

InfraSolution® X

SmartCard Access Control for Racks

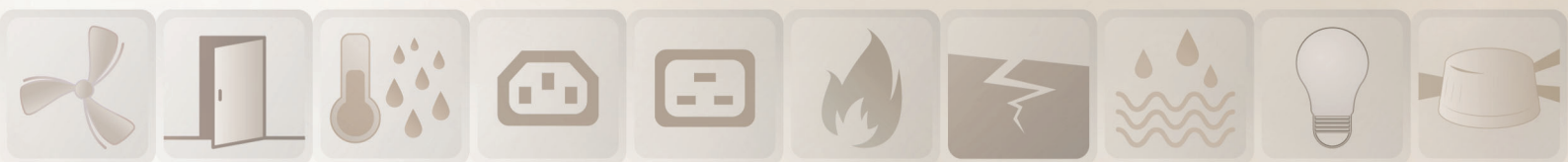
X-600 Networked Rack SmartCard Access



PROXIMITY
SMARTCARD

MIFARE
SMARTCARD

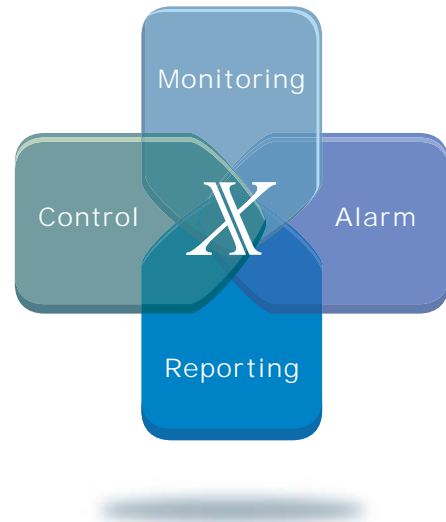
Patented & Worldwide Patents



>>> Security

Rack level access security has become critically important for all data centers and server rooms. More and more IT managers have recognized this need and upgraded their racks with smartcard access control.

InfraSolution X 600 series provides data center managers a complete networked solution with **monitoring, control, alarm & reporting**. It allows rack access remote management - saving traveling time / costs and hence increases the data center operation efficiency.



>>> Compatibility

Hardware - InfraSolution X-600 handle is designed for rack access control. Rack manufacturers just need to make a custom handle mounting cut-out on the door to suit X-600 smartcard handle. It is an alternative for users who look for a handle with a stylish and different outlook design.

Software - We offer InfraSolution X Manager for software remote management. Besides, InfraSolution X also supports SNMP for integration to the existing BMS of data center. Users can use their own platform for a centralized management.

Smartcard - InfraSolution X caters for the 2 most common Smartcard alternatives - **Proximity** & **MiFARE** format. The users can keep using their existing Smartcard to apply on the rack access system if their Smartcards are in either format as above.



