



**Synergy Global Technology Inc**

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## User Manual

### IPM-03 PDU management software

**W** kWh Monitored PDU

**Wi** Outlet kWh Monitored PDU

**WS** kWh Switched PDU

**WSi** Outlet kWh Switched PDU



## Legal Information

First English printing, October 2002

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 40° Celsius (104° Fahrenheit).
- When installing, place the equipment on a sturdy, level surface to prevent it from accidentally falling and causing damage 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 damaged 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 invalidate 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 installation.

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.

The company reserves the right to modify product specifications without prior notice and assumes no responsibility for any error which may appear in this publication.

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# Unpacking

The equipment comes with the standard parts shown on the package contents. Check and make sure they are included and in good condition. If anything is missing, or damage, contact the supplier immediately.

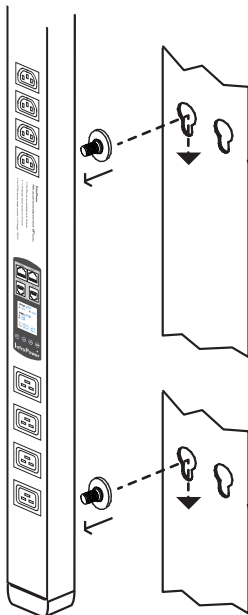
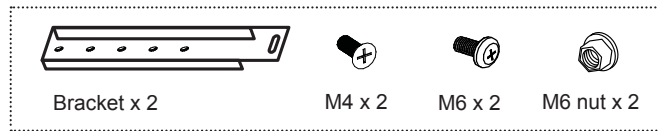
## Package contents

### ( 1 ) Vertical W / Wi / WS / WSi PDU x 1

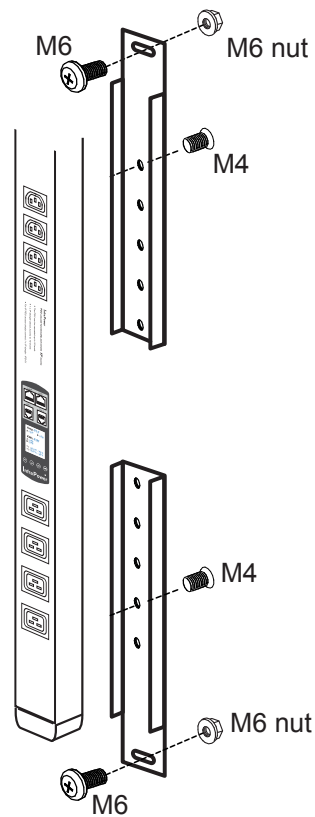
- **VMS** mounting screw, set of 2 or 3




- **VMB** mounting bracket set



OR



### ( 2 ) Rackmount W / Wi / WS / WSi PDU x 1

 All electrical power and power control wiring must be installed by a qualified electrician and comply with local and national regulations.

## Power ON

- Connect the PDU into an appropriately rated receptacle
- When the PDU is power on, the LED display will light up. That means all outlets are activated
- Keep the equipments in the power off position until it is plugged into the PDU

 Don't exceed the outlet, branch or phase limitations

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## Part I. W / Wi / WS / WSi PDU Key Features

	kWh PDU		Outlet kWh PDU	
	Monitored	Switched	Monitored	Switched
	W	WS	Wi	WSi
Outlet kWh Measurement			✓	✓
Circuit kWh Measurement	✓	✓	✓	✓
Temp-Humid Monitoring	✓	✓	✓	✓
Cascading up to 16 PDU Levels	✓	✓	✓	✓
16-PDU to 1-IP via IP Dongle	✓	✓	✓	✓
SNMP Capability via IP Dongle	✓	✓	✓	✓
Enlarged 1.8" LCD Screen	✓	✓	✓	✓
Switchable Outlets		✓		✓
Local kWh & Amp Meter	✓	✓	✓	✓
Vertical & Horizontal PDUs	✓	✓	✓	✓
Multiple PDU Mounting Ways	✓	✓	✓	✓
Management Software Editions	IPM-Pro IPM-03 IPM-02 (Free)	IPM-Pro IPM-03 IPM-02 (Free)	IPM-Pro IPM-03	IPM-Pro IPM-03

## Part II. InfraPower Manager IPM-03 Key Features

InfraPower Manger IPM-03 is a **LICENSED** PDU mangement software to remote & monitor up to 30 IP dongle group ( max. 16 PDU levels in each IP dongle group ), total 480 PDUs

5 concurrent user access are bundled for achieving the demand of multi-user / multi-tasking in nowadays' time-sharing date center operation.

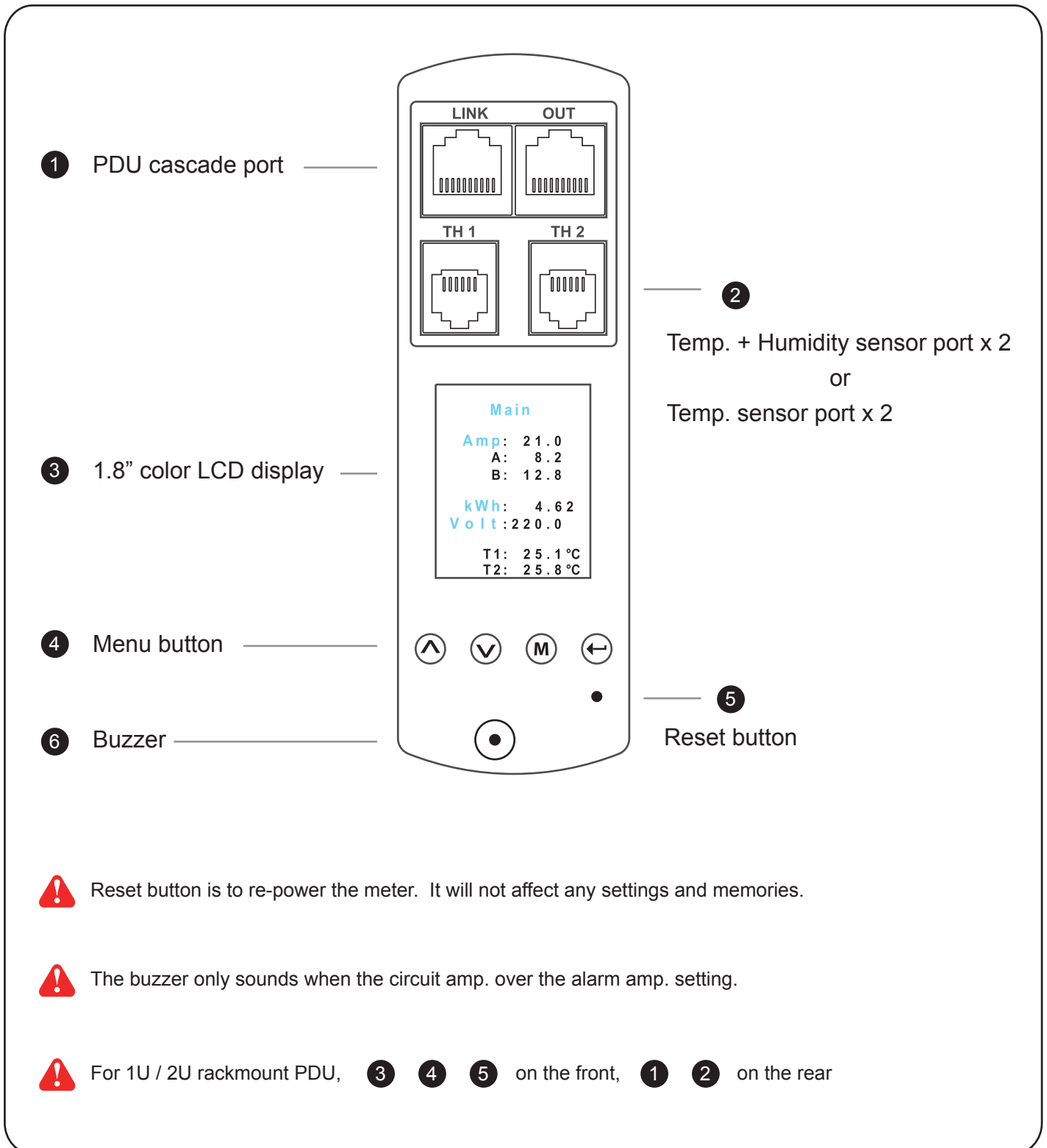
InfraPower® Manager			IPM-03
<b>Capacity</b>	IP Dongle Groups (Just 1 for 16 PDU levels)	Basic Max.	30 30
	PDU number	Basic Max.	480 480
	Concurrent Users	Basic Max.	5 5
<b>Enhanced Features</b>	User Grouping		
	Chart Reporting		
	Outlet Level Energy (kWh) Measurement		✓
	Outlet Level Current (A) Monitoring		✓
	Energy (kWh) Measurement		✓
	Apparent Power (kVA) Monitoring		✓
	Power Factor Monitoring		✓
	Circuit Breaker Monitoring		✓
<b>Basic Features</b>	Aggregate Current (A) Monitoring		✓
	Individual Outlet Switch ON / OFF		✓
	Temp-Humid Monitoring		✓
	Alarm Threshold Setting		✓
	Reporting		✓
	Graphical User Interface		✓
	Remote Access via Web Browser		✓
<b>Software Platform</b>	Windows		✓
	Linux		
<b>PDU Models Support</b>	Wi / WSi (Outlet Level Measurement)		✓
	W / WS		✓



## Part III.

### < 3.1 > W meter display & setting

All W series PDUs are equipped with a highly advanced and sophisticated component - W Meter. It provides the cascade ports for daisy chain up to 16 x PDU. Furthermore, for IP PDU access, simply connect 1 x IP Dongle for all daisy chain PDUs to save IP network address. Two sensor ports are integrated for temperature & humidity monitoring. Creatively, 1.8" color LCD display offers a real time local monitoring and detailed PDU status.



Reset button is to re-power the meter. It will not affect any settings and memories.

The buzzer only sounds when the circuit amp. over the alarm amp. setting.

For 1U / 2U rackmount PDU, 3 4 5 on the front, 1 2 on the rear

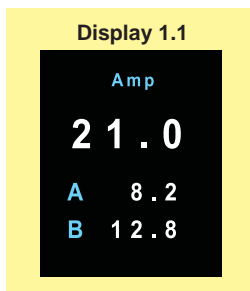
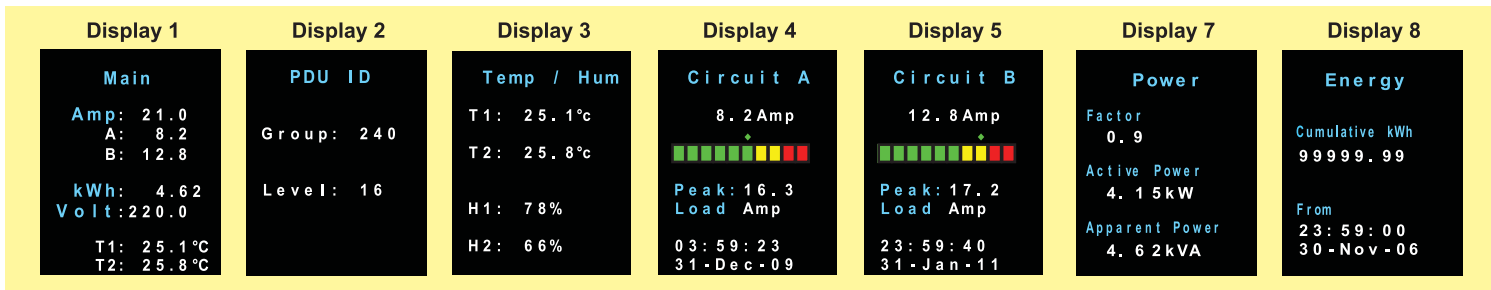
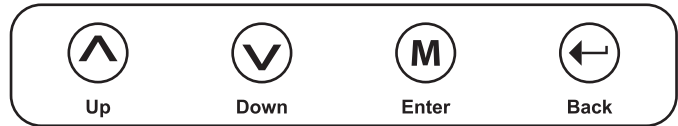
## < 3.1 > W meter display

W meter 1.8" color LCD provides a sharp and highly visible reading for the local reading of Current ( Amp ), Voltage ( Volt ), Power ( kW ), Energy Consumption ( kWh ), Power Factor, Temperature & Humidity.

### Display for PDU Monitoring

- Amp, Voltage & Power Factor
- kWh Energy Consumption
- Active & Apparent Power
- Temp. & Humidity

W Meter provides the buttons to select the displays

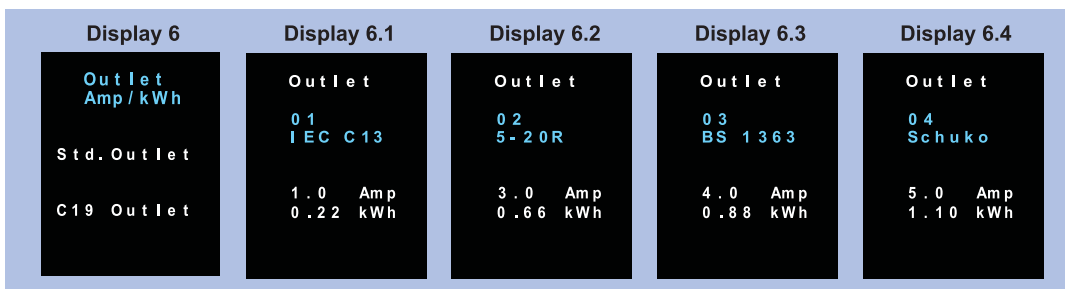


Press (M) to change °C / °F

### Display for Outlet Measurement

- Outlet Amp
- Outlet kWh (Wi and WSi series PDUs only)

**! Display 6 only for Wi / WSi outlet measurement PDU**

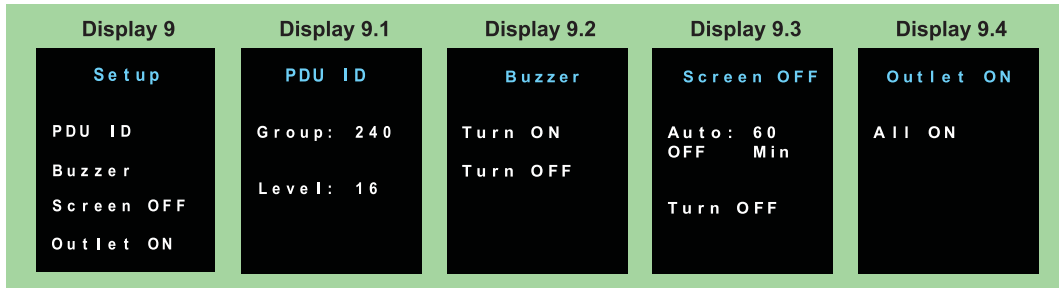


## < 3.1 > W meter setting

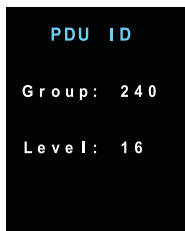
W meter allows the user to do some settings below :

### Display for Local PDU Setting

- PDU Level
- Meter buzzer
- Meter screen
- PDU Outlet ON



#### Display 9.1



#### PDU level setting :

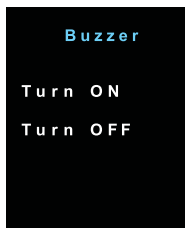
**Step 1** - Press the  $\wedge$  &  $\vee$  button to  and press  $\textcircled{M}$  to confirm

**Step 2** - Press the  $\wedge$  &  $\vee$  button to  and press  $\textcircled{M}$  to confirm

**Step 3** - In display 9.1, Press the  $\wedge$  &  $\vee$  button to select PDU level no. & press  $\textcircled{M}$  to confirm

**Step 4** - Press  $\leftarrow$  to exit

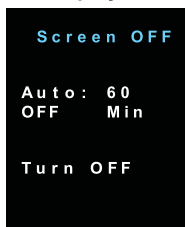
#### Display 9.2



#### Buzzer :

W meter allows the user to set the meter buzzer ON / OFF by meter's 4 buttons

#### Display 9.3



#### Screen OFF :

All PDUs are shipped with the metter LCD in always ON status.

