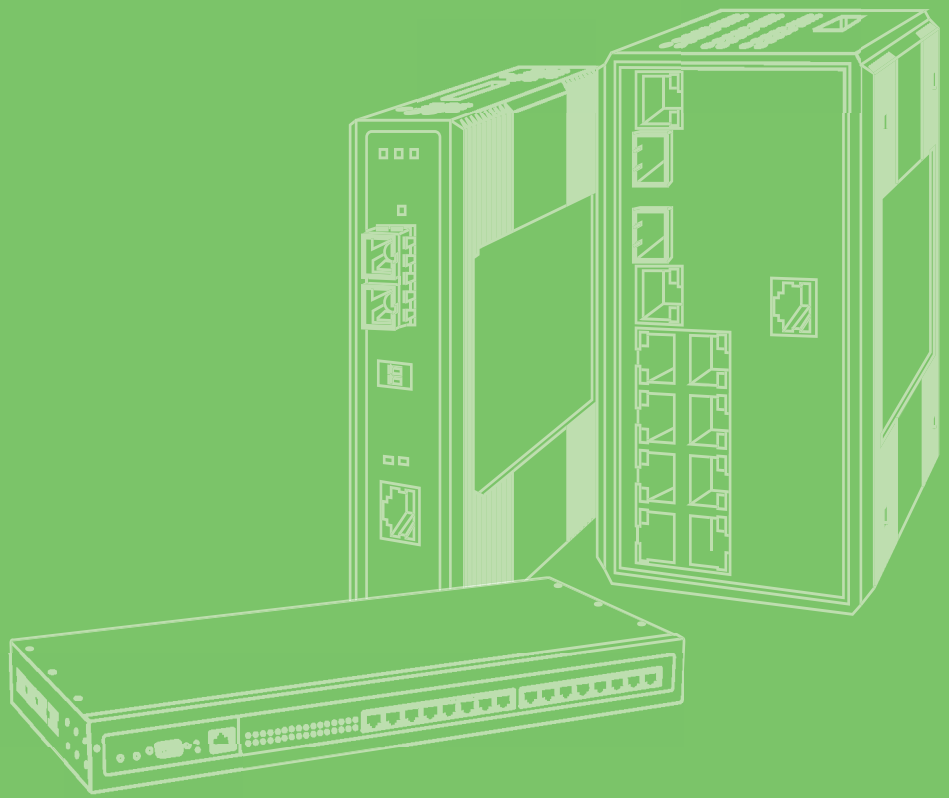


User Manual



EKI-6333AC-2G Series

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

ADVANTECH

Enabling an Intelligent Planet

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5. Write the RMA number visibly on the outside of the package and ship it prepaid to your dealer.

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 22 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 EKI-6333AC-2G Wi-Fi AP
- 1 x Power cord and PoE injector
- 2 x Pole mounting clamp
- 4 x Antennas
- 1 x mounting screws

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.

Contents

Chapter 1	Introduction	1
1.1	Overview	2
1.2	Device Features	2
1.3	Specifications	2
1.4	Dimensions	3
Chapter 2	Getting Started	4
2.1	Hardware	5
2.1.1	Front View	5
2.1.2	Rear View	6
2.1.3	Top View	6
2.1.4	Bottom View	7
2.1.5	Right View	7
2.1.6	Left View	8
2.1.7	LED Indicators	9
2.2	Connecting Hardware	10
2.2.1	Wall Mounting	10
2.2.2	Wireless Connection	11
2.2.3	Network Connection	12
2.2.4	I/O Port Cover	13
2.2.5	Power Connection	14
2.3	Reset Button	16
Chapter 3	Web Interface	18
3.1	Log In	19
3.1.1	Password	20
3.2	Overview	20
3.3	Address Resolution Protocol	21
3.4	Interface Settings	22
3.4.1	LAN	22
3.4.2	WAN	23
3.4.3	Wireless 2.4GHz	25
3.4.4	Wireless 5GHz	38
3.5	Network Settings	39
3.5.1	Static Route	39
3.5.2	Forwarding	39
3.5.3	Security	40
3.6	Management	42
3.6.1	Password Manager	42
3.6.2	Syslog	42
3.6.3	NTP / Time	44
3.6.4	SNMP	45
3.6.5	Remote Services	46
3.6.6	Configuration Manager	47
3.6.7	Firmware Upgrade	47
3.6.8	Reset System	47
3.6.9	Apply Configuration	48
3.6.10	Reboot Device	48
3.7	Tools	49
3.7.1	Diagnostics	49

List of Figures

Figure 1.1	Dimensions.....	3
Figure 2.1	Front View	5
Figure 2.2	Rear View	6
Figure 2.3	Top View.....	6
Figure 2.4	Bottom View as Seen Without a Port Cover.....	7
Figure 2.5	Right View	7
Figure 2.6	Left View.....	8
Figure 2.7	System LED Panel	9
Figure 2.8	Mounting Screw Installation.....	10
Figure 2.9	Wall Mount Installation	11
Figure 2.10	Installing the Top Antennas.....	11
Figure 2.11	Installing the Bottom Antennas.....	12
Figure 2.12	Ethernet Plug & Connector Pin Position.....	12
Figure 2.13	Removing the I/O Cover.....	13
Figure 2.14	Installing the I/O Cover.....	14
Figure 2.15	Connecting Power to the PoE LAN Port.....	15
Figure 2.16	Grounding Connection.....	16
Figure 2.17	Reset Button Location	17
Figure 3.1	Login Screen	19
Figure 3.2	Administration > HTTP	20
Figure 3.3	Status > Overview, System Info and LAN Interface	20
Figure 3.4	Status > Overview, WAN Interface, DHCP Leases, & System Status.....	21
Figure 3.5	Status > ARP.....	22
Figure 3.6	Interface > LAN	22
Figure 3.7	Interface > WAN > Network Mode.....	23
Figure 3.8	Interface > WAN > Network Mode > Static.....	24
Figure 3.9	Interface > WAN > Network Mode.....	24
Figure 3.10	Interface > WAN > Network Mode > PPPoE	25
Figure 3.11	Wireless - 2.4GHz > Basic > Access Point.....	26
Figure 3.12	Wireless - 2.4GHz > Basic > Client	27
Figure 3.13	Wireless - 2.4GHz > Basic > Bridged Repeater	28
Figure 3.14	Wireless - 2.4GHz > Advanced	30
Figure 3.15	Wireless - 2.4GHz > Advanced	31
Figure 3.16	Wireless - 2.4GHz > Security	32
Figure 3.17	Wireless - 2.4GHz > Security	32
Figure 3.18	Wireless - 2.4GHz > Multiple SSID.....	33
Figure 3.19	Wireless - 2.4GHz > QoS	34
Figure 3.20	Wireless - 2.4GHz > Statistics	35
Figure 3.21	Wireless - 2.4GHz > Access Control	36
Figure 3.22	Wireless - 2.4GHz > Site Survey.....	36
Figure 3.23	Wireless - 2.4GHz > Site Survey.....	37
Figure 3.24	Wireless - 2.4GHz > Log	38
Figure 3.25	Networking > Static Route.....	39
Figure 3.26	Networking > Forwarding > Port Forwarding.....	39
Figure 3.27	Networking > Forwarding > DMZ	40
Figure 3.28	Networking > Security > Filter	40
Figure 3.29	Networking > Security > VPN Passthrough.....	41
Figure 3.30	Management > Password Manager.....	42
Figure 3.31	Management > Syslog.....	43
Figure 3.32	Management > NTP / Time	44
Figure 3.33	Management > SNMP	45
Figure 3.34	Management > Remote Services.....	46
Figure 3.35	Management > Configuration Manager	47
Figure 3.36	Management > Firmware Upgrade.....	47
Figure 3.37	Management > Apply Configuration	47
Figure 3.38	Management > Apply Configuration	48

Figure 3.39	Management > Reboot Device	48
Figure 3.40	Tools > Diagnostics	49

Chapter 1

Introduction

1.1 Overview

The EKI-6333AC-2G Series is a feature rich wireless AP which provides a reliable wireless connectivity for industrial environments. The PoE injector enhances flexibility in deployment of this AP even where the DC power supply is hard to fulfill.

With the support of STP, WMM and IGMP snooping protocols, EKI-6333AC-2G 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-2G implements the latest encryption technologies including WPA2/WPA for powerful security authentication.

1.2 Device Features

- Support 802.11 a/b/g/n/ac MIMO 2T2R
- WLAN transmission rate up to 867 Mbps
- Supports secure access with WEP, WPA/WPA2-Personal, WPA/WPA2-Enterprise
- Provides Web-based configuration
- Support Dual band 2.4G/5Ghz Concurrent
- IP55 waterproof

1.3 Specifications

Specifications	Description	
Interface	I/O Port	2 x RJ45
	Power Connector	RJ45, Passive 24V PoE
Physical	Enclosure	Aluminum die-casting
	Mounting	Wall, pole
	Dimensions (W x H x D)	114.3 x 191.7 x 47.7 mm (4.5" x 7.55" x 1.88")
	Weight	500g
LED Display	System LED	System: Power WLAN: Link/Active LAN: Link/Active
	Reboot Trigger	Built-in WDT (watchdog timer)
Environment	Operating Temperature	-20 ~ 70 °C (-4~158°F)
	Storage Temperature	-30 ~ 80°C (-22 ~ 176°F)
	Ambient Relative Humidity	10 ~ 95% RH
Wireless LAN Communications	Compatibility	2.4 GHz: IEEE 802.11 b/g/n 5 GHz: IEEE 802.11 a/n/ac
	Speed	Up to 867 Mbps
	Network Mode	Infrastructure
	Free Space Range	Open space 100 m
	Antenna	4 x reverse SMA connectors Default external antenna 2.4G: 5.17dBi(Max)/5G: 6.84 dBi (Max)
	Wireless Security	WEP, WPA/WPA2-Personal, WPA/WPA2-Enterprise

