

User Manual

IGM-03 Environmental Sensor Management Software



Designed and manufactured by Austin Hughes

FC (E NHS REACH

UM-IGM-03-Q413V3 www.austin-hughes.com

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 dam age to other equipment or injury to persons nearby.
- When the equipment is in an open position, do not cover, block or in any way obstruct the gap between it and the power supply. Proper air convection is necessary to keep it from overheating.
- Arrange the equipment's power cord in such a way that others won't trip or fall over it.
- If you are using a power cord that didn't ship with the equipment, ensure that it is rated for the voltage and current labelled on the equipment's electrical ratings label. The voltage rating on the cord should be higher than the one listed on the equipment's ratings label.
- Observe all precautions and warnings attached to the equipment.
- If you don't intend on using the equipment for a long time, disconnect it from the power outlet to prevent being dam aged by transient over-voltage.
- Keep all liquids away from the equipment to minimize the risk of accidental spillage. Liquid spilled on to the power supply or on other hardware may cause damage, fire or electrical shock.
- Only qualified service personnel should open the chassis. Opening it yourself could damage the equipment and 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.
 - $\hfill \Box$ Causes external to the product, such as electric power fluctuation or failure.
 - ☐ Use of supplies or parts not meeting our specifications.
 - □ Normal wear and tear.
 - ☐ Any other causes which does not relate to a product defect.
- Removal, installation, and set-up service charges.

Regulatory Notices Federal Communications Commission (FCC)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

Any changes or modifications made to this equipment may void the user's authority to operate this equipment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

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

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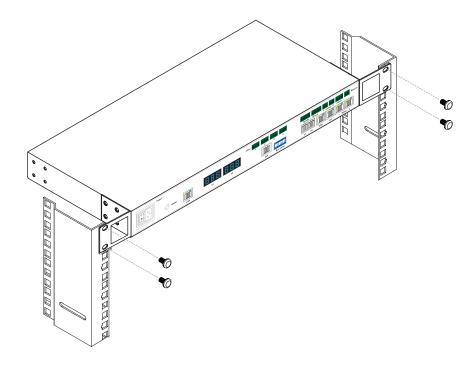
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Before Installation

- 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 cabinet.
- 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 cabinet
- M6 screws set not provided.



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Part I. Hardware

< 1.1 > Package Contents

Unpacking

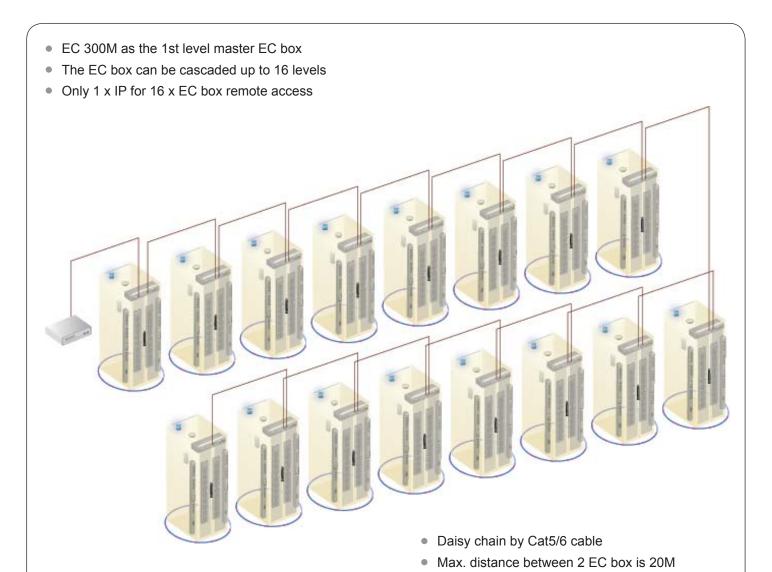
The equipment comes with the standard parts shown on the package contents. Check and make sure they are included and in good condition. If anything is missing, or damage, contact the supplier immediately.



< 1.2 > InfraGuard Features & Specifications

	EC-300M (Master Box)	EC-300 (Slave Box)		
Daisy Chain	1st Level	2nd - 16th Level		
SNMP	✓	via Master Box		
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			
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 (WxDxH)	400 x 135 x 39.7 mm /	15.7 x 5.3 x 1.6 inch		
Packing Dimension (WxDxH)	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 240V/	AC, 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			

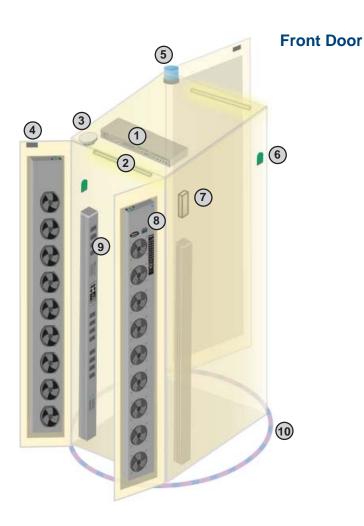
< 1.3 > Daisy Chain Group



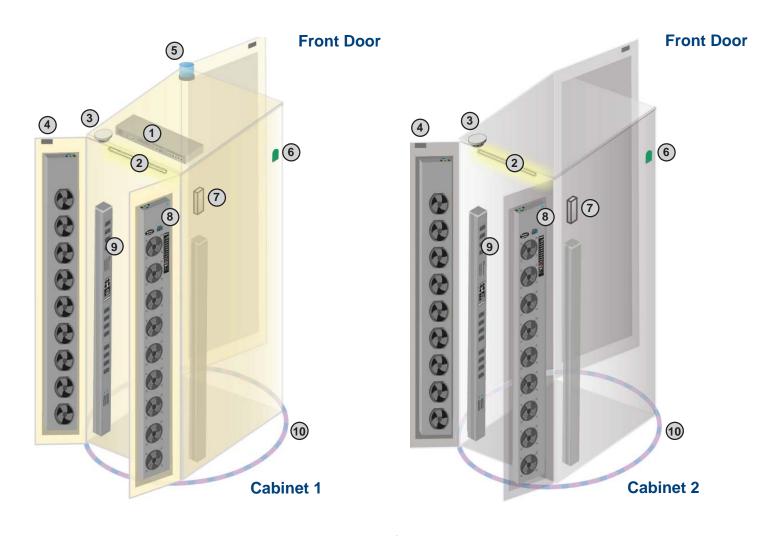


- One InfraGuard network can expand up to 30 daisy chain groups (master IP group).
- Each daisy chain group supports up to 16 EC Boxes
- Each InfraGuard network can monitor 480 EC Boxes
- Each EC Box supports PDU x 4 & fan unit x 4
- Up to 1920 PDUs & 1920 fan units can be installed under one InfraGuard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

Max. distance in a daisy chain group up to 300M



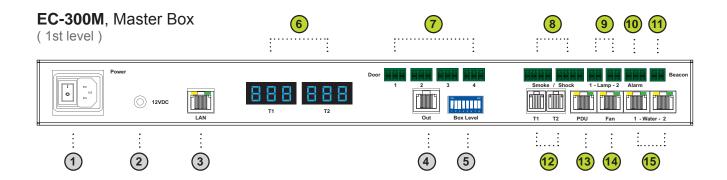
	Item	Qty.	Location
1	EC Box	1	rackmount on rear top
2	LED Light Bar	2	front & rear top inside
3	Smoke Sensor	1	rear inside top
4	Door Sensor	2	top corner of door
5	Flashing LED Beacon	1	front cabinet roof
6	Temp. & Humid. Sensor	2	any inside position
7	Shock Sensor	1	upper inside
8	Fan Unit	4	door mount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



 * either smoke sensor or shock sensor

	Item	Cabinet 1	Cabinet 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

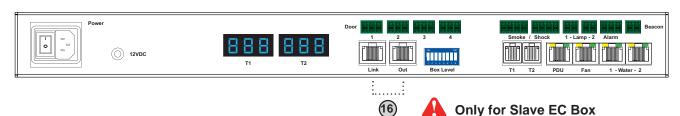


- Power input
- 2 Dual power input (option)
- 3 LAN port (RJ-45 connect to network device)
- 4 OUT port (RJ-45 connect to level 2nd slave EC box)
- **5** Dip switch (level setting)

- 6 Temp. LED display x 2
- Door sensor port x 4
- 8 Smoke / Shock sensor port x 2
- 9 LED Light Bar port x 2
- Port for 3rd party alarm board x 1
- 11 LED beacon port x 1
- 12 Temp. & Humid. sensor port x 2
- PDU port x 1
 (RJ-45, up to PDU daisy chain level x 4)
- Fan unit port x 1
 (RJ-45, up to fan unit daisy chain level x 4)
- 15 Water sensor port x 2

EC-300, Slave Box

(From 2nd - 16th level)

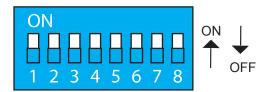


Link & Out port
(RJ-45 for daisy chain connection)

< 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 :

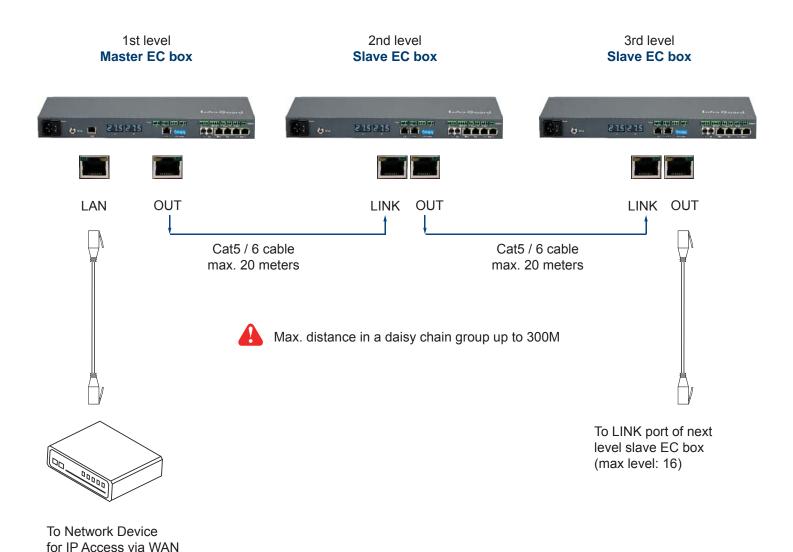
Cascaded EC boxes	Dip switch no.							
	1	2	3	4	5	6	7	8
1st level Master EC box	On	On	On	On	Off	Off	Off	Off
2nd level Slave EC box	Off	On	On	On	Off	Off	Off	Off
3rd level Slave EC box	On	Off	On	On	Off	Off	Off	Off
4th level Slave EC box	Off	Off	On	On	Off	Off	Off	Off
5th level Slave EC box	On	On	Off	On	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						
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