W meter allows the user to turn off the meter LCD by time setting ( 1 - 60 mins, 0 = always ON )

When the meter is in OFF status, the user can press any button to make it ON.

#### Display 9.4



#### Outlet ON :

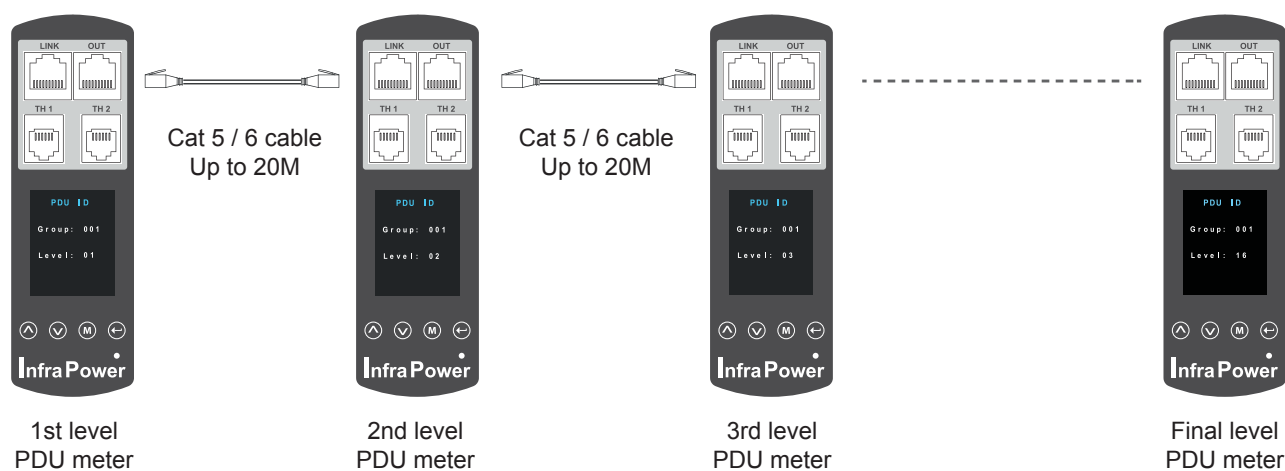
This is for WS kWh Switched / WSi outlet kWh Switched PDU models only. All Switched PDUs are shipped in outlet OFF status. Once power ON the PDU, the users have to switch ON all PDUs' outlets in display no. 9.4

## < 3.2 > PDU meter setting & cascade

### PDU Daisy Chain up to 16 Levels

The W meter built-in not only provides the local power monitoring, but also the connection ports for the PDU daisy chain. For daisy chain connection, each PDU just simply to be connected in series to the next by Cat5/6 cables. Maximum 16 PDUs are supported in one daisy chain group.

- The PDU can be cascaded up to 16 levels
- For IP PDU access simply connect 1 x IP dongle - IPD-02
- 1 x IP dongle allows access to 16 levels



 For **PDU level setting**, please refer to the left side page.

### < 3.3 > Plug n Play Temp. & Humidity Sensor Connection

W meter provides 2 sensor ports for Temp. & Humidity monitoring. The user can see the Temp. / Humidity reading not only from the local meter display but also from remote management software.

- low profile design with magnetic base for easy affixing to the rack cabinet
- Plug n Play
- sensor with 2M or 4M cord
- pair of sensors can be connected to a single W meter



#### Temp. & Humid. Sensor

Model :  
IG - TH01 - 2M ( 2M cord )  
IG - TH01 - 4M ( 4M cord )

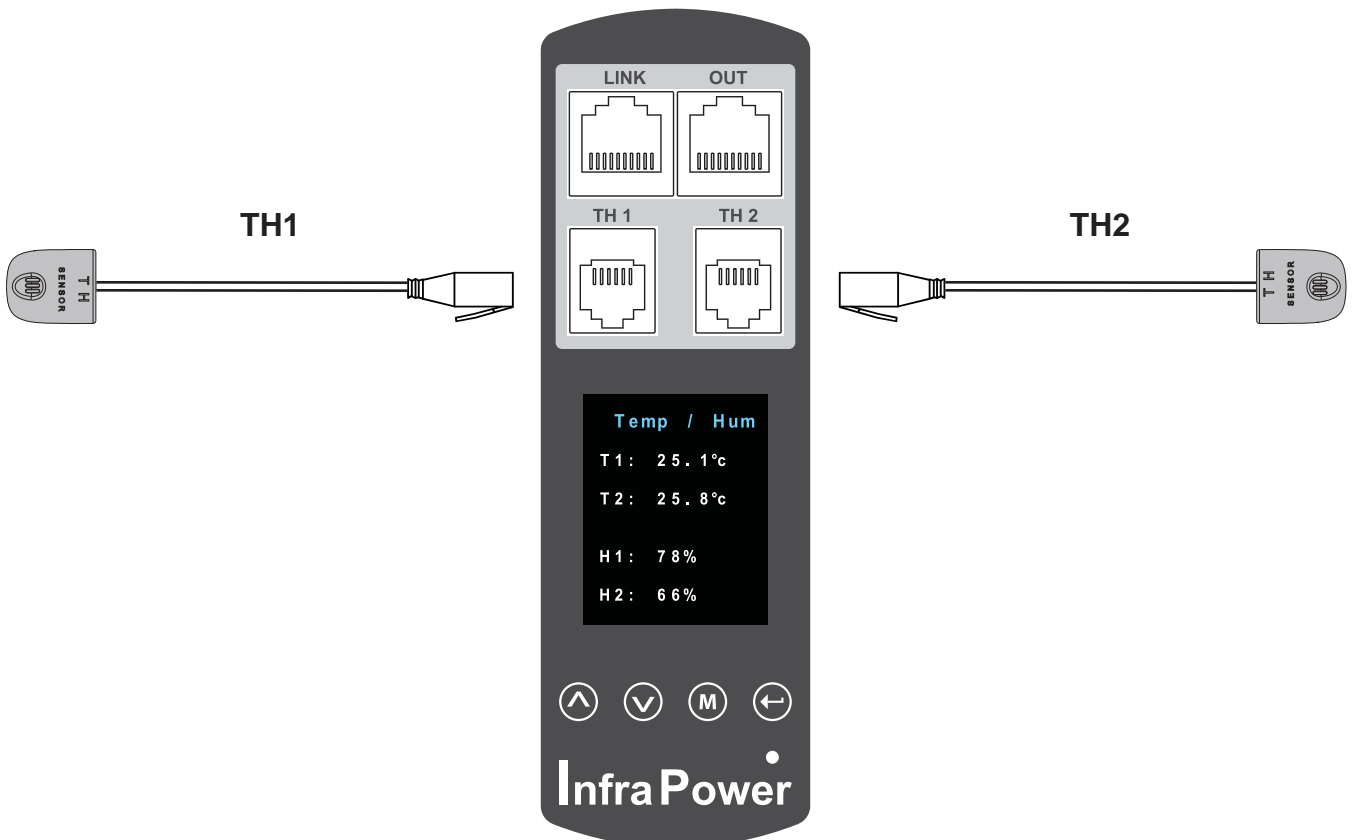


#### Temp. Sensor

Model :  
IG - T01 - 2M ( 2M cord )  
IG - T01 - 4M ( 4M cord )



Please plug in the Temp. / Temp. & Humid. sensor only after the PDU is powered ON.

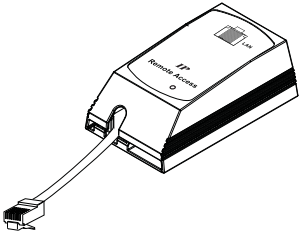


## < 3.4 > IP dongle installation & connection

### 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.

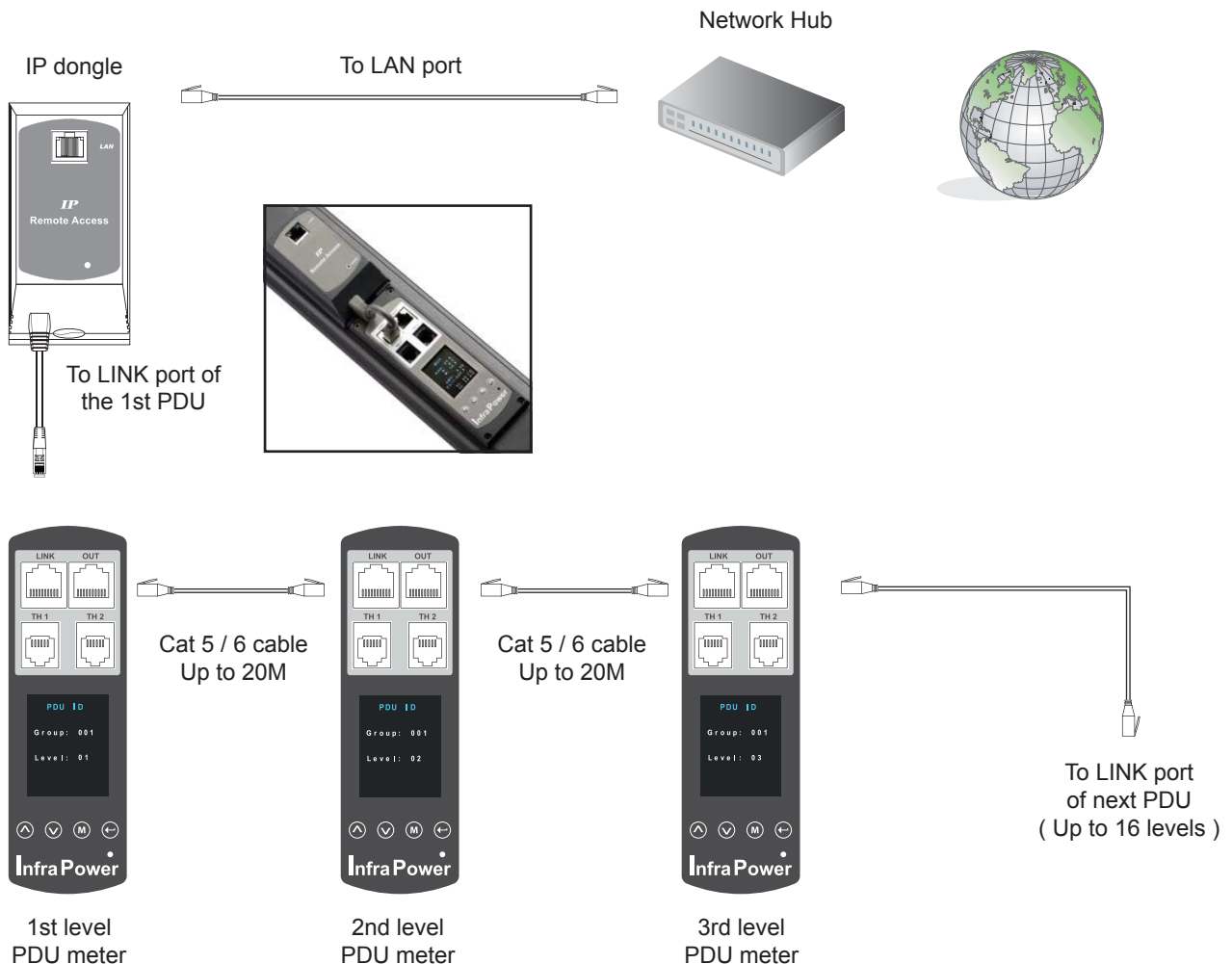


#### IP dongle for vertical PDU

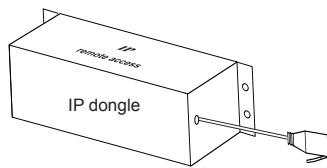
Model :  
IPD-02  
IPD-02-S ( with SNMP feature )

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



## < 3.4 > IP dongle installation & connection

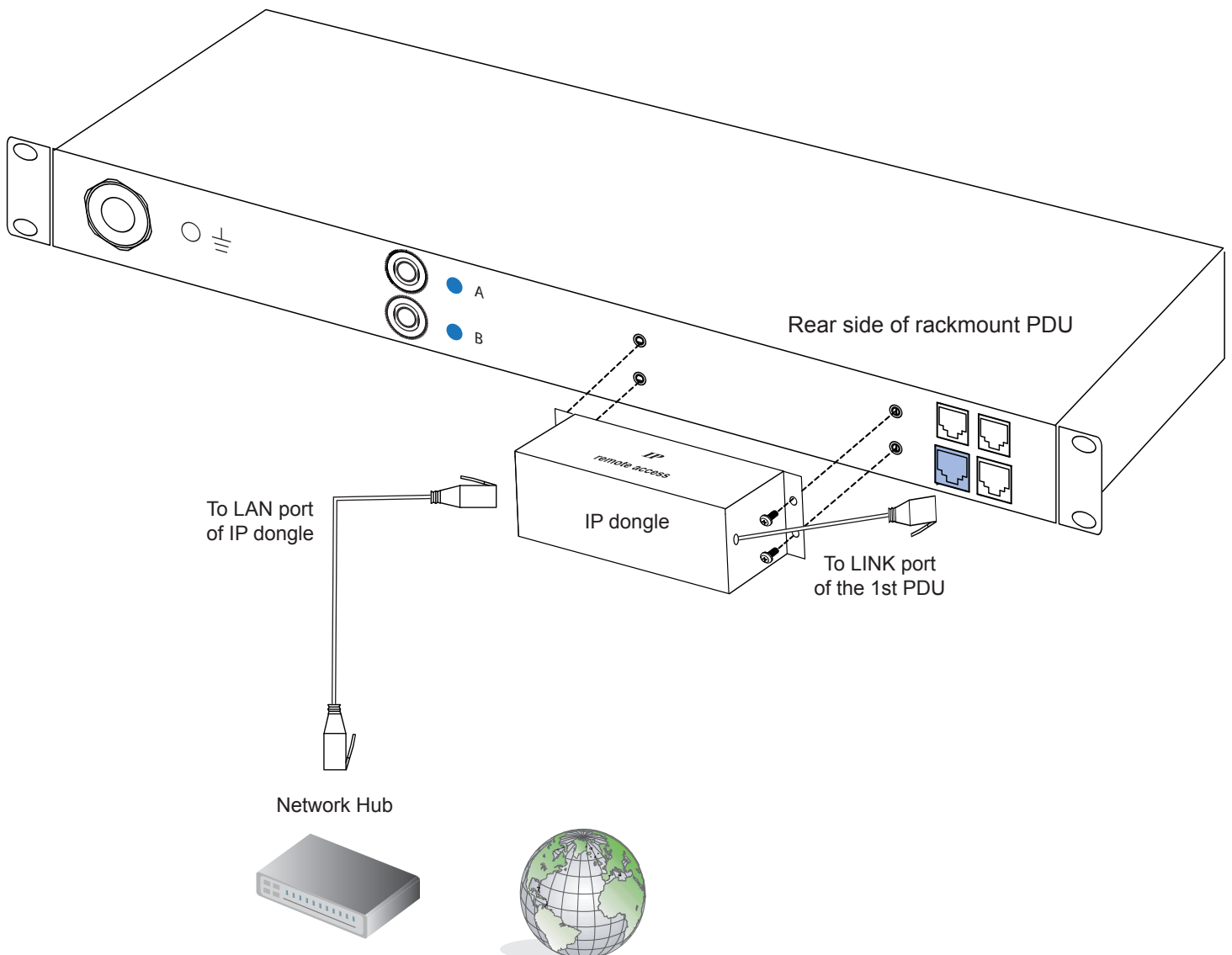


### IP dongle for rackmount PDU

Model :  
IPD-H02  
IPD-H02-S ( with SNMP feature )

