

# InfraGuard

## Rack Sensor System

### User Manual

### IGM-03 Environmental Sensor Management Software



Designed and manufactured by Austin Hughes

FC CE  REACH

## 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:

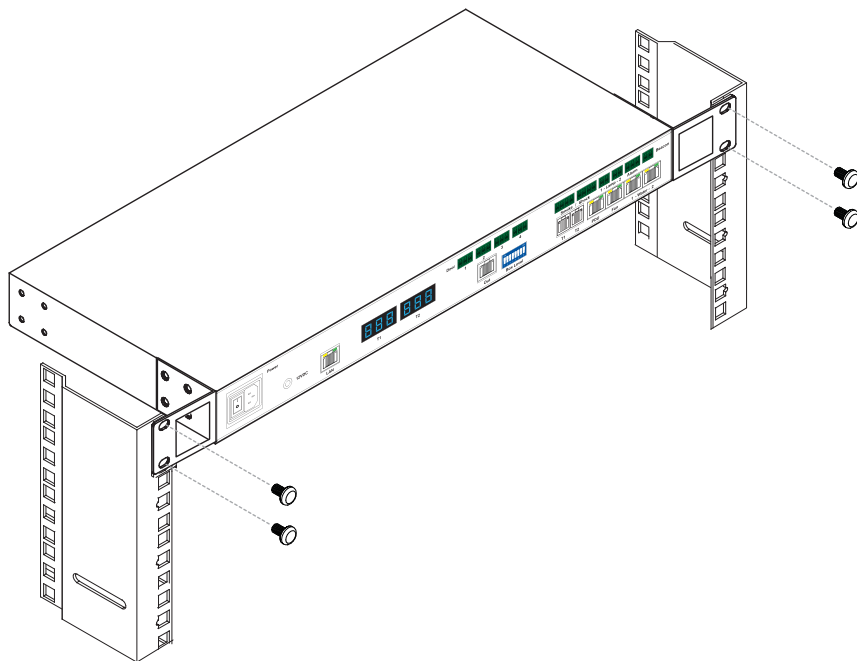
- Re-position or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

## Before Installation

- It is very important to locate the equipment in a suitable environment.
- The surface for placing and fixing the equipment should be stable and level or mounted into a suitable rack.
- Make sure the place has good ventilation, is out of direct sunlight, away from sources of excessive dust, dirt, heat, water, moisture and vibration.
- Position the equipment with respect to related facilities.

## EC Box Installation

- Suggest the installation at the rear top mounting of rack
- M6 screws set not provided.



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## Part I. Hardware

### < 1.1 > Package Contents

#### 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.

- EC-300M Master EC Box x 1
- 6' Power cord x 1

OR

- EC-300 Slave EC Box x 1
- 6' Power cord x 1

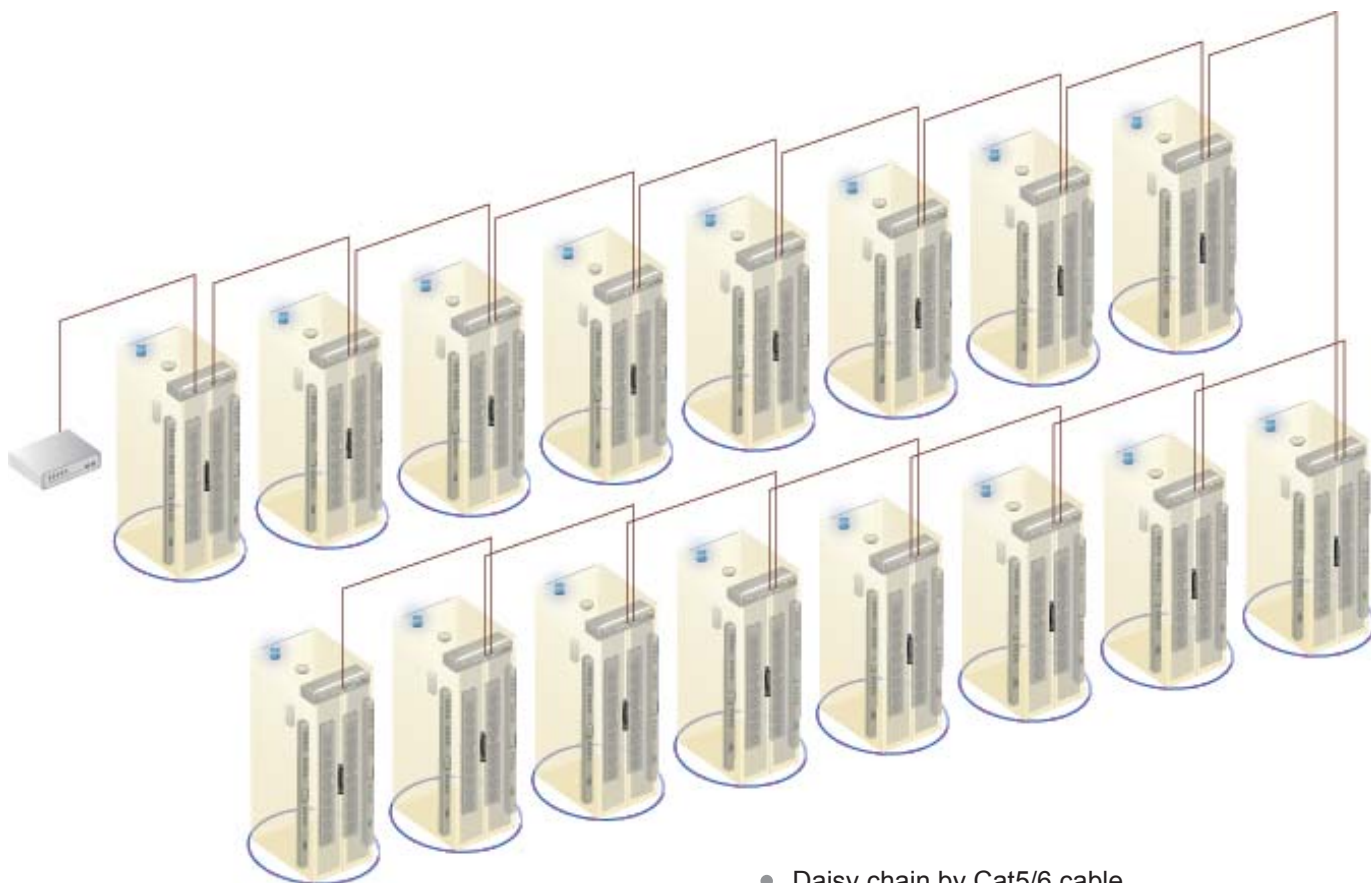


### < 1.2 > InfraGuard Features & Specifications

	EC-300M ( Master Box )	EC-300 ( Slave Box )
Daisy Chain	1st Level	2nd - 16th Level via Master Box
SNMP	✓	
LAN Port	✓	✗
Daisy Chain Port - LINK	✗	✓
Daisy Chain Port - OUT	✓	✓
Dual Power Input Option	✓	✓
Temperature LED	✓	✓
Temp-Humid Sensor	2	2
Smoke / Shock Sensor	2	2
Water Sensor	2	2
Door Sensor	4	4
LED Light Bar	2	2
LED Flashing Beacon	1	1
Alarm Board	1	1
Integrated PDU	4 ( daisy chain )	4 ( daisy chain )
Integrated Fan Unit	4 ( daisy chain )	4 ( daisy chain )
Product Dimension ( W x D x H )	400 x 135 x 39.7 mm / 15.7 x 5.3 x 1.6 inch	
Packing Dimension ( W x D x H )	557 x 367 x 98 mm / 21.9 x 14.4 x 3.9 inch	
Net Weight	1.06 kgs / 2.3 lbs	
Gross Weight	2.2 kgs / 4.8 lbs	
Power Consumption	Auto-sensing 100 to 240VAC, 50 / 60Hz, Max. 48 Watt	
Operating Temperature	0 to 55°C Degree	
Storage Temperature	-5 to 60°C Degree	
Relative Humidity	5~90%, non-condensing	
Mounting	1U Rackmount	
Safety Regulatory	FCC & CE certified	
Environmental	RoHS & REACH compliant	

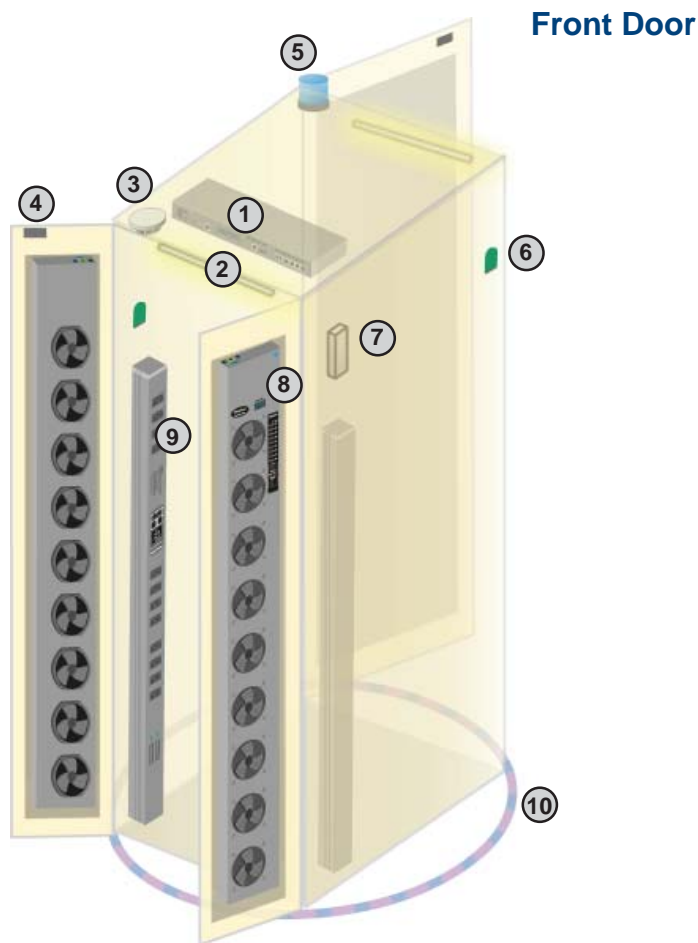
## < 1.3 > Daisy Chain Group

- EC 300M as the 1st level master EC box
- The EC box can be cascaded up to 16 levels
- Only 1 x IP for 16 x EC box remote access



- Daisy chain by Cat5/6 cable
- Max. distance between 2 EC box is 20M
- Max. distance in a daisy chain group up to 300M

- One InfraGuard network can expand up to 30 daisy chain groups ( master IP group ).
- Each daisy chain group supports up to 16 EC Boxes
- Each InfraGuard network can monitor 480 EC Boxes
- Each EC Box supports PDU x 4 & fan unit x 4
- Up to 1920 PDUs & 1920 fan units can be installed under one InfraGuard network

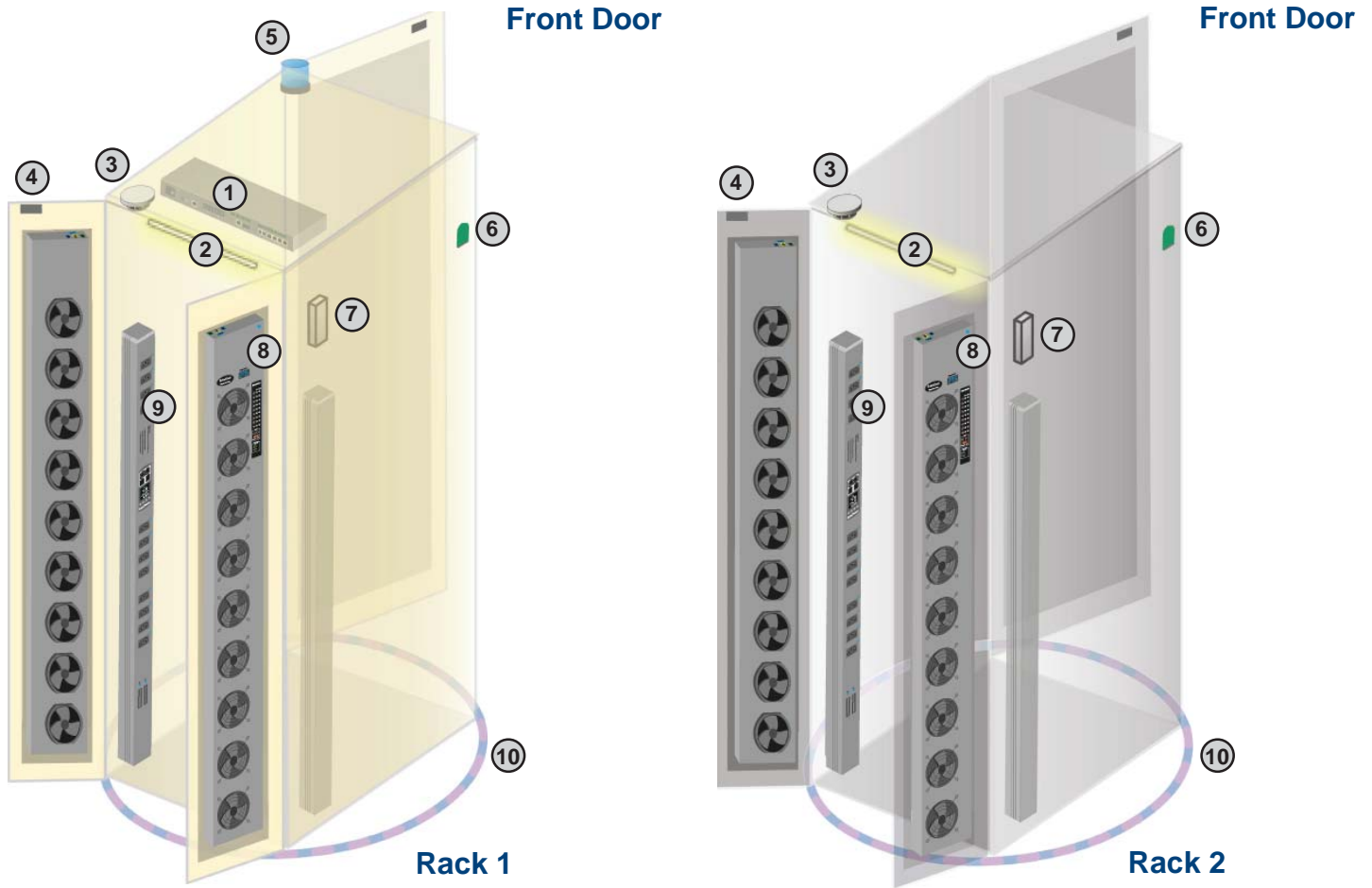


Item	Qty.	Location
① EC Box	1	rackmount on rear top
② LED Light Bar	2	front & rear top inside
③ Smoke Sensor	1	rear inside top
④ Door Sensor	2	top corner of door
⑤ Flashing LED Beacon	1	front rack roof
⑥ Temp. & Humid. Sensor	2	any inside position
⑦ Shock Sensor	1	upper inside
⑧ Fan Unit	4	door mount or rackmount
⑨ PDU	4	vertical or rackmount
⑩ Water Sensor	1	surrounding rack on floor



## < 1.3 > Installation Diagram

### One Box Two Racks

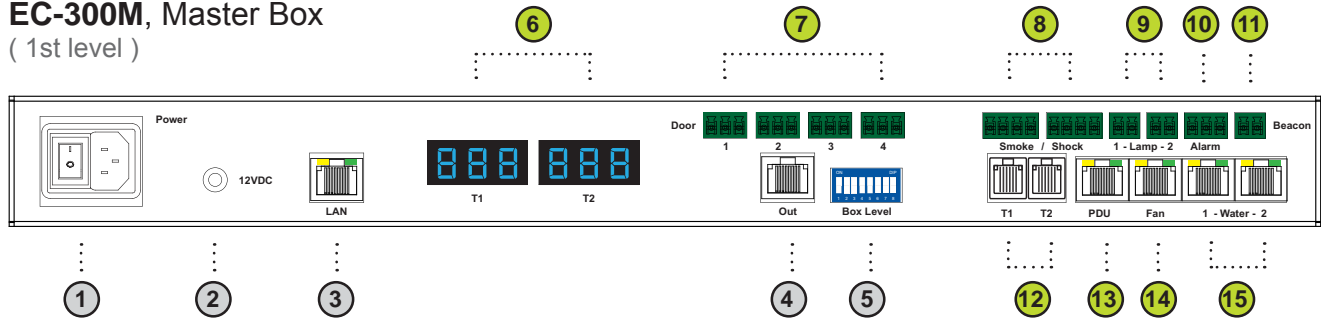


\* either smoke sensor or shock sensor

Item	Rack 1	Rack 2
① EC Box	1	-
② LED Light Bar	1	1
③ Smoke Sensor	1 *	1 *
④ Door Sensor	2	2
⑤ Flashing LED Beacon	1	-
⑥ Temp. & Humid. Sensor	1	1
⑦ Shock Sensor	1 *	1 *
⑧ Fan Unit	2	2
⑨ PDU	2	2
⑩ Water Sensor	1	1

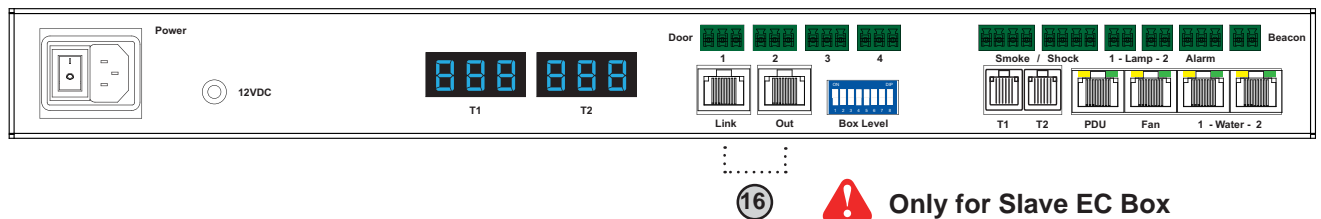
## < 1.4 > EC Box

### EC-300M, Master Box ( 1st level )



- ❶ Power input
- ❷ Dual power input ( option )
- ❸ LAN port ( RJ-45 connect to network device )
- ❹ OUT port ( RJ-45 connect to level 2nd slave EC box )
- ❺ Dip switch ( level setting )
- ❻ Temp. LED display x 2
- ❼ Door sensor port x 4
- ❽ Smoke / Shock sensor port x 2
- ❾ LED Light Bar port x 2
- ❿ Port for 3rd party alarm board x 1
- ⓫ LED beacon port x 1
- ⓬ Temp. & Humid. sensor port x 2
- ⓭ PDU port x 1  
( RJ-45, up to PDU daisy chain level x 4 )
- ⓮ Fan unit port x 1  
( RJ-45, up to fan unit daisy chain level x 4 )
- ⓯ Water sensor port x 2

### EC-300, Slave Box ( From 2nd - 16th level )



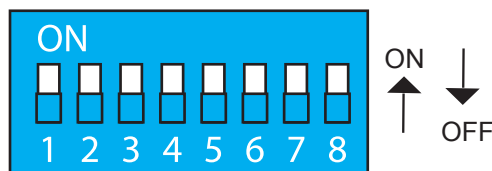
⓯  Only for Slave EC Box

- ⓯ Link & Out port  
( RJ-45 for daisy chain connection )

## < 1.5 > EC Box Level Setting

### Steps :

- Only **Master EC Box** built-in IP remote access module.
- **Master EC Box** MUST be set on the 1st daisy chain level according to the table below.
- For the 2nd - 16th levels ( slave EC box ), please make the level setting according to the table below.
- For the cabling connection, please refer to the next page.