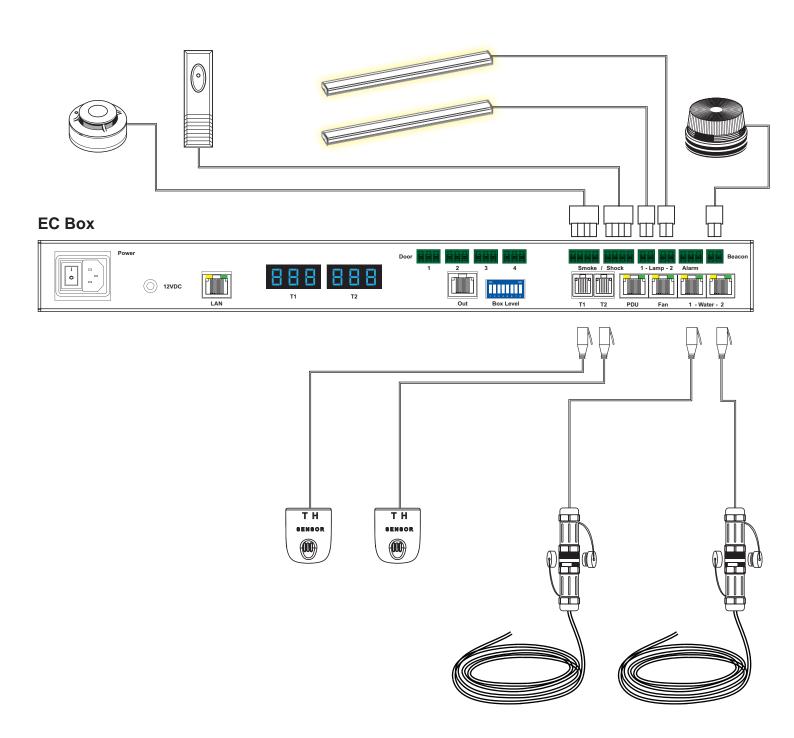
Remarks:

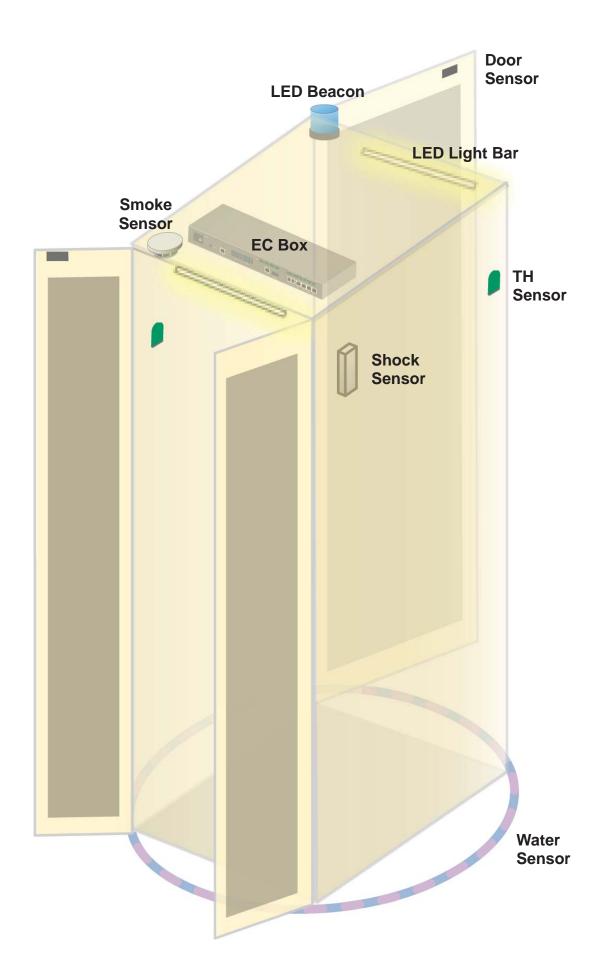
- Each Master IP group supports 16 daisy chain levels.
- The 1st level EC box must be Master EC box.
- 1 x Master EC box allows access to 16 levels.
- For remote access of EC boxes, simply connect 1 x Master EC box.
- The 2nd 16th level EC boxes must be slave EC box.



Part II. Sensor Installation & Specifications

< 2.1 > Overview









		Inductive Door Sensor	Mechanical Door Sensor	
Part no.		IG-DSI-2M	IG-DSW-2M	
Sensitivity	Actuation	/	3.00 mm	
	Travelling Distance	/	9.25 mm	
	Operating Force	/	3.5±1 N	
	Sensing distance	Max. 3mm	1	
	Sensing object	Ferrous metal	1	
Power Requirement	Voltage	12VDC, powered by sensor port	1	
	Current Consumption	100mA	1	
Housing	Material	Plas	tic	
	Color	Blad	ck	
Connection	Cable Length	sensor w/ 2m cal	ble (standard)	
		sensor w/ 4m c	able (option)	
Environmental	Operating	-20 to 60°C	: Degree	
	Storage	-20 to 60°C Degree	-30 to 70°C Degree	
	Relative Humidity	5~90%, non-		
	reductoriumany	0 0070, 11011	oon donoring	
Dimensions	Product	32.5L x 12.2W x 9.2H mm	52W x 22.5L mm (with metal plate)	
	Packing	/	1	
Weight	Net / Gross	6g	14g (with metal plate)	
Supply includes	1	Inductive door sensor with 2m cable	Mechanical door sensor	
	2	2mm Adhesive tape	Metal plate	
	3	1	2m cable	
Compatibility		InfraGuard only		
Safety Regulatory	FCC & CE certified			
Environmental	RoHS2 & REACH compliant			

< 2.2 > Door Sensor

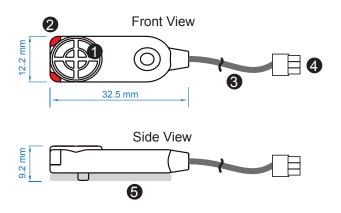
Optional door sensor is an essential accessories as users can be alerted by visual and audio alarm for unauthorized access.

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





0	Sensor area
2	Red LED (light up while door opening)
3	2m cable
4	Cable jack (connect to EC box)
6	2mm adhesive tape

Package content

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



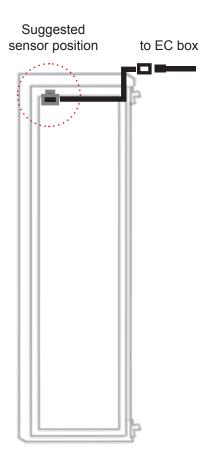
Requirements 4



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

Installation steps

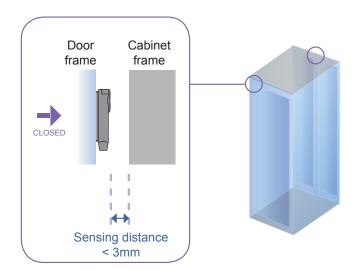
- connect to the EC box
- guide & fix the cable with cable clips
- place the sensor at the top of the door, close to the opening side
- adjust the sensor with adhesive tape to ensure the sensing distance between door to frame within 3mm while door in close status



Sensor Operation

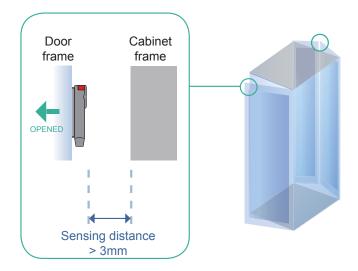
DOOR CLOSE

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



DOOR OPEN

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

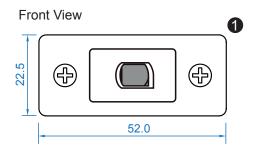


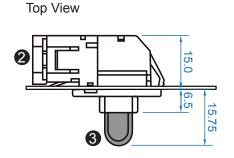
Mechanical Door Sensor (IG-DSW-2M)

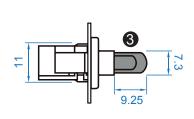
Features

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

unit: mm







Side View

- 1 Steel mounting plate with 2 screw holes
- Cable connector
- 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

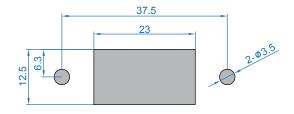


Requirements



- 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



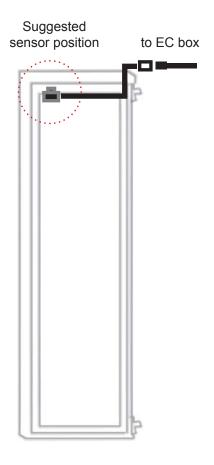
Dimension of door cutting hole

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

< 2.2 > Door Sensor

Installation steps

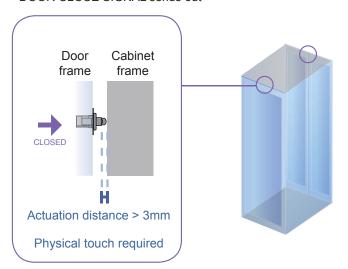
- connect to the EC box
- place the sensor at the top middle of the door
- install the sensor in the custom hole
- secure it with bundled mounting screws 6#32x4.5mm x 2



Sensor Operation

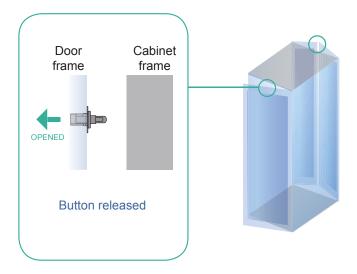
DOOR CLOSE

- 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.

		Tames 9 Hamaid Caraca	Town Concer		
Dout no		Temp. & Humid. Sensor	Temp. Sensor		
Part no.		IG-TH01	IG-T01		
Temperature	Range	0 to 80°C (32 to 176°F)			
Sensitivity	Accuracy	±0.5°C typical (±1°F)	±1°C (±2°F)		
	Resolution	0.1°C (
	Response Time	5 to 30			
Relative	Range	0 to 100% R.H	/		
Humidity Sensitivity	Accuracy	0 to 100, ±8.0% R.H 20 to 80, ±4.5% R.H.	1		
	Resolution	1% R.H.	/		
	Response Time	8 sec	1		
Power	Voltage	12VDC, powered	hy sensor nort		
Requirement	Current Consumption	20m	· · · · · · · · · · · · · · · · · · ·		
	Power consumption	0.24 V			
	Power on indicator	Red	Green		
	1 ower on indicator	red	Green		
Housing	Chassis & Cover	Plastic			
	Color	Dark gray			
	Installation	Magnetic base for unrestricted installation			
Connection	Cable Length	TH sensor w/ 2m cable (standard) T sensor w/ 2m cable TH sensor w/ 4m cable (option) T sensor w/ 4m cable			
	Cable Specification	4-wired 3.5m	ım to RJ11		
	Cable Color	Black	Beige		
Environmental	Operating	0 to 80°C	Degree		
	Storage	-5 to 80°C Degree			
	Humidity	0~100%, non-	condensing		
Dimensions	Product	30L x 25W x	, 10Ll mm		
Dilliensions	Product	30L X 23W)	C TOTI IIIIII		
Weight	Net	66			
Supply includes	1	TH Sensor	Temperature Sensor		
	2	4-wired 3.5mm to RJ11 c	·		
			,		
Compatibility	InfraPower	W / WS / Wi / W			
	InfraSolution	X-2000			
	InfraGuard	EC-300M 8	& EC-300		
Safety Regulatory		FCC & CE certified			
Environmental	Dalles & DEACH compliant				
Liivii oliiliciitai	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.



