InfraSolution® X

Smartcard Access Control for Racks

User Manual

XMS-02-S, InfraBox GUI & SNMP

X-2000
X-1000

X-800
Smartcard Handle

Designed and manufactured by Austin Hughes

Legal Information

First English printing, December 2022

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

Safety Instructions

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

- Unplug equipment before cleaning. Don't use liquid or spray detergent; use a moist cloth.
- Keep equipment away from excessive humidity and heat. Preferably, keep it in an air-conditioned environment with temperatures not exceeding 40º Celsius (104º Fahrenheit).
- When installing, place the equipment on a sturdy, level surface to prevent it from accidentally falling and causing 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 A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in business, industrial and commercial environments.

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.

Notice : The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

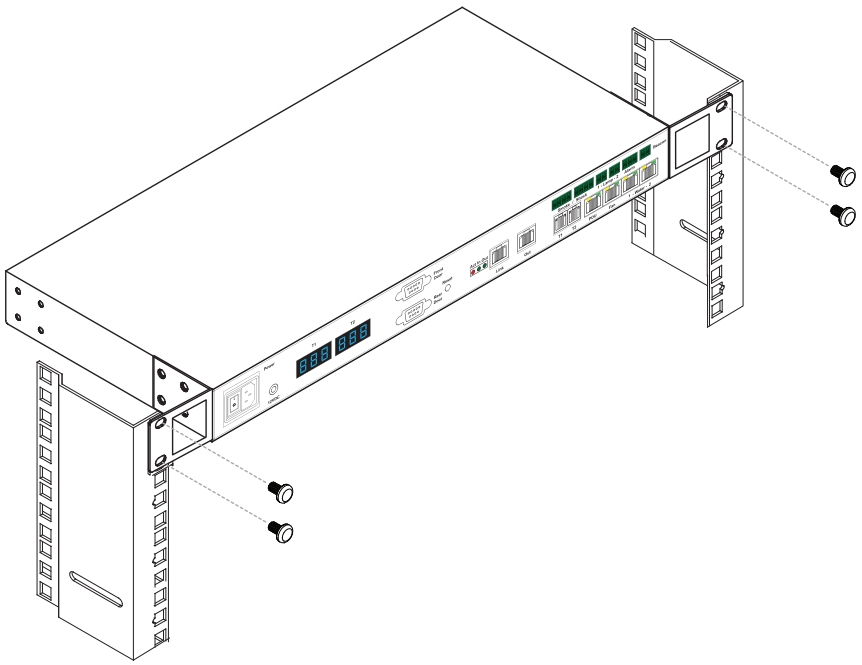
IMPORTANT NOTE: To comply with the FCC RF exposure compliance requirements, no change to the antenna or the device is permitted. Any change to the antenna or the device could result in the device exceeding the RF exposure requirements and void user's authority to operate the device.

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.

InfraBox Installation

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



Contents

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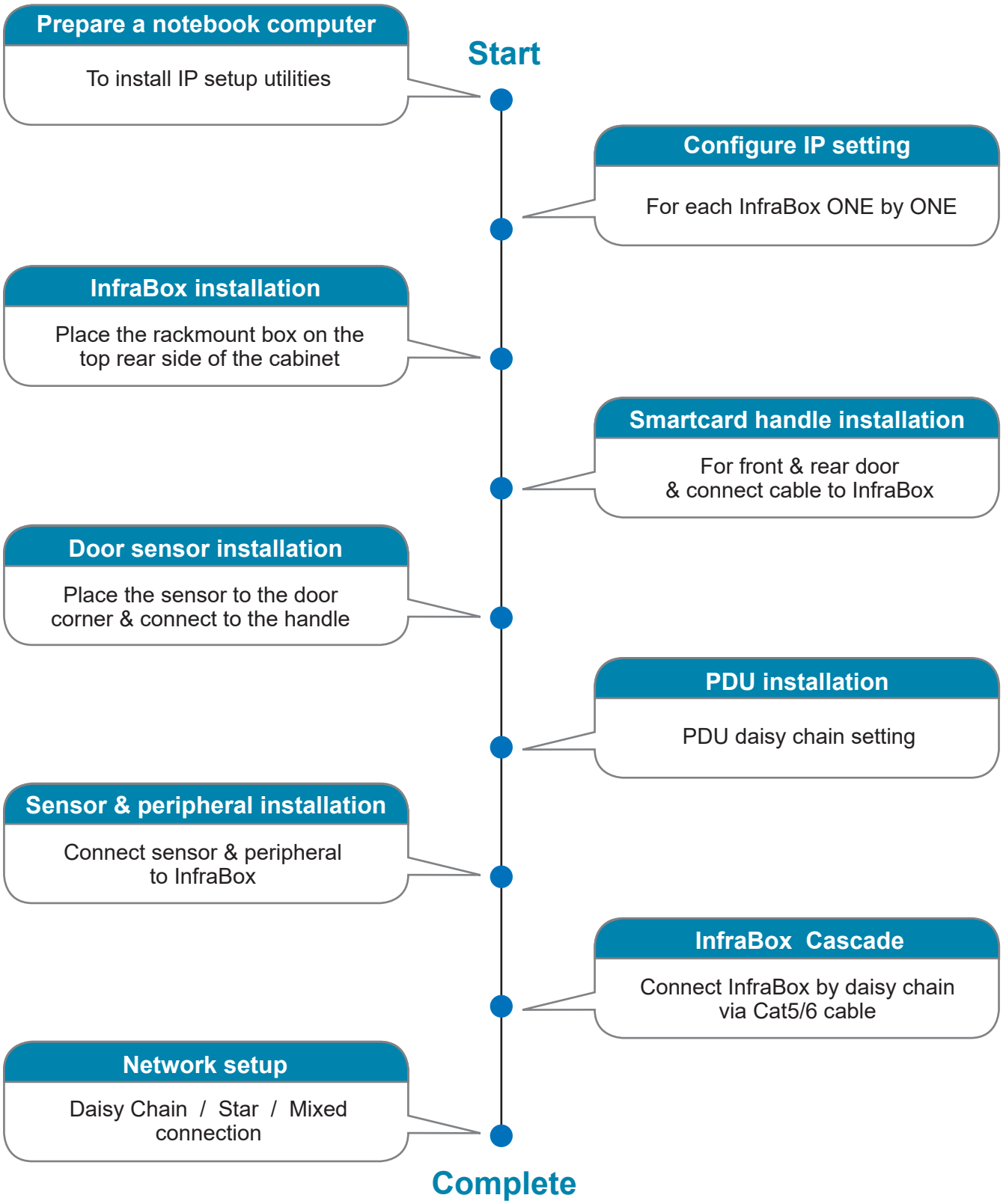
< Part 1 > Hardware
< 1.1 > Tips for hardware



< 1.2 > 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.

- X-2000 **OR** X-1000 InfraBox, 1 pc
- 800 MiFARE **OR** Proximity smart card handle, pair
- Inductive **OR** Mechanical door sensor, pair
- Front door cable, 2-section with joint connector, 1 pc (3150mm)
- Rear door cable, 2-section with joint connector, 1 pc (2350mm)
- 6' Power cord, 1 pc
- Activated smartcard, 1 pc
- Key, 1 pc
- Cable clip, 8 pcs

X-2000

OR

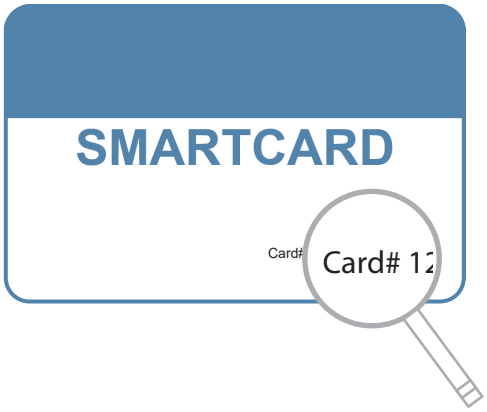
X-1000

Patented and Worldwide
Patents Pending

X-800P **OR** X-800M

Handle mounting screw set :

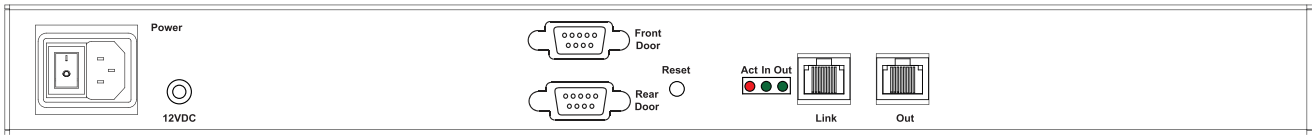
- Handle mounting bracket, 2 pcs
- M4 x 9mm screw, 4 pcs
- Square hole washer, 6 pcs
- Circle hole washer, 2 pcs
- M5 x 10mm screw, 2 pcs
- U bracket x 2
- M3 x 10mm screw, 4 pcs
- Extention spigot, 2 pcs



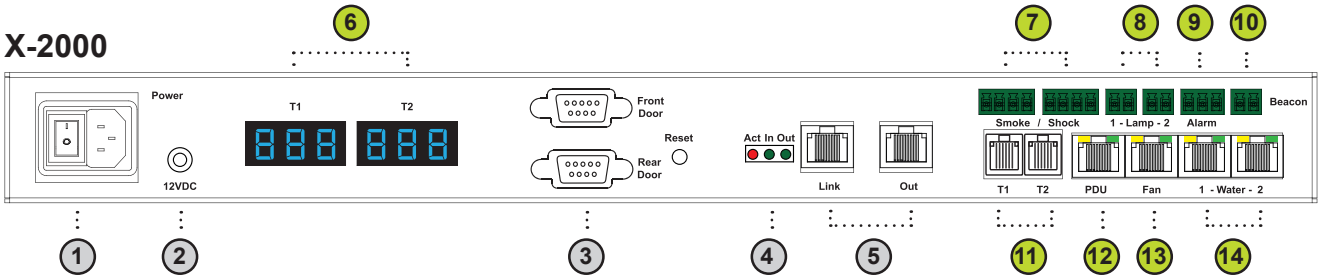
Each package bundled with smartcard x 1. The card on the bottom right shows card number information :

< 1.3 > InfraBox X-1000 / X-2000

X-1000



X-2000

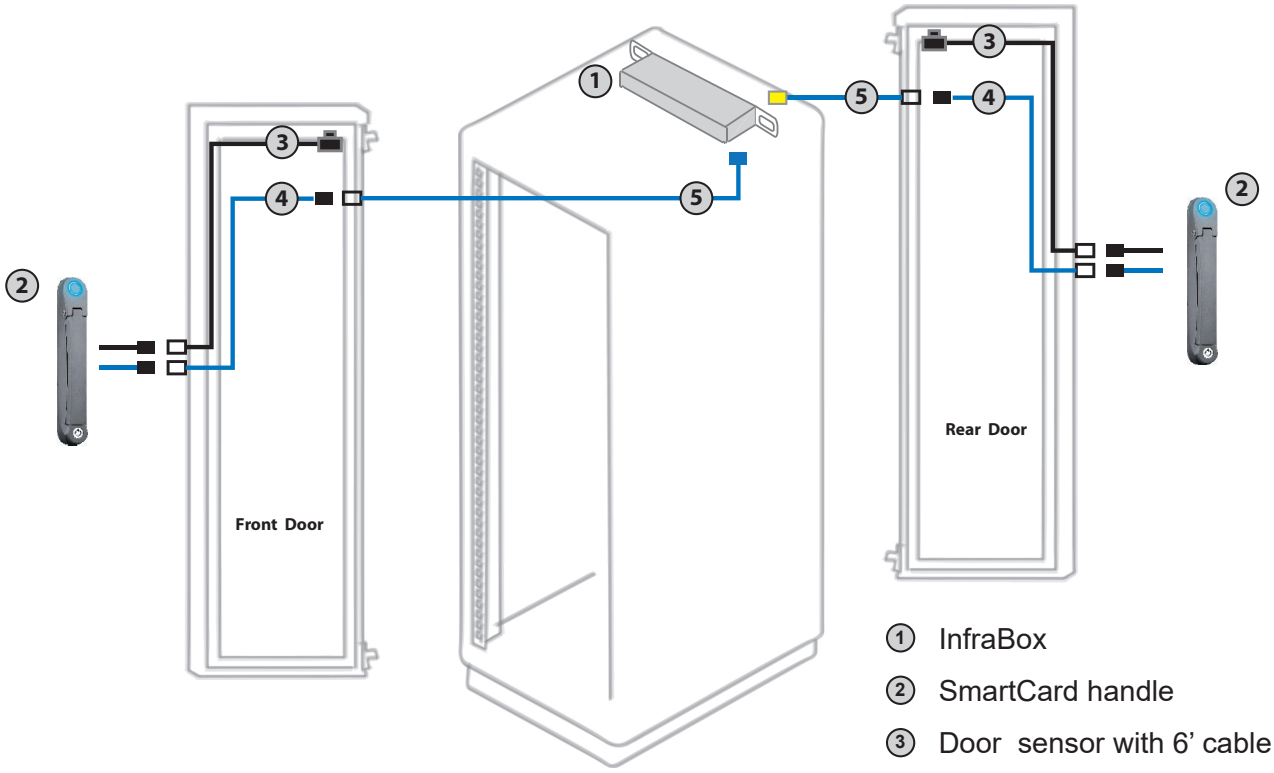


1. Power input
2. Dual power input (option)
3. Door cable DB-9 connector x 2
   Connect to the front and rear handle
4. “Act in Out” LED
5. Daisy chain RJ45 port x 2
   (Link & Out)
6. Temp. LED display x 2
7. Smoke / Shock sensor port x 2
8. LED Light Bar port x 2
9. Port for 3rd party alarm board x 1
10. LED beacon port x 1
11. Temp. & Humid. sensor port x 2
12. PDU port x 1 (RJ-45, up to PDU daisy chain level x 4)
13. Fan unit port x 1 (RJ-45, up to fan unit daisy chain level x 2)
14. Water sensor port x 2

X-1000 / X-2000 Specification

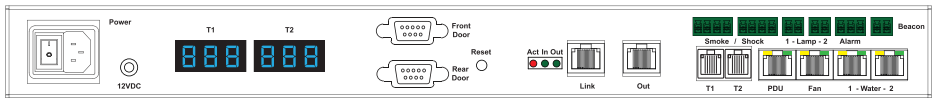
Product Dimension (W x D x H)	400 x 135 x 39.7 mm / 15.7 x 5.3 x 1.6 inch
Packing Dimension (W x D x H)	557 x 367 x 98 mm / 21.9 x 14.4 x 3.9 inch
Net / Gross Weight	1.06 kgs (2.3 lbs) / 2.2 kgs (4.8 lbs)
Power Consumption	Auto-sensing 100~240VAC, 50 / 60Hz 0.5A, Max. 48 Watt
Operating Temperature	0° 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	RoHS3 & REACH compliant by SGS

Key hardware Installation Diagram - InfraBox / Handle / Door Sensor

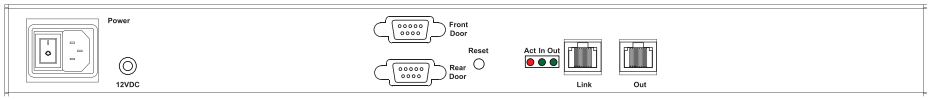


1. InfraBox
2. SmartCard handle
3. Door sensor with 6' cable
4. Door cable (door section)
5. Door cable (cabinet section)

