameras across geographically diverse properties.
Centrally manage an unlimited number of independent distributed networks in the same subnet or cross-subnets 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 1000 EnSky EWS devices and 10000 concurrent users. Together, EnSky 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™ 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 1000+ 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

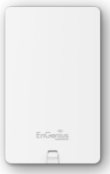
Simplified Device Management

ezMaster Network Management Software makes centralized device management easy. How? Through 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 1000+ EnSky 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
  - Traffic Shaping
  - Captive Portal
  - Email Alert
  - Kick/Ban Clients
  - One-Click Update
  - Remote Logging
  - Scheduling
  - Seamless Migration
  - Syslog

EnSky Series Outdoor Access Points



Models	EWS860AP	EWS660AP
Standards	802.11a/b/g/n/ac	802.11a/b/g/n/ac
Frequency	2.4 GHz & 5 GHz	2.4 GHz & 5 GHz
2.4 GHz Max. Data Rate	450 Mbps	450 Mbps
5 GHz Max. Data Rate	1300 Mbps	1300 Mbps
Radio Chains/Streams	3 x 3:3	3 x 3:3
RF Output Power (2.4 GHz)	29 dBm	29 dBm
RF Output Power (5 GHz)	27 dBm	27 dBm
Ingress Protection Rating	IP68	IP55
Primary Ethernet Port	1 x GbE Port	1 x GbE Port
Secondary Ethernet Port	1 x GbE Port (PoE Output)	1 x GbE Port
Console Interface	N/A	N/A
PoE Compliant	802.3at (PoE+)	802.3at (PoE+)
Power Consumption (Peak)	35.71W	23W
Integrated Antenna	N/A	6 x 5 dBi
External Antenna (N-Type)	3 x 5 dBi (2.4 GHz) 3 x 7 dBi (5 GHz)	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

EWS660AP/EWS860AP

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

Memory

256 MB

Flash Memory

16 MB

Power Consumption

EWS660AP Up to 23W

EWS860AP Up to 35.71W

Antennas

EWS660AP

Internal High Gain Antennas 5 dBi support both 2.4GHz and 5 GHz (2) EWS350AP (6) EWS660AP

Physical Interface

2 x RJ45 10/100/1000 Gigabit Ethernet Ports - PoE Capable 802.3at

1 x Reset Button

1 x Power Connector

LED Indicators

1 x Power

1 x 2.4 GHz

1 x 5 GHz

1 x LAN 1

1 x LAN 2

Power Requirements

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

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

PoE Injector DC IN, 48V/0.8A

Modulations

OFDM: BPSK, QPSK, 16-QAM, 26-OAM, 64-QAM, 256-QAM, DBPSK, DQPSK, CCK

Radio Technologies

802.11b: Direct-Sequence Spread Spectrum (DSSS)

802.11a/g/n/ac: Orthogonal Frequency Division Multiplexing (OFDM)

Operating Channels

2.4 GHz EU 1-13

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

EWS860AP/EWS660AP

Mesh 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, 20 MHz, 40 MHz, 80 MHz)

Transmission Rate

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

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

Deployment Options

Stand-Alone (Individually Managed)

Managed Mode (with EnSky Series Switch/ezMaster)

Stand-Alone Management Features

Access Point Radio Settings

Auto Channel Selection

Traffic Shaping

Fast Roaming (802.11k & 802.11r)

Pre-Authentication (802.11i & 802.11x)

Auto Transmit Power

Wireless STA (Client) Connected List

Guest Network

Fast Roaming (802.11k & 802.11r)

Pre-Authentication (802.11i, 802.11x)

PMK Caching (802.11i)

RSSI Threshold

Band Steering

Traffic Shaping

VLANs for Access Point – Multiple SSIDs

MAC Address Filtering

Backup/Restore Settings

Power Save Mode

Auto Reboot

E-Mail Alert

Site Survey

Save Configuration as Default

Background Scanning

Client Fingerprinting

Multicast to Unicast

Captive Portal

Wi-Fi Scheduler

RADIUS Accounting

Wireless Management Features (with ezMaster & EnSky 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

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

Reset Settings

Reboot (press reset button & hold for 2 seconds). Reset to Factory Default (press reset button & hold for 10 seconds)

Auto-Channel Selection

Automatically Selecting Least Congested Channel

Bandwidth Measurement

IP Range and Bandwidth Management

Schedule Reboot

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

Backup and Restore

Save and Restore Settings via Web Interface

CLI

Supports Command Line Interface

Diagnosis

IP Pinging Statistics

Log

SysLog and Local Log Support

LED Control

On/Off

AP Detection

Scanning for Available EnGenius APs

Wireless Security

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

WPA/WPA2 Enterprise (WPA-EAP using TKIP)

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

SSID Broadcast Enable/Disable

MAC Address Filtering, Up to 50 Entries

L2 Isolation

QoS (Quality of Service)

IEEE 802.11e

WMM (Wireless Multimedia)

Temperature Range

EWS660AP

Operating: -4°F to 140°F (-20°C to 60°C)

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

EWS860AP

Operating: -4°F to 158°F (-20°C to 70°C)

Humidity (non-condensing)

Operating: 90% or less

Storage: 90% or less

Weatherproof

EWS660AP IP55-Rated Enclosure

EWS860AP IP68-Rated Enclosure

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)