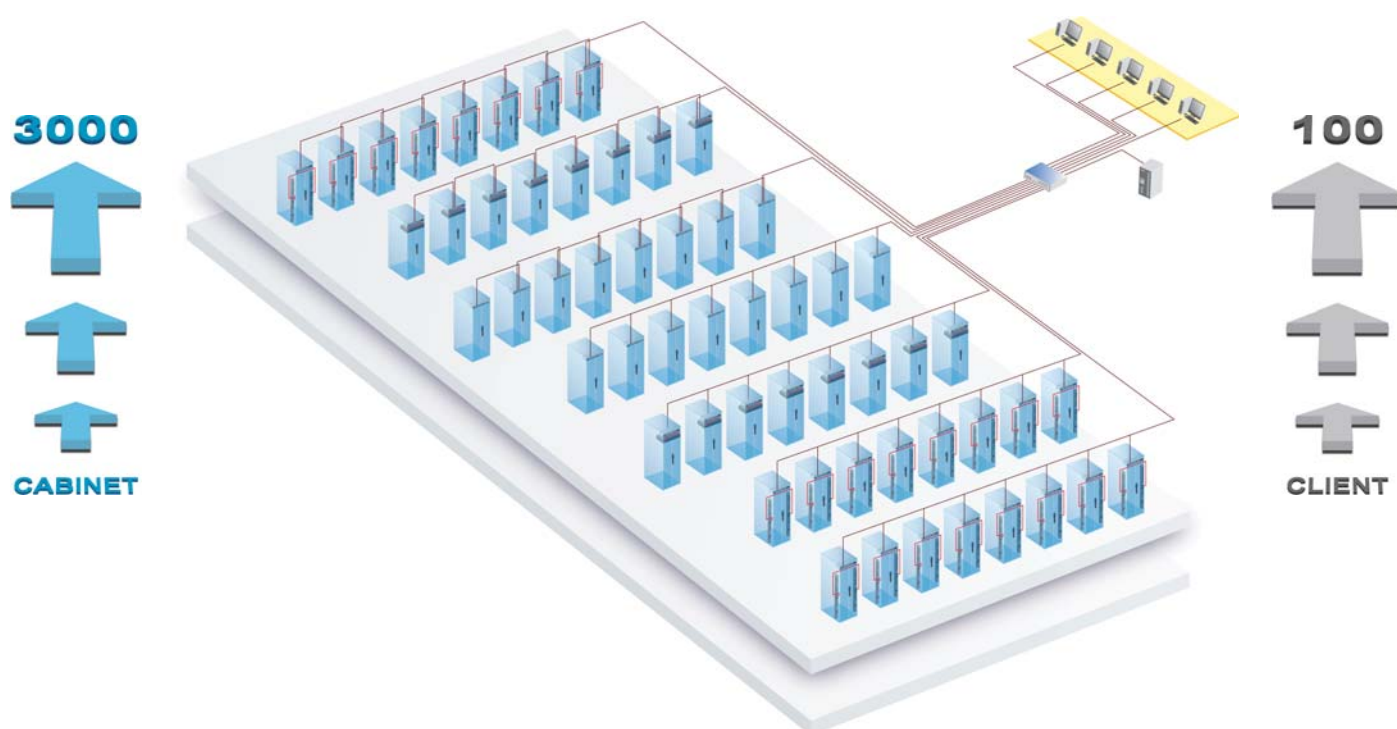
>>> Functionality

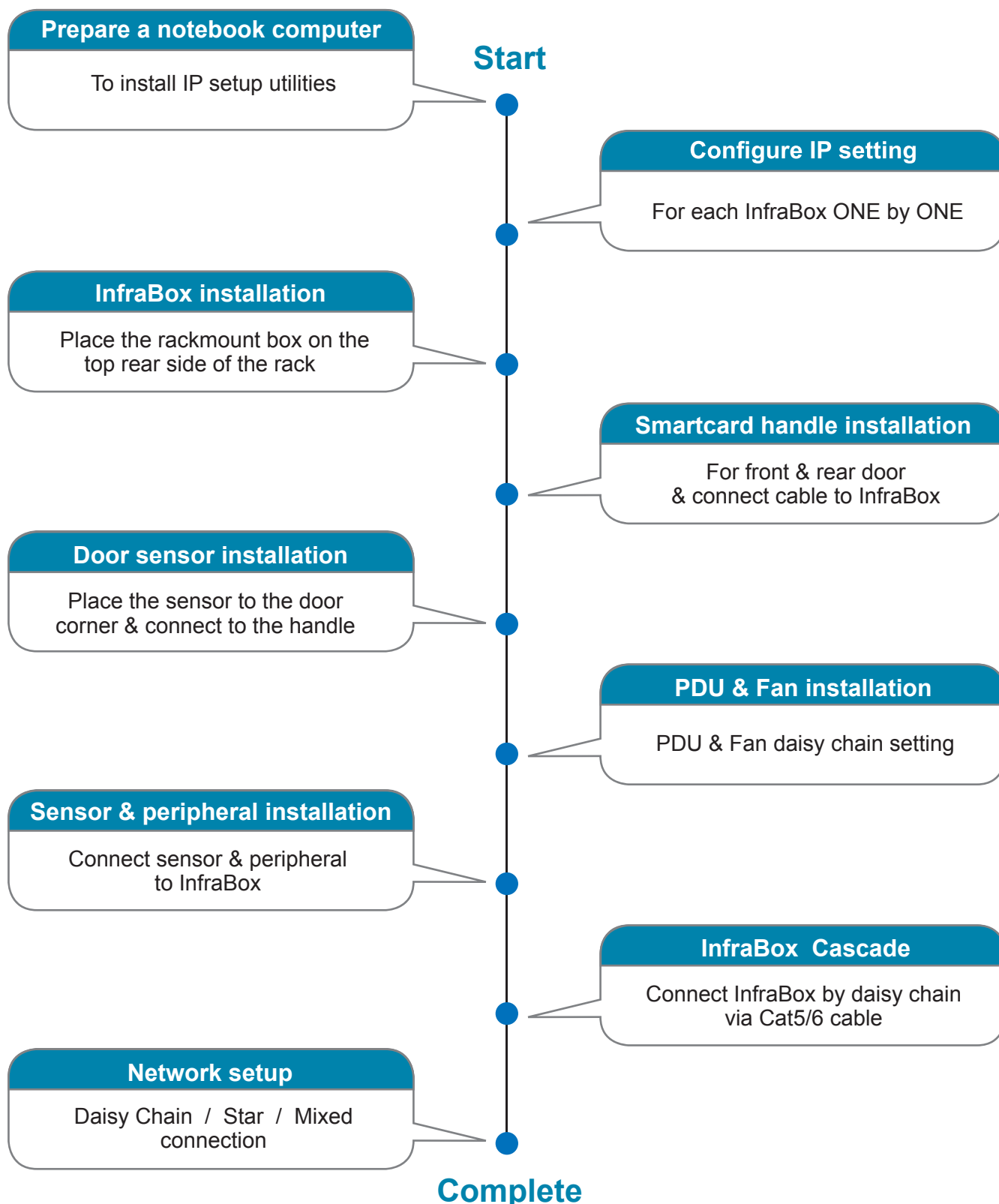
Functionality is not limited to rack access management. In addition to rack access control, InfraSolution X can be further expanded to PDU and environmental management. Users can remotely manage the above devices via the InfraSolution X Manager.



>>> Expandability

The managing capacity of InfraSolution X is expandable to a maximum of 3000 racks. And the InfraSolution X GUI allows up to 100 concurrent client access to remotely manage the Smartcard locking handles. InfraSolution X provides the scalable flexibility to the data center projects, especially to the project with several phases.



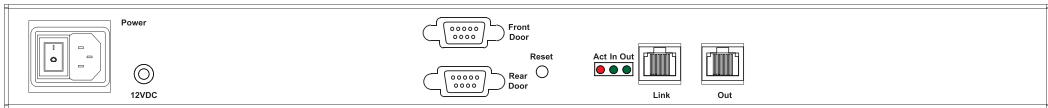


Control Box consolidates the smartcard access components and integrated devices such as integrated PDU, cooling fan and environmental sensors in a single rack. For a centralized management, all control boxes can be connected under wired networks.

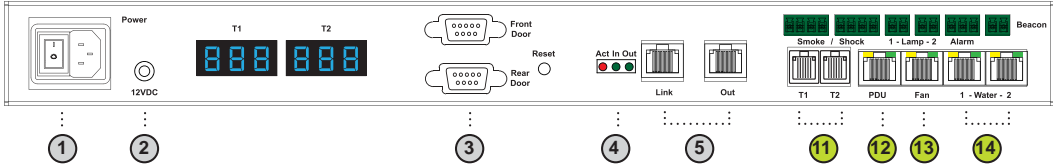
InfraSolution X offers 2 optional control box models :
X-1000 for Rack Smartcard Access
X-2000 for Rack Smartcard Access + PDU / Fan / Environmental Management



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

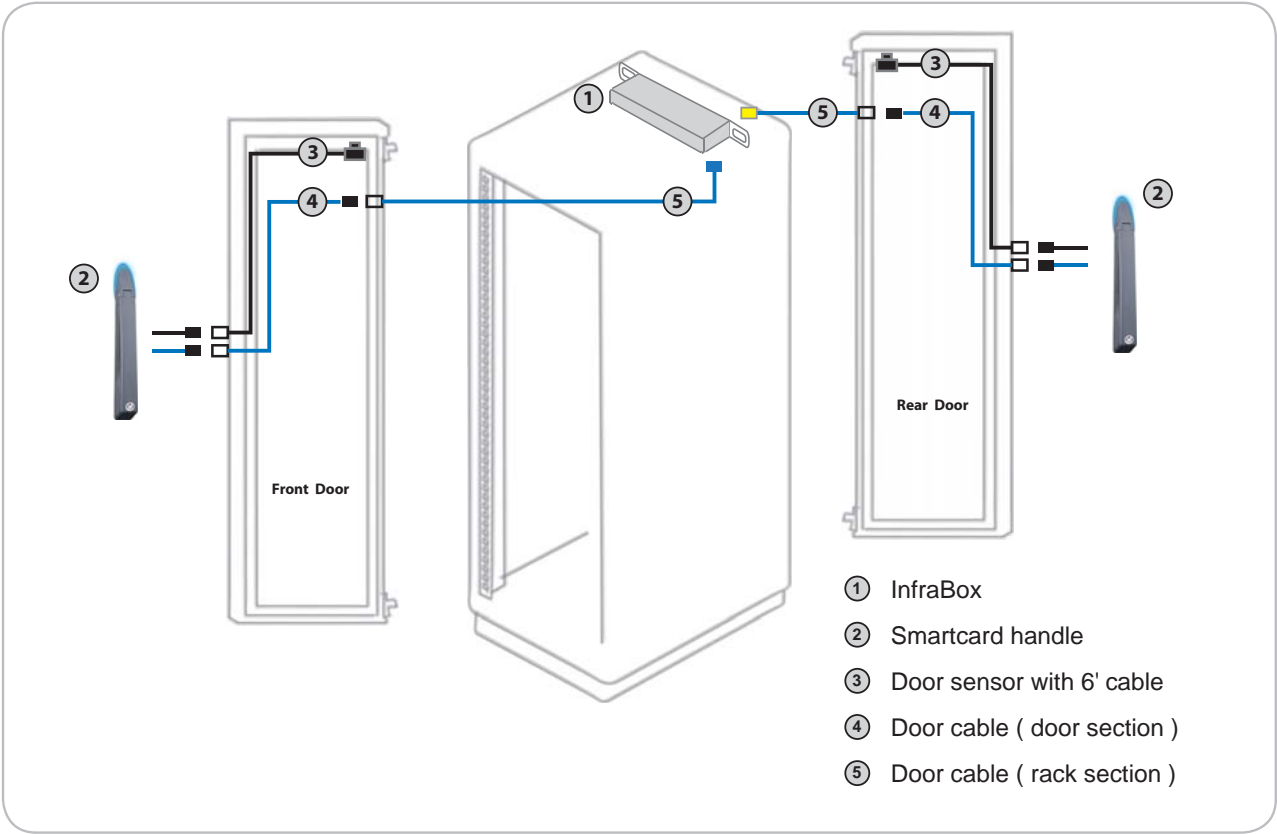
PDU port x 1 (RJ-45, up to PDU daisy chain level x 4)
- 13

