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User Manual

IP dongle GUI & SNMP

Legal Information

First English printing, March 2020

Information in this document has been carefully checked for accuracy; however, no guarantee is given to the correctness of the contents. The information in this document is subject to change without notice. We are not liable for any injury or loss that results from the use of this equipment.

Safety Instructions

Please read all of these instructions carefully before you use the device. Save this manual for future reference.

- Unplug equipment before cleaning. Don't use liquid or spray detergent; use a moist cloth.
- Keep equipment away from excessive humidity and heat. Preferably, keep it in an air-conditioned environment with temperatures not exceeding 40º Celsius (104º Fahrenheit).
- When installing, place the equipment on a sturdy, level surface to prevent it from accidentally falling and causing dam age to other equipment or injury to persons nearby.
- When the equipment is in an open position, do not cover, block or in any way obstruct the gap between it and the power supply. Proper air convection is necessary to keep it from overheating.
- Arrange the equipment's power cord in such a way that others won't trip or fall over it.
- If you are using a power cord that didn't ship with the equipment, ensure that it is rated for the voltage and current labelled on the equipment's electrical ratings label. The voltage rating on the cord should be higher than the one listed on the equipment's ratings label.
- Observe all precautions and warnings attached to the equipment.
- If you don't intend on using the equipment for a long time, disconnect it from the power outlet to prevent being dam aged by transient over-voltage.
- Keep all liquids away from the equipment to minimize the risk of accidental spillage. Liquid spilled on to the power supply or on other hardware may cause damage, fire or electrical shock.
- Only qualified service personnel should open the chassis. Opening it yourself could damage the equipment and invali date its warranty.
- If any part of the equipment becomes damaged or stops functioning, have it checked by qualified service personnel.

What the warranty does not cover

- Any product, on which the serial number has been defaced, modified or removed.
- Damage, deterioration or malfunction resulting from:
  - ☐ Accident, misuse, neglect, fire, water, lightning, or other acts of nature, unauthorized product modification, or failure to follow instructions supplied with the product.
  - ☐ Repair or attempted repair by anyone not authorized by us.
  - ☐ Any damage of the product due to shipment.
  - ☐ Removal or installation of the product.
  - ☐ Causes external to the product, such as electric power fluctuation or failure.
  - ☐ Use of supplies or parts not meeting our specifications.
  - ☐ Normal wear and tear.
  - ☐ Any other causes which does not relate to a product defect.
- Removal, installation, and set-up service charges.

Regulatory Notices Federal Communications Commission (FCC)

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 instal-lation.

Any changes or modifications made to this equipment may void the user's authority to operate this equipment. 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 or more of the following measures:

- Re-position 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.

Content

< 1.1 > IP Dongle GUI Key Features

IP Dongle GUI Management is a **FREE** built-in GUI of each IP dongle (IPD-02-S only) to remotely monitor the connected PDUs (max. up to 16 PDU levels)

Features		
Capacity	IP Dongle Group (Just 1 for 16 PDU levels)	1
	PDU number	16
	Concurrent Users	1
Enhanced Features	Outlet Level kWh & Amp Measurement	✔
	Outlet Scheduling	✔
	Energy Consumption (kWh) Monitoring	✔
	Apparent Power (kVA) Monitoring	✔
	Power Factor Measurement	✔
	Circuit Breaker (MCB) Monitoring	✔
Basic Features	Aggregate Current (Amp) Monitoring	✔
	Individual Outlet Switch ON/OFF	✔
	Temp-Humid Monitoring	✔
	Alarm Threshold Setting	✔
	Rising Alert Threshold Setting	✔
	Door & Smoke Sensor Monitoring	✔
	Remote Access via Web	✔
	Graphic User Interface	✔
PDU Series Support	Single & 3 Phase **W** Monitored PDU	✔
	Single & 3 Phase **Wi** Monitored PDU (Outlet Measurement)	✔
	Single & 3 Phase **WS** Switched PDU	✔
	Single & 3 Phase **WSi** Switched PDU (Outlet Measurement)	✔
	Single & 3 Phase Dual Feed **W** Monitored PDU	✔
	Single & 3 Phase Dual Feed **Wi** Monitored PDU (Outlet Measurement)	✔
	Single & 3 Phase Dual Feed **WS** Switched PDU	✔
	Single & 3 Phase Dual Feed **WSi** Switched PDU (Outlet Measurement)	✔
	Single & 3 Phase inline meter	✔
	Single & 3 Phase Dual Feed inline meter	✔

< 1.2 > IP Dongle Installation & Meter (PDU) Cascade

IP Dongle Access to 16 PDU Levels

Patented IP Dongle provides IP remote access to the PDUs by a true network IP address chain. Only 1 x IP dongle allows access to max. 16 PDUs in daisy chain - which is a highly efficient application for saving not only the IP remote accessories cost, but also the true IP addresses required on the PDU management.

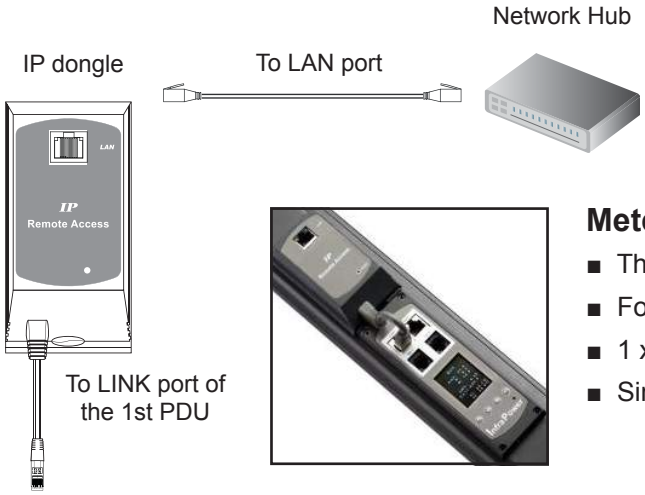
Hot-Pluggable design facilitates the IP dongle installation. Simply integrate the IP Dongle to the 1st PDU, then the entire daisy chain group can be remote over IP. Hence, administrator can remotely access all PDUs in the daisy chain group by one single IP via the IP Dongle.

IP Dongle for vertical PDU & 2U rackmount PDU

- SNMP capability v2 / v3

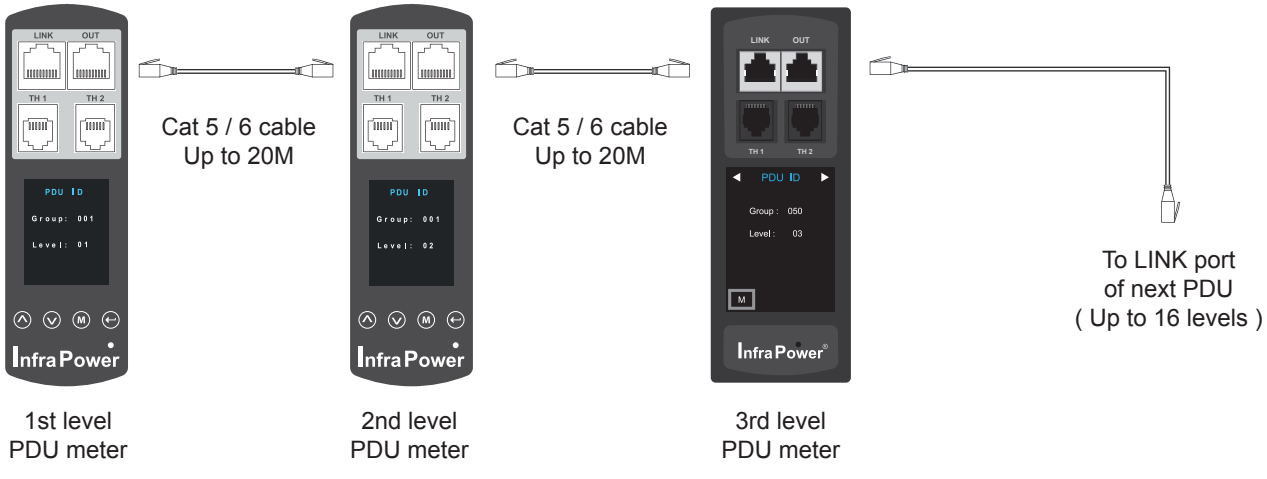
Vertical IP dongle installation steps :