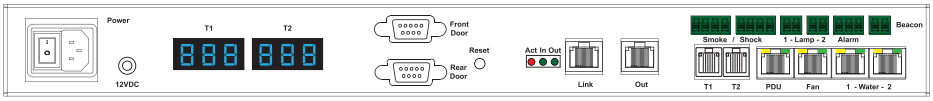
InfraBox Daisy Chain Connection



InfraBox X-2000



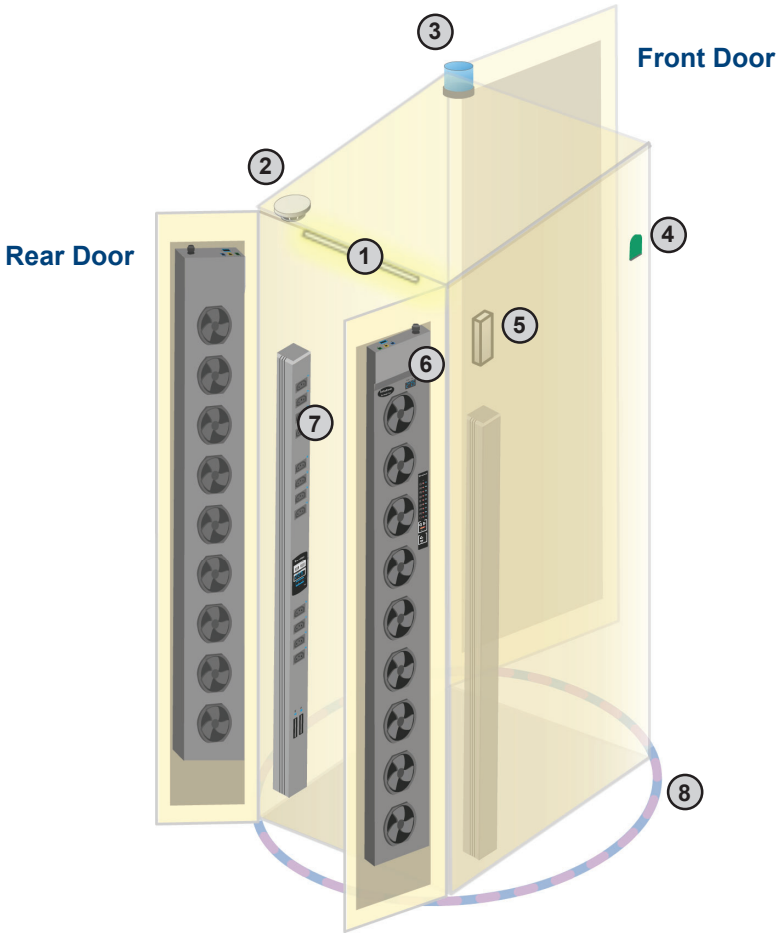
InfraBox X-1000



InfraBox X-2000

- **Up to 50 Infrabox in a single daisy chain**
- **Up to 100 meters in a single daisy chain**

Installation Diagram - PDU / Fan / Sensor / Peripheral



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

IP Setup for InfraBox

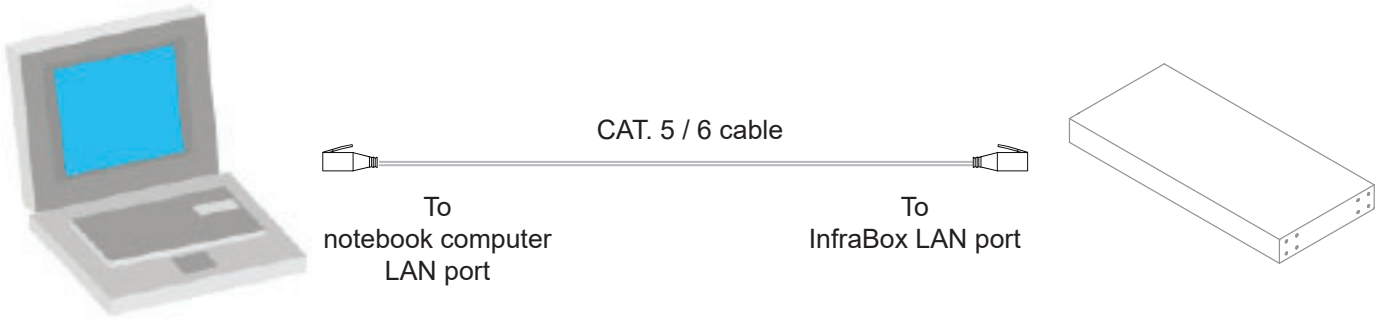
Before place the InfraBox to the cabinet, user **MUST** configure the IP setting for the InfraBox. It takes around 1-2 minutes to complete :

1. Prepare a notebook computer to download the IP setup utilities from the link below :
   http://www.austin-hughes.com/support/utilities/infrasolutionX/InfraBoxSetup.msi

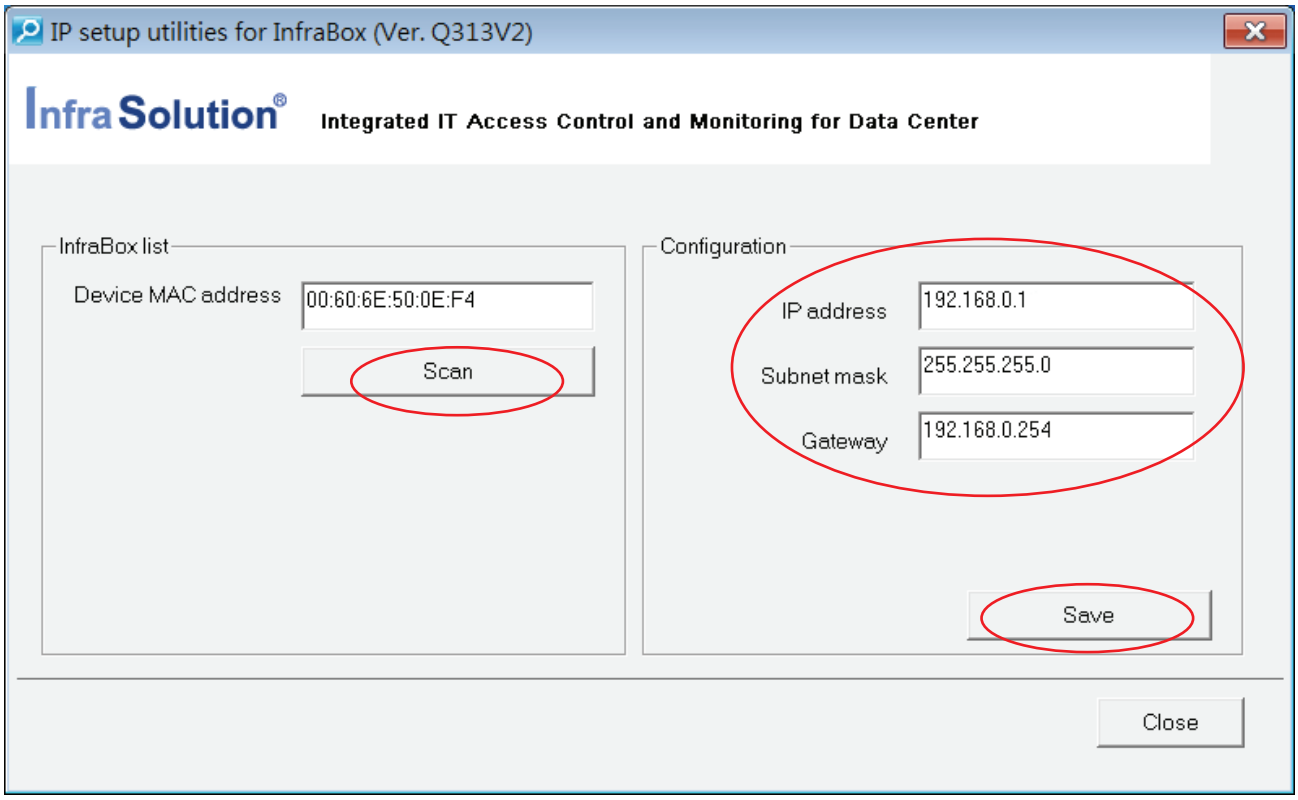
2. Double click the InfraBoxSetup.msi and follow the instruction to complete the utilities installation.

3. Power ON the InfraBox.

4. Go to each InfraBox with the notebook computer & a piece of CAT. 5 / 6 cable to configure the InfraBox as below.



IP Setup for InfraBox



5. Click " **Scan** " to search the connected InfraBox.

6. Change the IP address / Subnet mask / Gateway, then Click " **Save** " to confim the setting of InfraBox.

The default IP address is as below :
IP address: 192.168.0.1
Subnet mask: 255.255.255.0
Gateway: 192.168.0.254

Please take the procedure no. 3 to 6 for all InfraBoxes ONE BY ONE.

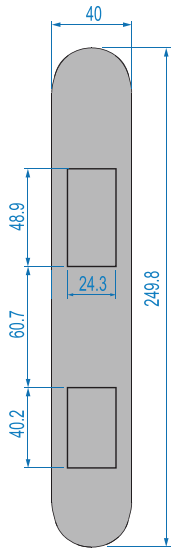
< 1.4 > Handle X-800P / X-800M

Universal Mounting Cut-out

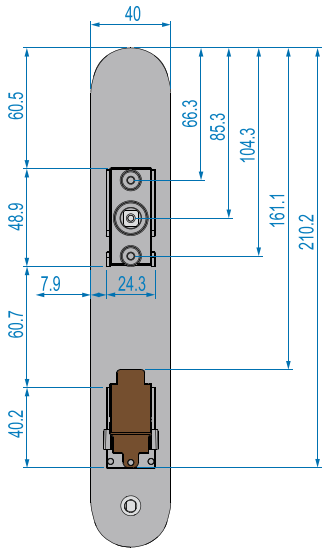
To achieve the highest level of interoperability offered in the cabinet industry, the X-800 handle applies the universal mounting cut-out. It avoids costly and complicated door customization for the smartcard handle integration.

Unit : mm

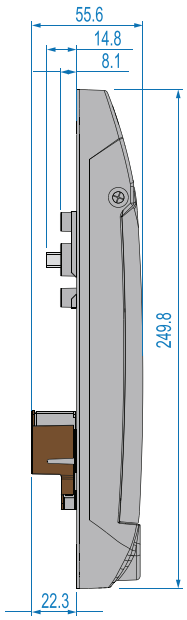
Cut-out



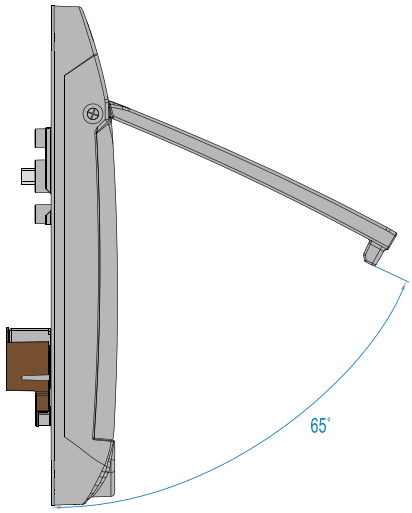
Back View



Side View Close



Side View Open

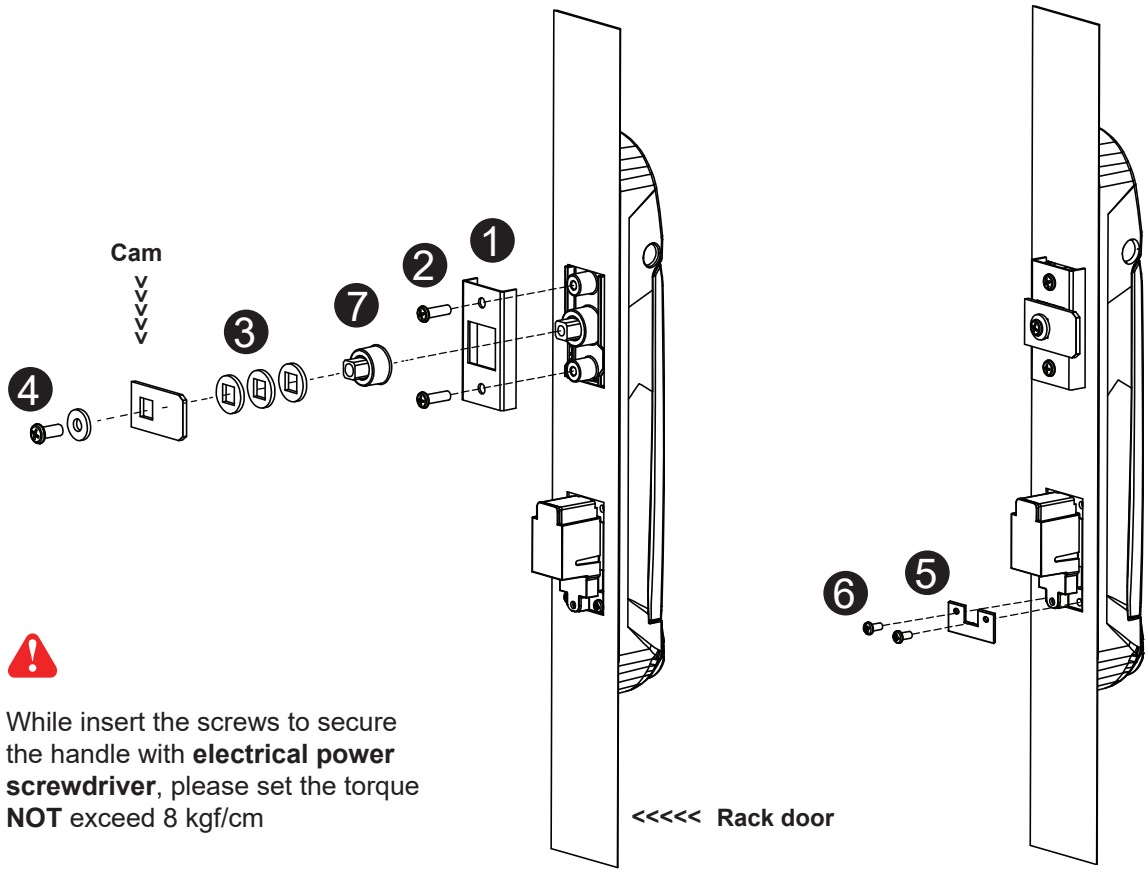


Models of left / right side opening

X-800P / X-800M support left side open. If user requires right side open, please order X-800P-R / X-800M-R.

Model	Left side open	Right side open
X-800P	✓ Proximity	
X-800M	✓ MiFARE	
X-800P - R		✓ Proximity
X-800M - R		✓ MiFARE

Installation for **Single Point Lock**



While insert the screws to secure the handle with **electrical power screwdriver**, please set the torque **NOT** exceed 8 kgf/cm

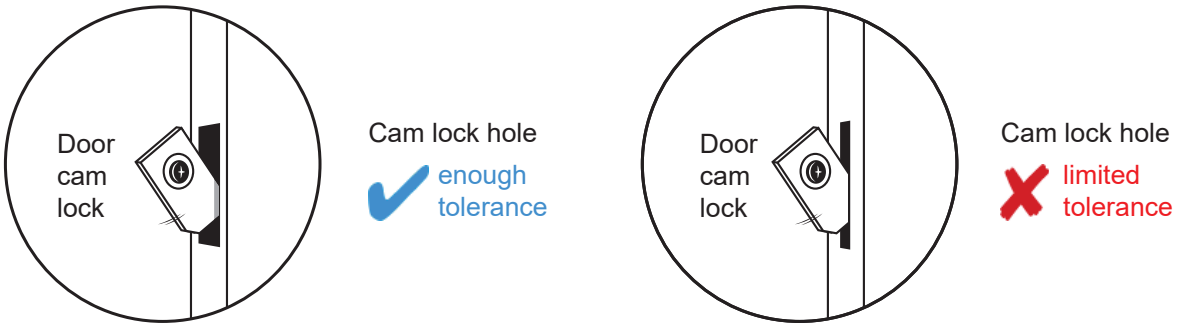
1. Mount the smartcard handle to the universal mounting position.
2. Place the ❶ handle mounting bracket with ❷ M4 x 9mm screw x 2 to secure the handle.
3. Attach the **Cam** with ❸ square hole washer(s) to adjust and to fit the cam locking position.
   The extension spigot ❼ required or not for installation is subject to the rack door locking design.
   Note : - If the cam cannot fit the locking position after adjustment, customization for the cam is required.
   - Cam customization service upon your request, please contact your sales representative.
4. Insert the ❹ M5 x 15mm screw x 1 with circle hole washer to secure the **Cam** to the handle.
5. Place the ❺ U bracket with ❻ M3 x 10mm screw x 2 to further secure the handle in place.