Fan unit port x 1 (RJ-45, up to fan unit daisy chain level x 2)
- 14

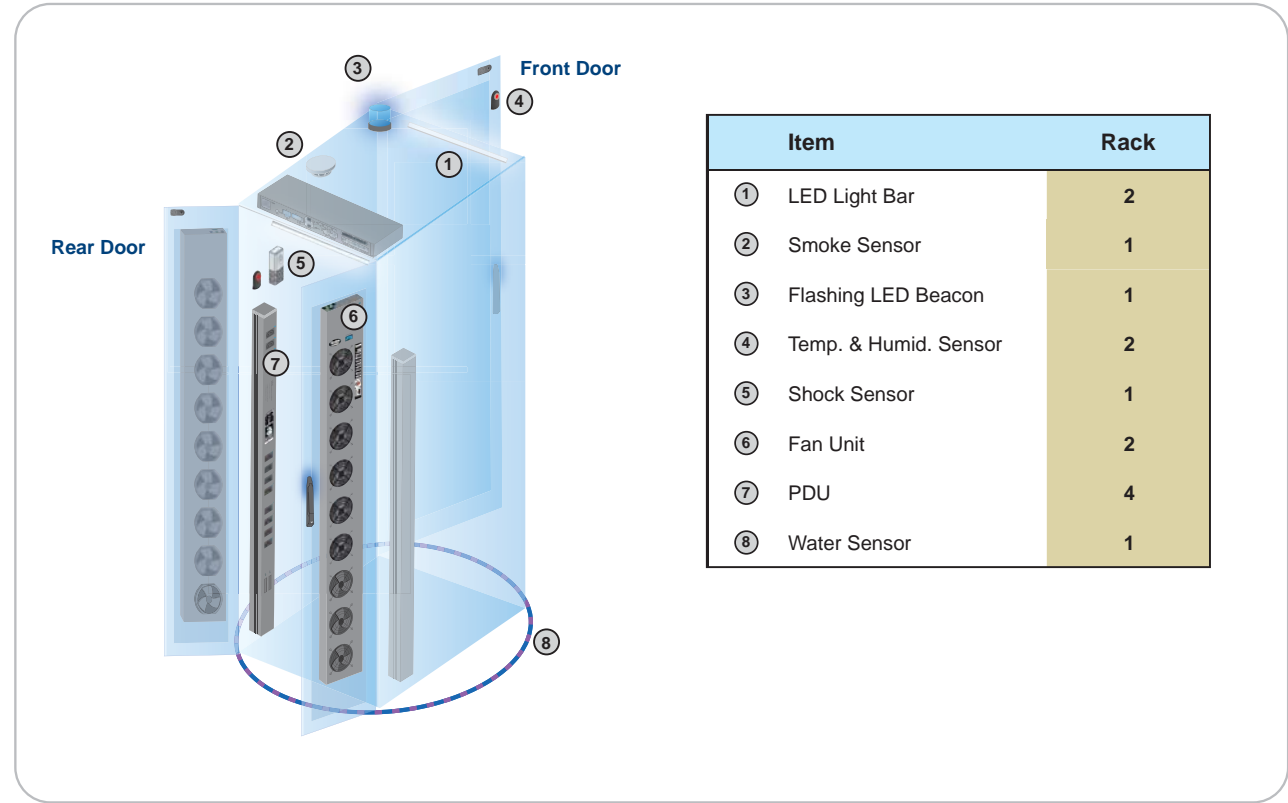
Water sensor port x 2

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
Net Weight	1.06 kgs / 2.3 lbs
Gross Weight	2.2 kgs / 4.8 lbs
Power Consumption	Auto-sensing 100 to 240VAC, 50 / 60Hz, Max. 48 Watt
Operating Temperature	0 to 55°C Degree
Storage Temperature	-5 to 60°C Degree
Relative Humidity	5~90%, non-condensing
Mounting	1U Rackmount
Safety Regulatory	FCC & CE certified
Environmental	RoHS2 & Reach compliant by SGS

Key Hardware Installation Diagram - InfraBox / Handle / Door Sensor





Installation Diagram - PDU / Fan / Sensor / Peripheral



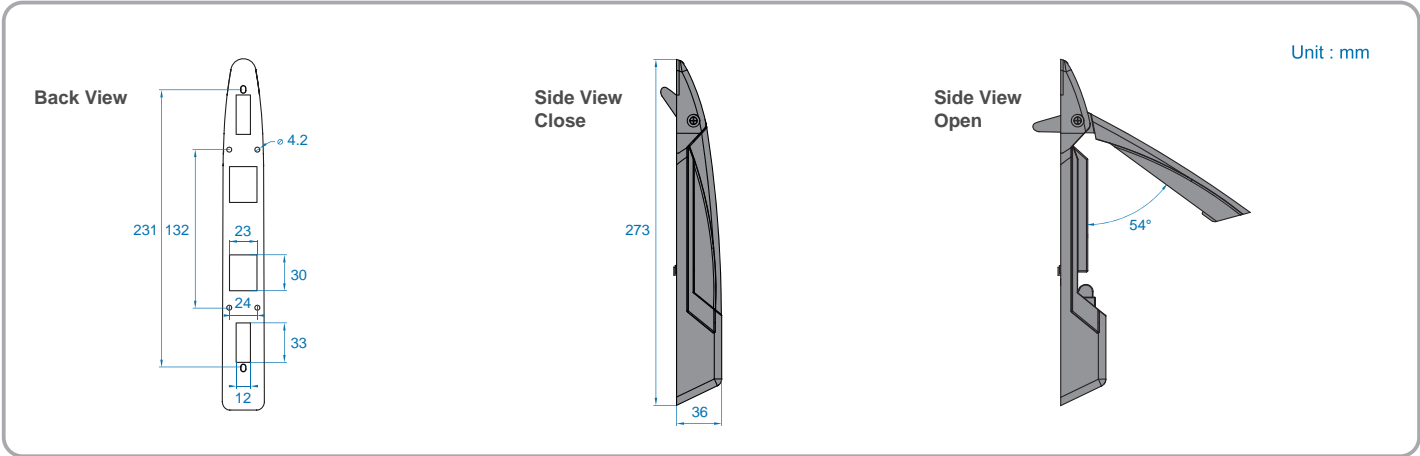
The patented X-600 smartcard handle is designed for rack access control. Rack manufacturers just need to make a custom handle mounting cut-out on the door to suit X-600 smartcard handle. It is an alternative for users who look for a handle with a stylish and different outlook design.