#### Horizontal IP dongle installation steps :

- fix the IP dongle on the rear side of rackmount PDU with 4 screws
- 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

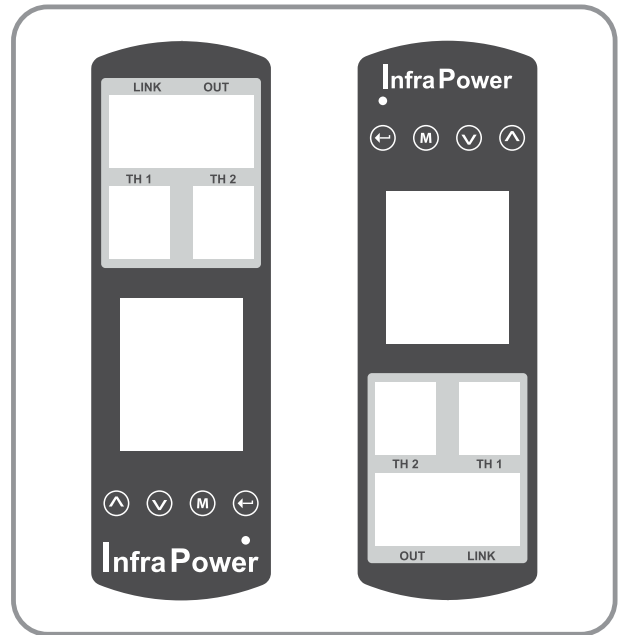


## < 3.5 > Easy Change on PDU Power Feed Position

### Power Feed Entry Flexibility - By Meter Setting

Customization of top feed power entry is available on request.

The change of the power feed entry position is possible after installation. The W series meter provides the flexibility to simply turnover on top feed PDUs with the use of meter inversion buttons and an alternative membrane.



Meter Membrane A

Meter Membrane B

1

Turn the PDU upside-down

2

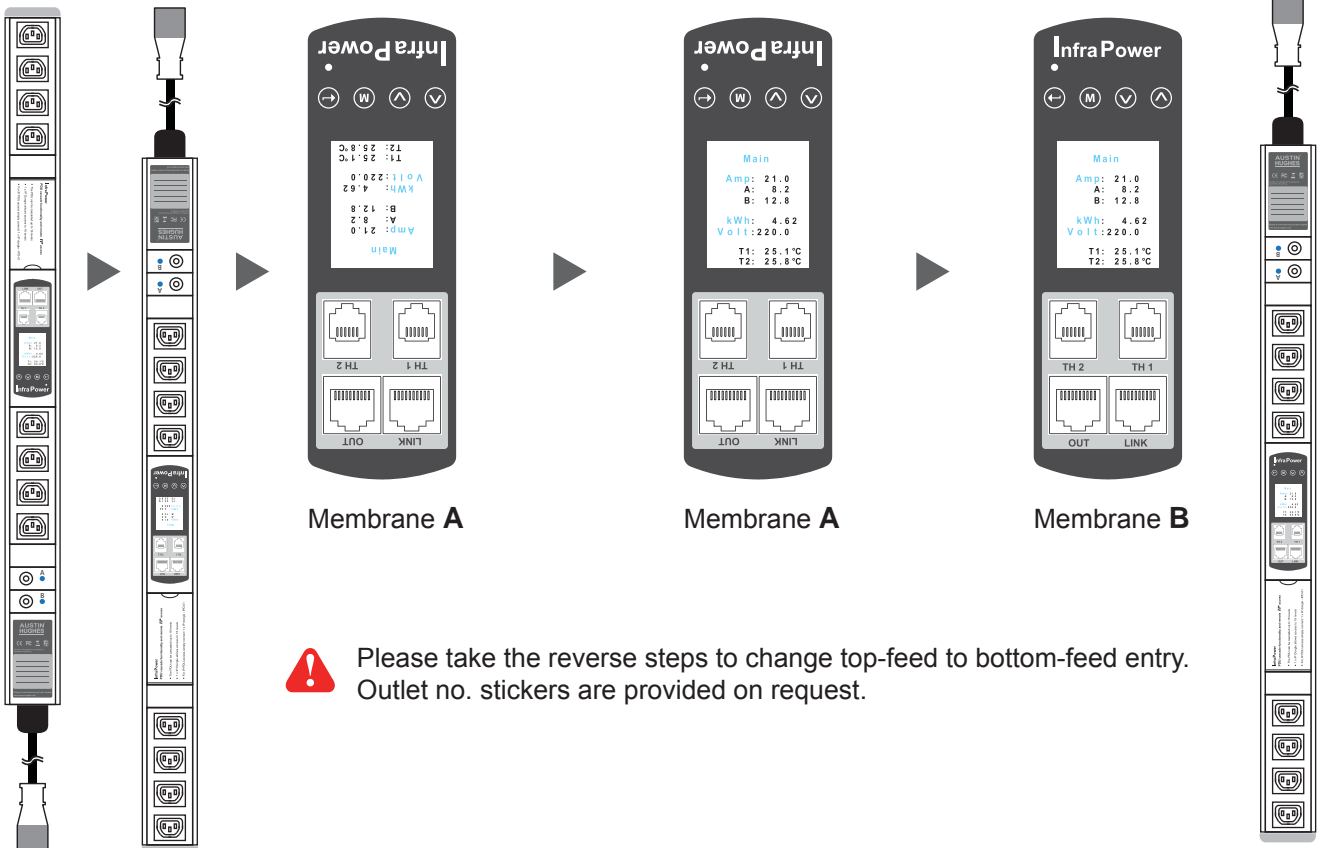
Press first button  & last button  to invert display

3

Replace the meter membrane

4

Completed



Please take the reverse steps to change top-feed to bottom-feed entry. Outlet no. stickers are provided on request.

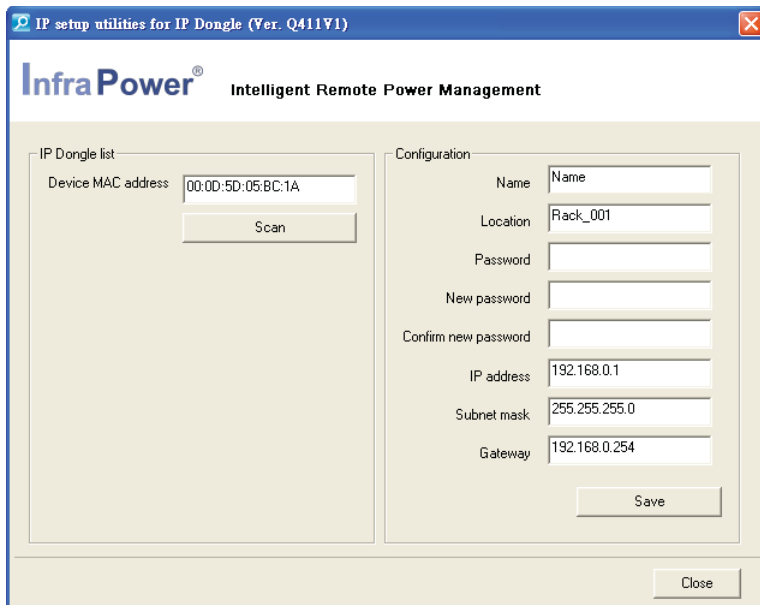
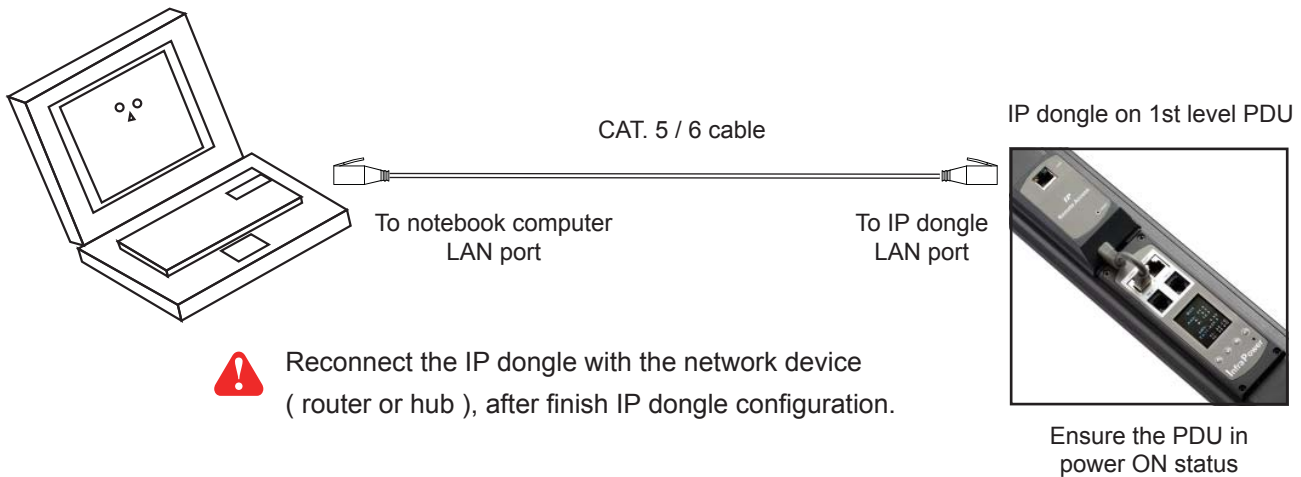


## Part IV. Software Download & Setup

### < 4.1 > IP dongle configuration

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

1. Prepare a notebook computer to download the IP setup utilities from the link :  
<http://www.rackmountmart.com/support/utilities/infrapower/IPdongleSetup.msi>
2. Double click the `IPDongleSetup.msi` and follow the instruction to complete the installation.
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**.



Write down the new IP address & password for < Setup > purpose, refer to P.18

4. Click **Scan** to search the connected IP dongles
5. Enter the device name in the name field ( min. 4 char. / max. 16 char. ). **The default is Name.**
6. Enter the location in the location field ( min. 4 char. / max. 16 char. ). **The default is Rack\_001.**
7. Enter the password in the password field for authentication ( min. 8 char. / max. 16 char. ). **The default is 00000000.**
8. Enter the new password in the new password field ( min. 8 char. / max. 16 char. ).
9. Re-enter the new password in the Confirm new password field.
10. Change the desired IP address / Subnet mask / Gateway, then click **Save** to confirm the setting to IP dongle.
11. The default IP address is as below:  
IP address : 192.168.0.1  
Subnet mask : 255.255.255.0  
Gateway : 192.168.0.254

## < 4.2 > Hardware requirements of the management PC

Please prepare a management PC with the hardware requirements as below for InfraPower Manager - IPM-03

### **Recommended hardware requirements :**

- Processor: Dual Core 2GHz or above
- Memory: 2GB RAM
- Available Disk Space: 500GB
- Drive: DVD ROM drive
- Display: 1440 x 900 or higher resolution monitor



- **A USB port is required for the USB Key**
- **The default service port of web server is 80.**
- **A dedicated PC to run InfraPower Manager - IPM-03 is recommended.**
- **Make sure the management PC is POWER ON & IPM-03 is under operation.**  
**Otherwise, daily data backup will NOT be proceeded.**

## < 4.3 > InfraPower Manager - IPM-03

InfraPower Manager, IPM-03, is a **PDU** management software to enhance the features and benefits of the W kWh Monitored / Wi Outlet kWh Monitored / WS kWh Switched / WSi Outlet kWh Switched PDUs by providing a centralized and remote management platform, and total reporting with detailed logs & event occurrences.

InfraPower Manager IPM-03 can support max. 5 concurrent login users and manage multi- IP dongles max. 30, hence the concurrent login users can access & remote PDUs max. 480 ( 30 IP dongles x 16 level PDUs ).



### **Software download**

Please download the InfraPower Manager - IPM-03 to the management PC

from the link <http://www.rackmountmart.com/support/software/infrapower/IPM-03.msi>

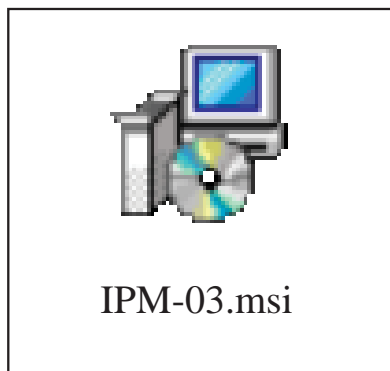
### **Supported OS platform list :**

- MS Windows XP Professional with SP3 (32bit only)
- MS Windows 7 Professional with SP1
- MS Windows 7 Ultimate with SP1
- MS Windows Server 2003 R2 Standard Edition with SP2
- MS Windows Server 2008 Standard Edition SP2
- MS Windows Server 2008 R2 Standard Edition SP1

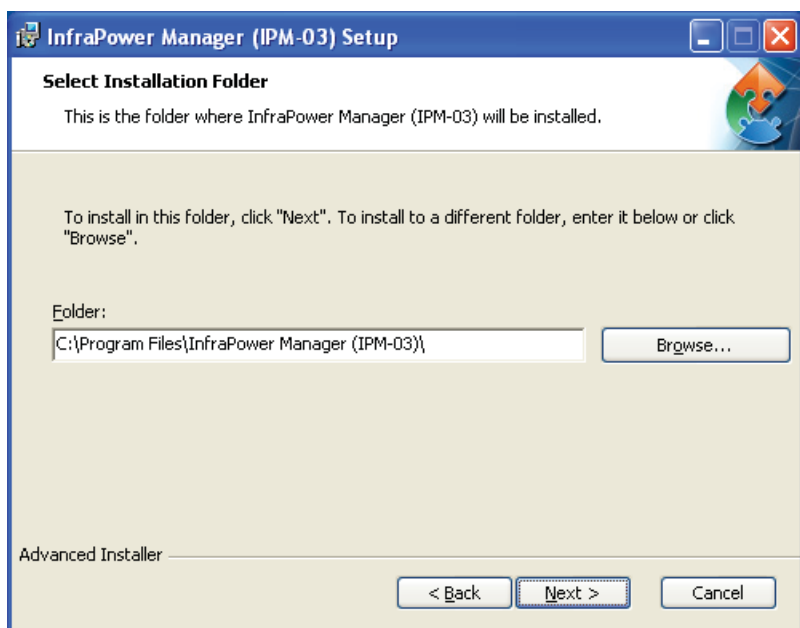


**Ensure the user logins in the management PC as a member of “Administrators” Group before IPM-03 Installation and execution.**

