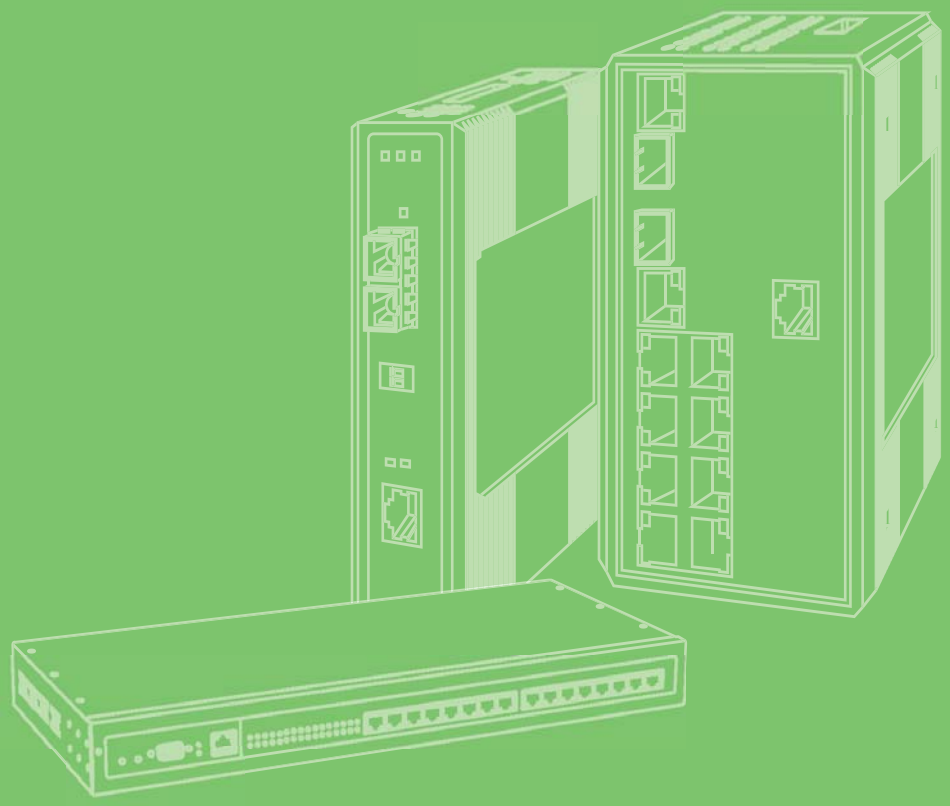
User Manual



EKI-6333AC-A Series

IEEE 802.11 a/b/g/n/ac WiFi AP

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Acknowledgments

Product Warranty (5 years)

Advantech warrants to you, the original purchaser, that each of its products will be free from defects in materials and workmanship for five years from the date of purchase.

This warranty does not apply to any products which have been repaired or altered by persons other than repair personnel authorized by Advantech, or which have been subject to misuse, abuse, accident or improper installation. Advantech assumes no liability under the terms of this warranty as a consequence of such events.

Because of Advantech's high quality-control standards and rigorous testing, most of our customers never need to use our repair service. If an Advantech product is defective, it will be repaired or replaced at no charge during the warranty period. For out of-warranty repairs, you will be billed according to the cost of replacement materials, service time and freight. Please consult your dealer for more details.

If you think you have a defective product, follow these steps:

1. Collect all the information about the problem encountered. (For example, CPU speed, Advantech products used, other hardware and software used, etc.) Note anything abnormal and list any on-screen messages you get when the problem occurs.
2. Call your dealer and describe the problem. Please have your manual, product, and any helpful information readily available.
3. If your product is diagnosed as defective, obtain an RMA (return merchandise authorization) number from your dealer. This allows us to process your return more quickly.
4. Carefully pack the defective product, a fully-completed Repair and Replacement Order Card and a photocopy proof of purchase date (such as your sales receipt) in a shippable container. A product returned without proof of the purchase date is not eligible for warranty service.
5. Write the RMA number visibly on the outside of the package and ship it prepaid to your dealer.

Part No. Edition 1

Printed in Taiwan September 2018

Declaration of Conformity

CE

This product has passed the CE test for environmental specifications. Test conditions for passing included the equipment being operated within an industrial enclosure. In order to protect the product from being damaged by ESD (Electrostatic Discharge) and EMI leakage, we strongly recommend the use of CE-compliant industrial enclosure products.

FCC Class B

This equipment has been tested and found to comply with the limits for a Class B 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. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC RF Radiation Exposure Statement:

1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters (7.87 inches) between the radiator and your body.

Technical Support and Assistance

1. Visit the Advantech web site at www.advantech.com/support where you can find the latest information about the product.
2. Contact your distributor, sales representative, or Advantech's customer service center for technical support if you need additional assistance. Please have the following information ready before you call:
   - Product name and serial number
   - Description of your peripheral attachments
   - Description of your software (operating system, version, application software, etc.)
   - A complete description of the problem
   - The exact wording of any error messages

Warnings, Cautions and Notes

Warning! *Warnings indicate conditions, which if not observed, can cause personal injury!*

Caution! *Cautions are included to help you avoid damaging hardware or losing data. e.g.*

There is a danger of a new battery exploding if it is incorrectly installed. Do not attempt to recharge, force open, or heat the battery. Replace the battery only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

Note! *Notes provide optional additional information.*

Document Feedback

To assist us in making improvements to this manual, we would welcome comments and constructive criticism. Please send all such - in writing to:
support@advantech.com

Packing List

Before setting up the system, check that the items listed below are included and in good condition. If any item does not accord with the table, please contact your dealer immediately.

- 1 x WiFi AP
- 1 x DIN Rail Bracket and Screws
- 1 x Wall-mounting Bracket
- 2 x Antennas

Safety Instructions

- Read these safety instructions carefully.
- Keep this User Manual for later reference.
- This device is for indoor use only.
- Disconnect this equipment from any DC outlet before cleaning. Use a damp cloth. Do not use liquid or spray detergents for cleaning.
- For plug-in equipment, the power outlet socket must be located near the equipment and must be easily accessible.
- Keep this equipment away from humidity.
- Put this equipment on a reliable surface during installation. Dropping it or letting it fall may cause damage.
- The openings on the enclosure are for air convection. Protect the equipment from overheating. DO NOT COVER THE OPENINGS.
- Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
- Position the power cord so that people cannot step on it. Do not place anything over the power cord.
- All cautions and warnings on the equipment should be noted.
- If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.
- Never pour any liquid into an opening. This may cause fire or electrical shock.
- Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
- If one of the following situations arises, get the equipment checked by service personnel:
  - The power cord or plug is damaged.
  - Liquid has penetrated into the equipment.
  - The equipment has been exposed to moisture.
  - The equipment does not work well, or you cannot get it to work according to the user's manual.
  - The equipment has been dropped and damaged.
  - The equipment has obvious signs of breakage.
- DO NOT LEAVE THIS EQUIPMENT IN AN ENVIRONMENT WHERE THE STORAGE TEMPERATURE MAY GO -40°C (-40°F) ~ 80°C (176°F). THIS COULD DAMAGE THE EQUIPMENT. THE EQUIPMENT SHOULD BE IN A CONTROLLED ENVIRONMENT.
- The sound pressure level at the operator's position according to IEC 704-1:1982 is no more than 70 dB (A).

  DISCLAIMER: This set of instructions is given according to IEC 704-1. Advantech disclaims all responsibility for the accuracy of any statements contained herein.

Safety Precaution - Static Electricity

Static electricity can cause bodily harm or damage electronic devices. To avoid damage, keep static-sensitive devices in the static-protective packaging until the installation period. The following guidelines are also recommended:

- Wear a grounded wrist or ankle strap and use gloves to prevent direct contact to the device before servicing the device. Avoid nylon gloves or work clothes, which tend to build up a charge.
- Always disconnect the power from the device before servicing it.
- Before plugging a cable into any port, discharge the voltage stored on the cable by touching the electrical contacts to the ground surface.

About the Device

This device is for indoor use only.

Contents

List of Figures

Chapter 1

Introduction

1.1 Overview

The EKI-6333AC-A Series is a feature rich wireless AP with DIN rail type design which provides a reliable wireless connectivity for industrial environments. As an 802.11n compliant device, EKI-6333AC-A Series provides 6 times higher data rates than legacy 802.11g devices.

With the support of WMM, EKI-6333AC-A Series effectively improves the reliability of wireless connectivity, especially in applications that need high reliability and high throughput data transmission. To secure wireless connections, EKI-6333AC-A Series implements the latest encryption technologies including WPA2/WPA/802.1x for powerful security authentication.

