

Wireless Access Point for Industrial Devices

AP-415AN Setup Guide (I) (for Installation)

Jun, 2018

silex
technology



WA105080XX

Thank you for purchasing the Wireless Access Point for Industrial Devices "AP-415AN". This setup guide explains how to install AP-415AN. Be sure to read and understand this setup guide before using AP-415AN.

Step 1 Introduction

Package Contents

☐ AP-415AN



☐ Stand



☐ Protection caps (These are already attached to AP-415AN. Use them to cover the connector area.)



LAN port cap x 3



DC connector cap x 1



USB port cap x 1



DIP switch cap x 1

☐ Screw to fix the AP-415AN unit x 4
Use them to attach AP-415AN to the stand.



☐ Setup Guide (I) (for Installation)

☐ Setup Guide (II) (for Configuration)

☐ Declaration of Conformity

☐ GPL note

☐ Warranty booklet

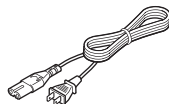
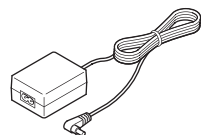
☐ China RoHS note

* The following AC adaptors and power codes are sold separately.

For Japan, Europe, China, Indonesia

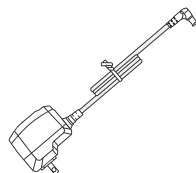
☐ AC adaptor

☐ Power code



For United States

☐ AC adaptor



User's Manual

AP-415AN user's manual can be downloaded from the Silex Technology's home page.

1 Access the URL below from your PC.
http://www.silex.jp/sys/download_list1.html?product_category=26&product_name=354

2 Download the user's manual below.

User's Manual

AP-415AN User's Manual

Parts and Functions



For more information on the parts and functions, refer to **2-2. Parts and Functions** in the User's Manual.

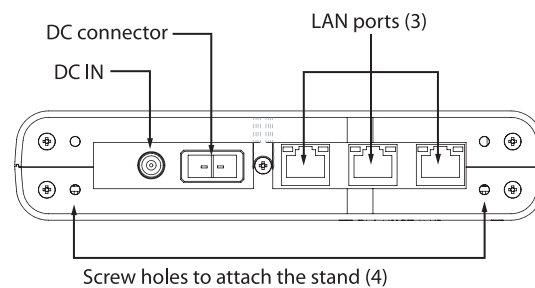
AP-415AN Unit

Side

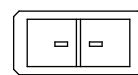
POWER LED
SETTING LED
BAND/WLAN LED
WSTAT/STATUS LED



Bottom

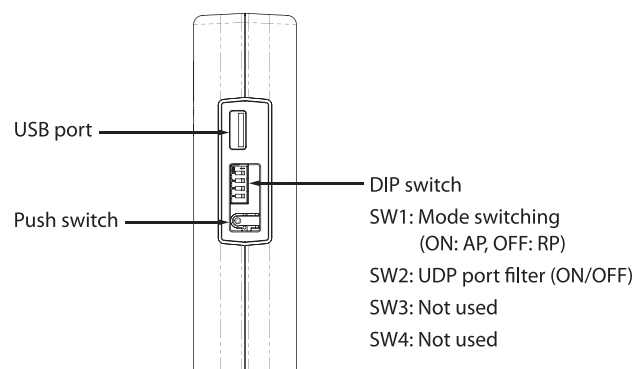


DC connector used : JST® S02B-F32SK-GGXR(LF)(AU)



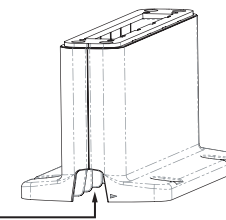
PIN	Signal Name	Description
1	DCIN	12±10% to 26V±10%
2	GND	GND