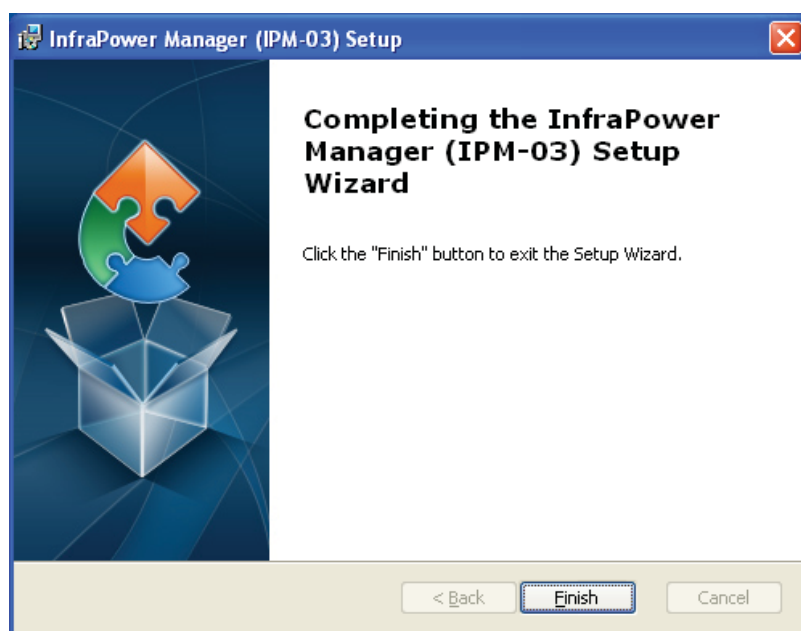
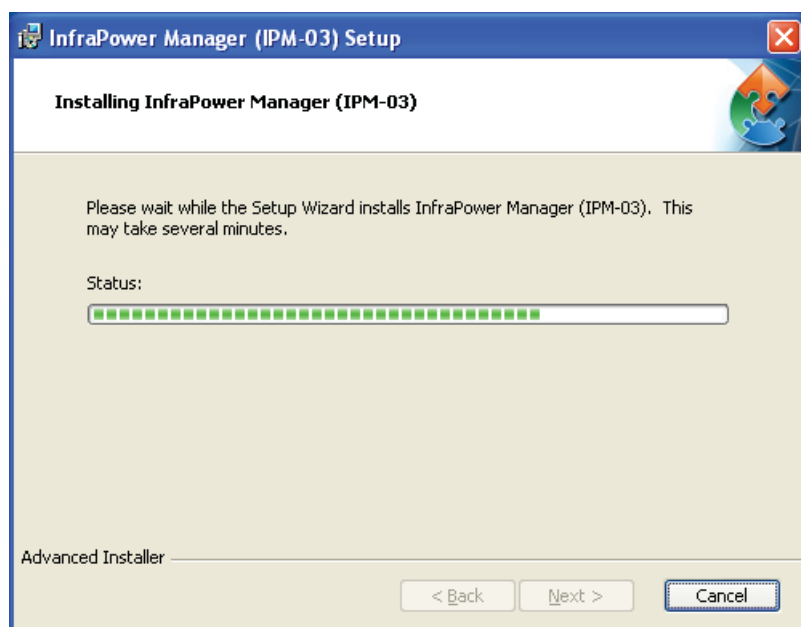
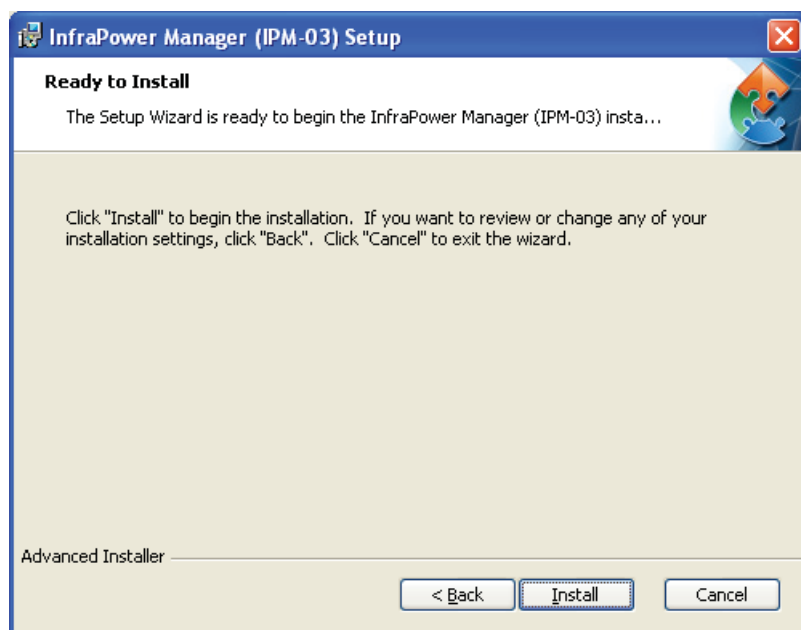
## Software download



Double click the `IPM-03.msi` and follow the instruction to complete the installation.



## Software download



## Software download

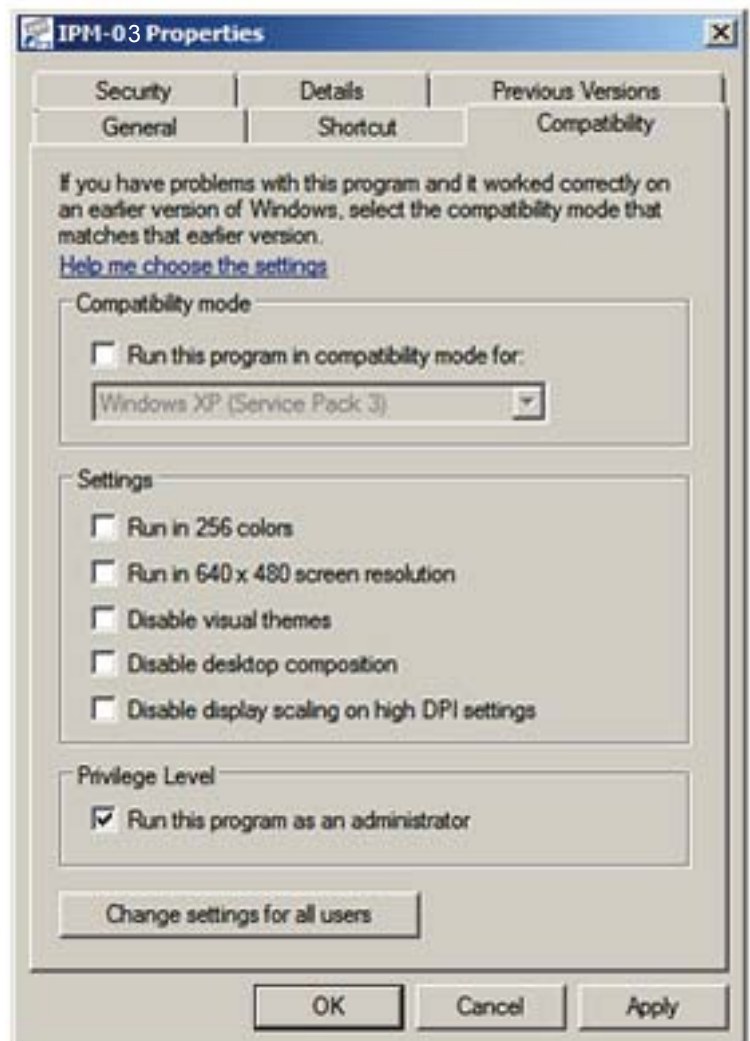
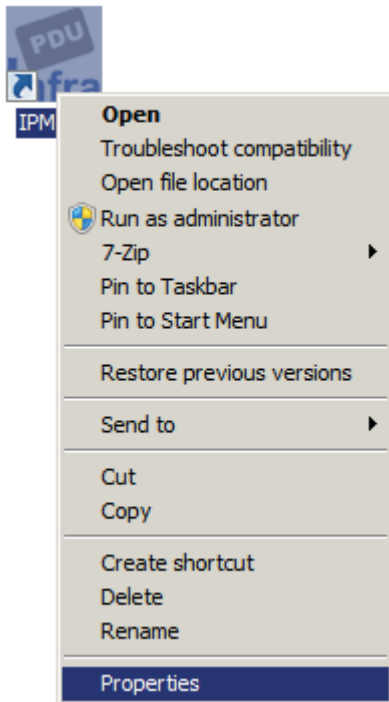


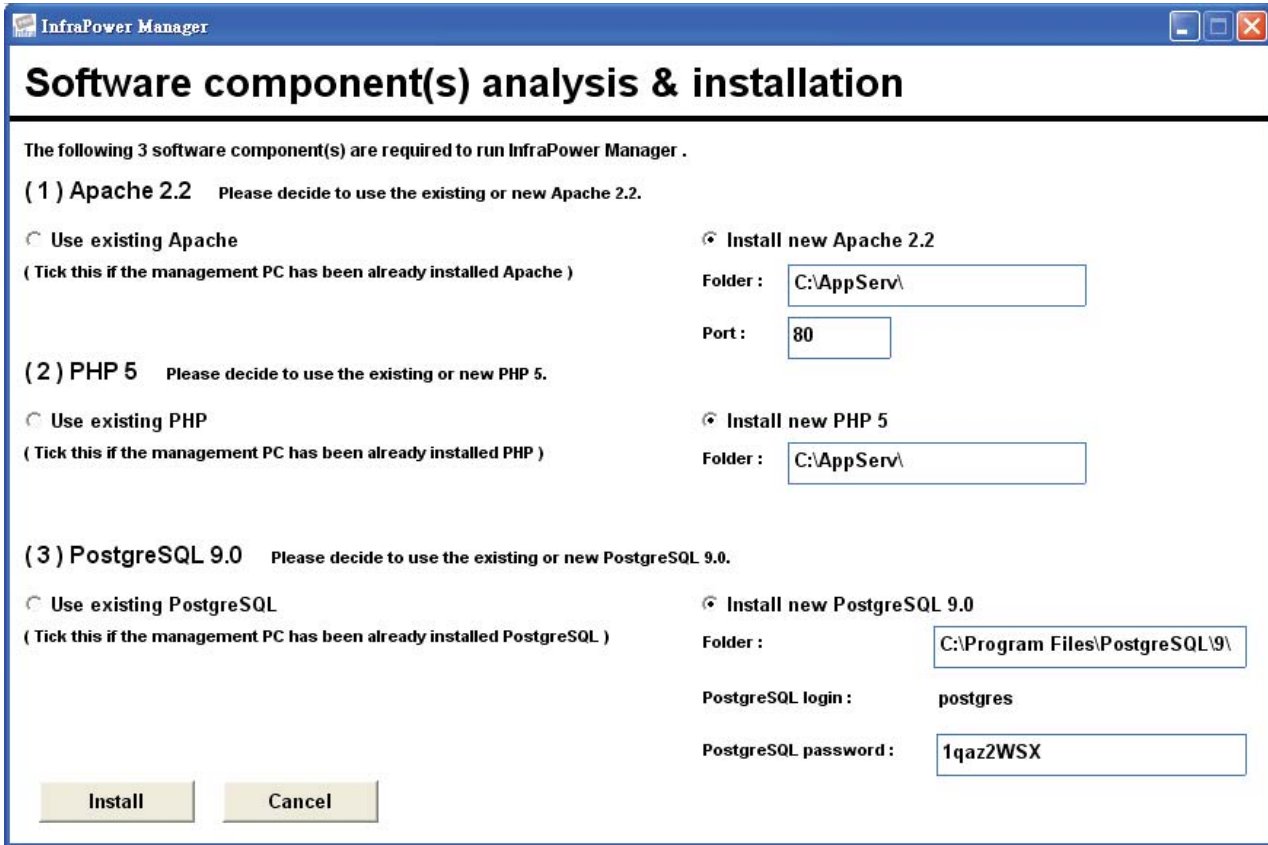
Double click the **InfraPower Manager - IPM-03** and follow the instruction to complete start-up setting.

 **For MS Windows 7 and MS Windows server 2008,**


**it requires to run a program with administrator rights before execution:**

- Right click **InfraPower Manager - IPM-03** , and then select **Properties**.
- Click the **Compatibility** tab.
- Tick the box **Run this program as an administrator**, and then click OK.





**Completed**

-  PostgreSQL password can be changed by user. The password of PostgreSQL must contain at least three of the following four character groups:
- English uppercase characters (A through Z)
  - English lowercase characters (a through z)
  - Numerals (0 through 9)
  - Non-alphabetic characters (such as !, \$, #, %)

## < 4.4 > Software activation

- After the software installation, you need to activate the licensed software IPM-03.
- When the user purchases IPM-03 license, a IPM-03 Key Box will be delivered.



- It consists of a software CD, a USB Key & a software license certificate.
- Note : Please ensure a common Serial no. shown on Key Box, USB Key & software license certificate. If NOT, please contact your reseller.



**SOFTWARE LICENSE CERTIFICATE**

ISSUE DATE: <today>  
S/N: 2-130812-000000-PM501

Dear customer:

Thank you for purchasing SOFTWARE. Please take good care of SOFTWARE CD Key. This LICENSE CERTIFICATE will serve as the main document to prove your legal right to use legitimate software.

Please do not disclose the SOFTWARE CD Key to the unauthorized person.

You may install and use one copy of the SOFTWARE, or in its place, any prior version for the same operating system (O.S.), on a single computer (Management PC).

Please read End User License Agreement (EULA) for more details or visit the link below:

RESELLER : ABC COMPANY

CONTACT PERSON : Peter Chan

License Information	
Software Model	InfraPower Manager IPM-03
CD KEY	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
NO. OF CLIENTS	5
NO. OF IP DONGLE GROUPS	30

P. 1 / 1      SLC\_0312V2

## < 4.4 > Software activation

Please activate the software follows the steps below :

**Step 1** - Plug the USB Key into the management PC & the following window pops up.  
Then, click “ Activate”

Please activate your IPM-03 software with Installation Key. ( see below )

**Installation Key :** 011280-027937-F547C8-96ACA7-108327

Activation only takes a moment, and ensures that you will have full use of IPM-03 software.

Please note that you must activate your software before the first time start up; USB Key must be plugged into the Management PC all the time for software operation.

**Activate Online**

As long as your Management PC has web access, Please "Activate" button and fill in your information, Installation Key on our Software Online Activation Center.

**Activate**

**Activate Offline**

Write down the "Installation Key" onto a piece of paper. Please ensure the key is copied exactly as it is display, and go to the web site for software activation.

If the activation is successful, you will be presented with an "Activation Code" that you can type into the appropriate box at the bottom of this page and click "Submit".

I accept the terms in the [End User License Agreement](#)

**Activation Code :**  **Submit**

**Cancel**



If the management PC has no web access, please follow the instruction in “Activate Offline” to do the activation

**Step 2** - Input the installation key & company information & click “ Submit” to get the activation code



Software Online Activation Center

In order to begin, you need to fill in the following information and get the Official Valid Activation Code.