1.2 Device Features

- Support 802.11n MIMO 2T2R
- WLAN transmission rate up to 867 Mbps
- Supports secure access with WEP, 802.1x, WPA/WPA2-Personal, WPA/WPA2-Enterprise
- Provides Web-based configuration
- Support Dual band 2.4G/5G selective

1.3 Specifications

Specifications	Description	
Interface	I/O Port	1 x RJ45
	Power Connector	Terminal block
Physical	Enclosure	Metal shell with solid mounting kits
	Mounting	DIN rail and wall
	Dimensions (W x H x D)	30 x 140 x 95 mm (1.18” x 5.51” x 3.74”)
	Weight	0.5 Kg (1.1 lbs)
LED Display	System LED	Power 1, Power 2, Status
	Port LED	■ WLAN: Quality, Link/Active ■ LAN: Speed, Link/Active
Environment	Operating Temperature	-40°C ~ 75°C (-40°F ~ 166°F)
	Storage Temperature	-40°C ~ 80°C (-40°F ~ 176°F)
	Ambient Relative Humidity	10 ~ 95% RH
Wireless LAN Communications	Compatibility	IEEE 802.11a/b/g/n/ac
	Speed	Up to 867 Mbps
	Antenna	2 x Reverse SMA (supports 2T2R)
	Free Space Range	Open space 100 m
	Wireless Security	WEP, WPA/WPA2-Personal, WPA/WPA2-Enterprise
Ethernet Communications	Compatibility	IEEE 802.11a/b/g/n/ac
	Speed	10/100/1000 Mbps
	Port Connector	8-pin RJ45
	Protection	Built-in 1.5 KV magnetic isolation

Specifications	Description	
Power	Power Consumption	8W
	Power Input	12 ~ 48V_{DC}, redundant dual inputs
Software	Driver Support	32-bit/64-bit Windows XP/Vista/7/8/8.1/10, Windows Server 2003/2008/2008 R2/2012/2012 R2 and Linux
	Operation Modes	Access Point mode
	Configuration	Web Browser
	Protocol	ARP, ICMP, IPv4, TCP, UDP, DHCP Client, DNS, HTTP, SNTP
Regulatory Approvals	EMC	CE, FCC Part 15 Subpart B (Class B)

1.4 Dimensions

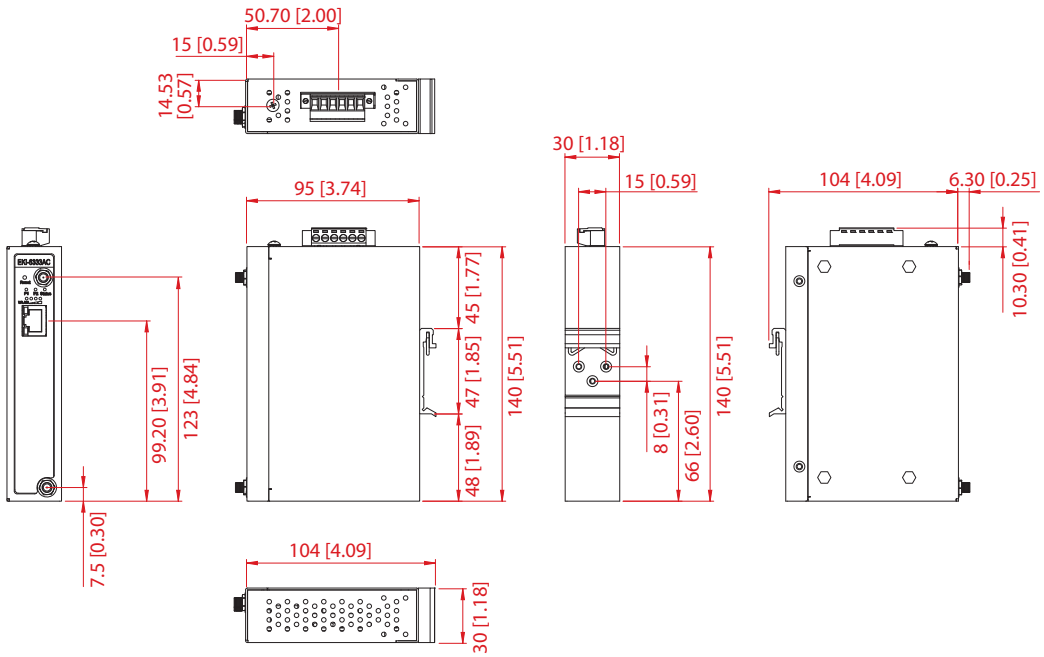

Figure 1.1 Dimensions

Chapter 2

Getting Started

2.1 Hardware

2.1.1 Front View

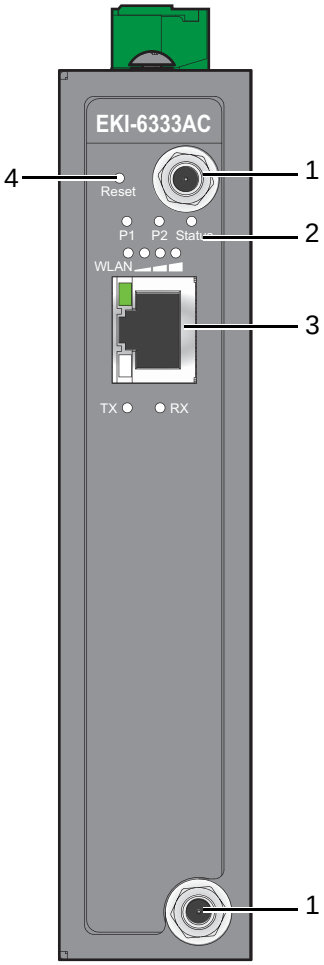

Figure 2.1 Front View

No.	Item	Description
1	Antenna connector	Connector for antenna.
2	System LED panel	See “LED Indicators” on page 7 for further details.
3	ETH port	RJ45 ports x 1.
4	Reset button	Button allows for system soft reset or factory default reset.

2.1.2 Rear View

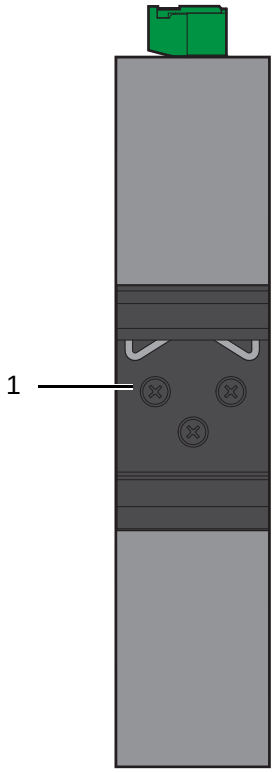

Figure 2.2 Rear View

No.	Item	Description
1	DIN rail mounting plate	Mounting plate used for the installation to a standard DIN rail

2.1.3 Top View

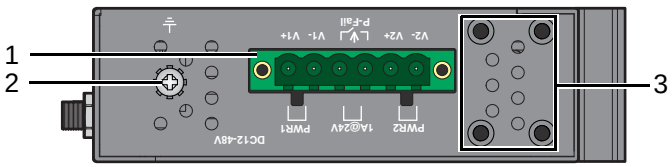

Figure 2.3 Top View

No.	Item	Description
1	Terminal block	Connect cabling for power and alarm wiring
2	Ground terminal	Screw terminal used to ground chassis
3	Wall mounting holes	Screw holes (x4) used in the installation of a wall mounting plate

2.1.4 LED Indicators

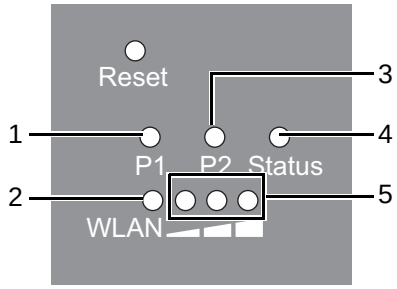

Figure 2.4 System LED Panel

No.	LED Name	LED Color	Description
1	P1	Green	Power 1 is on
		Off	Power 1 is off or power error condition exists
2	WLAN Status	On	WiFi is connected
		Off	In AP mode, the LED is always off
3	P2	Green	Power 2 is on
		Off	Power 2 is off or power error condition exists
4	Status	Amber, blinking	System is ready
		Off	System is not functioning
5	WLAN Signal Strength	Green	Designates signal strength
		Off	WLAN in non-operational state

LED Name	LED Color	Description
Ethernet	Green on	10Mbps Ethernet connection
	Green, blinking	Ethernet port is transmitting or receiving data
	Amber	100Mbps Ethernet connection
	Green	1000Mbps Ethernet connection

2.2 Connecting Hardware

2.2.1 DIN Rail Mounting

The DIN rail mount option is the quickest installation option. Additionally, it optimizes the use of rail space.

The metal DIN rail kit is secured to the rear of the device. The device can be mounted onto a standard 35 mm (1.37”) x 7.5 mm (0.3”) height DIN rail. The devices can be mounted vertically or horizontally. Refer to the following guidelines for further information.

Note! *A corrosion-free mounting rail is advisable.*

When installing, make sure to allow for enough space to properly install the cabling.

2.2.1.1 Installing the DIN Rail Kit

1. Position the rear panel of the device directly in front of the DIN rail, making sure that the top of the DIN rail clip hooks over the top of the DIN rail, as shown in the following illustration.

Warning! *Do not install the DIN rail under or in front of the spring mechanism on the DIN rail clip to prevent damage to the DIN rail clip or the DIN rail.*

Make sure the DIN rail is inserted behind the spring mechanism.

2. Once the DIN rail is seated correctly in the DIN rail clip, press the front of the device to rotate the device down and into the release tab on the DIN rail clip.