Handle mounting screw set for single point lock

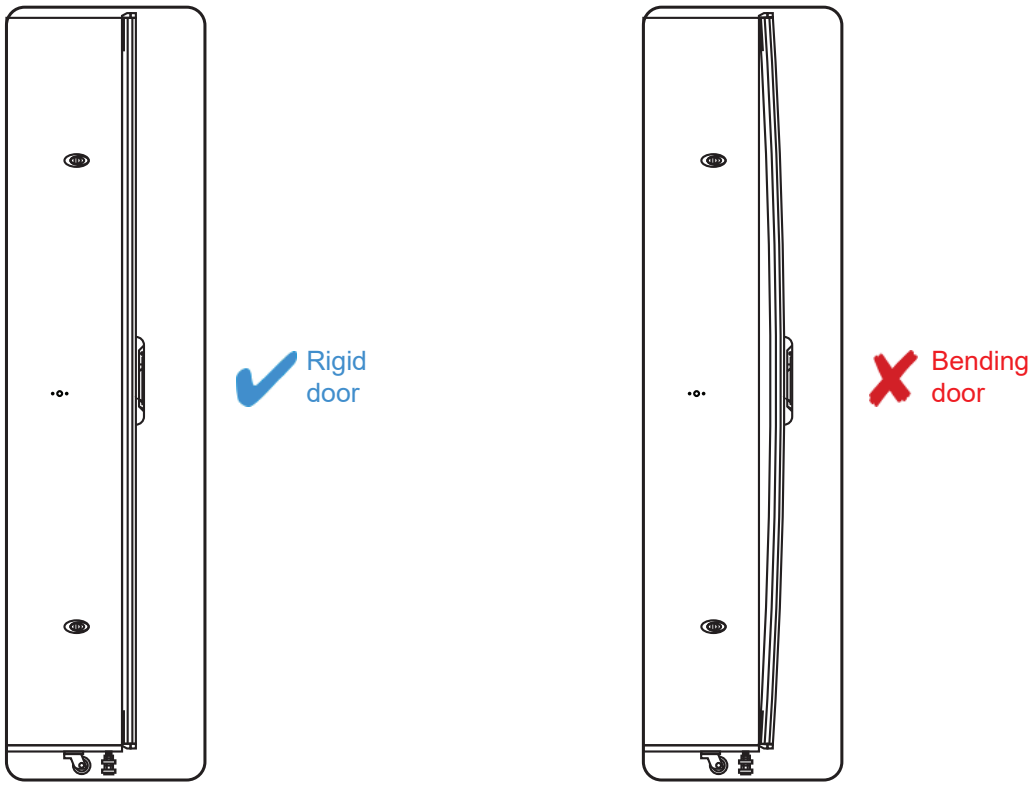
		Qty.	Single Point Lock
❶	Handle mounting bracket	2	✓
❷	M4 x 9mm screw for ❶	4	✓
❸	Square hole washer	6	✓
❹	Circle hole washer w/ M5 x 15mm screw	2	✓
❺	U bracket	2	✓
❻	M3 x 10mm screw for ❺	4	✓
❼	Extensions spigot	2	✓

Pay attention to the following points when install the lock system.
Otherwise, it may cause handle distortion and malfunction.

1. Make sure
   1. Cam lock can slide into the hole without stress.
   2. The cut-out of the cam hole with enough space tolerance.

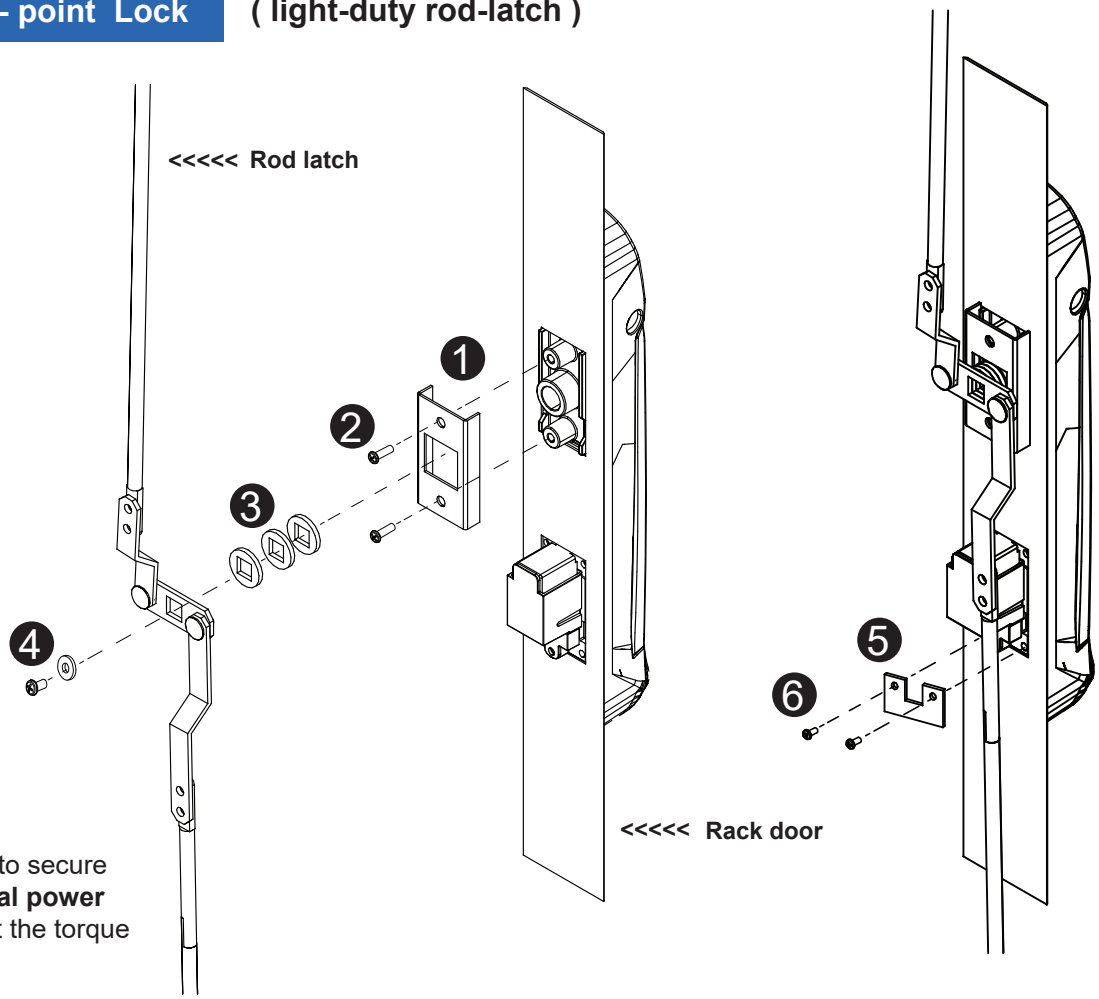


2. Make sure the rack door is rigid and no bending.



3. Don’t over tighten the fixing screws.

Installation for **2 - point Lock** **(light-duty rod-latch)**



While insert the screws to secure the handle with **electrical power screwdriver**, please set the torque **NOT** exceed 8 kgf/cm

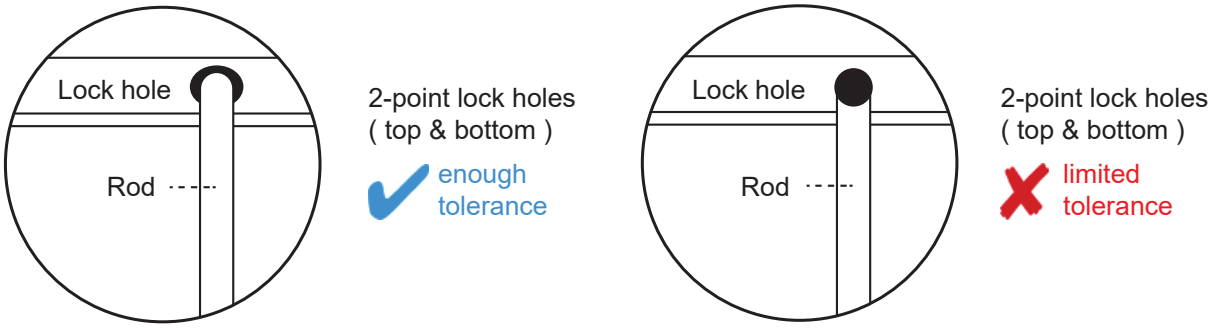
1. Mount the smartcard handle to the universal mounting position.
2. Place the ❶ handle mounting bracket with ❷ M4 x 9mm screw x 2 to secure the handle.
3. Attach the **Rod-latch** with ❸ square hole washer(s) to adjust and to fit the door top & bottom locking position.
4. Insert the ❹ M5 x 15mm screw x 1 with circle hole washer to secure the **Rod-latch** to the handle.
5. Place the ❺ U bracket with ❻ M3 x 10mm screw x 2 to further secure the handle in place.

Handle mounting screw set for 2-point lock (light-duty)

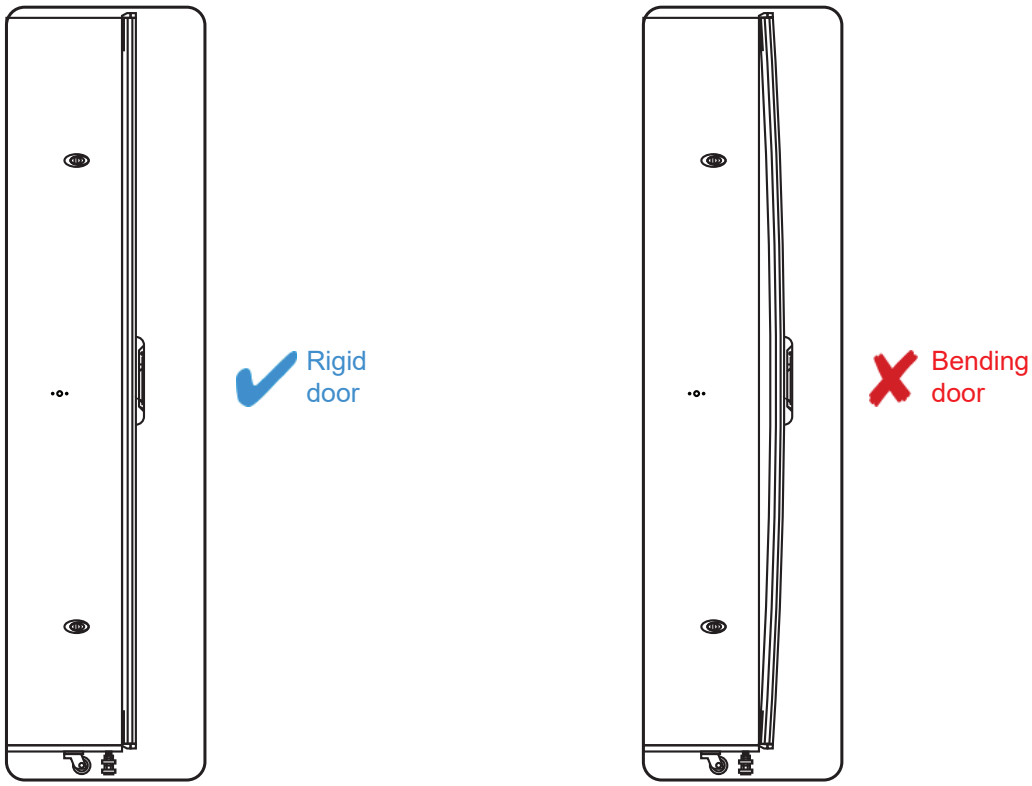
		Qty.	2-Point Lock light-duty
❶	Handle mounting bracket	2	✓
❷	M4 x 9mm screw for ❶	4	✓
❸	Square hole washer	6	✓
❹	Circle hole washer w/ M5 x 15mm screw	2	✓
❺	U bracket	2	✓
❻	M3 x 10mm screw for ❺	4	✓
❼	Extensions spigot	2	X

Pay attention to the following points when install the lock system.
Otherwise, it may cause handle distortion and malfunction.

1. Make sure
   1. Two ends of latch rod can entry into the top & bottom holes without stress.
   2. The top & bottom holes with enough space tolerance.

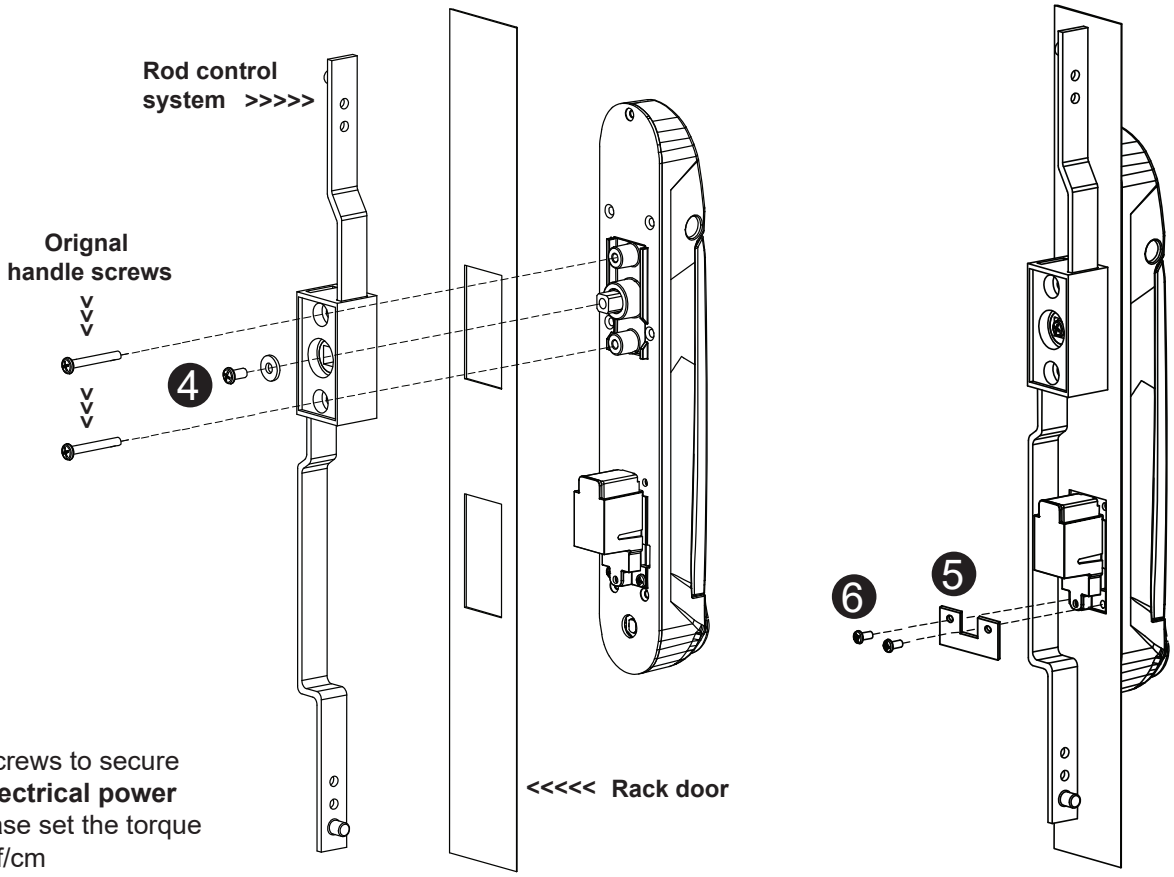


2. Make sure the rack door is rigid and no bending.



3. Don't over tighten the fixing screws.

Installation for 2 - point Lock (rod control system)



While insert the screws to secure the handle with **electrical power screwdriver**, please set the torque **NOT** exceed 8 kgf/cm

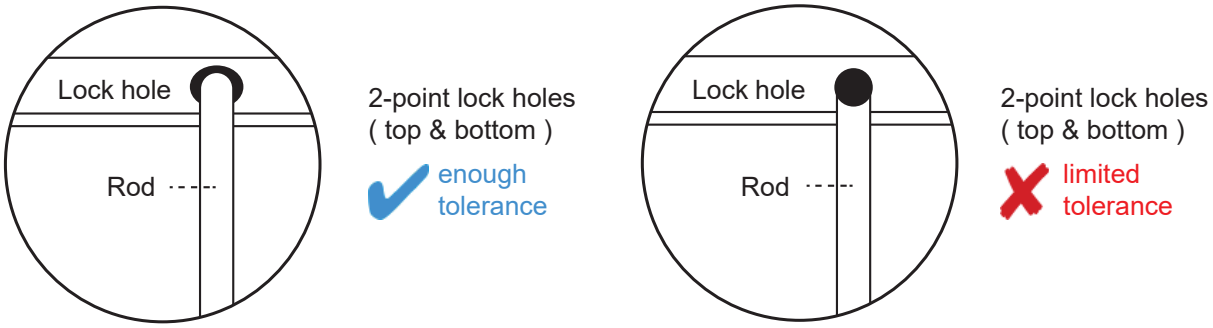
1. Mount the smartcard handle to the universal mounting position.
2. Attach the **Rod control system** to the handle and insert the ❹ M5 x 15mm screw x 1 with circle hole washer to secure the position.
3. Insert **Orignal handle screws** x 2 through the **Rod control system** and door to the handle to fix it in place.
4. Place the ❺ U bracket with ❻ M3 x 10mm screw x 2 to further secure the handle in place.