* Installation Key :	011280-027937-F547C8-96ACA7-108327
* End User Company Name :	ABC Company
* End User First Name :	Peter
* End User Last Name :	Chan
* End User Email Address :	peter.chan@abccompany.com
End User Phone Number :	12345678
Date of Purchase :	2012 - 8 - 17
Reseller :	XYZ Company

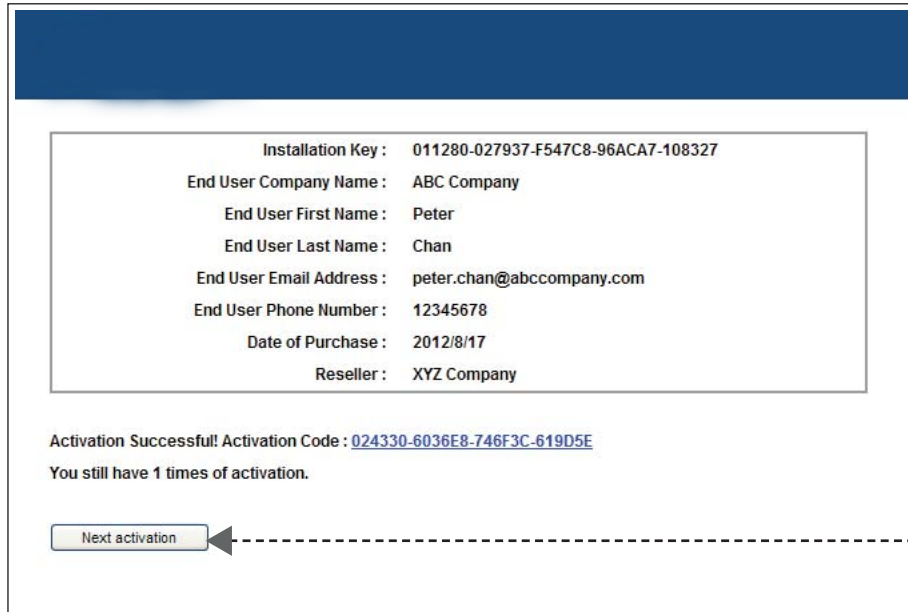
Please complete all of the required fields ( \* ) above before hitting the Submit button.

**Submit** **Cancel**



## < 4.4 > Software activation

### Step 3 - Activation successful & write down the activation code



Installation Key : 011280-027937-F547C8-96ACA7-108327

End User Company Name : ABC Company

End User First Name : Peter

End User Last Name : Chan

End User Email Address : peter.chan@abccompany.com

End User Phone Number : 12345678

Date of Purchase : 2012/8/17

Reseller : XYZ Company

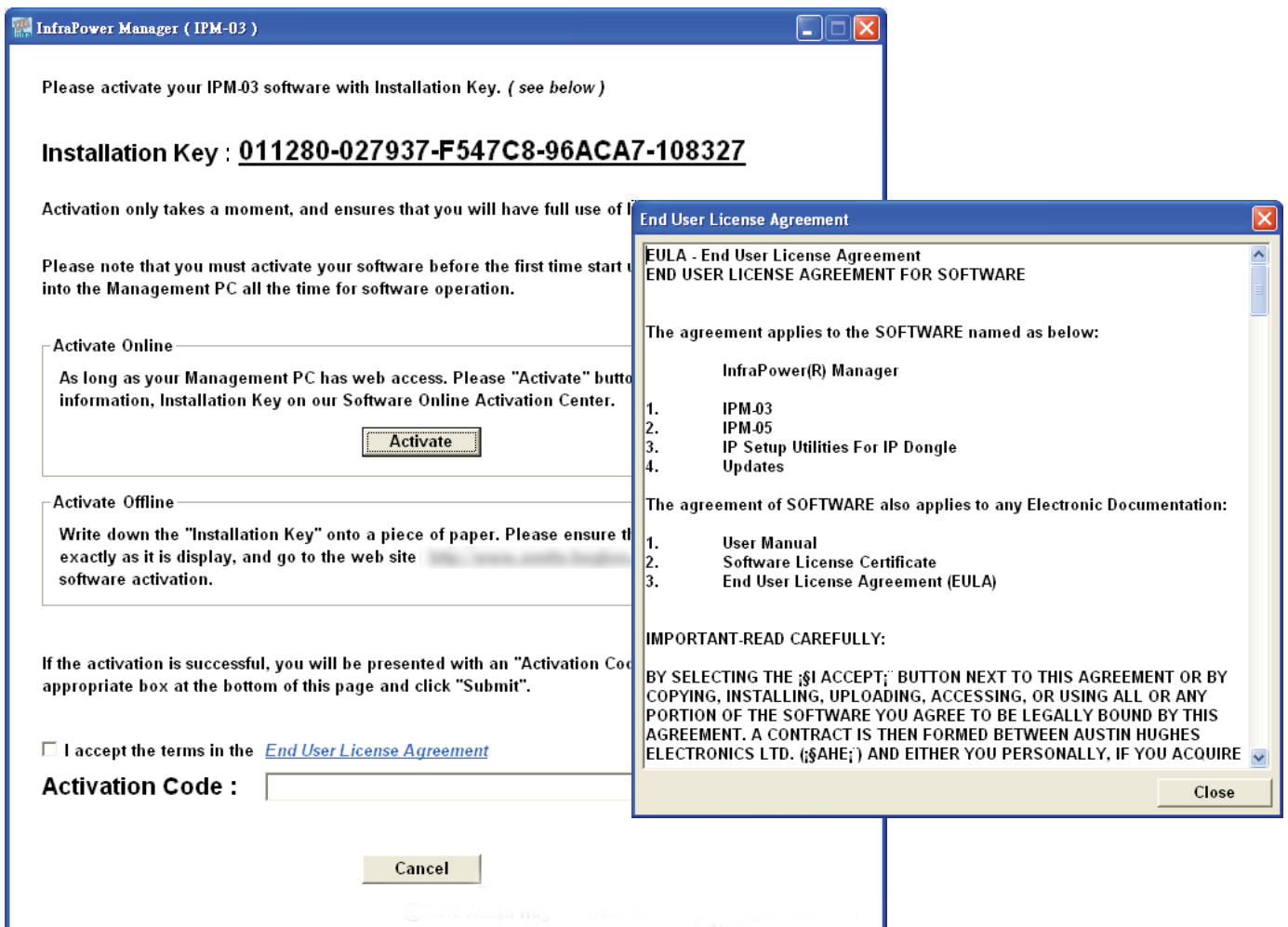
Activation Successful! Activation Code : [024330-6036E8-746F3C-619D5E](#)

You still have 1 times of activation.



If activation fails, please click "Next activation" to repeat step 2 again

### Step 4 - Read the "End User License Agreement" & tick the box "I accept the terms in this End User License Agreement"



InfraPower Manager ( IPM-03 )

Please activate your IPM-03 software with Installation Key. ( see below )

**Installation Key : 011280-027937-F547C8-96ACA7-108327**

Activation only takes a moment, and ensures that you will have full use of

Please note that you must activate your software before the first time start into the Management PC all the time for software operation.

Activate Online

As long as your Management PC has web access. Please "Activate" button information, Installation Key on our Software Online Activation Center.

Activate Offline

Write down the "Installation Key" onto a piece of paper. Please ensure it exactly as it is display, and go to the web site software activation.

If the activation is successful, you will be presented with an "Activation Code" appropriate box at the bottom of this page and click "Submit".

I accept the terms in the [End User License Agreement](#)

Activation Code :

End User License Agreement

EULA - End User License Agreement  
END USER LICENSE AGREEMENT FOR SOFTWARE

The agreement applies to the SOFTWARE named as below:

InfraPower(R) Manager

1. IPM-03
2. IPM-05
3. IP Setup Utilities For IP Dongle
4. Updates

The agreement of SOFTWARE also applies to any Electronic Documentation:

1. User Manual
2. Software License Certificate
3. End User License Agreement (EULA)

IMPORTANT-READ CAREFULLY:

BY SELECTING THE "I ACCEPT" BUTTON NEXT TO THIS AGREEMENT OR BY COPYING, INSTALLING, UPLOADING, ACCESSING, OR USING ALL OR ANY PORTION OF THE SOFTWARE YOU AGREE TO BE LEGALLY BOUND BY THIS AGREEMENT. A CONTRACT IS THEN FORMED BETWEEN AUSTIN HUGHES ELECTRONICS LTD. (AHE) AND EITHER YOU PERSONALLY, IF YOU ACQUIRE

## < 4.4 > Software activation

**Step 5** - Input the activation code in the box as shown below, and click “ Submit”

InfraPower Manager ( IPM-03 )

Please activate your IPM-03 software with Installation Key. ( see below )

**Installation Key : 011280-027937-F547C8-96ACA7-108327**

Activation only takes a moment, and ensures that you will have full use of IPM-03 software.

Please note that you must activate your software before the first time start up; USB Key must be plugged into the Management PC all the time for software operation.

Activate Online

As long as your Management PC has web access. Please "Activate" button and fill in your information, Installation Key on our Software Online Activation Center.

Activate

Activate Offline

Write down the "Installation Key" onto a piece of paper. Please ensure the key is copied exactly as it is display, and go to the web site [\[redacted\]](#) for software activation.

If the activation is successful, you will be presented with an "Activation Code" that you can type into the appropriate box at the bottom of this page and click "Submit".

I accept the terms in the [End User License Agreement](#)

Activation Code :  Submit

Cancel

**Step 6** - System authentication page will pop up automatically if activation succeed

System authentication

User name

Password

Login Cancel

## Part V. Software Usage & Operation

Users can follow below step 1 - 3 to access the management PC and InfraPower Manager IPM-03

System authentication

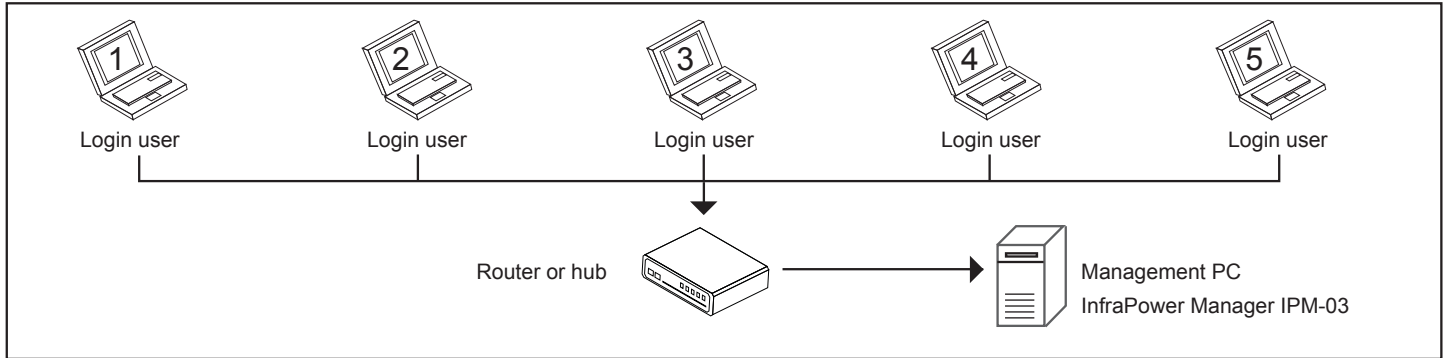
User name

Password

**Step 1.** Open Internet Explorer ( I.E. ), version 7.0 or above

**Step 2.** Enter the URL of management PC into the address bar  
( If fail to access, please ask MIS to check the service port of the management PC )  
e.g. `http://192.168.0.1/IPM-03/`

**Step 3.** Enter the user name ( the default is admin )  
Enter the password ( the default is 00000000 )



### < 5.1 > System setup

Initial system setup on :

- < User >
- < Setup >
- < Alarm >
- < General >
- < Backup >
- < Sys log >



Only Administrator is authorised to access  
< User >, < Setup >, < Alarm >, < General > & < Backup >  
for initial system setup

### < 5.2 > Usage & operation

- < PDU >
  - Status
  - Details
- < TH Sensor >
- < Event >
- < Log >
  - PDU
  - Outlet
  - TH Sensor
  - Daily kWh
    - PDU
    - Outlet
- < Report >



## < 5.1 > System setup

In < **User** > page, the administrator can create max. 5 concurrent login users and set the user name & password. After this, all users can take the three steps above to access IPM-03.

### User setup

Administrator:	Activate <input checked="" type="checkbox"/>	User name <input type="text" value="admin"/>	User login password <input type="password" value="....."/>	Confirm password <input type="password" value="....."/>
----------------	--	--	--	---

- Only administrator is authorised to access **SYSTEM SETTING**.
- Only administrator is authorised to set and change all users' password.
- Min. 4 char. and max. 16 char. for user name.
- Min. 8 char. and max. 16 char. for user login password.
- If there is any change of user name, system will automatically delete the original operator and create a new one. A new user login password is required.

Operator 01:	<input checked="" type="checkbox"/>	<input type="text" value="Kenny.Wong"/>	<input type="password" value="....."/>	<input type="password" value="....."/>
Operator 02:	<input checked="" type="checkbox"/>	<input type="text" value="William.Wong"/>	<input type="password" value="....."/>	<input type="password" value="....."/>
Operator 03:	<input type="checkbox"/>	<input type="text"/>	<input type="password"/>	<input type="password"/>
Operator 04:	<input type="checkbox"/>	<input type="text"/>	<input type="password"/>	<input type="password"/>

In < **Setup** > page, the administrator can activate the IP dongle group & set the group command password.

### IP dongle groups

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

**\* Initially, please setup the IP dongle one by one.**

IP dongle group <b>01</b> :	<input checked="" type="checkbox"/> Activate	<input type="checkbox"/> Deactivate	<ul style="list-style-type: none"><li>• <b>DO NOT</b> activate the group if there is no any IP dongle and PDU connection.</li><li>• Each IP dongle group consist of one IP dongle and max. 16 PDU.</li></ul>
-----------------------------	--	-------------------------------------	--

**01 IP dongle setting**

IP dongle address :	<input type="text" value="192.168.1.56"/>	<ul style="list-style-type: none"><li>• If the administrator wants to change IP dongle address and password, two steps are required.</li></ul>
IP dongle password :	<input type="password" value="....."/>	<ul style="list-style-type: none"><li>• <b>Firstly</b>, enter the IP Setup utilities to make the change. ( ref. to User Manual page 5 )</li><li>• <b>Secondly</b>, return to this page to make the same change on IP address and password.</li></ul>

**01 IP dongle group**

Command password :	<input type="checkbox"/> Enable	<input checked="" type="checkbox"/> Disable	<ul style="list-style-type: none"><li>• Default command password is 00000000.</li></ul>
New command password :	<input type="text"/>	<ul style="list-style-type: none"><li>• Administrator needs to set command password for IP dongle groups one by one.</li></ul>	
Confirm new password :	<input type="text"/>	<ul style="list-style-type: none"><li>• Command password required for any PDU configuration and control.</li><li>• Administrator can set different command password for different IP dongle group or all IP dongle groups share the same password.</li></ul>	

## < 5.1 > System setup

### < Alarm >

**Alarm email server setting**

Alarm email :  Enable  Disable • This alarm setting is for all IP dongle PDU groups.

SMTP server :

SMTP port :

POP3 server :

POP3 port :

User email :

User name :

Password :

Alarm interval :  ( Min. 10, Max. 60 minutes )

**Alarm email to**

Email address 01 :

Email address 02 :

Email address 03 :

Email address 04 :

Email address 05 :

## < 5.1 > System setup

### < General >

#### Auto data refresh

Refresh rate :  ( Min. 10, Max. 60 seconds )

- Auto data refresh rate on the page of **PDU STATUS**, **PDU DETAILS** and **TH STATUS**.