   If seated correctly, the bottom of the DIN rail should be fully inserted in the release tab.

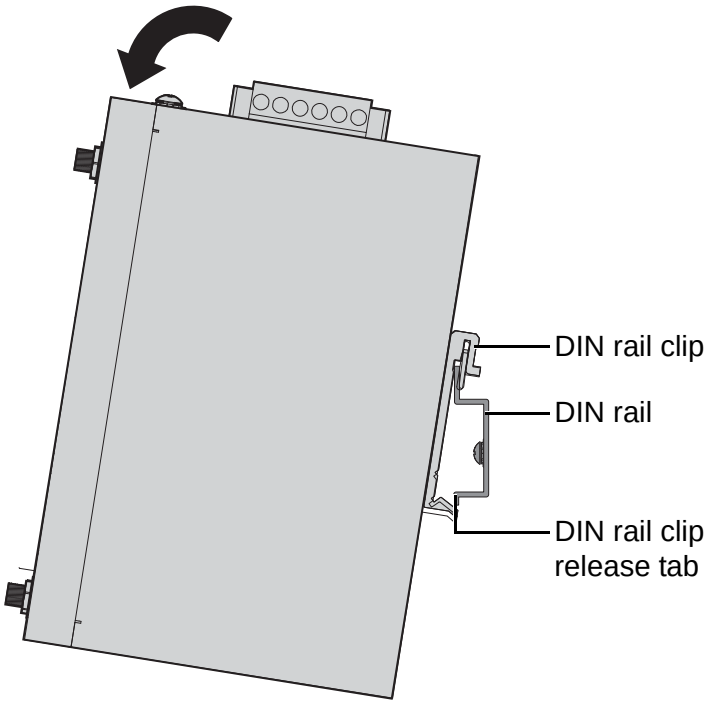

Figure 2.5 Installing the DIN Rail Kit

See the following figure for an illustration of a completed DIN installation procedure.

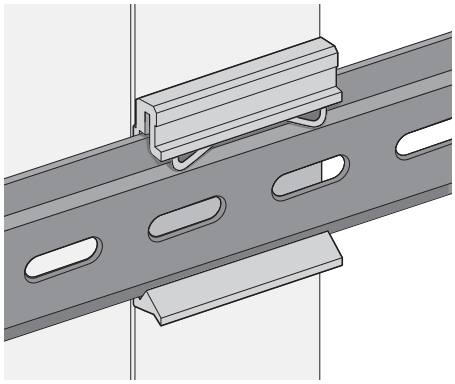

Figure 2.6 Correctly Installed DIN Rail Kit

3. Grasp the bottom of the device and slightly rotate it upwards. If there is resistance, the device is correctly installed. Otherwise, re-attempt the installation process from the beginning.

2.2.1.2 Removing the DIN Rail Kit

1. Ensure that power is removed from the device, and disconnect all cables and connectors from the front panel of the device.
2. Push down on the top of the DIN rail clip release tab with your finger. As the clip releases, lift the bottom of the device, as shown in the following illustration.

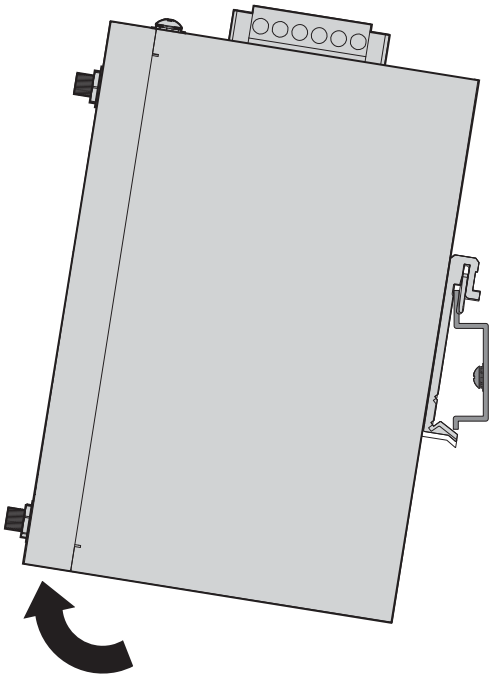

Figure 2.7 Removing the DIN Rail

2.2.2 Wall Mounting

The wall mounting option provides better shock and vibration resistance than the DIN rail vertical mount.

Note! *When installing, make sure to allow for enough space to properly install the cabling.*

Before the device can be mounted on a wall, you will need to remove the DIN rail plate.

1. Rotate the device to view the rear side and locate the DIN rail mounting plate.
2. Remove the screws securing the DIN rail mounting plate to the rear side.
3. Remove the DIN rail mounting plate. Store the DIN rail mounting plate and provided screws for later use.
4. Align the wall mounting brackets with the designated location as illustrated in the following figure. The screw holes on the device and the brackets align if seated correctnly.
5. Secure the wall brackets to the device with M3 screws, see the following figure.

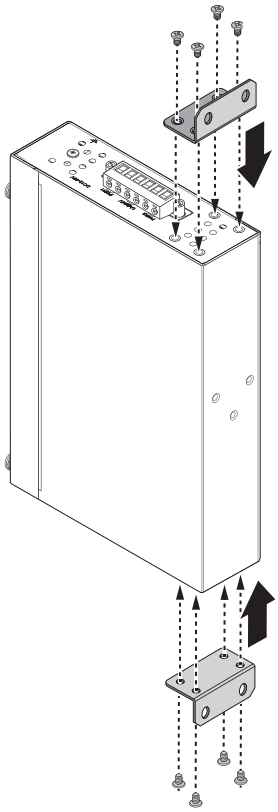

Figure 2.8 Installing Wall Mount Plates

Once the wall mounting brackets are secured on the device, mark the screw hole location on the wall area.

6. On the installation site, place the device firmly against the wall. Make sure the device is vertically and horizontally level.
7. Insert a pencil or pen through the screw holes on the mounting bracket to mark the location of the screw holes on the wall.
8. Remove the device from the wall and drill holes over each marked location (4) on the wall, keeping in mind that the holes must accommodate wall sinks in addition to the screws.

9. Insert the wall sinks into the walls.
10. Align the mounting bracket over the screw holes on the wall.
11. Starting with the upper bracket, insert a screw through the bracket and rotate it to secure. Do not tighten at this point. Repeat for the remaining locations, see the following figure.

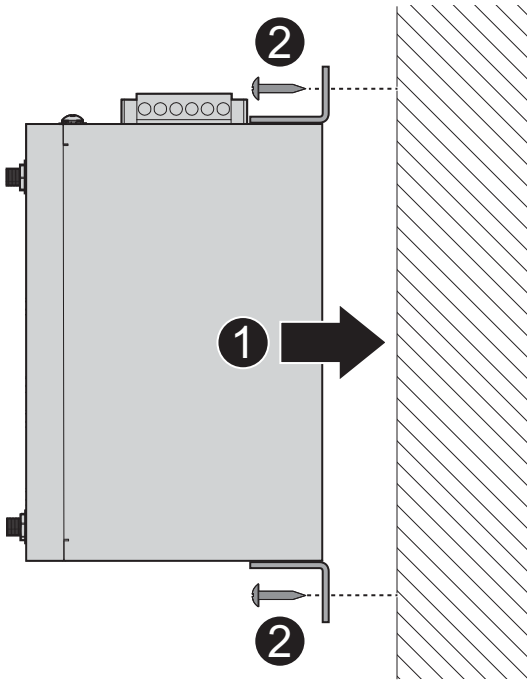

Figure 2.9 Wall Mount Installation

12. Once the device is installed on the wall, tighten the screws to secure the device.

2.2.3 Wireless Connection

1. Connect the antenna by screwing the antenna connectors in a clockwise direction.

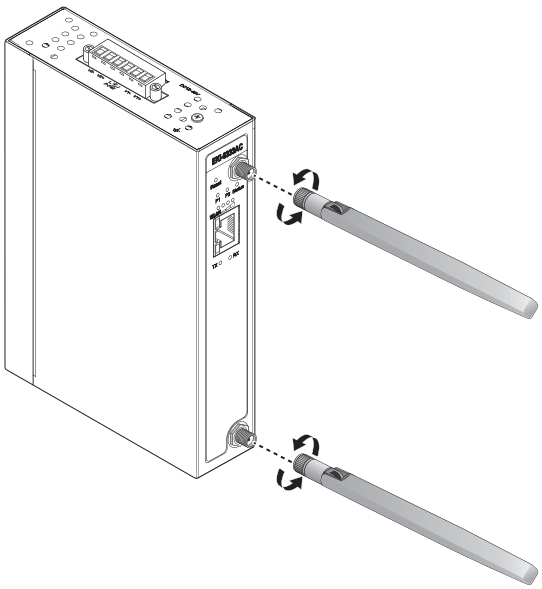

Figure 2.10 Installing the Antenna

2. Position the antenna for optimal signal strength.

Note! *The location and position of the antenna is crucial for effective wireless connectivity*

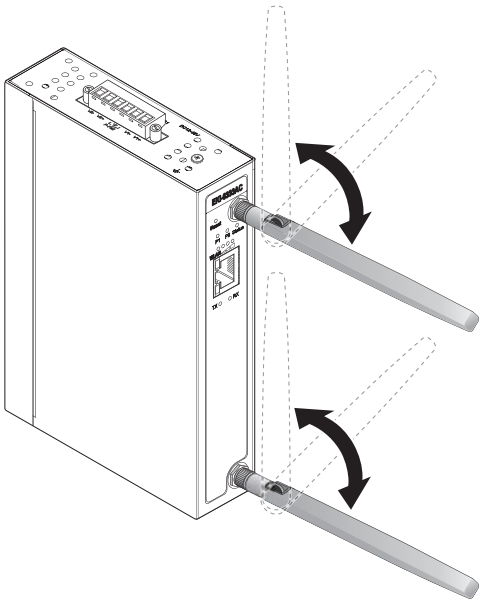

Figure 2.11 Positioning the Antenna

2.2.4 Network Connection

For RJ45 connectors, data-quality, twisted pair cabling (rated CAT5 or better) is recommended. The connector bodies on the RJ45 Ethernet ports are metallic and connected to the GND terminal. For best performance, use shielded cabling. Shielded cabling may be used to provide further protection.