### Daisy chain level setting

Using the dip switch no. 1, 2, 3, & 4 to setup each EC box level level as below :

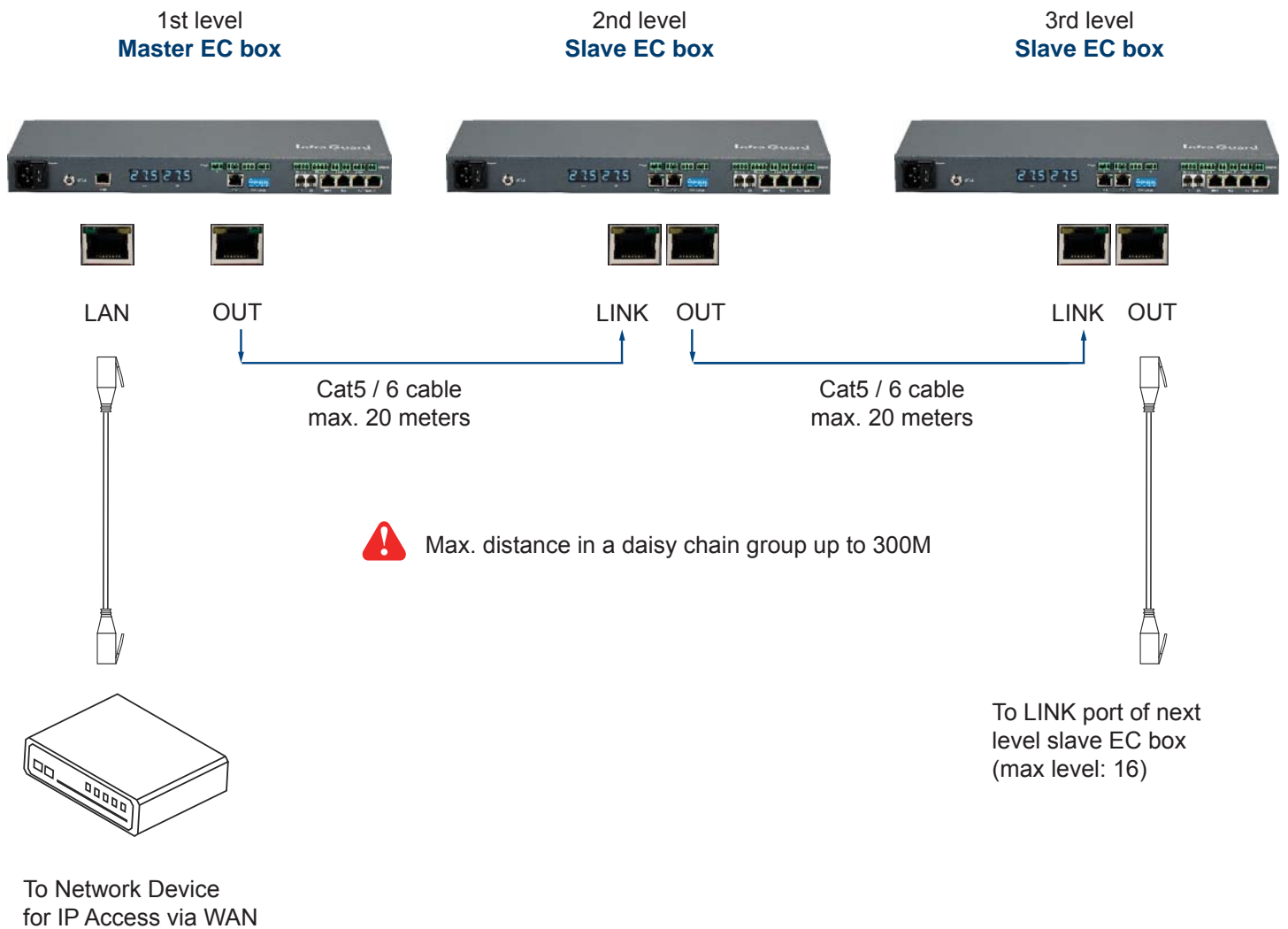
Cascaded EC boxes	Dip switch no.							
	1	2	3	4	5	6	7	8
1st level <b>Master</b> EC box	On	On	On	On	Off	Off	Off	Off
2nd level Slave EC box	Off	On	On	On	Off	Off	Off	Off
3rd level Slave EC box	On	Off	On	On	Off	Off	Off	Off
4th level Slave EC box	Off	Off	On	On	Off	Off	Off	Off
5th level Slave EC box	On	On	Off	On	Off	Off	Off	Off
6th level Slave EC box	Off	On	Off	On	Off	Off	Off	Off
7th level Slave EC box	On	Off	Off	On	Off	Off	Off	Off
8th level Slave EC box	Off	Off	Off	On	Off	Off	Off	Off
9th level Slave EC box	On	On	On	Off	Off	Off	Off	Off
10th level Slave EC box	Off	On	On	Off	Off	Off	Off	Off
11th level Slave EC box	On	Off	On	Off	Off	Off	Off	Off
12th level Slave EC box	Off	Off	On	Off	Off	Off	Off	Off
13th level Slave EC box	On	On	Off	Off	Off	Off	Off	Off
14th level Slave EC box	Off	On	Off	Off	Off	Off	Off	Off
15th level Slave EC box	On	Off	Off	Off	Off	Off	Off	Off
16th level Slave EC box	Off	Off	Off	Off	Off	Off	Off	Off

**\*\* No. 5, 6, 7 & 8 dip switch reserved**

## < 1.6 > EC Box Daisy Chain

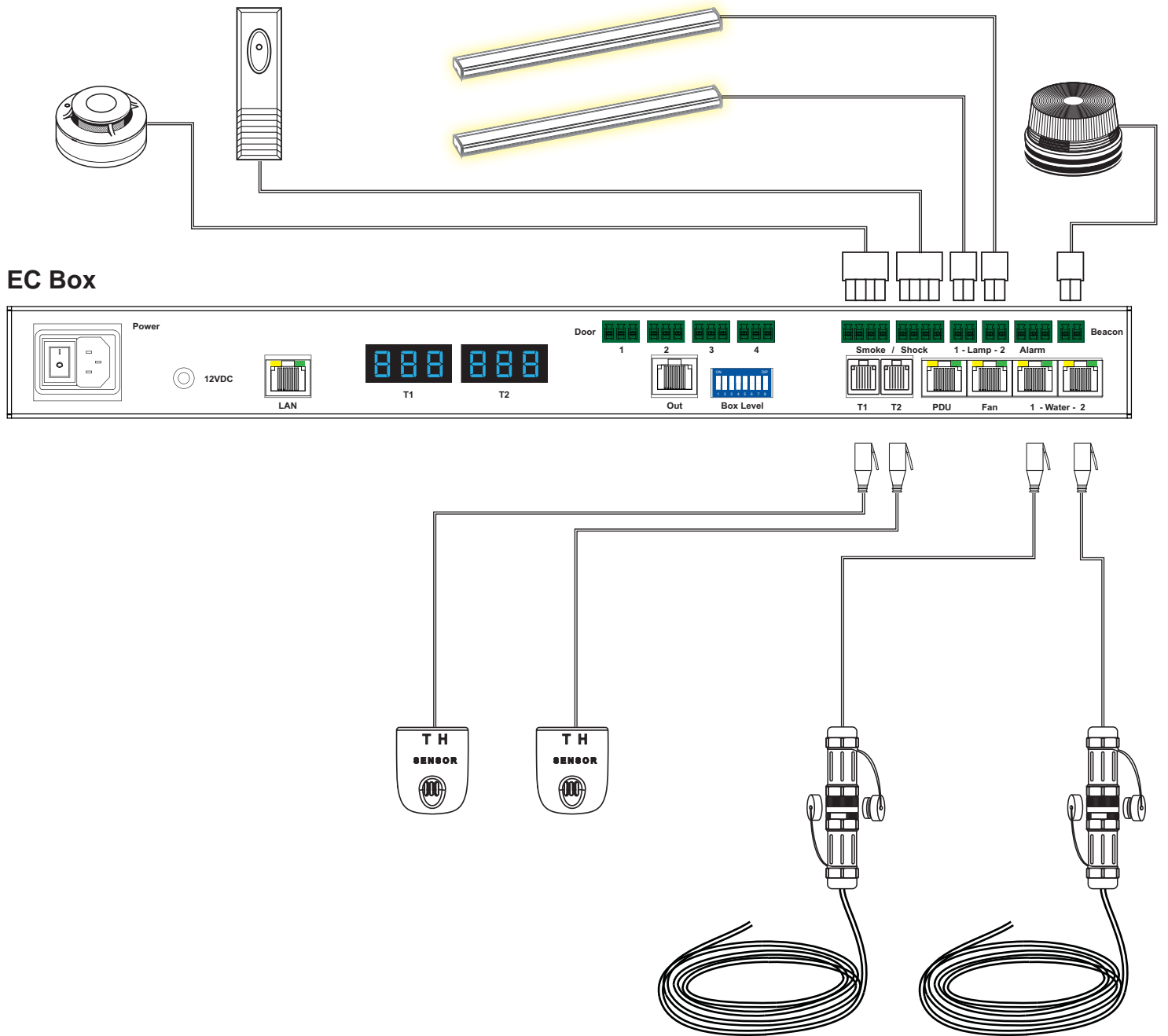
### Remarks :

- Each Master IP group supports 16 daisy chain levels.
- The 1st level EC box must be **Master EC box**.
- 1 x Master EC box allows access to 16 levels.
- For remote access of EC boxes, simply connect 1 x Master EC box.
- The 2nd - 16th level EC boxes must be slave EC box.

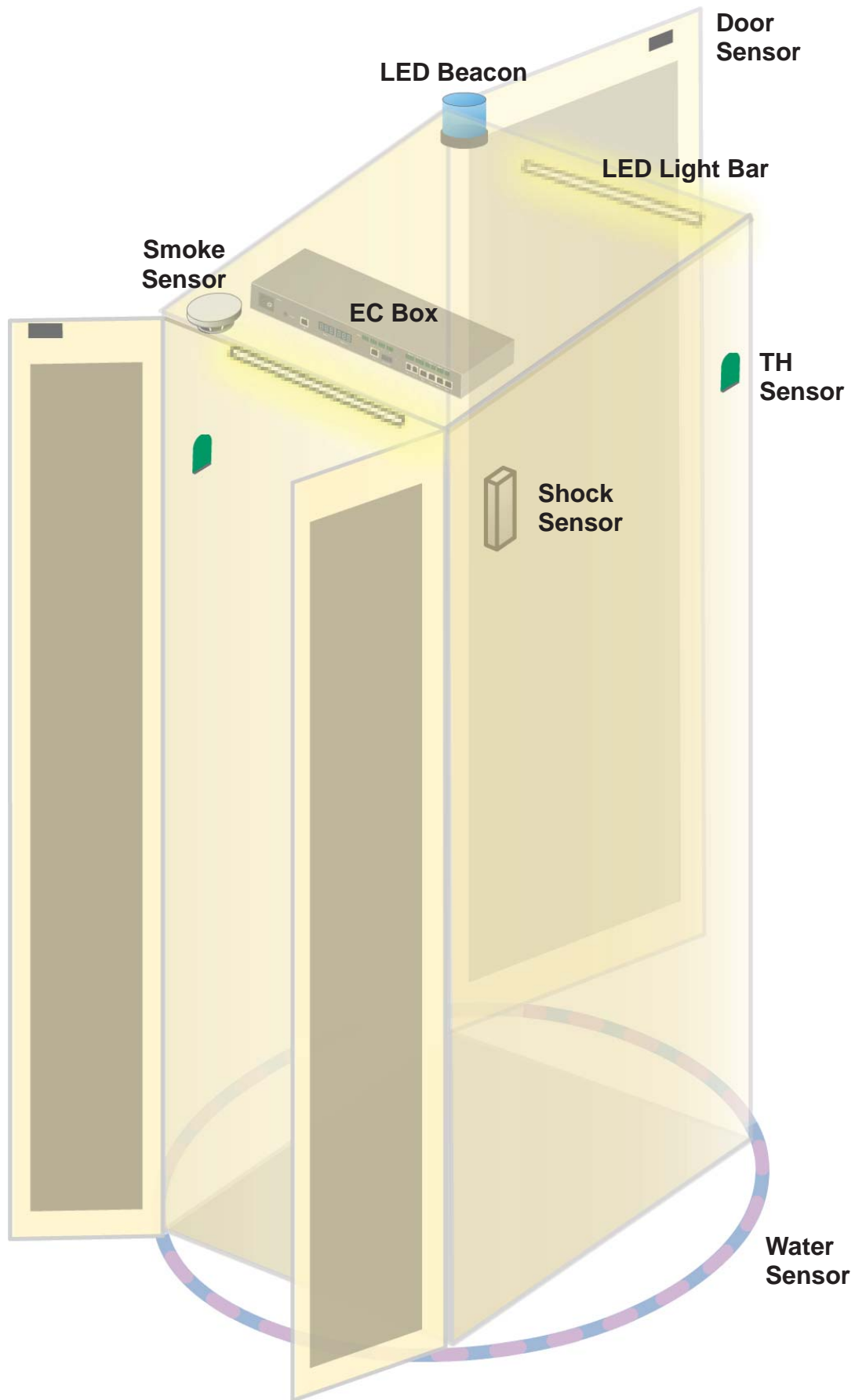


# Part II. Sensor Installation & Specifications

## < 2.1 > Overview



< 2.1 > Overview



## < 2.2 > Door Sensor



		<b>Inductive Door Sensor</b>	<b>Mechanical Door Sensor</b>
<b>Part no.</b>		<b>IG-DSI-2M</b>	<b>IG-DSW-2M</b>
<b>Sensitivity</b>	Actuation	/	3.00 mm
	Travelling Distance	/	9.25 mm
	Operating Force	/	3.5±1 N
	Sensing distance	Max. 3mm	/
	Sensing object	Ferrous metal	/
<b>Power Requirement</b>	Voltage	12VDC, powered by sensor port	/
	Current Consumption	100mA	/
<b>Housing</b>	Material	Plastic	
	Color	Black	
<b>Connection</b>	Cable Length	sensor w/ 2m cable ( standard ) sensor w/ 4m cable ( option )	
<b>Environmental</b>	Operating	-20 to 60°C Degree	
	Storage	-20 to 60°C Degree	-30 to 70°C Degree
	Relative Humidity	5~90%, non-condensing	
<b>Dimensions</b>	Product	32.5L x 12.2W x 9.2H mm	52W x 22.5L mm ( with metal plate )
	Packing	/	/
<b>Weight</b>	Net / Gross	6g	14g ( with metal plate )
<b>Supply includes</b>	1	Inductive door sensor with 2m cable	Mechanical door sensor
	2	2mm Adhesive tape	Metal plate
	3	/	2m cable
<b>Compatibility</b>	InfraGuard only		
<b>Safety Regulatory</b>	FCC & CE certified		
<b>Environmental</b>	RoHS2 & REACH compliant		

## < 2.2 > Door Sensor

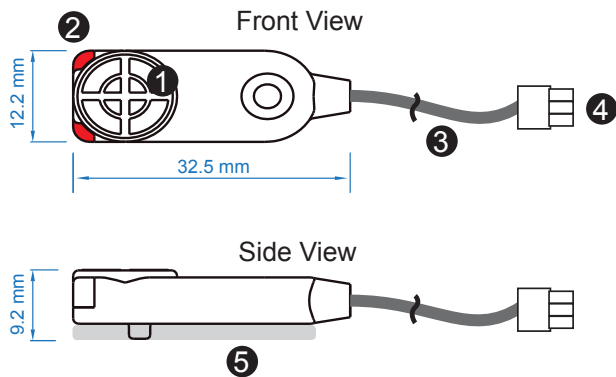
Optional door sensor is an essential accessories as users can be alerted by visual and audio alarm for unauthorized access.

### Inductive Door Sensor, pair ( IG-DSI-2M )



#### Features

- light weight / adhesive
- mini size ( 32.5 x 12.2 x 9.2 mm )
- no custom cutting required on door



①	Sensor area
②	Red LED ( light up while door opening )
③	2m cable
④	Cable jack ( connect to EC box )
⑤	2mm adhesive tape

#### Package content

- Inductive sensor w/ 2m cable x 2
- 2mm adhesive tape x 6



#### Requirements

- rack frame made of ferrous metal ( iron )
- sensing distance 3mm



## < 2.2 > Door Sensor

### Installation steps

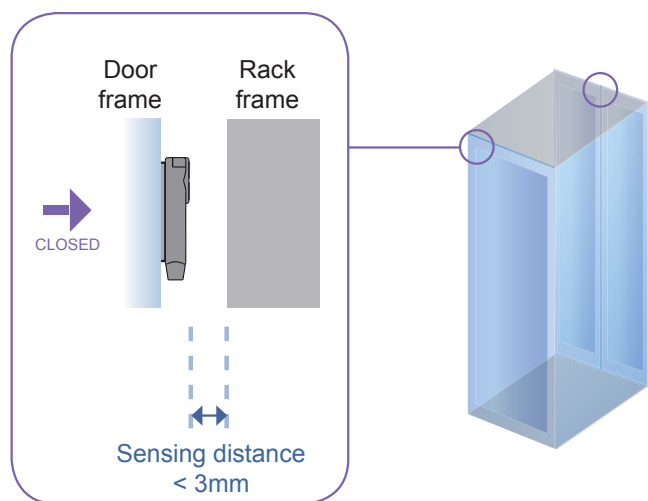
- connect to the EC box
- guide & fix the cable with cable clips
- place the sensor at the top of the door, close to the opening side
- adjust the sensor with adhesive tape to ensure the sensing distance between door to frame within 3mm while door in close status



### Sensor Operation

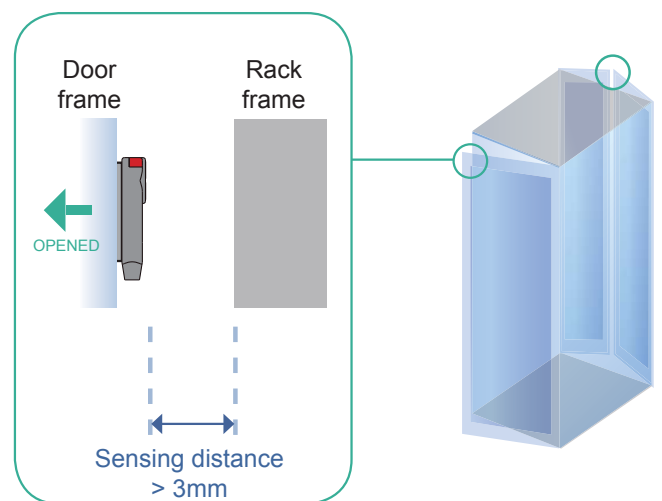
#### DOOR CLOSE

- close door
- inductive sensor detects the rack frame
- DOOR CLOSE SIGNAL sends out



#### DOOR OPEN

- open door
- inductive sensor lose detection with rack frame
- Red LED of sensor light up
- DOOR OPEN SIGNAL sends out



## < 2.2 > Door Sensor

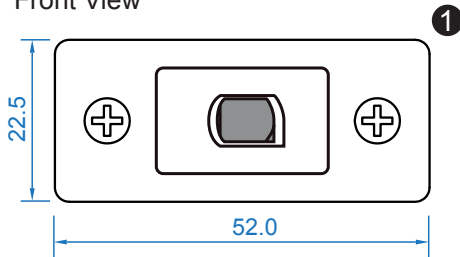
### Mechanical Door Sensor ( IG-DSW-2M )

#### Features

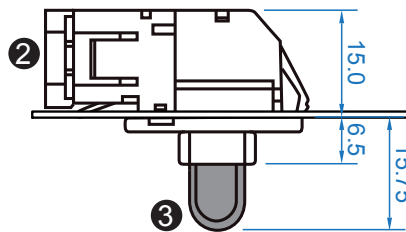
- low cost / precise
- cost efficient integration to new rack

unit : mm

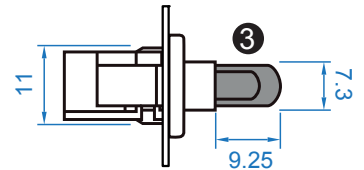
Front View



Top View



Side View



①	Steel mounting plate with 2 screw holes
②	Cable connector
③	Press button ( total travel distance : 9.25 mm ) ( min. actuation distance : 3.00 mm )

#### Package content

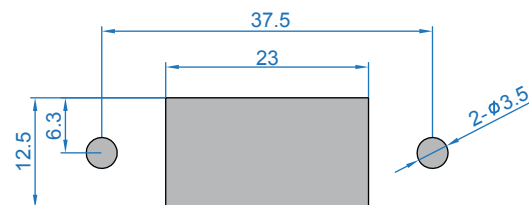
- Mechanical sensor w/ 2m cable x 2
- Mounting screws 6#32x4.5mm x 2



#### Requirements

- custom hole cutting required on doors
- ordering a sample for custom cutting is highly suggested
- min. actuation distance : 3.00 mm
- total travel distance : 9.25 mm

unit : mm



#### Dimension of door cutting hole

- circle hole x 2 for screw mounting
- rectangle hole x 1 for sensor installation

## < 2.2 > Door Sensor

### Installation steps

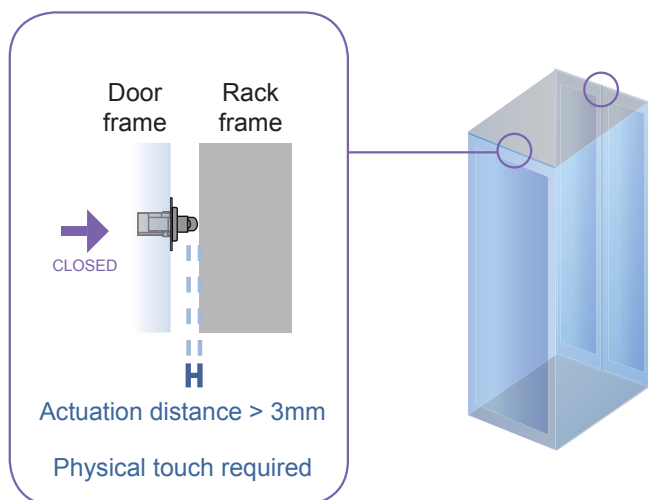
- connect to the EC box
- place the sensor at the top middle of the door
- install the sensor in the custom hole
- secure it with bundled mounting screws 6#32x4.5mm x 2



### Sensor Operation

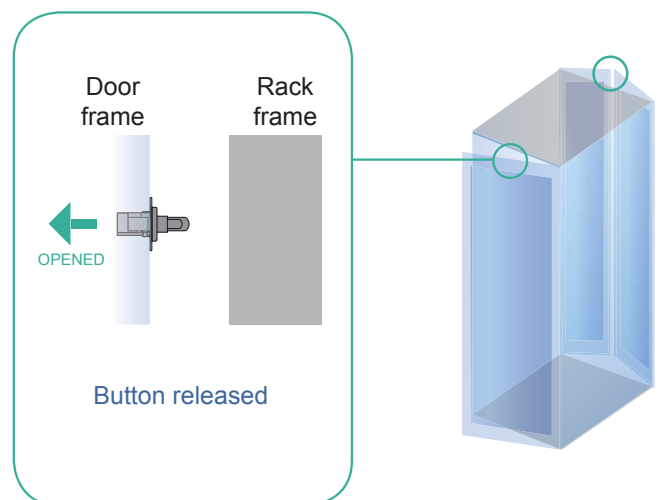
#### DOOR CLOSE

- close door
- Sensor button is pressed on
- DOOR CLOSE SIGNAL sends out



#### DOOR OPEN

- open door
- Sensor button is released
- DOOR OPEN SIGNAL sends out



## < 2.3 > Temp. & Humidity Sensor

Each EC box provides Temp. & Humid. Sensor port x 2. If more TH sensors required, two temp. & humid. sensor ports on each integrated PDU can be applied.