#### IP dongle groups auto scan

Scan rate :  ( Min. 5, Max. 60 seconds )

- Auto scan rate on the page of **PDU STATUS** and **TH STATUS**.

#### Temperature unit

Unit :  °C  °F

Apply

Cancel

### < Backup >

#### Data backup setting

Daily backup :  Enable  Disable

Backup to :

Example : C:\Program Files\IPM\

- Daily backup proceeded at 00:00 for last 24 hours data.

- The backup data for **PDU LOG**, **Outlet LOG**, **TH LOG**, **DAILY KWH LOG**, **EVENT**, **SYS LOG** saved in CSV file format.

- Folder  will be automatically created under the path you entered.

Apply

Cancel

## < 5.1 > System setup

< **Sys log** > provides last 2000 events in < User >, < Setup >, < Alarm >, < General > & < Backup >.

First / Previous <b>1</b> 2 3 4 5 6 7 8 9 10 Next / Last				Last 2000 log records.
Date	Time	Event	Description	
2012/05/24	15:38:18	User	[ admin ] : Add operator - Operator 01 - Kenny.Wong	
2012/05/24	15:38:18	User	[ admin ] : Add operator - Operator 02 - William.Wong	
2012/05/17	17:43:18	Setup	[ admin ] : Disable command password - IP dongle group 01	
2012/05/17	17:36:23	Setup	[ admin ] : Enable command password - IP dongle group 01	
<b>System setup events</b>				
<b>- User</b>	(1)	Add / Delete operator		<b>- General</b> (1) Change refresh mode time rate
	(2)	Change user login password		(2) Change scan mode time rate
<b>- Setup</b>	(1)	Activate / Deactivate IP dongle group <input type="text" value="No."/>		(3) Change temperature unit
	(2)	Change IP dongle <input type="text" value="No."/>	address or password	<b>- Backup</b> (1) Enable / Disable daily backup
	(3)	Enable / Disable IP dongle group <input type="text" value="No."/>	command password	(2) Change backup path
	(4)	Change IP dongle group <input type="text" value="No."/>	command password	
<b>- Alarm</b>	(1)	Enable or Disable alarm		
	(2)	Change alarm email server setting		
	(3)	Add / Delete alarm mail recipient		

## < 5.2 > Usage & operation

< **Status** > provides the users a scan function to monitor the PDUs of each IP dongle group one by one.

**IP dongle groups**

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

---

**PDU status**

IP dongle name : Name  
 IP address : 192.168.1.56

---

Level	Name	Location	Circuit A				Circuit B				Total		TH 1		TH 2			
			Amp				Amp				Amp	kWh	°C	%	°C	%		
			Max.	Load	Alarm	Low alert	kWh	Max.	Load	Alarm	Low alert	kWh	Load					
01	WSi16-32A	Server_Rack_001	16	/ 1.0	/ 13.0	/ 0.0	0.1	16	/ 0.0	/ 13.0	/ 0.0	0.0	1.0	0.1	-	-	-	-
02	WSi16-32A	Server_Rack_002	16	/ 0.0	/ 13.0	/ 0.0	0.0	16	/ 0.0	/ 13.0	/ 0.0	0.0	0.0	0.0	-	-	-	-
03	WSi16-32A	Server_Rack_003	16	/ 0.0	/ 13.0	/ 0.0	0.0	16	/ 0.0	/ 13.0	/ 0.0	0.0	0.0	0.0	-	-	-	-
04	WSi16-32A	Server_Rack_004	16	/ 0.0	/ 13.0	/ 0.0	0.0	16	/ 0.0	/ 13.0	/ 0.0	0.0	0.0	0.0	-	-	-	-
05	WSi20-32A	Server_Rack_005	16	/ 0.0	/ 13.0	/ 0.0	0.0	16	/ 0.0	/ 13.0	/ 0.0	0.0	0.0	0.0	-	-	-	-
06	WSi20-32A	Server_Rack_006	16	/ 0.0	/ 13.0	/ 0.0	0.0	16	/ 0.0	/ 13.0	/ 0.0	0.0	0.0	0.0	-	-	-	-
07	WSi20-32A	Server_Rack_007	16	/ 0.0	/ 13.0	/ 0.0	0.0	16	/ 0.0	/ 13.0	/ 0.0	0.0	0.0	0.0	-	-	-	-
08	WSi20-32A	Server_Rack_008	16	/ 0.0	/ 13.0	/ 0.0	0.0	16	/ 0.0	/ 13.0	/ 0.0	0.0	0.0	0.0	-	-	-	-
09	Wi16-16A	Server_Rack_009	16	/ 0.0	/ 13.0	/ 0.0	0.0	-	/ -	/ -	/ -	-	0.0	0.0	-	-	-	-
10	Wi16-16A	Server_Rack_010	16	/ 0.0	/ 13.0	/ 0.0	0.0	-	/ -	/ -	/ -	-	0.0	0.0	-	-	-	-
11	Wi16-16A	Server_Rack_011	16	/ 0.0	/ 13.0	/ 0.0	0.0	-	/ -	/ -	/ -	-	0.0	0.0	-	-	-	-
12	Wi16-16A	Server_Rack_012	16	/ 0.0	/ 13.0	/ 0.0	0.0	-	/ -	/ -	/ -	-	0.0	0.0	-	-	-	-
13	WSi20-16A	Server_Rack_013	16	/ 0.0	/ 13.0	/ 0.0	0.0	-	/ -	/ -	/ -	-	0.0	0.0	-	-	-	-
14	WSi20-16A	Server_Rack_014	16	/ 0.0	/ 13.0	/ 0.0	0.0	-	/ -	/ -	/ -	-	0.0	0.0	-	-	-	-
15	WSi20-16A	Server_Rack_015	16	/ 0.0	/ 13.0	/ 0.0	0.0	-	/ -	/ -	/ -	-	0.0	0.0	-	-	-	-
16	WSi20-16A	Server_Rack_016	16	/ 0.0	/ 13.0	/ 0.0	0.0	-	/ -	/ -	/ -	-	0.0	0.0	-	-	-	-

Auto data refresh :  Untick during data input

Search new installed PDUs

\* Press F11 to enlarge or diminish the screen



## < 5.2 > Usage & operation

< **Details** > provides a detailed status about a certain PDU. The users can

- Set the name & location for PDU
- Set alarm amp. & low alert amp for PDU
- Reset peak amp. & kWh for PDU
- Switch ON / OFF outlets one by one ( WS kWh Switched & WSi Outlet kWh Switched PDU only )

**IP dongle groups**

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

---

**PDU details**

Level: 01 V12C13/4C19-32A-WSI      PDU kWh: 0.10

Status: Connected      PDU load amp: 1.0

Name: WSI16-32A      Power factor: 0.98

Location: Server\_Rack\_001      Apparent power (kVA): 0.2

---

**Circuit A**

Max. amp: 16      Alarm amp: 13.0

Load amp: 1.0      Low alert amp: 0.0

---

Peak amp: 2.0      2012/07/17 14:43:20      Reset

kWh: 0.10      2012/07/17 14:43:52      Reset

**Circuit B**

Max. amp: 16      Alarm amp: 13.0

Load amp: 0.0      Low alert amp: 0.0

---

Peak amp: 0.0      2012/01/01 00:00:00      Reset

kWh: 0.00      2012/01/01 00:00:00      Reset

---

Outlet	Name	Amp			kWh	Status	Switch
		Load	Alarm	Low alert			
01	IBM_Server_1	1.0	10.0	0.0	0.00	ON	<span style="border: 1px solid gray; padding: 2px;">OFF</span>
02	IBM_Server_2	0.0	10.0	0.0	0.00	ON	<span style="border: 1px solid gray; padding: 2px;">OFF</span>
03	Dell_Server_1	0.0	10.0	0.0	0.00	ON	<span style="border: 1px solid gray; padding: 2px;">OFF</span>
04	Dell_Server_2	0.0	10.0	0.0	0.00	ON	<span style="border: 1px solid gray; padding: 2px;">OFF</span>
05	Sun_Server_1	0.0	10.0	0.0	0.00	ON	<span style="border: 1px solid gray; padding: 2px;">OFF</span>
06	Sun_Server_2	0.0	10.0	0.0	0.00	OFF	<span style="border: 1px solid gray; padding: 2px;">ON</span>
C01 <small>(13)</small>	HP_BladeServer_1	0.0	10.0	0.0	0.00	OFF	<span style="border: 1px solid gray; padding: 2px;">ON</span>
C02 <small>(14)</small>	HP_BladeServer_2	0.0	10.0	0.0	0.00	OFF	<span style="border: 1px solid gray; padding: 2px;">ON</span>

Click outlet icon for setting

---

Auto data refresh:                         Untick during data input

Apply      Save new data

Cancel      Cancel new data input

\* Press F11 to enlarge or diminish the screen

Set maintenance      All IPM communication to and from the PDU is stopped, notification to the user is stopped, and the PDU readings are "-".

Set PDU in Maintenance mode

Disable monitoring      Stop monitoring removed PDU

Stop monitoring removed PDU



## < 5.2 > Usage & operation

In < **Outlet setting** > page, the users can set

- the name of outlet
- the power up sequence delay ( WS kWh Switched & WSi Outlet kWh Switched PDU only )
- Set alarm amp. & low alert amp ( Wi kWh Monitored & WSi Outlet kWh Switched PDU only )
- Reset peak amp. & kWh ( Wi kWh Monitored & WSi Outlet kWh Switched PDU only )

IP dongle groups	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

---

### Outlet setting


PDU level :  V16C13/4C19-32A-WSi

Status : Connected

Name : default\_pdu\_name

Location : default\_pdu\_loc.

Outlet :  

Name :

Status : OFF

Power up sequence delay :  ( Min. 1, Max. 10 seconds )

Load amp : 0.0

Alarm amp :

Low alert amp :

Peak amp : 0.1      2012/08/09 14:09:48     

kWh : 0.00      2012/08/09 14:19:48     


---

<input type="button" value="Apply"/>	Save new data	<input type="button" value="Exit"/>	Return to PDU DETAILS
<input type="button" value="Cancel"/>	Cancel new data input		



## < 5.2 > Usage & operation

< **TH status** > shows the readings & status of the TH sensors of the PDUs for each IP dongle group one by one.

 The GUI does not show the readings if the TH sensors are not installed & activated.

















IP dongle groups 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15  
16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

---

**TH status**

IP dongle name : Name  
 IP address : 192.168.1.56

---

PDU Level	Name	Setting	Location	TH 1		Location	TH 2	
				°C	%		°C	%
				Temp. / Alarm	Humid. / Alarm		Temp. / Alarm	Humid. / Alarm
01	WS20-32A		Rear_Top	26.4 / 35.0	52.9 / 65.0	Rear_Bottom	26.5 / 35.0	54.5 / 65.0
02	WS20-32A		Rear_Top	27.1 / 35.0	52.0 / 65.0	Rear_Bottom	27.0 / 35.0	52.5 / 65.0
03	WS20-32A		-	- / -	- / -	-	- / -	- / -
04	WS20-32A		-	- / -	- / -	-	- / -	- / -
05	WS16-32A		-	- / -	- / -	-	- / -	- / -
06	WS16-32A		-	- / -	- / -	-	- / -	- / -
07	WS16-32A		-	- / -	- / -	-	- / -	- / -
08	WS16-32A		-	- / -	- / -	-	- / -	- / -
09	W20-16A		Rear_Top	27.1 / 35.0	52.0 / 65.0	Rear_Bottom	27.0 / 35.0	52.5 / 65.0
10	W20-16A		Rear_Top	26.4 / 35.0	52.9 / 65.0	Rear_Bottom	26.5 / 35.0	54.5 / 65.0
11	W20-16A		-	- / -	- / -	-	- / -	- / -
12	W20-16A		-	- / -	- / -	-	- / -	- / -
13	W16-16A		-	- / -	- / -	-	- / -	- / -
14	W16-16A		-	- / -	- / -	-	- / -	- / -
15	W16-16A		-	- / -	- / -	-	- / -	- / -
16	W16-16A		-	- / -	- / -	-	- / -	- / -

---

Auto data refresh :  Untick during data input

Search new installed PDUs

\* Press F11 to enlarge or diminish the screen



## < 5.2 > Usage & operation

In < TH setting > page, user can

- activate / deactivate the TH sensor
- set the location & Temp. / Humid. alarm of the TH sensor

 The default TH setting is **Deactivate**.

- When install T or TH sensor, please tick **Activate**. Otherwise, no readings display.
- **DON'T** activate T or TH sensor if no sensor installed.

IP dongle groups

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

---

### TH setting

PDU level : **01** V12C13/4C19-32A-WSi

Stauts : Connected

Name : WSi16-32A

Location : Server\_Rack\_001

- When install T or TH sensor, please tick **Activate**, Otherwise, no readings display.
- **DON'T** **Activate** T or TH sensor if no sensor installed.

<b>TH 1</b>	<input checked="" type="checkbox"/> Activate	<input type="checkbox"/> Deactivate
Locaton :	<input type="text" value="Rear_Top"/>	
	<b>Alarm Setting</b>	<b>Reading</b>
Temp. ( °C ) :	<input type="text" value="35.0"/>	26.9
Humid. ( % ) :	<input type="text" value="65.0"/>	51.5

<b>TH 2</b>	<input checked="" type="checkbox"/> Activate	<input type="checkbox"/> Deactivate
Locaton :	<input type="text" value="Rear_Bottom"/>	
	<b>Alarm Setting</b>	<b>Reading</b>
Temp. ( °C ) :	<input type="text" value="35.0"/>	27.0
Humid. ( % ) :	<input type="text" value="65.0"/>	52.9

<input type="button" value="Apply"/>	Save new data	<input type="button" value="Exit"/>	Return to TH STATUS
<input type="button" value="Cancel"/>	Cancel new data input		



## < 5.2 > Usage & operation

< **Event** > provides last 2000 events about PDU's configuration & connection, outlet configuration and sensor's configuration & connection in a certain IP dongle group.

IP dongle groups

---

First / Previous
1
2
3
4
5
6
7
8
9
10
Next / Last
Last 2000 log records.

---

Date	Time	Event	Description
2012/05/23	16:39:31	PDU configuration	[ - ] : PDU Circuit breaker return to normal - PDU Level 01 - Circuit 01
2012/05/23	13:45:10	PDU configuration	[ - ] : PDU Circuit breaker tripped - PDU Level 01 - Circuit 01

---

**The types of event**

<p><b>- IP dongle connection</b></p> <ul style="list-style-type: none"> <li>• Disconnection / Reconnection</li> </ul> <p><b>- PDU connection</b></p> <ul style="list-style-type: none"> <li>• Disconnection / Reconnection</li> </ul> <p><b>- TH connection</b></p> <ul style="list-style-type: none"> <li>• Disconnection / Reconnection</li> </ul>	<p><b>- PDU configuration</b></p> <ol style="list-style-type: none"> <li>(1) Change alarm amp.</li> <li>(2) Change low alert amp.</li> <li>(3) Reset peak amp /w date and time</li> <li>(4) Reset kWh /w date and time</li> <li>(5) Change PDU name</li> <li>(6) Change PDU location</li> <li>(7) Amp. alarm</li> <li>(8) Amp. low alert</li> <li>(9) Amp. normal</li> <li>(10) Circuit Breaker tripped / return to normal</li> <li>(11) Set PDU to maintenance</li> <li>(12) Remove PDU from maintenance</li> </ol>	<p><b>- Outlet configuration</b></p> <ol style="list-style-type: none"> <li>(1) Switch outlet on / off</li> <li>(2) Change outlet name</li> <li>(3) Change power up sequence delay</li> <li>(4) Change alarm amp.</li> <li>(5) Change low alert amp.</li> <li>(6) Reset peak amp /w date and time</li> <li>(7) Reset kWh /w date and time</li> <li>(8) Amp. alarm</li> <li>(9) Amp. low alert</li> <li>(10) Amp. normal</li> </ol>	<p><b>- TH configuration</b></p> <ol style="list-style-type: none"> <li>(1) Activate / Deactivate TH Sensor</li> <li>(2) Change temp. alarm</li> <li>(3) Change humid. alarm</li> <li>(4) Change TH location</li> <li>(5) Temp. alarm</li> <li>(6) Humid. alarm</li> </ol>
--	--	--	--

< **PDU log** > provides last 2000 PDU log records about a certain PDU by the user's selection. The software will generate a PDU log record in every 10 mins.