Straight-thru Cable Wiring		Cross-over Cable Wiring	
Pin 1	Pin 1	Pin 1	Pin 3
Pin 2	Pin 2	Pin 2	Pin 6
Pin 3	Pin 3	Pin 3	Pin 1
Pin 6	Pin 6	Pin 6	Pin 2

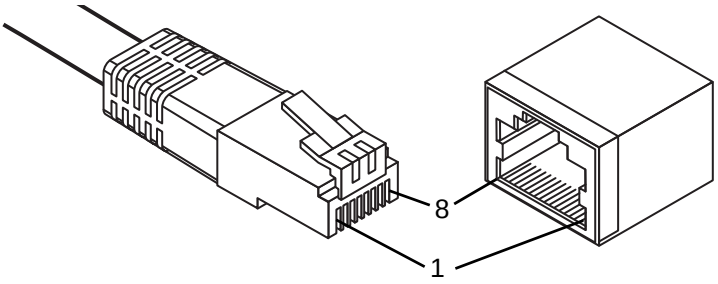

Figure 2.12 Ethernet Plug & Connector Pin Position

Maximum cable length: 100 meters (328 ft.) for 10/100BaseT.

2.2.5 Power Connection

2.2.5.1 Overview

Warning! *Power down and disconnect the power cord before servicing or wiring the device.*

Caution! *Do not disconnect modules or cabling unless the power is first switched off.*

The device only supports the voltage outlined in the type plate. Do not use any other power components except those specifically designated for the device.

Caution! *Disconnect the power cord before installation or cable wiring.*

The devicees can be powered by using the same DC source used to power other devices. A DC voltage range of 12 to 48 V_{DC} must be applied between the V1+ terminal and the V1- terminal (PW1), see the following illustrations. The chassis ground screw terminal should be tied to the panel or chassis ground. A redundant power configuration is supported through a secondary power supply unit to reduce network down time as a result of power loss.

EKI-6333AC-A Series support 12 to 48 V_{DC}. Dual power inputs are supported and allow you to connect a backup power source.

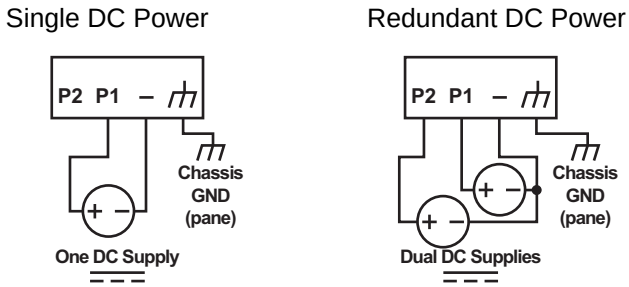

Figure 2.13 Power Wiring for EKI-6333AC-A Series

2.2.5.2 Considerations

Take into consideration the following guidelines before wiring the device:

- The Terminal Block (CN1) is suitable for 12-24 AWG (3.31 - 0.205 mm^2). Torque value 7 lb-in.
- The cross sectional area of the earthing conductors shall be at least 3.31 mm^2.
- Calculate the maximum possible current for each power and common wire. Make sure the power draw is within limits of local electrical code regulations.
- For best practices, route wiring for power and devices on separate paths.
- Do not bundle together wiring with similar electrical characteristics.
- Make sure to separate input and output wiring.
- Label all wiring and cabling to the various devices for more effective management and servicing.

Note! *Routing communications and power wiring through the same conduit may cause signal interference. To avoid interference and signal degradation, route power and communications wires through separate conduits.*

2.2.5.3 Grounding the Device

Caution! *Do not disconnect modules or cabling unless the power is first switched off.*

The device only supports the voltage outlined in the type plate. Do not use any other power components except those specifically designated for the device.

Caution! *Before connecting the device properly ground the device. Lack of a proper grounding setup may result in a safety risk and could be hazardous.*

Caution! *Do not service equipment or cables during periods of lightning activity.*

Caution! *Do not service any components unless qualified and authorized to do so.*

Caution! *Do not block air ventilation holes.*

Electromagnetic Interference (EMI) affects the transmission performance of a device. By properly grounding the device to earth ground through a drain wire, you can setup the best possible noise immunity and emissions.

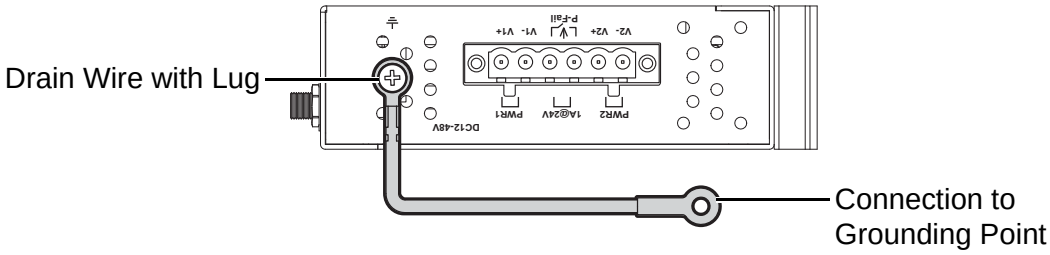

Figure 2.14 Grounding Connection

By connecting the ground terminal by drain wire to earth ground the device and chassis can be ground.

Note! *Before applying power to the grounded device, it is advisable to use a volt meter to ensure there is no voltage difference between the power supply's negative output terminal and the grounding point on the device.*

2.2.5.4 Wiring a Relay Contact

The following section details the wiring of the relay output. The terminal block on the EKI-6333AC-A Series is wired and then installed onto the terminal receptor located on the EKI-6333AC-A Series.

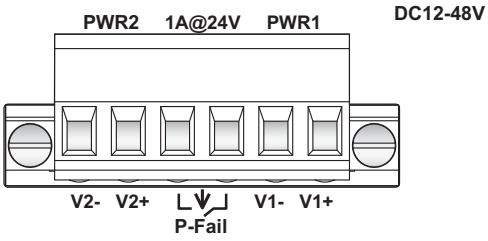

Figure 2.15 Terminal Receptor: Relay Contact

The terminal receptor includes a total of six pins: two for PWR1, two for PWR2 and two for a fault circuit.

2.2.5.5 Wiring the Power Inputs

Caution! *Do not disconnect modules or cabling unless the power is first switched off.*

The device only supports the voltage outlined in the type plate. Do not use any other power components except those specifically designated for the device.

Warning! *Power down and disconnect the power cord before servicing or wiring the device.*

There are two power inputs for normal and redundant power configurations. The power input 2 is used for wiring a redundant power configuration. See the following for terminal block connector views.

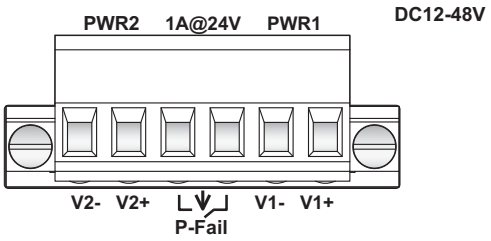

Figure 2.16 Terminal Receptor: Power Input Contacts

To wire the power inputs:

Make sure the power is not connected to the device or the power converter before proceeding.

1. Loosen the screws securing terminal block to the terminal block receptor.
2. Remove the terminal block from the device.

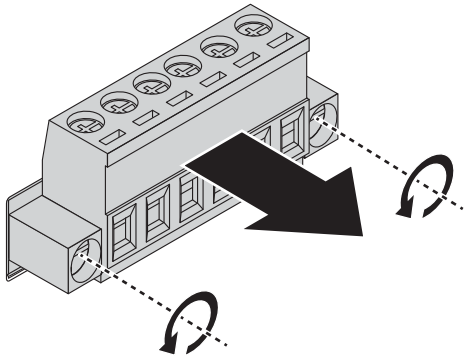

Figure 2.17 Removing a Terminal Block

3. Insert a small flat-bladed screwdriver in the V1+/V1- wire-clamp screws, and loosen the screws.
4. Insert the negative/positive DC wires into the V+/V- terminals of PW1. If setting up power redundancy, connect PW2 in the same manner.