		Smoke Sensor	
Part no.		IG-S01	
	_		
Sensitivity	Smoke sensitivity	0.15 ~ 0.3 dB/m	
Alarm Output	Solid State Poley	24\/DC@44	
Alarin Output	Solid State Relay Alarm LED	24VDC@1A Red	
	Audio Alarm	80 dB	
	Audio Alarm Audio Alarm Pattern	Continuous beeps	
	Audio Alarm Pattern	Continuous beeps	
Power Requirement	Voltage	12VDC, powered by sensor port	
	Current Consumption	200uA	
	Power ON LED	Red LED flashes every 6 seconds	
Housing	Chassis & Cover	ABS plastic	
	Color	Ivory White	
Connection	Cable Length	1m / 3m (option)	
Environmental	On anotic s	5 to 50°C Downs	
Environmental	Operating	-5 to 50°C Degree	
	Storage	-10 to 60°C Degree	
	Humidity	5~90%, non-condensing	
Dimensions	Product	103L x 103W x 55H mm	
	Troduct	1002 X 10077 X 0011111111	
Weight	Net	165g	
		_	
Supply includes	1	Smoke Sensor with 1m cable	
Compatibility:	InfraSolution	X-2000 series	
	InfraGuard	EC-300M & EC-300	
Safety Regulatory	FCC & CE certified		
Environmental	Dalloo A DE tott		
Environmental	RoHS2 & REACH compliant		

< 2.5 > Shock Sensor

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



		Shock Sensor
Part no.		IG-V01
Sensitivity	Detection radius	3.5 m
	Adjustable sensitivity	Internal micro knob with screwdriver cross slot
Alarm Output	Solid State Relay	12VDC@100mA
	Alarm hold time	Approx. 2.0 sec.
	Alarm LED	Red
Power Requirement	Voltage	12VDC, powered by sensor port
	Current Consumption	15mA
	Power consumption	0.18 Watt
Housing	Chassis & Cover	ABS plastic
	Color	White
Connection	Cable Length	1m / 3m (option)
Environmental	Operating	-5 to 55°C Degree
	Storage	-10 to 60°C Degree
	Humidity	5~90%, non-condensing
	_	
Dimensions	Product	26 x 85 x 24 mm
Weight	Net	40g
Supply includes	1	Shock Sensor with 1m cable
Compatibility	InfraSolution	X-2000 series
	InfraGuard	EC-300M & EC-300
Cofety Development	•	500 0 05 VIII I
Safety Regulatory FCC & CE certified		
Environmental		Delloo A DEAOLL consilient
Environmental RoHS2 & REACH compliant		

< 2.6 > Water Sensor



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



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

< 2.8 > LED Beacon

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



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

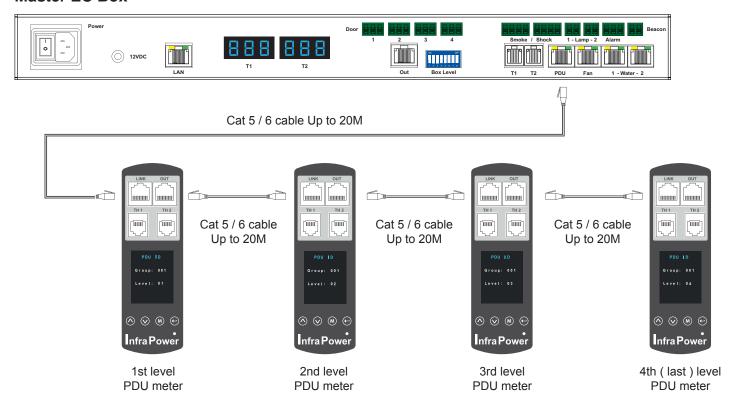
WSi series: outlet level measurement switched PDU



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

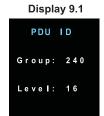
http://www.austin-hughes.com/solutions/intelligent-kWh-pdu.html#Single Phase

Master EC Box



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

PDU level setting:



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

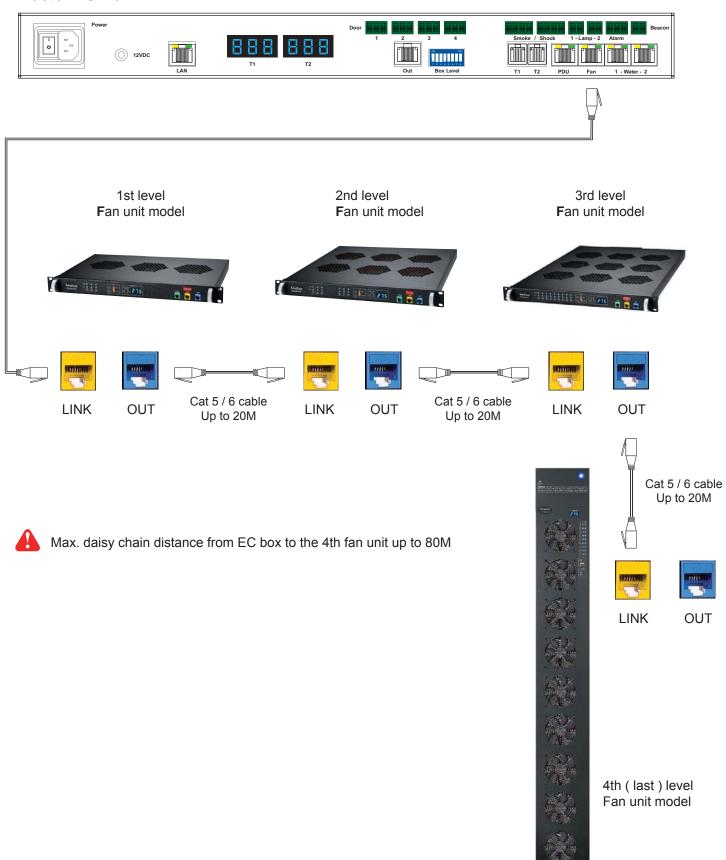


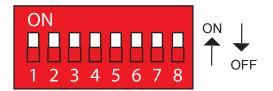
For details about PDU level setting, please refer to IPM-03 user manual < 3.1 > : http://www.austin-hughes.com/support/usermanual/infrapower/UM-IPM-03.pdf

< 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





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

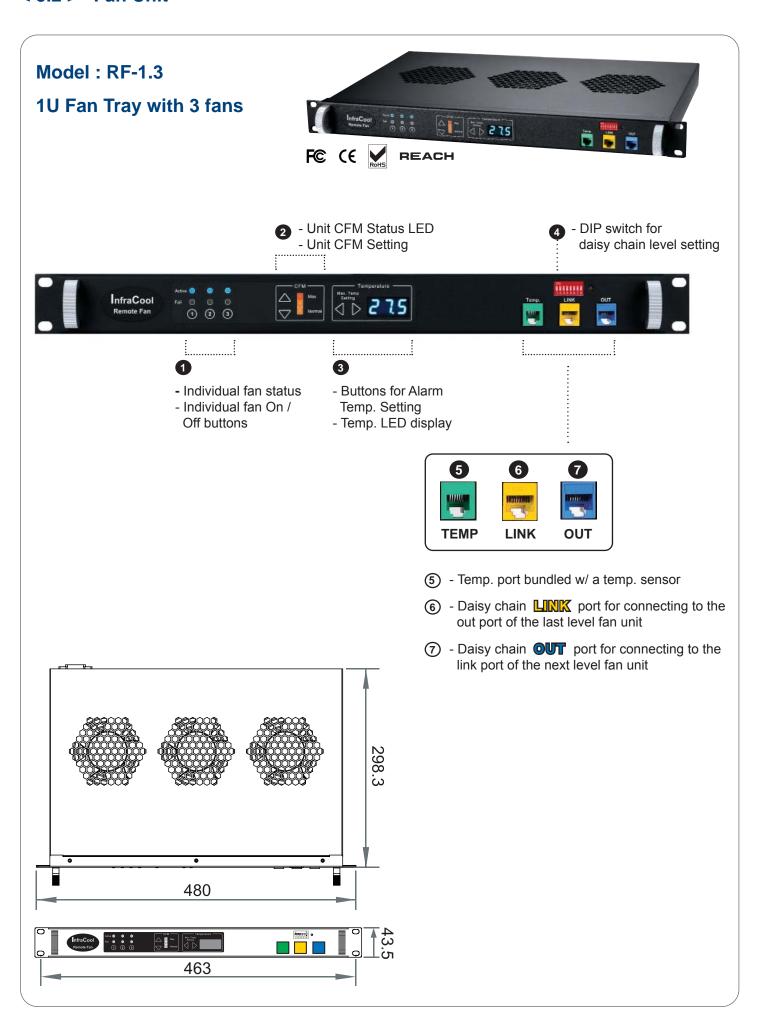
^{**} No. 7 dip switch only for audio alarm setting

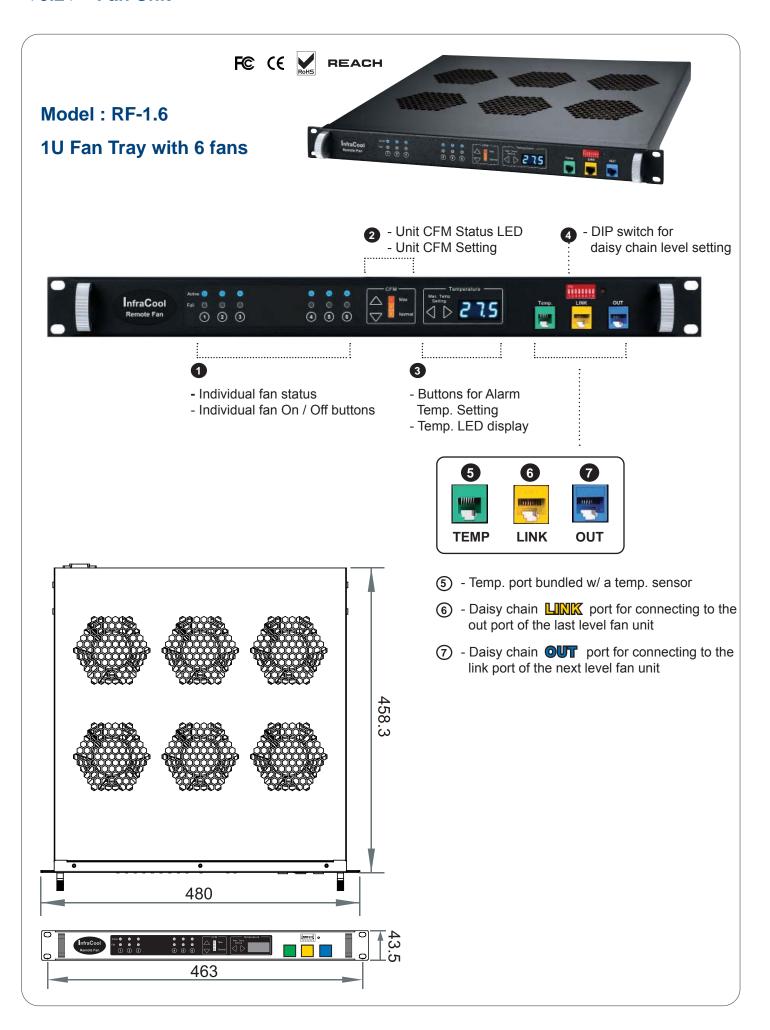
Using the dip switch no. 7 to setup each FAN unit audio alarm as below:

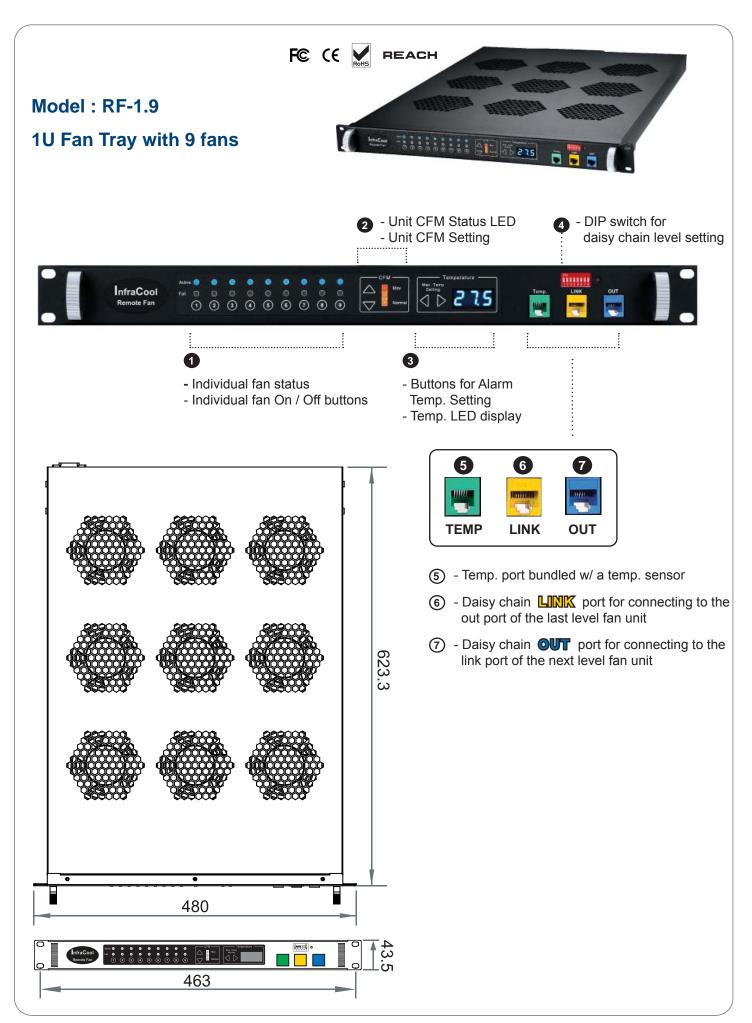
	Dip switch 7
Enable	On
Disable	Off

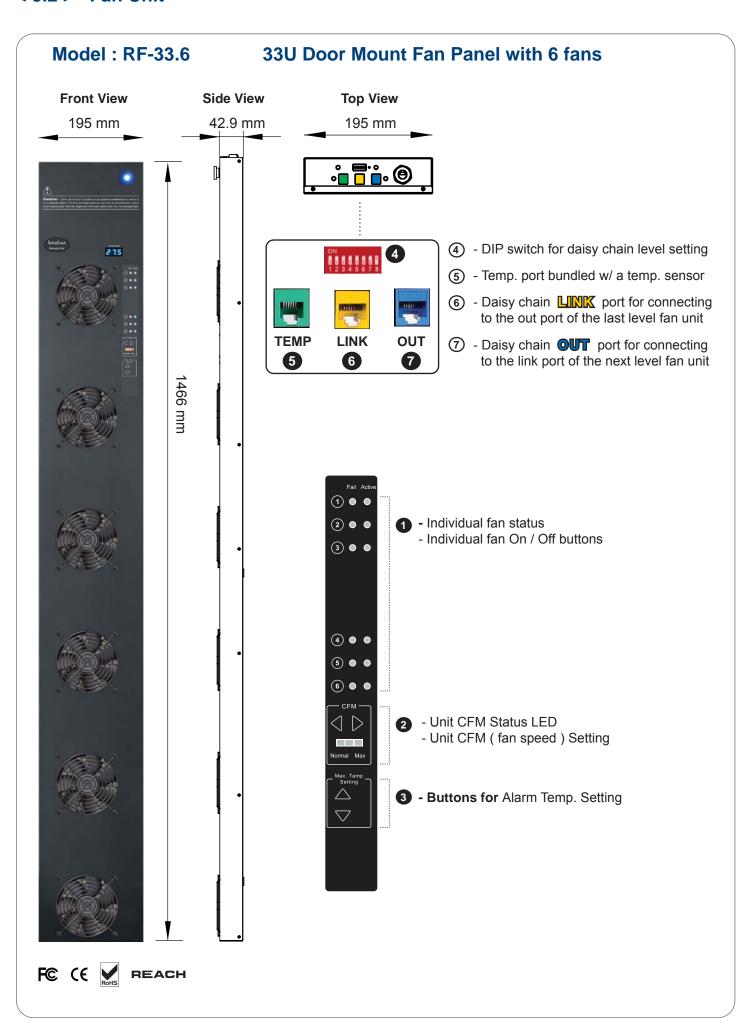


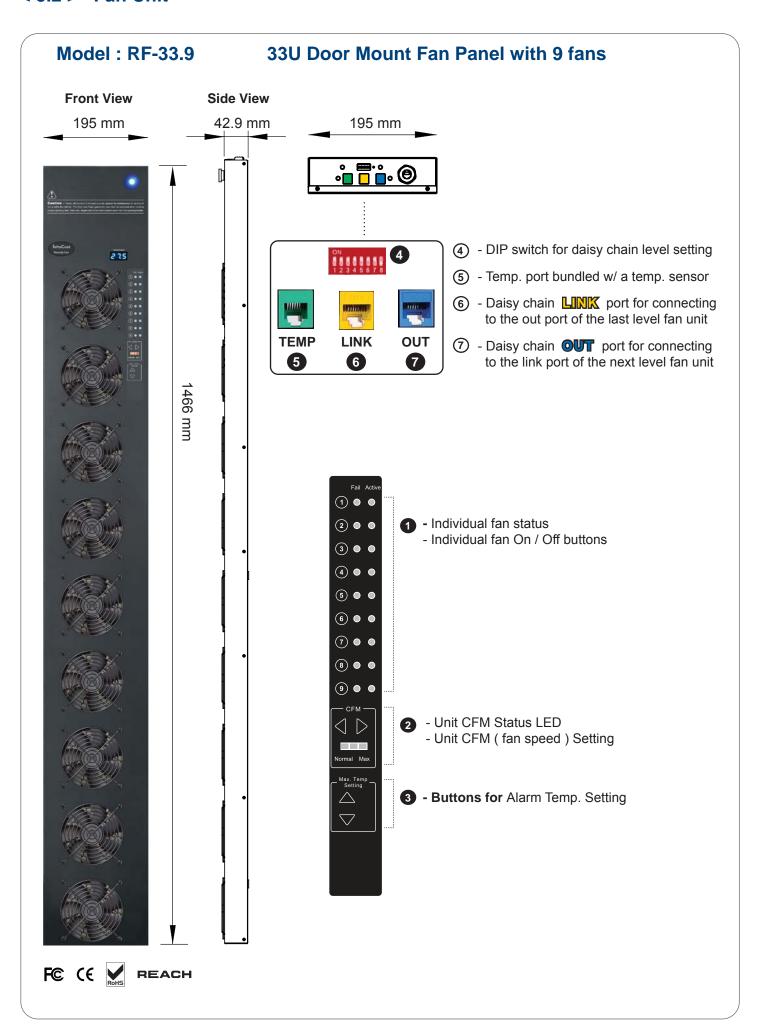
If enable the audio alarm, the buzzer will sound when the outside temperature is over the preset alarm temperature.











< 3.2 > Fan Unit

Model	RF-1.3 / 1.6 / 1.9	RF-33.6 / 33.9		
No. of Fan	3 / 6 / 9	6 / 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 648 / 972 CFM			
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Not available, must be via Master IP fan on the 1st lev			
	2nd to 16th level			
Buildy Sham Lovel	2110 10	1000		
Temperature Port	1 x temperature sensor port (sensor bundled)			
·	0 to 99.9°C			
Measurement Accuracy	+/- 1	1.5%		
Temperature Alarm	Ye	es		
·				
Input	100V or 240V AC at 50 or 60I	Hz via IEC type cord		
Consumption	20W / 40W / 60W	40W / 60W		
	0 to 50°C			
Storage	-5 to 60°C			
	90%, non-condensing			
	50G peak acceleration (11ms, half-sine wave)			
Vibration	58~100Hz / 0.98	3G (11ms / cycle)		
Model	Draduat Dimension	Docking Dimension		
		Packing Dimension		
RF-1.3		380 x 535 x 120 mm 15 x 21.1 x 4.7 inch		
DE 4.6				
KF-1.0		550 x 550 x 120 mm 21.7 x 21.7 x 4.7 inch		
RF-1 9		550 x 730 x 120 mm		
1.5		21.7 x 28.7 x 4.7 inch		
RF-33.6		263 x 106 x 1650 mm		
	7.7 x 1.7 x 57.7 inch	10.4 x 4.2 x 65.0 inch		
RF-33.9	195 x 42.9 x 1466 mm	263 x 106 x 1650 mm		
	7.7 x 1.7 x 57.7 inch	10.4 x 4.2 x 65.0 inch		
Model	Net Weight	Gross Weight		
Model RF-1.3	Net Weight 4 kgs / 8.8 lbs	Gross Weight 5 kgs / 11 lbs		
RF-1.3	4 kgs / 8.8 lbs 6.8 kgs / 15 lbs	5 kgs / 11 lbs 8 kgs / 17.6 lbs		
RF-1.3 RF-1.6 RF-1.9	4 kgs / 8.8 lbs 6.8 kgs / 15 lbs 9 kgs / 19.8 lbs	5 kgs / 11 lbs 8 kgs / 17.6 lbs 11 kgs / 24.2 lbs		
RF-1.3 RF-1.6 RF-1.9 RF-33.6	4 kgs / 8.8 lbs 6.8 kgs / 15 lbs 9 kgs / 19.8 lbs 4.3 kgs / 9.5 lbs	5 kgs / 11 lbs 8 kgs / 17.6 lbs 11 kgs / 24.2 lbs 6.6 kgs / 14.5 lbs		
RF-1.3 RF-1.6 RF-1.9	4 kgs / 8.8 lbs 6.8 kgs / 15 lbs 9 kgs / 19.8 lbs	5 kgs / 11 lbs 8 kgs / 17.6 lbs 11 kgs / 24.2 lbs		
RF-1.3 RF-1.6 RF-1.9 RF-33.6	4 kgs / 8.8 lbs 6.8 kgs / 15 lbs 9 kgs / 19.8 lbs 4.3 kgs / 9.5 lbs 5 kgs / 11 lbs	5 kgs / 11 lbs 8 kgs / 17.6 lbs 11 kgs / 24.2 lbs 6.6 kgs / 14.5 lbs		
RF-1.3 RF-1.6 RF-1.9 RF-33.6	4 kgs / 8.8 lbs 6.8 kgs / 15 lbs 9 kgs / 19.8 lbs 4.3 kgs / 9.5 lbs	5 kgs / 11 lbs 8 kgs / 17.6 lbs 11 kgs / 24.2 lbs 6.6 kgs / 14.5 lbs		
	No. of Fan Mounting CFM Level Individual Fan ON / OFF Individual Fan CFM Unit CFM (Approximately) IP Remote Access Daisy Chain Level Temperature Port Measurement Range Measurement Accuracy Temperature Alarm Input Consumption Operating Storage Relative Humidity Shock Vibration Model RF-1.3 RF-1.6 RF-1.9 RF-33.6	No. of Fan 3 / 6 / 9		

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.