Back



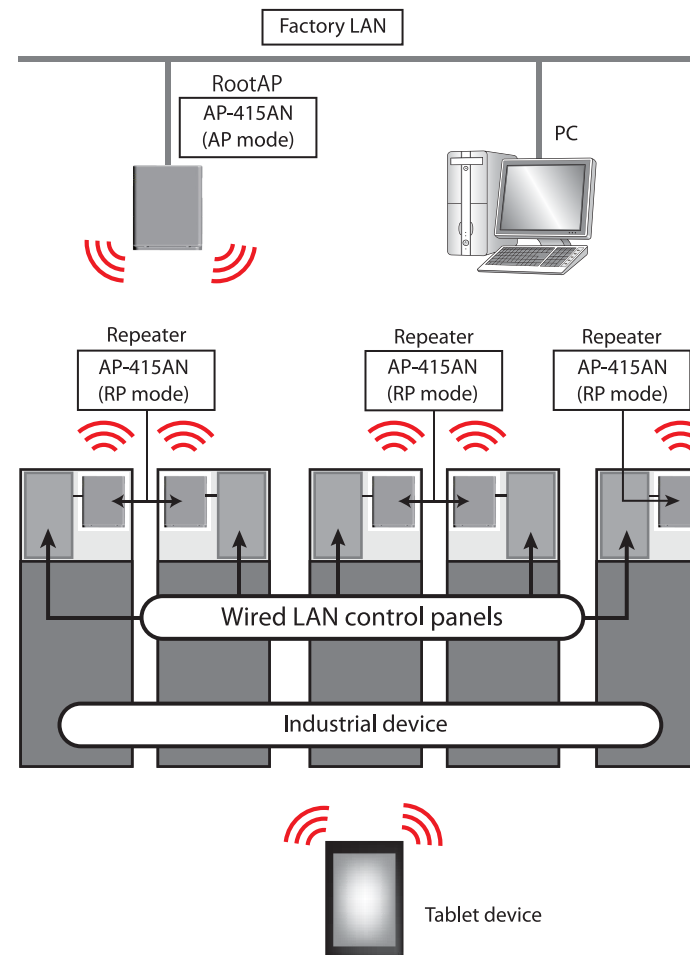
Stand

Cable hole



Installation Example

The following diagram is an example of how to allocate AP-415AN units to establish a wireless connection between PC and wired LAN control panel in a factory. In this network, tablet devices can easily be connected to AP-415AN wirelessly.



Step 2 Before Starting Installation

Changing the Operating Mode

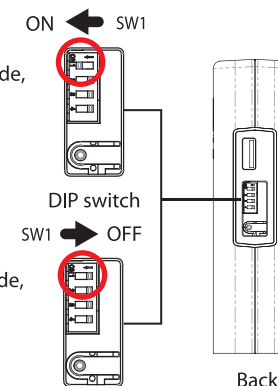
Use the dip switch "SW1" on back of AP-415AN to switch the operating mode between the Access Point mode (AP mode) and Repeater mode (RP mode).

■ To change the operating mode to AP mode

Turn on the dip switch SW1.
When the operating mode is changed to AP mode, AP-415AN works as RootAp of WDS.

■ To change the operating mode to RP mode

Turn off the dip switch SW1.
When the operating mode is changed to RP mode, AP-415AN works as repeater of WDS.



- When you have finished changing the operating mode, attach the protection cap back to the dip switch area.

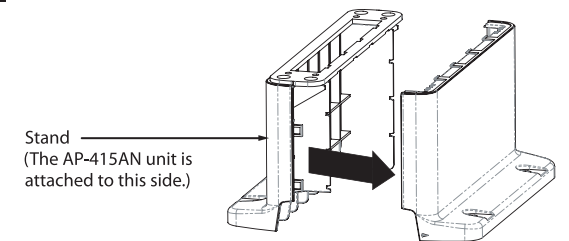
Changing the Setting

When you want to use AP-415AN with the factory default setting, go ahead to **Attaching the Stand** below.

When you want to change the setting from default one, see the instructions at **Setup Guide (II) (for Configuration)**. When the configuration change is finished, go ahead to **Attaching the Stand** below.

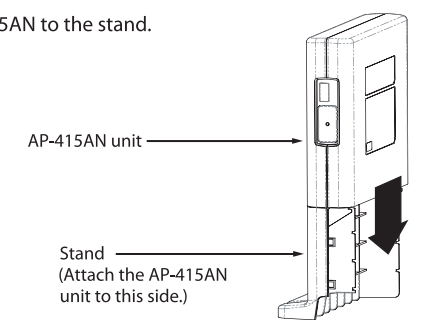
Attaching the Stand

1 Open the cover of the stand.

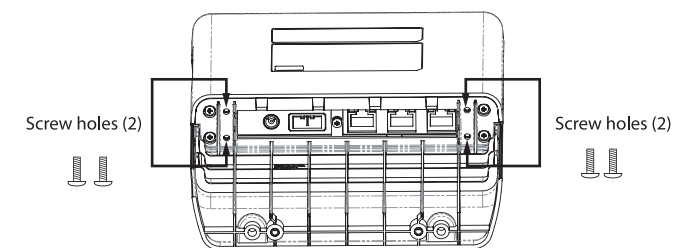


2 Attach AP-415AN to the stand and fix them with the screws that came with AP-415AN.

(1) Attach AP-415AN to the stand.