Patented and Worldwide Patents



X-600P		Features		X-600M
		Intelligent design with patent		
	✓	Proximity 26-bit smartcard compatible		
		MiFARE 26-bit smartcard compatible	✓	
		Dual locking system (electronics and mechanical lock)		
		Electronic lock released either by smartcard or software		
		Rack access status and alarm indication by LED		
		Individual key lock option available		
		Support 3-pt lock mechanism		


Mounting Cut-out




Handle Releasing

InfraSolution X-600 handle allows 3 lock releasing ways - by Software remote, Smartcard or Mechanical key.

By Software Remote





By Smartcard



PROXIMITY
SMARTCARD

MiFARE
SMARTCARD

By Mechanical Key

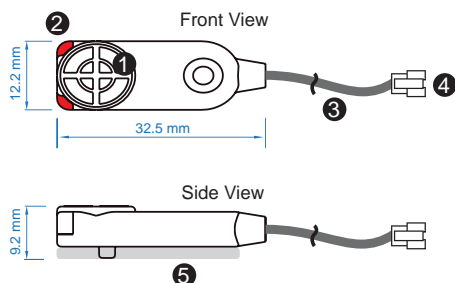


Door Sensor is an important component which should never be overlooked. InfraSolution provides high quality, durable and precise door sensors to ensure 100% right door detection.



(I) Inductive Door Sensor, pair (S-DSI)

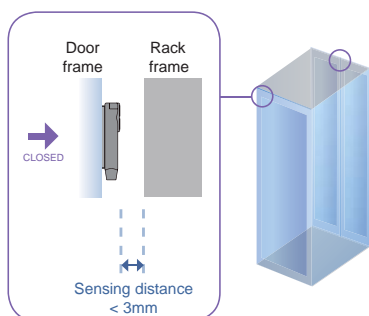
- light weight / adhesive
- easy setup for existing rack retrofit
- no custom cutting required on doors
- mounting bracket bundled



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

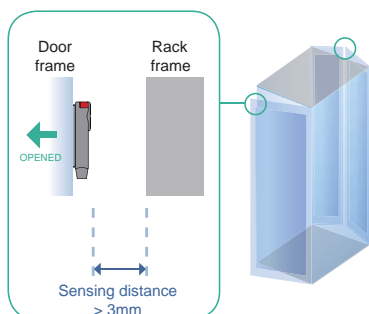
DOOR CLOSE

- Close door
- Inductive sensor detects the rack frame
- **DOOR CLOSE SIGNAL** sends out



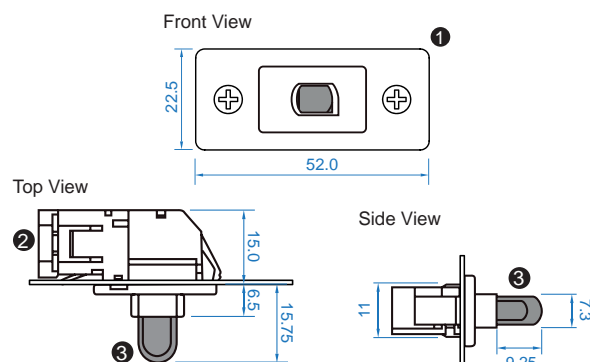
DOOR OPEN

- Open door
- Inductive sensor loses detection with rack frame
- Red LED of sensor light up
- **DOOR OPEN SIGNAL** sends out



(II) Mechanical Door Sensor, pair (S-DSW)

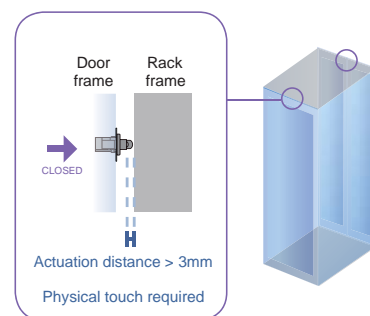
- low cost / precise
- cost efficient integration to new rack
- custom cutting required on doors



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

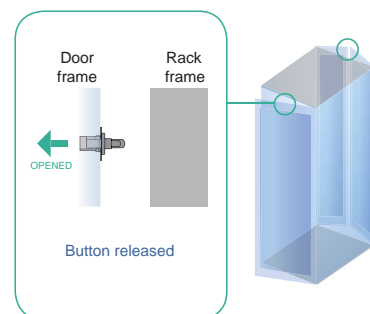
DOOR CLOSE

- 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



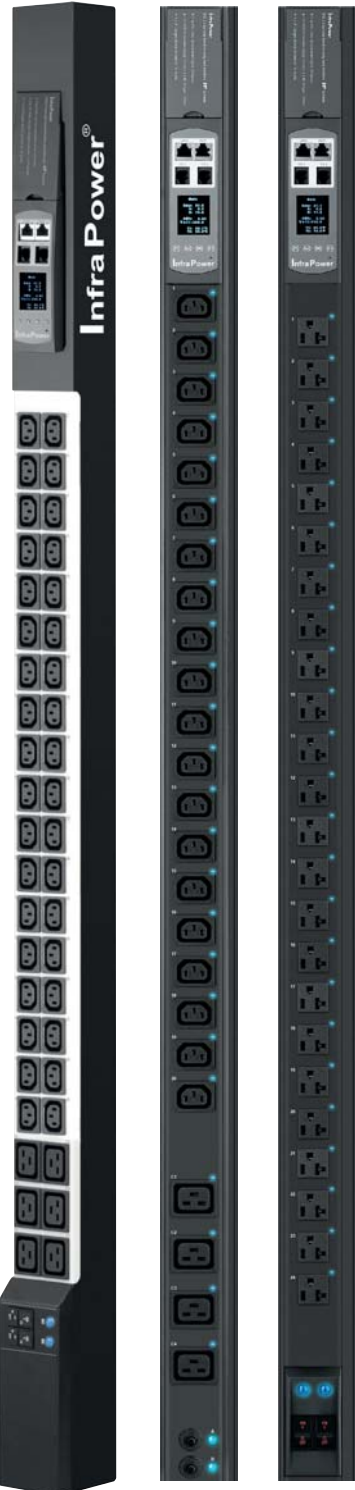
With today's increasing demand for power management solution, a complete suite of rack PDU models is required specifically to help data center IT managers meet their rapidly escalating power requirements.