- slide the IP dongle on the plate above the meter
- plug the RJ-45 connector of IP dongle into the LINK port of the 1st level PDU meter
- use the CAT. 5 / 6 cable to connect IP dongle to network device



Meter (PDU) Cascade

- The PDU can be cascaded up to 16 levels
- For IP PDU access simply connect 1 x IP Dongle - IPD-02-S
- 1 x IP Dongle allows access to 16 levels
- Single & 3 Phase PDU can be inter-cascaded in the single daisy chain



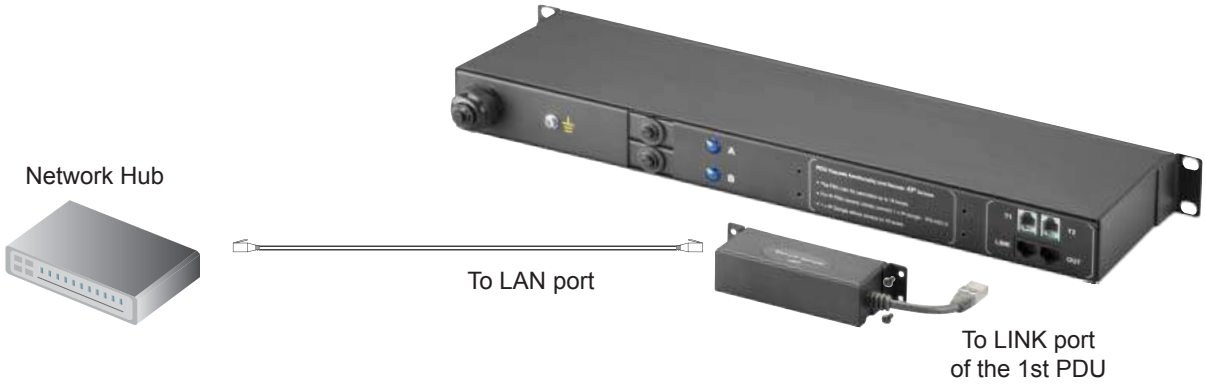
< 1.2 > IP Dongle Installation & Meter (PDU) Cascade

IP Dongle for 1U rackmount PDU

- SNMP capability v2 / v3

Installation steps :

- fix the IP Dongle on the rear side of rackmount PDU with 4 screws
- plug its RJ-45 connector into the LINK port of the 1st level PDU meter
- connect IP Dongle to network device via CAT. 5 / 6 cable



< 1.3 > Meter (PDU) Level Setting

(I) For 1.8″ LCD Meter (No touchscreen function)

Display 9

Step 1 - Press the ^ & v button to display no.9 and press M to confirm

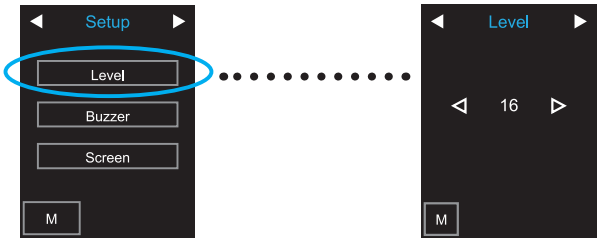
Step 2 - Press the ^ & v button to PDU ID and press M to confirm

Display 9.1

Step 3 - In display 9.1, Press the ^ & v button to select PDU level no. & press M to confirm

Step 4 - Press ↵ to exit

(II) For 2.8″ LCD Meter (With touchscreen function)



< 1.4 > IP Dongle Configuration

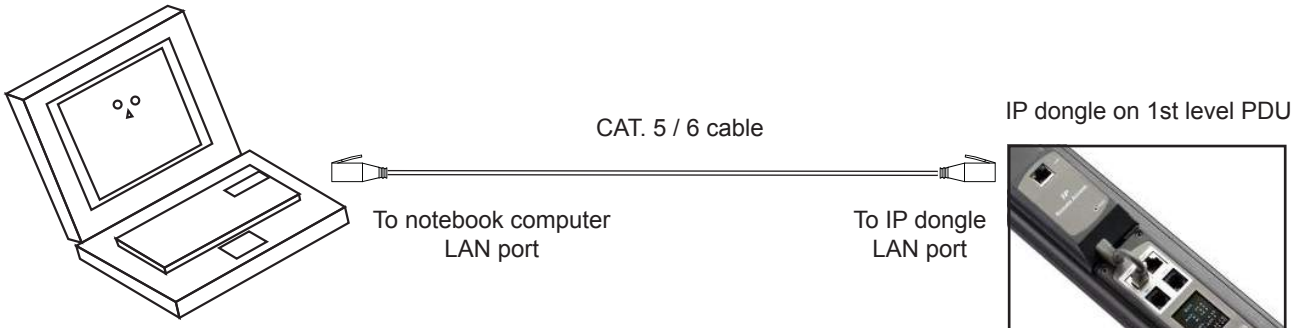
The following steps show the static IP setting only. For DHCP setting, please refer to < **1.7** > DHCP Setting

After the completion of IP dongle connection, please take the following steps to configure the IP dongle :

Step 1. Prepare a notebook computer to download the IP setup utilities from the link :
https://www.rackmountmart.com/downloads.html

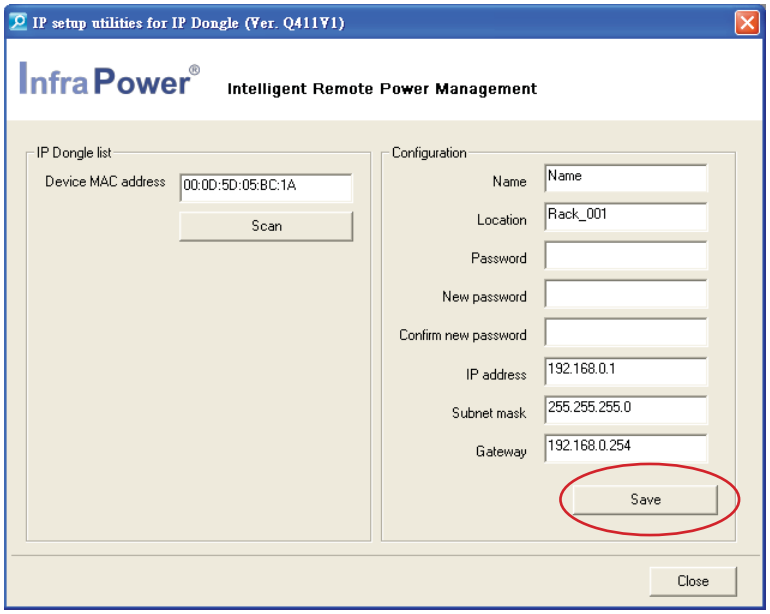
Step 2. Double Click the IPDongleSetup.msi and follow the instruction to complete the installation

Step 3. Go to each first level PDU with the notebook computer & a piece of CAT. 5 / 6 cable to configure the IP dongle by IP setup utilities as below. Please take the procedure for all IP dongles **ONE BY ONE**



Reconnect the IP dongle with the network device (router or hub), after finish IP dongle configuration.