Specifications	Description	
Ethernet Communications	Compatibility	IEEE 802.11a/b/g/n/ac
	Speed	10/100/1000 Mbps
	Port Connector	2 x 8-pin RJ45
	Protection	Built-in 1.5 KV magnetic isolation
Power	Power Consumption	15W
	Power Input	DC 24V / 1A
Software	Management	Telnet, FTP, SNMP, Web UI, SSH
	Wireless	Radio on/off, WMM/Regatta Mode, Output Power Control, Beacon Interval, RTS/ CTS threshold, DTIM Interval
	Operation Modes	Access Point, Client, Repeater mode
	Configuration	Web Browser
	Protocol	ARP, ICMP, IPv4, IPv6, TCP, UDP, DHCP Client, DHCP Server, Auto IP, Telnet, DNS, SNMP, HTTP, DMZ, PPPoE, DHCP server, VPN Passthrough, Telnet Server, SSH Server, FTP Server, QoS
Regulatory Approvals	EMC	CE, FCC Part 15 Subpart B (Class B)

1.4 Dimensions

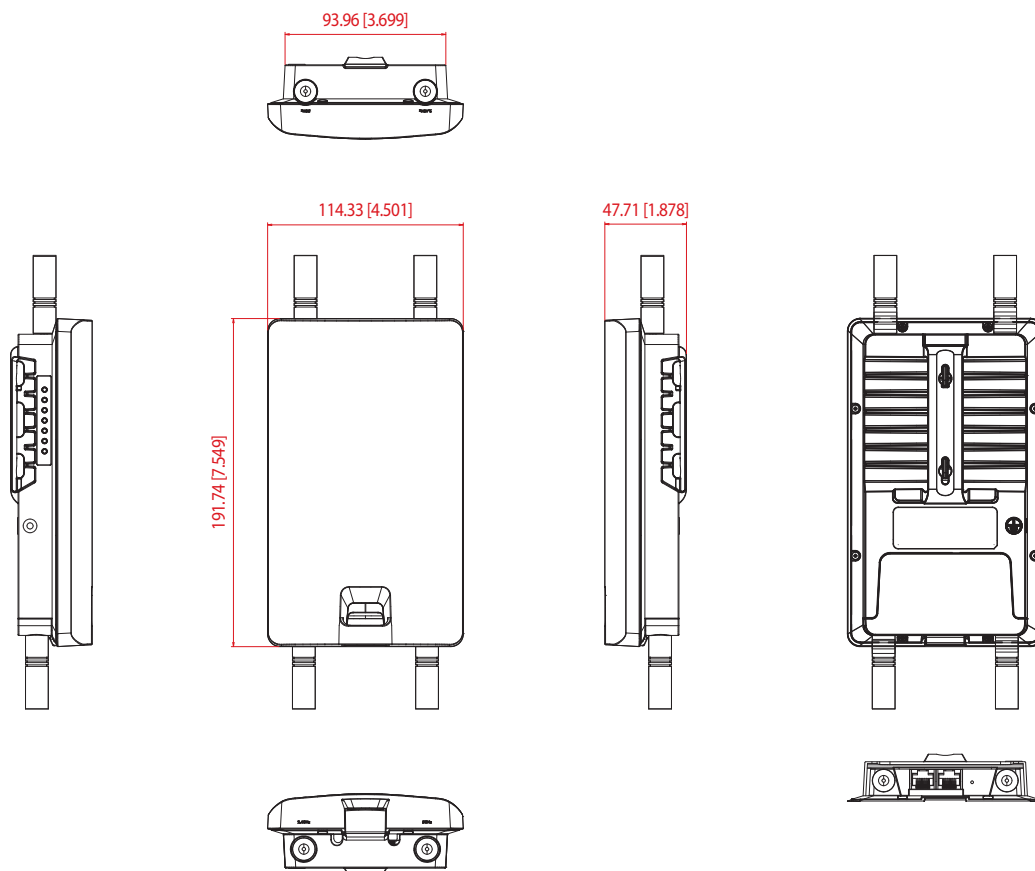


Figure 1.1 Dimensions

Chapter 2

Getting Started

2.1 Hardware

2.1.1 Front View

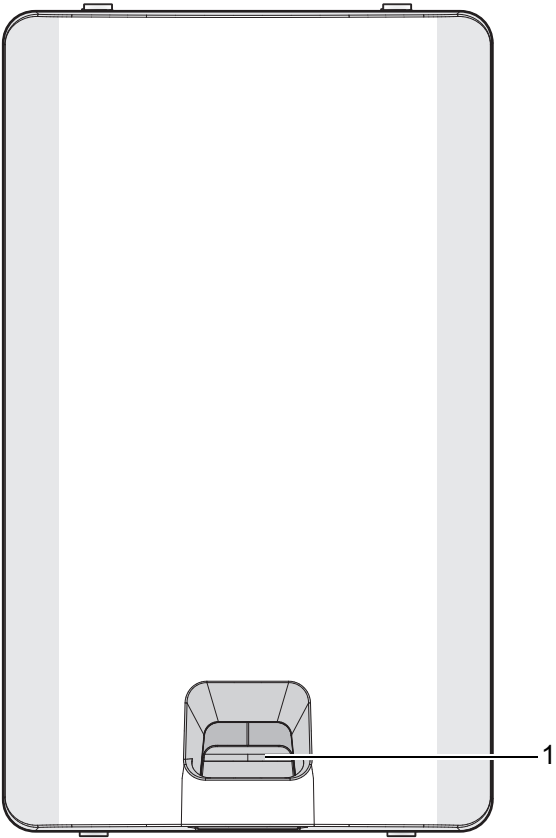


Figure 2.1 Front View

No.	Item	Description
1.	Release tab	Release tab for I/O port cover

2.1.2 Rear View

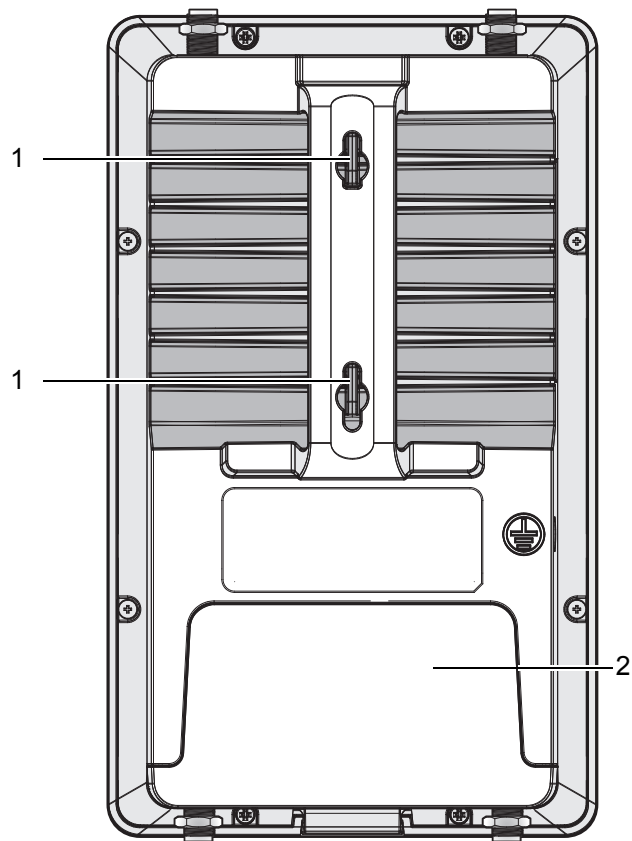


Figure 2.2 Rear View

No.	Item	Description
1.	Quick mount keyhole slot	Slots for mounting device to a wall
2.	Cover	I/O port cover

2.1.3 Top View

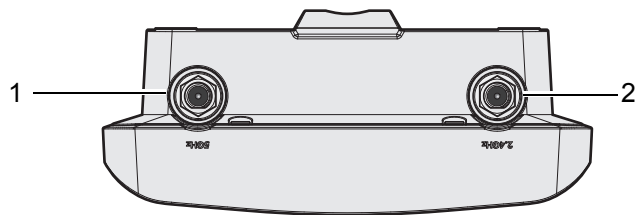


Figure 2.3 Top View

No.	Item	Description
1.	Antenna connector	Reverse SMA connector for 5G WLAN antenna
2.	Antenna connector	Reverse SMA connector for 2G WLAN antenna

2.1.4 Bottom View

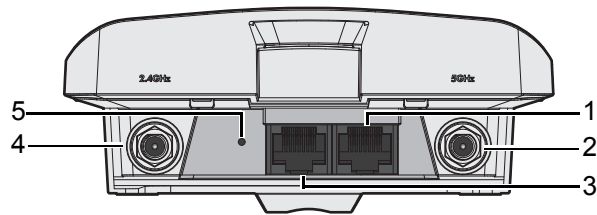


Figure 2.4 Bottom View as Seen Without a Port Cover

No.	Item	Description
1.	ETH port	LAN2 RJ45 port
2.	Antenna connector	Reverse SMA connector for 2.4 GHz Wi-Fi antenna
3.	ETH port	LAN1 RJ45 port, supports passive PoE
4.	Antenna connector	Reverse SMA connector for 5 GHz Wi-Fi antenna
5.	Reset button	Button allows for system soft reset or factory default reset

2.1.5 Right View

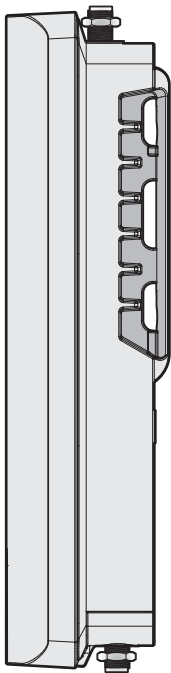


Figure 2.5 Right View

2.1.6 Left View

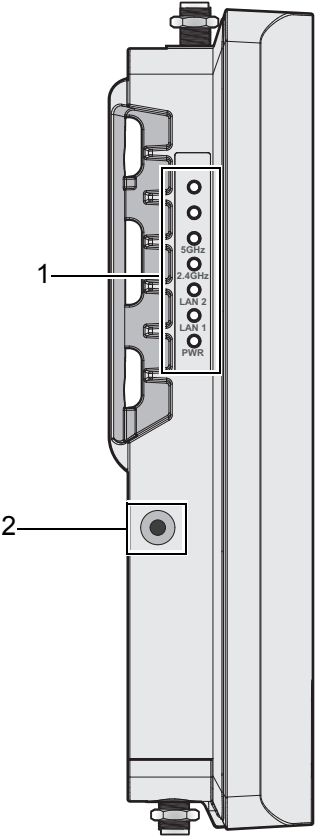


Figure 2.6 Left View

No.	Item	Description
1.	System LED panel	See “LED Indicators” on page 9 for further details.
2.	Ground terminal	Screw terminal used to ground chassis