(2) Fix AP-415AN to the stand by screwing 4 holes.



Do not close the stand cover yet. The stand cover should be closed when AP-415AN is installed to an actual location. See **Step3 Installation (for AP Mode)** and **Step4 Installation (for RP Mode)** on back page for details on how to install AP-415AN.

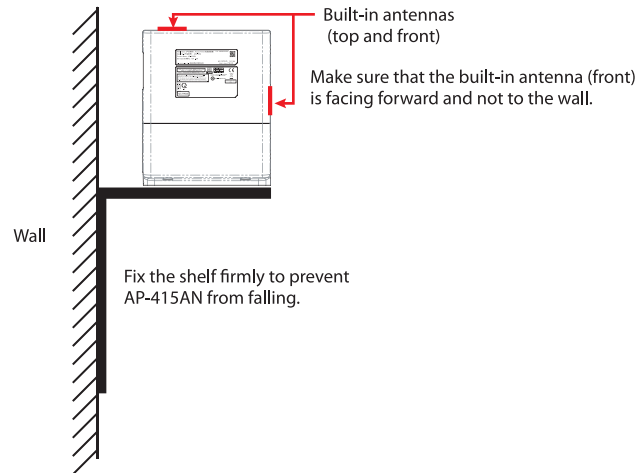
Step 3 Installation (for AP Mode)

Location of Installation

Install AP-415AN (AP mode) in a high place. Make sure that the built-in antennas of AP-415AN (AP mode) are facing toward the AP-415AN (RP mode) to communicate.

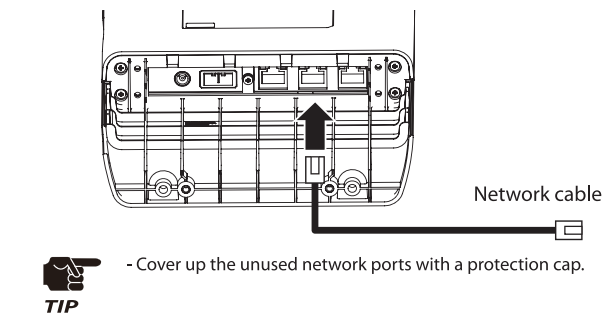
When a wall-mounted shelf is used to place the unit:

- TIP**
- Wood or plastic shelf is recommended.
 - Leave a gap of 10 cm or more between AP-415AN (AP mode) and the wall so that you can press the DIP/Push switches later.

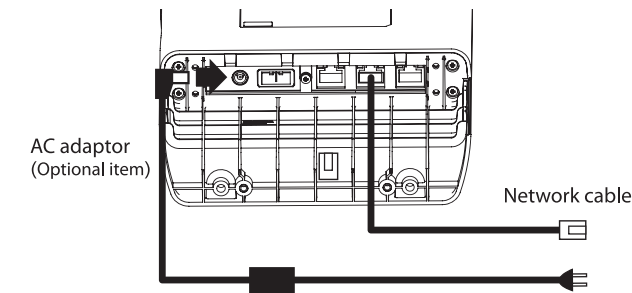


Installation Method (for AP Mode)

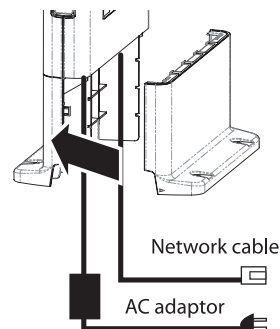
- 1** Connect the network cable to the network port of AP-415AN (AP mode).



- 2** Connect the AC adaptor to the power code tightly, then insert the plug into the DC IN of AP-415AN (AP mode).

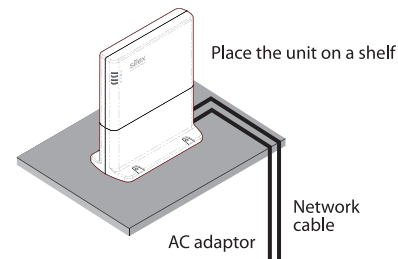


- 3** Close the cover of the stand.

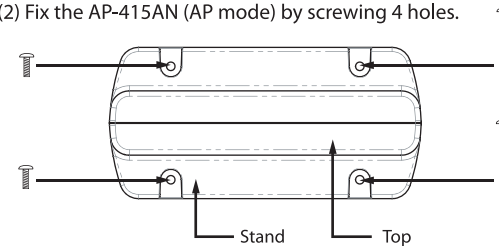


- 4** Fix AP-415AN (AP mode) to a shelf.