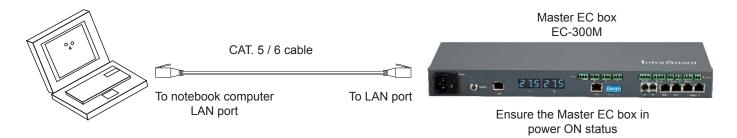
InfraGuard IGM-03

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

< 4.2 > Master IP Configuration

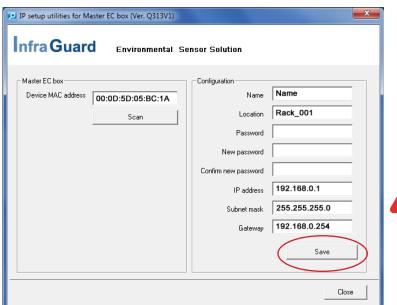
Please take the following steps to configure the Master EC box.

- **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 MasterIPsetup.msi 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.





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 "00000000"
- Step 8. Enter new password in "New password" (min. 8 char. / max. 16 char.).
- Step 9. Re-enter new password in "Confirm new password "
- Step 10. Change the desired "IP address " / " Subnet mask " / " Gateway ", then Click " Save " to confirm the changes The default IP setting is as below:

IP address: 192.168.0.1 Subnet mask: 255.255.255.0 Gateway: 192.168.0.254

< 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

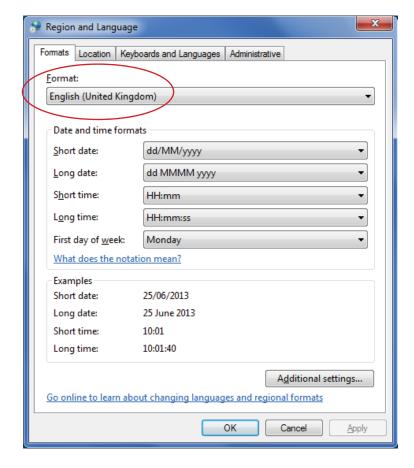
InfraGuard Manager – IGM-03 supports the OS platforms & languages as below:

- 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 <u>Control Panel > Region and Language</u> 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 "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.

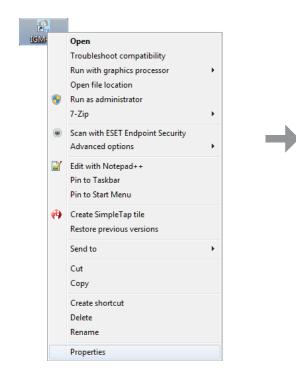


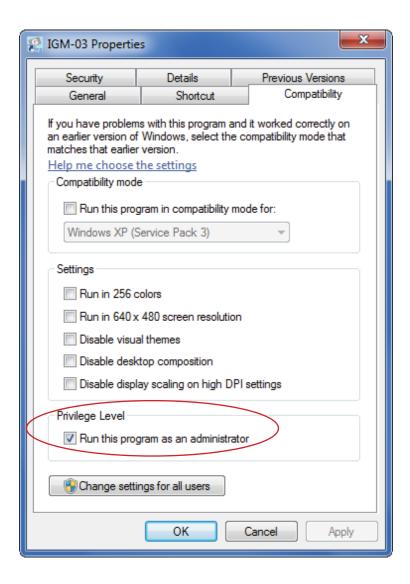


For MS Windows 7 and MS Windows server 2008,

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.



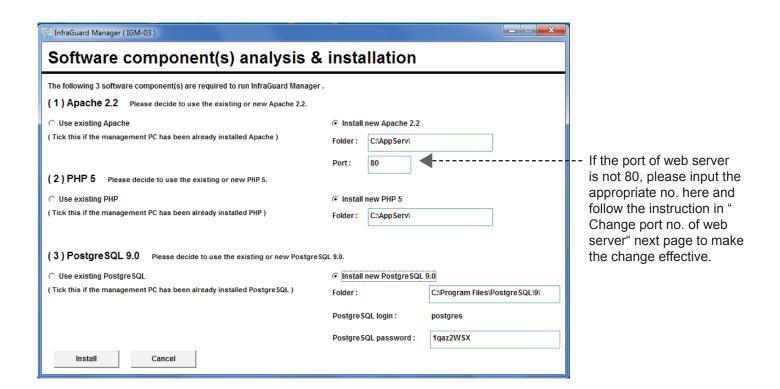




< 4.6 > First Time Start-up Setting

Step 2. Click "Next "in "InfraGuard Manager start-up setting "box

Step 3. Input the fields of the following window & Click "Install "





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 !, \$, #, %)

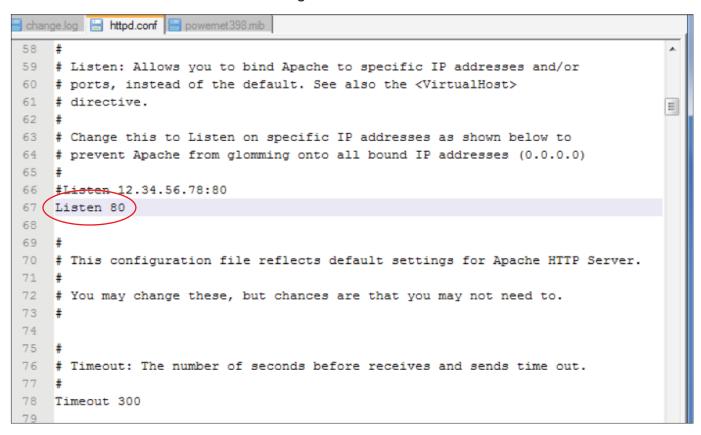
· · · · · · · · · · · · · · · · · · Complete

< 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



Step 3. Restart Apache services.

Go to Control Panel > Administrative Tools > Services > Apache2.2 & Click " Restart "

· · · · · · · · · · · · · · · · · Complete

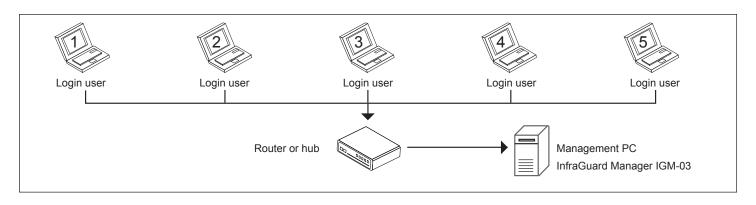
Part V. System Setup & Remote Access

< 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 authen	System authentication				
User name	admin				
Password	• • • • • •				
Login	Cancel				



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 >

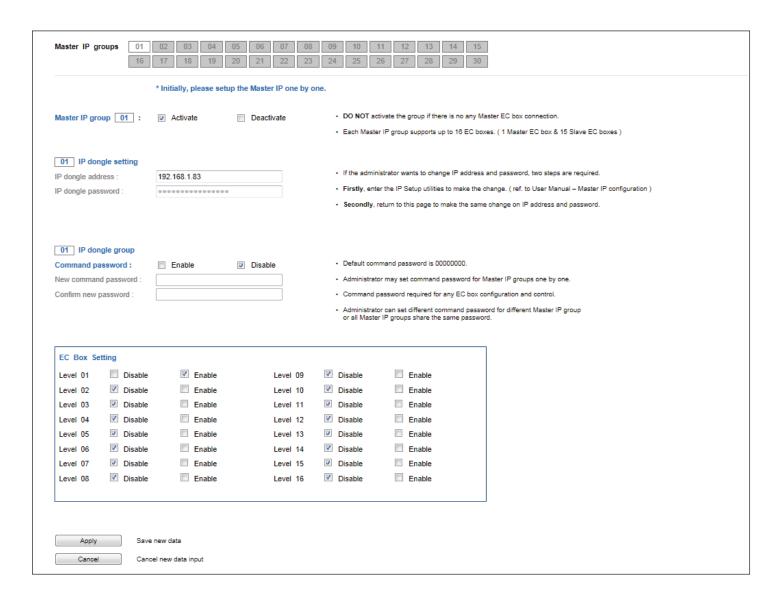
In < **User** > page, administrator can create 4 more operators.

- 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

	Activate	Username	User login password	Confirm password
Administrator:	~	admin	0000000000000	***************
Only administrato	or is authorise	d to access SYSTEM SETTING.		
Only administrato	or is authorise	d to set and change all users' passy	vord.	
	40 -1-			
 Min. 4 char. and 	max. 16 char	r. for user name.		
		r. for user name. r. for user login password.		
• Min. 8 char. and	max. 16 char	r. for user login password.	elete the original operator and create a new one. A	A new user login password is required.
• Min. 8 char. and	max. 16 char	r. for user login password.	elete the original operator and create a new one. A	A new user login password is required.
 Min. 8 char. and If there is any ch 	max. 16 char	r. for user login password.	elete the original operator and create a new one. A	A new user login password is required.
 Min. 8 char. and If there is any ch Operator 01: 	max. 16 char	r. for user login password. r name, system will automatically de		
• Min. 8 char. and	max. 16 char nange of user	r. for user login password. r name, system will automatically de		***************************************