InfraPower® intelligent PDU can be integrated to provide a power management solution from PDU Level to Outlet Level kWh monitoring. Switched models are also available for remote outlet switching on / off. Our PDUs are also offered in many sizes and configurations depending on voltage, current, outlet number and type of connections.



cUL certified for specific configurations

[Details](#)



W Intelligent PDU series

	Monitored		Switched	
	W	Wi	WS	WSi
Outlet AMP - kWh Measurement		✓		✓
Outlet Switch ON / OFF			✓	✓
Hot-Swap Meter	✓	✓	✓	✓
1.8" Color LCD	✓	✓	✓	✓
Circuit Amp - kWh Measurement	✓	✓	✓	✓
Temp-Humid Sensor port x 2	✓	✓	✓	✓
Daisy-chained PDU x 4 via InfraBox	✓	✓	✓	✓
SNMP Capability v2	✓	✓	✓	✓
Lockable IEC Outlet Model	✓	✓	✓	✓
Individually Fused Outlet Model	✓	✓	✓	✓
63A Model (only for 230V PDU)	✓	✓	✓	✓
Local Meter	✓	✓	✓	✓
Tool-less Mounting for Vertical PDU	✓	✓	✓	✓
0U / 1U / 2U Form Factors	✓	✓	✓	✓
Voltage 230V / 208V / 110V	✓	✓	✓	✓
Hydraulic Magnetic Circuit Breaker	✓	✓	✓	✓
Operating Temperature Range -5°C to 60°C	✓	✓	✓	✓
Outlet Types : IEC C13	✓	✓	✓	✓
IEC C19	✓	✓	✓	✓
IEC C13 + C19	✓	✓	✓	✓
IEC Lockable	✓	✓	✓	✓
IEC Individually Fused	✓	✓	✓	✓
NEMA	✓	✓	✓	✓
UK / UK + IEC	✓	✓	✓	✓
SCH / SCH + IEC	✓	✓	✓	✓



If intelligent PDU is not required, you may select Basic or Metered series.

[Details](#)

<http://www.austin-hughes.com/infrapower/single-phase/pdu/metered-pdu>

The biggest challenge in today's data center is thermal management. Cooling the equipment in an enclosed rack has always been important.

InfraCool® intelligent cooling fan units can be integrated to have both local & remote management capabilities. Front panel LED and buttons allow the local monitoring and individual fan kit switch on / off. Moreover, fan speed can be adjusted automatically according to the temperature detected by the sensor. It provides adequate airflow and minimizes the operation cost for data center energy consumption.



REACH

Details



Intelligent Fan Unit	Door Mount Fan Panel	1U Rackmount Fan Tray		
Part No.	RF-33.9	RF-1.3	RF-1.6	RF-1.9
Fan Number	9	3	6	9
Total CFM	972	324	648	972
Airflow	<div> <p><i>Front Door</i> Cool Air In</p> <p><i>Rear Door</i> Hot Air Out</p> </div>			
Daisy-chained Fan x 2 via InfraBox	✓		✓	
Temp. Port	✓		✓	
Temp. Sensor	✓		✓	
Automatic Fan Speed Control	✓		✓	
Control Panel :	✓		✓	
• Individual Fan On / Off	✓		✓	
• Alarm Temp. Setting	✓		✓	
• Unit CFM (fan speed) Setting	✓		✓	
• Temperature LED	✓		✓	
• Fan Status LED	✓		✓	
• CFM Status LED	✓		✓	

Rackmount Fan Trays



Auto Fan Speed Control



Temp. Sensor Port x 1



To maintain optimum operational conditions in data centers, getting instant notification of various environmental fluctuations is vital.

InfraSolution® X offers a wide range of sensors for complete environmental monitoring, including temperature, humidity, smoke, shock and water leakage.

Peripherals such as LED light bars and flashing LED beacons, are designed for use with the sensors for a comprehensive local environmental monitoring solution.



Temp. + Humid. Sensor



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

Part no. :

IG-TH01-2M with 2M cord

IG-TH01-4M with 4M cord

Temp. Sensor



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

Part no. :

IG-T01-2M with 2M cord

IG-T01-4M with 4M cord

Water Sensor



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

Part no. :

IG-W01-3M with 3M cord

Smoke Sensor



- Safely operated smoke detection

Part no. :

IG-S01-1M with 1M cord

IG-S01-3M with 3M cord

Shock Sensor



- Alert the physical vibration on the rack

Part no. :

IG-V01-1M with 1M cord

IG-V01-3M with 3M cord

LED Beacon



- Highly visible for alerting user to alarm status

Part no. :

IG-FB03-1M with 1M cord

IG-FB03-3M with 3M cord

LED Light Bar



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

Part no. :

CLB-IX-002 with 2M cord

CLB-IX-003 with 3M cord

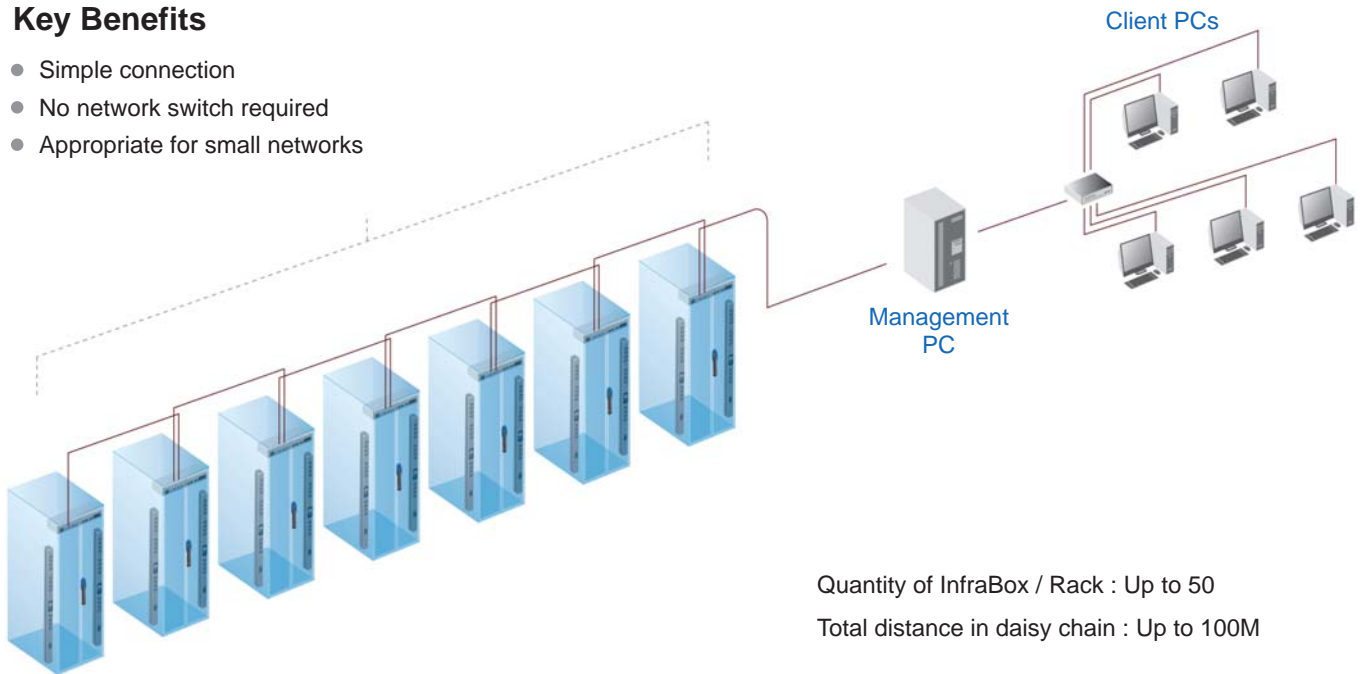
InfraSolution X provides 3 connection ways - **Daisy Chain** , **Star** , **Mixed**.