(1) Place AP-415AN unit on the wall-mounted shelf.



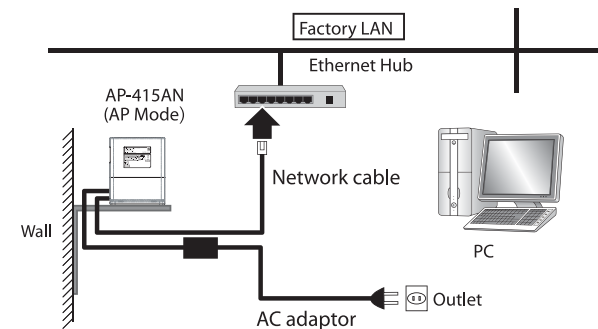
- (2) Fix the AP-415AN (AP mode) by screwing 4 holes.



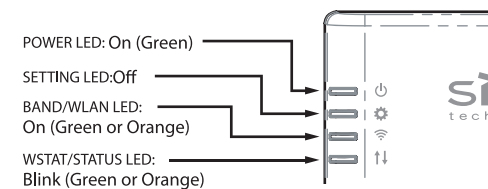
- TIP**
- The screws do not come with AP-415AN. Prepare your own screws.
 - Size of screw : 4.0mm in diameter

- Pull the cables through the cable hole of the stand.
- Silex Technology is not responsible for any damage or loss caused by falling. Make sure that the stand is firmly fixed to the shelf to prevent from falling.

- 5** Connect the other end of network cable to the factory LAN to which PC has been connected, and plug the power code to outlet.



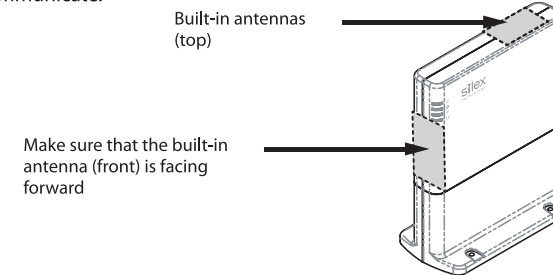
- 6** Check the LED lamps.



Step 4 Installation (for RP Mode)

Location of Installation

Install AP-415AN (RP mode) on an industrial device. Make sure that the built-in antennas of AP-415AN (RP mode) are facing toward the AP-415AN (AP mode) to communicate.

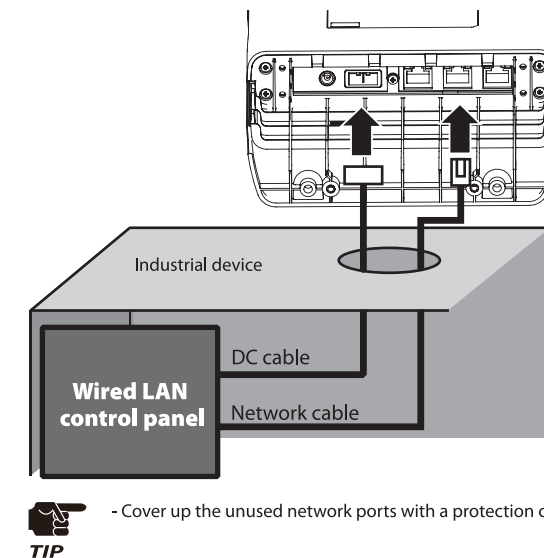


Installation Method (for RP Mode)

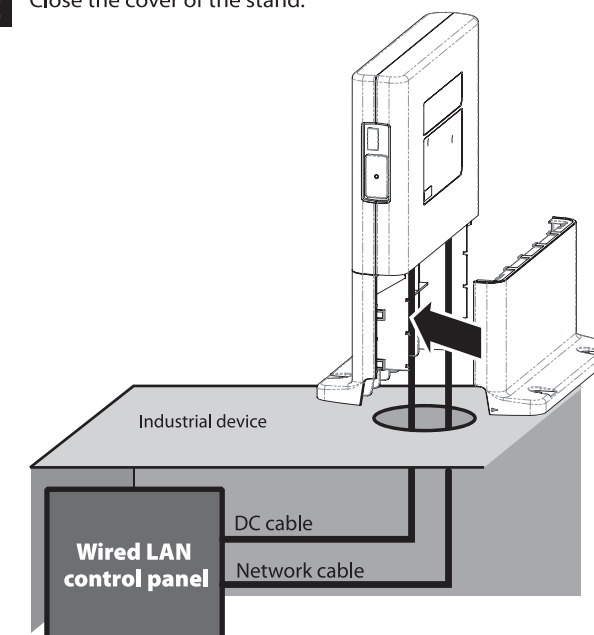
For all AP-415AN units (RP mode), finish the process at **1** - **3** below.