5. Tighten the wire-clamp screws to secure the DC wires in place.

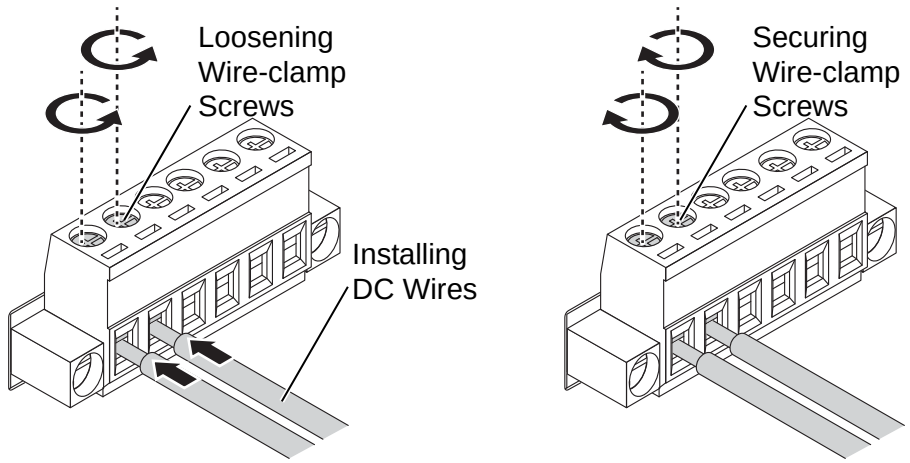

Figure 2.18 Installing DC Wires in a Terminal Block

6. Align the terminal block over the terminal block receptor on the device.
7. Insert the terminal block and press it in until it is flush with the terminal block receptor.
8. Tighten the screws on the terminal block to secure it to the terminal block receptor.

   If there is no gap between the terminal block and the terminal receptor, the terminal block is seated correctly.

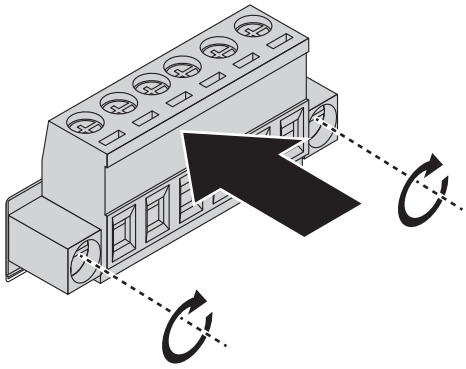

Figure 2.19 Securing a Terminal Block to a Receptor

2.3 Reset Button

Reset configuration to factory default:

Press and hold Reset button for 5 seconds.

System reboot:

Press and hold Reset button for 2 seconds.

Note! *Do NOT power off the WiFi AP when loading default settings.*

Chapter 3

Web Interface

3.1 Log In

To access the login window, connect the device to the network, see “Network Connection” on page 12. Once the device is installed and connected, power on the device see the following procedures to log into your device.

When the device is first installed, the default IP is 192.168.1.1. You will need to make sure your network environment supports the device setup before connecting it to the network.

1. Launch your web browser on a computer.
2. In the browser’s address bar type in the device’s default IP address (192.168.1.1). The login screen displays.
3. Enter the default user name and password (admin/admin) to log into the management interface. You can change the default password after you have successfully logged in.
4. Click **Login** to enter the management interface.

Figure 3.1 Login Screen

Note! *Screen may differ depending on Web browers.*

3.1.1 Password

The HTTP page allows you to configure the WiFi AP login details.

1. Log in to the user interface menu, see “Log In” on page 19.
2. Navigate to **Home** > **Administration** > **HTTP**. The HTTP configuration page displays.
3. Enter the username of the profile to change (currently logged in user displays), then enter the new password under the **Password** field.
4. Re-type the same password in the **Confirm Password** field.
5. Click **Apply** to change the current account settings.

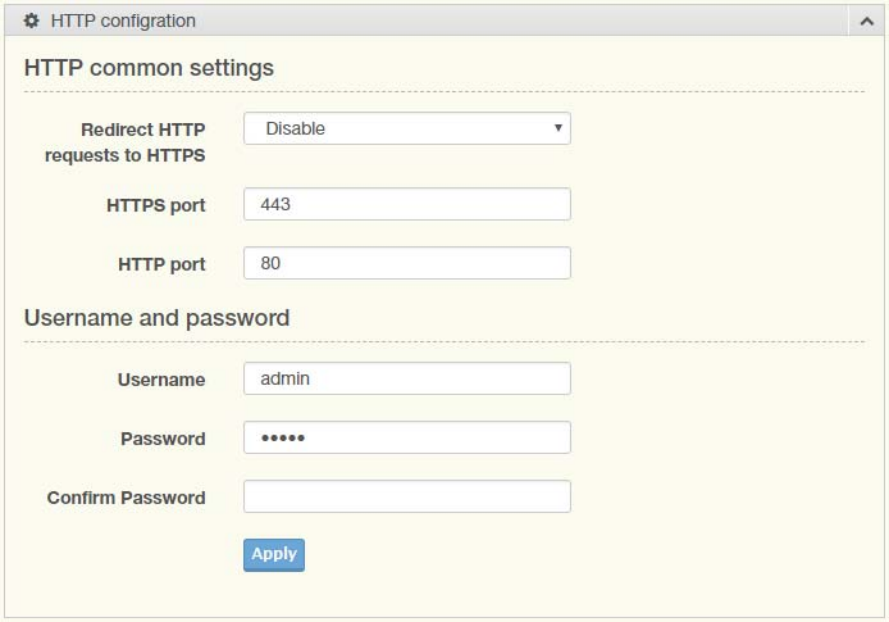

Figure 3.2 Administration > HTTP

3.2 Overview

To access this page, click **Overview**.

Figure 3.3 Overview

The following table describes the items in the previous figure.

Item	Description
System Info	
Firmware Version	Display the current firmware version of the device.
Local Hostname	Display the current local hostname of the device.
System Time	Displays the current date of the device.
System Up Time	Displays the time since the last device reboot.
System Platform	Displays the model name of the device.
Memory	
Total Available	Displays the total amount of physical memory installed RAM in kiloBytes (kB) on the device.
Free	Displays the currently unused RAM in kiloBytes (kB) on the device.
Buffered	Displays the RAM in kiloBytes (kB) set aside as a temporary holding place for data.
Local Network	
Local IP Address	Displays the assigned IP address of the device.
Local Netmask	Displays the assigned netmask of the device.
MAC Address	Displays the MAC address of the device.

3.3 Network Settings

3.3.1 LAN

To access this page, click **Network Settings** > **LAN**.

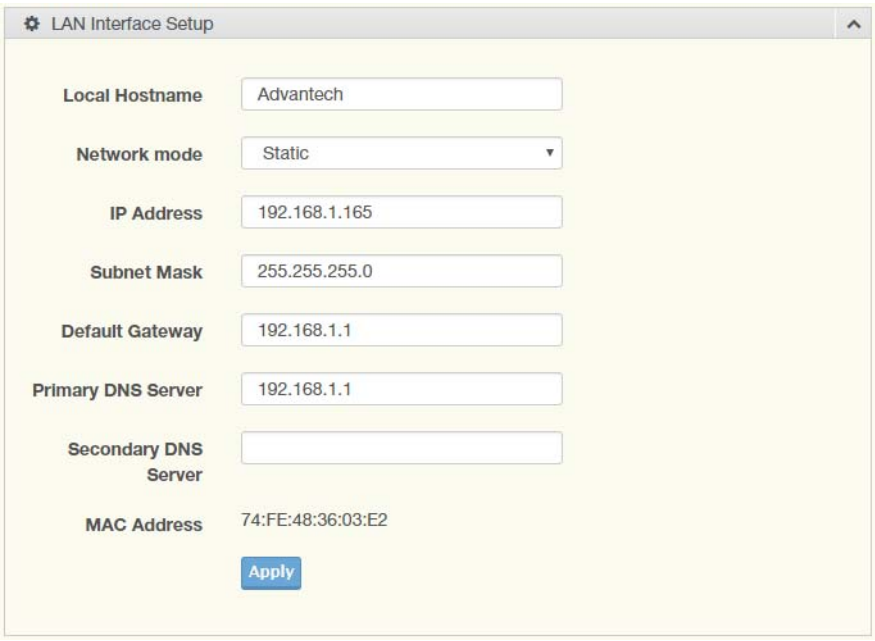

Figure 3.4 Network Settings > LAN

The following table describes the items in the previous figure.

Item	Description
Local Hostname	Enter the device name: up to 31 alphanumeric characters.
Network mode	Click the drop-down menu to select the IP Address Setting mode: Static or DHCP.
IP Address	Enter a value to specify the IP address of the interface. The default is 192.168.1.1.
Subnet Mask	Enter a value to specify the IP subnet mask for the interface. The default is 255.255.255.0.
Default Gateway	Enter a value to specify the default gateway for the interface.
Primary DNS Server	Enter a value to specify the primary DNS server for the interface.
Secondary DNS Server	Enter a value to specify the secondary DNS server for the interface.
MAC Address	Display the MAC address to which packets are statically forwarded.
Apply	Click **Apply** to save the values and update the screen.