		Temp. & Humid. Sensor	Temp. Sensor
<b>Part no.</b>		IG-TH01	IG-T01
<b>Temperature Sensitivity</b>	Range	0 to 80°C ( 32 to 176°F )	
	Accuracy	±0.5°C typical ( ±1°F )	±1°C ( ±2°F )
	Resolution	0.1°C ( 0.2°F )	
	Response Time	5 to 30 sec	
<b>Relative Humidity Sensitivity</b>	Range	0 to 100% R.H	/
	Accuracy	0 to 100, ±8.0% R.H 20 to 80, ±4.5% R.H.	/
	Resolution	1% R.H.	/
	Response Time	8 sec	/
<b>Power Requirement</b>	Voltage	12VDC, powered by sensor port	
	Current Consumption	20mA	
	Power consumption	0.24 Watt	
	Power on indicator	Red	Green
<b>Housing</b>	Chassis & Cover	Plastic	
	Color	Dark gray	
	Installation	Magnetic base for unrestricted installation	
<b>Connection</b>	Cable Length	TH sensor w/ 2m cable ( standard ) TH sensor w/ 4m cable ( option )	T sensor w/ 2m cable ( standard ) T sensor w/ 4m cable ( option )
	Cable Specification	4-wired 3.5mm to RJ11	
	Cable Color	Black	Beige
<b>Environmental</b>	Operating	0 to 80°C Degree	
	Storage	-5 to 80°C Degree	
	Humidity	0~100%, non-condensing	
<b>Dimensions</b>	Product	30L x 25W x 18H mm	
<b>Weight</b>	Net	66g	
<b>Supply includes</b>	1	TH Sensor	Temperature Sensor
	2	4-wired 3.5mm to RJ11 cable ( 2m, black color )	
<b>Compatibility</b>	InfraPower	W / WS / Wi / WSi series PDU	
	InfraSolution	X-2000 series	
	InfraGuard	EC-300M & EC-300	
<b>Safety Regulatory</b>	FCC & CE certified		
<b>Environmental</b>	RoHS2 & REACH compliant		

## < 2.4 > Smoke Sensor

Smoke sensor comes with a RED LED. When smoke alarm triggers, the RED LED lights on with beep sound continuously.



REACH

		<b>Smoke Sensor</b>
<b>Part no.</b>		<b>IG-S01</b>
<b>Sensitivity</b>	Smoke sensitivity	0.15 ~ 0.3 dB/m
<b>Alarm Output</b>	Solid State Relay	24VDC@1A
	Alarm LED	Red
	Audio Alarm	80 dB
	Audio Alarm Pattern	Continuous beeps
<b>Power Requirement</b>	Voltage	12VDC, powered by sensor port
	Current Consumption	200uA
	Power ON LED	Red LED flashes every 6 seconds
<b>Housing</b>	Chassis & Cover	ABS plastic
	Color	Ivory White
<b>Connection</b>	Cable Length	1m / 3m ( option )
<b>Environmental</b>	Operating	-5 to 50°C Degree
	Storage	-10 to 60°C Degree
	Humidity	5~90%, non-condensing
<b>Dimensions</b>	Product	103L x 103W x 55H mm
<b>Weight</b>	Net	165g
<b>Supply includes</b>	1	Smoke Sensor with 1m cable
<b>Compatibility:</b>	InfraSolution	X-2000 series
	InfraGuard	EC-300M & EC-300
<b>Safety Regulatory</b>	FCC & CE certified	
<b>Environmental</b>	RoHS2 & REACH compliant	

## < 2.5 > Shock Sensor

Shock sensor comes with a RED LED. When shock alarm triggers, the RED LED lights on continuously.



		<b>Shock Sensor</b>
<b>Part no.</b>		<b>IG-V01</b>
<b>Sensitivity</b>	Detection radius	3.5 m
	Adjustable sensitivity	Internal micro knob with screwdriver cross slot
<b>Alarm Output</b>	Solid State Relay	12VDC@100mA
	Alarm hold time	Approx. 2.0 sec.
	Alarm LED	Red
<b>Power Requirement</b>	Voltage	12VDC, powered by sensor port
	Current Consumption	15mA
	Power consumption	0.18 Watt
<b>Housing</b>	Chassis & Cover	ABS plastic
	Color	White
<b>Connection</b>	Cable Length	1m / 3m ( option )
<b>Environmental</b>	Operating	-5 to 55°C Degree
	Storage	-10 to 60°C Degree
	Humidity	5~90%, non-condensing
<b>Dimensions</b>	Product	26 x 85 x 24 mm
<b>Weight</b>	Net	40g
<b>Supply includes</b>	1	Shock Sensor with 1m cable
<b>Compatibility</b>	InfraSolution	X-2000 series
	InfraGuard	EC-300M & EC-300
<b>Safety Regulatory</b>		FCC & CE certified
<b>Environmental</b>		RoHS2 & REACH compliant

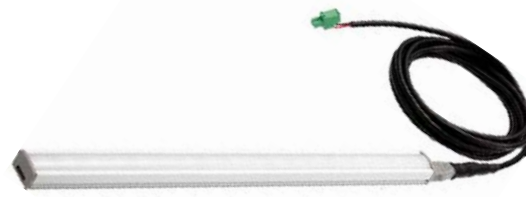
## < 2.6 > Water Sensor



		<b>Water Sensor</b>
<b>Part no.</b>		IG-W01
	Measurement Range	Wet or Dry (-20°C to 60°C)
	Rope Sensor Length	5m
<b>Power Requirement</b>	Voltage	5VDC, powered by sensor port
	Power consumption	125 mWatt
<b>Connection</b>	Extension cable length	3m ( non-detection )
<b>Environmental</b>	Operating	-20 to 60°C Degree
	Storage	-20 to 80°C Degree
<b>Weight</b>	Net	450g ( Sensor & extension cable )
<b>Supply includes</b>	1	Rope water sensor
	2	Extension cable
<b>Compatibility</b>	InfraSolution	X-2000 series
	InfraGuard	EC-300M & EC-300
<b>Safety Regulatory</b>		FCC & CE certified
<b>Environmental</b>		RoHS2 & REACH compliant

## < 2.7 > LED Light Bar

LED light bar can be ON / OFF by door sensor OR always ON by IGM-03 management software setting.



		<b>LED Light Bar</b>
<b>Part no.</b>		<b>CLB-IX-002</b>
<b>Light</b>	Color	Cool White
	Output	250 Lumens
	Color Temperature	5600-7000K
	Number of LED	18 High Output CREE SMD LED
	Life Expectancy	30,000 hrs
<b>Power Requirement</b>	Voltage	12VDC, powered by sensor port
	Current Consumption	0.375A
	Power consumption	4.5 Watt
<b>Housing</b>	Chassis	Extruded aluminum with silver powder coat
	Diffuser	Acrylic with milky white
	Installation	Magnetic base for unrestricted installation
<b>Connection</b>	Cable Length	2m / 3m ( option )
<b>Environmental</b>	Operating	-20 to 50°C Degree
	Storage	-20 to 60°C Degree
	Relative Humidity	5~90%, non-condensing
<b>Dimensions</b>	Product	300L x 20W x 12H mm
<b>Weight</b>	Net	84g
<b>Compatibility</b>	InfraSolution	X-2000 series
	InfraGuard	EC-300M & EC-300
<b>Safety Regulatory</b>	FCC & CE certified	
<b>Environmental</b>	RoHS2 & REACH compliant	



## < 2.8 > LED Beacon

The LED Beacon can be stuck firmly by the bundled adhesive tape.



		<b>LED Beacon</b>
<b>Part no.</b>		<b>IG-FB03</b>
<b>Notification</b>	Len Color	Blue
	Light Source	White
	Flash Rate	120 flashes per minute
<b>Power Requirement</b>	Voltage	12VDC, powered by sensor port
	Current Consumption	0.175A
<b>Housing</b>	Cover Len	Polycarbonate
	Color	Blue
<b>Connection</b>	Cable Length	1m / 3m
<b>Environmental</b>	Operating	-20 to 50°C Degree
	Storage	-20 to 60°C Degree
	Relative Humidity	5~90%, non-condensing
<b>Dimensions</b>	Product	72L x 72W x 45H mm
<b>Weight</b>	Net	50g
<b>Supply includes</b>	1	LED Beacon with 1m cable
<b>Compatibility</b>	InfraSolution	X-2000 series
	InfraGuard	EC-300M & EC-300
<b>Safety Regulatory</b>		FCC & CE certified
<b>Environmental</b>		RoHS2 & REACH compliant

# Part III. PDU / Fan Unit Installation & Specifications

## < 3.1 > PDU

Under an **InfraGuard** network, each EC Box supports **InfraPower** intelligent PDU x 4 in a daisy chain. Each PDU comes with Temp. & Humid. sensor port x 2

**W** series : monitored PDU

**WS** series : switched PDU

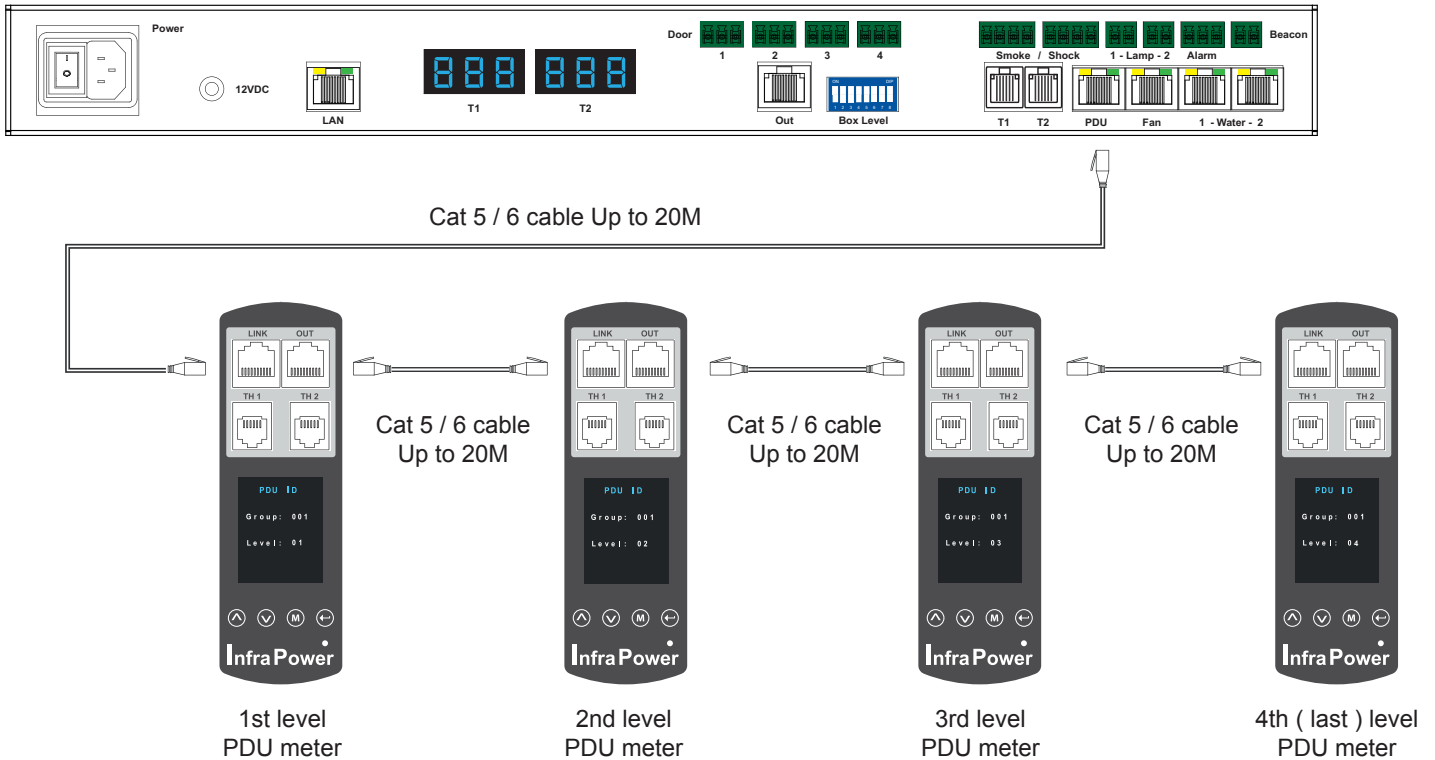
**WSi** series : outlet level measurement switched PDU



Please visit below link to select desired PDU & download the PDU drawing & specifications.

[http://www.austin-hughes.com/solutions/intelligent-kWh-pdu.html#Single\\_Phase](http://www.austin-hughes.com/solutions/intelligent-kWh-pdu.html#Single_Phase)

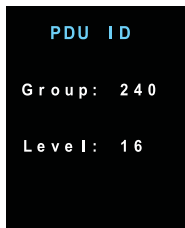
### Master EC Box



Max. daisy chain distance from EC box to the 4th PDU up to 80M

### PDU level setting :

Display 9.1



**Step 1** - Press the **▲** & **▼** button to **display no.9** and press **M** to confirm

**Step 2** - Press the **▲** & **▼** button to **PDU ID** and press **M** to confirm

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

**Step 4** - Press **←** to exit



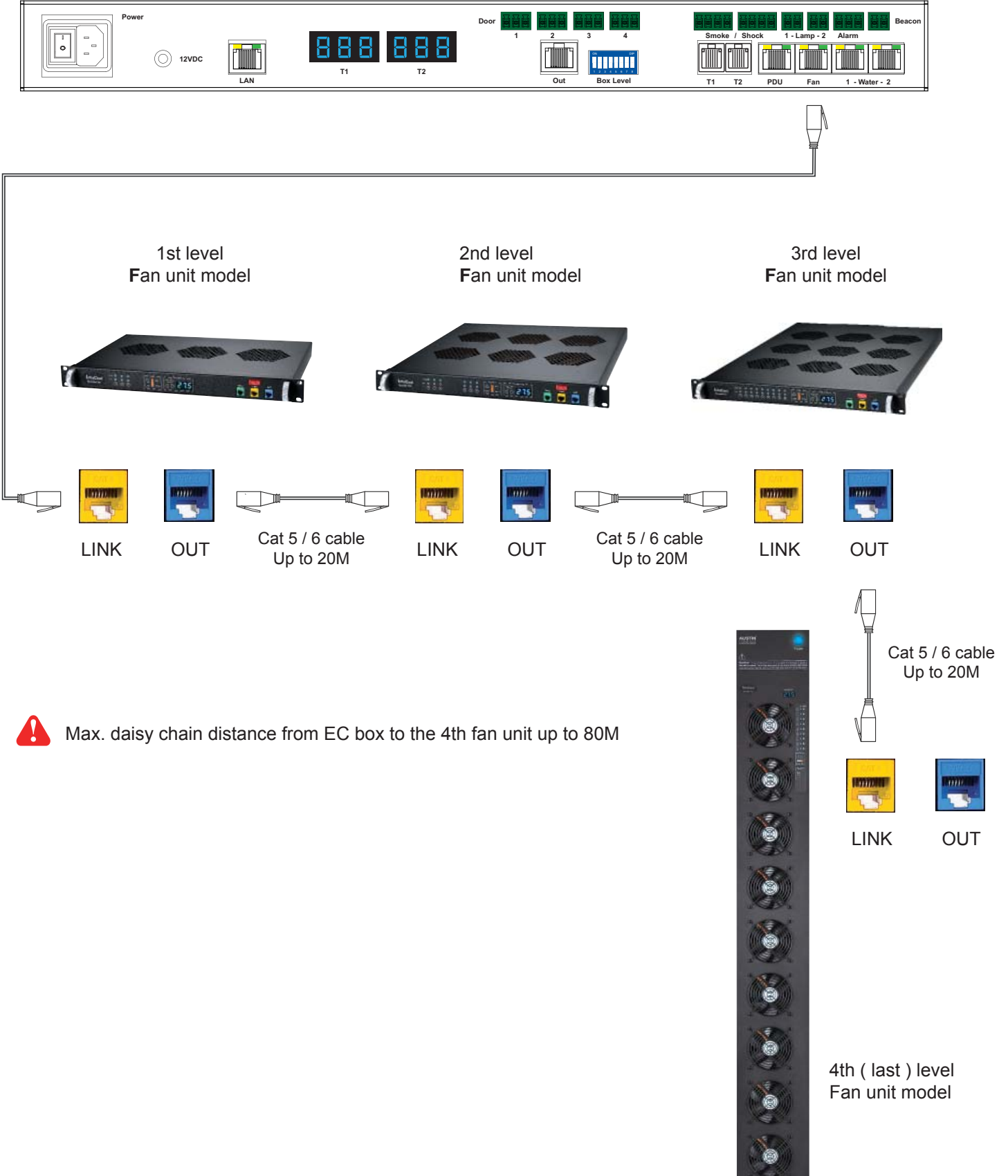
For details about PDU level setting, please refer to IPM-03 user manual < 3.1 > :

<http://www.austin-hughes.com/support/usermanual/infrapower/UM-IPM-03.pdf>

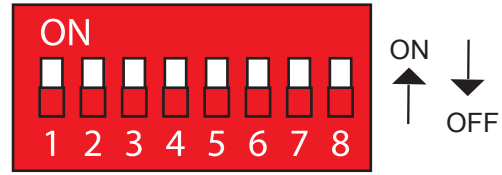
## < 3.2 > Fan Unit

Under an **InfraGuard** network, each EC Box supports **InfraCool** remote fan unit x 4 in a daisy chain. Each fan unit comes with TEMP. sensor port x 1

### Master EC Box



## < 3.2 > Fan Unit



Fan unit level setting :

Using the **dip switch no. 1, 2, 3, 4, 5, 6 & 8** to setup each FAN unit level as below :

Cascaded FAN units	Dip switch no.						
	1	2	3	4	5	6	8
1st level Fan Unit Model	On	On	On	On	On	On	Off
2nd level Fan Unit Model	Off	On	On	On	On	On	Off
3rd level Fan Unit Model	On	Off	On	On	On	On	Off
4th level Fan Unit Model	Off	Off	On	On	On	On	Off

**\*\* No. 7 dip switch only for audio alarm setting**

Using the **dip switch no. 7** to setup each FAN unit audio alarm as below :

	Dip switch 7
Enable	On
Disable	Off



If enable the audio alarm, the buzzer will sound when the outside temperature is over the preset alarm temperature.

## < 3.2 > Fan Unit

Model : RF-1.3

1U Fan Tray with 3 fans



FC CE RoHS REACH

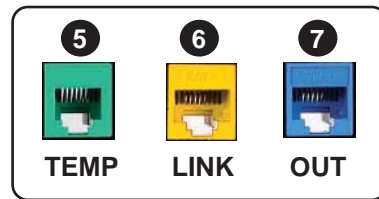
② - Unit CFM Status LED  
- Unit CFM Setting

④ - DIP switch for daisy chain level setting



①  
- Individual fan status  
- Individual fan On / Off buttons

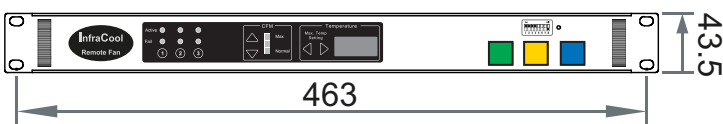
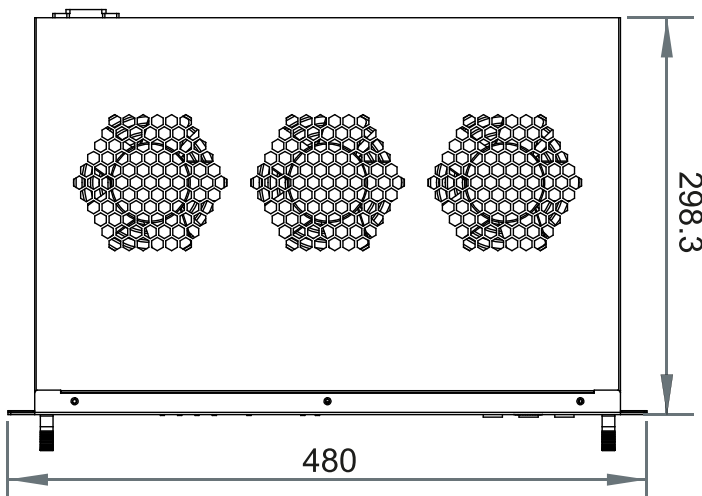
③  
- Buttons for Alarm  
Temp. Setting  
- Temp. LED display



⑤ - Temp. port bundled w/ a temp. sensor

⑥ - Daisy chain **LINK** port for connecting to the out port of the last level fan unit

⑦ - Daisy chain **OUT** port for connecting to the link port of the next level fan unit

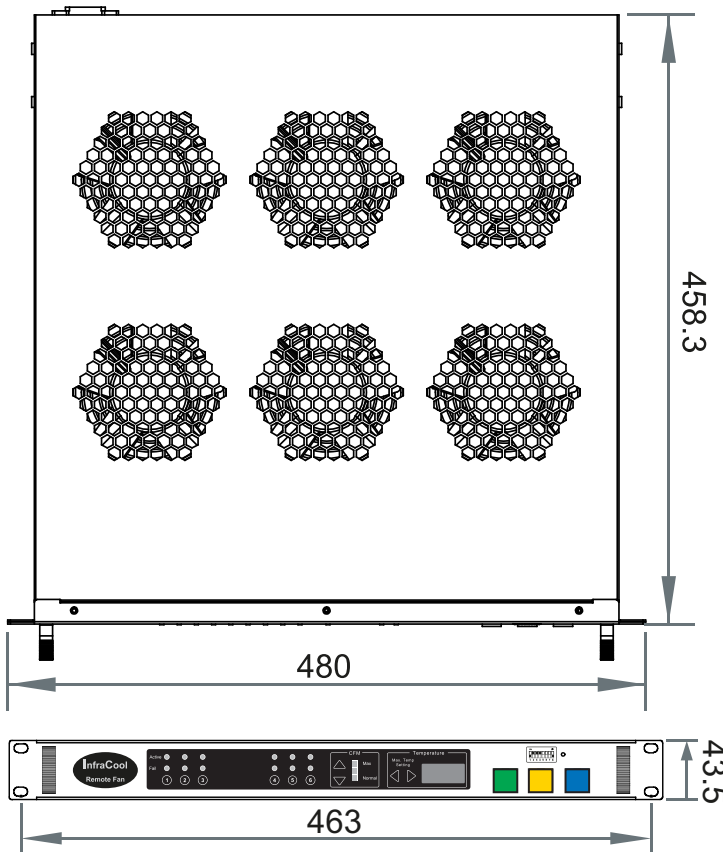
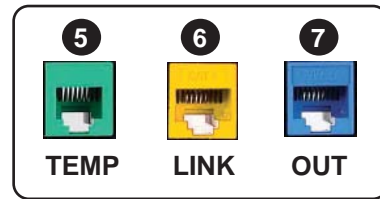
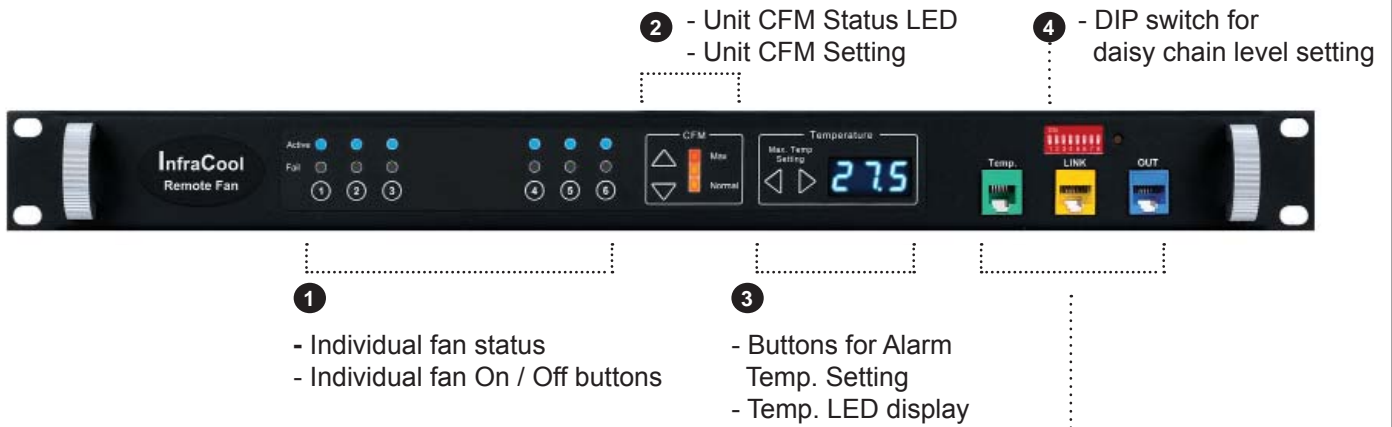