2.1.7 LED Indicators

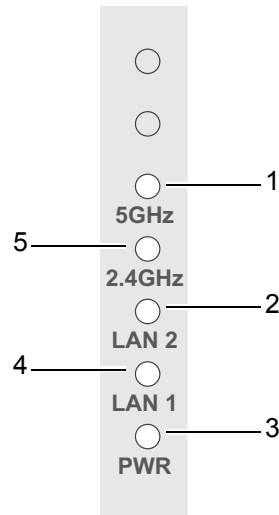


Figure 2.7 System LED Panel

No.	LED Name	LED Color	Description
1.	WLAN (5 GHz)	Green on	Wireless function is active
		Green blinking	Wireless port is transmitting or receiving data
2.	Ethernet (LAN 2)	Green on	10/100/1000Mbps Ethernet connection
		Green blinking	Ethernet port is transmitting or receiving data
3.	PWR	Amber on	Power is on
		Amber blinking	Boot state
		Off	Power is off or power error condition exists
4.	Ethernet (LAN 1)	Green on	10/100/1000Mbps Ethernet connection
		Green blinking	Ethernet port is transmitting or receiving data
5.	WLAN (2.4 GHz)	Green on	Wireless function is active
		Green blinking	Wireless port is transmitting or receiving data

2.2 Connecting Hardware

2.2.1 Wall Mounting

This section provides instructions for installing the access point. It is recommended that only personnel with an understanding of wireless access points and bridging techniques and grounding methods install the device.

Warning! *The installation of the access point must comply with local and national electrical codes.*



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



When mounting an access point, make sure the access point is oriented with the LED indicators clearly visible.

In addition, the access point must be mounted in such a way as to ensure that all antenna ports and the console port are accessible for future use.

1. On the installation site, place the device firmly against the wall. Make sure the device is vertically and horizontally level.
2. Use the location of the keyhole slots on the back of the device to mark two screw hole locations on the mounting surface.
3. Remove the device from the wall and drill holes over each marked location (2) on the wall, keeping in mind that the holes must accommodate wall sinks in addition to the screws.
4. Insert the wall sinks into the walls.
5. Insert a screw in a wall sink and rotate it to secure. Do not tighten at this point. Repeat for the remaining location, see the following figure.

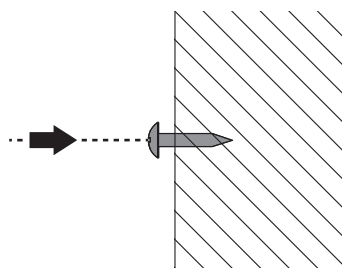


Figure 2.8 Mounting Screw Installation

6. Align the keyhole slots over the screws and insert the device in place.

7. Slide the device down to sit it securely in the mounting screws.

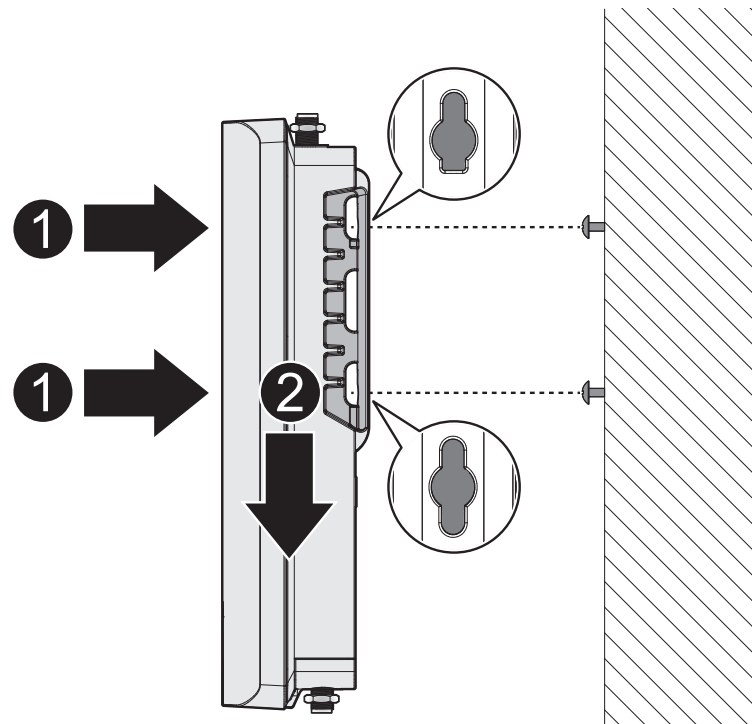


Figure 2.9 Wall Mount Installation

2.2.2 Wireless Connection

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



1. Connect the top antennas by turning the antenna in the connectors in a clockwise direction.

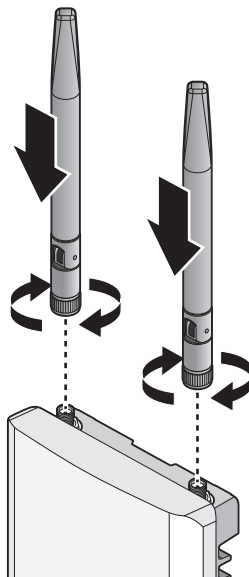


Figure 2.10 Installing the Top Antennas

2. Repeat for the bottom locations.

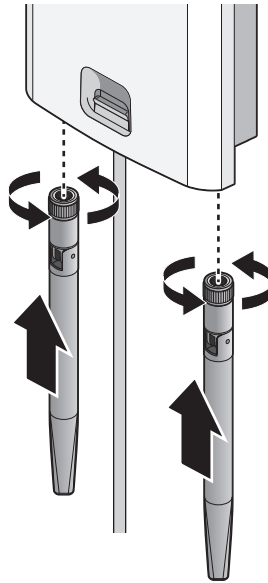


Figure 2.11 Installing the Bottom Antennas

2.2.3 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

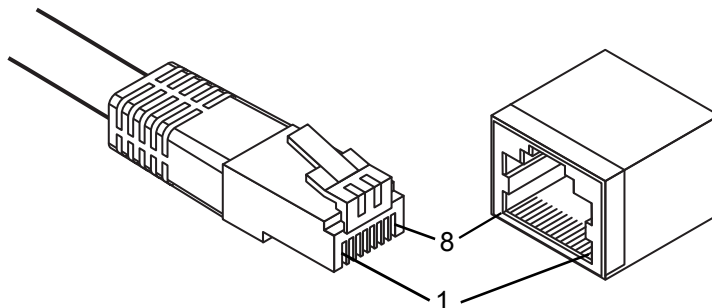


Figure 2.12 Ethernet Plug & Connector Pin Position

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

2.2.4 I/O Port Cover

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.



2.2.4.1 Removing a Port cover

1. Position the device so the bottom is facing upwards.
2. Align the Locate the top cover release as shown in the following figure.
3. Insert a tool through the opening and into the bottom of the release tab.
4. Gently lift the tab upwards and slide the tab towards the bottom.

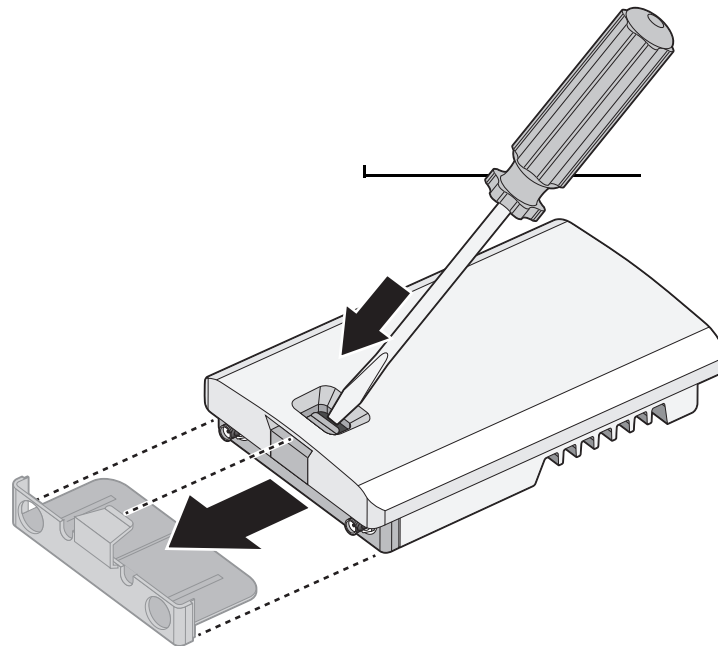


Figure 2.13 Removing the I/O Cover

Once the cover is released, the I/O ports on the back of the device are accessible.

2.2.4.2 Installing a Port Cover

1. Once the tab is unlocked, remove the cover from the device.
2. Position the device so the front is facing upwards.
To simplify this procedure, Ethernet cables are installed along with the cover.
3. Align the edges of the cover with the groves on the device bay. The ends of the cover must be inserted underneath the groves.

4. Slide the cover into the bay and continue to slide it in place until an audible click sounds indicating that the cover is locked in place.

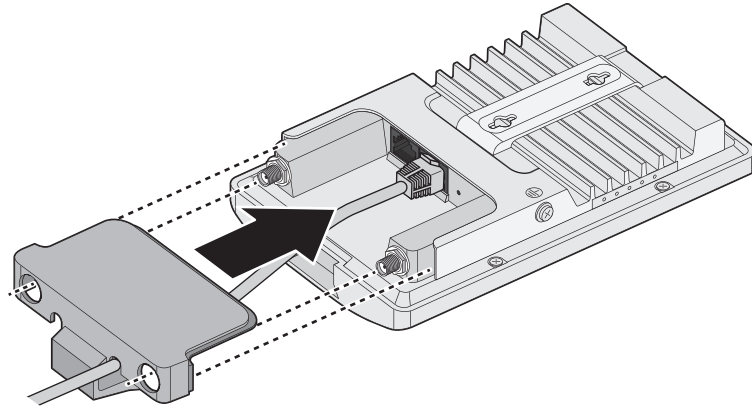


Figure 2.14 Installing the I/O Cover

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 EKI-6333AC-2G is powered by a passive 24Vdc PoE injector.