Ensure the PDU in power ON status



Step 4. Click **" Scan "** to search the connected IP dongle

Step 5. Enter device name in " **Name** " (min. 4 char. / max. 16 char.). Default is " **Name** "

Step 6. Enter device location in " **Location** " (min. 4 char. / max. 16 char.). Default is " **Rack_001** "

Step 7. Enter password in " **Password** " for authentication (min. 8 char. / max. 16 char.) Default is **" 00000000 "**

Step 8. Enter new password in " **New password** " (min. 8 char. / max. 16 char.)

Step 9. Re-enter new password in " **Confirm new password** "

Step 10. Change the desired " **IP address** " / " **Subnet mask** " / " **Gateway** ", then Click **" Save "** to confirm the changes

The default IP setting is as below:

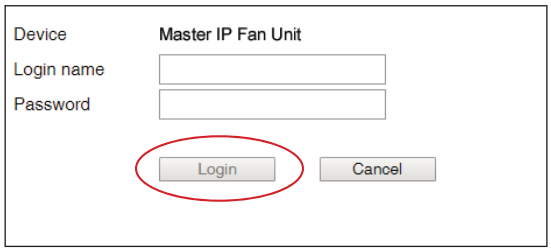
IP address :	192.168.0.1
Subnet mask :	255.255.255.0
Gateway :	192.168.0.254

< 1.5 > IP Dongle GUI

Each IP dongle (IPD-02-S) provides a **FREE** built-in GUI , which allows user, via a web browser, to see PDU's data and remotely manage the PDU over a TCP / IP Ethernet network.

Each web browser window supports only one IP dongle (IPD-02-S). If user installs more IP dongles, multi windows will be required

IP Dongle GUI is a management software with very limited features. User can use more advanced software, InfraPower Manager IPM-04



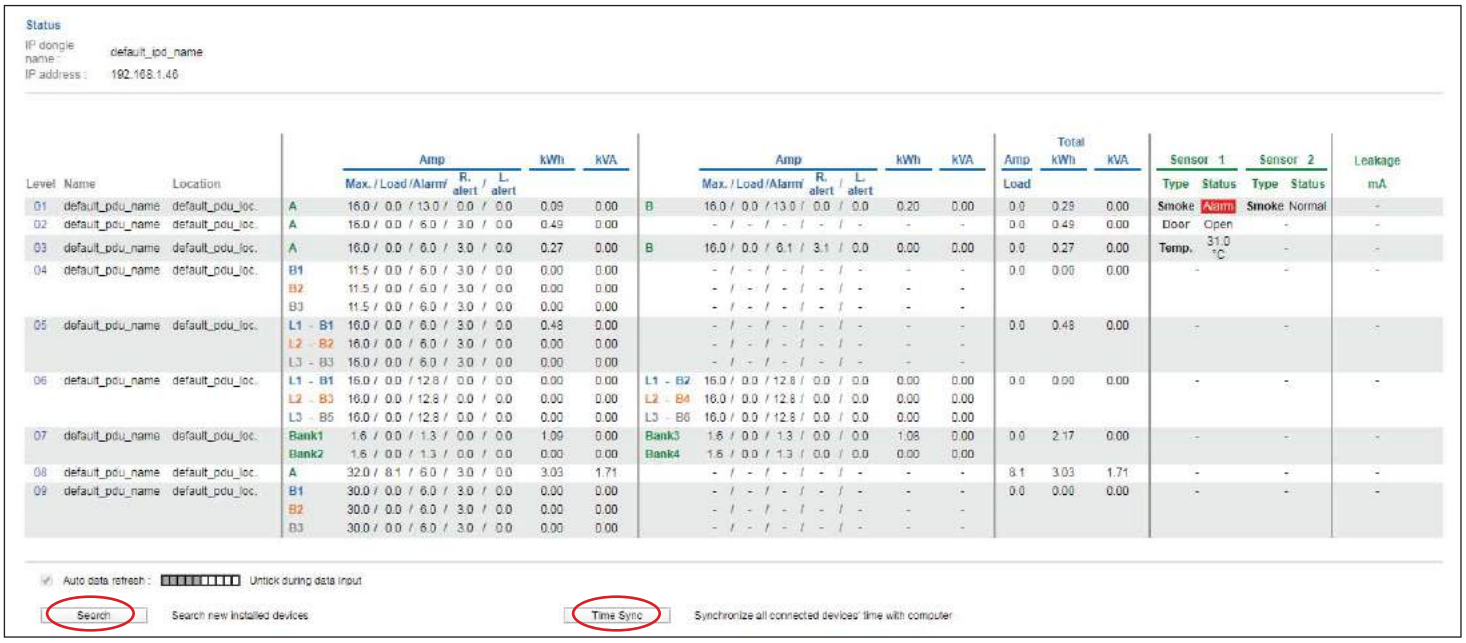
Step 1. Open Internet Explorer (I.E.), version 11.0

Step 2. Enter the configured IP dongle address into the I.E. address bar (Please refer to < 1.4 > IP dongle configuration)

Step 3. Enter " **Login name** " , " **Password** " & Click " **Login** " (Please refer to < 1.4 > IP dongle configuration)

In < **Status** >,

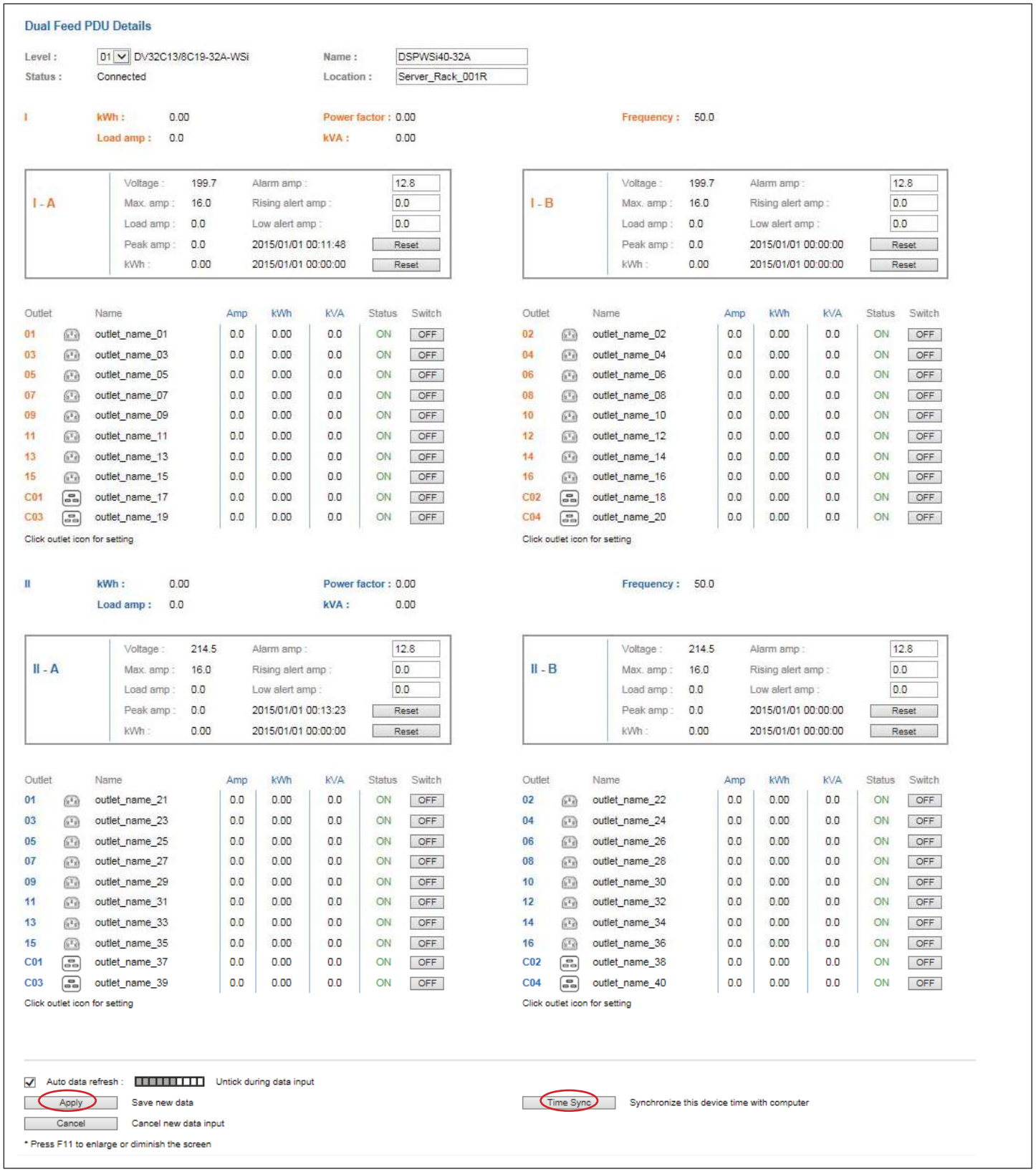
- Click " **Search** " to search all new installed PDUs (If search fails, please refer to < 1.6 > for IP dongle firmware upgrade)
- View all installed PDUs' status
- View latest loading on each PDU's circuits
- View aggregate current & energy consumption on each PDU
- View status & latest reading of Temp. & Humid sensors connected to each PDU
- View status of Door / Smoke sensors connected to each PDU
- Click " **Time Sync** " update all connected PDU's real time clock from the computer logged in the IP Dongle