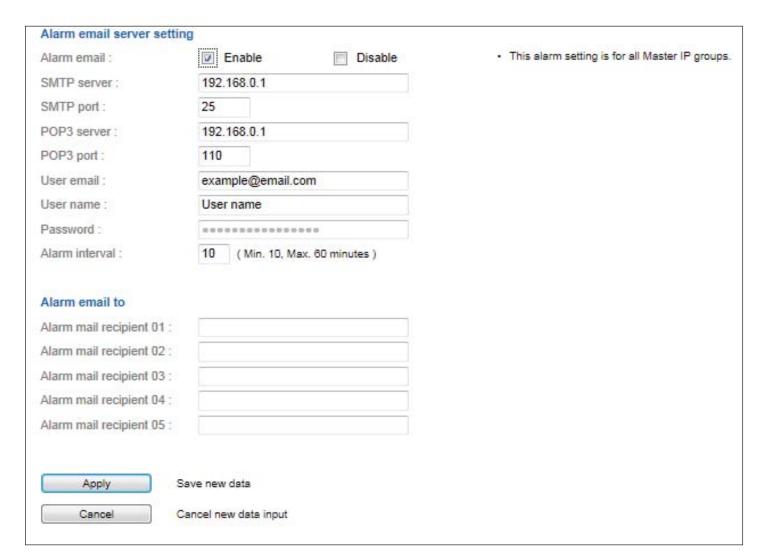
In < Setup > page, administrator can

- 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



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

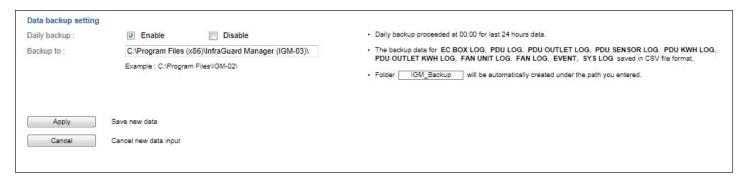
- Step 1. " Enable " alarm email
- Step 2. Input " SMTP server ", " SMTP port "
- Step 3. Input sender email account in "User email"
- Step 4. Input sender name in "User name "
- Step 5. Input sender email account password in "Password "
- Step 6. Input the " Alarm interval "
- Step 7. Input the alarm recipient email account in " Email address 01 "
- **Step 8.** Repeat step 7 from other alarm recipients if necessary
- Step 9. Click "Apply " to finish the alarm email server settings



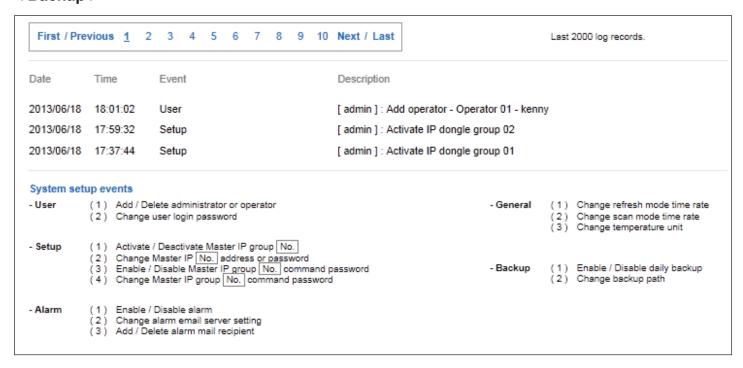
In < General > , administrator can change the "Refresh rate", "Scan rate "& "Temperature unit "across all Master IP groups



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



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



< 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.

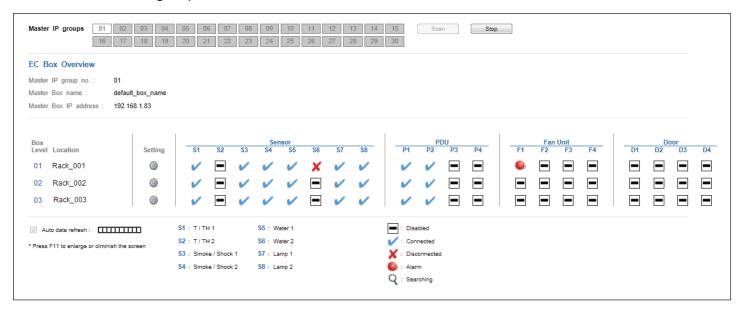
 Input " **User name** ", " **Password** " & Click " **Login** "

System authen	System authentication				
User name	admin				
Password	• • • • • •				
Login	Cancel				

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

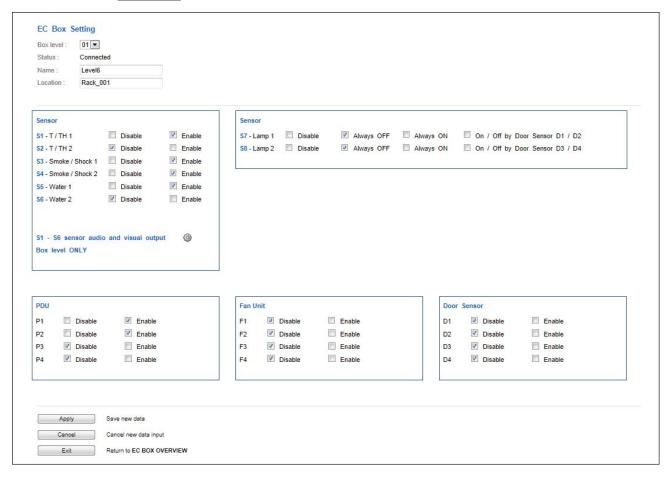


In < EC Box Device Setting > user can disable or enable :

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

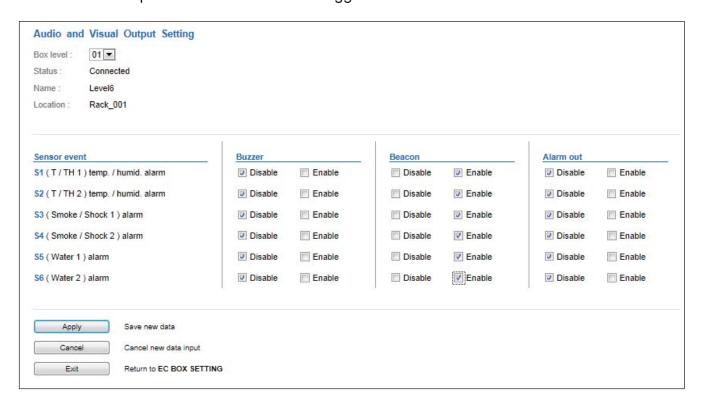


DO NOT Enable devices if not connected



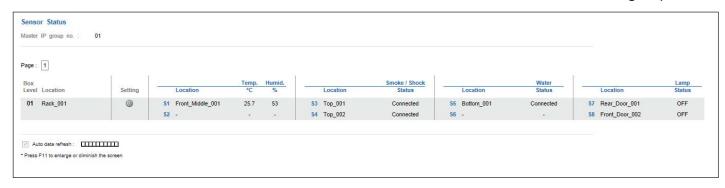
< 6.1 > Devices Overview

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



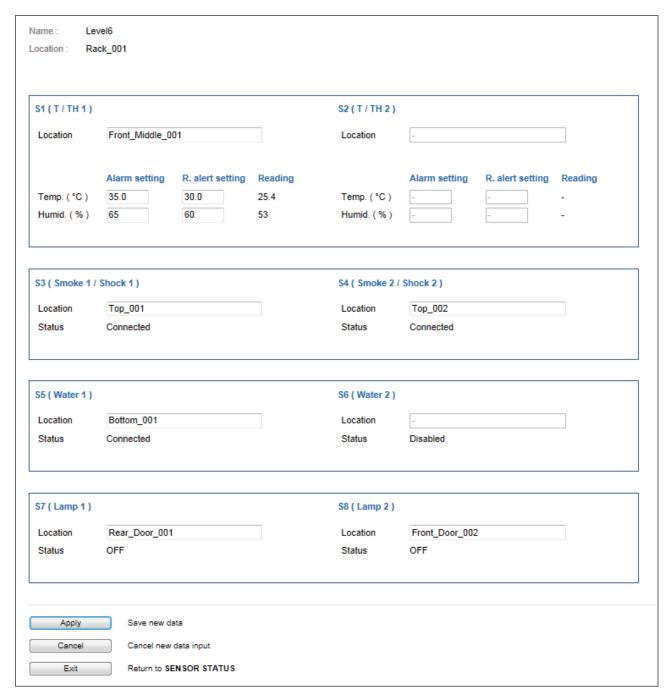
< 6.2 > Sensors

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

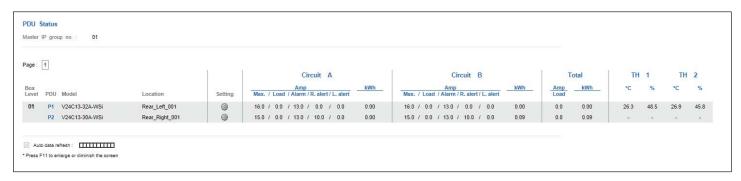


In < Sensor Setting >, user can modify

- " Location " of T / TH sensor, smoke / shock sensor, water sensor & LED light bar
- " Alarm setting " & " Rising alert setting " of T / TH sensor
- Click " Apply " to finish the above settings

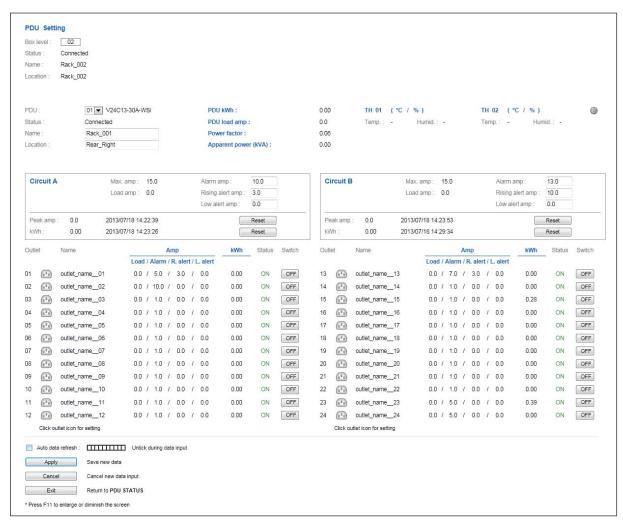


In < PDU Status >, user can monitor PDU's status in details based on Master IP group



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 lastest loading & energy consumption of outlets (Outlet level measurement PDU models only)
- View the lastest T / TH reading connected to the 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)



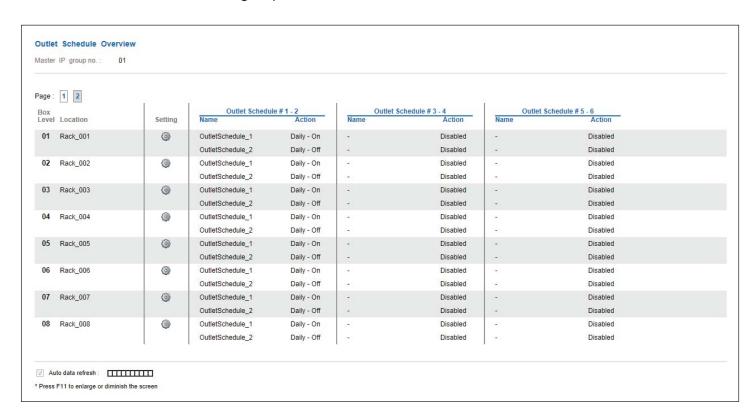
In < TH setting >, user can

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

Not Carlow to		
TH Setting		
Box level: 02		
Status: Connected		
Name: Rack_002		
Location: Rack_002		
PDU: 01 V12C13/4C19-32A-WSi		
Status: Connected		
Name : default_pdu_nam		
Location: PDU_default_loc		
TH1 ☐ Deactivate ☑ Activate	TH 2 Deactivate Activate	1
Locaton: THSensor_1_loc.	Locaton: -	DO NOT activate T or TH sensor if no sensor installed.
Locatori. Insersol_1_loc.	Locatori .	 When install T or TH sensor, please tick activate. Otherwise, no readings display.
Alarm Rising alert	Alarm Rising alert	
Alarm Rising alert Setting Reading	Setting Reading	
Temp. (°C): 34.0 32.0 23.5	Temp.(°C):	
Humid. (%): 70.0 65.0 63.9	Humid. (%):	
		7.
Apply Save new data		
Cancel new data input		
Exit 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



<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.