1. Locate the LAN1 port on the bottom of the access point.
2. Connect one end of a Ethernet cable to a PoE injector.
3. Connect the other end of the Ethernet cable to the LAN port supporting PoE on the access point.

The device powers on once the PoE injector supplies power to the access point.

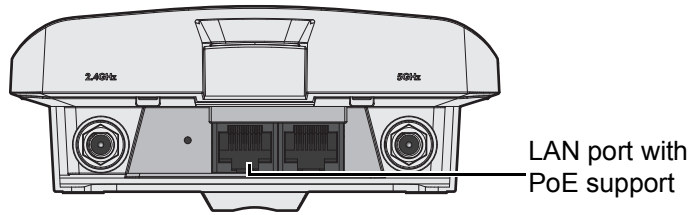


Figure 2.15 Connecting Power to the PoE LAN Port

2.2.5.2 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.

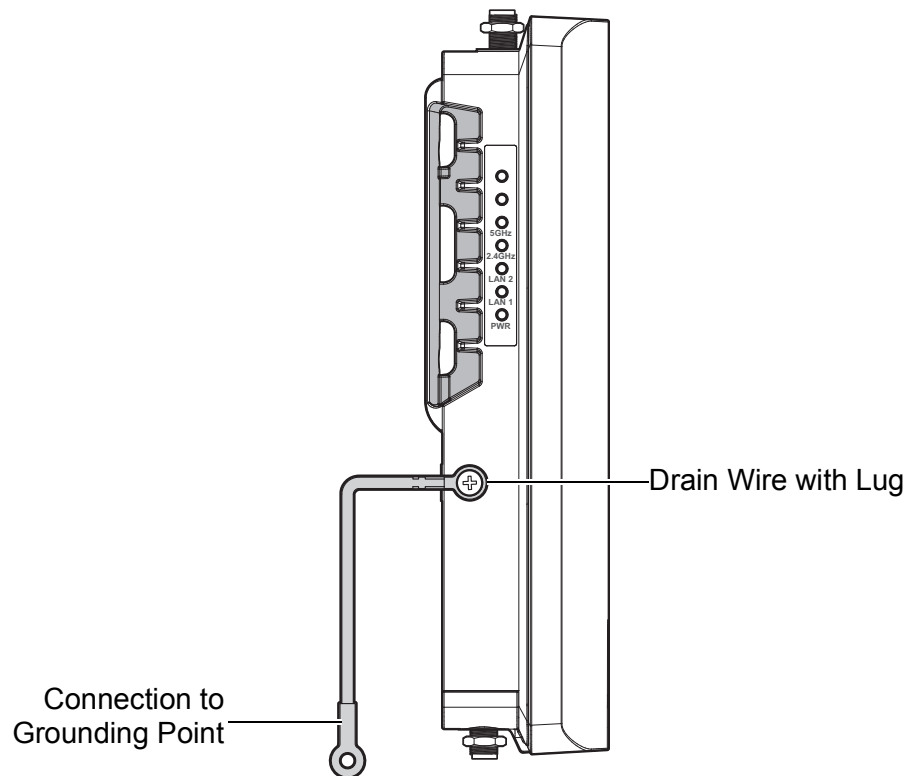


Figure 2.16 Grounding Connection

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.*



2.3 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.

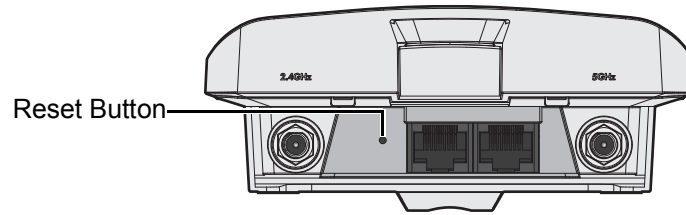


Figure 2.17 Reset Button Location

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.

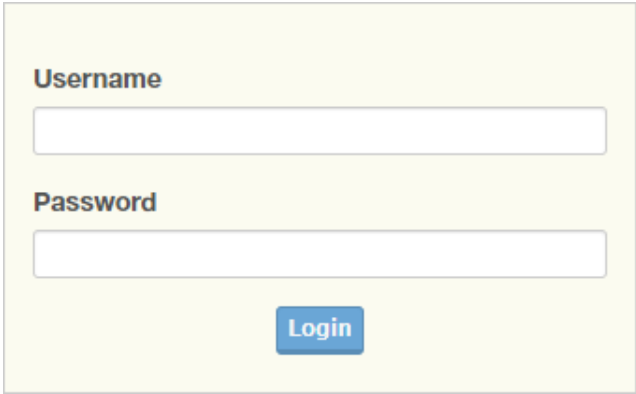
The image shows a login screen with a light yellow background. It contains two text input fields: the first is labeled "Username" and the second is labeled "Password". Below these fields is a blue button with the word "Login" in white text.

Figure 3.1 Login Screen

Note! Screen may differ depending on the Web browser.



3.1.1 Password

The Management 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 > Management > Password Manager**. The Password Manager page displays.
3. The profile to change is the current logged in profile. 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.

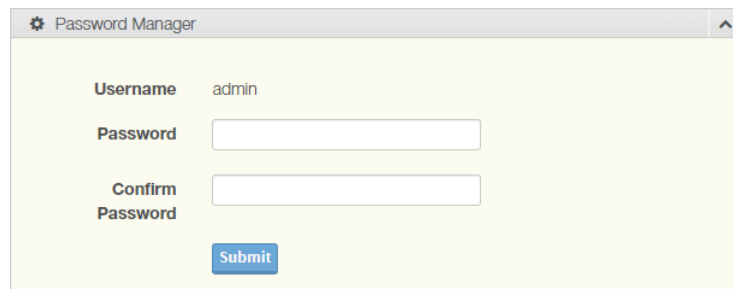


Figure 3.2 Administration > HTTP

6. Once completed, the settings must be saved to the firmware to retain them after a reboot. Navigate to **Home > Management > Apply Configuration**.
7. Click **Apply and Reboot** to save the settings.

3.2 Overview

To access this page, Navigate to **Home > Status** and click **Overview**.

System Info	
Information Name	Information Value
Firmware Version	1.0.4
Local Hostname	Advantech
System Time	Thu Jun 20 09:20:08 2019
System Up Time	0 day 0 hr 3 min 15 sec
Model Name	Advantech EKI-6333AC-2G
Serial Number	IAC2438545

LAN Interface	
Information Name	Information Value
LAN Status	 Address: 192.168.1.1 Netmask: 255.255.255.0 RX: 57.94 KB (713 Pkts.) TX: 1.03 MB (662 Pkts.) MAC-Address: 74:FE:48:46:54:68
Wireless - 2.4GHz	 Mode: Access Point SSID: EKI-6333AC-2G-2.4G BSSID: 74:FE:48:46:54:6A Encryption: None Channel: 11 (2.462 GHz) Tx-Power: 30 dBm Country: US
Wireless - 5GHz	 Mode: Access Point SSID: EKI-6333AC-2G-5G BSSID: 74:FE:48:46:54:6B Encryption: None Channel: 36 (5.180 GHz) Tx-Power: 23 dBm Country: US

Figure 3.3 Status > Overview, System Info and LAN Interface

WAN Interface			
Information Name		Information Value	
WAN Status		? Not connected	

DHCP Leases			
Hostname	IPv4-Address	MAC-Address	Lease Time Remaining
There are no active leases.			

System Status	
Information Name	Information Value
Memory Utilization	84%
CPU Utilization	3%

Figure 3.4 Status > Overview, WAN Interface, DHCP Leases, & System Status

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.
Model Name	Displays the model name of the device.
LAN Interface	
LAN Status	Displays the current LAN and MAC settings, TX packets/bytes, and RX packets/bytes.
Wireless - 2.4GHz	Displays the current settings for the 2.4GHz interface, listing the access point mode, SSID name, BSSID, encryption type, broadcast channel, TX power, and assigned region (country).
Wireless - 5GHz	Displays the current settings for the 5GHz interface, listing the access point mode, SSID name, BSSID, encryption type, broadcast channel, TX power, and assigned region (country).
WAN Interface	
Local IP Address	Displays the type of WAN physical interface setup: Disabled (default), static, DHCP, PPPoE.
DHCP Leases	
	Displays the defined list of DHCP leases that the DHCP server has assigned. Defines hostname, IPv4-Address, MAC-Address, and Lease Time Remaining.
System Status	
Memory Utilization	Displays the total memory utilization in terms of percentage.
CPU Utilization	Displays the total CPU utilization in terms of percentage.

3.3 Address Resolution Protocol

The Address Resolution Protocol (ARP) allows mapping of dynamic Internet Protocol addresses (IP address) to a permanent physical machine address in a local area network (LAN) through the use of the MAC address.

To access this page, Navigate to **Home > Status** and click **ARP**.

ARP Table		
IP Address	MAC	Interface
192.168.1.29	1c:6f:65:28:35:ae	br-lan

Figure 3.5 Status > ARP

The following table describes the items in the previous figure.

Item	Description
ARP Table	
IP Address	Displays the mapped IP address.
MAC	Displays the MAC address of the defined IP list entry.
Interface	Displays the defined interface of the mapped address.

3.4 Interface Settings

3.4.1 LAN

To access this page, click **Interface > LAN**.

LAN Interface Setup

Local Hostname

Advantech

Domain Name

lan

Network Mode

Static

IP Address

192.168.1.1

Subnet Mask

255.255.255.0

Spanning Tree

Enabled

Disabled

DHCP Server

DHCP Server

Enabled

Disabled

Start IP Address

192.168.1.100

Pool Counter

150

Lease Time

Day

Hour

Minute

Second

0

12

0

0

(0 - 365)

(0 - 23)

(0 - 59)

(0 - 59)

Static DNS 1

Static DNS 2

Submit

Figure 3.6 Interface > LAN

The following table describes the items in the previous figure.