< 1.5 > IP Dongle GUI

In < **Details** >,

- Change " **Name** " and " **Location** " of PDU & Click " **Apply** "
- Change " **Alarm amp.** " & " **Low alert amp.** " of PDU's circuits & Click " **Apply** "
- Click " **Reset** " to reset peak amp. or kWh of PDU's circuits
- Click " **ON** / **OFF** " to swich ON / OFF outlet (Switched PDU only)
- View On / Off status of each PDU's outlet
- View aggregated current on the PDU
- View latest loading & energy consumption of each PDU's outlet
  (Outlet Measurement PDU only)
- Click " **Time Sync** " update PDU's real time clock from the computer logged in the IP Dongle



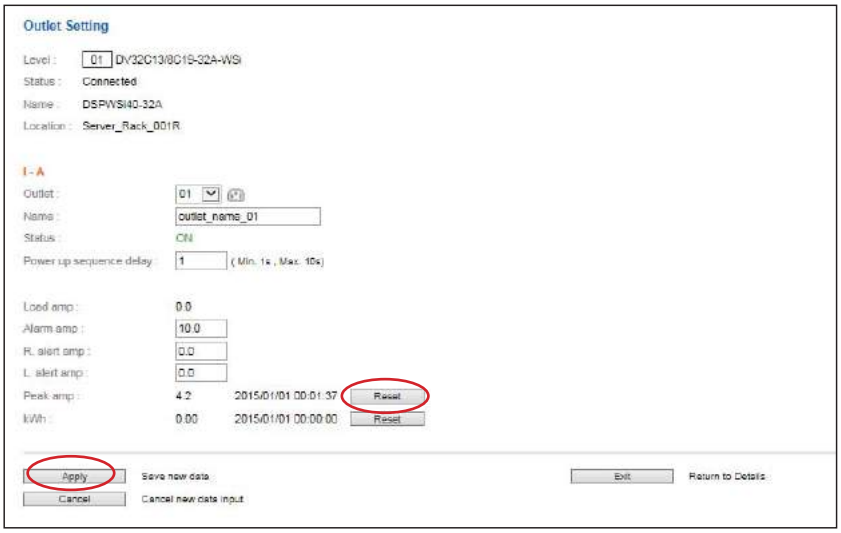
< 1.5 > IP Dongle GUI

In < **Outlet setting** >,

- Change PDU's outlet name
- Change " **Power up sequence delay** " of PDU's outlet (Switched PDU only)
- Change " **Alarm amp.** ", " **Rising Alert amp.**" & " **Low alert amp.** " of PDU's outlet (Outlet Measurement PDU only)

⚠ Click " **Apply** " to finish the above settings

- Click " **Reset** " to reset peak amp. or kWh of PDU's outlet (Outlet Measurement PDU only)

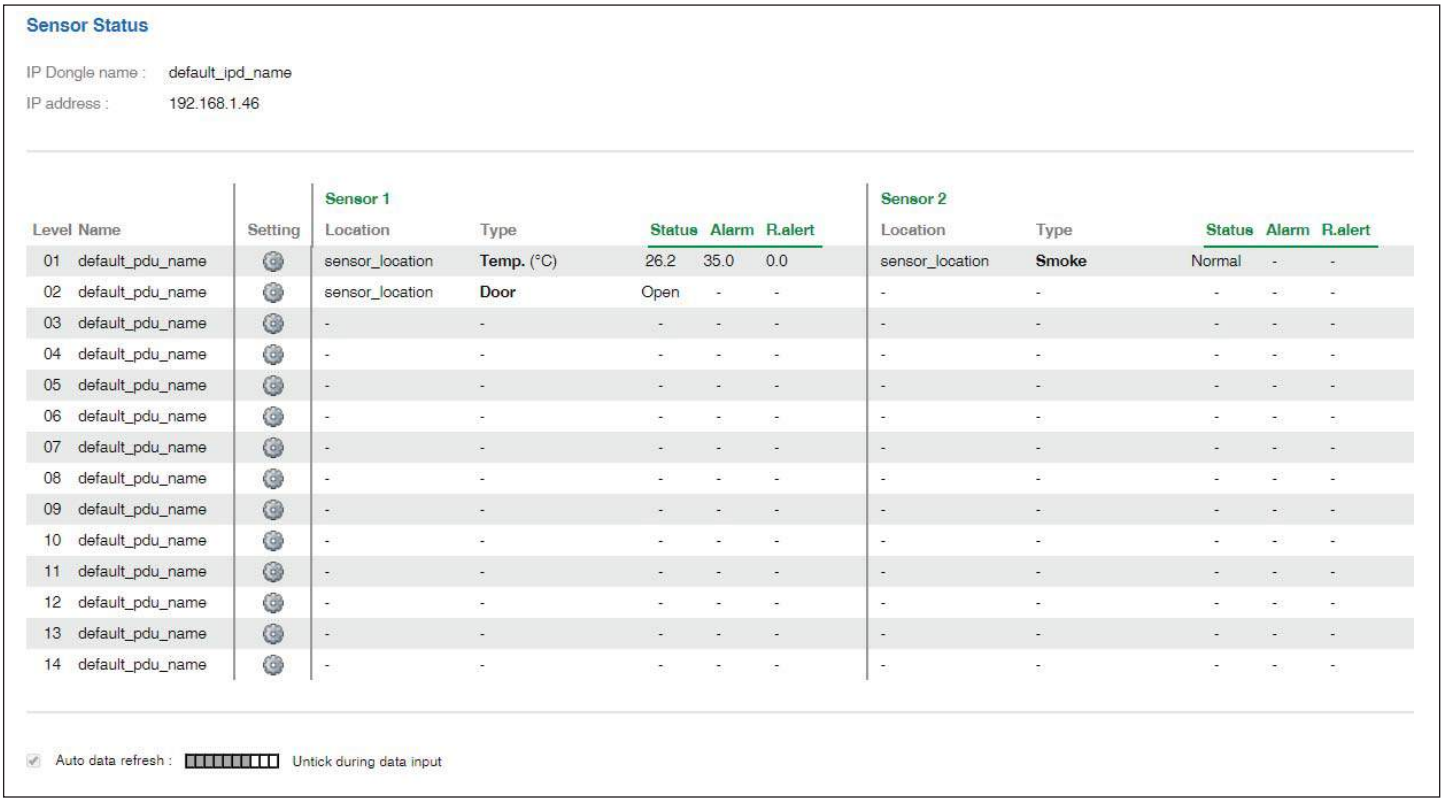


< 1.5 > IP Dongle GUI

In < **Sensor Status** >,

- View status, location, latest reading & alarm setting of Temp. & Humid sensors.
- View status & location of Door sensor & Smoke sensor