## < 3.2 > Fan Unit



Model : RF-1.6

1U Fan Tray with 6 fans

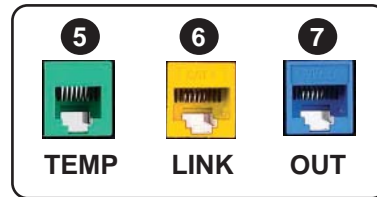
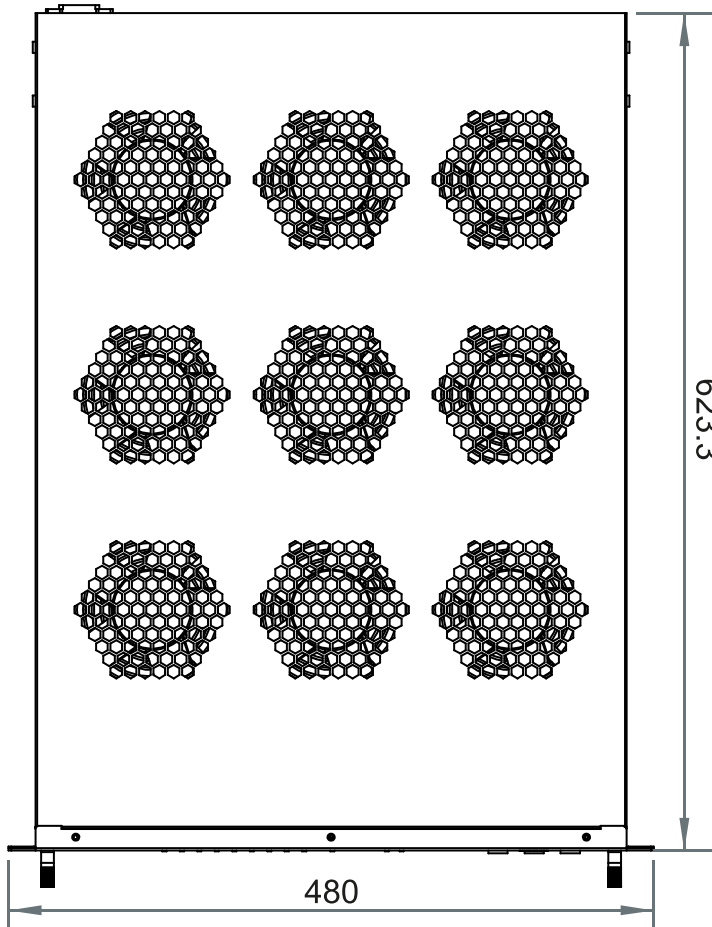
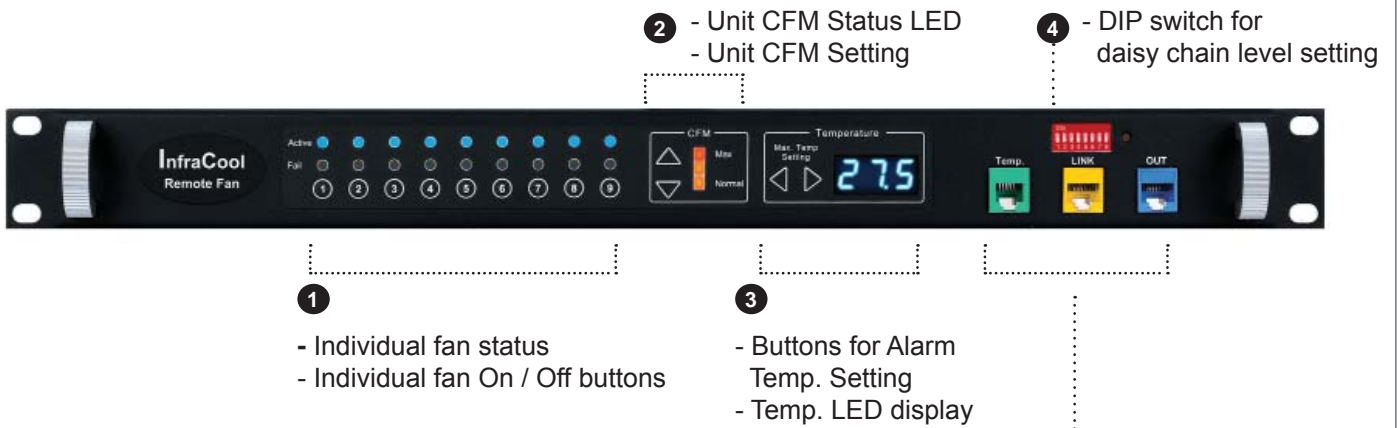


< 3.2 > Fan Unit

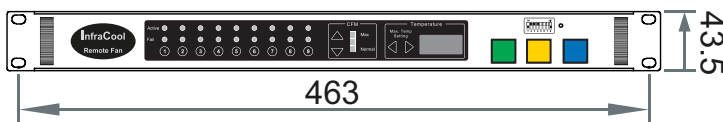


Model : RF-1.9

1U Fan Tray with 9 fans



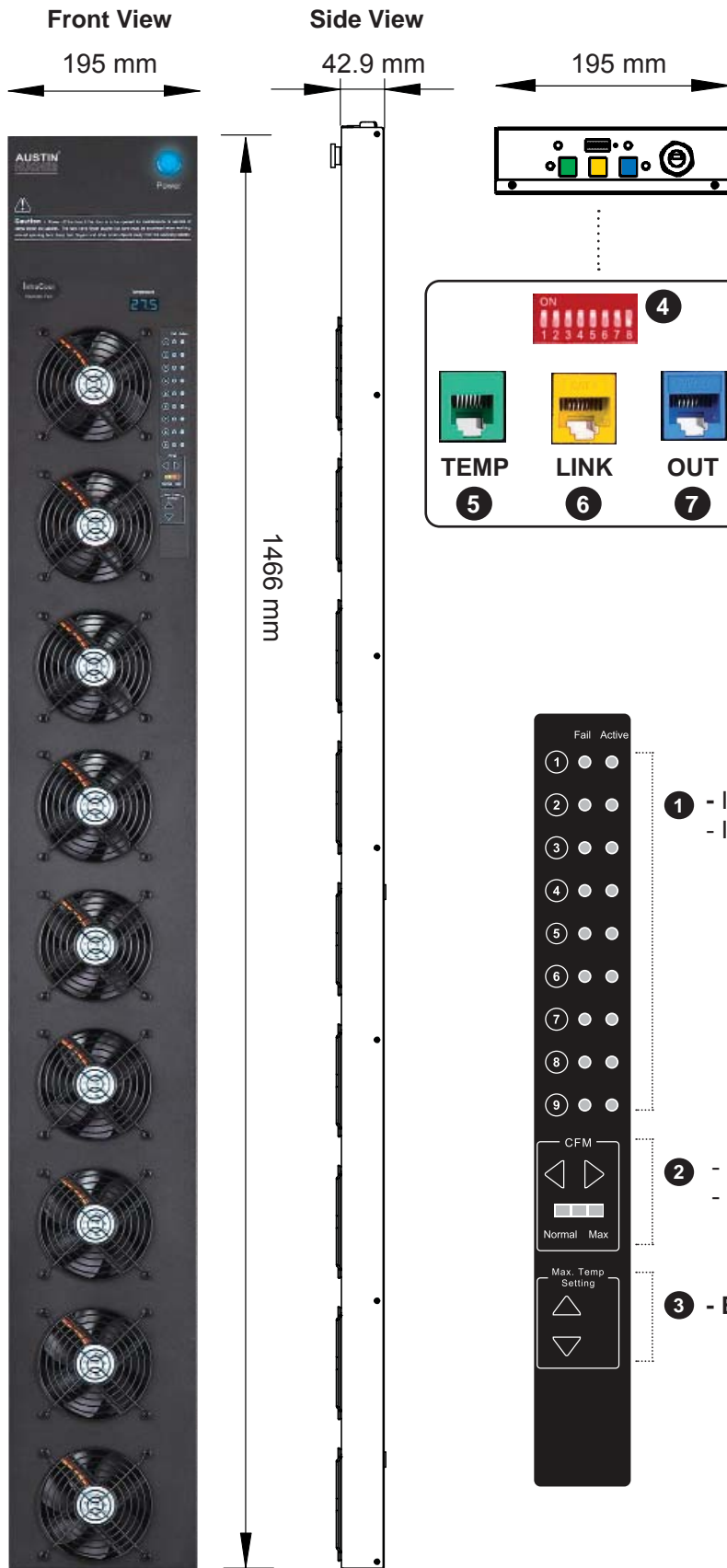
- ⑤ - Temp. port bundled w/ a temp. sensor
- ⑥ - Daisy chain **LINK** port for connecting to the out port of the last level fan unit
- ⑦ - Daisy chain **OUT** port for connecting to the link port of the next level fan unit





Model : RF-33.9

33U Door Mount Fan Panel with 9 fans



- ④ - DIP switch for daisy chain level setting
- ⑤ - Temp. port bundled w/ a temp. sensor
- ⑥ - Daisy chain **LINK** port for connecting to the out port of the last level fan unit
- ⑦ - Daisy chain **OUT** port for connecting to the link port of the next level fan unit

- ① - Individual fan status
- Individual fan On / Off buttons

- ② - Unit CFM Status LED
- Unit CFM ( fan speed ) Setting

- ③ - Buttons for Alarm Temp. Setting





## < 3.2 > Fan Unit

<b>Remote Fan</b>	Model	<b>RF-1.3 / 1.6 / 1.9</b>	<b>RF-33.9</b>
	No. of Fan	3 / 6 / 9	9
	Mounting	1U	Door mount
	CFM Level	Normal / High / Max.	
	Individual Fan ON / OFF	Yes	
	Individual Fan CFM	108 CFM	
	Unit CFM ( Approximately )	324 / 648 / 972 CFM	972 CFM
	IP Remote Access	Not available, must be via Master IP fan on the 1st level	
	Daisy Chain Level	2nd to 16th level	
	MTBF	50,000 hrs	

<b>Temperature Sensor</b>	Temperature Port	1 x temperature sensor port ( sensor bundled )
	Measurement Range	0 to 99.9°C
	Measurement Accuracy	+/- 1.5%
	Temperature Alarm	Yes

<b>Power</b>	Input	100V or 240V AC at 50 or 60Hz via IEC type cord	
	Consumption	20W / 40W / 60W	60W

<b>Environmental Conditions</b>	Operating	0 to 50°C
	Storage	-5 to 60°C
	Relative Humidity	90%, non-condensing
	Shock	50G peak acceleration ( 11ms, half-sine wave )
	Vibration	58~100Hz / 0.98G ( 11ms / cycle )

<b>Dimensions</b>	<b>Model</b>	<b>Product Dimension</b>	<b>Packing Dimension</b>
	<b>RF-1.3</b>	480 x 298.3 x 43.5 mm 18.9 x 11.7 x 1.71 inch	380 x 535 x 120 mm 15 x 21.1 x 4.7 inch
	<b>RF-1.6</b>	480 x 458.3 x 43.5 mm 18.9 x 18 x 1.71 inch	550 x 550 x 120 mm 21.7 x 21.7 x 4.7 inch
	<b>RF-1.9</b>	480 x 623.3 x 43.5 mm 18.9 x 24.5 x 1.71 inch	550 x 730 x 120 mm 21.7 x 28.7 x 4.7 inch
	<b>RF-33.9</b>	195 x 42.9 x 1466 mm 7.7 x 1.7 x 57.7 inch	263 x 106 x 1650 mm 10.4 x 4.2 x 65.0 inch

<b>Weight</b>	<b>Model</b>	<b>Net Weight</b>	<b>Gross Weight</b>
	<b>RF-1.3</b>	4 kgs / 8.8 lbs	5 kgs / 11 lbs
	<b>RF-1.6</b>	6.8 kgs / 15 lbs	8 kgs / 17.6 lbs
	<b>RF-1.9</b>	9 kgs / 19.8 lbs	11 kgs / 24.2 lbs
	<b>RF-33.9</b>	5 kgs / 11 lbs	7.4 kgs / 16.3 lbs

<b>Regulatory</b>	FCC & CE certified
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<b>Environmental</b>	RoHS2 & REACH compliant
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## Part IV. Software

### < 4.1 > Key Features

InfraGuard Manager IGM-03 is a FREE environmental sensor management software to monitor up to 30 Master IP Groups remotely ( max. 16 EC box levels in each Master IP Group ), total 480 EC boxes.

Each EC box can connect a variety of sensors to provide an environmental monitoring solution to secure high levels of data center operational stability and flexibility.

To enhance the functionality, up to 1920 x kWh PDU / Fan Unit can be monitored through IGM-03 GUI as well.

5 concurrent user license is bundled to achieve the demand of multi-user / multi-tasking in nowadays' time sharing data center operation.

### InfraGuard IGM-03

Features		
<b>Capacity</b>	Master IP Group ( Just 1 IP for 16 EC box levels )	30
	EC box number	480
	Concurrent user	5
<b>Device Overview</b>	Status of Sensor, PDU, Fan Unit & Door	✓
	Device / Audio and Visual Output Setting	✓
<b>Sensor Peripherals</b>	Status Monitoring	✓
	Location of Sensor / Peripherals	✓
	Temp-Humid Alarm / Rising Alert Threshold Setting	✓
<b>PDU</b>	Energy Consumption kWh / Amp Monitoring	✓
	Outlet Level Measurement	✓
	PDU Outlet Schedule	✓
	Outlet Switch ON / OFF	✓
	Amp Alarm Threshold Setting	✓
	Amp Rising / Low Alert Threshold Setting	✓
	Temp-Humid / Circuit Breaker Monitoring	✓
<b>Fan Unit</b>	CFM & Temp. Monitoring	✓
	Unit CFM ( fan speed ) Setting	✓
	Auto CFM Control Setting	✓
	Individual Fan Kit ON / OFF	✓
	Fan Unit ON / OFF	✓
<b>Event Log / Report</b>	System & Device Event	✓
	Device Log / Reporting	✓

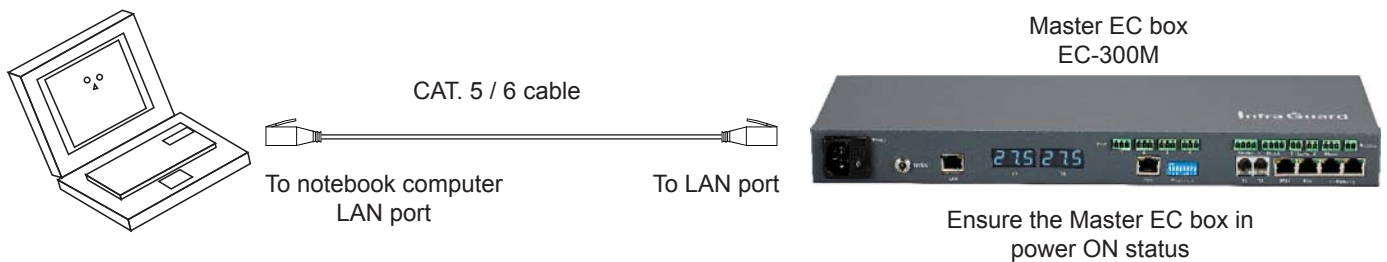
## < 4.2 > Master IP Configuration

Please take the following steps to configure the Master EC box.

**Step 1.** Prepare a notebook computer to download the IP setup utilities from the link :  
<http://www.austin-hughes.com/support/utilities/infraguard/MasterIPsetup.msi>

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

**Step 3.** Go to each Master EC box with the notebook computer & a piece of CAT. 5 / 6 cable to set up the IP configuration by IP setup utilities as below. Please take the procedures for all Master EC box **ONE BY ONE**



Reconnect the Master EC box with the network device ( router or hub ), after finish master IP configuration.

IP setup utilities for Master EC box (Ver. Q313V1)

InfraGuard Environmental Sensor Solution

Master EC box

Device MAC address: 00:0D:5D:05:BC:1A

Scan

Configuration

Name: Name

Location: Rack\_001

Password:

New password:

Confirm new password:

IP address: 192.168.0.1

Subnet mask: 255.255.255.0

Gateway: 192.168.0.254

Save

Close



Write down the new IP address & password for < Setup > purpose, refer to P.40

**Step 4.** Click “ Scan ” to search the Master EC box

**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 “ 0000000 ”

**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

## < 4.3 > Hardware Requirements of The Management PC

Please prepare a management PC with the hardware requirements as below for InfraGuard Manager - IGM-03

### **Recommended hardware requirements :**

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



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

## < 4.4 > Supported OS Platform & Language

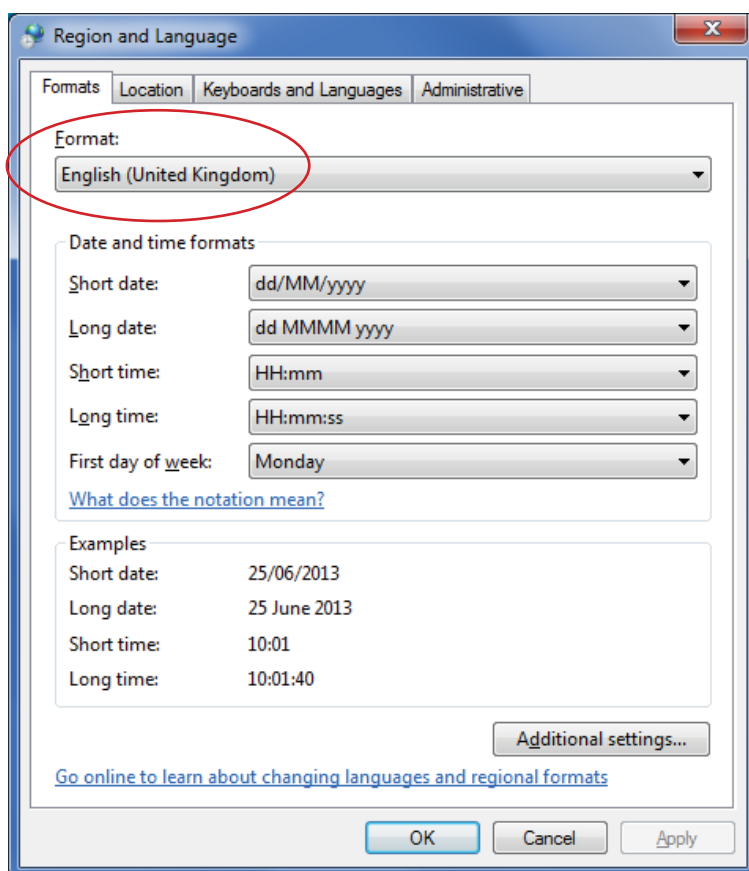
InfraGuard Manager – IGM-03 supports the OS platforms & languages as below:

- MS Windows 7 Professional with SP1 ( English Edition )
- MS Windows 7 Ultimate with SP1 ( English Edition )
- MS Windows 8 Professional (32bit & 64bit, English edition only)
- MS Windows Server 2003 R2 Standard Edition with SP2 ( English Edition )
- MS Windows Server 2008 Standard Edition SP2 ( English Edition )
- MS Windows Server 2008 R2 Standard Edition SP1 ( English Edition )

**! Make sure users login the management PC as a member of “ Administrator “ Group before IGM-03 installation & execution**

User can select the following languages under Control Panel > Region and Language in English Edition OS:

- 1) Arabic (Saudi Arabia)
- 2) Chinese (Traditional, Hong Kong S.A.R.)
- 3) Dutch (Netherlands)
- 4) English (Australia)
- 5) English (United Kingdom)
- 6) English (United States)
- 7) French (France)
- 8) German (Germany)
- 9) German (Switzerland)
- 10) Italian (Italy)
- 11) Japanese (Japan)
- 12) Korean (Korea)
- 13) Norwegian (Norway)
- 14) Portuguese (Portugal)
- 15) Russian (Russia)
- 16) Spanish (Spain)
- 17) Turkish (Turkey)



## < 4.5 > Software Download

### Software download

Please download the InfraGuard Manager - IGM-03 to the management PC from the link <http://www.austin-hughes.com/support/software/infraguard/IGM-03.msi>

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



↓  
click "Next"

↓  
click "Install"

↓  
click "Finish"