Handle mounting screw set for 2-Point Lock (with rod control)

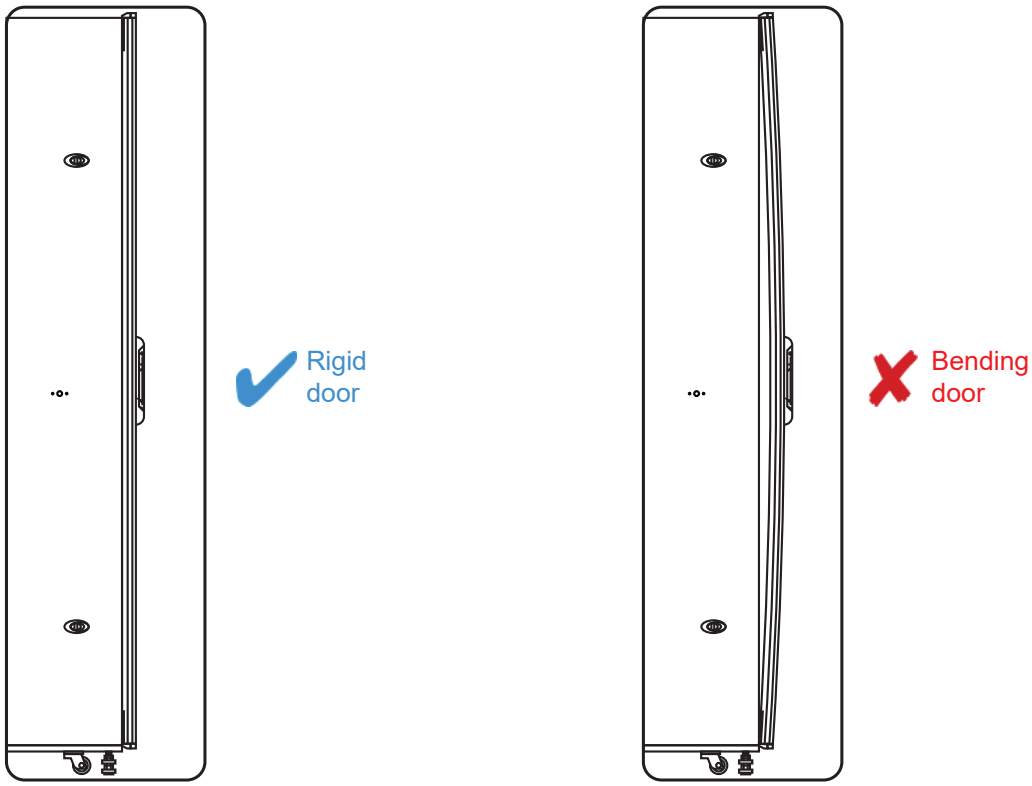
		Qty.	2-Point Lock (with rod control)
❶	Handle mounting bracket	2	X
❷	M4 x 9mm screw for ❶	4	X
❸	Square hole washer	6	X
❹	Circle hole washer w/ M5 x 15mm screw	2	✓
❺	U bracket	2	✓
❻	M3 x 10mm screw for ❺	4	✓
❼	Extensions spigot	2	X

Pay attention to the following points when install the lock system.
Otherwise, it may cause handle distortion and malfunction.

1. Make sure
   - ❶ Two ends of latch rod can entry into the top & bottom holes without stress.
   - ❷ The top & bottom holes with enough space tolerance.



2. Make sure the rack door is rigid and no bending.

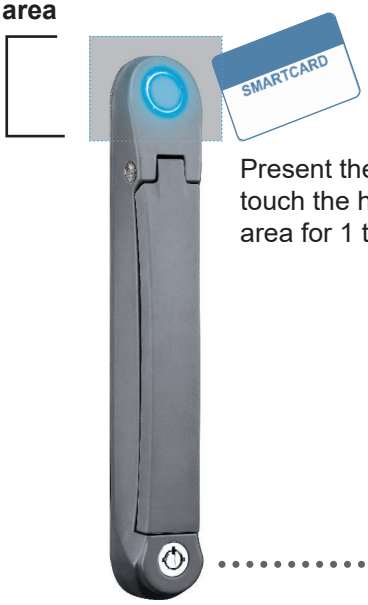


3. Don’t over tighten the fixing screws.

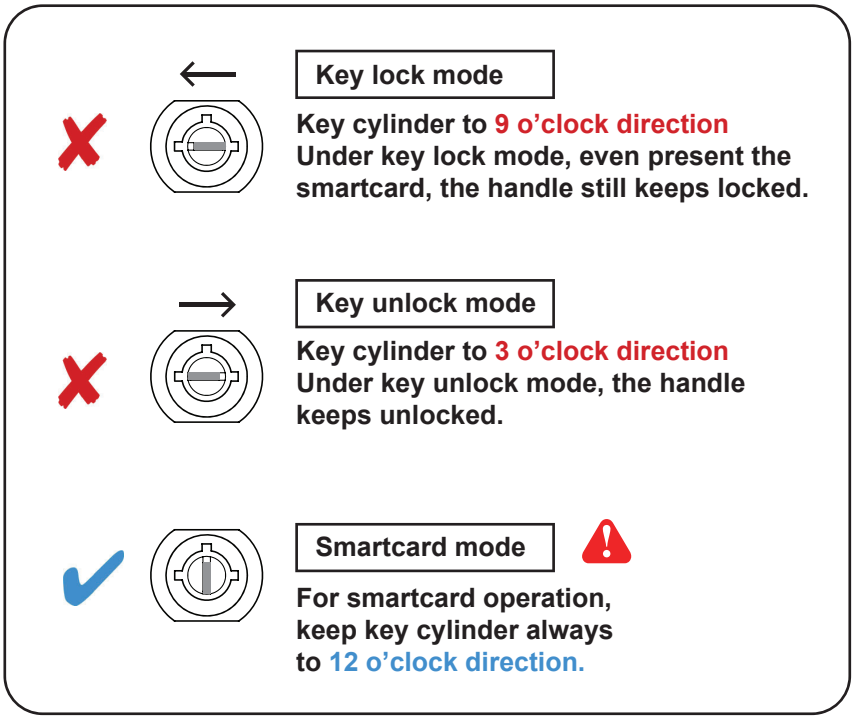
Important Note for Key lock

- Under Smartcard mode, always keep key cylinder to 12 o'clock direction.

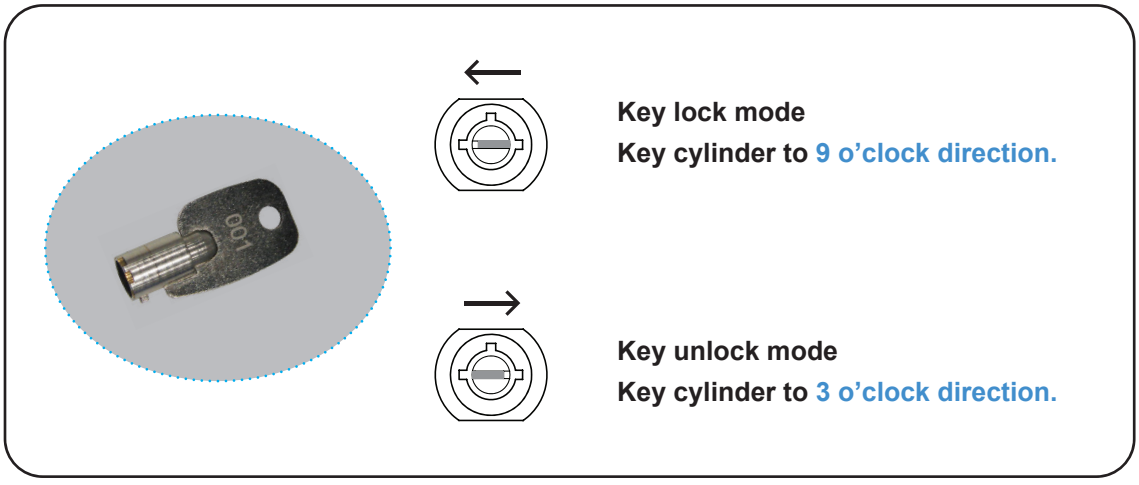
Sensor area



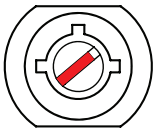
Present the smartcard and touch the handle sensor area for 1 to 2 seconds



- Unless the smartcard handle is defective, lock / unlock the handle by key is NOT recommended
- Please insert & turn the key with push force



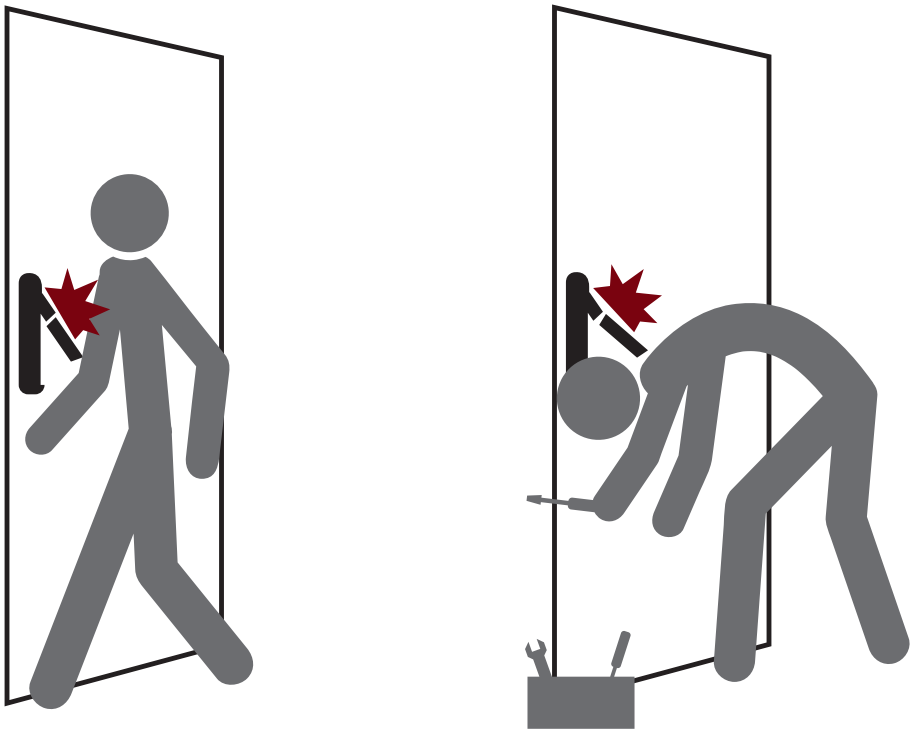
Maintenance Key (MK-001)



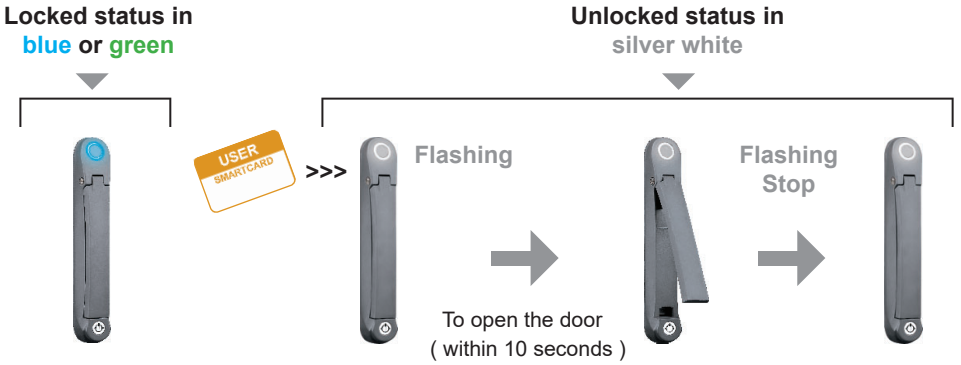
- Improper key usage may cause the cylinder stuck at abnormal direction 1 to 2 o' clock.
- Under this circumstance, the **maintenance key (MK-001)** is required to solve the problem.
- Please insert the **maintenance key** to the cylinder with push force for turning it to normal direction 9 or 12 or 3 o'clock.

Important Note for Handle

For your own safety, please return the handle to park position properly in case reckless collision.



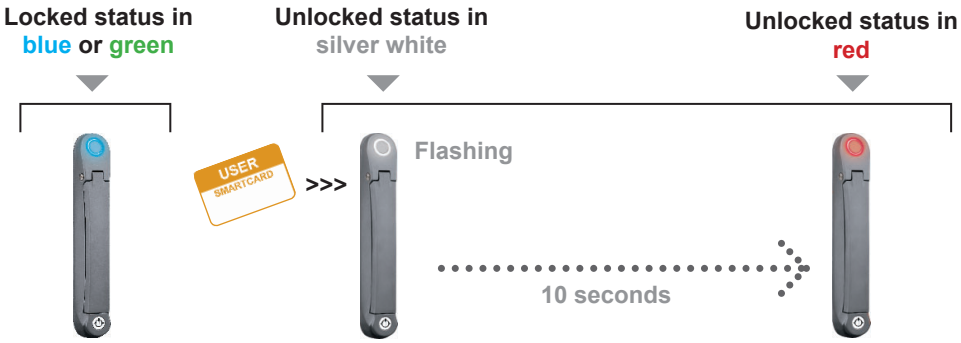
How to unlock the handle & open the door properly



Within 10 seconds after smartcard detection, users should :
- lift up the handle
- open the door
- return the handle to park position properly in case reckless collision causes handle damage.

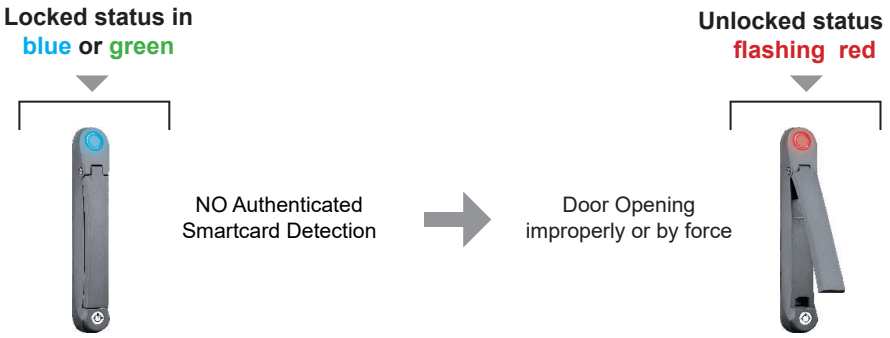
Over 10 seconds, the handle still **keeps unlock**.

Unlock the handle but NOT open the door



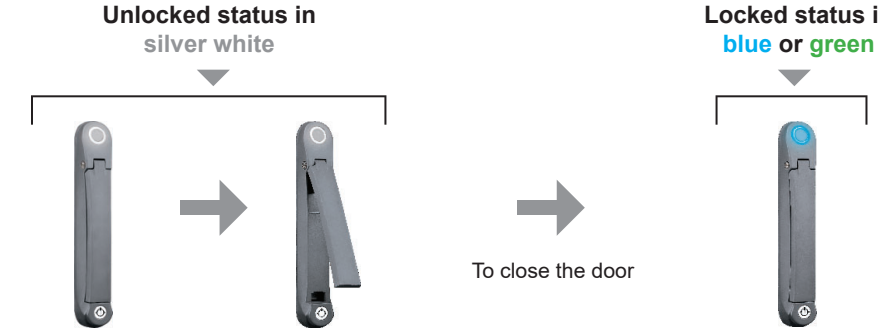
If DO NOT lift up the handle and open the door within 10 seconds, the LED will change to **RED** to draw user's attention that the handle in unlock status and cabinet security at risk now.

Unauthorized door-open



If the door is opened improperly or by **force**, handle LED will turn to **red flashing** with audio alarm 'beep' sound.