- TIP**
- Do not turn on AP-415AN (RP mode) until the installation is completed.

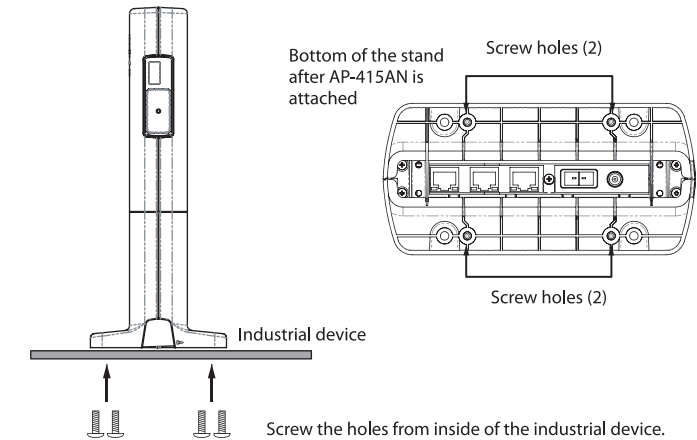
- 1** Connect the network cable and DC cable to the wired LAN control panel of industrial device, and the other end of the cables to AP-415AN (RP mode).



- 2** Close the cover of the stand.



- 3** Place AP-415AN (RP mode) on the industrial device and fix it by screwing 4 holes.



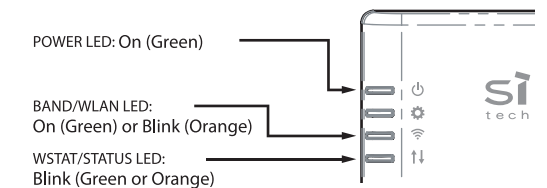
- TIP**
- The screws do not come with AP-415AN. Prepare your own screws.
 - Depth of screw hole : 6mm
 - Type of screw : M3

Turning on AP-415AN (for RP Mode)

- TIP**
- Check that AP-415AN (AP mode) is turned on before turning on AP-415AN (RP mode).

- 1** Turn on AP-415AN (RP mode).

- 2** Check the LED lamps.



Step 5 Checking Installation Status

Check that AP-415AN units (both AP mode/RP mode) are installed correctly using AP-415AN Setup Tool.

Change the network setting of the PC to allow access from the PC to AP-415AN units. See **AP-415AN Setup Guide (II) (for Configuration) - Step 4 Checking the Installation Status** to check the installation status.

Wireless Access Point for Industrial Devices

AP-415AN Setup Guide (II) (for Configuration)

Jun, 2018



silex
technology

Thank you for purchasing the Wireless Access Point for Industrial Devices "AP-415AN". This setup guide explains how to set up AP-415AN. Be sure to read and understand this setup guide before using AP-415AN.

Step 1 Introduction

Download the AP-415AN Setup Tool which can be used to check the product setting and installation status. AP-415AN Setup Tool is a Windows utility that can show a list of products and status information and can handle a firmware update, factory default configuration and restart.

AP-415AN Setup Tool

Operating Environment

Microsoft Windows 7 SP1 (32bit / 64bit)
Microsoft Windows 8 (32bit / 64bit)
Microsoft Windows 8.1 (32bit / 64bit)
Microsoft Windows 10 (32bit / 64bit)

Necessary Components

.Net Framework 3.5

Downloading Configuration Utility & User's Manual

Go to the Silex Technology's home page and download the configuration utility and user's manual.

- 1 Access the URL below from your PC.
http://www.silex.jp/sys/download_list1.html?product_category=26&product_name=354

- 2 Download the configuration utility and user's manual below and extract them on your PC.

Configuration Utility	AP-415AN Setup Tool
User's Manual	AP-415AN User's Manual

Installing AP-415AN Setup Tool

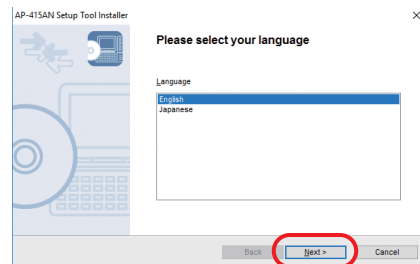
Start the installer of AP-415AN Setup Tool on the PC.

- TIP** - For installation, you must log into Windows as administrator.