..... Complete

## < 4.6 > First Time Start-up Setting

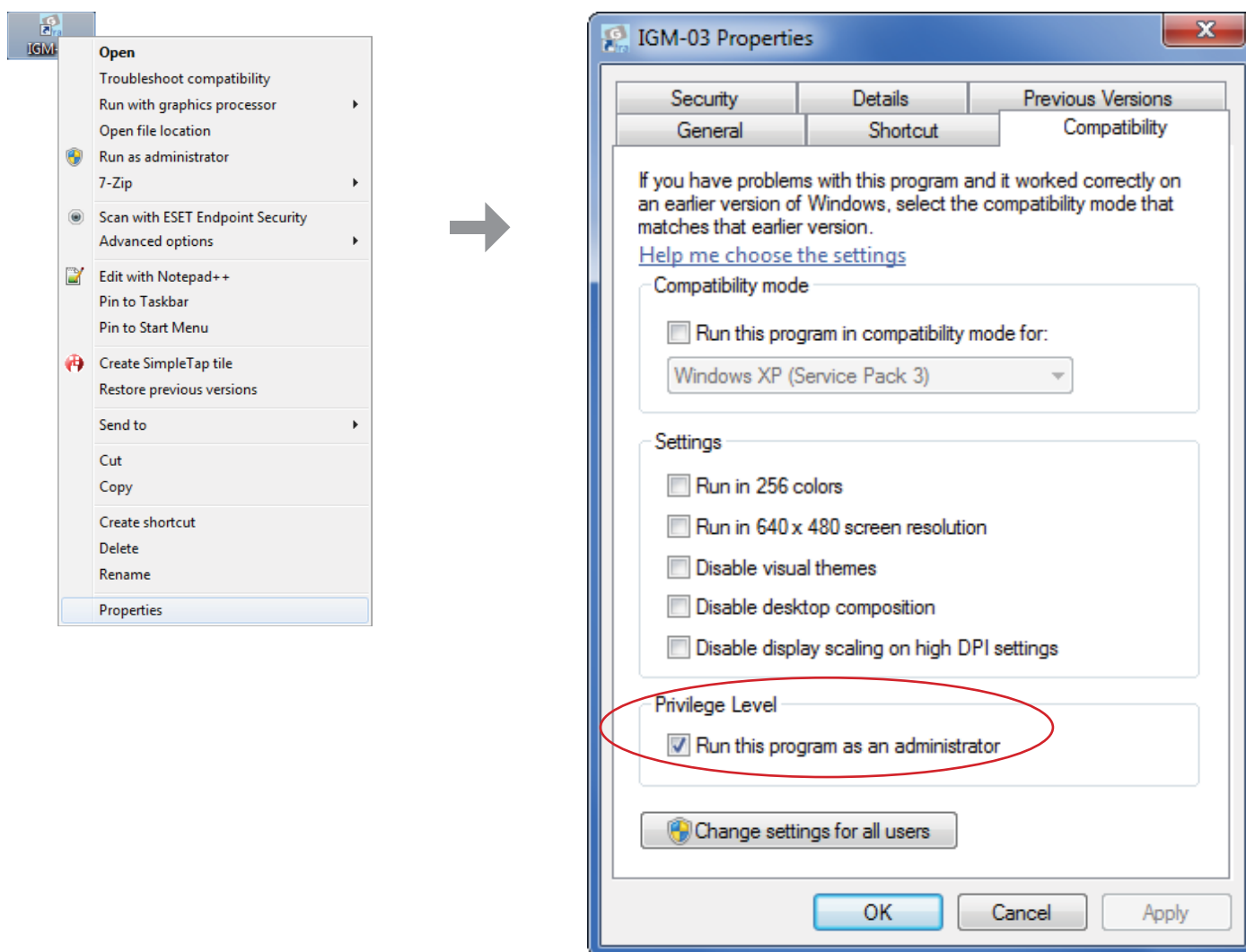
**Step 1.** Double Click **InfraGuard Manager - IGM-03** and follow the instruction to complete start-up setting.



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

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

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



## < 4.6 > First Time Start-up Setting

**Step 2.** Click “ Next ” in “ InfraGuard Manager start-up setting ” box

**Step 3.** Input the fields of the following window & Click “ Install ”

**Software component(s) analysis & installation**

The following 3 software component(s) are required to run InfraGuard Manager .

**( 1 ) Apache 2.2** Please decide to use the existing or new Apache 2.2.

Use existing Apache  
( Tick this if the management PC has been already installed Apache )

Install new Apache 2.2

Folder : C:\AppServ\

Port : 80

**( 2 ) PHP 5** Please decide to use the existing or new PHP 5.

Use existing PHP  
( Tick this if the management PC has been already installed PHP )

Install new PHP 5

Folder : C:\AppServ\

**( 3 ) PostgreSQL 9.0** Please decide to use the existing or new PostgreSQL 9.0.

Use existing PostgreSQL  
( Tick this if the management PC has been already installed PostgreSQL )

Install new PostgreSQL 9.0


Folder : C:\Program Files\PostgreSQL\9\

PostgreSQL login : postgres

PostgreSQL password : 1qaz2WSX

Install Cancel


If the port of web server is not 80, please input the appropriate no. here and follow the instruction in “ Change port no. of web server “ next page to make the change effective.

-  PostgreSQL password can be changed by user.  
The password **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 !, \$, #, % )

..... **Complete**

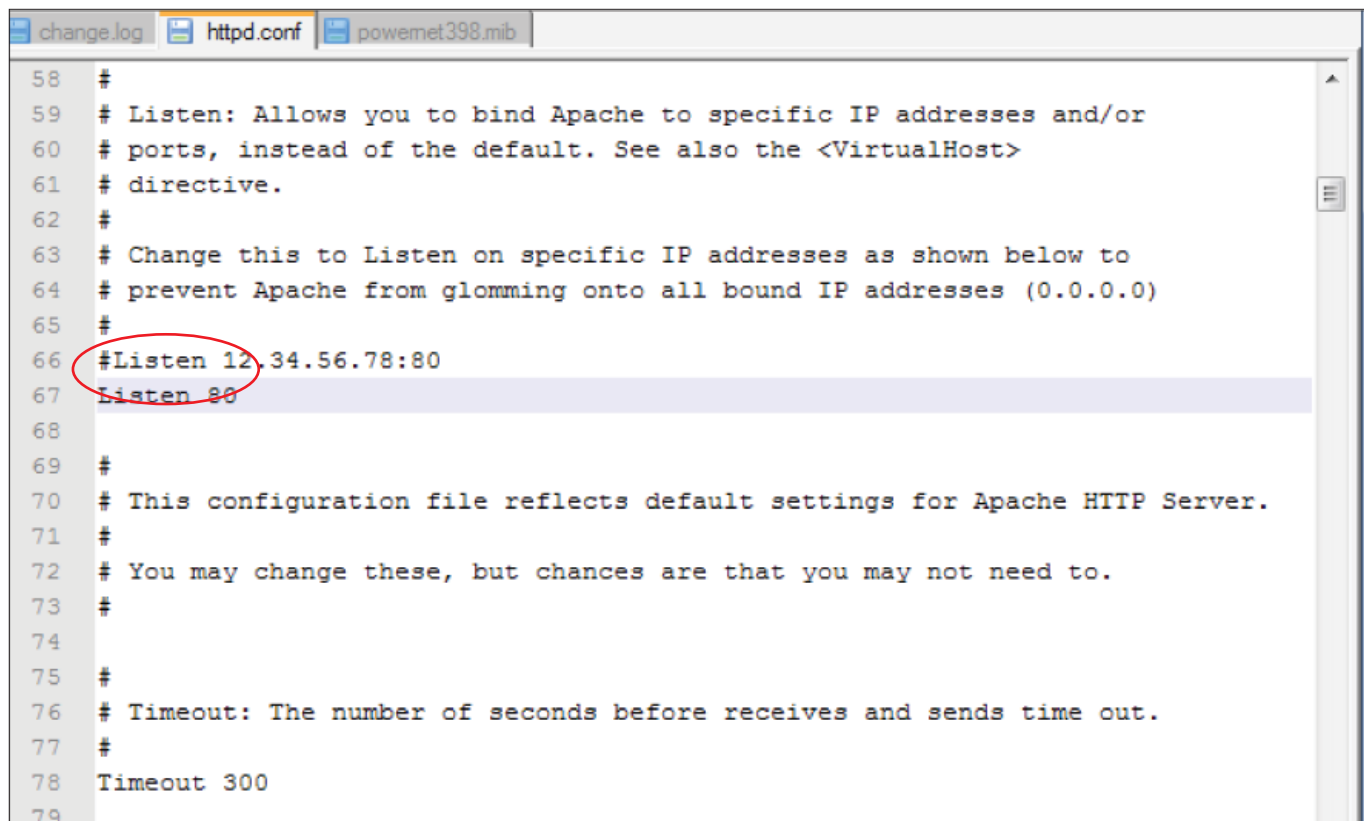


## < 4.7 > Change Port no. of Web Server

 If users want to use another port no. instead of 80, please take the following steps after InfraGuard Manager IGM-03 “ **First time start-up setting** ” is completed.

**Step 1.** Go to the path of web server being installed. ( Default: C:\AppServ\Apache2.2\conf\ )

**Step 2.** Open “ **httpd.conf** ” & change “ **Listen 80** ” to “ **Listen xx** ” where xx means the port users want to use save the change



```
58 #
59 # Listen: Allows you to bind Apache to specific IP addresses and/or
60 # ports, instead of the default. See also the <VirtualHost>
61 # directive.
62 #
63 # Change this to Listen on specific IP addresses as shown below to
64 # prevent Apache from glomming onto all bound IP addresses (0.0.0.0)
65 #
66 #Listen 12.34.56.78:80
67 #Listen 80
68
69 #
70 # This configuration file reflects default settings for Apache HTTP Server.
71 #
72 # You may change these, but chances are that you may not need to.
73 #
74
75 #
76 # Timeout: The number of seconds before receives and sends time out.
77 #
78 Timeout 300
79
```

**Step 3.** Restart Apache services.

Go to Control Panel > Administrative Tools > Services > Apache2.2 & Click “ **Restart** ”

..... **Complete**


## Part V. System Setup & Remote Access

### < 5.1 > System Setup

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

**Step 1.** Open Internet Explorer ( I.E. ), version 8.0, 9.0 or 10.0

**Step 2.** Enter the URL of management PC into the address bar

 ( If fail to access, please ask MIS to check if the port for web server is enable.  
Default port : 80 )

e.g. <http://192.168.0.1/IGM-03/>

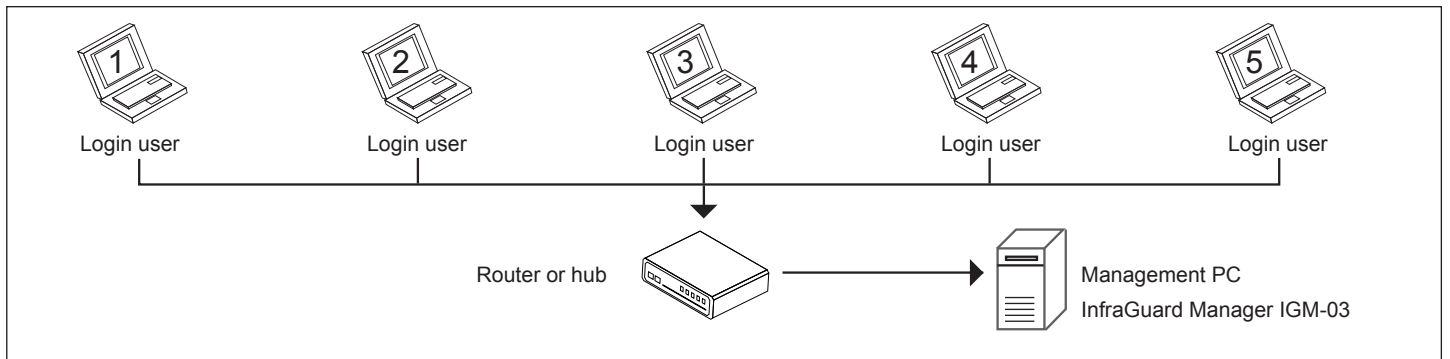
**Step 3.** Enter “ **User name** ” . Default is “ **admin** ”

Enter “ **Password** ” . Default is “ **00000000** ”


System authentication

User name

Password



Then users should go to < **User** >, < **Setup** >, < **Alarm** >, < **General** > & < **Backup** > for initial system setup

 Only Administrator is authorised to access < **User** >, < **Setup** >, < **Alarm** >, < **General** > & < **Backup** >

## < 5.1 > System Setup

In < **User** > page, administrator can create 4 more operators.

**Step 1.** Tick “ **Operator 1:** ”

**Step 2.** Input “ **User name** ” & “ **User login password** ”

**Step 3.** Input user login password in “ **Confirm password** ” again

**Step 4.** Repeat Step 1 to 3 for other operators if necessary

**Step 5.** Click “ **Apply** ” to finish the user setup

**User setup**

	Activate	User name	User login password	Confirm password
Administrator :	<input checked="" type="checkbox"/>	<input type="text" value="admin"/>	<input type="password" value="....."/>	<input type="password" value="....."/>
<ul style="list-style-type: none"><li>• Only administrator is authorised to access <b>SYSTEM SETTING</b>.</li><li>• Only administrator is authorised to set and change all users' password.</li><li>• Min. 4 char. and max. 16 char. for user name.</li><li>• Min. 8 char. and max. 16 char. for user login password.</li><li>• 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.</li></ul>				
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"/>

## < 5.1 > System Setup

In < **Setup** > page, administrator can

- Activate max. 30 Master IP groups
- Set the group command password
- Enable / disable the EC box levels

**Step 1.** “ **Activate** ” Master IP group 01

**Step 2.** Input “ **IP address** ” & “ **password** ” of the IP dongle

**Step 3.** “ **Enable** ” Command password

**Step 4.** Input “ **New command password** ”. Default is “ **00000000** ”

**Step 5.** Input new command password in “ **Confirm new password** ” again.

**Step 6.** Click “ **Apply** ” to finish the Master IP group setup

**Step 7.** “ **Enable** ” the EC box connected to the Master IP group

**Step 8.** Click “ **Apply** ” to finish the EC box setting

**Step 9.** Repeat step 1 to 9 for other Master IP groups if necessary

Master IP 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 Master IP one by one.

Master IP group  01 :  Activate  Deactivate

- DO NOT activate the group if there is no any Master EC box connection.
- Each Master IP group supports up to 16 EC boxes. ( 1 Master EC box & 15 Slave EC boxes )

01 IP dongle setting

IP dongle address :

IP dongle password :

- If the administrator wants to change IP address and password, two steps are required.
- **Firstly**, enter the IP Setup utilities to make the change. ( ref. to User Manual – Master IP configuration )
- **Secondly**, return to this page to make the same change on IP address and password.

01 IP dongle group

Command password :  Enable  Disable

New command password :

Confirm new password :

- Default command password is 00000000.
- Administrator may set command password for Master IP groups one by one.
- Command password required for any EC box configuration and control.
- Administrator can set different command password for different Master IP group or all Master IP groups share the same password.

EC Box Setting

Level 01	<input type="checkbox"/> Disable	<input checked="" type="checkbox"/> Enable	Level 09	<input checked="" type="checkbox"/> Disable	<input type="checkbox"/> Enable
Level 02	<input checked="" type="checkbox"/> Disable	<input type="checkbox"/> Enable	Level 10	<input checked="" type="checkbox"/> Disable	<input type="checkbox"/> Enable
Level 03	<input checked="" type="checkbox"/> Disable	<input type="checkbox"/> Enable	Level 11	<input checked="" type="checkbox"/> Disable	<input type="checkbox"/> Enable
Level 04	<input checked="" type="checkbox"/> Disable	<input type="checkbox"/> Enable	Level 12	<input checked="" type="checkbox"/> Disable	<input type="checkbox"/> Enable
Level 05	<input checked="" type="checkbox"/> Disable	<input type="checkbox"/> Enable	Level 13	<input checked="" type="checkbox"/> Disable	<input type="checkbox"/> Enable
Level 06	<input checked="" type="checkbox"/> Disable	<input type="checkbox"/> Enable	Level 14	<input checked="" type="checkbox"/> Disable	<input type="checkbox"/> Enable
Level 07	<input checked="" type="checkbox"/> Disable	<input type="checkbox"/> Enable	Level 15	<input checked="" type="checkbox"/> Disable	<input type="checkbox"/> Enable
Level 08	<input checked="" type="checkbox"/> Disable	<input type="checkbox"/> Enable	Level 16	<input checked="" type="checkbox"/> Disable	<input type="checkbox"/> Enable

Save new data

Cancel new data input

## < 5.1 > System Setup

In < **Alarm** > , administrator can configure the alarm email server & max. 5 email recipients to receive alarm notifications from the software

**Step 1.** “ **Enable** ” alarm email

**Step 2.** Input “ **SMTP server** ” and “ **SMTP port** ”

**Step 3.** Input “ **User email** ”

**Step 4.** “ **Enable** ” or “ **Disable** ” the “ **SMTP authentication** ”

**Step 5.** Input “ **User name** ” and “ **Password** ”

**Step 6.** Select the “ **SMTP secure** ” ( None / SSL / TLS )

**Step 7.** Input the “ **Alarm interval** ”

**Step 8.** Input the alarm recipient email account in “ **Alarm mail recipient 01** ”

**Step 9.** Repeat step 8 for other alarm recipients if necessary

**Step 10.** Click “ **Apply** ” to finish the alarm email server setting

### Alarm email server setting

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

SMTP server :

SMTP port :

User email :

SMTP authentication :  Enable  Disable

User name :

Password :

SMTP secure :  ▼

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

### Alarm email to

Alarm mail recipient 01 :

Alarm mail recipient 02 :

Alarm mail recipient 03 :

Alarm mail recipient 04 :

Alarm mail recipient 05 :

Save new data

Cancel new data input

## < 5.1 > System Setup

In < **General** > , administrator can change the “ **Refresh rate** ” , “ **Scan rate** ” & “ **Temperature unit** ” across all Master IP groups

### Auto data refresh

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

- Auto data refresh rate on the page of EC BOX OVERVIEW, SENSOR STATUS PDU STATUS, PDU DETAILS FAN UNIT STATUS, FAN UNIT DETAILS and DOOR STATUS.

### Master IP groups auto scan

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

- Auto scan rate on the page of EC BOX OVERVIEW, SENSOR STATUS PDU STATUS, FAN UNIT STATUS, and DOOR STATUS.

### Temperature unit

Unit :  °C  °F

Save new data  
 Cancel new data input

In < **Backup** > , administrator can “ **Enable** ” or “ **Disable** ” the daily data backup. When “ **Enable** ” , the backup path can be changed

### Data backup setting

Daily backup :  Enable  Disable

Backup to :   
Example : C:\Program Files\IGM-02\

- Daily backup proceeded at 00:00 for last 24 hours data.
- The backup data for EC BOX LOG, PDU LOG, PDU OUTLET LOG, PDU SENSOR LOG, PDU KWH LOG, PDU OUTLET KWH LOG, FAN UNIT LOG, FAN LOG, EVENT, SYS LOG saved in CSV file format.
- Folder  will be automatically created under the path you entered.