Item	Description
Local Hostname	Enter the device name: up to 31 alphanumeric characters.
Domain Name	Enter the text string to define the name of a domain.
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.
Spanning Tree	Click the radio button to enable or disable (default) the spanning tree service.
DHCP Server	
DHCP Server	Click the radio button to enabled or disabled the DHCP server function.
Start IP Address	Enter starting a IP address for the IP assignment.
Pool Counter	Enter a variable to define the number of IP addresses for a given network.
Lease Time	Enter in the value designating the lease time for the DHCP server.
Static DNS 1	Enter in the value designating the primary static DNS.
Static DNS 2	Enter in the value designating the secondary static DNS.
Submit	Click Submit to save the values and update the screen.

Note! *All new configurations will take effect after rebooting. To reboot the device, click **Management > Apply Configuration > Apply and Reboot**.*



3.4.2 WAN

To access this page, click **Interface > WAN**.

The Interface screen allows user to setup the WAN interface and its network function mode.

When WAN Type (Network Mode) is **Disable** (default), the **Interface Setup** configuration settings appear.

Figure 3.7 Interface > WAN > Network Mode

The following table describes the items in the previous figure.

Item	Description
Network Mode	Click the drop-down menu to select the mode type: Disable (default), Static, DHCP, PPPoE.
WAN Interface	Click the radio button to select the specific interface to configure.
Submit	Click Submit to save the values and update the screen.

When WAN Type (Network Mode) is **Static**, the **Static WAN Type** configuration settings appear.

The screenshot shows the 'WAN Interface Setup' window. At the top, there's a gear icon and the title 'WAN Interface Setup'. Below this, the 'Network Mode' is set to 'Static' in a dropdown menu. Under 'WAN Interface', 'LAN 1' is selected with a radio button, and 'LAN 2' is unselected. There are input fields for 'IP Address', 'Subnet Mask', 'Default Gateway', 'Static DNS 1', and 'Static DNS 2'. At the bottom, there is a blue 'Submit' button.

Figure 3.8 Interface > WAN > Network Mode > Static

The following table describes the items in the previous figure.

Item	Description
Network Mode	Click the drop-down menu to select the mode type: Disable (default), Static, DHCP, PPPoE.
WAN Interface	Click the radio button to select the specific interface to configure.
IP Address	Enter the WAN IP address given by your service provider.
Subnet Mask	Enter the WAN subnet mask given by your service provider.
Default Gateway	Enter the WAN gateway IP address given by your service provider.
Static DNS 1	Enter the primary WAN DNS IP address given by your service provider.
Static DNS 2	Enter the secondary WAN DNS IP address given by your service provider.
Submit	Click Submit to save the values and update the screen.

When WAN Type (Network Mode) is **DHCP**, the **DHCP WAN Type** configuration settings appear.

The screenshot shows the 'WAN Interface Setup' window. At the top, there's a gear icon and the title 'WAN Interface Setup'. Below this, the 'Network Mode' is set to 'DHCP' in a dropdown menu. Under 'WAN Interface', 'LAN 1' is selected with a radio button, and 'LAN 2' is unselected. There is a blue 'Submit' button at the bottom.

Figure 3.9 Interface > WAN > Network Mode

The following table describes the items in the previous figure.

Item	Description
Network Mode	Click the drop-down menu to select the mode type: Disable (default), Static, DHCP, PPPoE.
WAN Interface	Click the radio button to select the specific interface to configure.
Submit	Click Submit to save the values and update the screen.

When WAN Type (Network Mode) is **PPPoE**, the **PPPoE WAN Type** configuration settings appear.

Figure 3.10 Interface > WAN > Network Mode > PPPoE

The following table describes the items in the previous figure.

Item	Description
Network Mode	Click the drop-down menu to select the mode type: Disable (default), Static, DHCP, PPPoE.
WAN Interface	Click the radio button to select the specific interface to configure.
Username	Enter the PPPoE user name (account) provided by your service provider.
Password	Enter the PPPoE password provided by your service provider.
Service Name	Enter the service name if your ISP requires it.
MTU	Check Enable check box to enable the MTU (Maximum Transmission Unit) limit, and specify the MTU for the 3G/4G connection. MTU refers to Maximum Transmission Unit. It specifies the largest packet size permitted for Internet transmission. Value Range: 1200 ~ 1500.
Submit	Click Submit to save the values and update the screen.

3.4.3 Wireless 2.4GHz

To access this page, click **Interface > Wireless - 2.4GHz**.

3.4.3.1 Basic

Basic wireless settings offer three types of configurable modes, Access Point, Client, and Bridged Repeater.

The following descriptions provide further details for each specific mode.

Access Point Mode

To access this page, click **Wireless - 2.4GHz > Basic** and select **Access Point** in Operation Mode.

The screenshot shows the 'Basic Wireless Settings' window. Under the 'Wireless Network' section, the 'Operation Mode' is set to 'Access Point'. The 'WDS' is 'Enabled'. The 'SSID' is 'EKI-6333AC-2G-2.4G'. 'SSID Broadcast' is 'Enable'. 'AP Isolation' is 'Disable'. The 'BSSID' is '88:dc:96:80:0f:ea'. 'Maximum Clients' is '30'. 'Management Frame Protection' is 'Disable'. Under the 'Operation Frequency' section, 'Country Code' is 'US (United States)', 'Band' is '2.4G', 'Band / Channel Bandwidth' is '11n - HT 20', and 'Channel / Frequency' is 'AutoSelect'. A 'Submit' button is at the bottom.

Figure 3.11 Wireless - 2.4GHz > Basic > Access Point

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: Access Point, Client, Bridged Repeater.
WDS	Click the radio button to enable or disable the Wireless Distribution System (WDS) to allow you to link the Access Points wirelessly.
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.
Maximum Clients	Enter the value (1 to 30) designating the maximum number of clients per wireless device.
Management Frame Protection	Click the radio button to enable, disable, or set the function to optional. The wireless feature increases the security of the management frames, standard: IEEE 802.11W-2009.
Operation frequency	

Item	Description
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.
Band	Click the drop-down menu to select the band channel.
Band / Channel bandwidth	Click the drop-down menu to select the band and channel bandwidth: 11b/g - Non-HT (Legacy), 11n - HT20, 11n - HT40, or 11ac - VHT 80.
Channel / Frequency	Click the drop-down menu to select a wireless channel/frequency: – AutoSelect – Channel 1: 2.412 GHz – Channel 2: 2.417 GHz – Channel 3: 2.422 GHz – Channel 4: 2.427 GHz – Channel 5: 2.432 GHz – Channel 6: 2.437 GHz – Channel 7: 2.442 GHz – Channel 8: 2.447 GHz – Channel 9: 2.452 GHz – Channel 10: 2.457 GHz – Channel 11: 2.462 GHz
Submit	Click Submit to save the values and update the screen.

Client Mode

To access this page, click **Wireless - 2.4GHz > Basic** and select **Client** in Operation Mode.

The screenshot shows the 'Basic Wireless Settings' window. Under the 'Wireless Network' section, 'Operation Mode' is set to 'Client'. 'WDS' is 'Disabled'. 'SSID' is 'EKI-6333AC-2G-2.4G' and 'BSSID' is '88:dc:96:80:0f:ea'. 'Management Frame Protection' is 'Disabled'. Under the 'Operation Frequency' section, 'Country Code' is 'US (United States)', 'Channel Selection' is 'Auto', and 'Channel Bandwidth' is '11n - HT 20'. A 'Submit' button is at the bottom.

Figure 3.12 Wireless - 2.4GHz > Basic > Client

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: Access Point, Client, Bridged Repeater.
WDS	Click the radio button to enable or disable the Wireless Distribution System (WDS) to allow you to link the Access Points wirelessly.
SSID	Enter the name to distinguish it from other networks in your neighborhood.
BSSID	Displays the basic service set identifiers (BSSID) for the device.
Scan AP	Click to rescan the selected SSID.
Management Frame Protection	Click the radio button to enable, disable, or set the function to optional. The wireless feature increases the security of the management frames, standard: IEEE 802.11W-2009.
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.
Channel bandwidth	Click the drop-down menu to select the band and channel bandwidth: 11b/g - Non-HT (Legacy), 11n - HT20, 11n - HT40, or 11ac - VHT 80.
Submit	Click Submit to save the values and update the list.

Bridged Repeater Mode

To access this page, click **Wireless - 2.4GHz > Basic** and select **Bridged Repeater** in Operation Mode.

Basic Wireless Settings

Wireless Network

Operation Mode: Bridged Repeater

WDS: ☐ Enabled ☒ Disabled

Main SSID:

BSSID: [Scan AP](#)

Extender SSID: EKI-6333AC-2G-2.4G

Management Frame Protection: ☐ Enable ☒ Disable ☐ Optional

Operation Frequency

Country Code: US (United States)

Band: 2.4G

Band / Channel Bandwidth: 11n - HT 20

Channel / Frequency: AutoSelect

[Submit](#)

Figure 3.13 Wireless - 2.4GHz > Basic > Bridged Repeater

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: Access Point, Client, Bridged Repeater.
WDS	Click the radio button to enable or disable the Wireless Distribution System (WDS) to allow you to link the Access Points wirelessly.
Main SSID	Enter the source SSID network to be repeated.
BSSID	Displays the basic service set identifiers (BSSID) for the device.
Scan AP	Click to rescan the selected SSID.
Extender SSID	Enter the AP device to be used as the extender.
Management Frame Protection	Click the radio button to enable, disable, or set the function to optional. The wireless feature increases the security of the management frames, standard: IEEE 802.11W-2009.
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.
Band	Click the drop-down menu to select the band channel.
Band / Channel bandwidth	Click the drop-down menu to select the band and channel bandwidth: 11b/g - Non-HT (Legacy), 11n - HT20, 11n - HT40, or 11ac - VHT 80.
Channel / Frequency	Click the drop-down menu to select a wireless channel/frequency: – AutoSelect – Channel 1: 2.412 GHz – Channel 2: 2.417 GHz – Channel 3: 2.422 GHz – Channel 4: 2.427 GHz – Channel 5: 2.432 GHz – Channel 6: 2.437 GHz – Channel 7: 2.442 GHz – Channel 8: 2.447 GHz – Channel 9: 2.452 GHz – Channel 10: 2.457 GHz – Channel 11: 2.462 GHz
Submit	Click Submit to save the values and update the screen.