IP dongle groups

---

**PDU log**

PDU level :  V12C13/4C19-32A-WSi      Name : WS16-32A

Current status : **Connected**      Location : Server\_Rack\_001

---

Date	Time	Name	Location	Status	Circuit A		Circuit B		Total	
					Amp	kWh	Amp	kWh	Amp	kWh
2012/05/22	10:18:38	WS20-32A	Server_Rack_001	Connected	16 / 0.0 / 13.0 / 0.0	0.00	16 / 0.0 / 13.0 / 0.0	0.00	0.0	0.00
2012/05/22	10:11:12	WS20-32A	Server_Rack_001	Connected	16 / 0.0 / 13.0 / 0.0	0.00	16 / 0.0 / 13.0 / 0.0	0.00	0.0	0.00

---

First / Previous
1
2
3
4
5
6
7
8
9
10
Next / Last
Last 2000 log records.

\* Press F11 to enlarge or diminish the screen

## < 5.2 > Usage & operation

< **Outlet log** > provides last 2000 log records about a certain PDU's outlet by the user's selection. The software will generate a outlet log record in every 10 mins.

**IP dongle groups**

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

---

**Outlet log**

PDU level : 01 V12C13/4C19-16A-WSi      Name : 12C13/4C19-16A-WSi      Location : Server\_Rack\_001

Outlet : 01      Name : IBM\_Server\_1      Current status : ON

---

Date	Time	Name	Status	Amp			kWh
				Load	Alarm	Low alert	
2012/08/10	13:25:43	12C13/4C19-16A-WSi	OFF	- / -	- / -	-	
2012/08/10	13:15:42	12C13/4C19-16A-WSi	OFF	- / -	- / -	-	
2012/08/10	13:05:41	12C13/4C19-16A-WSi	OFF	- / -	- / -	-	
2012/08/10	12:55:40	12C13/4C19-16A-WSi	OFF	- / -	- / -	-	
2012/08/10	12:45:39	12C13/4C19-16A-WSi	OFF	- / -	- / -	-	
2012/08/10	12:35:38	12C13/4C19-16A-WSi	OFF	- / -	- / -	-	
2012/08/10	12:25:37	12C13/4C19-16A-WSi	OFF	- / -	- / -	-	
2012/08/10	12:15:36	12C13/4C19-16A-WSi	OFF	- / -	- / -	-	
2012/08/10	12:05:35	12C13/4C19-16A-WSi	ON	0.0 / 10.0	0.0 / 0.0	0.04	
2012/08/10	11:55:34	12C13/4C19-16A-WSi	ON	0.0 / 10.0	0.0 / 0.0	0.04	
2012/08/10	11:45:33	12C13/4C19-16A-WSi	ON	0.0 / 10.0	0.0 / 0.0	0.04	
2012/08/10	11:35:32	12C13/4C19-16A-WSi	ON	0.0 / 10.0	0.0 / 0.0	0.04	

---

First / Previous 1 2 3 4 5 6 7 8 9 10 Next / Last Last 2000 log records.

\* Press F11 to enlarge or diminish the screen

< **TH log** > provides last 2000 TH log records about a certain PDU by the user's selection. The software will generate a TH log record in every 10 mins.

**IP dongle groups**

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

---

**TH log**

PDU level : 01 V12C13/4C19-32A-WSi      Name : WS16-32A

Current status : **Connected**      Location : Server\_Rack\_001

---

Date	Time	Status	Location	TH 1		TH 2	
				Temp. / Alarm	Humid. / Alarm	Temp. / Alarm	Humid. / Alarm
2012/05/22	10:27:38	Connected	-	- / -	- / -	-	- / -
2012/05/22	10:17:36	Connected	-	- / -	- / -	-	- / -


---

First / Previous 1 2 3 4 5 6 7 8 9 10 Next / Last Last 2000 log records.

\* Press F11 to enlarge or diminish the screen

## < 5.2 > Usage & operation

< **Daily kWh log - PDU** > provides last 2000 daily energy consumption log records about a certain PDU by the user's selection. The record is logged at 00:00 everyday ( ± 5 mins. ) for previous day.

 The daily kWh log will not be recorded at 00:00 if the PDU connected less than 24 hours.

IP dongle groups 

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

---

**Daily kWh log - PDU**

PDU level :  V12C13/4C19-32A-WSi      Name : WS16-32A  
Current status : **Connected**      Location : Server\_Rack\_001

---

Date	Time	Status	Circuit A kWh	Circuit B kWh	Total kWh
------	------	--------	------------------	------------------	--------------

---

First / Previous           Next / Last Last 2000 log records.

\* Press F11 to enlarge or diminish the screen


< **Daily kWh log - Outlet** > provides last 2000 daily energy consumption log records about a certain PDUs' outlet by the user's selection. The record is logged at 00:00 everyday ( ± 5 mins. ) for previous day.

IP dongle groups 

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

---

**Daily kWh log - Outlet**

PDU level :  V12C13/4C19-16A-WSi      Name : 12C134C19-16A-WSi      Location : Server\_Rack\_001  
Outlet :        Name : IBM\_Server\_1      Current status : ON

---

Date	Time	Status	Outlet kWh
------	------	--------	---------------

---

First / Previous           Next / Last Last 2000 log records.

\* Press F11 to enlarge or diminish the screen

**Completed**

## < 5.2 > Usage & operation

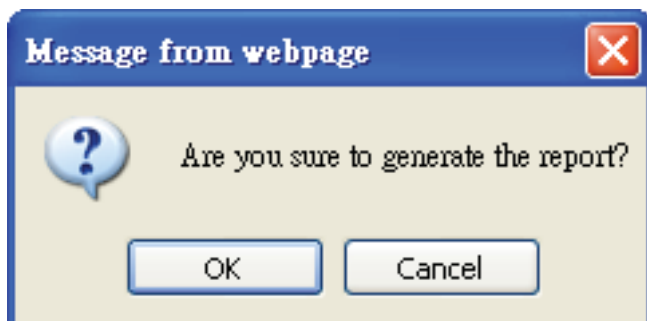
< Report > provides monthly report for **PDU log** , **Outlet log** , **TH Sensor log** , **Daily kWh log** & **Event log** which can be exported in CSV format.

Please follow the steps below to export the log category you want :

**Step 1** - Select the category, period & target.

Category	Period (Year / Month)	Target
<input checked="" type="checkbox"/> PDU log	2012 / 01	IP dongle group : 01
<input type="checkbox"/> Outlet log		PDU Level : 01
<input type="checkbox"/> TH Sensor log		
<input type="checkbox"/> Daily kWh log - PDU		
<input type="checkbox"/> Daily kWh log - Outlet		
<input type="checkbox"/> Event log		

**Step 2** - Click **Apply** & a **Message from webpage** dialog box pops up.



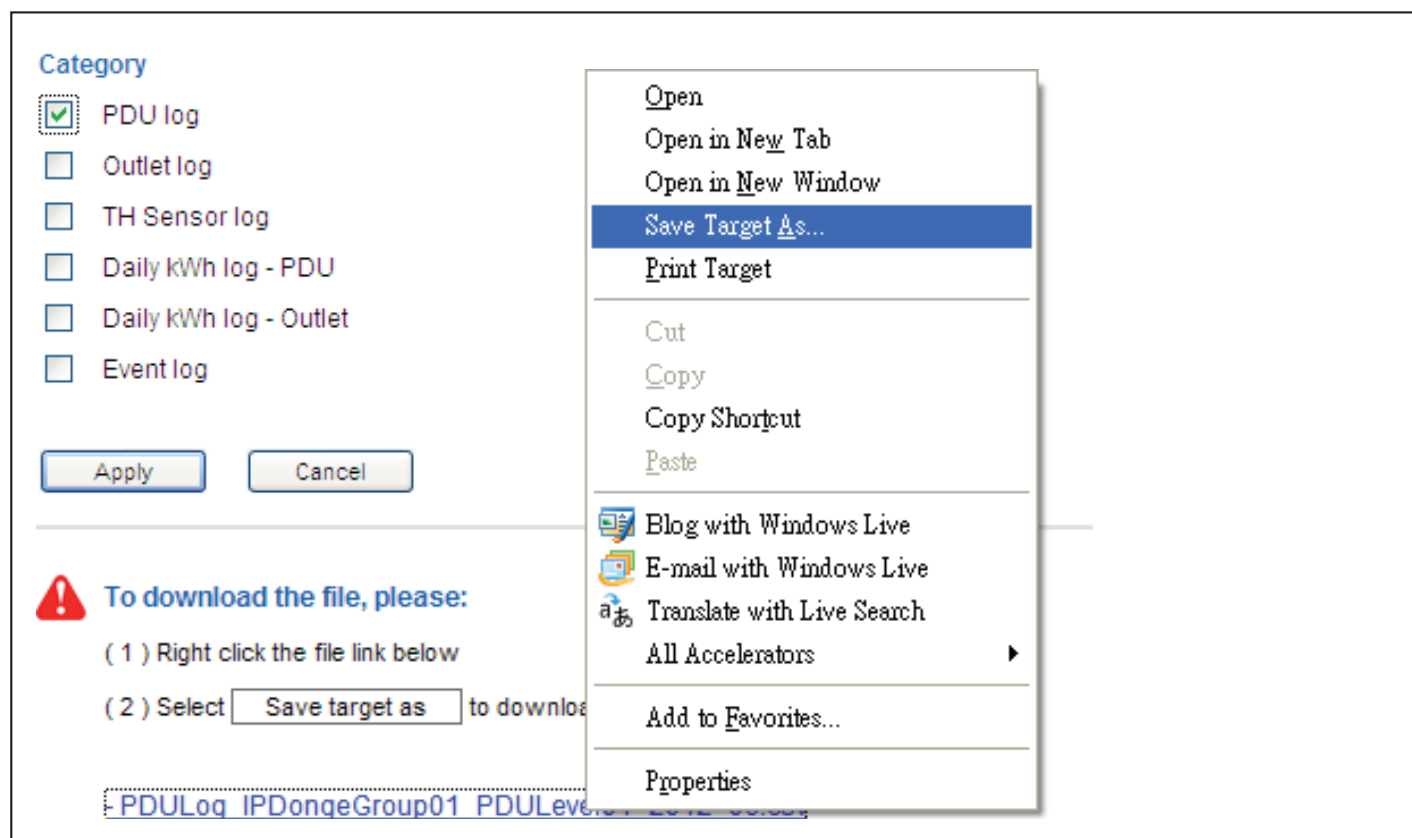
**Step 3** - Click **OK** to confirm. It may take several minutes to complete.



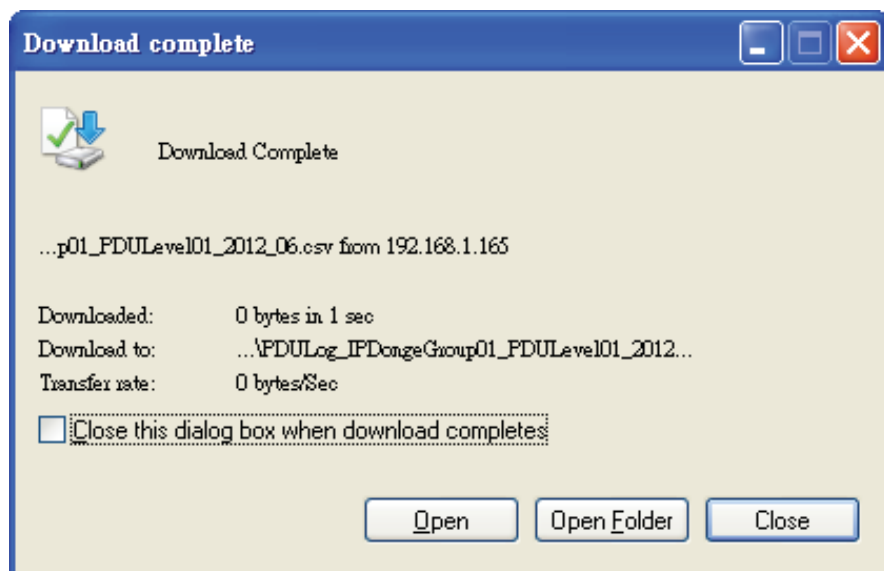


## < 5.2 > Usage & operation

**Step 4** - Right click the file name below & select **Save target as** to download the log file.



**Step 5** - Click **Close** to complete or **Open** to view the content of log.



**Completed**

## Part VI.

### < 6.1 > SNMP Management

The IP dongle can manage the connected W series PDUs ( up to 16 PDUs), using tools that support SNMP v2c ( Simple Network Management Protocol).



Only for IPD-02-S or IPD-H02-S

An SNMP trap is an event notification the IP dongle device sends to an SNMP management station. The trap identifies when a specific condition occurs, such as a value that is more than its predefined threshold. IP dongle device can send a trap.

#### ( II ). Enabling SNMP Support

The following procedure summarizes how to enable the IP Dongle for SNMP support.

**Step 1** - Connect the IP dongle to a computer. ( Please refer to P.11 )

**Step 2** - Open the Internet Explorer ( I.E. ) version 7.0 or above

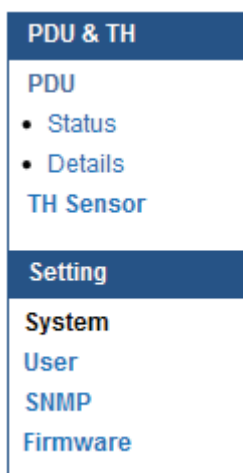
**Step 3** - Enter the configured IP dongle address into the I.E. address bar  
( default IP : 192.168.0.1 )

**Step 4** - Enter login name & password ( default login name & password are 00000000 )

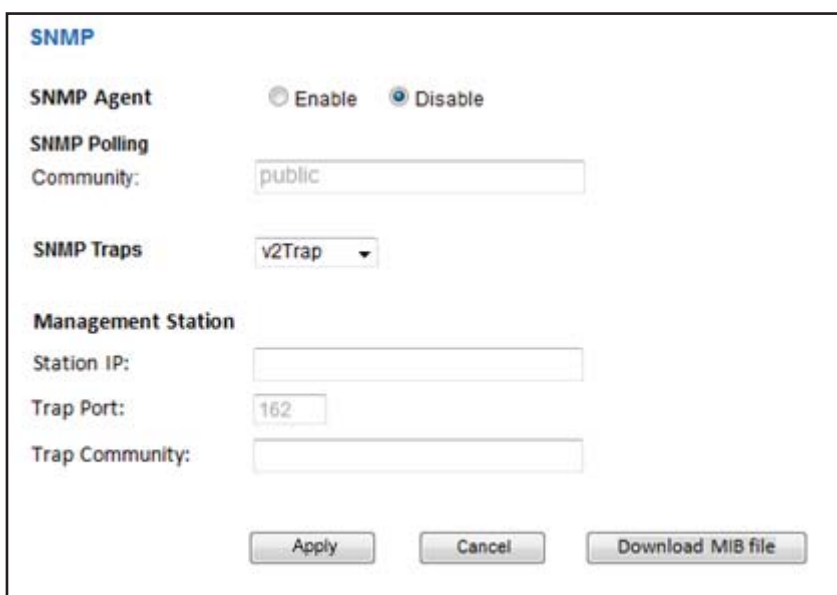
A screenshot of a login dialog box. It contains two text input fields: the top one is labeled 'Login name' and the bottom one is labeled 'Password'. Below the input fields are two buttons: 'Login' on the left and 'Cancel' on the right. The entire dialog box is enclosed in a thin black border.