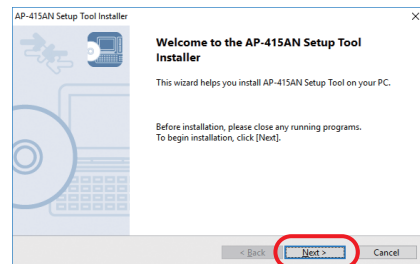
- 1 Double-click **Setup.exe** in a folder of AP-415AN Setup Tool to start the installer.

- TIP** - The User Account Control screen may be displayed. Click **Yes** or **Continue** if it is displayed.

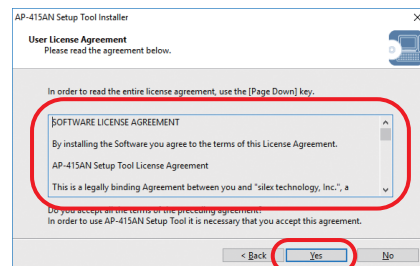
- 2 When the AP-415AN Setup Tool Installer wizard is displayed, select your language and click **Next**.



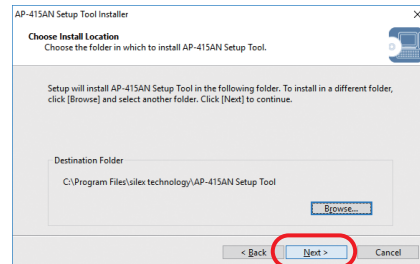
- 3 Click **Next**.



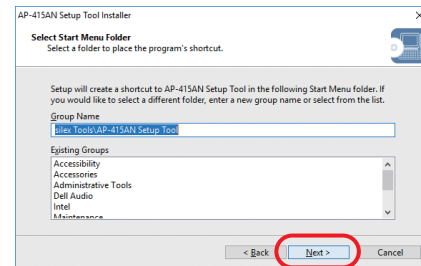
- 4 Read the software license notes and click **Yes** when you have agreed with the terms and conditions.



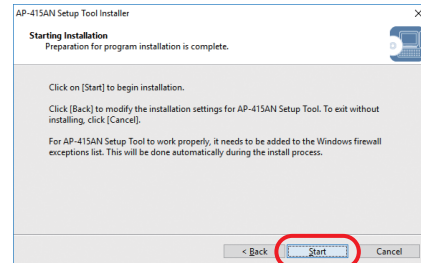
- 5 Select a folder to install the AP-415AN Setup Tool into and click **Next**.



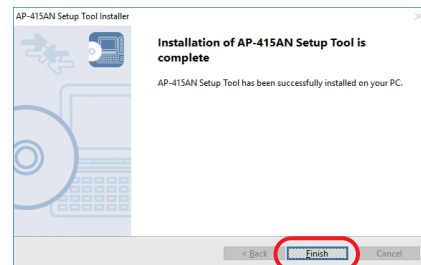
- 6 Specify a group name to be displayed at the start menu and click **Next**.



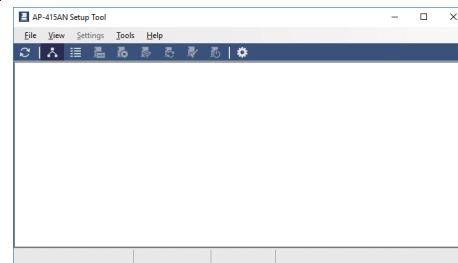
- 7 Click **Start** to start the installation.



- 8 When installation is completed, click **Finish**.



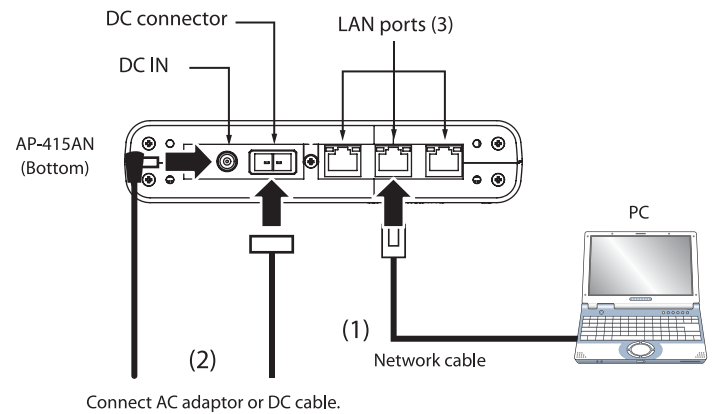
- 9 The AP-415AN Setup Tool's main window is displayed.