3.4.3.2 Advanced

Access Point Settings

The Access Point Settings as displayed in the following figure are available when the operation mode (Wireless Network) is set to access point.

To access this page, click **Wireless - 2.4GHz > Advanced**.

Advanced Wireless Settings

Access Point Settings

Beacon Interval: 100 ms (20 - 999)

Data Beacon Rate (DTIM): 2 ms (1 - 255)

20/40 Coexistence: Disable

HT LDPC: Enable

Station Inactivity Time: 300 in s(range 30 - 600, default 300)

Advanced Wireless Setting

RTS Threshold: 2347 (1 - 2347)

Transmission Power: 9 21 dBm

WMM: Enable

Short Guard Interval: Enable

Submit

Figure 3.14 Wireless - 2.4GHz > 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).
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).
Station Inactivity Time	Enter the value in seconds (30 to 600, default 300) to define the period of traffic inactivity for a client before the AP removes it.
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 (9 - 21 dBm) of the WiFi. By default the AP transmits at 21 dBm.
WMM	Enable WiFi Multimedia (WMM) to enhance the quality of service (QoS) on a network by prioritizing packet data based.

Item	Description
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.
Submit	Click Submit to save the values and update the screen.

Client Settings

The Client Settings as displayed in the following figure are available when the operation mode (Wireless Network) is set to client.

To access this page, click **Wireless - 2.4GHz > Advanced**.

The screenshot shows the 'Basic Wireless Settings' window for a 'Wireless Network'. The 'Operation Mode' is set to 'Client'. Under 'WDS', 'Enabled' is unselected and 'Disabled' is selected. The 'SSID' is 'EKI-6333AC-2G-2.4G' and the 'BSSID' is '88:dc:96:80:0f:ea'. There is a 'Scan AP' button next to the BSSID. Under 'Management Frame Protection', 'Enable' is unselected, 'Disable' is selected, and 'Optional' is unselected. The 'Operation Frequency' section includes 'Country Code' set to 'US (United States)', 'Channel Selection' set to 'Auto', and 'Channel Bandwidth' set to '11n - HT 20'. A 'Submit' button is at the bottom.

Figure 3.15 Wireless - 2.4GHz > Advanced

The following table describes the items in the previous figure.

Item	Description
Client Settings	
Roam	Click to enable or disable the roaming function allowing it to automatically switch to another AP with a better signal strength.
Watchdog	Click to disable the function, disassociate or ping a specific IP address. The function stops unsecured wireless LAN usage across the network. ■ Disassociation: Transmits disassociation and deauthentication frames to prevent client association. Detected rogue WLANs. ■ Ping: The feature pings a specified IP address. If there is no response to the pings, the AP performs one of the following functions: Restart WiFi, Reboot, or Force Re-association.
Watchdog Action	Available when Watchdog is set to disassociate. Click the drop-down menu to associate a response to the Watchdog event, options: Restart WiFi, Reboot, Force Reassociation.
Disassociate Timer	Available when Watchdog is set to disassociate.
Ping Target	Available when Watchdog is set to ping. Enter the IP address to target when watchdog ping is activated.
Ping Waittime	Available when Watchdog is set to ping. Enter the value in seconds to designate the interval between pings.

Item	Description
Ping Loss Counter	Available when Watchdog is set to ping. Enter a value to activate the Watchdog function when the configured number of ping failure time is reached.
MAC Clone	Click to enable or disable the function, which allows the cloning of a wireless MAC address to connect an AP.
Clone Method	Available when MAC Clone is enabled. Click to select the clone method, Auto or Manual. By selecting Manual, you can enter the MAC address in the Clone MAC Address field.
Advanced Wireless Setting	
Transmission Power	Click the drop-down menu to set the transmission power (9 - 21 dBm) of the WiFi. By default the AP transmits at 21 dBm.
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.
Submit	Click Submit to save the values and update the screen.

3.4.3.3 Security

To access this page, click **Wireless - 2.4GHz > Security**.

Figure 3.16 Wireless - 2.4GHz > Security

In Bridged Repeater mode, the security / encryption settings are displayed as follows. See the following figure.

Figure 3.17 Wireless - 2.4GHz > Security

Item	Description
Security Policy	

Item	Description
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.
Submit	Click Submit to save the values and update the screen.
Security Policy (Main)	
Security Mode	Click the drop-down menu to select the encryption when communication. Available options: None, 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.
Submit	Click Submit to save the values and update the screen.
Submit and client use the same security.	Click Submit to push the settings to the client.
Security Policy (Extender)	
Security Mode	Click the drop-down menu to select the encryption when communication. Available options: None, 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.
Submit	Click Submit to save the values and update the screen.

3.4.3.4 Multiple SSID

The Multiple SSID feature is only available when the wireless mode of the device is set to AP, see “Management” on page 42.

To access this page, click **Wireless - 2.4GHz > Multiple SSID**.

Multiple SSID Settings

2.4GHz SSID

EKI-6333AC-2G-2.4G	None	Enable
--------------------	------	--------

Add

Add SSID

State: ☒ Enabled ☐ Disabled

SSID:

SSID Broadcast:

Management Frame Protection: ☐ Enable ☒ Disable ☐ Optional

Security Policy:

Submit

Figure 3.18 Wireless - 2.4GHz > Multiple SSID

The following table describes the items in the previous figure.

Item	Description
Add	Click Add after completing the SSID information to create the wireless network and list it in the menu.
Add SSID	
State	Click the radio button to designate the state (enabled/disabled) of the defined SSID.
SSID	Enter the text string identifying the name of the SSID.
SSID Broadcast	Click the drop-down menu to enable (visible) or disable (not broadcasted) the broadcasting of the SSID name
Management Frame Protection	Click the radio button to enable, disable, or set the function to optional. The wireless feature increases the security of the management frames, standard: IEEE 802.11W-2009.
Security Policy	
Security Mode	Click the drop-down menu to select the encryption when communication. Available options: None, 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.
Submit	Click Submit to save the values and update the screen.

3.4.3.5 QoS

The QoS feature is only available when the wireless mode of the device is set to AP or Bridged Repeater, see “Management” on page 42.

The QoS function is only available in Access Point mode.

To access this page, click **Wireless - 2.4GHz > QoS**.

Figure 3.19 Wireless - 2.4GHz > QoS

The following table describes the items in the previous figure.

Item	Description
Interface Name	Click the drop-down menu to select an interface from the list of already created wireless networks.
QoS	Click the radio button to enable or disable the QoS policy on the selected interface.
Download Speed (kbit/s)	Enter the value (kbit/s) to define the download speed of the policy: 1024 to 102400, default: 85000)
Upload Speed (kbit/s)	Enter the value (kbit/s) to define the upload speed of the policy: 1024 to 102400, default: 10000)
Submit	Click Submit to save the values and update the screen.

3.4.3.6 Statistics

To access this page, click **Wireless - 2.4GHz > Statistics**.

Overview

Information Name		Information Value			
Mode		Access Point			
SSID		EKI-6333AC-2G-2.4G			
Channel / Frequency		channel 11 (2462 MHz)			
BSSID		88:DC:96:80:0F:EA			

Station List

Station BSSID	Signal Level	Connected Time	Tx/Rx Rate	Tx Packets/Bytes	Rx Packets/Bytes

Wlan Status

Information Name		Information Value			
TX Packets		96870			
TX Bytes		13474682			
RX Packets		0			
RX Bytes		0			

Figure 3.20 Wireless - 2.4GHz > 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.

3.4.3.7 Access Control

The Access Control feature is only available when the wireless mode of the device is set to AP, see “Management” on page 42.

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 - 2.4GHz > Access Control**.

The screenshot shows a web interface titled 'Access Control Method'. It contains two dropdown menus. The first, labeled 'SSID', has 'EKI-6333AC-2G-2.4G' selected. The second, labeled 'Access Control Method', has 'Disable' selected. Below these is a blue 'Submit' button.

Figure 3.21 Wireless - 2.4GHz > Access Control

The following table describes the items in the previous figure.

Item	Description
SSID	Click the drop-down menu to select the SSID from the list of already created wireless networks.
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.
Submit	Click Submit to save the values and update the screen.

3.4.3.8 Site Survey

The Site Survey feature is only available when the wireless mode of the device is set to Client or Bridged Repeater mode, see “Management” on page 42.

To access this page, click **Wireless - 2.4GHz > Site Survey**.

The screenshot shows a 'Refresh' button and an 'AP list' table. The table has five columns: SSID, BSSID, Frequency, Signal level, and Encryption. One row of data is shown.

SSID	BSSID	Frequency	Signal level	Encryption
DIRECT-FKLT37msDL	86:C6:3B:E1:A9:FD	2412 MHz	-88 dBm	WPA-personal

Figure 3.22 Wireless - 2.4GHz > Site Survey

Item	Description
Refresh	Click to update the displayed AP list table.
AP list	
SSID	Displays the name of the listed AP.
BSSID	Displays the basic service set identifiers (BSSID) used to describe the section of the SSID.
Frequency	Displays the radio frequency of the listed SSID.
Signal level	Displays the signal level of the listed SSID.
Encryption	Displays the encryption type assigned to the listed SSID.

3.4.3.9 VLAN

The VLAN function allows for the processing of data to and from clients in the same manner as data is processed to and from wired connections.

To access this page, click **Wireless - 2.4GHz > Site Survey**.

VLAN ID	Port	Wireless SSID	Delete
2	☒ LAN 1 ☐ LAN 2	*EKI-6333AC-5G-5G	Delete
3	☒ LAN 1 ☐ LAN 2	*EKI-6333AC-2G-2.4G	Delete

Add Submit

Figure 3.23 Wireless - 2.4GHz > Site Survey

Item	Description
VLAN ID	Enter a variable (1 to 127) to identify the VLAN entry.
Port	Click a specific interface (LAN 1 / LAN 2) to designate to the VLAN entry.
Wireless SSID	Click the drop-down menu to select an SSID entry to configure to the VLAN entry.
Delete	Click Delete to remove the VLAN entry from the list.
Add	Click Add after completing the SSID information to create the wireless network and list it in the menu.
Submit	Click Submit to save the values and update the screen.