How to close the door properly



Users should :
- lift up the handle
- close the door
- return the handle to park position properly
- the handle will **auto-lock**

Intentionally
Left
Blank

< 1.5 > Door Sensor - Inductive Sensor

Inductive Door Sensor, pair (S-DSI)

Features

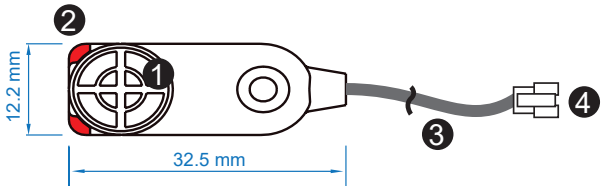
- light weight
- mini size (32.5 x 12.2 x 9.2 mm)

Requirement

- cabinet frame made of iron
- sensing distance 3mm

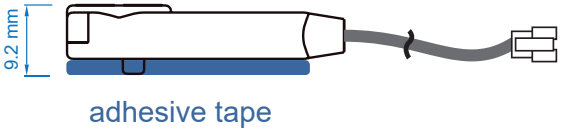
Package content

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



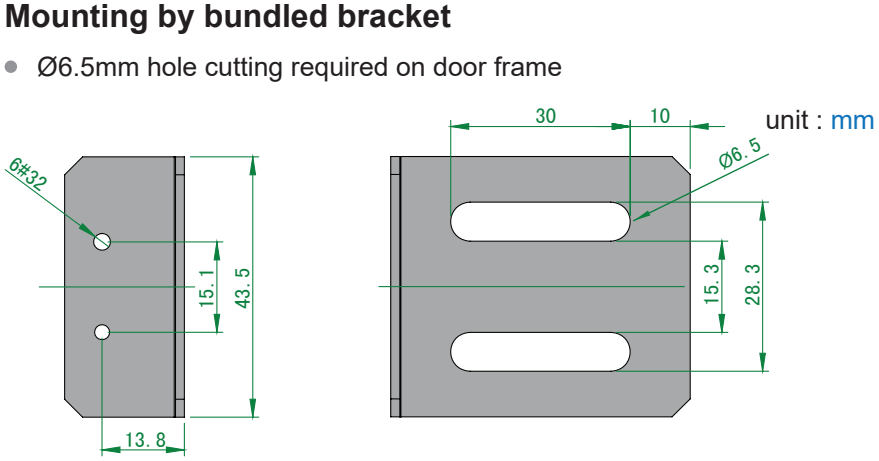
❶	Sensor area
❷	Red LED (light up while door opening)
❸	2m cable
❹	Cable jack (connect to handle)

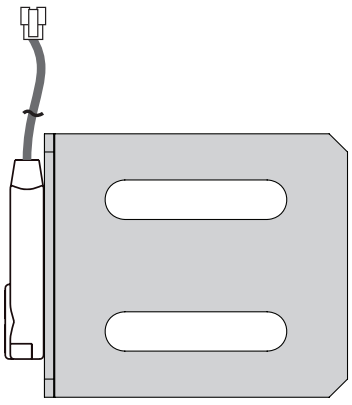
Mounting by adhesive tape (no custom cutting required on door)



Mounting by bundled bracket

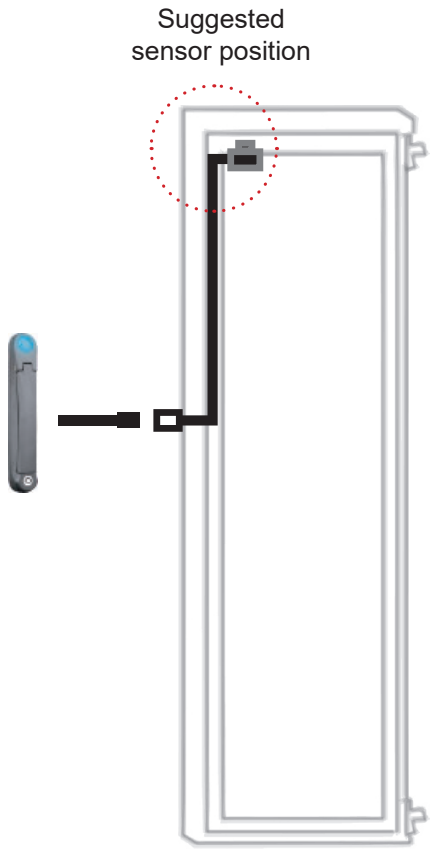
- Ø6.5mm hole cutting required on door frame





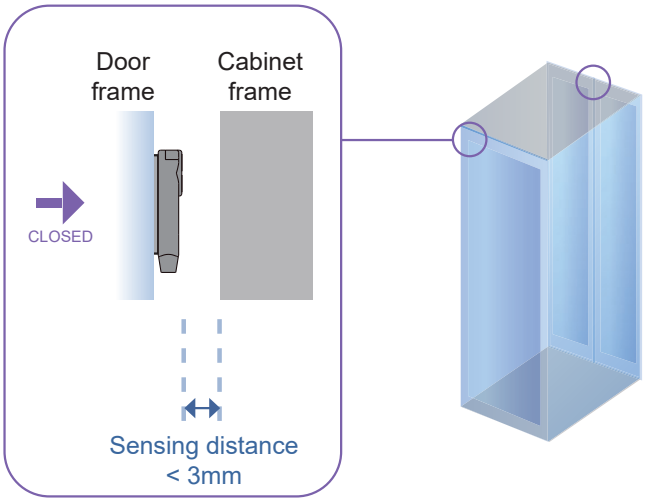
Installation steps

- connect to the handle
- guide & fix the cable with cable clips (bundle with handle package)
- place the sensor at the top of the door, close to the opening side
- adjust the sensor with adhesive tape or mounting bracket to ensure the sensing distance between door to frame within 3mm while door in close status

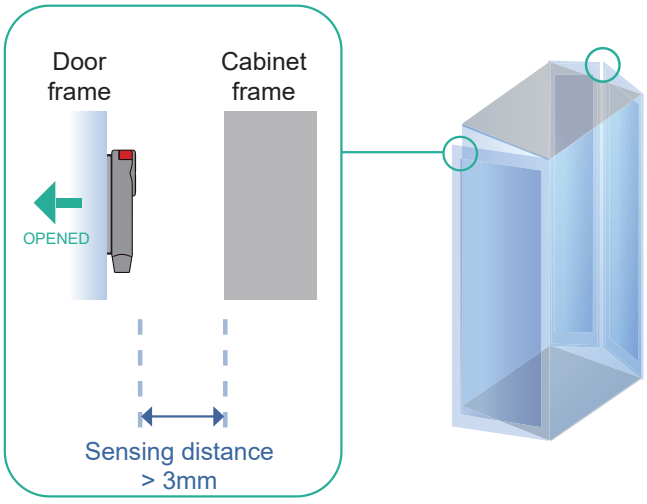


Sensor Operation

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



< 1.5 > **Door Sensor** - IR Sensor

IR Door Sensor, pair (S-DIR)

Features

- Magnetic base for easy setup
- No custom cutting required on doors
- Light weight & mini size (33 x 19 x 7 mm)
- 2m cord

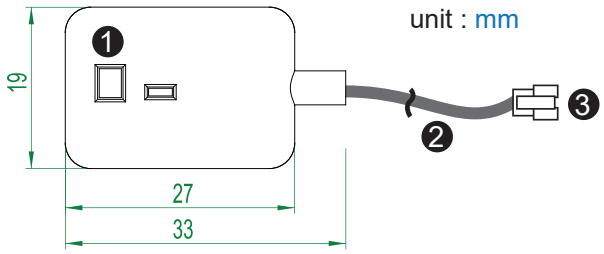
Requirement

- rack frame made of ferrous metal (iron)
- sensing distance
- door close : < 40mm
- door open : > 50mm

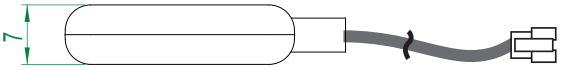
Package content

- IR sensor w/ 2m cable x 2
- reflective label x 2 (opposite to the IR door sensor for a better response, size: 30 x 40 mm)

Front View



Side View

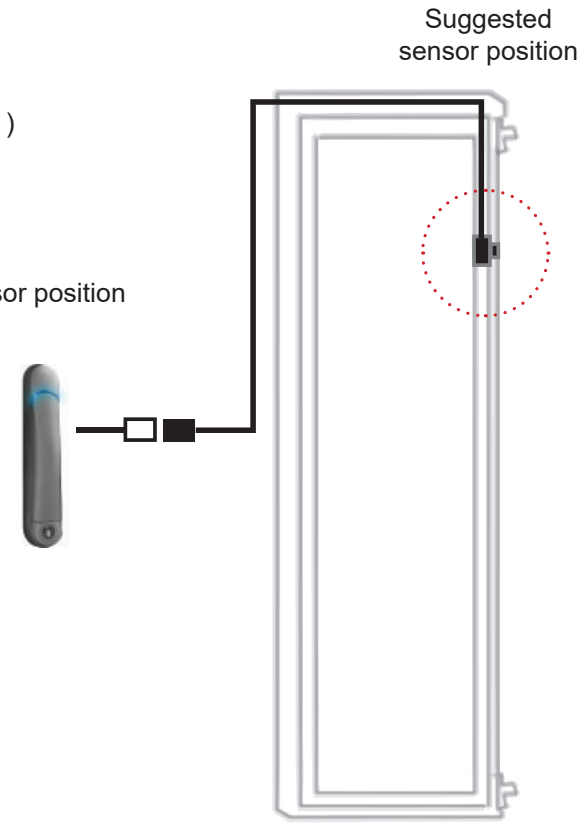


❶	Sensor area
❷	2m cable
❸	Cable jack (connect to handle)

Installation steps

- connect to the handle
- guide & fix the cable with cable clips (bundle with handle package)
- place the sensor at the top of the door, close to the hinge side
- adjust the sensor to ensure the sensing distance between door to frame within 5mm while door in close status
- stick the reflective label on the rack frame just opposite to the sensor position

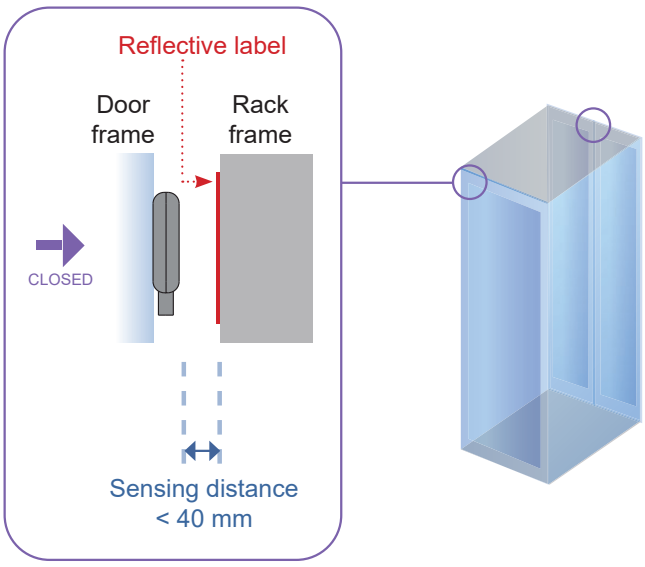
sensing distance
door close : < 40mm
door open : > 50mm

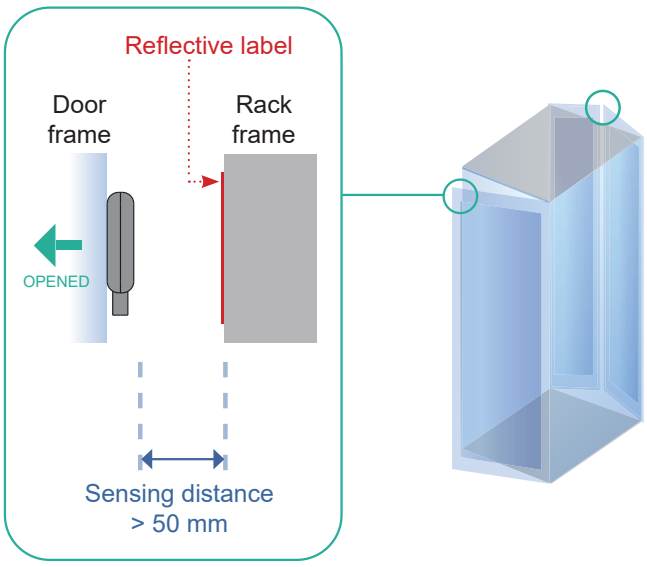


Sensor Operation

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

DOOR OPEN
- open door
- IR sensor lose detection with rack frame
- DOOR OPEN SIGNAL sends out





sensing distance
door close : < 40mm
door open : > 50mm

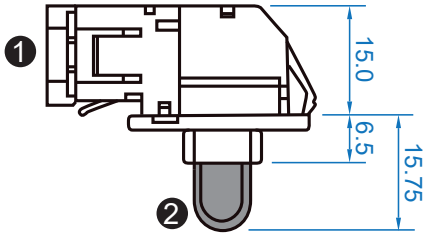
Mechanical Door Sensor, pair (S-DSW)

- Low cost / precise
- Size (36.3 x 15 x 30.75 mm)
- 2m cord

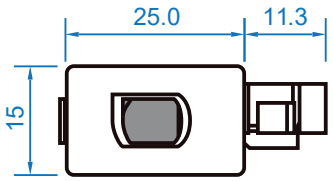
Package content

- Mechanical sensor w/ 2m cable x 2
- Mounting bracket x 2

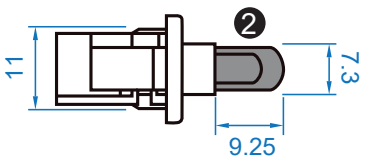
Top View



Front View



Side View

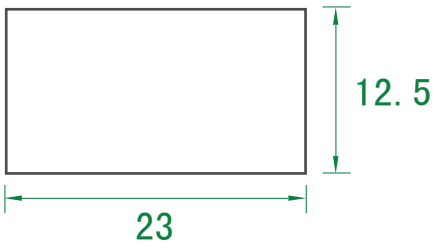


unit : mm

1	Cable connector
2	Press button (total travel distance : 9.25 mm) (min. actuation distance : 3.00 mm)

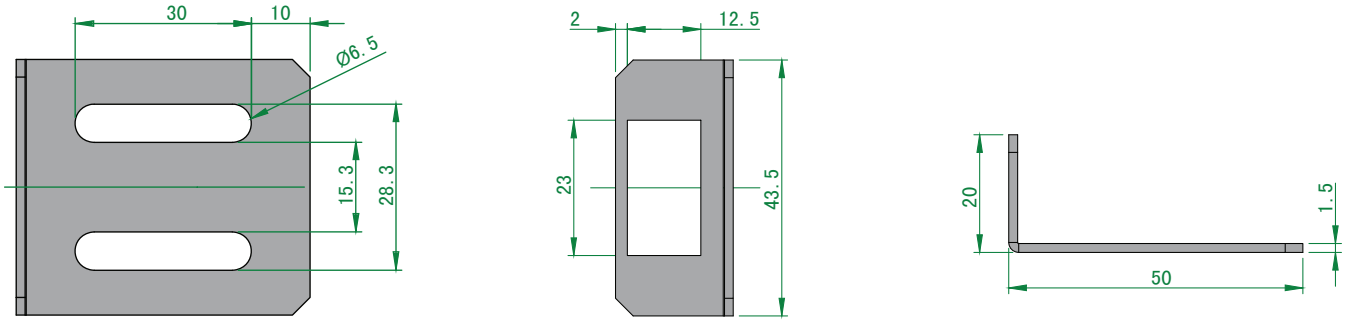
Mounting by custom cutout on door frame

- Cutout size (23 x 12.5 mm)



Mounting by bundled bracket

- Ø6.5mm hole cutting required on door frame



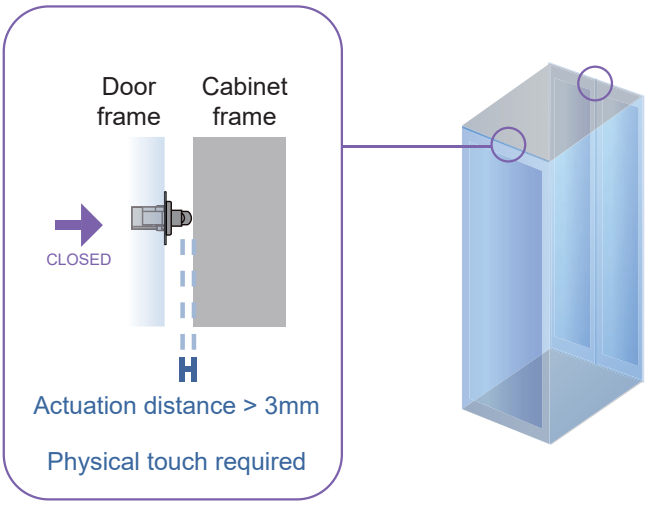
unit : mm

Installation steps

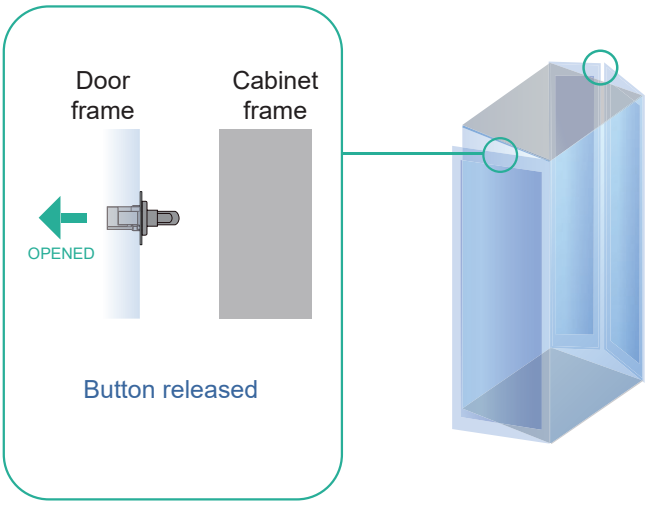
- connect to the handle
- place the sensor at the top middle of the door
- install the sensor in the custom hole
- secure it with bundled mounting screws 6#32x4.5mm x 2