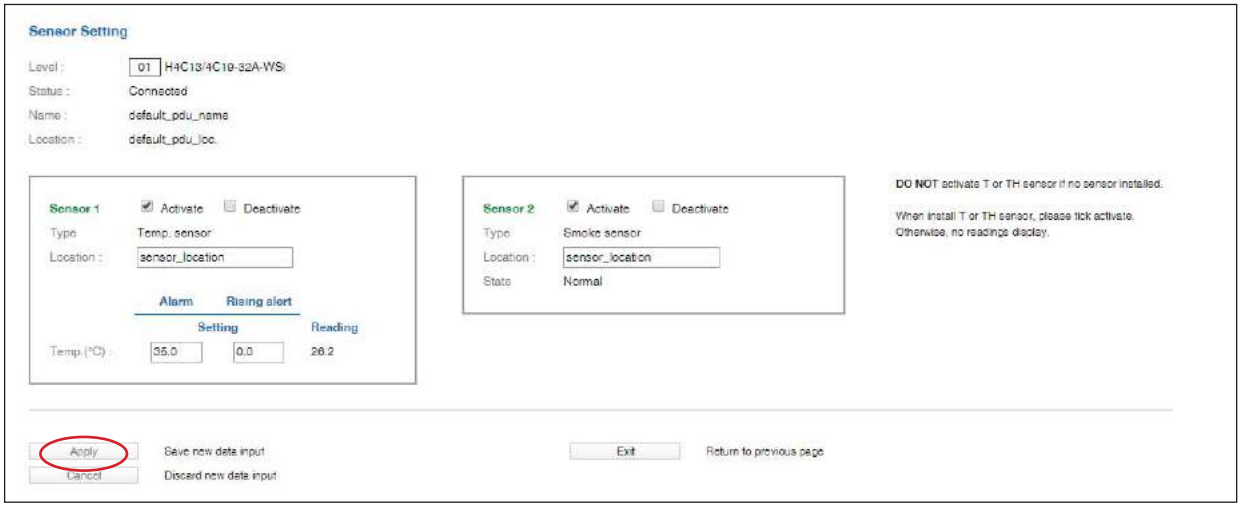
The GUI will not show the status / reading if sensors are NOT installed & activated.



In < **Sensor Setting** >,

- Default Sensor setting : Deactivate
- " **Activate** " sensors ONLY when they are connected
- Change " **Location** " , " **Rising alert Setting** " & "**Alarm Setting** " of Temp. & Humid sensors
- Change " **Location** " of Door sensor & Smoke sensor
- Click " **Apply** " to finish the above settings

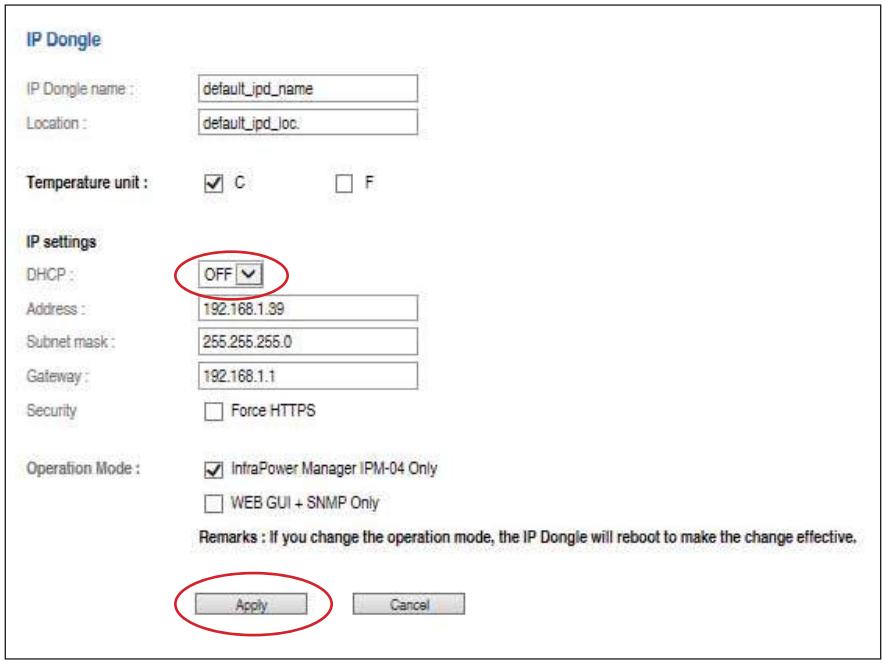
If no any sensor connected, NEVER activate.



< 1.5 > IP Dongle GUI

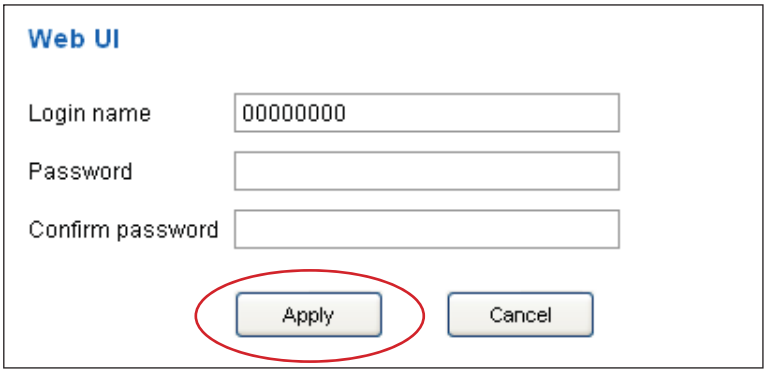
In < **System** >,

- Change IP dongle name & location
- Change temperature unit displayed in UI
- Change IP dongle's IP address, subnet mask & gateway. (For static IP setting only)
- Select " **ON** " in " **DHCP** " to enable DHCP setting.
- Tick **" Force HTTPS "** to provide data transmission security.
- Click " **Apply** " to finish the above settings



In < **Login** >,

- Change " **Login name** " OR " **Password** "
- Re-enter password in " **Confirm password** "
- Click " **Apply** " and " **OK** " on the pop up window to make changes effective



< 1.6 > SNMP Setup

The IP dongle can manage the connected single & three phase intelligent PDUs in a single daisy-chain up to 16 levels via SNMP v1/v2 or v3 (Simple Network Management Protocol)

(I). Accessing MIB Files

Step 1. Click the following link to go to the mangement software download page :
https://www.rackmountmart.com/downloads.html

Step 2. Select the appropriate MIB file of the PDU series

(II). Enabling SNMP Support

i. The following steps summarize how to enable the IP Dongle for SNMP v1 / v2 support.