## < 6.1 > SNMP Management

**Step 5** - Select the **SNMP** from the left navigation



**Step 6** - The **SNMP** Settings window appears as below:



The image shows a window titled 'SNMP'. It contains several settings:

- SNMP Agent:** Two radio buttons, 'Enable' (unselected) and 'Disable' (selected).
- SNMP Polling:** A text field labeled 'Community:' containing the text 'public'.
- SNMP Traps:** A dropdown menu labeled 'SNMP Traps' with 'v2Trap' selected.
- Management Station:** Three text fields: 'Station IP:', 'Trap Port:' (containing '162'), and 'Trap Community:'.

At the bottom of the window are three buttons: 'Apply', 'Cancel', and 'Download MIB file'.

**Step 7** - In the SNMP Agent, click Enable to start the SNMP agent service.

**Step 8** - In the SNMP Polling Community field, type the name of community.  
The default value is "public"

**Step 9** - In the SNMP Traps version drop-down list, select disable or V2Trap you want to use.

**Step 10** - In the Management Station text box, type the IP address, Trap port & Trap community of your management station.

**Step 11**- Click  to save.

### < 7.1 > InfraPower Manager - IPM-03

#### 1. What is InfraPower Manager?

The InfraPower Manager IPM-03 is a Windows based system to consolidate management of max. 480 PDUs via 30 IP dongles, using a simple web interface which monitors and controls the WSi Outlet kWh Switched / Wi Outlet kWh Monitored / WS kWh Switched / W kWh Monitored PDUs in the data center. Authorized users have a secure control over outlets to power ON / OFF at the managed device level. It also provides the detailed PDU, daily energy consumption and event logged records, and sends alarm email once ampere & Temp. / Humid. over the predefined alarm threshold.

Please find the link below:

<http://www.rackmountmart.com/support/software/infrapower/IPM-03.msi>

#### 2. Which OS platform does IPM-03 support?

- MS Windows XP Professional with SP3 (32bit only)
- MS Windows 7 Professional with SP1
- MS Windows 7 Ultimate with SP1
- MS Windows Server 2003 R2 Standard Edition with SP2
- MS Windows Server 2008 Standard Edition SP2
- MS Windows Server 2008 R2 Standard Edition SP1

 **Ensure the user logins in the management PC as a member of “Administrators” Group before IPM-03 Installation and execution.**

#### 3. Which database does the IPM-03 support?

PostgreSQL

#### 4. What is the PostgreSQL default password for IPM-03?

1qaz2WSX

#### 5. How can I receive alarm email and get full log report?

Ensure that IPM-03 is executed and the alarm server is configured properly and being enabled.

#### 6. What is the default user name & password of IPM-03?

Default user name “admin” & password “00000000”

#### 7. What is the command password of IPM-03?

Each IP dongle group has its command password. It will be requested for any PDU configuration and control. The administrator can set different command password for different IP dongle group or all IP dongle groups use the same password.

#### 8. The WSi Outlet kWh Switched / Wi Outlet kWh Monitored / WS kWh Switched / W kWh Monitored PDUs can't be found by IPM-03?

Please double check the cable connection and the level setting of each PDU. If a cascade chain has duplicate the level PDUs, it will cause this problem.

#### 9. Is it possible to manage the WSi Outlet kWh Switched / Wi Outlet kWh Monitored / WS kWh Switched / W kWh Monitored PDUs from different workstations?

Yes, the InfraPower manager supports 5 concurrent login users from different workstations.

## < 7.2 > IP dongle

### 1. What is the IP dongle?

The IP dongle provides a simple and economical way to consolidate management of max. 16 pcs WSi Outlet kWh Switched / Wi Outlet kWh Monitored / WS kWh Switched / W kWh Monitored PDUs, by a single IP connection to the network.

### 2. What is the IP setup utilities?

This is a windows application used to assign the IP address of IP dongle. You can download the IP setup utilities from the link below:

<http://www.rackmountmart.com/support/utilities/infrapower/IPdongleSetup.msi>

### 3. Does the IP dongle support DHCP (Dynamic Host Configuration Protocol)?

No, the IP dongle only works with static IP-address.

### 4. Will the reset of IP dongle affect the power to the outlets?

No, the IP dongle operates on a separate circuit, so the power to the outlets will remain unchanged.

### 5. How can I replace a failed IP dongle?

As the IP dongle is hot swappable, without power disconnection, you can unplug the RJ45 connector and slide out the failed IP dongle from the WSi Outlet kWh Switched / Wi Outlet kWh Monitored / WS kWh Switched / W kWh Monitored PDU. Then replace a new one for the PDU and re-configure the IP address to fit your network setting. ( Please refer to the P. 11 )

## < 7.3 > Temp. Humidity sensor

### 1. How accurate is the Temp. & Humid. sensor?

It is accurate to  $\pm 1^{\circ}\text{C}$  ( typical ) &  $\pm 4.5\%$  RH ( typical ).

### 2. How accurate is the Temp. sensor?

It is accurate to  $\pm 1.5^{\circ}\text{C}$  ( typical ).

### 3. How to install the Temp. / Temp. & Humid. sensor ?

Plug in the Temp. / Temp. & Humid. sensor ONLY AFTER the PDU is ON.

## < 7.4 > Meter for W series Intelligent kWh PDU

### 1. What is feature of the Wi Outlet kWh Monitored / W kWh Monitored PDU?

The W kWh Monitored PDU offers simple & highly reliable power distribution to multiple equipments, and built-in a 1.8" LCD meter indicates the total energy consumption of equipment connected to the PDU. The digital ampere meter has an interface which can connect to an IP dongle to the ethernet network, which allows managers to real-time remote monitor the PDU load thru the InfraPower manager (IPM-03).

### 2. What is feature of the WSi Outlet kWh Switched / WS kWh Switched PDU?

The WS kWh Switched PDUs offers the same features as W kWh Monitored PDUs, with an addition remote control power capability to individual PDU outlets. The remote outlet power control allows power on/off functionality for power recycling to reboot locked-up equipment and to avoid unauthorized use of individual outlets.

### 3. Can the WSi Outlet kWh Switched / Wi Outlet kWh Monitored / WS kWh Switched / W kWh Monitored PDUs cascade together?

Yes, the WS kWh Switched & W kWh Monitored model PDUs can connect together as a cascade chain.

### 4. If one of the cascaded WSi Outlet kWh Switched / Wi Outlet kWh Monitored / WS kWh Switched / W kWh Monitored PDU loses power, will it affect other PDUs in the same chain?

No, the other cascaded WS kWh Switched & W kWh Monitored PDUs in upper & lower level will not be affected.

### 5. What is the maximum cabling distance between two cascaded PDUs?

Up to 20 meter (66 feet) of CAT. 5 / 6 cable.

### 6. What is the maximum cascade level of the WSi Outlet kWh Switched / Wi Outlet kWh Monitored / WS kWh Switched / W kWh Monitored PDU in a chain?

16 levels

## < 7.5 > Others

### 1. Will the PDU settings remain unchanged after power OFF?

Yes, the settings will remain unchanged such as PDU Name, Location, Alarm amp., Low alert amp., Outlet Name.....

### 2. Does the InfraPower PDU has the overpower protection?

Yes, the PDU provides the resettable fuse or optional circuit breaker for the overpower protection.

### 3. What is the standard inlet cable length of InfraPower?

3 meter ( 9.9 feet ).

### 4. Where can I find the Catalogue / User manual /Model list / Wire diagram of InfraPower PDUs?

Please visit the [www.rackmountmart.com](http://www.rackmountmart.com)

### 5. How can we get a further support?

Please send the email to [support@rackmountmart.com](mailto:support@rackmountmart.com) or [sales@rackmountmart.com](mailto:sales@rackmountmart.com)

## Part VIII. Troubleshooting

### < 8.1 > PDU disconnection

#### 1. GUI shows **a certain level PDU** disconnected

##### Step 1 - PDU power off ?

Check the PDU is power ON or not.

##### Step 2 - PDU level setting duplicated in the same PDU group ?

Check and make sure PDU level is unique and not duplicated in the same PDU group.  
(Please refer to P.1 for the PDU level setting)

#### 2. GUI shows **from a certain level PDU to the last one** disconnected

##### Step 1 - Cable disconnected, loose or defective ?

Check the Cat. 5/6 cable connection to PDUs and network devices. Make sure the connectors are firmly attached. And check if any defects on your cable or not. If yes, replace a new one.

##### Step 2 - The first disconnected PDU failed ?

Unplug the Cat. 5/6 cable on the first disconnected PDU, then plug it to the second disconnected PDU to check if the problem caused by the first disconnected PDU.

#### 3. GUI shows **the whole group of PDU(s)** disconnected

##### Step 1 - Cable disconnected, loose or defective ?

Check the Cat. 5/6 cable connection to PDUs and network devices. Make sure the connectors are firmly attached. And check if any defects on your cable or not. If yes, replace a new one.

##### Step 2 - IP dongle failed ?

- i. Check if the network setting of the IP dongle is correct or not. If duplicated IP address is in a network, it may cause such problem.
- ii. Disconnect the IP dongle from the network and try to direct connect the Cat. 5/6 cable from IP dongle < LAN > port to a computer network port and use IP Setup utilities to check if the IP dongle can be found or not. If it cannot be found, the IP dongle may be failed.

##### Step 3 - 1st level PDU failed ?

Move the IP dongle from 1st level PDU to 2nd level PDU to check if the problem caused by 1st level PDU's failure or not. If yes, replace 1st level PDU.

## < 8.2 > Replacement, Removal or addition for PDU & IP dongle

### 1. How to replace the **failed IP dongle** ?

**Step 1** - Prepare a new IP dongle.

**Step 2** - Disable alarm email in <Alarm> page.

**Step 3** - Replace the failed IP dongle with the new one on 1st level PDU.

**Step 4** - Configure the setting of the new IP dongle same as the old one.

(Please refer to P.5 for IP dongle configuration)

**Step 5** - Click **Start Connection** in <Status> page for the relevant IP dongle.

**Step 6** - Enable alarm email in <Alarm> page again.

### 2. How to replace the **failed 1st level PDU** with a new one ?

**Step 1** - Prepare a new PDU and set the PDU to 1st level.

(Please refer to P.1 for the PDU level setting)

**Step 2** - Disable alarm email in <Alarm> page.

**Step 3** - Power off & unplug the device(s) which connected to the PDU.

**Step 4** - Power off & remove the failed 1st level PDU from connection.

**Step 5** - Install the IP dongle on the new 1st level PDU.

**Step 6** - Install and connect the new PDU.

**Step 7** - Power on the new PDU and connect to the device(s).

**Step 8** - Click Start Connection in <Status> page for the relevant IP dongle.

**Step 9** - Configure the new PDU in <Details> and <TH Sensor> page such as **Alarm Amp** , **Name**, **Location...**

**Step 10** - Enable alarm email in <Alarm> page.

### 3. How to replace a **failed certain level PDU** with a new one ?

**Step 1** - Prepare a new PDU and set the PDU level accordingly.

(Please refer to P.1 for the PDU level setting)

**Step 2** - Prepare an appropriate length Cat. 5/6 cable.

**Step 3** - Click Set maintenance in <Details> page for the failed PDU.

**Step 4** - Use the Cat. 5/6 cable to bridge over the failed PDU which will be replaced to minimize log/data loss.

**Step 5** - Power off & unplug the device(s) which connected to the failed PDU.

**Step 6** - Power off & remove the failed PDU from connection.

**Step 7** - Install the new PDU, cancel the cable-bridging and reconnect the PDU to the last and next one.

**Step 8** - Power on the new PDU and connect to the device(s).

**Step 9** - Click Remove maintenance in <Details> page for the new PDU.

**Step 10** - Configure the new PDU in <Details> and <TH Sensor> page such as **Alarm Amp**, **Name**, **Location...**




Ignore step 2 & 4 if the failed PDU is in the last level.



## < 8.2 > Replacement, Removal or addition for PDU & IP dongle

### 4. How to move out a PDU (without a replacement) ?

- Step 1** - Prepare an appropriate length Cat. 5/6 cable.
- Step 2** - Click **Disable Monitoring** in **<Details>** page to stop monitoring the removed PDU.
- Step 3** - Use the Cat. 5/6 cable to bridge over the removed PDU to minimize log/data loss.
- Step 4** - Power off & unplug the device(s) which connected to the PDU.
- Step 5** - Power off & remove the PDU from connection.
- Step 6** - Enable alarm email in **<Alarm>** page.

 If the removed PDU **NOT** in the last level, you **MUST** reconfigure and reset the level for the affected PDU(s) which next to the removed PDU.

 Ignore step 1 & 3 if the removed PDU is in the last level.

### 5. How to add an extra PDU to an existing PDU group ?

- Step 1** - Prepare a PDU and set the PDU level accordingly.  
(Please refer to P.1 for the PDU level setting )
- Step 2** - Prepare an appropriate length Cat. 5/6 cable.
- Step 3** - Click Set maintenance in **<Details>** page for the affected PDU(s) which next to the added PDU.
- Step 4** - Install and connect the new PDU.
- Step 5** - Power on the new PDU.
- Step 6** - Reconfigure & reset the level for the affected PDU(s) which next to the added PDU.
- Step 7** - Click Remove maintenance in **<Details>** page for the affected PDU(s).
- Step 8** - Click **Search** in **<Status>** page to search the new installed PDU.
- Step 9** - Configure the new PDU in **<Details>** and **<TH Sensor>** page such as **Alarm Amp , Name, Location...**
- Step 10** - Enable alarm email in **<Alarm>** page.

 Ignored step 3, 6 & 7 if the added PDU is in the last level

## < 8.3 > 1.8” meter LCD display

### 1. LCD meter no display.

- Step 1** - Check PDU is power ON or not.
- Step 2** - Press any button on the LCD meter. The SCREEN OFF function may be enable.  
( Please refer to P.5 - display 9.3 for details )
- Step 3** - If the LCD meter still no display please call your dealer for support.

### 2. The whole LCD meter display turn white?

- Step 1** - Use a pin to press the reset button to re-power the meter. Don't worry, it will not affect any settings & memories.
- Step 2** - If the LCD meter still turn white, please call your dealer for support.

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