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



< 1.5 > Door Sensor

Specification

		Inductive Door Sensor	Mechanical Door Sensor
Part no.		**S-DSI**	**S-DSW**
Sensitivity	Actuation	/	3.00 mm
	Travelling Distance	/	9.25 mm
	Operating Force	/	3.5±1 N
	Sensing distance	Max. 3mm	/
	Sensing object	Ferrous metal	/
Power Requirement	Voltage	12VDC, powered by sensor port	/
	Current Consumption	100mA	/
Housing	Material	Plastic	
	Color	Black	
Connection	Cable Length	sensor w/ 2m cable	
Environmental	Operating	-20 to 60°C Degree	
	Storage	-20 to 60°C Degree	-30 to 70°C Degree
	Relative Humidity	5~90%, non-condensing	
Dimensions	Product	32.5L x 12.2W x 9.2H mm	52W x 22.5L mm (with metal plate)
	Packing	/	/
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	/	2m cable
Compatibility	X-2000 series		
Safety Regulatory	FCC & CE certified		
Environmental	RoHS3 & REACH compliant by SGS		

< Part 2 > PDU

< 2.1 > PDU

Under an **InfraSolution X** network, each InfraBox (X-2000 series ONLY) supports **InfraPower** intelligent PDU x 4 in a daisy chain. Each PDU comes with Temp. & Humid. sensor port x 2

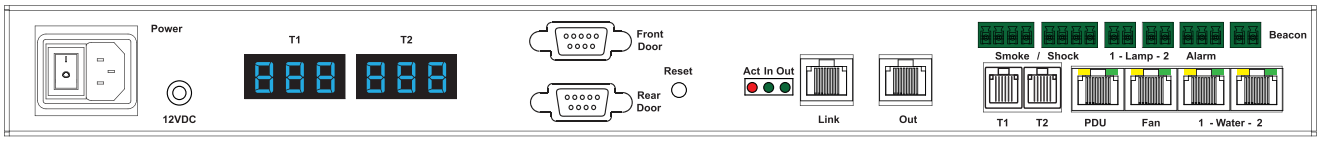
W series : monitored PDU

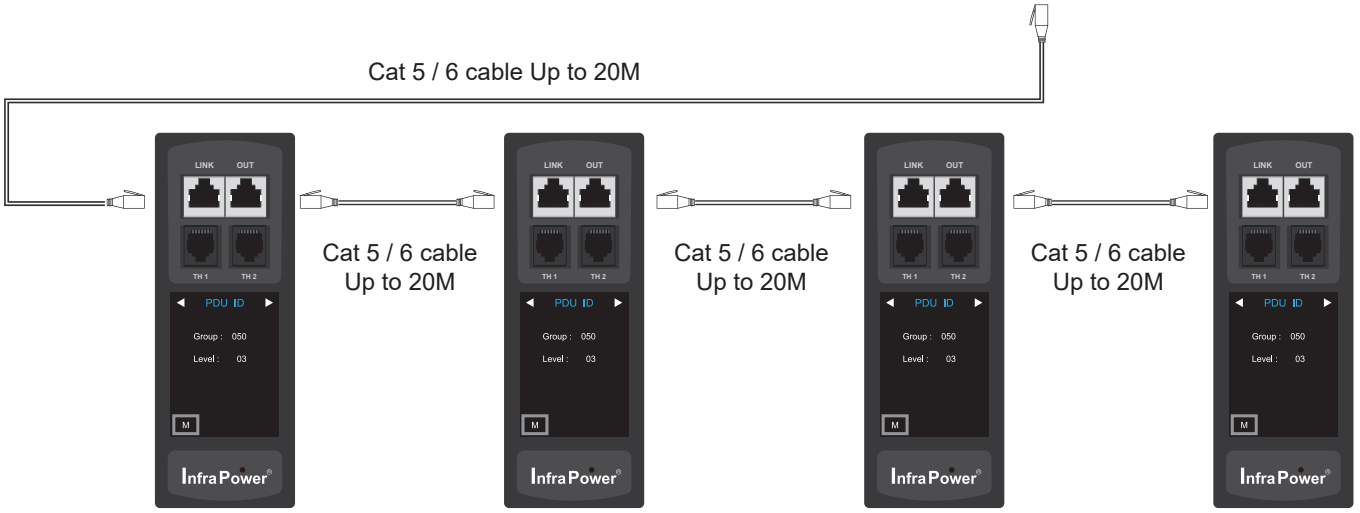
WS series : switched PDU

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

InfraBox





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

PDU level setting :

For details about PDU level setting (meter with 1.8” LCD),
please refer to IPM-04 user manual < 1.2 > Meter Reading & Setting :
www.austin-hughes.com/UM-IPM-04-1P-WMeter

For details about PDU level setting (meter with 2.8” touch LCD),
please refer to IPM-04 user manual < 1.3 > Meter (PDU) Cascade :
www.austin-hughes.com/UM-IPM-04-1P-3Meter

< Part 3 > Environmental Sensor & Peripherals

< 3.1 > Temp. & Humidity Sensor

Each InfraBox 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
Part no.		**IG-TH01-2M**	**IG-T01-2M**
Temperature Sensitivity	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	
Relative Humidity Sensitivity	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	/
Power Requirement	Voltage	12VDC, powered by sensor port	
	Current Consumption	20mA	
	Power consumption	0.24 Watt	
	Power 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) 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
Environmental	Operating	0 to 80°C Degree	
	Storage	-5 to 80°C Degree	
	Humidity	0~100%, non-condensing	
Dimensions	Product	30L x 25W x 18H mm	
Weight	Net	66g	
Supply includes	1	TH Sensor	Temperature Sensor
	2	4-wired 3.5mm to RJ11 cable (2m, black color)	
Compatibility	InfraPower	W / WS / Wi / WSi series PDU	
	InfraSolution	X-2000 series	
	InfraGuard	EC-300M & EC-300	
Safety Regulatory		FCC & CE certified	
Environmental		RoHS3 & REACH compliant by SGS	

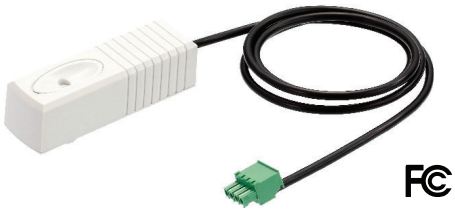
< 3.2 > Smoke Sensor

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-S01-1M**
Sensitivity	Smoke sensitivity	0.15 ~ 0.3 dB/m
Alarm Output	Solid State Relay	24VDC@1A
	Alarm LED	Red
	Audio Alarm	80 dB
	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	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
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	RoHS3 & REACH compliant by SGS	

< 3.3 > Shock Sensor

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



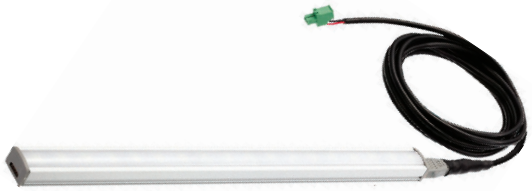
		Shock Sensor
Part no.		**IG-V01-1M**
Sensitivity	Detection radius	3.5 m
	Adjustable sensitivity	Internal micro knob with screwdriver cross slot
Alarm Output	Solid State Relay	12VDC@100mA
	Alarm hold time	Approx. 2.0 sec.
	Alarm LED	Red
Power Requirement	Voltage	12VDC, powered by sensor port
	Current 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
Safety Regulatory	FCC & CE certified	
Environmental	RoHS3 & REACH compliant by SGS	

< 3.4 > Water Sensor

		Water Sensor
Part no.		**IG-W01-3M**
	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	RoHS3 & REACH compliant by SGS	

< 3.5 > LED Light Bar

Under InfraSolution X software, the LED light bar can be enabled / disabled / always ON.
When the LED light bar is enabled & connected, it will be ON within 10 seconds after the handle lock is released.



		LED Light Bar
Part no.		**CLB-IX-002-2M**
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	RoHS3 & REACH compliant by SGS	

< 3.6 > LED Beacon

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

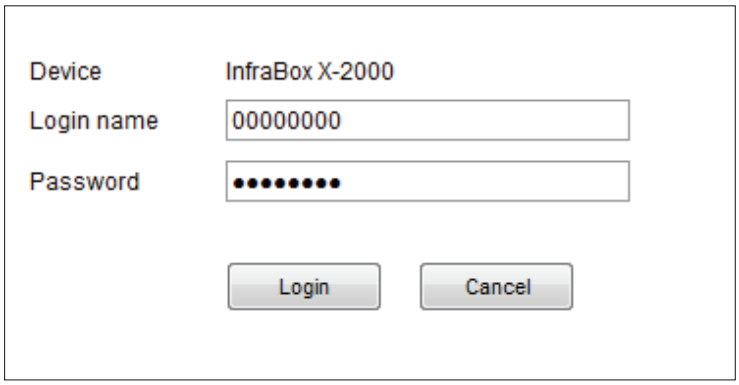
		LED Beacon
Part no.		**IG-FB03-1M**
Notification	Len Color	Blue
	Light Source	White
	Flash Rate	120 flashes per minute
Power Requirement	Voltage	12VDC, powered by sensor port
	Current Consumption	0.175A
Housing	Cover Len	Polycarbonate
	Color	Blue
Connection	Cable Length	1m / 3m
Environmental	Operating	-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	RoHS3 & REACH compliant by SGS	

< Part 4 > XMS-02-S InfraBox GUI Software
< 4.1 > Device Monitoring & Setting

Each InfraBox comes with a FREE built-in GUI software (firmware with web GUI & SNMP features ONLY), XMS-02-S , which allows you, via an I.E. web browser, to see InfraBox's data and remotely manage the InfraBox over a TCP / IP Ethernet network.

Each I.E. web browser supports only one InfraBox. If you install more InfraBoxes, multi windows will be required

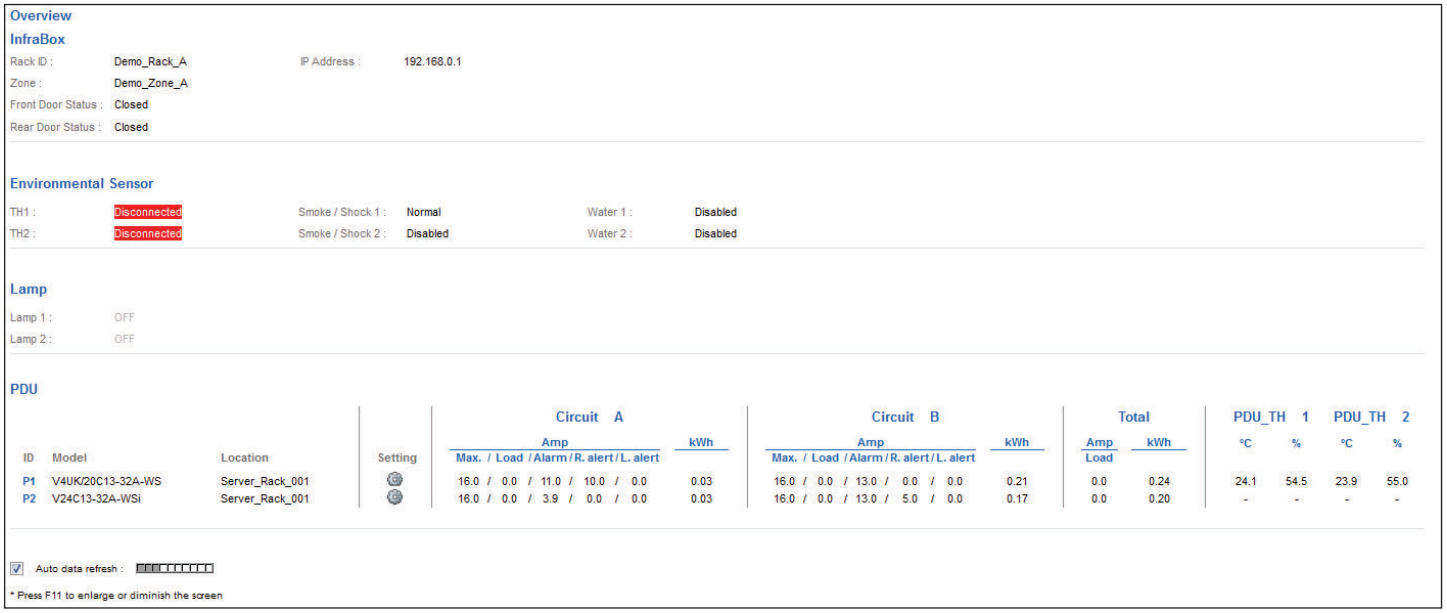
XMS-02-S is a management software with very limited features. You can use more advanced software, InfraSolution X Manager X-ISM



1. Open Internet Explorer (I.E.), version 10.0 or above
2. Enter the configured InfraBox IP address into the I.E. address bar (Refer to P.7)
3. Input " **Login name** " & " **Password** " & Click " **Login** " Default login name & password are " **00000000** " To change login name and password of XMS-02-S, please refer to P.43 < Login >

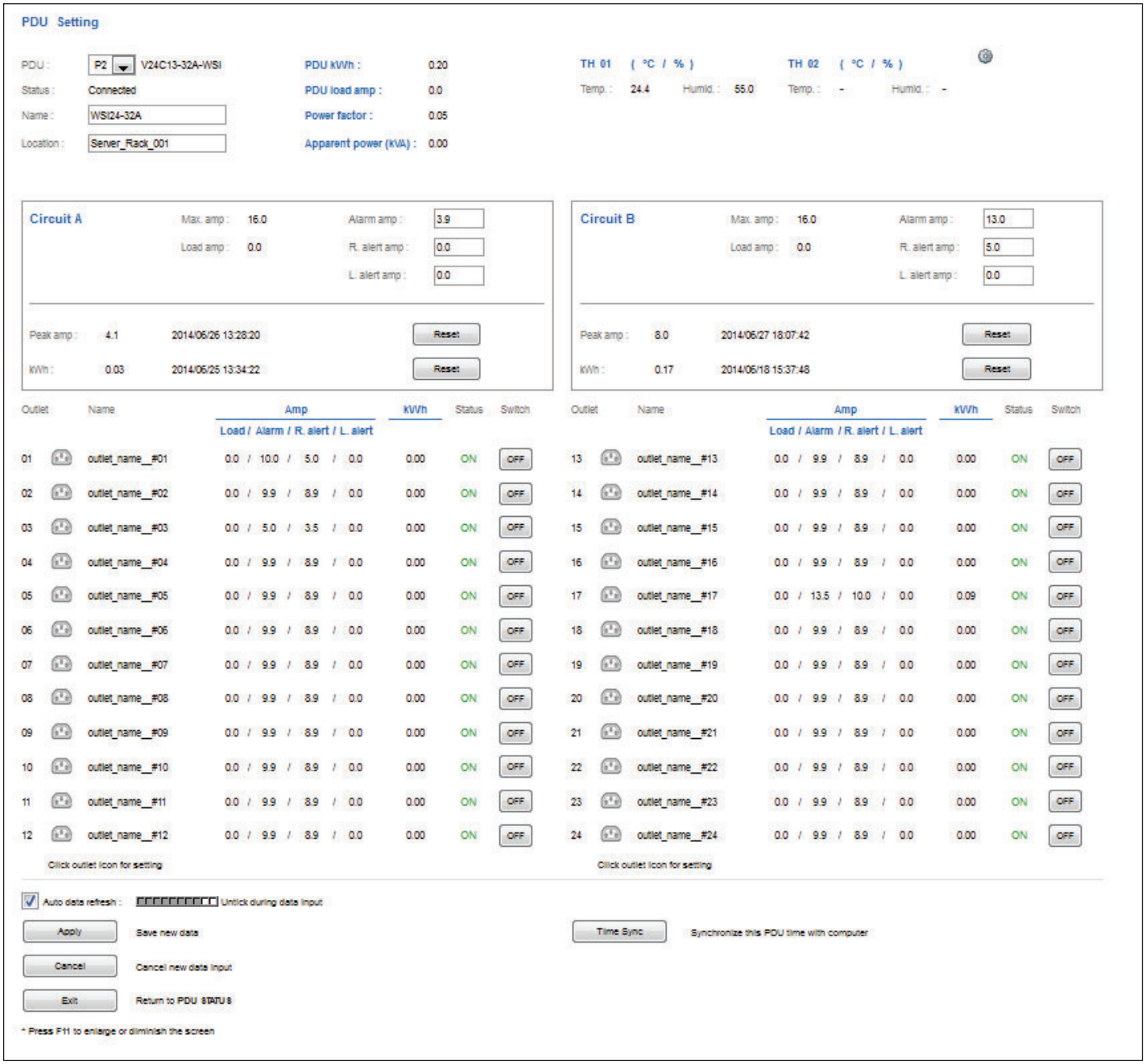
In " **Overview** " , you can have an overview on the status of doors, sensors, LED light bar & PDU.