Save new data  
 Cancel new data input

## < 5.1 > System Setup

< **Sys log** > provides past 2000 event records of < **User** >, < **Setup** >, < **Alarm** >, < **General** > & < **Backup** >

First / Previous 1 2 3 4 5 6 7 8 9 10 Next / Last				Last 2000 log records.	
Date	Time	Event	Description		
2013/06/18	18:01:02	User	[ admin ] : Add operator - Operator 01 - kenny		
2013/06/18	17:59:32	Setup	[ admin ] : Activate IP dongle group 02		
2013/06/18	17:37:44	Setup	[ admin ] : Activate IP dongle group 01		
<b>System setup events</b>					
- User	( 1 )	Add / Delete administrator or operator	- General	( 1 )	Change refresh mode time rate
	( 2 )	Change user login password		( 2 )	Change scan mode time rate
				( 3 )	Change temperature unit
- Setup	( 1 )	Activate / Deactivate Master IP group [No.]	- Backup	( 1 )	Enable / Disable daily backup
	( 2 )	Change Master IP [No.] address or password		( 2 )	Change backup path
	( 3 )	Enable / Disable Master IP group [No.] command password			
	( 4 )	Change Master IP group [No.] command password			
- Alarm	( 1 )	Enable / Disable alarm			
	( 2 )	Change alarm email server setting			
	( 3 )	Add / Delete alarm mail recipient			

## < 5.2 > Remote Access

After administrator completes < System Setup >, up to 4 additional users can access the management PC remotely. User can follow the steps below to access management PC &

InfraGuard Manager IGM-03

**Step 1.** Add the port of web server in the firewall settings of the management PC.

- Open “ **Control Panel** ”
- Select “ **Windows Firewall** ”
- Select “ **Advanced settings** ”
- Right Click “ **Inbound Rules** ” & select “ **New Rule...** ”
- Select “ **Port** ” & Click “ **Next>** ”
- Select “ **TCP** ” then “ **All local ports** ” & Click “ **Next>** ”
- Select “ **Allow the connection** ” & Click “ **Next>** ”
- Tick all three options & Click “ **Next>** ”
- Input the “ **Name** ” & “ **Description** ” of the port & Click “ **Finish** ”

**Step 2.** Open the web browser of remote client PC

**Step 3.** Input the URL of InfraGuard Manager IGM-03 in the address bar

e.g. <http://192.168.0.1/IGM-03/>



If the port no. of web server is not 80, please enter the appropriate port no. follow the IP address e.g. <http://192.168.0.1:81/IGM-03/>

**Step 4.** System authentication page pops up automatically.

Input “ **User name** ”, “ **Password** ” & Click “ **Login** ”

System authentication

User name

Password



# Part VI. Devices Monitoring & Setting

## < 6.1 > Devices Overview

< **EC Box Overview** > provides a scan overview on the status of sensors, PDUs, fan units & doors based on Master IP group

**Master IP 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 [Scan] [Stop]

**EC Box Overview**  
 Master IP group no. : 01  
 Master Box name : default\_box\_name  
 Master Box IP address : 192.168.1.83

Box Level	Location	Setting	Sensor								PDU				Fan Unit				Door			
			S1	S2	S3	S4	S5	S6	S7	S8	P1	P2	P3	P4	F1	F2	F3	F4	D1	D2	D3	D4
01	Rack_001		✓	■	✓	✓	✓	✗	✓	✓	✓	✓	■	■	●	■	■	■	■	■	■	■
02	Rack_002		✓	■	✓	✓	✓	■	✓	✓	✓	✓	■	■	■	■	■	■	■	■	■	■
03	Rack_003		✓	■	✓	✓	✓	■	✓	✓	✓	✓	■	■	■	■	■	■	■	■	■	■

Auto data refresh : [Progress Bar]  
 \* Press F11 to enlarge or diminish the screen

S1 : T / TH 1      S5 : Water 1  
 S2 : T / TH 2      S6 : Water 2  
 S3 : Smoke / Shock 1      S7 : Lamp 1  
 S4 : Smoke / Shock 2      S8 : Lamp 2

■ : Disabled  
 ✓ : Connected  
 ✗ : Disconnected  
 ● : Alarm  
 🔍 : Searching

In < **EC Box Device Setting** > user can disable or enable :

- T / TH sensor, Smoke / Shock sensor, Water sensor, Door sensor
- PDU, Fan unit, LED light bar
- Click “ **Apply** ” to finish the above settings

**DO NOT** Enable devices if not connected

**EC Box Setting**  
 Box level : 01  
 Status : Connected  
 Name : Level6  
 Location : Rack\_001

**Sensor**

S1 - T / TH 1	<input type="checkbox"/> Disable	<input checked="" type="checkbox"/> Enable
S2 - T / TH 2	<input checked="" type="checkbox"/> Disable	<input type="checkbox"/> Enable
S3 - Smoke / Shock 1	<input type="checkbox"/> Disable	<input checked="" type="checkbox"/> Enable
S4 - Smoke / Shock 2	<input type="checkbox"/> Disable	<input checked="" type="checkbox"/> Enable
S5 - Water 1	<input type="checkbox"/> Disable	<input checked="" type="checkbox"/> Enable
S6 - Water 2	<input checked="" type="checkbox"/> Disable	<input type="checkbox"/> Enable

S1 - S6 sensor audio and visual output   
 Box level ONLY

**Sensor**

S7 - Lamp 1  Disable  Always OFF  Always ON  On / Off by Door Sensor D1 / D2  
 S8 - Lamp 2  Disable  Always OFF  Always ON  On / Off by Door Sensor D3 / D4

**PDU**

P1	<input type="checkbox"/> Disable	<input checked="" type="checkbox"/> Enable
P2	<input type="checkbox"/> Disable	<input checked="" type="checkbox"/> Enable
P3	<input checked="" type="checkbox"/> Disable	<input type="checkbox"/> Enable
P4	<input checked="" type="checkbox"/> Disable	<input type="checkbox"/> Enable

**Fan Unit**

F1	<input checked="" type="checkbox"/> Disable	<input type="checkbox"/> Enable
F2	<input checked="" type="checkbox"/> Disable	<input type="checkbox"/> Enable
F3	<input checked="" type="checkbox"/> Disable	<input type="checkbox"/> Enable
F4	<input checked="" type="checkbox"/> Disable	<input type="checkbox"/> Enable

**Door Sensor**

D1	<input checked="" type="checkbox"/> Disable	<input type="checkbox"/> Enable
D2	<input checked="" type="checkbox"/> Disable	<input type="checkbox"/> Enable
D3	<input checked="" type="checkbox"/> Disable	<input type="checkbox"/> Enable
D4	<input checked="" type="checkbox"/> Disable	<input type="checkbox"/> Enable

Save new data  
 Cancel new data input  
 Return to EC BOX OVERVIEW

## < 6.1 > Devices Overview

In < **Audio and Visual Output Setting** >, user can enable or disable “ **Buzzer** “, “ **Beacon** “ & “ **Alarm out** “ output when sensor event is triggered

### Audio and Visual Output Setting

Box level :

Status : Connected

Name : Level6

Location : Rack\_001

---

Sensor event	Buzzer	Beacon	Alarm out
S1 ( T / TH 1 ) temp. / humid. alarm	<input checked="" type="checkbox"/> Disable <input type="checkbox"/> Enable	<input type="checkbox"/> Disable <input checked="" type="checkbox"/> Enable	<input checked="" type="checkbox"/> Disable <input type="checkbox"/> Enable
S2 ( T / TH 2 ) temp. / humid. alarm	<input checked="" type="checkbox"/> Disable <input type="checkbox"/> Enable	<input type="checkbox"/> Disable <input checked="" type="checkbox"/> Enable	<input checked="" type="checkbox"/> Disable <input type="checkbox"/> Enable
S3 ( Smoke / Shock 1 ) alarm	<input checked="" type="checkbox"/> Disable <input type="checkbox"/> Enable	<input type="checkbox"/> Disable <input checked="" type="checkbox"/> Enable	<input checked="" type="checkbox"/> Disable <input type="checkbox"/> Enable
S4 ( Smoke / Shock 2 ) alarm	<input checked="" type="checkbox"/> Disable <input type="checkbox"/> Enable	<input type="checkbox"/> Disable <input checked="" type="checkbox"/> Enable	<input checked="" type="checkbox"/> Disable <input type="checkbox"/> Enable
S5 ( Water 1 ) alarm	<input checked="" type="checkbox"/> Disable <input type="checkbox"/> Enable	<input type="checkbox"/> Disable <input checked="" type="checkbox"/> Enable	<input checked="" type="checkbox"/> Disable <input type="checkbox"/> Enable
S6 ( Water 2 ) alarm	<input checked="" type="checkbox"/> Disable <input type="checkbox"/> Enable	<input type="checkbox"/> Disable <input checked="" type="checkbox"/> Enable	<input checked="" type="checkbox"/> Disable <input type="checkbox"/> Enable

---

Save new data

Cancel new data input

Return to EC BOX SETTING



## < 6.3 > PDU

In < **PDU Status** >, user can monitor PDU's status in details based on Master IP group

PDU Status																				
Master IP group no. : 01																				
Page: 1																				
Box Level	PDU	Model	Location	Setting	Circuit A				Circuit B				Total		TH 1		TH 2			
					Amp				kWh				Amp		kWh		°C	%	°C	%
					Max.	Load	Alarm	R. alert / L. alert	kWh	Max.	Load	Alarm	R. alert / L. alert	kWh	Amp	kWh				
01	P1	V24C13-32A-WSi	Rear_Left_001		16.0	0.0	13.0	0.0 / 0.0	0.00	16.0	0.0	13.0	0.0 / 0.0	0.00	0.0	0.00	26.3	48.5	26.9	45.8
	P2	V24C13-30A-WSi	Rear_Right_001		15.0	0.0	13.0	10.0 / 0.0	0.00	15.0	0.0	13.0	10.0 / 0.0	0.09	0.0	0.09	-	-	-	-

Auto data refresh :    
 \* Press F11 to enlarge or diminish the screen

In < **PDU Setting** >, users can

- Change “ **Name** “ and “ **Location** “ of PDU
- Change “ **Alarm amp.** “ , “ **Rising alert amp.** “ & “ **Low alert amp.** “ of PDU's circuits
- Click “ **Apply** “ to finish the above settings
- Click “ **Reset** “ to reset peak amp. or kWh of PDU's circuits
- Click “ **ON / OFF** “ to switch On / Off outlet ( Switched PDU models only )
- View On / Off status of outlets
- View aggregated current on the PDU
- View latest loading & energy consumption of outlets ( Outlet level measurement PDU models only )
- View the latest T / TH reading connected to the PDU

PDU Setting											
Box level : 02											
Status : Connected											
Name : Rack_002											
Location : Rack_002											
PDU : 01 V24C13-30A-WSi		PDU kWh : 0.00		TH 01 ( °C / % )		TH 02 ( °C / % )					
Status : Connected		PDU load amp : 0.0		Temp. : -		Humid. : -					
Name : Rack_001		Power factor : 0.06									
Location : Rear_Right		Apparent power (KVA) : 0.00									

Circuit A				Circuit B			
Max. amp :	15.0	Alarm amp :	10.0	Max. amp :	15.0	Alarm amp :	13.0
Load amp :	0.0	Rising alert amp :	3.0	Load amp :	0.0	Rising alert amp :	10.0
		Low alert amp :	0.0			Low alert amp :	0.0
Peak amp :	0.0	2013/07/18 14:22:39	<input type="button" value="Reset"/>	Peak amp :	0.0	2013/07/18 14:23:53	<input type="button" value="Reset"/>
kWh :	0.00	2013/07/18 14:23:26	<input type="button" value="Reset"/>	kWh :	0.00	2013/07/18 14:29:34	<input type="button" value="Reset"/>

Outlet	Name	Amp				kWh	Status	Switch	Outlet	Name	Amp				kWh	Status	Switch
		Load / Alarm / R. alert / L. alert									Load / Alarm / R. alert / L. alert						
01	outlet_name__01	0.0	5.0	3.0	0.0	0.00	ON	<input type="button" value="OFF"/>	13	outlet_name__13	0.0	7.0	3.0	0.0	0.00	ON	<input type="button" value="OFF"/>
02	outlet_name__02	0.0	10.0	0.0	0.0	0.00	ON	<input type="button" value="OFF"/>	14	outlet_name__14	0.0	1.0	0.0	0.0	0.00	ON	<input type="button" value="OFF"/>
03	outlet_name__03	0.0	1.0	0.0	0.0	0.00	ON	<input type="button" value="OFF"/>	15	outlet_name__15	0.0	1.0	0.0	0.0	0.28	ON	<input type="button" value="OFF"/>
04	outlet_name__04	0.0	1.0	0.0	0.0	0.00	ON	<input type="button" value="OFF"/>	16	outlet_name__16	0.0	1.0	0.0	0.0	0.00	ON	<input type="button" value="OFF"/>
05	outlet_name__05	0.0	1.0	0.0	0.0	0.00	ON	<input type="button" value="OFF"/>	17	outlet_name__17	0.0	1.0	0.0	0.0	0.00	ON	<input type="button" value="OFF"/>
06	outlet_name__06	0.0	1.0	0.0	0.0	0.00	ON	<input type="button" value="OFF"/>	18	outlet_name__18	0.0	1.0	0.0	0.0	0.00	ON	<input type="button" value="OFF"/>
07	outlet_name__07	0.0	1.0	0.0	0.0	0.00	ON	<input type="button" value="OFF"/>	19	outlet_name__19	0.0	1.0	0.0	0.0	0.00	ON	<input type="button" value="OFF"/>
08	outlet_name__08	0.0	1.0	0.0	0.0	0.00	ON	<input type="button" value="OFF"/>	20	outlet_name__20	0.0	1.0	0.0	0.0	0.00	ON	<input type="button" value="OFF"/>
09	outlet_name__09	0.0	1.0	0.0	0.0	0.00	ON	<input type="button" value="OFF"/>	21	outlet_name__21	0.0	1.0	0.0	0.0	0.00	ON	<input type="button" value="OFF"/>
10	outlet_name__10	0.0	1.0	0.0	0.0	0.00	ON	<input type="button" value="OFF"/>	22	outlet_name__22	0.0	1.0	0.0	0.0	0.00	ON	<input type="button" value="OFF"/>
11	outlet_name__11	0.0	1.0	0.0	0.0	0.00	ON	<input type="button" value="OFF"/>	23	outlet_name__23	0.0	5.0	0.0	0.0	0.39	ON	<input type="button" value="OFF"/>
12	outlet_name__12	0.0	1.0	0.0	0.0	0.00	ON	<input type="button" value="OFF"/>	24	outlet_name__24	0.0	5.0	0.0	0.0	0.00	ON	<input type="button" value="OFF"/>

Auto data refresh :   Untick during data input   
 Save new data   
 Cancel new data input   
 Return to PDU STATUS   
 \* Press F11 to enlarge or diminish the screen

## < 6.3 > PDU

In < **Outlet Setting** >, user can

- Change “ **Name** “ of outlet
- Change “ **Power up sequence delay** “ of outlet ( Switched PDU models only )
- Change “ **Alarm amp.** “ , “ **Rising alert amp.** “ & “ **Low alert amp.** “ of outlet ( Outlet level measurement PDU models only )



- Click “ **Apply** “ to finish the above settings

- Click “ **Reset** “ to reset peak amp. or kWh of outlet ( Outlet kWh Switched PDU only )

### Outlet Setting

Box level :

Status : Connected

Name : Rack\_002

Location : Rack\_002


PDU :  V24C13-30A-WSi

Status : Connected

Name : Rack\_001

Location : Rear\_Right

Outlet :  

Name :

Status : ON

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

Load amp : 0.0

Alarm amp :

Rising alert amp :

Low alert amp :

Peak amp : 0.0      2013/07/17 16:42:40     

kWh : 0.00      2013/07/17 16:42:55     

---

     Save new data

     Cancel new data input

     Return to PDU SETTING

## < 6.3 > PDU

In < TH setting >, user can

- “ **Activate** “ or “ **Deactivate** “ Temp. & Humid. sensor
- Change “ **Location** “ , “ **Alarm setting** “ & “ **Rising alert setting** “ of Temp. & Humid. sensor
- Click “ **Apply** “ to finish the above settings

### TH Setting

Box level:   
Status: Connected  
Name: Rack\_002  
Location: Rack\_002

PDU:  V12C13/4C19-32A-WSI  
Status: Connected  
Name: default\_pdu\_nam  
Location: PDU\_default\_loc

**TH 1**     Deactivate     Activate  
Location:

	Alarm	Rising alert	Reading
	Setting		
Temp. (°C):	<input type="text" value="34.0"/>	<input type="text" value="32.0"/>	23.5
Humid. (%):	<input type="text" value="70.0"/>	<input type="text" value="65.0"/>	63.9

**TH 2**     Deactivate     Activate  
Location:

	Alarm	Rising alert	Reading
	Setting		
Temp. (°C):	<input type="text" value="-"/>	<input type="text" value="-"/>	-
Humid. (%):	<input type="text" value="-"/>	<input type="text" value="-"/>	-

- DO NOT activate T or TH sensor if no sensor installed.
- When install T or TH sensor, please tick activate. Otherwise, no readings display.

Save new data  
 Cancel new data input  
 Return to PDU SETTING

## < 6.3 > PDU

< **Outlet Schedule Overview** > provides a scan overview on all settings of PDU's outlet schedules based on Master IP group

**Outlet Schedule Overview**

Master IP group no.: 01

Page: 1 2

Box Level	Location	Setting	Outlet Schedule # 1 - 2		Outlet Schedule # 3 - 4		Outlet Schedule # 5 - 6	
			Name	Action	Name	Action	Name	Action
01	Rack_001		OutletSchedule_1	Daily - On	-	Disabled	-	Disabled
			OutletSchedule_2	Daily - Off	-	Disabled	-	Disabled
02	Rack_002		OutletSchedule_1	Daily - On	-	Disabled	-	Disabled
			OutletSchedule_2	Daily - Off	-	Disabled	-	Disabled
03	Rack_003		OutletSchedule_1	Daily - On	-	Disabled	-	Disabled
			OutletSchedule_2	Daily - Off	-	Disabled	-	Disabled
04	Rack_004		OutletSchedule_1	Daily - On	-	Disabled	-	Disabled
			OutletSchedule_2	Daily - Off	-	Disabled	-	Disabled
05	Rack_005		OutletSchedule_1	Daily - On	-	Disabled	-	Disabled
			OutletSchedule_2	Daily - Off	-	Disabled	-	Disabled
06	Rack_006		OutletSchedule_1	Daily - On	-	Disabled	-	Disabled
			OutletSchedule_2	Daily - Off	-	Disabled	-	Disabled
07	Rack_007		OutletSchedule_1	Daily - On	-	Disabled	-	Disabled
			OutletSchedule_2	Daily - Off	-	Disabled	-	Disabled
08	Rack_008		OutletSchedule_1	Daily - On	-	Disabled	-	Disabled
			OutletSchedule_2	Daily - Off	-	Disabled	-	Disabled

Auto data refresh: ■■■■■■■■

\* Press F11 to enlarge or diminish the screen



## < 6.3 > PDU

In < **Outlet Schedule Setting** >, user can set max. 6 outlet On / Off schedules in each EC Box. The outlet schedule can be set on one-time, daily or weekly basis. To set the outlet schedule, please follow the steps in next page

### Outlet Schedule Setting

Box level :

Status : Connected

Name : Rack\_002

Location : Rack\_002

Outlet schedule :   Disable  Enable

Name :

Action :  OFF  ON

Time :  Daily  Weekly  One-Time

/  ( MM / DD date format )

:  ( 24 hours format )

### Outlet schedule

P1	V24C13-30A-WSi	P2	V24C13-30A-WSi	P3	V24C13-30A-WSi	P4	V24C13-30A-WSi
<input type="checkbox"/>	01  outlet_name__01	<input type="checkbox"/>	01  outlet_name__01	<input type="checkbox"/>	01  outlet_name__01	<input type="checkbox"/>	01  outlet_name__01
<input type="checkbox"/>	02  outlet_name__02	<input type="checkbox"/>	02  outlet_name__02	<input type="checkbox"/>	02  outlet_name__02	<input type="checkbox"/>	02  outlet_name__02
<input type="checkbox"/>	03  outlet_name__03	<input type="checkbox"/>	03  outlet_name__03	<input type="checkbox"/>	03  outlet_name__03	<input type="checkbox"/>	03  outlet_name__03
<input type="checkbox"/>	04  outlet_name__04	<input type="checkbox"/>	04  outlet_name__04	<input type="checkbox"/>	04  outlet_name__04	<input type="checkbox"/>	04  outlet_name__04
<input type="checkbox"/>	05  outlet_name__05	<input type="checkbox"/>	05  outlet_name__05	<input type="checkbox"/>	05  outlet_name__05	<input type="checkbox"/>	05  outlet_name__05
<input type="checkbox"/>	06  outlet_name__06	<input type="checkbox"/>	06  outlet_name__06	<input type="checkbox"/>	06  outlet_name__06	<input type="checkbox"/>	06  outlet_name__06
<input type="checkbox"/>	07  outlet_name__07	<input type="checkbox"/>	07  outlet_name__07	<input type="checkbox"/>	07  outlet_name__07	<input type="checkbox"/>	07  outlet_name__07
<input type="checkbox"/>	08  outlet_name__08	<input type="checkbox"/>	08  outlet_name__08	<input type="checkbox"/>	08  outlet_name__08	<input type="checkbox"/>	08  outlet_name__08
<input type="checkbox"/>	09  outlet_name__09	<input type="checkbox"/>	09  outlet_name__09	<input type="checkbox"/>	09  outlet_name__09	<input type="checkbox"/>	09  outlet_name__09
<input type="checkbox"/>	10  outlet_name__10	<input type="checkbox"/>	10  outlet_name__10	<input type="checkbox"/>	10  outlet_name__10	<input type="checkbox"/>	10  outlet_name__10
<input type="checkbox"/>	11  outlet_name__11	<input type="checkbox"/>	11  outlet_name__11	<input type="checkbox"/>	11  outlet_name__11	<input type="checkbox"/>	11  outlet_name__11
<input type="checkbox"/>	12  outlet_name__12	<input type="checkbox"/>	12  outlet_name__12	<input type="checkbox"/>	12  outlet_name__12	<input type="checkbox"/>	12  outlet_name__12
<input type="checkbox"/>	13  outlet_name__13	<input type="checkbox"/>	13  outlet_name__13	<input type="checkbox"/>	13  outlet_name__13	<input type="checkbox"/>	13  outlet_name__13
<input type="checkbox"/>	14  outlet_name__14	<input type="checkbox"/>	14  outlet_name__14	<input type="checkbox"/>	14  outlet_name__14	<input type="checkbox"/>	14  outlet_name__14
<input type="checkbox"/>	15  outlet_name__15	<input type="checkbox"/>	15  outlet_name__15	<input type="checkbox"/>	15  outlet_name__15	<input type="checkbox"/>	15  outlet_name__15
<input type="checkbox"/>	16  outlet_name__16	<input type="checkbox"/>	16  outlet_name__16	<input type="checkbox"/>	16  outlet_name__16	<input type="checkbox"/>	16  outlet_name__16
<input type="checkbox"/>	17  outlet_name__17	<input type="checkbox"/>	17  outlet_name__17	<input type="checkbox"/>	17  outlet_name__17	<input type="checkbox"/>	17  outlet_name__17
<input type="checkbox"/>	18  outlet_name__18	<input type="checkbox"/>	18  outlet_name__18	<input type="checkbox"/>	18  outlet_name__18	<input type="checkbox"/>	18  outlet_name__18
<input type="checkbox"/>	19  outlet_name__19	<input type="checkbox"/>	19  outlet_name__19	<input type="checkbox"/>	19  outlet_name__19	<input type="checkbox"/>	19  outlet_name__19
<input type="checkbox"/>	20  outlet_name__20	<input type="checkbox"/>	20  outlet_name__20	<input type="checkbox"/>	20  outlet_name__20	<input type="checkbox"/>	20  outlet_name__20
<input type="checkbox"/>	21  outlet_name__21	<input type="checkbox"/>	21  outlet_name__21	<input type="checkbox"/>	21  outlet_name__21	<input type="checkbox"/>	21  outlet_name__21
<input type="checkbox"/>	22  outlet_name__22	<input type="checkbox"/>	22  outlet_name__22	<input type="checkbox"/>	22  outlet_name__22	<input type="checkbox"/>	22  outlet_name__22
<input type="checkbox"/>	23  outlet_name__23	<input type="checkbox"/>	23  outlet_name__23	<input type="checkbox"/>	23  outlet_name__23	<input type="checkbox"/>	23  outlet_name__23
<input type="checkbox"/>	24  outlet_name__24	<input type="checkbox"/>	24  outlet_name__24	<input type="checkbox"/>	24  outlet_name__24	<input type="checkbox"/>	24  outlet_name__24

Save new data

Cancel new data input

Return to OUTLET SCHEDULE



## < 6.3 > PDU

PDU outlet schedule is a function allowing users to set a specific time to switch either ON or OFF the outlets on daily, weekly or one-time basis.