Note! *All new configurations will take effect after rebooting. To reboot the device, click **Administration** > **Tools** > **Reboot**.*

3.4 Wireless Settings

3.4.1 Basic

To access this page, click **Wireless Settings** > **Basic**.

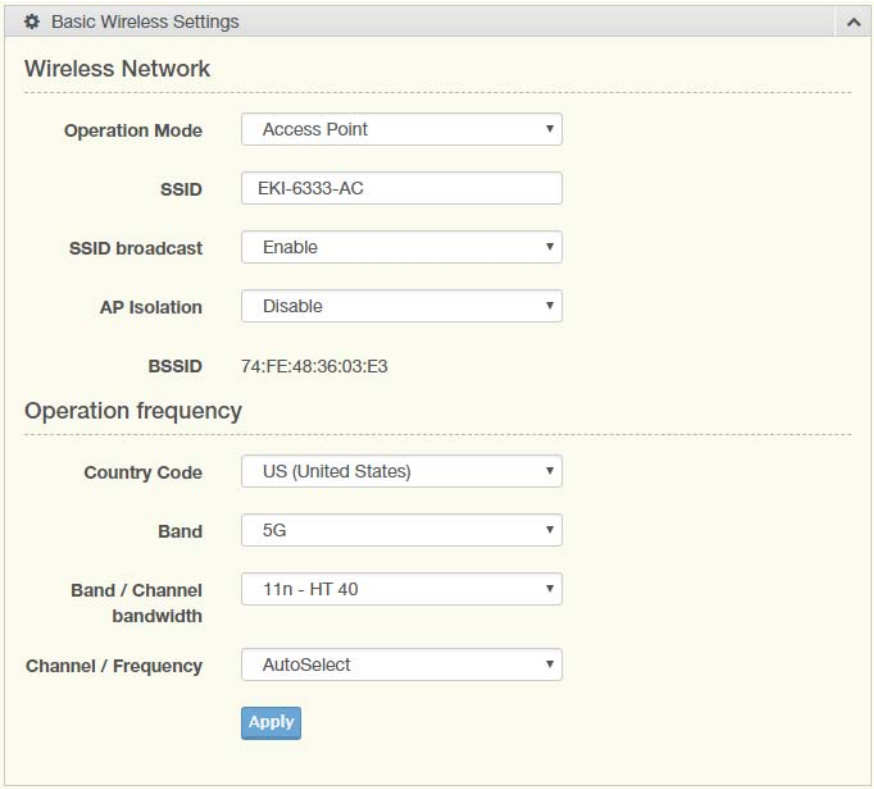

Figure 3.5 Wireless Settings > Basic

The following table describes the items in the previous figure.

Item	Description
Wireless Network	
Operation Mode	Click the drop-down menu to select an operation mode.
SSID	Enter the name to distinguish it from other networks in your neighborhood.
SSID broadcast	Click the drop-down menu to enable or disable the SSID broadcast function. The function is only enabled when Operation Mode is set to Access Point.
AP Isolation	Click the drop-down menu to enable or disable the AP Isolation function.The function is only enabled when Operation Mode is set to Access Point.
BSSID	Display the MAC address of the device.
Operation frequency	
Country Code	Click the drop-down menu to select the country code to specify different selectable channels. Available options: US (United States), Germany, France, China and Japan. Some specific channels and/or operational frequency bands are country dependent.
Channel Selection	Click the drop-down menu to select Auto (default) or Manual. The Auto selection allows the device to select a band. The Manual selection provides access to a selection of the option band (2.4G / 5G). The function is only enabled when Operation Mode is set to Client.

Item	Description
Band	Click the drop-down menu to select the band channel.
Channel bandwidth or Band / Channel bandwidth	Click the drop-down menu to select the band and channel bandwidth.
Channel / Frequency	Select the 2.4 or 5G wireless frequency to the least congested channel. The available settings on a 2.4G setting are 2.412 GHz to 2.462 GHz. For 5G, the available settings are 5.18 GHz to 5.825 GHz. The function is only enabled when Operation Mode is set to Access Point.
Apply	Click **Apply** to save the values and update the screen.

3.4.2 Advanced

To access this page, click **Wireless Settings** > **Advanced**.

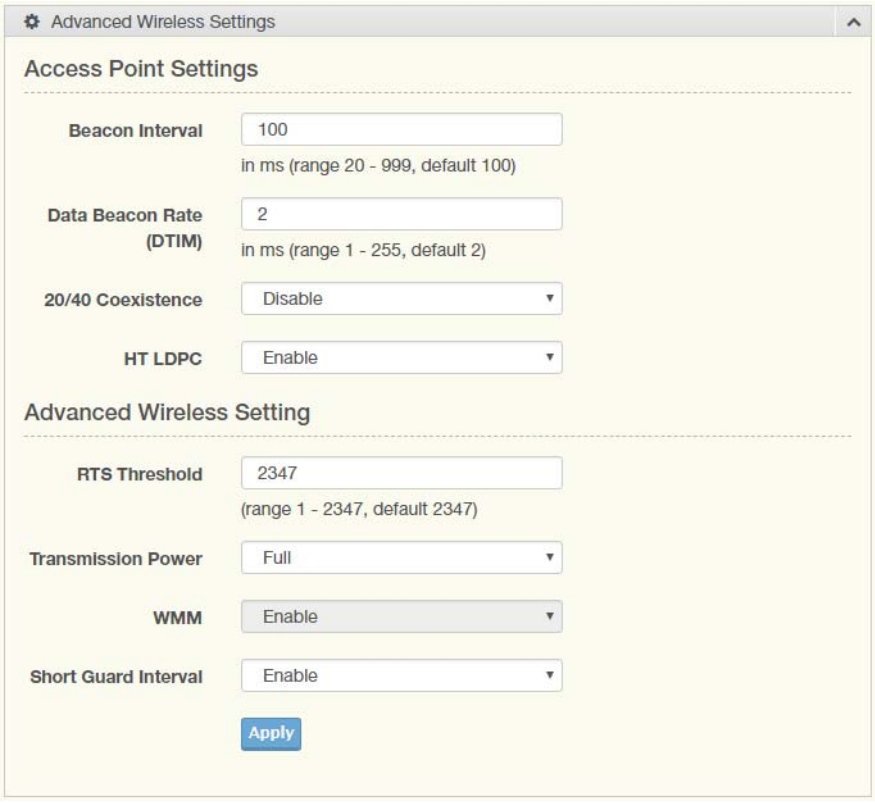

Figure 3.6 Wireless Settings > Advanced

The following table describes the items in the previous figure.

Item	Description
Access Point Settings	
Beacon Interval	Enter a value (20-999) to specify the frequency interval to broadcast packets.
Data Beacon Rate (DTIM)	DTIM, which stands for Delivery Traffic Indication Message, is contained in the data packets. It is for enhancing the wireless transmission efficiency. The default is set to 2. Enter a value between 1 and 255.
20/40 Coexistence	Select enable to select 20/40 MHz coexistence. Once enabled, the device allows clients operating only on a single channel (20 MHz) to connect to the wireless network (default: disabled).

Item	Description
HT LDPC	Enable to advertise Low-density Parity Check (LDPC) support. By enabling HT LDPC, the function improves data transmission over channels with a high degree of background noise (default: enabled).
Advanced Wireless Setting	
RTS Threshold	Enter a value (1-2347) to specify the request time to send threshold.
Transmission Power	Click the drop-down menu to set the transmission power of the WiFi. By default the AP transmits at full power: Full, Half, Quarter.
WMM	Enable WiFi Multimedia (WMM) to enhance the quality of service (QoS) on a network by prioritizing packet data based.
Short Guard Interval	Click the drop-down menu to enable/disable the short guard interval. In 802.11 operation, the guard interval is 800ns. The short guard interval time is 400ns to allow for an increased throughput.
Apply	Click **Apply** to save the values and update the screen.

3.4.3 Security

To access this page, click **Wireless Settings** > **Security**.

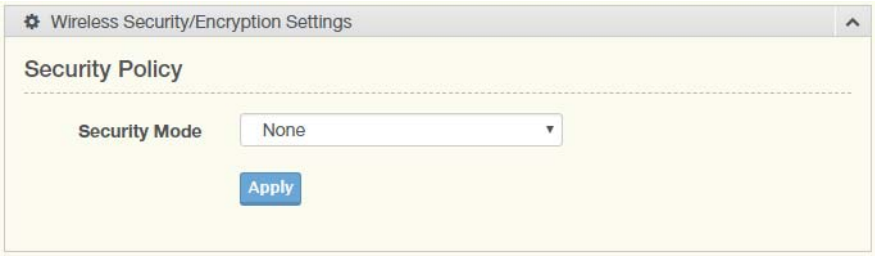

Figure 3.7 Wireless Settings > Security

The following table describes the items in the previous figure.

Item	Description
Security Policy	
Security Mode	Click the drop-down menu to select the encryption when communication. Available options: None, WEP, WPA-Personal and WPA/WPA2-Enterprise. If data encryption is enabled, the key is required and only sharing the same key with other wireless devices can the communication be established.
Apply	Click **Apply** to save the values and update the screen.