InfraBox X-1000 series ONLY provides an overview on the status of doors



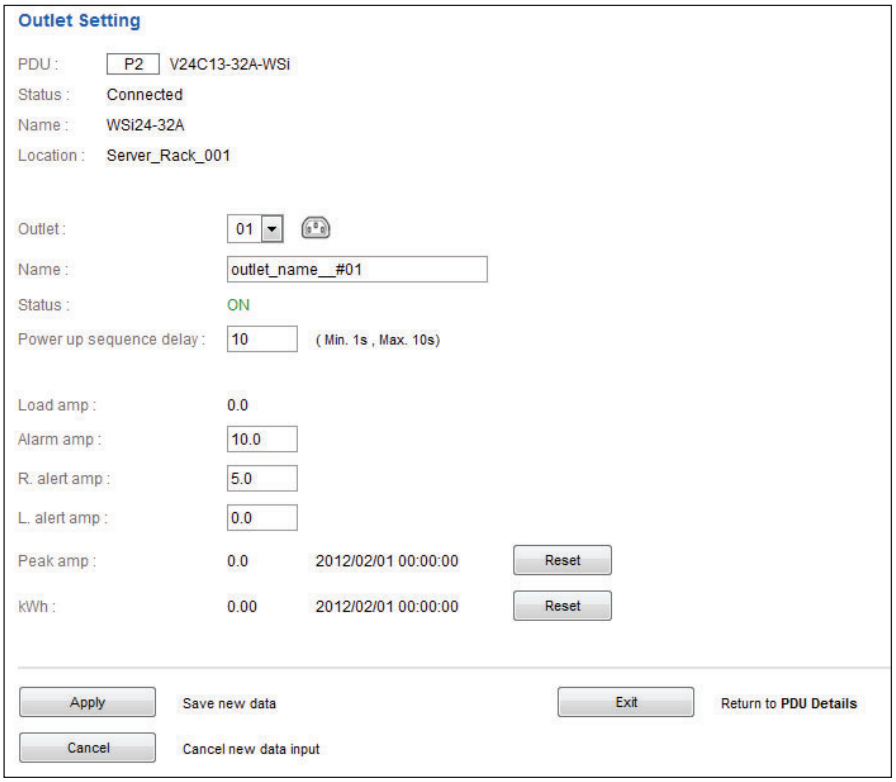
< 4.1 > Device Monitoring & Setting

In " **PDU Setting** " , you can
- Change " **Name** " and " **Location** " of PDU
- Change " **Alarm amp**. " , " **Rising alert amp.** " and " **Low alert amp.** " of PDU circuits
- Click " **Apply** " to finish the above settings
- Click " **Reset** " to rest peak amp. or kWh of PDU circuit
- Click " **ON /OFF** " to switch On / Off outlet (Switched PDU only)
- View On / Off status of outlets
- View aggregated current on the PDU
- View latest loading & energy consumption of outlets (Outlet measurement PDU only)
- View the latest T / TH reading connected to the PDU



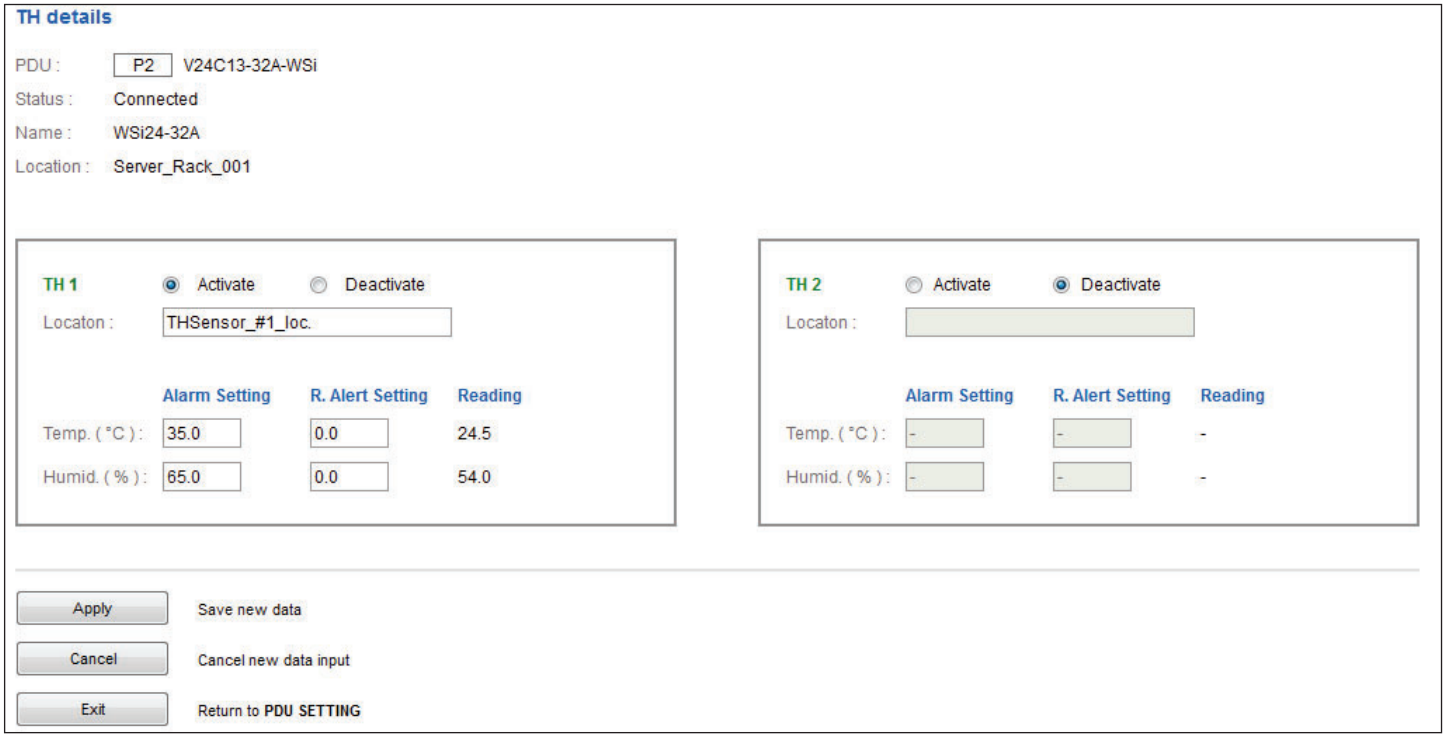
< 4.1 > Device Monitoring & Setting

In " **Outlet Setting** " , you can
- Change the " **Name** " of PDU outlet
- Change the " **Power up sequence delay** " of PDU outlet (Switched PDU only)
- Change " **Alarm amp.** " , " **R. alert amp.** " & " **L. alert amp.** " of PDU outlet (Outlet measurement PDU only)
- Click " **Apply** " to finish
- Click " **Reset** " to reset peak amp. & kWh of PDU outlet (Outlet measurement PDU only)

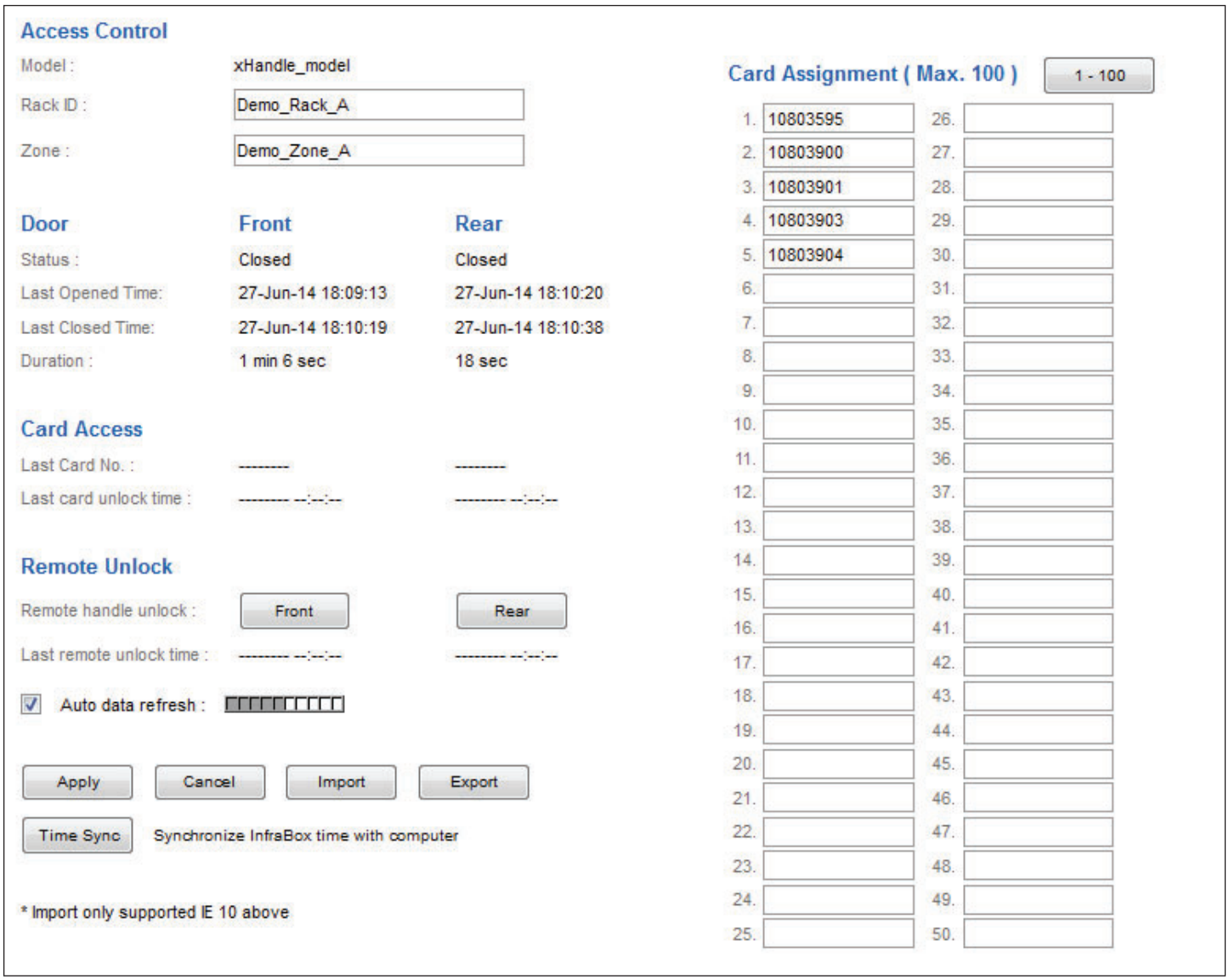


< 4.1 > Device Monitoring & Setting

In < **TH details** > , you can
- Activate / Deactivate the TH sensors of PDU
- Change " **Location** " of TH sensors of PDU
- Change " **Alarm Setting** " & " **R. Alert Setting** " of TH sensors of PDU
- Click " **Apply** " to finish

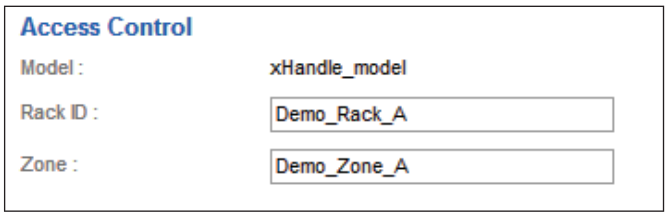


< 4.1 > Device Monitoring & Setting



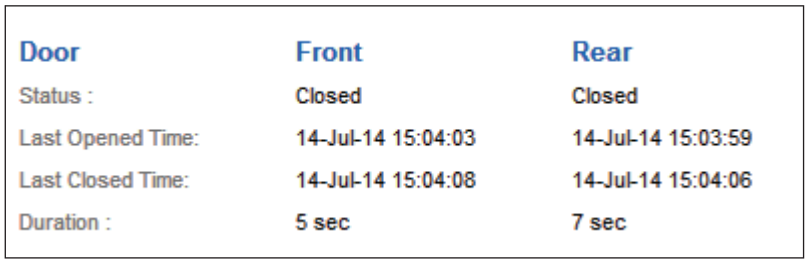
In < **Access Control** > , you can

- View the handle model
- View & edit the < **Rack ID** > & < **Zone** >
- Click " **Apply** " to finish

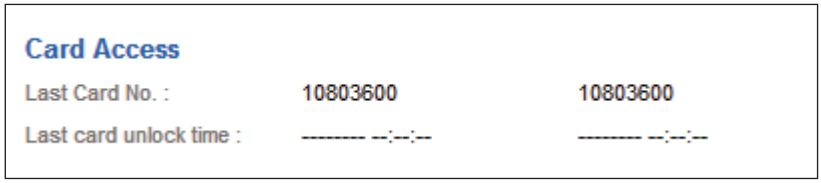


< 4.1 > Device Monitoring & Setting

In < **Door** > , you can view
- The door status
- The door last opened time
- The door last closed time
- The duration of the door being opened



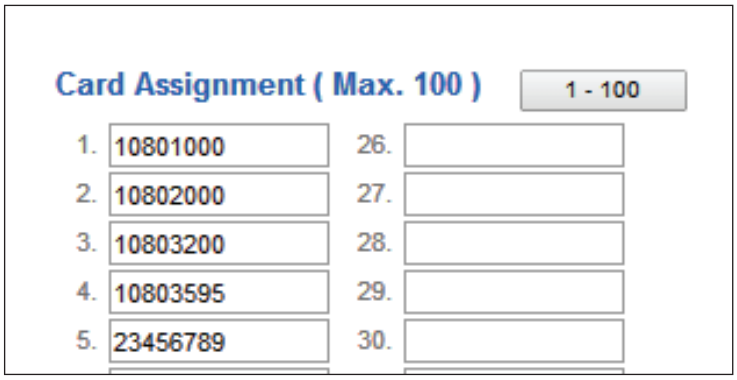
In < **Card Access** > , you can view
- The last smartcard no. open the door
- The last door unlock time by smartcard



In < **Remote Unlock** > , you can
- Open the door by remote
- View the last remote unlock time of the door

< 4.1 > Device Monitoring & Setting

In < **Card Assignment**> , you can assign, edit or delete user card



Card Assignment

(1) Direct input the last 8 digits of the card number to the field

Card Edition

(1) Direct change the existing card numbers in the field

Card delete

(1) Direct remove the existing card numbers from the field one by one

Click " **Apply** " to finish the above configuration of smartcard

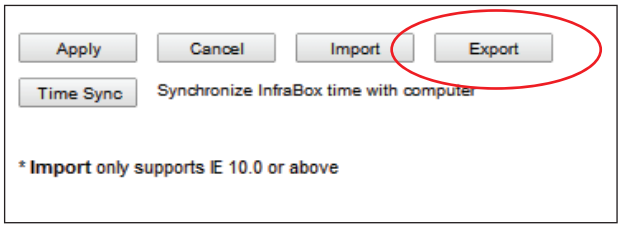
< 4.1 > Device Monitoring & Setting

Export & Import Handle Configuration

In < **Export** > and < **Import** >, it provides a quick way to configure other handles with same or similar configuration on < **Card Assignment** >.