Which connection users apply is related to the site scale, environment and users' requirements.

< I > Daisy Chain Connect all InfraBoxes by Cat5/6 cable, and no any network switch required

Key Benefits

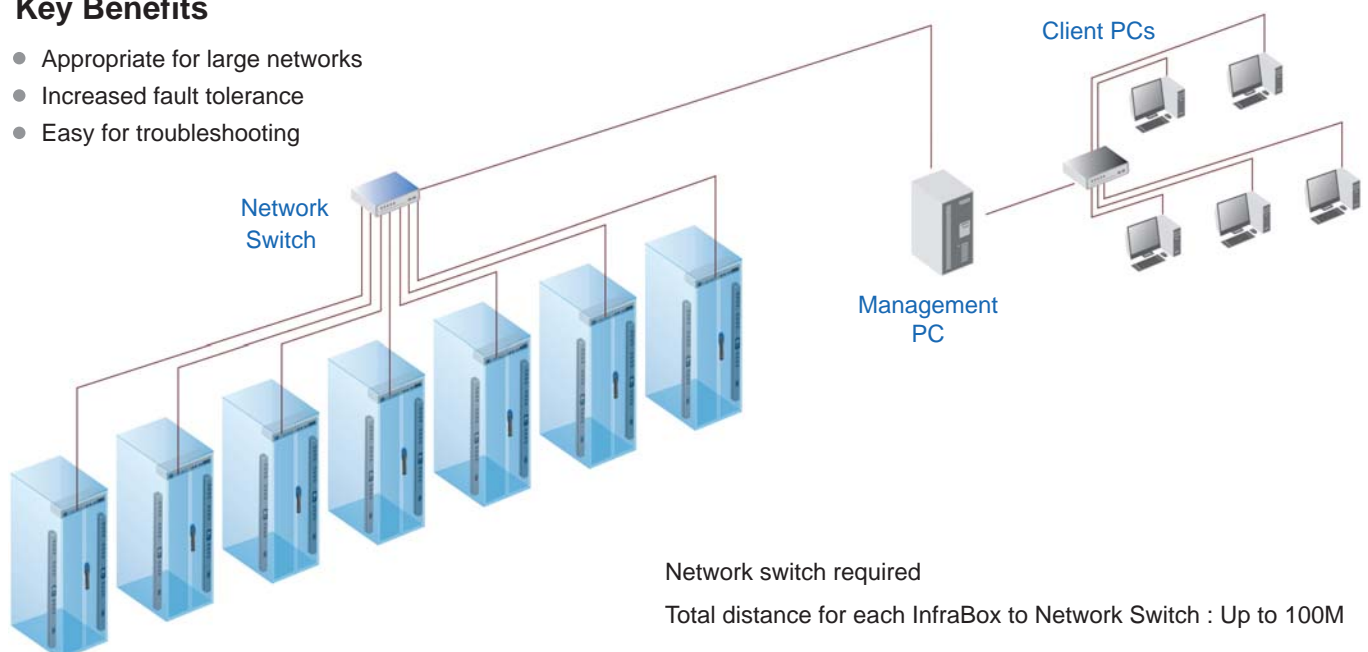
- Simple connection
- No network switch required
- Appropriate for small networks



< II > Star Connect to network switch by a point-to-point connection

Key Benefits

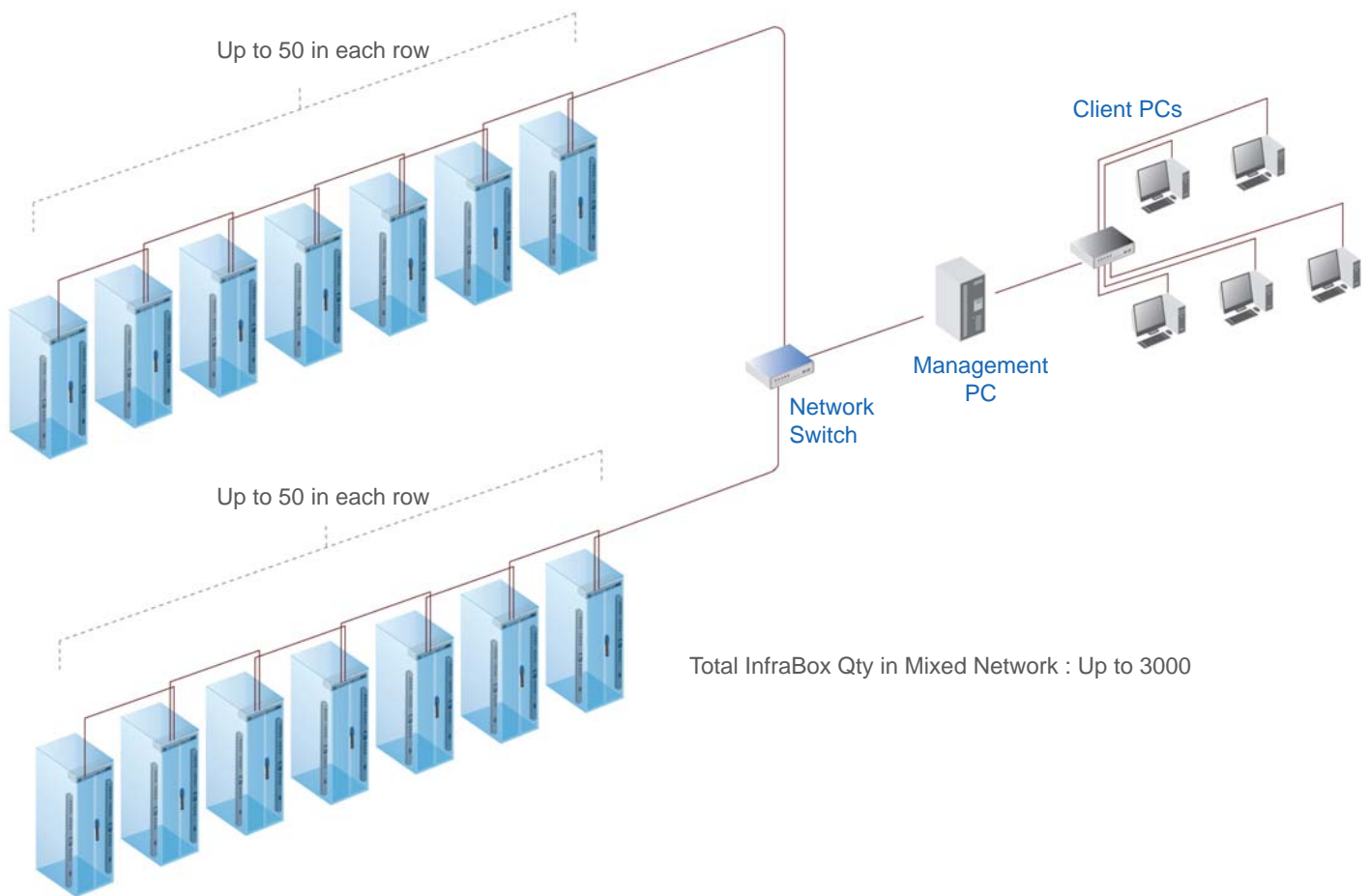
- Appropriate for large networks
- Increased fault tolerance
- Easy for troubleshooting