Step 1. Connect the IP Dongle to a computer. (Please refer to < 1.4 > IP dongle configuration)

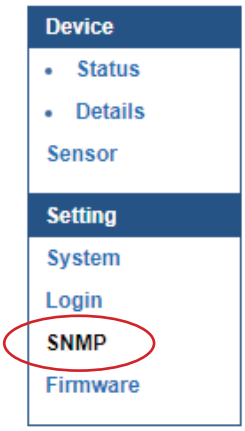
Step 2. Open the Internet Explorer (I.E.) version 11.0

Step 3. Enter the configured IP Dongle address into the I.E. address bar.
Default IP address is " **192.168.0.1** "

Step 4. Enter " **Login name** " & " **Password** ". Default login name & password are " **00000000** "

< 1.6 > SNMP Setup

Step 5. Select the SNMP from the left navigation pane



Step 6. The SNMP Settings window appears as below:

Step 7. Click **“ Enable “** in **“ SNMP agent “** to start the SNMP agent service

Step 8. Select **“ v1/v2 “** in **“ SNMP version “**

Step 9. Input **“ SNMP port “.** Default is 161

Step 10. Input “ **sysContact** “. Default is human.being<nobody@but.you>

Step 11. Input “ **sysLocation** “. Default is Earth

Step 12. Input “ **sysName** “. Default is A320D

Step 13. Input **“ Read Community “.** Default is public

Step 14. Input **“ Write Community “.** Default is private

Step 15. Click **“ Activate “** in Station 1 to enable the trap service

Step 16. Input **“ Trap Station IP “ , “ Trap Port “** & **“ Trap Community “** of Station 1

Step 17. Repeat Step 14 & 15 for Station 2 & 3

Step 18. Click **“ Apply “** to finish the SNMP v1 / v2 settings

< 1.6 > SNMP Setup

ii. The following steps summarize how to enable the IP Dongle for SNMP v3 support.

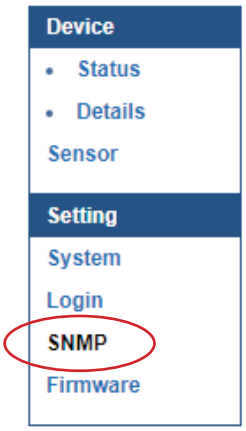
Step 1. Connect the IP dongle to a computer. (Please refer to < 1.4 > IP dongle configuration)

Step 2. Open Internet Explorer (I.E.) version 11.0

Step 3. Enter the configured IP dongle address into the I.E. address bar
Default IP address is " **192.168.0.1** "

Step 4. Enter " **Login name** " & " **Password** ". Default login name & password are " **00000000** "

Step 5. Select SNMP from the left navigation pane

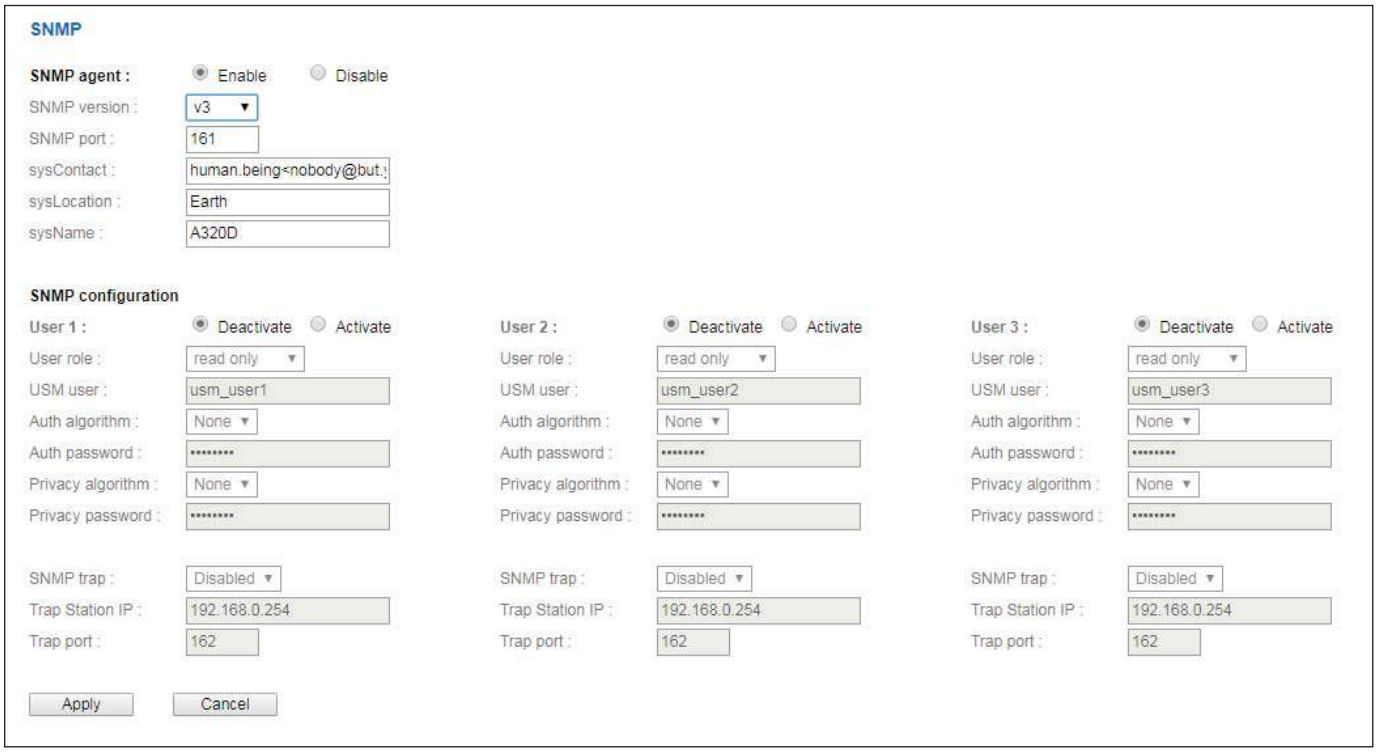


Step 6. The SNMP Settings window appears as below:

< 1.6 > SNMP Setup

Step 7. Click **“ Enable “** in **“ SNMP agent “** to start the SNMP agent service

Step 8. Select **“ v3 “** in **“ SNMP version “** & the SNMP v3 settings window appears as below :



Step 9. Input **“ SNMP port “**. Default is 161

Step 10. Input “ **sysContact** “. Default is human.being<nobody@but.you>

Step 11. Input “ **sysLocation** “. Default is Earth

Step 12. Input “ **sysName** “. Default is A320D

Step 13. Click **“ Activate “** in User 1

Step 14. Select **“ Read Only “** or **“ Read & Write “** in User role :

Step 15. Input the name of **“ USM user “** . Default is usm_user1

Step 16. Select **“ None / MD5 / SHA “** in **“ Auth algorithm “**.
If you select **“ Read & Write “** in **“ User role: “** ,
you MUST select **“ MD5 / SHA “** in **“ Auth algorithm “**

Step 17. Input the **“ Auth password: “** Default is “ 00000000 ‘

Step 18. Select **“ None / DES / AES / AES192 / AES256 “** in **“ Privacy algorithm “**.
If the Auth algorithm is **“ NONE “** , NO privacy algorithm can be selected.

Step 19. Input the **“ Privacy password “**

Step 20. If you want to receive trap message, select **“ Enable “ in SNMP trap**

Step 21. Input the **“ Trap Station IP “** & **“ Trap port “**

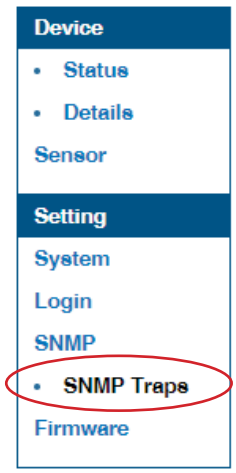
Step 22. Repeat step 12 to 20 for User 2 & 3

Step 23. Click **“ Apply “** to finish the SNMP v3 settings.