Each EC box provides **6 schedule tasks**. Users can follow the steps below to enable the PDU outlet schedule

**Step 1.** Go to < **Outlet Schedule Overview** > page, Click “ **Setting** ”

Box Level	Location	Setting	Outlet Schedule # 1 - 2		Outlet Schedule # 3 - 4		Outlet Schedule # 5 - 6	
			Name	Action	Name	Action	Name	Action
01	Rack_001		OutletSchedule_1	Daily - On	-	Disabled	-	Disabled
			OutletSchedule_2	Daily - Off	-	Disabled	-	Disabled
02	Rack_002		OutletSchedule_1	Daily - On	-	Disabled	-	Disabled
			OutletSchedule_2	Daily - Off	-	Disabled	-	Disabled
03	Rack_003		OutletSchedule_1	Daily - On	-	Disabled	-	Disabled
			OutletSchedule_2	Daily - Off	-	Disabled	-	Disabled

**Step 2.** In < **Outlet Schedule Setting** > page, Select “ **Outlet schedule 1** ” & Tick “ **Enable** ”

**Step 3.** Provide the name of the outlet schedule

**Step 4.** Select the action ( either ON or OFF )

**Step 5.** Select the time for outlet schedule.

Outlet schedule: 1  Disable  Enable  
Name: OutletSchedule01  
Action:  OFF  ON  
Time:  Daily  Weekly  One-Time  
00 : 00 ( 24 hours format )

**Daily ON / OFF Schedule**

Outlet schedule: 1  Disable  Enable  
Name: OutletSchedule01  
Action:  OFF  ON  
Time:  Daily  Weekly  One-Time  
Sun  
00 : 00 ( 24 hours format )

**Weekly ON / OFF Schedule**

































































































Outlet schedule: 1  Disable  Enable  
Name: OutletSchedule01  
Action:  OFF  ON  
Time:  Daily  Weekly  One-Time  
01 / 01 ( MM / DD date format )  
00 : 00 ( 24 hours format )

**One-time ON / OFF Schedule**

## < 6.3 > PDU

**Step 6.** Tick the outlets of the connected PDU ( s ) to switch ON / OFF based on the action you selected

**Outlet schedule**

P1	V24C13-30A-WSi	P2	V24C13-30A-WSi	P3	V24C13-30A-WSi	P4	V24C13-30A-WSi
<input checked="" type="checkbox"/>	01  outlet_name__01	<input checked="" type="checkbox"/>	01  outlet_name__01	<input checked="" type="checkbox"/>	01  outlet_name__01	<input checked="" type="checkbox"/>	01  outlet_name__01
<input checked="" type="checkbox"/>	02  outlet_name__02	<input checked="" type="checkbox"/>	02  outlet_name__02	<input checked="" type="checkbox"/>	02  outlet_name__02	<input checked="" type="checkbox"/>	02  outlet_name__02
<input type="checkbox"/>	03  outlet_name__03	<input type="checkbox"/>	03  outlet_name__03	<input type="checkbox"/>	03  outlet_name__03	<input type="checkbox"/>	03  outlet_name__03
<input type="checkbox"/>	04  outlet_name__04	<input type="checkbox"/>	04  outlet_name__04	<input type="checkbox"/>	04  outlet_name__04	<input type="checkbox"/>	04  outlet_name__04
<input type="checkbox"/>	05  outlet_name__05	<input type="checkbox"/>	05  outlet_name__05	<input type="checkbox"/>	05  outlet_name__05	<input type="checkbox"/>	05  outlet_name__05
<input type="checkbox"/>	06  outlet_name__06	<input type="checkbox"/>	06  outlet_name__06	<input type="checkbox"/>	06  outlet_name__06	<input type="checkbox"/>	06  outlet_name__06
<input type="checkbox"/>	07  outlet_name__07	<input type="checkbox"/>	07  outlet_name__07	<input type="checkbox"/>	07  outlet_name__07	<input type="checkbox"/>	07  outlet_name__07
<input type="checkbox"/>	08  outlet_name__08	<input type="checkbox"/>	08  outlet_name__08	<input type="checkbox"/>	08  outlet_name__08	<input type="checkbox"/>	08  outlet_name__08
<input type="checkbox"/>	09  outlet_name__09	<input type="checkbox"/>	09  outlet_name__09	<input type="checkbox"/>	09  outlet_name__09	<input type="checkbox"/>	09  outlet_name__09
<input type="checkbox"/>	10  outlet_name__10	<input type="checkbox"/>	10  outlet_name__10	<input type="checkbox"/>	10  outlet_name__10	<input type="checkbox"/>	10  outlet_name__10
<input type="checkbox"/>	11  outlet_name__11	<input type="checkbox"/>	11  outlet_name__11	<input type="checkbox"/>	11  outlet_name__11	<input type="checkbox"/>	11  outlet_name__11
<input type="checkbox"/>	12  outlet_name__12	<input type="checkbox"/>	12  outlet_name__12	<input type="checkbox"/>	12  outlet_name__12	<input type="checkbox"/>	12  outlet_name__12
<input type="checkbox"/>	13  outlet_name__13	<input type="checkbox"/>	13  outlet_name__13	<input type="checkbox"/>	13  outlet_name__13	<input type="checkbox"/>	13  outlet_name__13
<input type="checkbox"/>	14  outlet_name__14	<input type="checkbox"/>	14  outlet_name__14	<input type="checkbox"/>	14  outlet_name__14	<input type="checkbox"/>	14  outlet_name__14
<input type="checkbox"/>	15  outlet_name__15	<input type="checkbox"/>	15  outlet_name__15	<input type="checkbox"/>	15  outlet_name__15	<input type="checkbox"/>	15  outlet_name__15
<input type="checkbox"/>	16  outlet_name__16	<input type="checkbox"/>	16  outlet_name__16	<input type="checkbox"/>	16  outlet_name__16	<input type="checkbox"/>	16  outlet_name__16
<input type="checkbox"/>	17  outlet_name__17	<input type="checkbox"/>	17  outlet_name__17	<input type="checkbox"/>	17  outlet_name__17	<input type="checkbox"/>	17  outlet_name__17
<input type="checkbox"/>	18  outlet_name__18	<input type="checkbox"/>	18  outlet_name__18	<input type="checkbox"/>	18  outlet_name__18	<input type="checkbox"/>	18  outlet_name__18
<input type="checkbox"/>	19  outlet_name__19	<input type="checkbox"/>	19  outlet_name__19	<input type="checkbox"/>	19  outlet_name__19	<input type="checkbox"/>	19  outlet_name__19
<input type="checkbox"/>	20  outlet_name__20	<input type="checkbox"/>	20  outlet_name__20	<input type="checkbox"/>	20  outlet_name__20	<input type="checkbox"/>	20  outlet_name__20
<input type="checkbox"/>	21  outlet_name__21	<input type="checkbox"/>	21  outlet_name__21	<input type="checkbox"/>	21  outlet_name__21	<input type="checkbox"/>	21  outlet_name__21
<input type="checkbox"/>	22  outlet_name__22	<input type="checkbox"/>	22  outlet_name__22	<input type="checkbox"/>	22  outlet_name__22	<input type="checkbox"/>	22  outlet_name__22
<input type="checkbox"/>	23  outlet_name__23	<input type="checkbox"/>	23  outlet_name__23	<input type="checkbox"/>	23  outlet_name__23	<input type="checkbox"/>	23  outlet_name__23
<input type="checkbox"/>	24  outlet_name__24	<input type="checkbox"/>	24  outlet_name__24	<input type="checkbox"/>	24  outlet_name__24	<input type="checkbox"/>	24  outlet_name__24

Save new data  
 Cancel new data input  
 Return to OUTLET SCHEDULE

**Step 7.** Click “ **Apply** ” to save the settings

**Step 8.** Repeat step 2 to 7 for Outlet Schedule 2 to 6 if necessary



If the outlet schedule task is “ **One-Time** “, that specific task will be disabled automatically once the action is completed.

To cancel the outlet schedule, tick “ **Disable** “ & Click “ **Apply** “ to finish the changes.

## < 6.4 > Fan Unit

< **Fan Unit Status** > provides a scan function to monitor the Fan unit status based on Master IP group

### Fan Unit Status

Master IP group no. : 02

Page : 1

Box Level	Fan Unit	Model	Location	Setting	No. of fan	CFM	°C		
							Temp.	Alarm	R. Alert
01	F1	RF-1.3 1U Fan Tray	FanLocation01		3	Max.	26.8	35.0	30.0
	F2	RF-1.3 1U Fan Tray	FanLocation03		3	Max.	-	-	-

Auto data refresh :

\* Press F11 to enlarge or diminish the screen

In < **Fan Unit Setting** >, user can

- Change “ **Rack** “ & “ **Position** “ & Click “ **Apply** “
- Switch ON / OFF fan unit
- Change fan unit CFM ( normal / high / max. )
- Switch ON / OFF individual fan

### Fan Unit Setting

Box level : 01

Status : Connected

Name : Level1

Location : Rack\_001

Fan unit : 01 RF-1.3 1U Fan Tray

Status : Connected

Name : FanName01

Location : FanLocation01

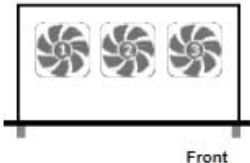
Unit switch :

Unit CFM :

Temp. Sensor ( °C )

Temp. : 26.8

Fan	Status	Switch
01	Max.	<input type="button" value="OFF"/>
02	Max.	<input type="button" value="OFF"/>
03	Max.	<input type="button" value="OFF"/>



Auto data refresh : Untick during data input

Save new data

Cancel new data input

Return to FAN STATUS

\* Press F11 to enlarge or diminish the screen

## < 6.4 > Fan Unit

In < Temp Setting >, user can

- “ **Activate** “ or “ **Deactivate** “ temp. sensor
- Change “ **Location** “ of temp. sensor
- “ **Enable** “ or “ **Disable** “ auto CFM control
- Change “ **Alarm temp.** “ & “ **Rising alert temp.** “ of temp. sensor
- Click “ **Apply** “ to finish the above settings

### Temp. Setting

Box level :

Status : Connected

Name : Rack\_002

Location : Rack\_002

Fan unit :  RF-1.3 1U Fan Tray

Status : Connected

Rack : Rack\_002

Location : Rack\_002 -22U

#### Temp. sensor

Deactivate  Activate

Location :

Auto CFM control :  Disable  Enable

Reading : 24.2 °C

Alarm Setting :  °C

Rising Alert Setting :  °C

- **DO NOT** activate temp. sensor if no sensor installed. Otherwise, temp. sensor disconnection event will be logged.
- When install temp. sensor, please tick activate. Otherwise, no readings display.
  
- When temp. alarms triggers :
  1. All individual fans will change to Max. speed if auto CFM control is enabled.
  2. If the temp. drops under the alarm temp. MINUS 2°C within 10 mins, the buzzer will not sound.
  3. However, the buzzer will sound if the temp. **CAN NOT** drop under alarm temp. MINUS 2°C within 10 mins.

---

Save new data

Cancel new data input

Return to **FAN UNIT SETTING**

## < 6.5 > Door

< **Door Status** > provides a scan function to monitor the door sensor status based on Master IP group

**Door Status**  
Master IP group no. : 02

Page : 1

Box Level	Location	Setting	D1		D2		D3		D4	
			Location	Status	Location	Status	Location	Status	Location	Status
01	Rack_001	🔊	Front_Top_001	Closed	Rear_Top_001	Closed	Front_Top_002	Closed	Rear_Top_002	Closed
04	Rack_004	🔊	-	-	-	-	-	-	-	-
05	Level5	🔊	Front_Top_005	Closed	-	-	-	-	-	-

Auto data refresh :

\* Press F11 to enlarge or diminish the screen

In < **Door Setting** >, user can change “ **Location** “ of door sensor & Click “ **Apply** “ to finish the settings

**Door Setting**

Box level :

Status : Connected

Name : Level1

Location : Rack\_001

**D1**

Location

Status Closed

**D2**

Location

Status Closed

**D3**

Location

Status Closed

**D4**

Location

Status Closed

Save new data

Cancel new data input

Return to DOOR STATUS

## Part VII. Events / Log / Report

< **Event** > provides past 2000 events of the following devices in an Master IP group

- EC box configuration & connection
- Sensor configuration & connection
- PDU configuration & connection
- PDU's outlet & TH sensor configuration
- Fan unit configuration & connection
- Fan unit Temp. sensor configuration

First / Previous 1 2 3 4 5 6 7 8 9 10 Next / Last		Last 2000 log records.	
Date	Time	Event	Description
2013/06/20	11:49:41	Fan Unit Temp. connection	Temp. Sensor reconnection - Box level 01 - Fan Unit level 01 - Sensor 01
2013/06/20	11:49:24	IP dongle connection	IP dongle disconnection - IP dongle group 02
2013/06/20	11:03:55	Box configuration	[ admin ] : Change EC Box location - Box level 05
2013/06/20	11:02:14	Door configuration	[ admin ] : Change door location - Box level 01 - Door
2013/06/20	11:01:59	Door configuration	[ admin ] : Change door location - Box level 01 - Door
2013/06/20	11:01:46	Door configuration	[ admin ] : Change door location - Box level 01 - Door
2013/06/20	10:57:05	Fan Unit Temp. connection	Temp. Sensor reconnection - Box level 01 - Fan Unit level 01 - Sensor 01
2013/06/20	10:55:01	IP dongle connection	IP dongle disconnection - IP dongle group 02
2013/06/20	10:48:14	Door configuration	[ admin ] : Change door location - Box level 01 - Door
2013/06/20	10:47:14	Door configuration	[ admin ] : Change door location - Box level 05 - Door
2013/06/20	10:45:40	Door configuration	[ admin ] : Change door location - Box level 01 - Door

<p><a href="#">Master IP connection</a></p> <ul style="list-style-type: none"> <li>( 1 ) Disconnection</li> <li>( 2 ) Reconnection</li> </ul>	<p><a href="#">PDU connection</a></p> <ul style="list-style-type: none"> <li>( 1 ) Disconnection</li> <li>( 2 ) Reconnection</li> </ul>	<p><a href="#">EC box configuration</a></p> <ul style="list-style-type: none"> <li>( 1 ) Enable / disable EC box</li> <li>( 2 ) Enable / disable T / TH sensor</li> <li>( 3 ) Enable / disable smoke / shock sensor</li> <li>( 4 ) Enable / disable water sensor</li> <li>( 5 ) Enable / disable PDU</li> <li>( 6 ) Enable / disable fan unit</li> <li>( 7 ) Enable / disable door sensor</li> <li>( 8 ) Disable LED lamp</li> <li>( 9 ) On / off LED lamp by door sensor</li> <li>( 10 ) LED lamp always on</li> <li>( 11 ) LED lamp always off</li> <li>( 12 ) Door opened / closed</li> <li>( 13 ) Lamp on / off</li> </ul>	<p><a href="#">EC box's sensor configuration</a></p> <ul style="list-style-type: none"> <li>( 1 ) Change door sensor location</li> <li>( 2 ) Change smoke / shock sensor location</li> <li>( 3 ) Change LED lamp location</li> <li>( 4 ) Change T / TH sensor location</li> <li>( 5 ) Change temp. alarm</li> <li>( 6 ) Change temp. rising alert</li> <li>( 7 ) Change humid. alarm</li> <li>( 8 ) Change humid. rising alert</li> </ul>	
<p><a href="#">EC box connection</a></p> <ul style="list-style-type: none"> <li>( 1 ) Disconnection</li> <li>( 2 ) Reconnection</li> </ul>	<p><a href="#">PDU's TH sensor connection</a></p> <ul style="list-style-type: none"> <li>( 1 ) Disconnection</li> <li>( 2 ) Reconnection</li> </ul>	<p><a href="#">PDU configuration</a></p> <ul style="list-style-type: none"> <li>( 1 ) Change alarm amp.</li> <li>( 2 ) Change rising alert amp.</li> <li>( 3 ) Change low alert amp.</li> <li>( 4 ) Reset peak amp /w date and time</li> <li>( 5 ) Reset kuh /w date and time</li> <li>( 6 ) Change PDU name</li> <li>( 7 ) Change PDU location</li> <li>( 8 ) Asp. alarm</li> <li>( 9 ) Asp. rising alert</li> <li>( 10 ) Asp. low alert</li> <li>( 11 ) Asp. normal</li> <li>( 12 ) Circuit breaker tripped / return to normal</li> </ul>	<p><a href="#">Outlet configuration</a></p> <ul 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 rising alert amp.</li> <li>( 6 ) Change low alert amp.</li> <li>( 7 ) Reset peak amp /w date and time</li> <li>( 8 ) Reset kuh /w date and time</li> <li>( 9 ) Asp. alarm</li> <li>( 10 ) Asp. rising alert</li> <li>( 11 ) Asp. low alert</li> <li>( 12 ) Asp. normal</li> </ul>	
<p><a href="#">EC box's sensor connection</a></p> <ul style="list-style-type: none"> <li>( 1 ) T / TH sensor disconnection</li> <li>( 2 ) T / TH sensor reconnection</li> <li>( 3 ) Water sensor disconnection</li> <li>( 4 ) Water sensor reconnection</li> </ul>	<p><a href="#">Fan unit connection</a></p> <ul style="list-style-type: none"> <li>( 1 ) Disconnection</li> <li>( 2 ) Reconnection</li> </ul>	<p><a href="#">Fan unit configuration</a></p> <ul style="list-style-type: none"> <li>( 1 ) Change unit name</li> <li>( 2 ) Change unit location</li> <li>( 3 ) Change unit CFM</li> </ul>	<p><a href="#">PDU's TH sensor configuration</a></p> <ul style="list-style-type: none"> <li>( 1 ) Activate / deactivate TH Sensor</li> <li>( 2 ) Change temp. alarm</li> <li>( 3 ) Change temp. rising alert</li> <li>( 4 ) Change humid. alarm</li> <li>( 5 ) Change humid. rising alert</li> <li>( 6 ) Change TH location</li> <li>( 7 ) Temp. alarm</li> <li>( 8 ) Temp. rising alert</li> <li>( 9 ) Humid. alarm</li> <li>( 10 ) Humid. rising alert</li> </ul>	
		<p><a href="#">Fan unit's temp. sensor connection</a></p> <ul style="list-style-type: none"> <li>( 1 ) Disconnection</li> <li>( 2 ) Reconnection</li> </ul>	<p><a href="#">Individual fan configuration</a></p> <ul style="list-style-type: none"> <li>( 1 ) Switch fan on / off</li> <li>( 2 ) Fan failure / normal</li> </ul>	<p><a href="#">Fan unit's temp. sensor configuration</a></p> <ul style="list-style-type: none"> <li>( 1 ) Activate / deactivate temp. sensor</li> <li>( 2 ) Enable / disable auto CFM control</li> <li>( 3 ) Change temp. alarm</li> <li>( 4 ) Change temp. rising alert</li> <li>( 5 ) Change temp. location</li> <li>( 6 ) Temp. alarm</li> <li>( 7 ) Temp. rising alert</li> <li>( 8 ) Temp. normal</li> </ul>



## Part VII. Events / Log / Report

< **EC Box log** > provides past 2000 log records of each EC box in a Master IP group. The software will generate an EC box log in every 10 mins

**EC box log**

Box level :

Date	Time	Location	Sensor							
			S1	S2	S3	S4	S5	S6	S7	S8
2013/06/20	07:25:42	Rack_001	Connected	Disabled	Connected	Connected	Connected	Disabled	Connected	Connected
2013/06/20	07:15:41	Rack_001	Connected	Disabled	Connected	Connected	Connected	Disabled	Connected	Connected
2013/06/20	07:05:40	Rack_001	Connected	Disabled	Connected	Connected	Connected	Disabled	Connected	Connected
2013/06/20	06:55:39	Rack_001	Connected	Disabled	Connected	Connected	Connected	Disabled	Connected	Connected
2013/06/20	06:45:38	Rack_001	Connected	Disabled	Connected	Connected	Connected	Disabled	Connected	Connected
2013/06/20	06:35:37	Rack_001	Connected	Disabled	Connected	Connected	Connected	Disabled	Connected	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

< **PDU log** > provides past 2000 log records of PDUs connect in each EC box. The software will generate a PDU log in every 10 mins

**PDU log**

Box level :

PDU level :

Date	Time	Model	Location	Circuit A				Circuit B				Total			
				Amp				kWh	Amp				kWh	Amp Load	kWh
				Max.	Load	Alarm	R. alert / L. alert		Max.	Load	Alarm	R. alert / L. alert			
2013/06/20	07:21:37	V24C13-32A-WSi	Rear_Left_001	16.0	0.0	13.0	0.0 / 0.0	0.0	16.0	0.0	13.0	0.0 / 0.0	0.0	0.0	0.00
2013/06/20	07:11:36	V24C13-32A-WSi	Rear_Left_001	16.0	0.0	13.0	0.0 / 0.0	0.0	16.0	0.0	13.0	0.0 / 0.0	0.0	0.0	0.00
2013/06/20	07:01:35	V24C13-32A-WSi	Rear_Left_001	16.0	0.0	13.0	0.0 / 0.0	0.0	16.0	0.0	13.0	0.0 / 0.0	0.0	0.0	0.00
2013/06/20	06:51:34	V24C13-32A-WSi	Rear_Left_001	16.0	0.0	13.0	0.0 / 0.0	0.0	16.0	0.0	13.0	0.0 / 0.0	0.0	0.0	0.00
2013/06/20	06:41:33	V24C13-32A-WSi	Rear_Left_001	16.0	0.0	13.0	0.0 / 0.0	0.0	16.0	0.0	13.0	0.0 / 0.0	0.0	0.0	0.00
2013/06/20	06:31:32	V24C13-32A-WSi	Rear_Left_001	16.0	0.0	13.0	0.0 / 0.0	0.0	16.0	0.0	13.0	0.0 / 0.0	0.0	0.0	0.00

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Last 2000 log records.