< III > Mixed Combining daisy chain with star connection

Key Benefits

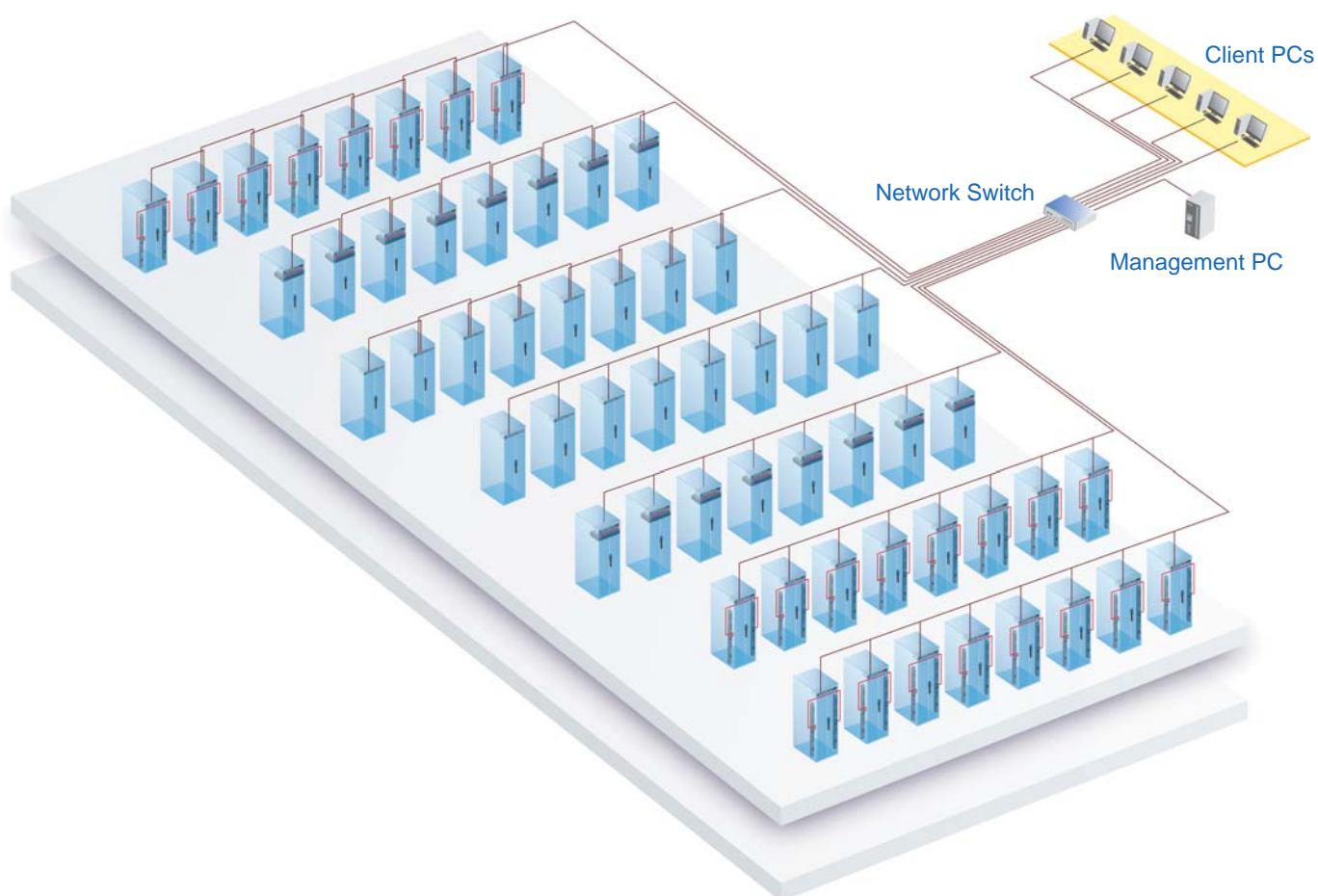
- Most effective and practical for large scale of networks
- Take all advantages of Daisy Chain and Star connection
- Flexible to meet a variety of network environments and needs



< I > Data Center

By mixed connection, InfraSolution X can be scalable up to 3000 racks. X-2000 and X-1000 InfraBoxes can be coexisted in the same network. Users are enabled to manage and remotely access all racks under a centralized and user friendly GUI.

- Connect the 1st InfraBox in each daisy chain to the network switch
- Connect the management PC and client PCs via the network switch
- Up to 3000 Infraboxes / Racks