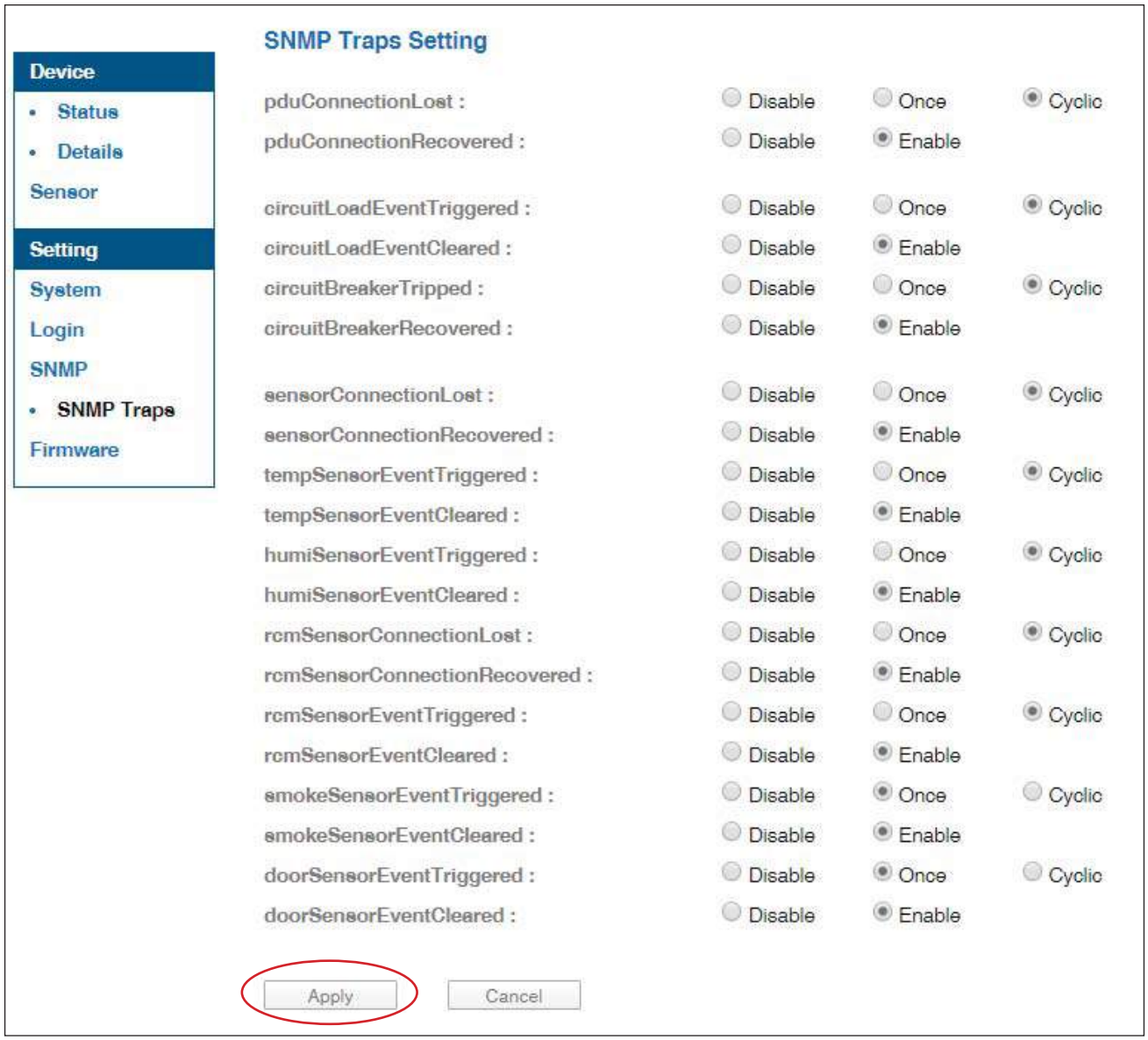
< 1.6 > SNMP Setup

(III). SNMP Traps Setting

After enable SNMP, you can click “ SNMP Traps “ to go to the “ SNMP Traps Setting “ page



Below is the default setting for each PDU SNMP trap.
You can set the SNMP trap option and Click “ Apply “ to finish the settings.



< 1.7 > IP Dongle Firmware Upgrade

< Firmware Upgrade >

For function enhancement of IP dongle WEB UI or fail to search the PDU, please take the following steps to remotely upgrade the IP Dongle firmware :

Step 1. Click the following link to go to the mangement software download page :
https://www.rackmountmart.com/downloads.html

Step 2. Select the appropriate IP Dongle firmware file of the PDU series

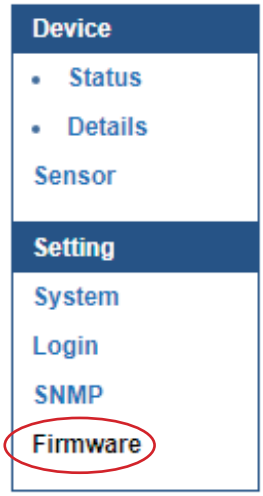
Step 3. Connect the IP Dongle to the computer. (Please refer to < 1.4 > IP dongle configuration)

Step 4. Open the Internet Explorer (I.E.) version 11.0

Step 5. Enter the configured IP Dongle address into the I.E. address bar.
Default IP address is " **192.168.0.1** "

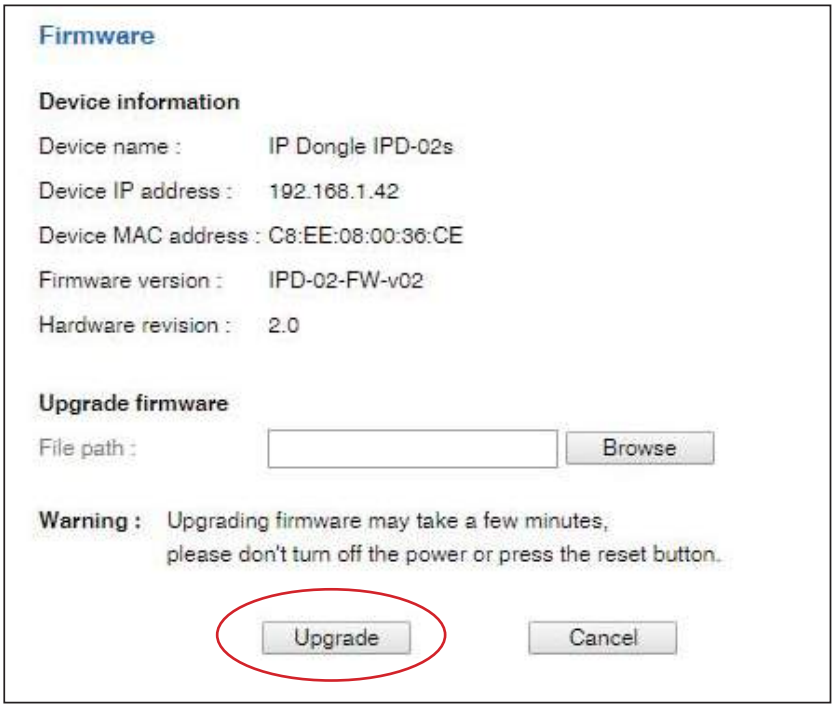
Step 6. Enter " **Login name** " & " **Password** ". Default login name & password are " **00000000** "

Step 7. Select the Firmware from the left navigation pane



< 1.7 > IP Dongle Firmware Upgrade

Step 8. The firmware upgrade window appears as below :



Step 9. Click " **Browse** " and select the firmware file (xxx.img) from the specific path in the pop up window and Click " **Open** "

Step 10. Click " **Upgrade** " to start the upgrade process. It takes a few minutes to complete.