3.4.3.10 Log

To access this page, click **Wireless - 2.4GHz > Log**.

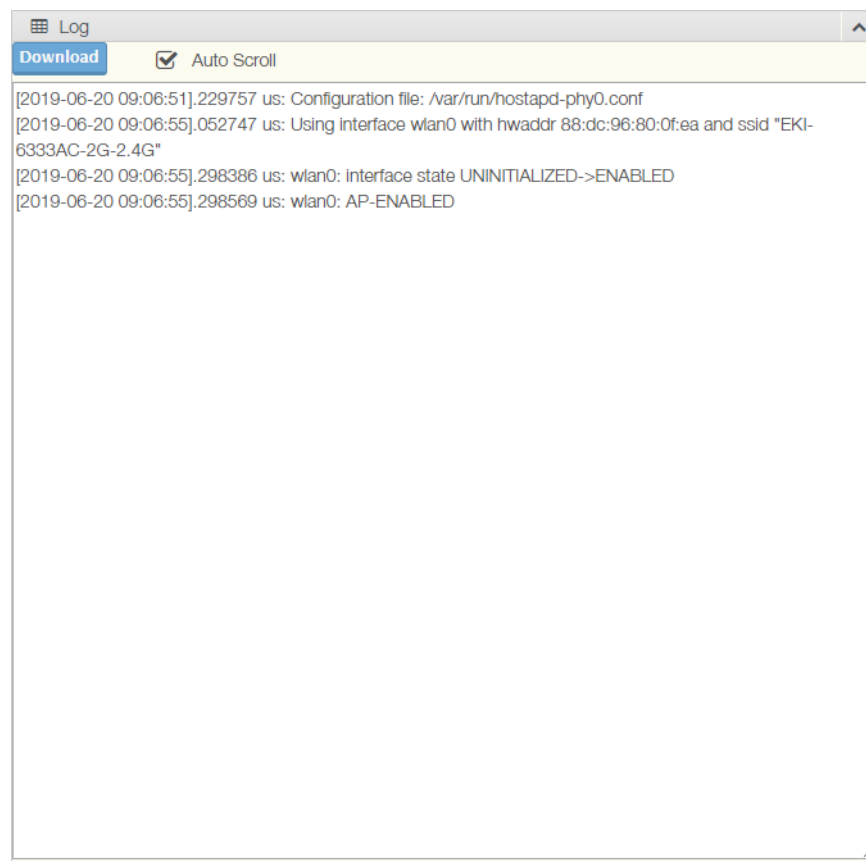


Figure 3.24 Wireless - 2.4GHz > Log

The following table describes the items in the previous figure.

Item	Description
Download	Click Download to download the log file.
Auto Scroll	Click the option to allow for auto scrolling when the log entries has extended below the page line.

3.4.4 Wireless 5GHz

To access this page, click **Interface > Wireless - 5GHz**.

For further details regarding the user interface, refer to the Wireless 2.4GHz section. See “Wireless 2.4GHz” on page 25.

3.5 Network Settings

3.5.1 Static Route

To access this page, click **Networking > Static Route**.

Target IP Address	Netmask	Gateway	Interface	Metric	MTU	Delete
192.168.1.10	255.255.0.0	192.168.1.1	LAN	3	1500	Delete
			LAN			Delete

Add Submit

Figure 3.25 Networking > Static Route

The following table describes the items in the previous figure.

Item	Description
Target IP Address	Enter an IP address (static route) for this static route.
Netmask	Enter a netmask setting (static route) for this static route.
Gateway	Enter a gateway setting (static route) for this static route.
Interface	Enter an interface for this static route, options: LAN, WAN, Wireless 2.4GHz, or Wireless 5GHz.
Metric	Enter the administrative distance (default: 1) used by the ap to choose the best path for two or more routes to the same destination.
MTU	Enter the maximum transmission value for the data packets if applicable.
Delete	Click Delete to remove the route from the available list.
Add	Click Add to include the route in the static routing policy.
Submit	Click Submit to save the values and update the screen.

3.5.2 Forwarding

3.5.2.1 Port Forwarding

To access this page, click **Networking > Forwarding > Port Forwarding**.

Enabled	Name	Start Port	End Port	Local IP	Local Port	Protocol	Delete
☒	PortForward	51	55	192.168.1.166	3001	TCP	Delete
☐						TCP	Delete

Add Submit

Figure 3.26 Networking > Forwarding > Port Forwarding

The following table describes the items in the previous figure.

Item	Description
Enabled	Click Download to download the log file.
Name	Enter a text string to identify the port forwarding entry.
Start Port	Enter the value of the starting port for this entry.

Item	Description
End Port	Enter the value of the ending port for this entry.
Local IP	Enter the IP address defining the static address of the local IP.
Local Port	Enter the value defining the local port.
Protocol	Click the drop-down menu to select the protocol setting, options: TCP, UDP, Both.
Delete	Click Delete to remove the selected entry from the port forwarding policy.
Add	Click Add to include the entry in the port forwarding policy.
Submit	Click Submit to save the values and update the screen.

3.5.2.2 DMZ

To access this page, click **Networking > Forwarding > DMZ**.

Figure 3.27 Networking > Forwarding > DMZ

The following table describes the items in the previous figure.

Item	Description
DMZ	Click the radio button to enable or disable the DMZ function.
IP	Enter the IP address to designate a static IP address as the DMZ target.
Submit	Click Submit to save the values and update the screen.

3.5.3 Security

3.5.3.1 Filter

To access this page, click **Networking > Security > Filter**.

Figure 3.28 Networking > Security > Filter

Item	Description
Filter	Click the radio button to enable or disable the Filter policy.
Enabled	Select to enable the defined filter entry.
Direction	Click the drop-down menu to select the direction of the data packet traffic for the entry: LAN to WAN, WAN to LAN.
Source IP	Enter the IP address of the sender address.
Destination IP	Enter the IP address of the destination address.

Item	Description
Protocol	Click the drop-down menu to select the protocol type for the entry: TCP, UDP, ICMP.
Source port	Enter the port number of the sender IP address.
Destination port	Enter the port number of the destination IP address.
Delete	Click Delete to remove the entry from the Filter policy.
Add	Click Add to include the entry in the Filter policy.
Submit	Click Submit to save the values and update the policy.

3.5.3.2 VPN Passthrough

To access this page, click **Networking > Security > VPN Passthrough**.

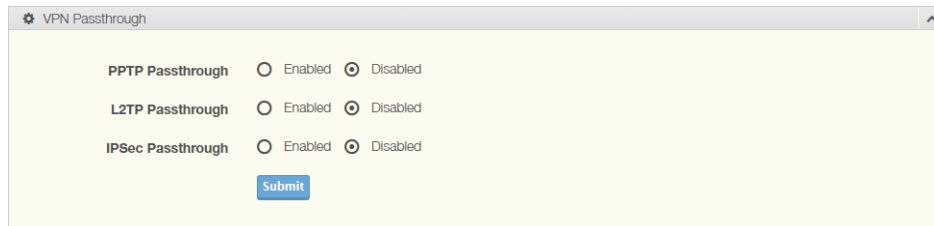


Figure 3.29 Networking > Security > VPN Passthrough

Item	Description
PPTP Passthrough	Click the radio button to enable or disable PPTP packets to pass through.
L2TP Passthrough	Click the radio button to enable or disable L2TP packets to pass through.
IPSec Passthrough	Click the radio button to enable or disable IPSEC packets to pass through.
Submit	Click Submit to save the values and update the policy.

3.6 Management

3.6.1 Password Manager

To access this page, click **Management > Password Manager**.

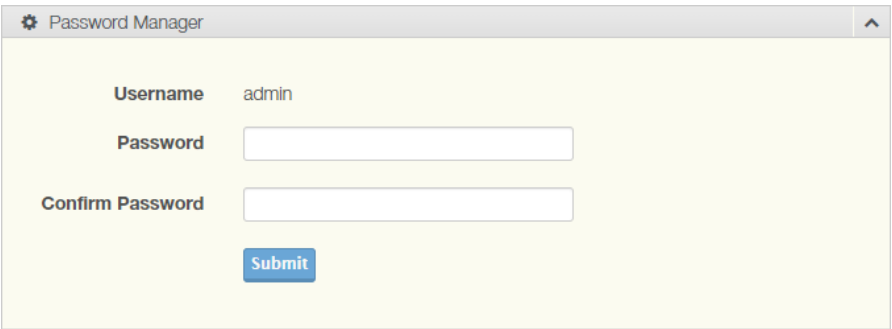


Figure 3.30 Management > Password Manager

The following table describes the items in the previous figure.

Item	Description
Password	Enter the text string to define a password for the listed username entry.
Confirm Password	Re-type the text string as identified in the password field to confirm the entry.
Submit	Click Submit to save the values and update the screen.

3.6.2 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 **Management > Syslog**.

The image shows two screenshots of a web interface. The top screenshot is titled 'Syslog Settings' and contains a 'Remote Log' section with radio buttons for 'Enabled' and 'Disabled' (the 'Disabled' option is selected). Below this are input fields for 'IP Address' and 'Port', and a blue 'Submit' button. The bottom screenshot is titled 'Syslog' and features a 'Download' button and an 'Auto Scroll' checkbox. The main area displays a list of log entries, each starting with a timestamp and followed by a message: 'Sun Jun 23 04:03:00 2019 cron.err crond[1511]: USER root pid 26742 cmd /sbin/adv_cleanup_log'. The list continues with similar entries at 04:04:00, 04:05:00, 04:11:00, 04:12:00, 04:13:00, 04:14:00, 04:15:00, 04:16:00, and 04:17:00.

Figure 3.31 Management > Syslog

The following table describes the items in the previous figure.