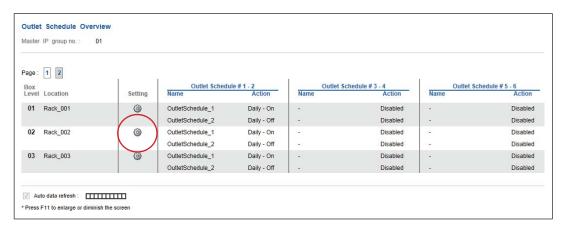
To set the outlet schedule, please follow the steps in next page

tus : me :		Conne Rack_									
Location: Rack_002											
let s	chedu	ıle :	1 🔻	Dis	able	▽ En	able				
ne:											
on:			♥ OFF ON								
le:			ne-Time								
			01 🕶 /	01 🕶	(MM / DD	date f	format)				
			Sun →	00 -	(24 hours	forms	at)				
			00 1	•••	(24 110413	TOTTIL	.,				
tlet	sch	edule									
					15.65.			n_o	U0.40.40.001.U00	2000	
P1		V24C	13-30A-WSi		P2		V24C13-30A-WSi	P3	V24C13-30A-WSi	P4	V24C13-30A-WSi
	01	(0 ° 0)	outlet_name_	01		01	outlet_name01	01	outlet_name01	01	outlet_name01
	02		outlet_name_			02	outlet_name02	02	outlet_name02	02	outlet_name02
	03	(0.0)	outlet_name_			03	outlet_name03	03	outlet_name03	<u> </u>	outlet_name03
	04	(0.0)	outlet_name_			04	outlet_name04	0 4	outlet_name04	04	outlet_name04
	05		outlet_name_			05	outlet_name05	05	outlet_name05	<u> </u>	outlet_name05
	06		outlet_name_			06	outlet_name06	□ 06	outlet_name06	6	outlet_name06
	07		outlet_name_			07	outlet_name07	07	outlet_name07	<u> </u>	outlet_name07
	08	(0)	outlet_name_			08	outlet_name08	08	outlet_name08	08	outlet_name08
	09	(0.0)	outlet_name_			09	outlet_name09	09	outlet_name09	09	outlet_name09
	10		outlet_name_			10	outlet_name10	<u> </u>	outlet_name10	10	outlet_name10
	11	(0.0)	outlet_name_			11	outlet_name11	11	outlet_name11	11	outlet_name11
	12		outlet_name_			12	outlet_name12	12	outlet_name12	12	outlet_name12
	13		outlet_name_			13	outlet_name13	13	outlet_name13	13	outlet_name13
	14		outlet_name_			14	outlet_name14	1 4	outlet_name14	14	outlet_name14
	15		outlet_name_			15	outlet_name15	<u>1</u> 5	outlet_name15	<u>15</u>	outlet_name15
	16		outlet_name_			16	outlet_name16	1 6	outlet_name16	16	outlet_name16
	17	_	outlet_name_				outlet_name17	17	outlet_name17	17	outlet_name17
	18		outlet_name_				outlet_name18	<u> </u>	outlet_name18	18	outlet_name18
	19	_	outlet_name_				outlet_name19	19	outlet_name19	19	outlet_name19
	20	(0 0	outlet_name_			20	outlet_name20	20	outlet_name20	20	outlet_name20
	21		outlet_name_				outlet_name21	21	outlet_name21	<u>21</u>	outlet_name21
	22		outlet_name_			22	outlet_name22	<u> </u>	outlet_name22	<u> </u>	outlet_name22
	23	_	outlet_name_			23	outlet_name23	23	outlet_name23	23	outlet_name23
	24						outlet_name24	24	outlet_name24	<u>24</u>	outlet_name24
	24	(0 - 0)	outlet_name_				24 Valiet_Hairie24			_	

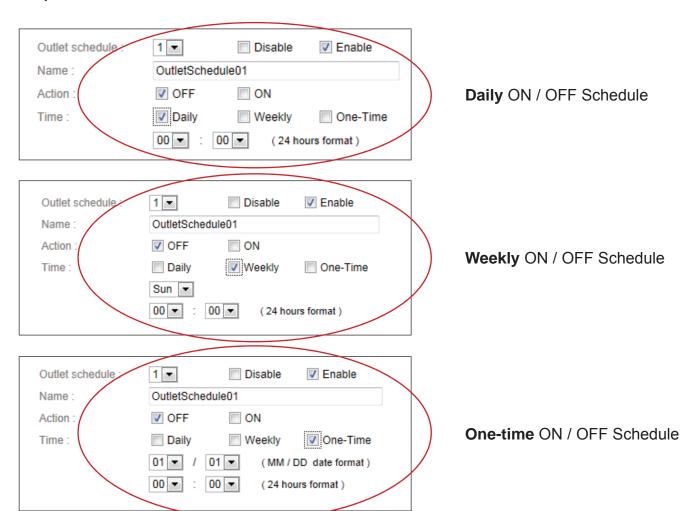
PDU outlet schedule is a function allowing users to set a specific time to switch either ON or OFF the outlets on daily, weekly or one-time basis.

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

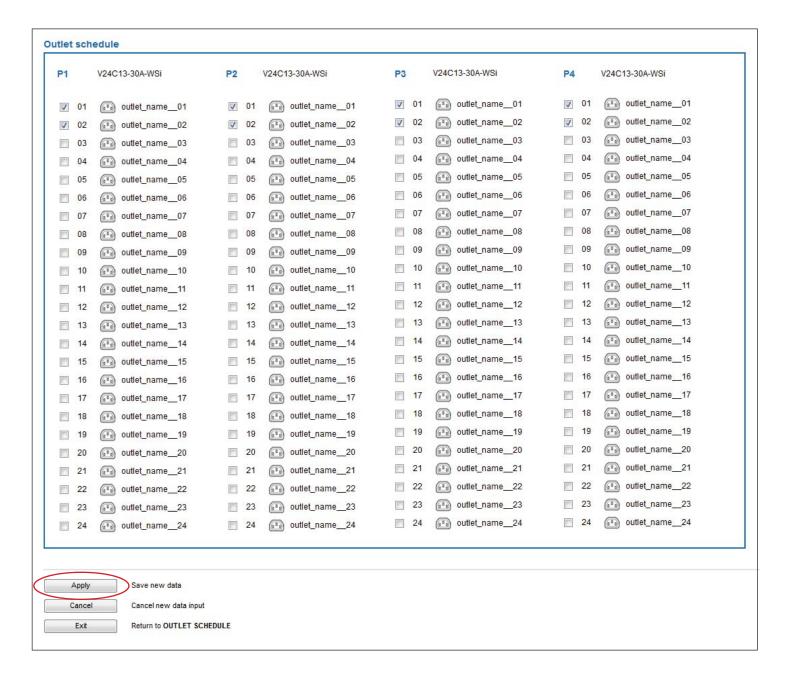
Step 1. Go to < Outlet Schedule Overview > page, Click "Setting"



- Step 2. In < Outlet Schedule Setting > page, Select "Oultet 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.



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



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.

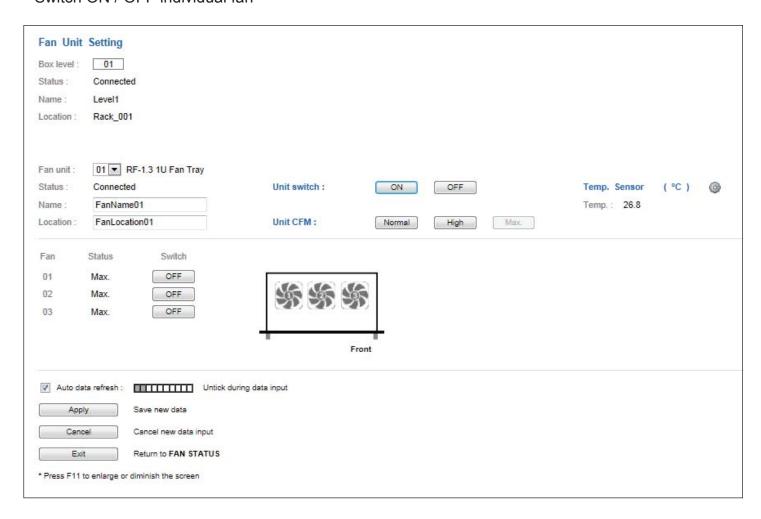
< 6.4 > Fan Unit

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



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



< 6.4 > Fan Unit

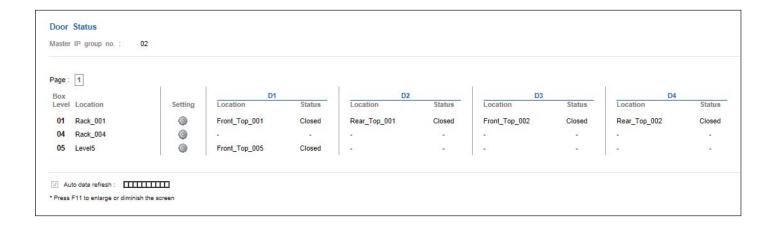
In < Temp Setting >, user can

- " 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

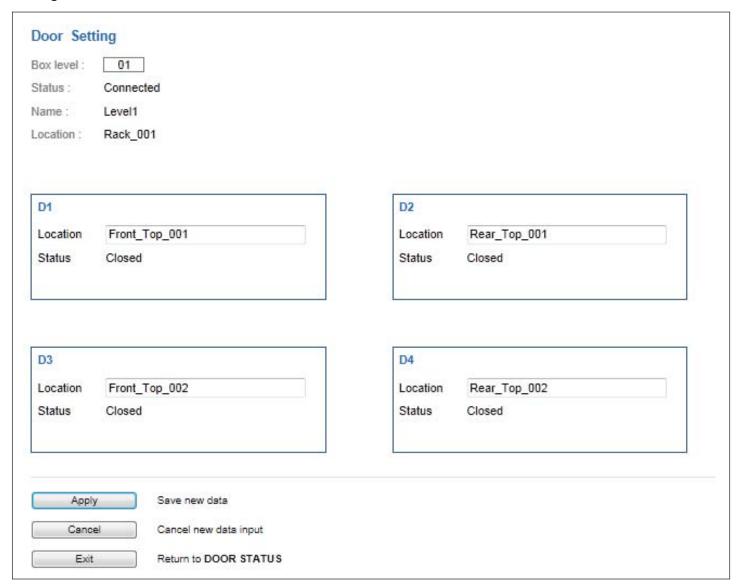


< 6.5 > Door

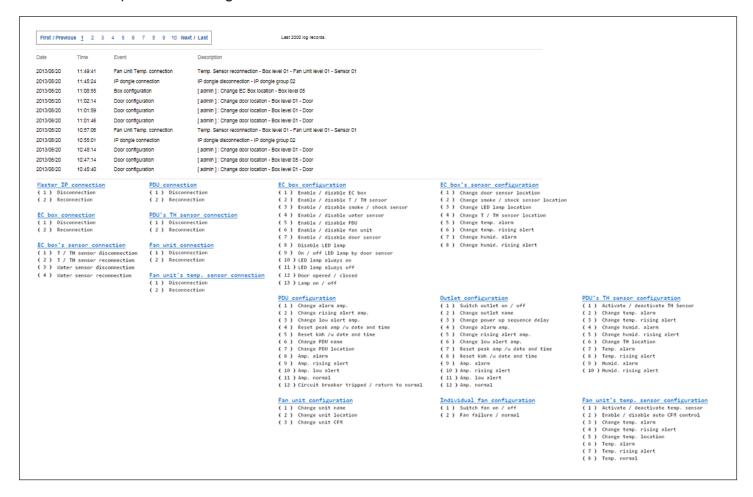
< Door Status > provides a scan function to monitor the door sensor status based on Master IP group