3.4.4 Statistics

To access this page, click **Wireless Settings** > **Statistics**.

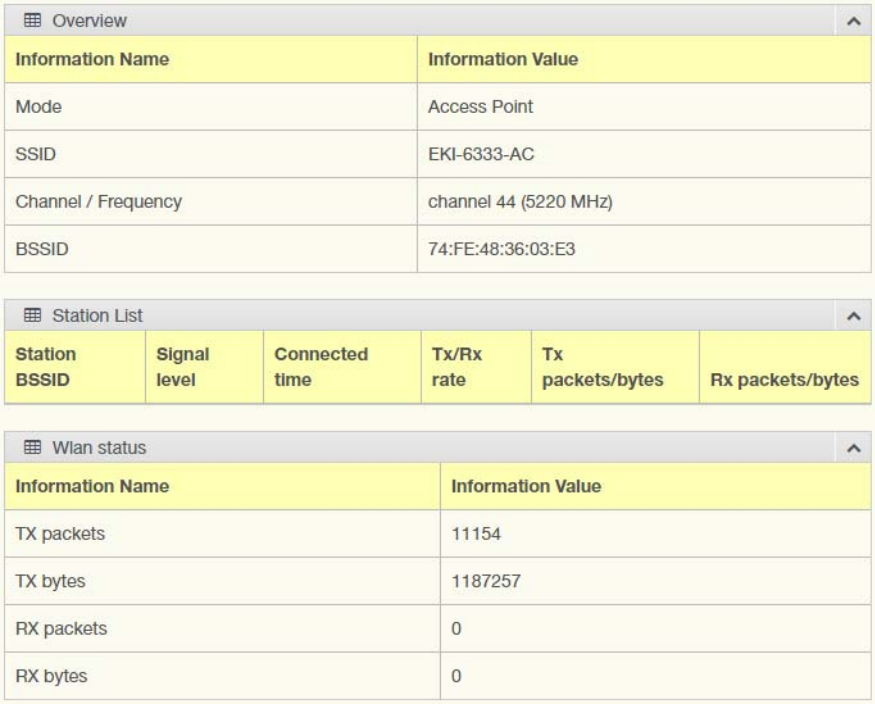

Figure 3.8 Wireless Settings > Statistics

The following table describes the items in the previous figure.

Item	Description
Overview	
Mode	Display the current operation mode of the device.
SSID	Display the SSID.
Channel / Frequency	Display the current channel / frequency of the device.
BSSID	Display the MAC address of the device.
Station List	
Station BSSID	Displays the basic service set identifier (BSSID), access point unique MAC address.
Signal level	Displays the power level measure in decibel-milliwatts of the listed BSSID.
Connected time	Displays the total uptime period.
Tx/Rx rate	Displays the transmit (Tx) to receive (Rx) rate of the connected client.
Tx packets/bytes	Displays the total Tx packets and corresponding bytes.
Rx packets/bytes	Displays the total Rx packets and corresponding bytes.
Wlan status	
TX packets	Display the current Tx packets.
TX bytes	Display the current Tx bytes.
RX packets	Display the current Rx packets.
RX bytes	Display the current Rx bytes.
Apply	Click **Apply** to save the values and update the screen.

3.4.5 Site Survey

To access this page, click **Wireless Settings** > **Site Survey**.

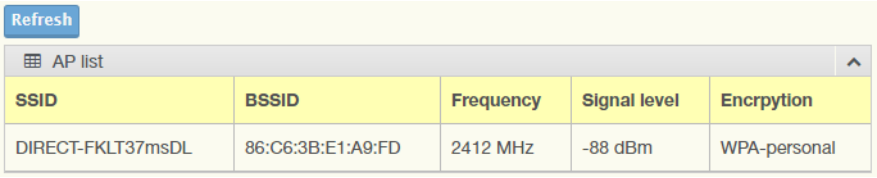

Figure 3.9 Wireless Settings > Site Survey

The following table describes the items in the previous figure.

Item	Description
Refresh	Click **Refresh** to update the screen.

3.4.6 Access Control

The Access Control feature is only available when the wireless mode of the device is set to AP, see “Basic” on page 23.

Access Control allows for an administrator to allow or deny access by defining specific devices through their MAC address.

To access this page, click **Wireless Settings** > **Access Control**.

Figure 3.10 Wireless Settings > Access Control

The following table describes the items in the previous figure.

Item	Description
Access Control Method	Click the drop-down menu to set the access control method: Disable, Deny or Allow. In the Deny or Allow menu, enter the MAC address of the target device - support for up to 32 target devices.
Apply	Click **Apply** to save the values and update the screen.

3.4.7 Log

To access this page, click **Wireless Settings** > **Log**.

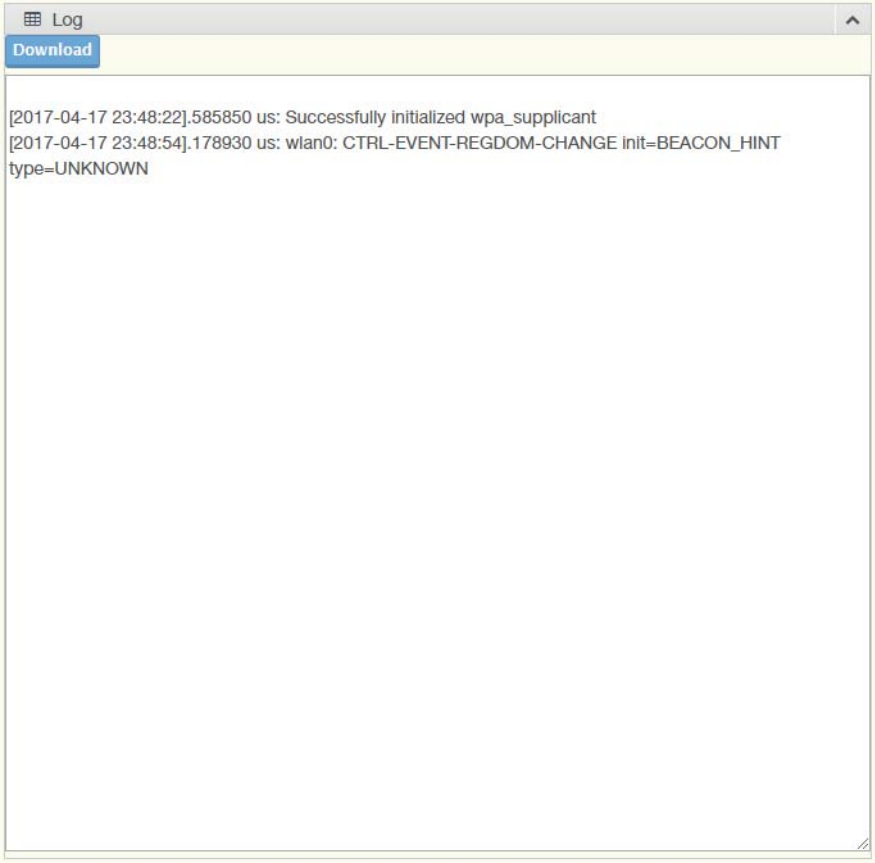

Figure 3.11 Wireless Settings > Log

The following table describes the items in the previous figure.

Item	Description
Download	Click **Download** to download the log file.

3.5 Administration

3.5.1 Syslog

Users can enable the syslogd function to record historical events or messages locally or on a remote syslog server.

To access this page, click **Administration** > **Syslogd**.

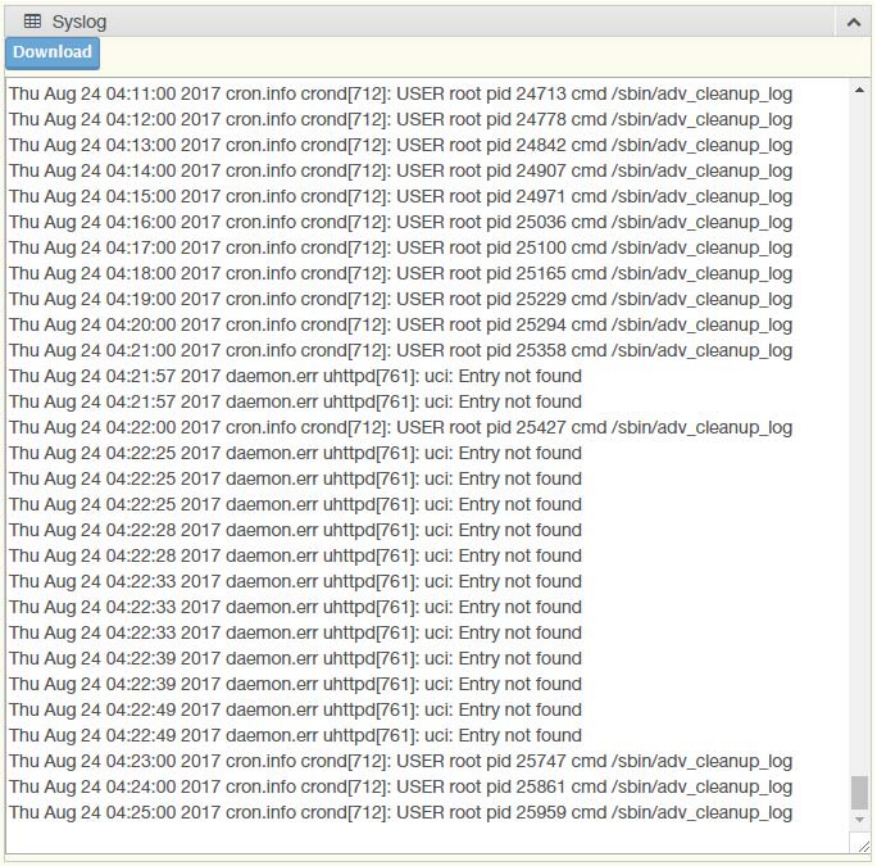

Figure 3.12 Administration > Syslogd

The following table describes the items in the previous figure.