Item	Description
Remote Log	Click the radio button to enable or disable the remote log function. Enabling the function allows for the saving of log entries on a remote, not local, system.
IP Address	Enter the static address of the remote system used for storing logging information.
Port	Enter the port number of the define static address used for storing logging information.
Submit	Click Submit to save the values and update the screen.
Download	Click Download to download the log file.
Auto Scroll	Click the option to allow for auto scrolling when the log entries has extended below the page line.

3.6.3 NTP / Time

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

The screenshot shows the 'NTP Settings' interface. At the top, it says 'System Time' followed by 'Sun Jun 23 16:47:30 GMT 2019'. Below this is the 'Manual Time' section with six dropdown menus: Year (2019), Month (Jun), Day (23), Hour (16), Minute (47), and Second (24). Further down is the 'NTP Service' dropdown menu set to 'Enable'. Below that is the 'Time Zone' dropdown menu set to '(GMT) England'. At the bottom is the 'NTP Server' text input field containing '0.pool.ntp.org'. A blue 'Submit' button is located at the bottom center of the form.

Figure 3.32 Management > NTP / Time

The following table describes the items in the previous figure.

Item	Description
System Time	Displays the current system time settings.
Manual Time	To enable manual configuration, NTP Service option must first be disabled. Manually enter the Year, Month, Day, Hour, Minute, and Second settings to define the system time.
NTP Service	Click the drop-down menu to enable or disable the NTP server. By disabling this function, the Manual Time setting can be configured.
Time Zone	Click the drop-down menu to select a system time zone.
NTP Server	Enter the address of the SNTP server.
Submit	Click Submit to save the values and update the screen.

3.6.4 SNMP

To access this page, click **Management > SNMP**.

The screenshot displays the 'SNMP System Settings' page. It is divided into three main sections, each with a gear icon and a title: 'SNMP System Settings', 'SNMP Daemon Settings', and 'SNMP Trap Settings'. The 'SNMP System Settings' section includes a radio button to enable or disable SNMP (currently 'Enabled'), and text input fields for 'Contact' (Advantech@advantech.com.tw), 'Name' (Advantech), 'Location' (tw), and 'Description' (1073404). The 'SNMP Daemon Settings' section includes a dropdown menu for 'Version' (V1), and text input fields for 'Server Port' (162), 'Read Community' (public), and 'Write Community' (private). The 'SNMP Trap Settings' section includes text input fields for 'Trap Server IP' (192.168.1.100) and 'Trap Community' (public). A blue 'Submit' button is located at the bottom of the page.

Figure 3.33 Management > SNMP

The following table describes the items in the previous figure.

Item	Description
SNMP System settings	
SNMP	Click the radio button to enable or disable the Simple Network Management Protocol (SNMP) function used to monitor network devices.
Contact	Enter the contact route in an Email format for use during an SNMP event.
Name	Enter the text string describing the contact entry.
Location	Enter the text string describing the region/location of the contact entry.
Description	Enter a descriptive remark to better identify the contact entry.
SNMP Daemon Settings	
Version	Click the drop-down menu to select the version of the daemon.
Server Port	Enter the port to access on the specified server.
Read Community	Enter the setting to define the level of read access for the defined user, options: private, public (default).
Write Community	Enter the setting to define the level of write access for the defined user, options: private (default), public.
SNMP Trap Settings	
Trap Server IP	Enter the static route to define the trap server used for the defined user.

Item	Description
Trap Community	Enter the setting to define the level of access for the define user, options: private, public.
Submit	Click Submit to save the values and update the screen.

3.6.5 Remote Services

To access this page, click **Management > Remote Services**.

Figure 3.34 Management > Remote Services

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.
SSH	
SSH	Click the radio button to enable or disable access to SSH function.
Telnet	
Telnet	Click the radio button to enable or disable access to the Telnet function.
FTP Server	
FTP Server	Click the radio button to enable or disable access to the FTP Server function.
Submit	Click Submit to save the values and update the screen.

3.6.6 Configuration Manager

To access this page, click **Management > Configuration Manager**.

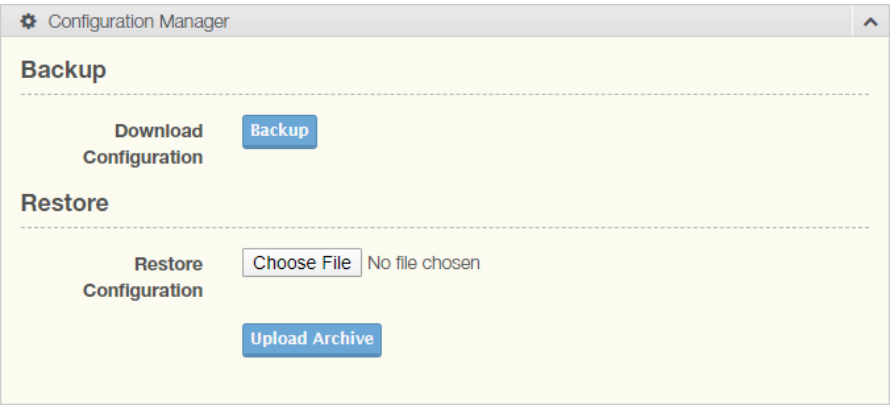


Figure 3.35 Management > Configuration Manager

The following table describes the items in the previous figure.

Item	Description
Backup	
Backup	Click Backup to export the device settings.
Restore	
Upload Archive	Click Upload Archive to select a previously saved configuration file.

3.6.7 Firmware Upgrade

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

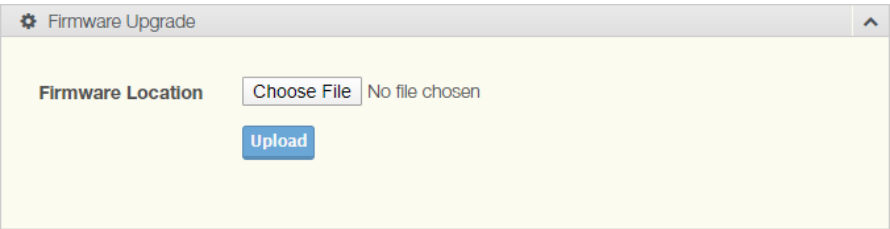


Figure 3.36 Management > Firmware Upgrade

The following table describes the items in the previous figure.

Item	Description
Choose File	Click Choose File to select the configuration file.
Upload	Click Upload to upload to the current version.

3.6.8 Reset System

To access this page, click **Management > Apply Configuration**.



Figure 3.37 Management > Apply Configuration

The following table describes the items in the previous figure.

Item	Description
Reset	Click Reset the device, any changes to settings will be lost unless the Apply Configuration function is executed prior to resetting.

3.6.9 Apply Configuration

To access this page, click **Management > Apply Configuration**.

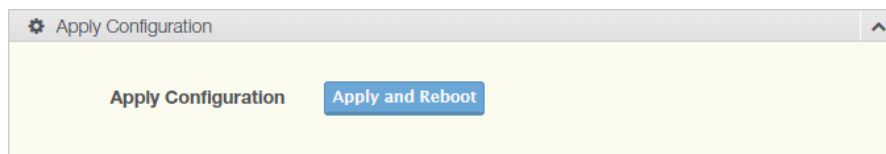


Figure 3.38 Management > Apply Configuration

The following table describes the items in the previous figure.

Item	Description
Apply and Reboot	Click Apply and Reboot to save the new configuration settings and reboot the device to permanently save the new settings.

3.6.10 Reboot Device

To access this page, click **Management > Reboot Device**.



Figure 3.39 Management > Reboot Device

The following table describes the items in the previous figure.

Item	Description
Reboot	Click Reboot to reboot the device. Any configuration changes you have made since the last time you issued a save will be lost.

3.7 Tools

3.7.1 Diagnostics

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

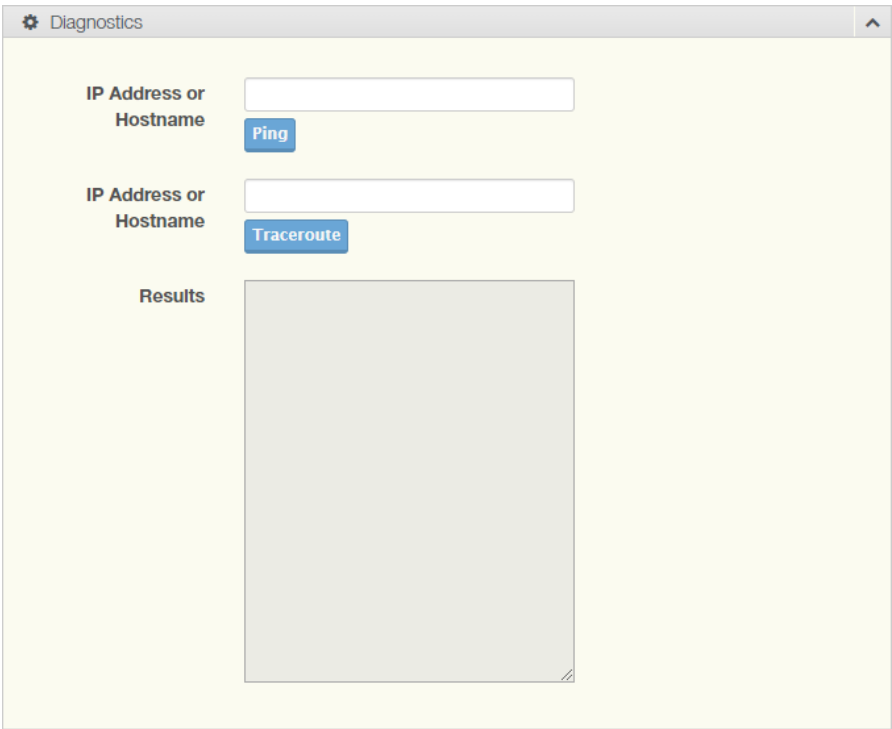


Figure 3.40 Tools > Diagnostics

The following table describes the items in the previous figure.

Item	Description
IP Address or Hostname	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.
IP Address or Hostname	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.
Traceroute	Click Traceroute to track the pathway taken by a packet on the designated network from source to destination.
Results	Displays the results of the Ping or Traceroute function after initializing.



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