Step 11. Once complete, UI will return to the login page.

< 1.8 > DHCP Setting

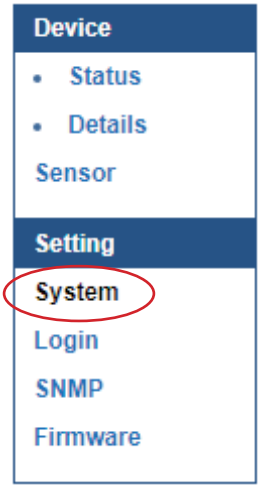
Step 1. Connect the IP dongle to the computer (Please refer to < 1.4 > IP dongle configuration)

Step 2. Open the Internet Explorer (I.E.) version 11.0

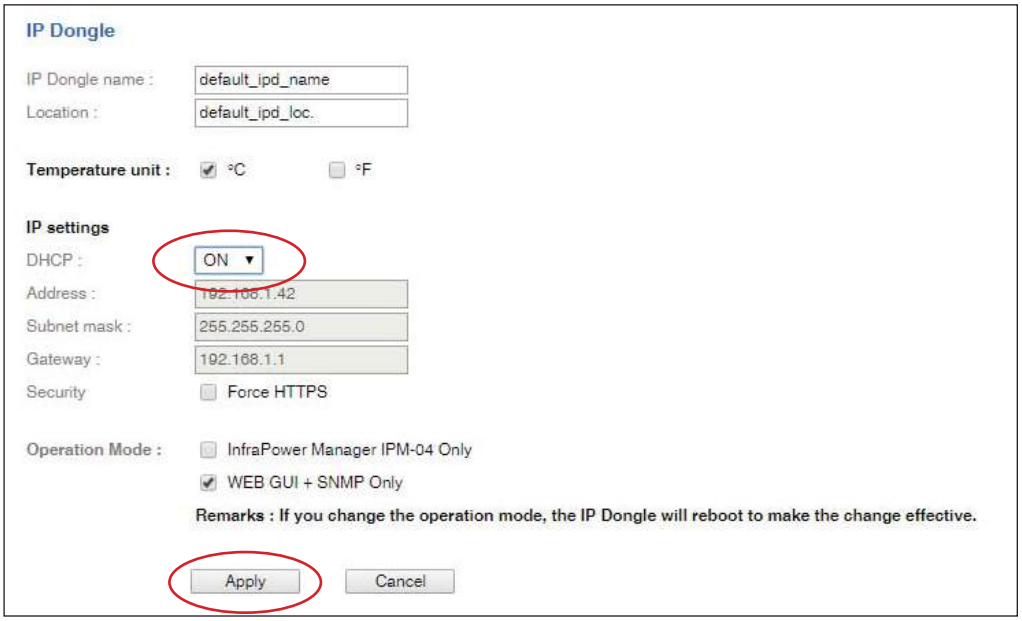
Step 3. Enter the default IP address of the IP dongle into the I.E. address bar.
Default IP address is " **192.168.0.1** "

Step 4. Enter the " **Login name** " & " **Password** " . Default login name & password are " **00000000** "

Step 5. Select " **System** " from the left navigation pane

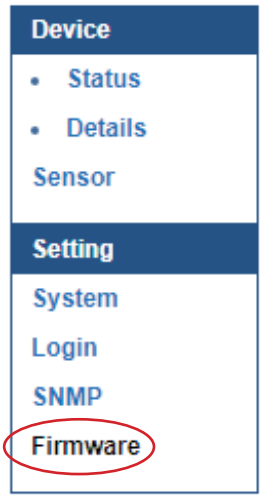


Step 6. Select " **ON** " from " **DHCP** " & click " **Apply** " to save the settings

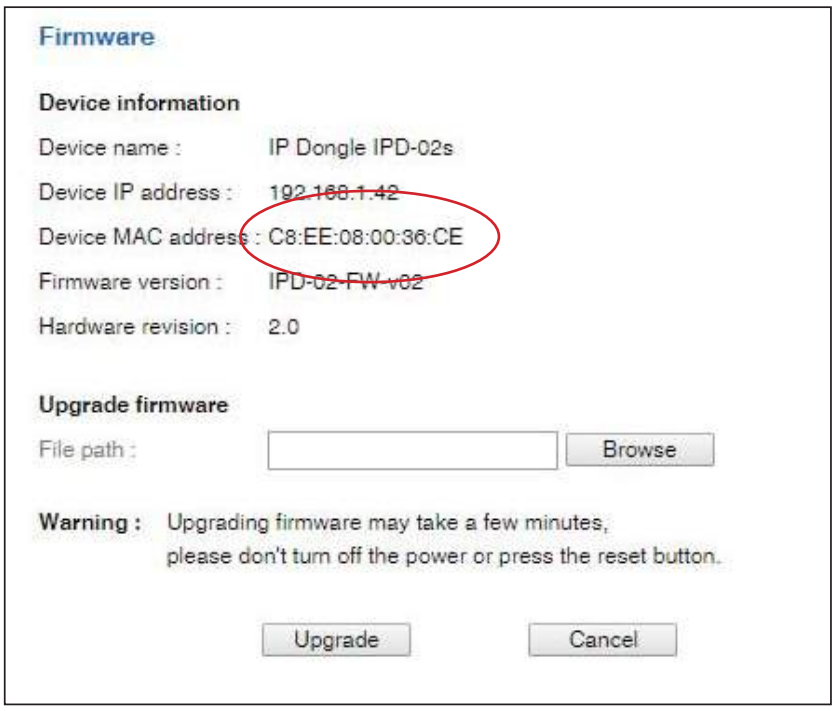


< 1.8 > DHCP Setting

Step 7. Select " **Firmware** " from the left navigation pane



Step 8. Record the " **Device MAC address** "



Step 9. Assign an IP address to the IP Dongle from your DHCP server.

Complete

< 1.9 > Command Line Interface (CLI) Access

Command Line Interface (CLI) allows you access the IP dongle via Telnet or Secure Shell (SSH) to configure the system settings and login settings.

By default, CLI access via Telnet and SSH are both enabled whereas Telnet can be disabled.

Telnet provides the basic security of authentication by user name and password, but not the high-security benefits of encryption.

If you want high security access, you can use SSH for access to the command line interface. SSH encrypts user name, password and transmitted data.
If you use SSH to access the command line interface, DISABLE Telnet.

CLI and IP dongle WEBUI shares the same login name & password (default login name & password are " 00000000 ")

You can change the following settings via CLI access :

i. System settings
   - Change temperature display unit : change the temp unit to be displayed in the WEBUI
   - Change system RTC date time : set the system time of the IP Dongle
   - Change network settings : change the IP settings of the IP Dongle
   - Change features & services
     a. Enable / disable management software support
     b. Enable / disable SNMP agent (ONLY shown when management software support is disabled)
     c. Enable / disable WEBUI
     d. Enable / disable UDP (When disabled, IP dongle CANNOT be found by IP setup utilities)
     e. Enable / disable maintenance (service) account

     If you are using WEBUI + SNMP operation mode, please go to the IP dongle WEBUI to search the connected PDU & configure the SNMP settings before you disable WEBUI via command line interface.

ii. Login settings
   - Change login name
   - Change login password
   - Reset to default login name & password