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



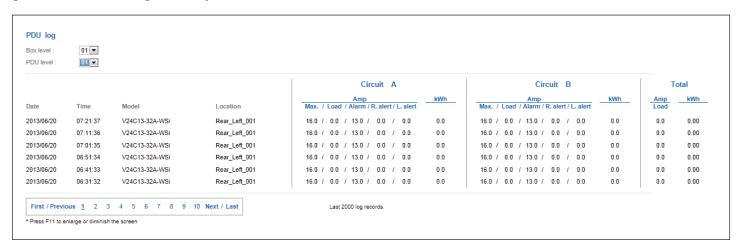
- < Event > provides past 2000 events of the following devices in an Master IP group
- EC box configuration & connection
- Sensor configuration & connection
- PDU configuration & connection
- PDU's outlet & TH sensor configuration
- Fan unit configuration & connection
- Fan unit Temp. sensor configuration



< 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



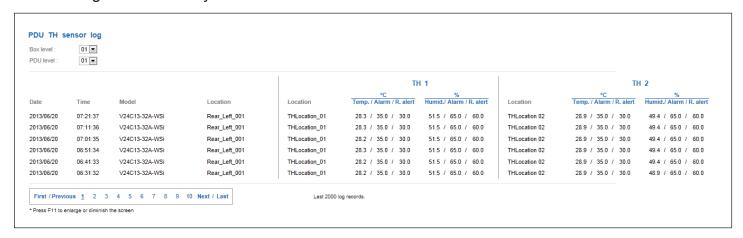
< **PDU log** > provides past 2000 log records of PDUs connect in each EC box. The software will generate a PDU log in every 10 mins



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



< 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

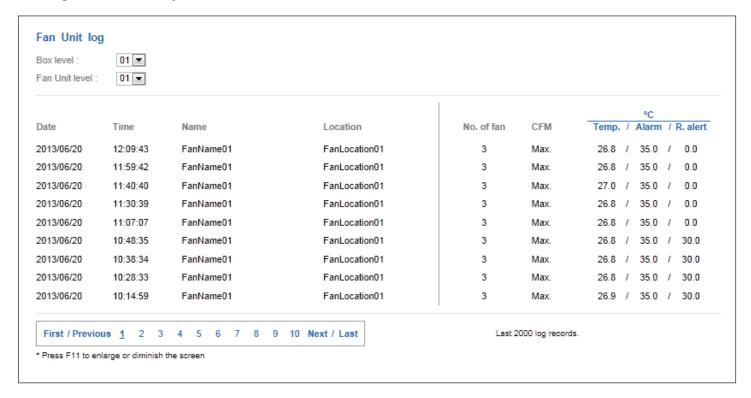


< Daily kWh log - PDU outlet > provides past 2000 daily energy consumption log records of each PDU's outlet. The record is logged at 00:00 everyday (+ / - 5 mins) for previous day (Outlet level PDU models only)

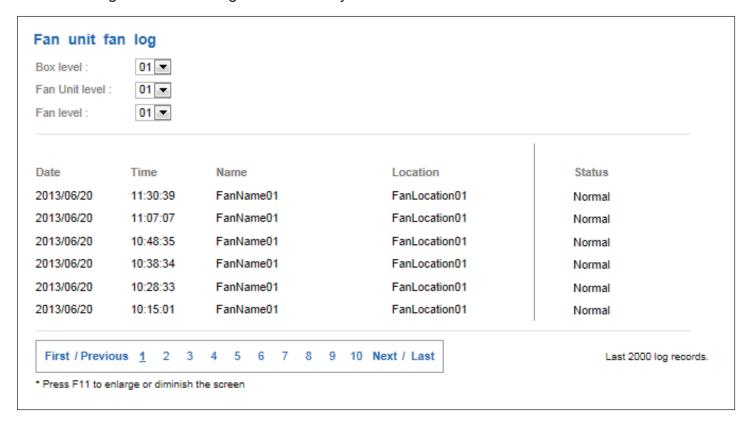
The PDU outlet kWh log will not be recorded at 00:00 if the PDU connected is less than 24 hours

Box level:	01 ▼			
PDU level :	01 💌			
Outlet level :	01 💌			
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	-
First / Previo	ous 1 2 3	4 5 6 7 8	9 10 Next / Last	Last 2000 log records.

< 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 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



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



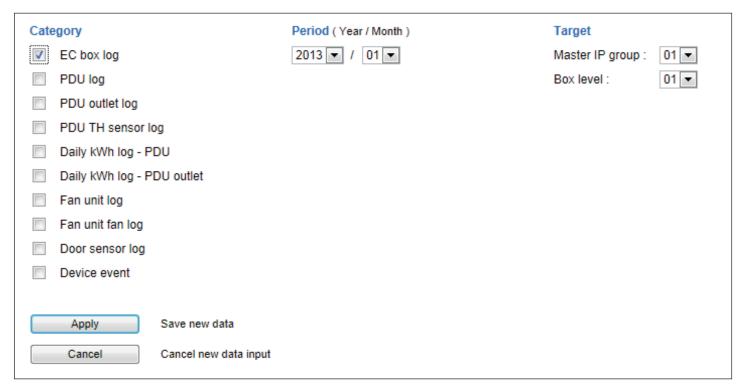
< Report > provides monthly report for EC box log , PDU log , PDU Outlet log ,

PDU TH sensor log , Daily kWh log – PDU , Daily kWh log – PDU outlet ,

Fan unit log , Fan unit fan log , Door sensor log , Device event in CSV format

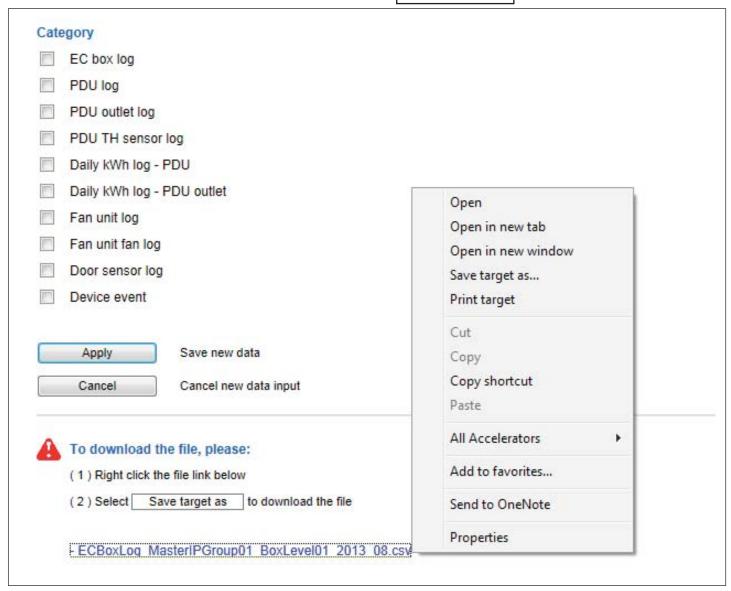
Please take the following steps to export the log category you want :

Step 1 - Select the category, period and target



Step 2 - Click "Apply " and Click "OK " from the pop up window. It takes a few mins to complete

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



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.

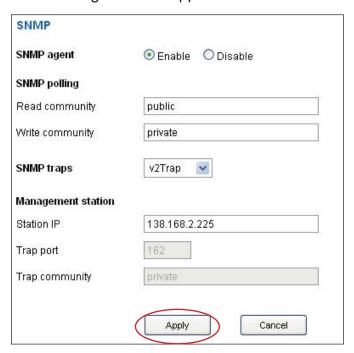
- **Step 1**. Connect the EC-300M master box to a computer. (Please refer to < 4.2 > Master IP Configuration)
- Step 2. Open the Internet Explorer (I.E.) version 8.0 or above
- **Step 3**. Enter the configured IP address of EC-300M master box into the I.E. address bar. Default IP address is " **192.168.0.1** "
- Step 4. Enter "Login name " & "Password ". Default login name & password are "00000000 "



Part VIII. SNMP

Step 5. Select SNMP from the left navigation pane

Step 6. The SNMP Settings window appears as below:



- Step 7. Click "Enable " in "SNMP Agent " to start the SNMP agent service
- Step 8. Input "Read Community ". Default is "public"
- Step 9. Input "Write Community". Default is "private"
- Step 10. Select "disabled "or "V2Trap" in "SNMP Traps"

A 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?

 $0.15 \sim 0.3 \text{ dB/m}$

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

2. How can I get a further support?

Please send an email to support@austin-hughes.com or sales@austin-hughes.com

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)

A

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

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

- 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

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 cabinet

Part no.:

IG-TH01-2M with 2M cord IG-TH01-4M with 4M cord





Safely operated smoke detection

Part no.:

IG-S01-1M with 1M cord IG-S01-3M with 3M cord





- Fluid leakage detection
- · 5M rope round the cabinet bottom to detect any fluid flowing to the cabinet area
- · Detection for temperature

Part no.:

IG-W01-3M with 3M cord

Temp. Sensor



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

Part no.:

IG-T01-2M with 2M cord IG-T01-4M with 4M cord



Shock Sensor



· Alert the physical vibration on the cabinet

Part no.:

IG-V01-1M with 1M cord IG-V01-3M with 3M cord

Part XI. Optional Accessories





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

Part no.:

IG-DSI-2M with 2M cord







Highly visible for alerting user to alarm status

Part no.:

IG-FB03-1M with 1M cord IG-FB03-3M with 3M cord



Mechanical Door Sensor



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

Part no.:

IG-DSW-2M with 2M cord
IG-DSW-4M with 4M cord



LED Light Bar



- · Auto ON / OFF by door sensor detection
- · Manual ON / OFF by software remote
- · Magnetic base for easy affixing to cabinet
- 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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