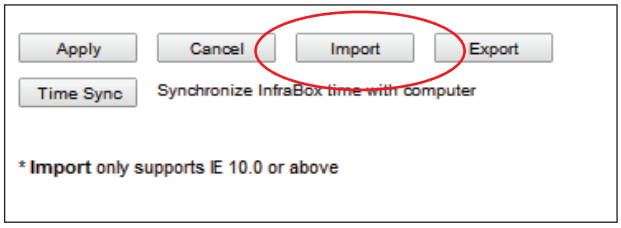
Steps for Export :

1. Untick the **Auto data refresh**
2. Click " **Export** " and Click " **Ok** " from the pop up window
3. Click " **Save "** and the file will be saved to the C:\Users\user\Downloads\ with the name **" export_handle.txt "**



Steps for Import :

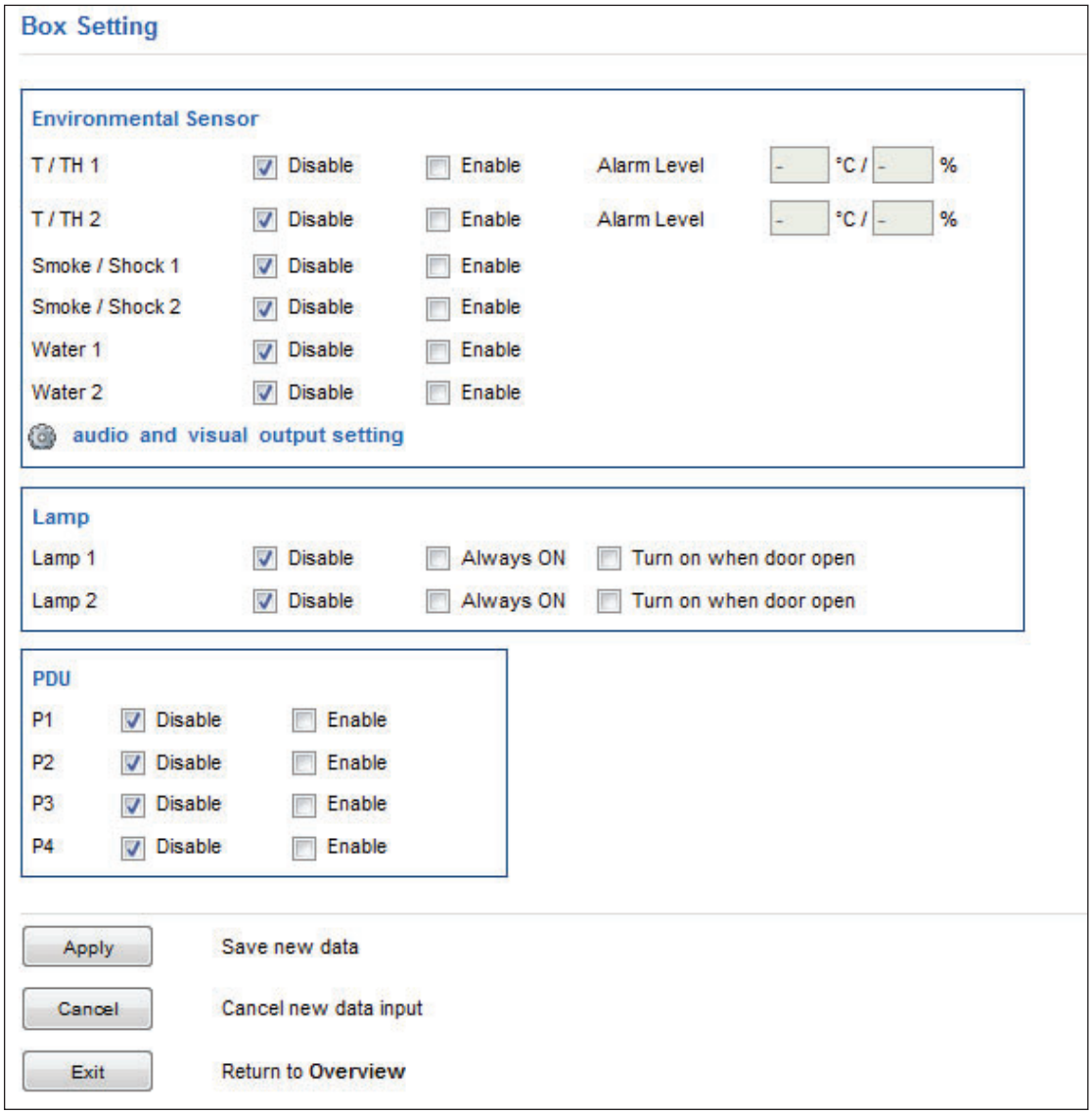
1. Select the InfraBox which you want to import handle configuration file
2. Connect the InfraBox to the notebook computer via a Cat. 5 / 6 LAN cable
3. Login the WEB GUI of the InfraBox
4. Untick **Auto data refresh**
5. Click " **Import** " & select the file to import, then Click " **Open** "
6. After import completed, edit **Rack ID, Zone** …… if necessary
7. Click " **Apply** " to finish file import



Export & Import handle configuration requires I.E. 10.0 or above

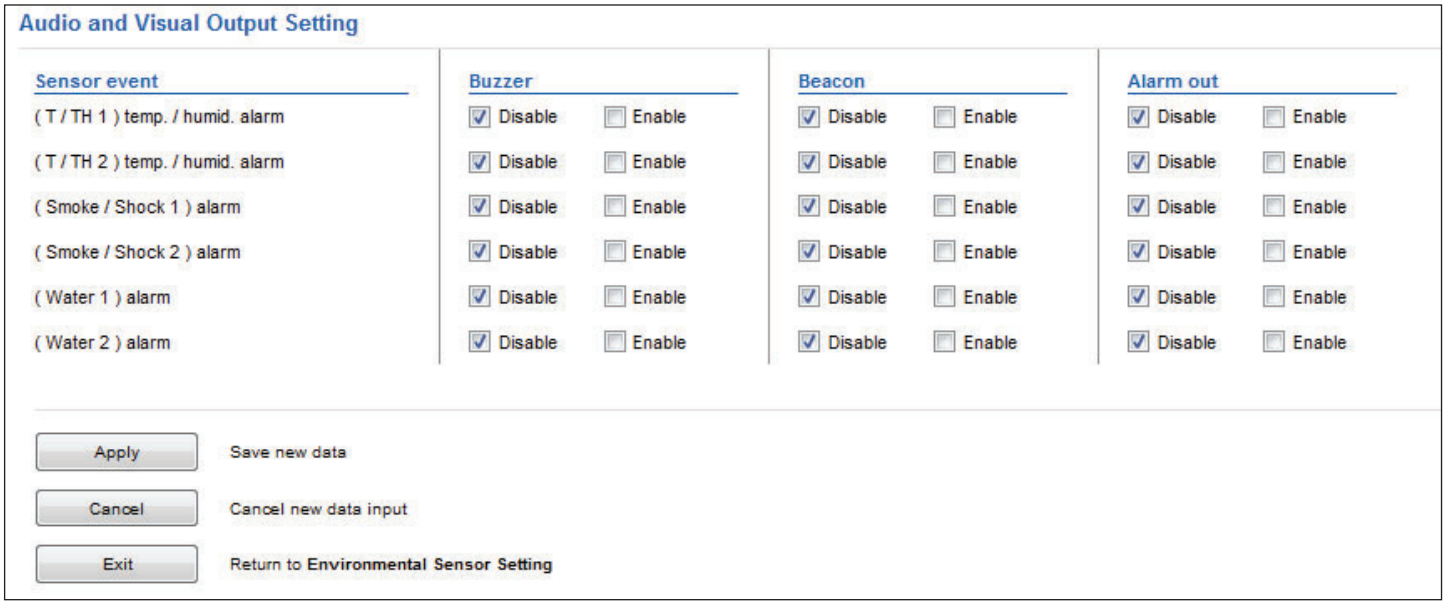
< 4.1 > Device Monitoring & Setting

In < **Setup** >, you can
- Enable / disable T / TH sensor, Smoke / Shock sensor & PDU
- Change " **Alarm Level** " of T / TH sensor
- Change Lamp to " **Disable** " , " **Always ON** " or " **Turn on when door open** "
- Click " **Apply** ' to finish



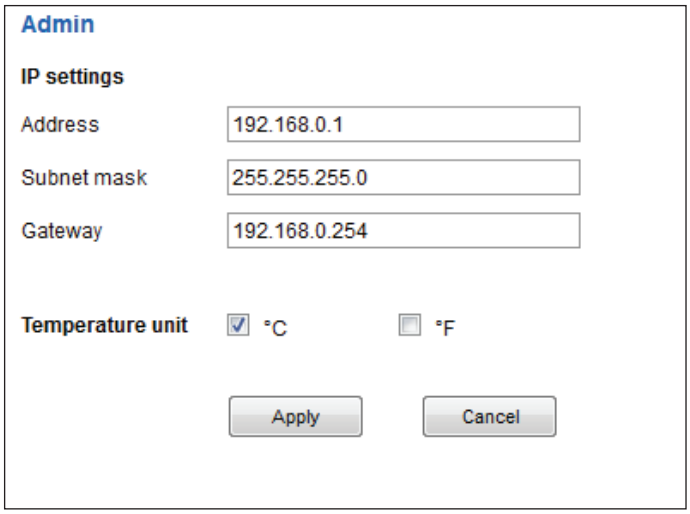
< 4.1 > Device Monitoring & Setting

In < **Audio and Visual Output Setting** >, you can
- Enable / Disable the " **Buzzer** ", " **Beacon** " & " **Alarm out** " output when the sensor event is triggered



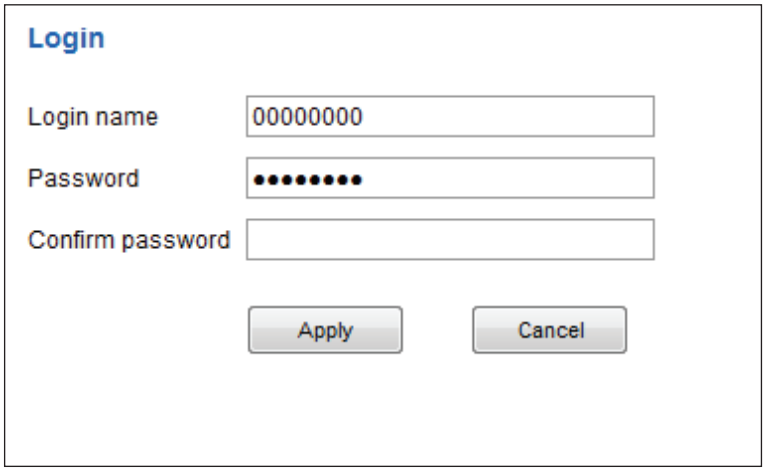
< 4.2 > System Setting

In < **Admin** >, you can
- Change the IP address, Subnet mask & Gateway of the InfraBox
- Change the temperature unit displayed in the GUI
- Click " **Apply** " to finish



< 4.2 > System Setting

In < **Login** >, you can
- Change the " **Login name** " of the WEB GUI
- Change the " **Password** " of the WEB GUI
- Enter the password in " **Confirm password** " & Click " **Apply** " to finish



In < **Firmware** >, you can upgrade the InfraBox firmware.

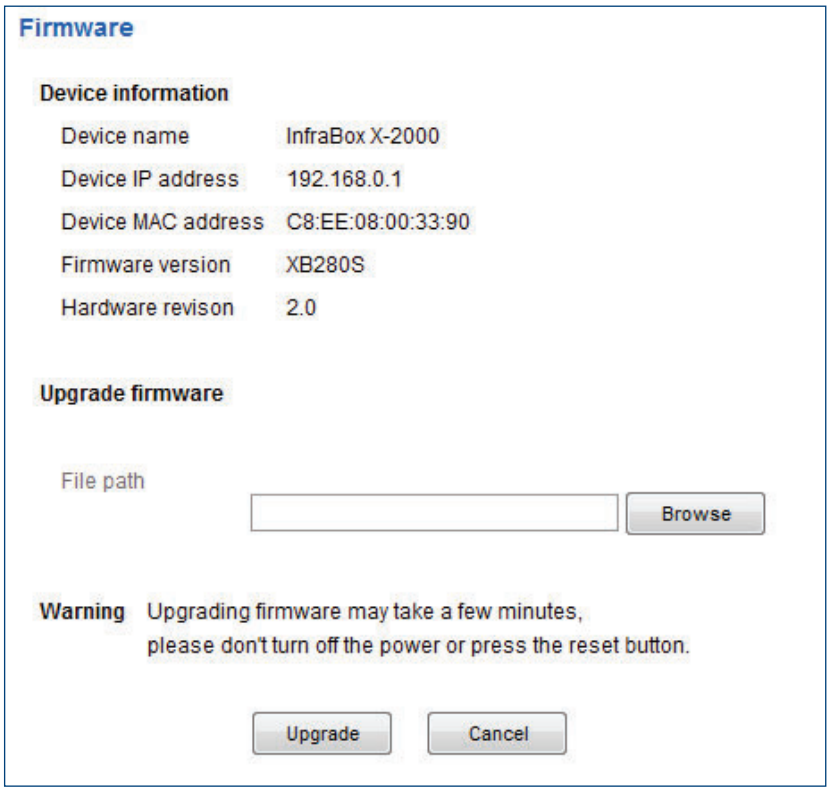
1. Download the InfraBox firmware from the link :
http://www.austin-hughes.com/support/software/infrasolutionX/XD280S.img
http://www.austin-hughes.com/support/software/infrasolutionX/XD180S.img

2. Open Internet Explorer (I.E.), version 10.0 or above

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

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

5. Once complete. The WEB GUI will return to the login page.



< 4.3 > SNMP Managerment

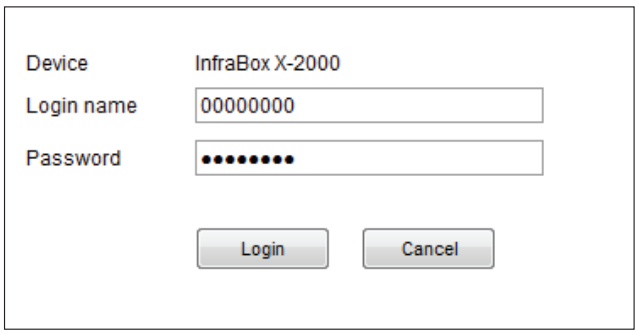
The InfraBox can manage the connected devices (handles, sensors & PDU up to 4 levels) via SNMP v2c (Simple Network Management Protocol)

InfraBox X-1000 series ONLY manages handles via SNMP

You can download the SNMP MIB file from the link below:
http://www.austin-hughes.com/support/utilities/infrasolutionX/X-2000.zip (X-2000 series)
http://www.austin-hughes.com/support/utilities/infrasolutionX/X-1000.zip (X-1000 series)

To enable the SNMP support, please take the following steps.

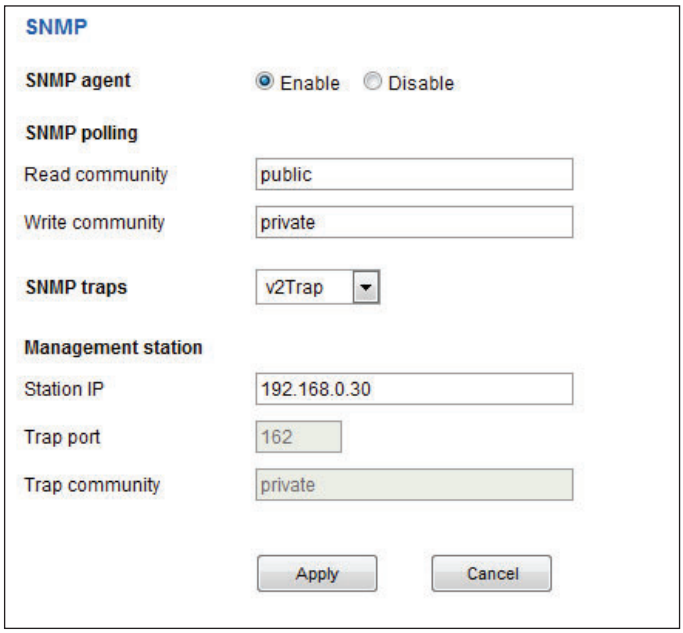
1. Connect the InfraBox to a computer (Refer to P.7)
2. Open Internet Explorer (I.E.) version 10.0 or above
3. Enter the configured IP address into the I.E. address bar
Default IP address is " **192.168.0.1** "
4. Enter " **Login name** " & " **Password** "
Default login name & password is " **00000000** "
To change login name and password of XMS-02-S, please refer to P.43 < Login >



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

< 4.3 > SNMP Managerment

6. The SNMP settings window appears as below



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

8. Input " **Read community** ". Default is " **public** "

9. Input " **Write community** ". Default is " **private** "

10. Select " **disabled** " or " **V2Trap** " In " **SNMP Traps** "

If select " **V2Trap** ", please input the IP address of the SNMP Management station in " **Station IP** "

11. Click " **Apply** " to finish

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