Step 2 Before Starting Configuration

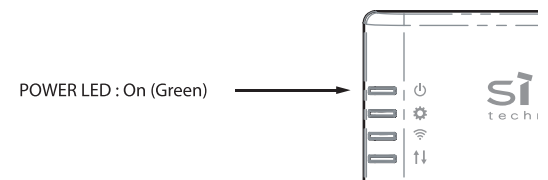
Connecting AP-415AN to PC

When you want to change the default configuration of AP-415AN before installing it, connect AP-415A to PC using a network cable.



- 1 Connect AP-415AN and the PC using a network cable. (1)
- 2 Turn on AP-415AN by one of following methods. (2)
 - Connect the AC adaptor to DC IN and the plug to outlet.
 - Connect the DC cable to DC connector.

When the POWER LED lights as below, AP-415AN is ready.



- TIP** - When you use AC adaptor, please always use the AC adaptor of AP-415AN. Using your own AC adaptor may result in malfunction.
- AC adaptor of AP-415AN is sold separately.

Changing IP Address of PC

The PC's network setting needs to be changed to allow communication between the PC and AP-415AN.

By default, Class A IP address (10.XXX.XXX.XXX) is configured to AP-415AN. For the PC, please use a different IP address.

When AP-415AN has a default IP address (10.xxx.xxx.xxx), set the IP address of PC to the following:

IP address : 10.0.0.1-10.0.0.15
Subnet mask : 255.0.0.0

- Note** - The default IP address of AP-415AN is automatically generated from a lower 24 bit of the Ethernet Address.

Step 3 Network Setting

AP-415AN supports HTTP. The network settings can be configured by accessing the AP-415AN's Web page using your Web browser.

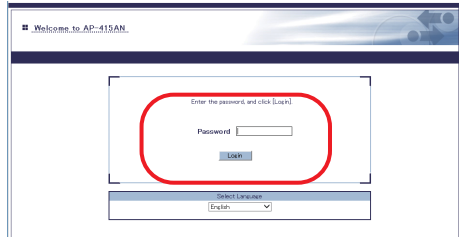


- Recommended Web browsers:
Internet Explorer11
Microsoft Edge
Chrome

Accessing AP-415AN's Web Page

Access the login page of AP-415AN using the AP-415AN Setup Tool.

- 1 Start AP-415AN Setup Tool on the PC.
- 2 When the main window is displayed, click the **Refresh** icon from the toolbar.
- 3 Select AP-415AN that you wish to configure from the list and click the **Configure Using Web Browser** icon from the toolbar.
- 4 The Web browser starts and the login page is displayed. Enter the login password then click **Login**.



- No password is set to AP-415AN by default. Leave it blank and just click **Login** then.

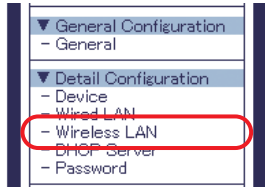
- 5 The configuration page of AP-415AN is displayed. Select the setting from the menu and configure the network setting.



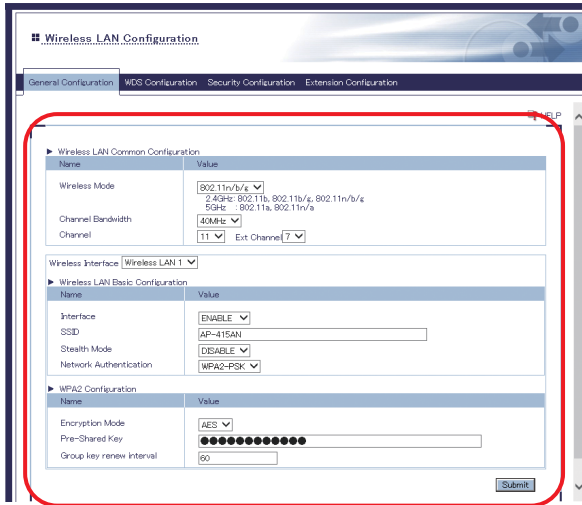
Changing AP-415AN's Wireless Settings

Access to the wireless configuration page and change the wireless settings.

- 1 Click **Wireless LAN** from the menu.



- 2 The Wireless LAN Configuration page is displayed. Configure the necessary settings and click **Submit** button.