Item	Description
Download	Click **Download** to download the log file.

3.5.2 NTP / Time

To access this page, click **Administration** > **NTP / Time**.

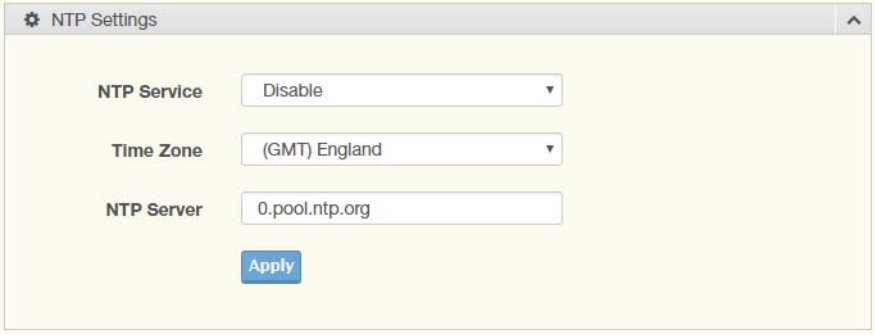

Figure 3.13 Administration > NTP / Time

The following table describes the items in the previous figure.

Item	Description
NTP Service	Click the drop-down menu to enable the NTP server.
Time Zone	Click the drop-down menu to select a system time zone.
NTP Server	Enter the address of the SNTP server.
Apply	Click **Apply** to save the values and update the screen.

3.5.3 HTTP

To access this page, click **Administration** > **HTTP**.

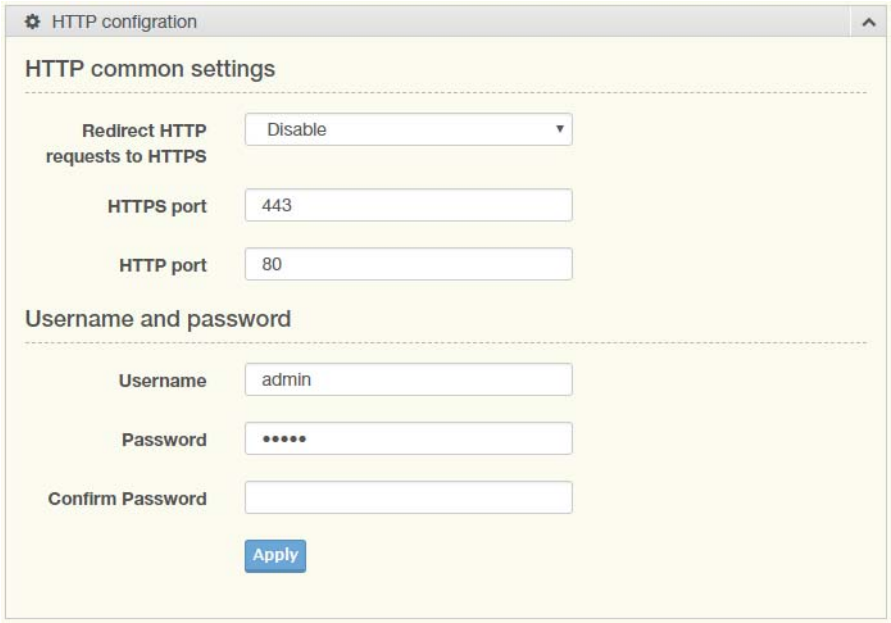

Figure 3.14 Administration > HTTP

The following table describes the items in the previous figure.

Item	Description
HTTP common settings	
Redirect HTTP requests to HTTPS	Click the drop-down menu to enable or disable the function. By default the function is disabled. When enabled, a NAT setting and Open Ports can be setup to direct connection requests to an internal server.
HTTPS port	Enter the port to forward HTTPS traffic, default: 443.
HTTP port	Enter the port to forward HTTP traffic, default: 80.
Username and password	
Username	Enter the name of the user entry.
Password	Enter the character set for the define password type.
Confirm Password	Retype the password entry to confirm the profile password.
Apply	Click **Apply** to save the values and update the screen.

3.5.4 Configuration

To access this page, click **Administration** > **Configuration**.

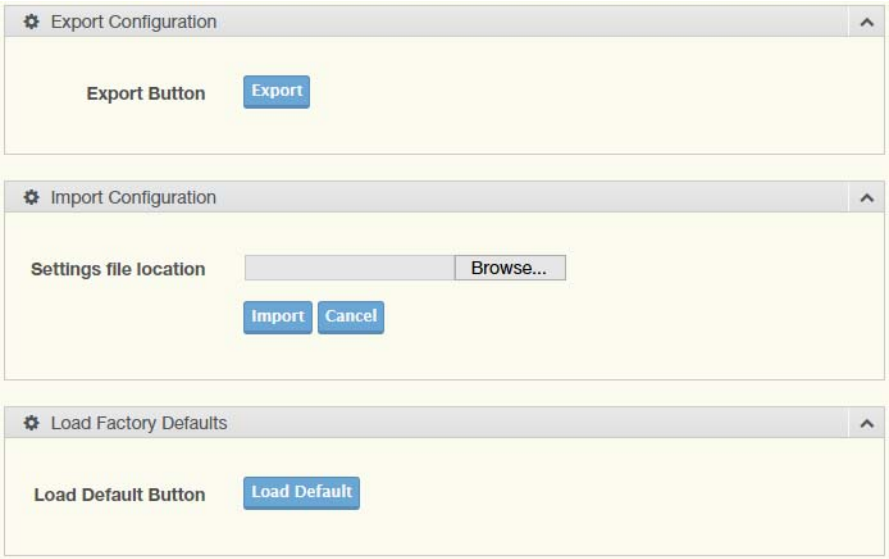

Figure 3.15 Administration > Configuration

The following table describes the items in the previous figure.

Item	Description
Export Configuration	
Export	Click **Export** to export the device settings.
Import Configuration	
Browse	Click **Browse** to select the configuration file.
Import	Click **Import** to import the configuration to the device.
Cancel	Click **Cancel** to cancel the import function.
Load Factory Defaults	
Load Default	Click **Load Default** to have all configuration parameters reset to their factory default values. All changes that have been made will be lost, even if you have issued a save.

3.5.5 Firmware Upgrade

To access this page, click **Administration** > **Firmware Upgrade**.

Figure 3.16 Administration > Firmware Upgrade

The following table describes the items in the previous figure.

Item	Description
Browse	Click **Browse** to select the configuration file.
Upload	Click **Upload** to upload to the current version.

3.5.6 Tools

To access this page, click **Administration** > **Tools**.

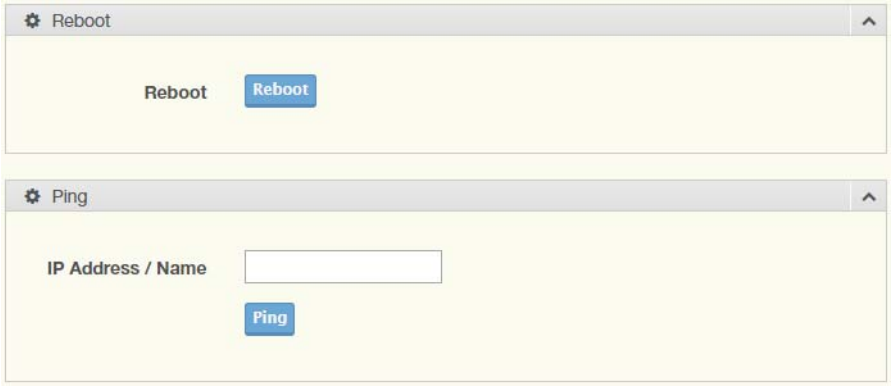

Figure 3.17 Administration > Tools

The following table describes the items in the previous figure.

Item	Description
Reboot	
Reboot	Click **Reboot** to reboot the device. Any configuration changes you have made since the last time you issued a save will be lost.
Ping	
IP Address / Name	Enter the IP address or host name of the station to ping. The initial value is blank. The IP Address or host name you enter is not retained across a power cycle. Host names are composed of series of labels concatenated with periods. Each label must be between 1 and 63 characters long, maximum of 64 characters.
Ping	Click **Ping** to display ping result for the IP address.

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