\* Press F11 to enlarge or diminish the screen

< **PDU Outlet log** > provides past 2000 log records of each PDU's outlet. The software will generate an outlet log record in every 10 mins

**PDU Outlet log**

Box level :

PDU level :

Outlet level :

Date	Time	Model	Location	Name	Status	Amp				kWh
						Load	Alarm	R. alert	L. alert	
2013/06/20	07:21:39	V24C13-32A-WSi	Rear_Left_001	outlet_name_01	ON	0.0	10.0	5.0	0.0	0.0
2013/06/20	07:11:38	V24C13-32A-WSi	Rear_Left_001	outlet_name_01	ON	0.0	10.0	5.0	0.0	0.0
2013/06/20	07:01:37	V24C13-32A-WSi	Rear_Left_001	outlet_name_01	ON	0.0	10.0	5.0	0.0	0.0
2013/06/20	06:51:36	V24C13-32A-WSi	Rear_Left_001	outlet_name_01	ON	0.0	10.0	5.0	0.0	0.0
2013/06/20	06:41:35	V24C13-32A-WSi	Rear_Left_001	outlet_name_01	ON	0.0	10.0	5.0	0.0	0.0
2013/06/20	06:31:34	V24C13-32A-WSi	Rear_Left_001	outlet_name_01	ON	0.0	10.0	5.0	0.0	0.0

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Last 2000 log records.

\* Press F11 to enlarge or diminish the screen

## Part VII. Events / Log / Report

< **PDU TH Sensor log** > provides past 2000 TH log records of each PDU. The software will generate an outlet log record in every 10 mins

PDU TH sensor log				TH 1				TH 2					
Box level :	<input type="text" value="01"/>												
PDU level :	<input type="text" value="01"/>												
Date	Time	Model	Location	Location	°C		%		Location	°C		%	
					Temp. / Alarm / R. alert		Humid. / Alarm / R. alert			Temp. / Alarm / R. alert		Humid. / Alarm / R. alert	
2013/06/20	07:21:37	V24C13-32A-WSi	Rear_Left_001	THLocation_01	28.3 / 35.0 / 30.0		51.5 / 65.0 / 60.0		THLocation 02	28.9 / 35.0 / 30.0		49.4 / 65.0 / 60.0	
2013/06/20	07:11:36	V24C13-32A-WSi	Rear_Left_001	THLocation_01	28.3 / 35.0 / 30.0		51.5 / 65.0 / 60.0		THLocation 02	28.9 / 35.0 / 30.0		49.4 / 65.0 / 60.0	
2013/06/20	07:01:35	V24C13-32A-WSi	Rear_Left_001	THLocation_01	28.2 / 35.0 / 30.0		51.5 / 65.0 / 60.0		THLocation 02	28.9 / 35.0 / 30.0		49.4 / 65.0 / 60.0	
2013/06/20	06:51:34	V24C13-32A-WSi	Rear_Left_001	THLocation_01	28.3 / 35.0 / 30.0		51.5 / 65.0 / 60.0		THLocation 02	28.9 / 35.0 / 30.0		49.4 / 65.0 / 60.0	
2013/06/20	06:41:33	V24C13-32A-WSi	Rear_Left_001	THLocation_01	28.2 / 35.0 / 30.0		51.5 / 65.0 / 60.0		THLocation 02	28.9 / 35.0 / 30.0		49.4 / 65.0 / 60.0	
2013/06/20	06:31:32	V24C13-32A-WSi	Rear_Left_001	THLocation_01	28.2 / 35.0 / 30.0		51.5 / 65.0 / 60.0		THLocation 02	28.9 / 35.0 / 30.0		48.9 / 65.0 / 60.0	

Last 2000 log records.

\* Press F11 to enlarge or diminish the screen

< **Daily kWh log - PDU** > provides past 2000 daily energy consumption log records of each PDU. The record is logged at 00:00 everyday ( + / - 5 mins ) for previous day  
 The PDU kWh log will not be recorded at 00:00 if the PDU connected is less than 24 hours

Daily kWh log – PDU						
Box level :	<input type="text" value="01"/>					
PDU level :	<input type="text" value="01"/>					
Date	Time	Model	Location	Circuit A	Circuit B	Total
				kWh	kWh	kWh
2013/06/20	00:00:00	V24C13-32A-WSi	Rear_Left_001	0.0	0.0	0.00
2013/06/19	00:00:00	V24C13-32A-WSi	PDUlocation	-	-	-

Last 2000 log records.

\* Press F11 to enlarge or diminish the screen



## Part VII. Events / Log / Report

< **Daily kWh log - PDU outlet** > provides past 2000 daily energy consumption log records of each PDU's outlet. The record is logged at 00:00 everyday ( + / - 5 mins ) for previous day ( Outlet level PDU models only )

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

### Daily kWh log – PDU outlet

Box level :  ▼

PDU level :  ▼

Outlet level :  ▼

---

Date	Time	Model	Location	kWh
2013/06/20	00:00:00	V24C13-32A-WSi	Rear_Left_001	0.0
2013/06/19	00:00:00	V24C13-32A-WSi	PDULocation	-

---

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Last 2000 log records.

\* Press F11 to enlarge or diminish the screen

< **Fan Unit log** > provides past 2000 log records of each Fan unit. The software will generate a Fan unit log record in every 10 mins

### Fan Unit log

Box level :  ▼

Fan Unit level :  ▼

---

Date	Time	Name	Location	No. of fan	CFM	°C		
						Temp.	Alarm	R. alert
2013/06/20	12:09:43	FanName01	FanLocation01	3	Max.	26.8	35.0	0.0
2013/06/20	11:59:42	FanName01	FanLocation01	3	Max.	26.8	35.0	0.0
2013/06/20	11:40:40	FanName01	FanLocation01	3	Max.	27.0	35.0	0.0
2013/06/20	11:30:39	FanName01	FanLocation01	3	Max.	26.8	35.0	0.0
2013/06/20	11:07:07	FanName01	FanLocation01	3	Max.	26.8	35.0	0.0
2013/06/20	10:48:35	FanName01	FanLocation01	3	Max.	26.8	35.0	30.0
2013/06/20	10:38:34	FanName01	FanLocation01	3	Max.	26.8	35.0	30.0
2013/06/20	10:28:33	FanName01	FanLocation01	3	Max.	26.8	35.0	30.0
2013/06/20	10:14:59	FanName01	FanLocation01	3	Max.	26.9	35.0	30.0

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Last 2000 log records.

\* Press F11 to enlarge or diminish the screen

## Part VII. Events / Log / Report

< **Fan Unit fan log** > provides past 2000 log records about an individual fan of each Fan unit. The software will generate a fan log record in every 10 mins

### Fan unit fan log

Box level :

Fan Unit level :

Fan level :

---

Date	Time	Name	Location	Status
2013/06/20	11:30:39	FanName01	FanLocation01	Normal
2013/06/20	11:07:07	FanName01	FanLocation01	Normal
2013/06/20	10:48:35	FanName01	FanLocation01	Normal
2013/06/20	10:38:34	FanName01	FanLocation01	Normal
2013/06/20	10:28:33	FanName01	FanLocation01	Normal
2013/06/20	10:15:01	FanName01	FanLocation01	Normal

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Last 2000 log records.

\* Press F11 to enlarge or diminish the screen

< **Door sensor log** > provides past 2000 log records about the door sensor. The software will generate a door log record in every 10 mins

### Door sensor log

Box level :

---

Date	Time	Location	D1		D2		D3		D4	
			Location	Status	Location	Status	Location	Status	Location	Status
2013/08/16	15:36:29	Rack_002	Rear_Top	Closed	Front_Top	Opened	-	-	-	-
2013/08/16	15:26:28	Rack_002	Rear_Top	Closed	Front_Top	Opened	-	-	-	-
2013/08/16	15:16:27	Rack_002	Rear_Top	Closed	Front_Top	Opened	-	-	-	-
2013/08/16	15:06:26	Rack_002	Rear_Top	Closed	Front_Top	Opened	-	-	-	-
2013/08/16	14:56:25	Rack_002	Rear_Top	Closed	Front_Top	Opened	-	-	-	-
2013/08/16	14:46:24	Rack_002	Rear_Top	Closed	Front_Top	Opened	-	-	-	-
2013/08/16	14:25:20	Rack_002	Rear_Top	Closed	Front_Top	Opened	-	-	-	-
2013/08/16	14:15:18	Rack_002	Rear_Top	Closed	Front_Top	Opened	-	-	-	-

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Last 2000 log records.

\* Press F11 to enlarge or diminish the screen

## Part VII. Events / Log / Report

< **Report** > provides monthly report for  ,  ,  ,  ,  ,  ,  ,  ,  ,  in CSV format

Please take the following steps to export the log category you want :

**Step 1** - Select the category, period and target

Category	Period ( Year / Month )	Target
<input checked="" type="checkbox"/> EC box log	2013 ▼ / 01 ▼	Master IP group : 01 ▼
<input type="checkbox"/> PDU log		Box level : 01 ▼
<input type="checkbox"/> PDU outlet log		
<input type="checkbox"/> PDU TH sensor log		
<input type="checkbox"/> Daily kWh log - PDU		
<input type="checkbox"/> Daily kWh log - PDU outlet		
<input type="checkbox"/> Fan unit log		
<input type="checkbox"/> Fan unit fan log		
<input type="checkbox"/> Door sensor log		
<input type="checkbox"/> Device event		

Save new data

Cancel new data input

**Step 2** – Click “ **Apply** ” and Click “ **OK** ” from the pop up window. It takes a few mins to complete

## Part VII. Events / Log / Report

**Step 3** – Right Click the file name below and SELECT **Save target as** to download the log file

The screenshot displays a web interface for log management. On the left, under the heading "Category", there is a list of log types with checkboxes: EC box log, PDU log, PDU outlet log, PDU TH sensor log, Daily kWh log - PDU, Daily kWh log - PDU outlet, Fan unit log, Fan unit fan log, Door sensor log, and Device event. Below this list are two buttons: "Apply" (labeled "Save new data") and "Cancel" (labeled "Cancel new data input").

In the center, a red warning icon is followed by the text "To download the file, please:" and two numbered instructions: "( 1 ) Right click the file link below" and "( 2 ) Select **Save target as** to download the file".

At the bottom, a file link is shown: [ECBoxLog\\_MasterIPGroup01\\_BoxLevel01\\_2013\\_08.csv](#). A right-click context menu is open over this link, showing options: Open, Open in new tab, Open in new window, Save target as..., Print target, Cut, Copy, Copy shortcut, Paste, All Accelerators, Add to favorites..., Send to OneNote, and Properties.

**Step 4** – Click “ **Close** ” to complete or “ **Open** ” to view the content of log

## Part VIII. SNMP

The EC-300M master box can manage the connected EC-300 slave box in a single daisy-chain up to 16 levels via SNMP v2c ( Simple Network Management Protocol).

 Only EC-300M master box can support SNMP.

### ( I ). Accessing MIB Files

Use the World Wide Web (WWW) to download the SNMP MIB file at this URL:  
<http://www.austin-hughes.com/support/utilities/infraguard/IGM-MIB.mib>

### ( II ). Enabling SNMP Support

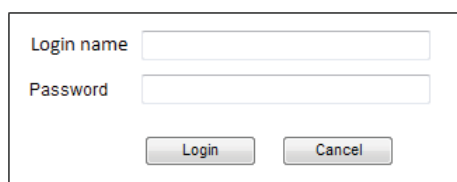
The following procedure summarizes how to enable the EC-300M master box for SNMP support.

**Step 1.** Connect the EC-300M master box to a computer.  
( Please refer to < 4.2 > Master IP Configuration )

**Step 2.** Open the Internet Explorer ( I.E. ) version 8.0 or above

**Step 3.** Enter the configured IP address of EC-300M master box 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** “



A login dialog box with two input fields: "Login name" and "Password". Below the fields are two buttons: "Login" and "Cancel".

## Part VIII. SNMP

**Step 5.** Select **SNMP** from the left navigation pane

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

**SNMP**

**SNMP agent**  Enable  Disable

**SNMP polling**

Read community

Write community

**SNMP traps**

**Management station**

Station IP

Trap port


Trap community

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

**Step 8.** Input “ **Read Community** “. Default is “ **public** ”

**Step 9.** Input “ **Write Community** “. Default is “ **private** ”

**Step 10.** Select “ **disabled** ” or “ **V2Trap** ” in “ **SNMP Traps** ”

 If select “ **V2Trap** ” , please input IP address of the SNMP management station in “ **Station IP:** ”

**Step 11.** Click “ **Apply** ” to finish the SNMP settings

## Part IX. FAQ

### InfraGuard Manager - IGM-03

#### 1. What is InfraGuard Manger – IGM-03 ?

InfraGuard Manager IGM-03 is a FREE environmental sensor management software to monitor up to 30 Master IP Groups remotely ( max. 16 EC box levels in each Master IP Group ), total 480 EC boxes. Each EC box can connect a variety of sensors to provide an environmental monitoring solution to secure high levels of data center operational stability and flexibility.

To enhance the functionality, up to **1920 x kWh PDU / Fan Unit** can be monitored through IGM-03 GUI as well.

#### 2. What OS platform does IGM-03 support ?

MS Windows XP Professional with SP3 ( 32 bit, English edition only )

MS Windows 7 Professional with SP1 ( 32 & 64 bit, English edition only )

MS Windows 7 Ultimate with SP1 ( 32 & 64 bit, English edition only )

MS Windows 8 Professional with SP3 ( 32 & 64 bit, English edition only )

MS Windows Server 2003 R2 Standard edition with SP2 ( 32 & 64 bit, English edition only )

MS Windows Server 2008 Standard edition with SP2 ( 32 & 64 bit, English edition only )

MS Windows Server 2008 R2 Standard edition with SP1



**Ensure users login to the management PC as a member of “ Administrators “ group before IGM-03 installation and execution**

#### 3. Why user cannot login to the management PC remotely ?

Make sure the port for web server is added in the firewall setting and the services of web server is started in the management PC

#### 4. Which database does IGM-03 support ?

PostgreSQL

#### 5. What is the PostgreSQL default password for IGM-03 ?

1qaz2WSX

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

Make sure IGM-03 is executed and the alarm server is enabled and configured properly

#### 7. What is the default user name and password of IGM-03 ?

Default user name “ **admin** “ and password “ **00000000** “

#### 8. What is the command password of IGM-03 ?

Each Master IP group has its command password. It will be requested for any device configuration and control connected to the EC Box. The administrator can set different password for each Master IP group or all Master IP groups use the same command password.

## Part IX. FAQ

### Sensors

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

It is accurate to +/- 0.5 °C ( typical ) and +/- 4.5% RH ( typical )

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

It is accurate to +/- 1.0 °C ( typical )

**3. What is sensitivity of smoke sensor ?**

0.15 ~ 0.3 dB/m

**4. What is the detection radius of shock sensor ?**

3.5m

**5. What is the lumen of the LED light bar ?**

250 lumen

### Master EC Box

**1. What is the Master EC Box ?**

The Master EC Box has a built-in IP remote module which provides a simple and economical way to consolidate management of max. 16 EC boxes, by a single IP connection to the network.

**2. What is the IP Setup Utilities ?**

This is a Windows based application used to assign the IP address of Master EC Box. You can download the IP Setup Utilities from the link below:

<http://www.austin-hughes.com/support/utilities/infraguard/IPSetupUtilities.msi>

**3. Does the EC Box has dual power input ?**

Yes. ( MUST order before delivery )

### Others

**1. Where can I find the Catalogue / User manual / Model list of InfraGuard EC Box ?**

Please visit [www.austin-hughes.com](http://www.austin-hughes.com)

**2. How can I get a further support ?**

Please send an email to [support@austin-hughes.com](mailto:support@austin-hughes.com) or [sales@austin-hughes.com](mailto:sales@austin-hughes.com)



## Part X. Troubleshooting

### EC Box Disconnection

#### 1. GUI shows **a certain level EC Box** disconnected


**Step 1** - EC Box power off ?

Check the EC Box is power ON or not

**Step 2** - EC Box level setting duplicated in the same Master IP group ?

Check and make sure EC Box level is unique and not duplicated in the same Master IP group.

( Please refer to user manual < 1.5 > for details )

 The other EC box with same level shows “ **Searching** “ in < **Overview** > page

**Step 3** - This level EC Box is enabled in < **Setup** > page but not connected to the daisy chain ?

Make sure to enable the EC Box in < **Setup** > page ONLY when it is connected to the daisy chain

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

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

Check the Cat. 5 / 6 cable connection between the first disconnected EC Box and the previous one. 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 EC Box failed ?

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

#### 3. GUI shows the whole group of EC Boxes disconnected

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

Check the Cat. 5 / 6 cable connection to EC Boxes and network device. 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** - Master EC Box failed ?

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

## Part X. Troubleshooting

### Replacement, Removal Or Addition For EC Box

#### 1. How to replace the failed Master EC Box with a new one ?

**Step 1** - Prepare a new Master EC Box and set it to 1st level.  
( Please refer to user manual < 1.5 > for details )

**Step 2** - Configure the IP address of the new Master EC Box as the failed one  
( Please refer to user manual < 4.2 > for details )

**Step 3** - Disable alarm email in < **Alarm** > page

**Step 4** - Power off and remove the failed Master EC Box from connection

**Step 5** - Install the new Master EC Box to the connection and power it on

**Step 6** - Click “ **Start Connection** “ in < **Overview** > page for the relevant Master IP group

**Step 7** - Configure the new Master EC Box in < **EC Box Setting** > page such as Name, Location

**Step 8** - Enable alarm email in < **Alarm** > page

#### 2. How to replace a failed certain level slave EC Box with a new one ?

**Step 1** - Prepare a new slave EC Box and set the slave EC Box level accordingly  
( Please refer to user manual < 1.5 > for details )

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

**Step 3** - Disable alarm email in < **Alarm** > page

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

**Step 5** - Power off and remove the failed slave EC Box from connection

**Step 6** - Install the new slave EC Box, cancel the cable-bridging and reconnect the slave EC Box to the previous and next one

**Step 7** - Power on the new slave EC Box

**Step 8** - Configure the new slave EC Box in < **EC Box Setting** > page such as Name, Location

**Step 9** - Enable alarm email in < **Alarm** > page



Ignore step 2 and 4 if the failed slave EC Box is in the last level

## Part X. Troubleshooting

### 3. How to move out a slave EC Box ( without a replacement ) ?

**Step 1** - Prepare an appropriate length Cat. 5 / 6 cable

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

**Step 3** - Use the Cat. 5 / 6 cable to bridge over the removed slave EC Box to minimize log / data loss

**Step 4** - Power off and remove the slave EC Box from connection

**Step 5** - Reconfigure and reset the level for the affected slave EC Box ( es ) which next to the removed slave EC Box

**Step 6** - Disable the removed slave EC Box in < **Setup** > page

**Step 7** - Enable the EC Box ( es ) in < **Setup** > page based on the new level setting in Step 5

**Step 8** - Click “ **Apply** “ to save the setting change

**Step 9** - Enable alarm email in < **Alarm** > page



Ignore step 1, 3, 5 and 7 if the removed slave EC Box is in the last level

### 4. How to add an extra slave EC Box to an existing Master IP group ?

**Step 1** - Prepare a new slave EC Box and set the slave EC Box level accordingly  
( Please refer to user manual < 1.5 > for details )

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

**Step 3** - Disable alarm email in < **Alarm** > page

**Step 4** - Install, connect and power on the new slave EC Box

**Step 5** - Reconfigure and reset the level for the affected slave EC Box ( es ) which next to the added slave EC Box

**Step 6** - Enable the added slave EC Box in < **Setup** > page

**Step 7** - Enable the EC Box ( es ) in < **Setup** > page based on the new level setting in Step 5

**Step 8** - Click “ **Apply** “ to save the setting change

**Step 9** - Configure the new slave EC Box in < **EC Box Setting** > page such as Name, Location

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



Ignore step 3, 5, 7 and 11 if the added slave EC Box is in the last level

## Part X. Troubleshooting

### InfraGuard Manager – IGM-03

#### 1. Try to login InfraGuard Manager IGM-03 but the web browser only shows “ HTTP 404 Not Found “

##### **Step 1** - Services for web server in management PC started ?

Make sure the services is started. Go to Control Panel > Administrative Tools > Services > Apache2.2 and make sure the status is “ Started “

##### **Step 2** - Port for web server in management PC is occupied by other service ?

Check if the port for web server is used by other service or not. If yes, please release the port of that particular service and assign another port for it.

##### **Step 3** - Port for web server is added in the firewall of management PC ?

Check if the port is added in the firewall. If not, please add and enable the connection in the firewall. ( Please refer to user manual < 5.2 > )

## Part XI. Optional Accessories

### Temp. + Humid. Sensor



- One sensor for temperature & humidity
- Low profile and light weight design with a magnetic base for easy affixing to rack

**Part no. :**

**IG-TH01-2M** with 2M cord

**IG-TH01-4M** with 4M cord

### Temp. Sensor



- Detection for temperature
- Low profile and light weight design with a magnetic base for easy affixing to rack

**Part no. :**

**IG-T01-2M** with 2M cord

**IG-T01-4M** with 4M cord

### Smoke Sensor



- Safely operated smoke detection

**Part no. :**

**IG-S01-1M** with 1M cord

**IG-S01-3M** with 3M cord

### Shock Sensor



- Alert the physical vibration on the rack

**Part no. :**

**IG-V01-1M** with 1M cord

**IG-V01-3M** with 3M cord

### Water Sensor



- Fluid leakage detection
- 5M rope round the rack bottom to detect any fluid flowing to the rack area
- IP65 cable joint connectors provided

**Part no. :**

**IG-W01-3M** with 3M cord

## Part XI. Optional Accessories



### Inductive Door Sensor



- Light weight, mini size & adhesive
- No custom cutting required on doors
- Easy for existing rack retrofit or integration to new rack

**Part no. :**

**IG-DSI-2M** with 2M cord

**IG-DSI-4M** with 4M cord



### Mechanical Door Sensor



- Low cost
- Precise
- Cost efficient integration to new rack
- Custom cutting required on door

**Part no. :**

**IG-DSW-2M** with 2M cord

**IG-DSW-4M** with 4M cord



### LED Beacon



- Highly visible for alerting user to alarm status

**Part no. :**

**IG-FB03-1M** with 1M cord

**IG-FB03-3M** with 3M cord



### LED Light Bar



- Auto ON / OFF by door sensor detection
- Manual ON / OFF by software remote
- Magnetic base for easy affixing to rack
- Dimension ( W x D x H ) : 20 x 300 x 12 mm

**Part no. :**

**CLB-IX-002** with 2M cord

**CLB-IX-003** with 3M cord

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