General Configuration

Wireless LAN Common Configuration

Name	Setting	Default value
Wireless Mode	802.11b, 802.11b/g, 802.11n/b/g, 802.11a, 802.11n/a	802.11n/b/g
Channel	1 - 13/36/40/44/48/52/56/60/64/100/104/108/112/116/120/124/128/132/136/140/149/153/157/161/165/	11
Channel Bandwidth	20MHz/40MHz	40MHz
Ext Channel	Depending on the communication channel	7
DFS Primary Channel	Depending on the communication channel	Depending on the region setting

Wireless LAN Basic Configuration

Name	Setting	Default value
Interface	ENABLE/DISABLE	ENABLE
SSID	Alphanumeric characters (1 to 32)	AP-415AN
Stealth Mode	ENABLE/DISABLE	DISABLE
Network Authentication	Open, WPA2-PSK	WPA2-PSK

WPA2 Configuration

Name	Setting	Default value
Encryption Mode	AES	AES
Pre-Shared Key	Alphanumeric characters (8 to 63) Hexadecimal characters (64)	PreSharedKey
Group key renew interval	0 - 1440	60

WDS Configuration

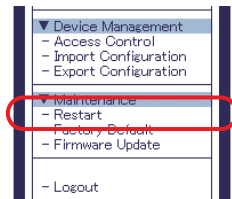
Dynamic WDS Configuration

Name	Setting	Default value
Group ID	A - Z	Z
Maximum Number of Hops	1 - 3	1
RSSI Threshold	-100 to -10	-65

(Optional Configuration)

- Configure the following settings when they are necessary.
- Security Configuration
 - Extension Configuration

- 3 Click **Restart** to restart AP-415AN to save the changes.



- To continue configuration in other pages, AP-415AN does not need to be restarted here. Complete other settings then restart it.

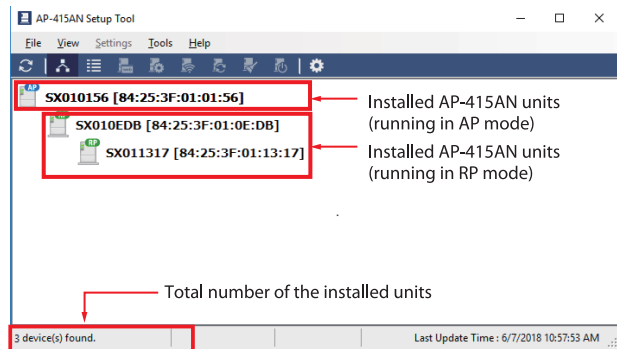
Installing AP-415AN

When the configuration is completed, install AP-415AN. For details on installation, refer to **AP-415AN Setup Guide (I) (for Installation)**.

Step 4 Checking the Installation Status

Check the AP-415AN installation status using AP-415AN Setup Tool.

- 1 Start AP-415AN Setup Tool on the PC.
- 2 When the main window is displayed, click the **Refresh** icon from the toolbar.
- 3 The installed AP-415AN units (both AP and RP) are displayed as the network topology diagram.



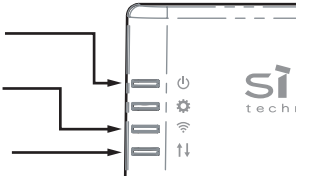
- 4 See if all the installed AP-415AN units (both AP and RP) are displayed.



- If not, check the installation status and network setting.

- 5 Check the LED lamp status on AP-415AN (RP mode).

POWER LED : On (Green)
BAND/WLAN LED
On(Green) or Blink(Orange)
WSTAT/STATUS LED
Blink (Green or Orange)



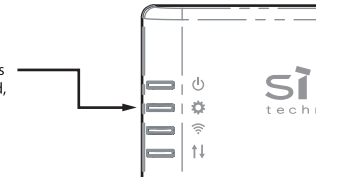
Factory Default Configuration

The following explains how to reset AP-415AN to the factory default setting.

- Factory default configuration by using the push switch on the unit

- 1 Turn off AP-415AN.
- 2 Push and hold the push switch on back of AP-415AN. Keep holding while you turn on AP-415AN again. When SETTING LED turns green and then turns red, release the push switch.

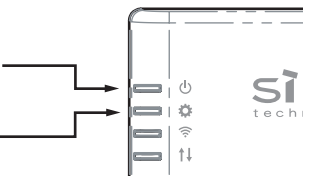
When SETTING LED turns green and then turns red, release the push switch.



- 3 When the POWER LED and SETTING LED turn on/off as follows, factory default configuration is completed.

POWER LED : On (Green)

SETTING LED : Off



- Factory default configuration by using AP-415AN Setup Tool

Method 1: Select AP-415AN that you wish to initialize from the list and click the **Factory default configuration** icon from the toolbar.

Method 2 : Select AP-415AN that you wish to initialize from the list and click the **Configure using Web browser** icon from the toolbar. Log into the Web page and go to **Factory Default** configuration page to start initialization.