Package Contents

Pole Mounting Bracket

Mounting Screw Set

Quick Installation Guide

EWS660AP

PoE Adapter EPA5006GP

RJ45 Ethernet Cable

EWS860AP

PoE Adapter EPA5006GP

3 x 5 dBi Antennas (2.4 GHz)

3 x 7 dBi Antennas (5 GHz)

RJ45 Ethernet Cable

Certifications

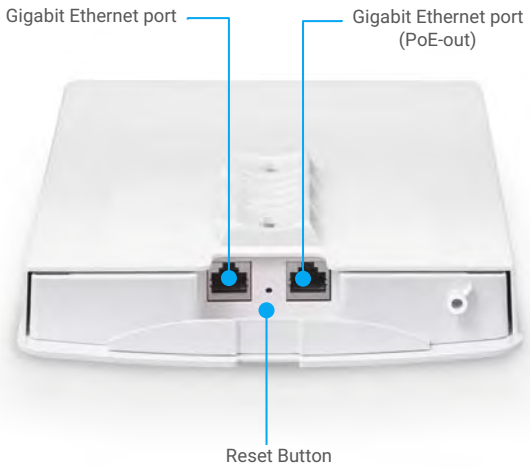
FCC, IC, CE

Warranty

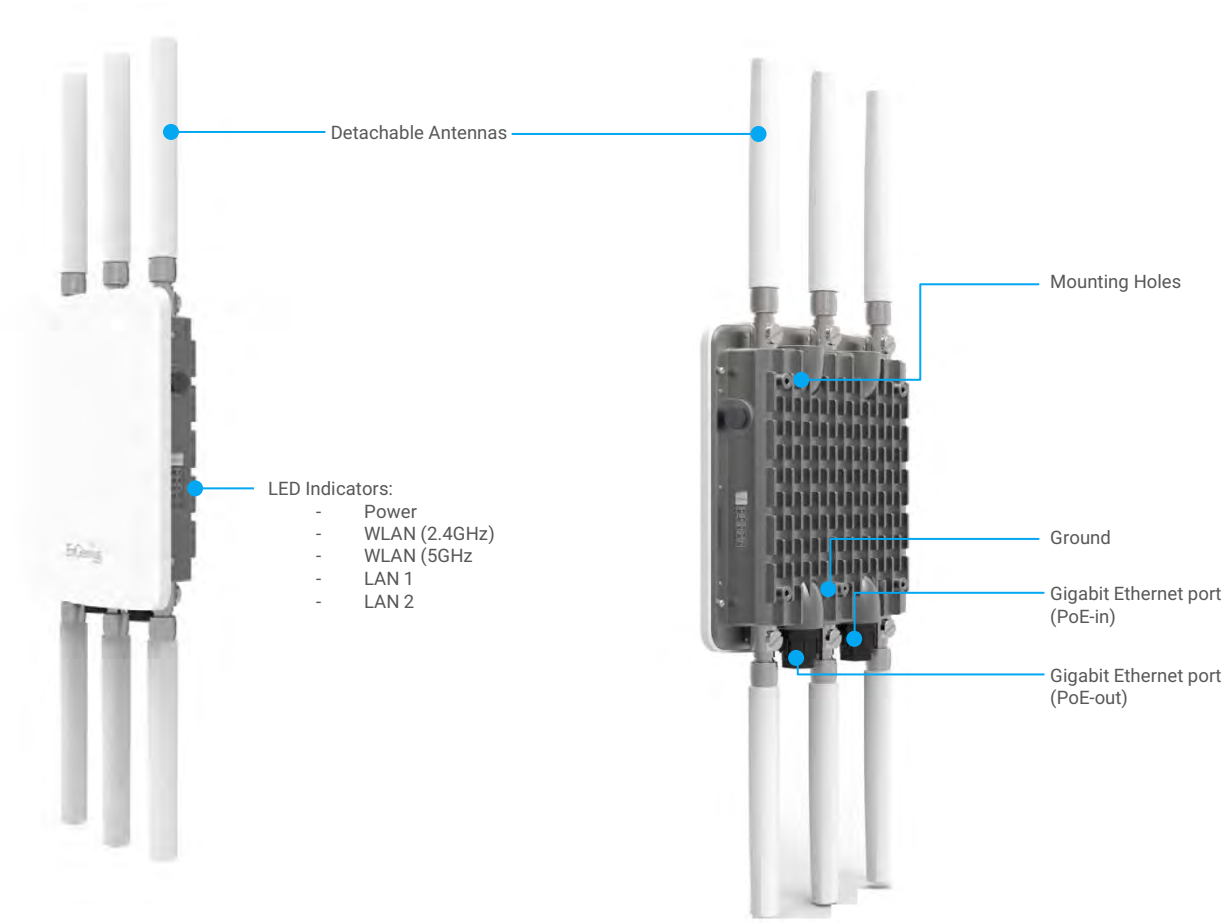
2-Year Standard

EWS660AP Outdoor Access Point

LED Indicators:
- Power
- WLAN (2.4GHz)
- WLAN (5GHz
- LAN 1
- LAN 2



EWS860AP Outdoor Access Point



*Actual TX power is restricted based on local regulation. 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. Features and specifications subject to change without notice. Trademarks and registered trademarks are the property of their respective owners. All rights reserved.