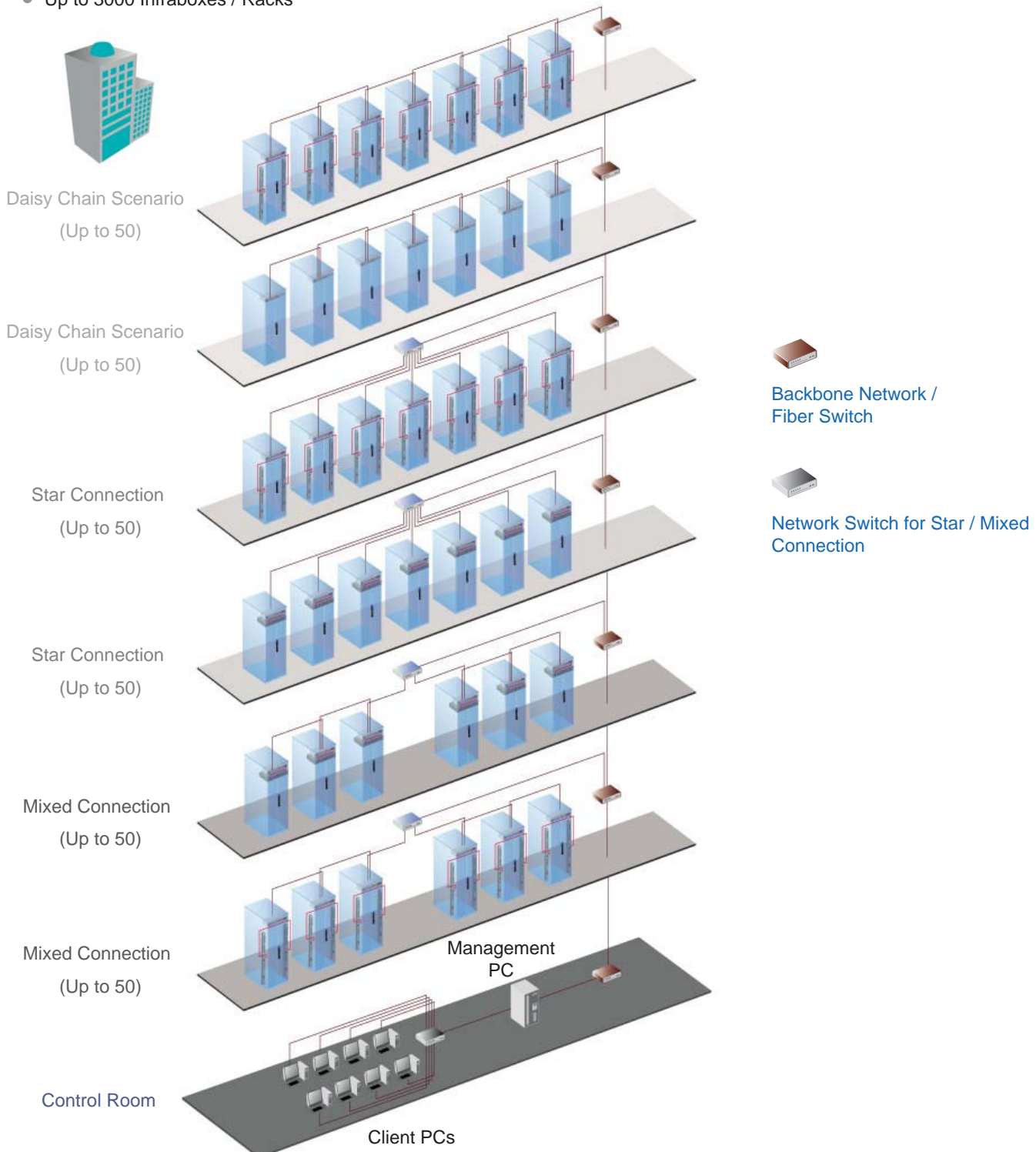
< II > Intelligent Building

It is essential for a Multi-Storey Intelligent Building to be applied with a centralized management system for the building's mechanical and electrical equipment such as security, power, ventilation, and lighting systems, etc.

InfraSolution X system allows equipment to be distributed throughout a building simply by deploying an Ethernet network. To keep capital costs down, InfraSolution X can also be cascaded between boxes up to 100m over a Cat5/6 cable. Signal weakness problem for long distance between InfraBoxes can be solved by applying network hubs with repeater function.

Setup Scenario in the whole Intelligent Building

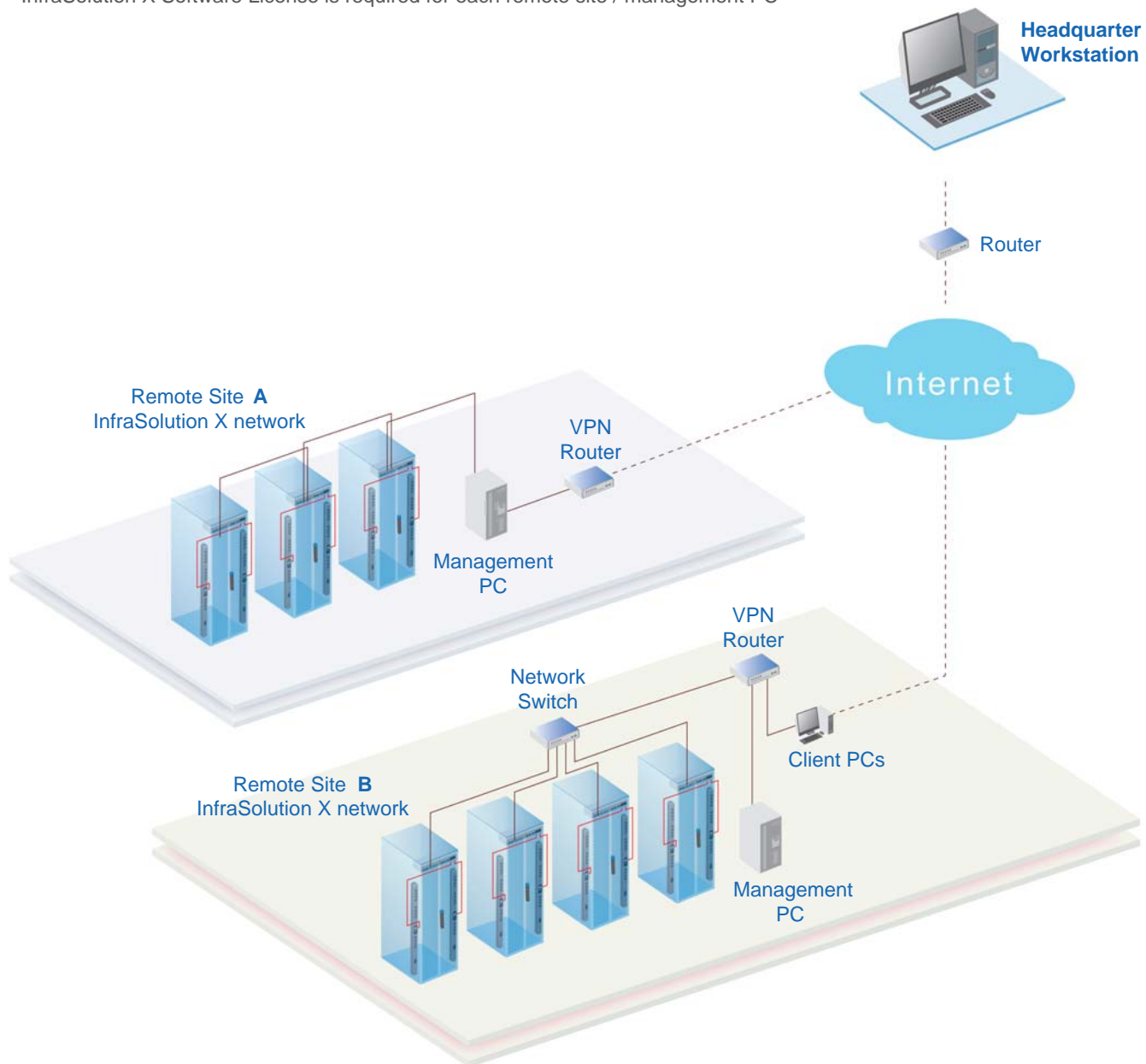
- Connect the InfraSolution X network in each floor via the network ethernet / fiber switch
- Up to 3000 Infraboxes / Racks



< III > Remote Site

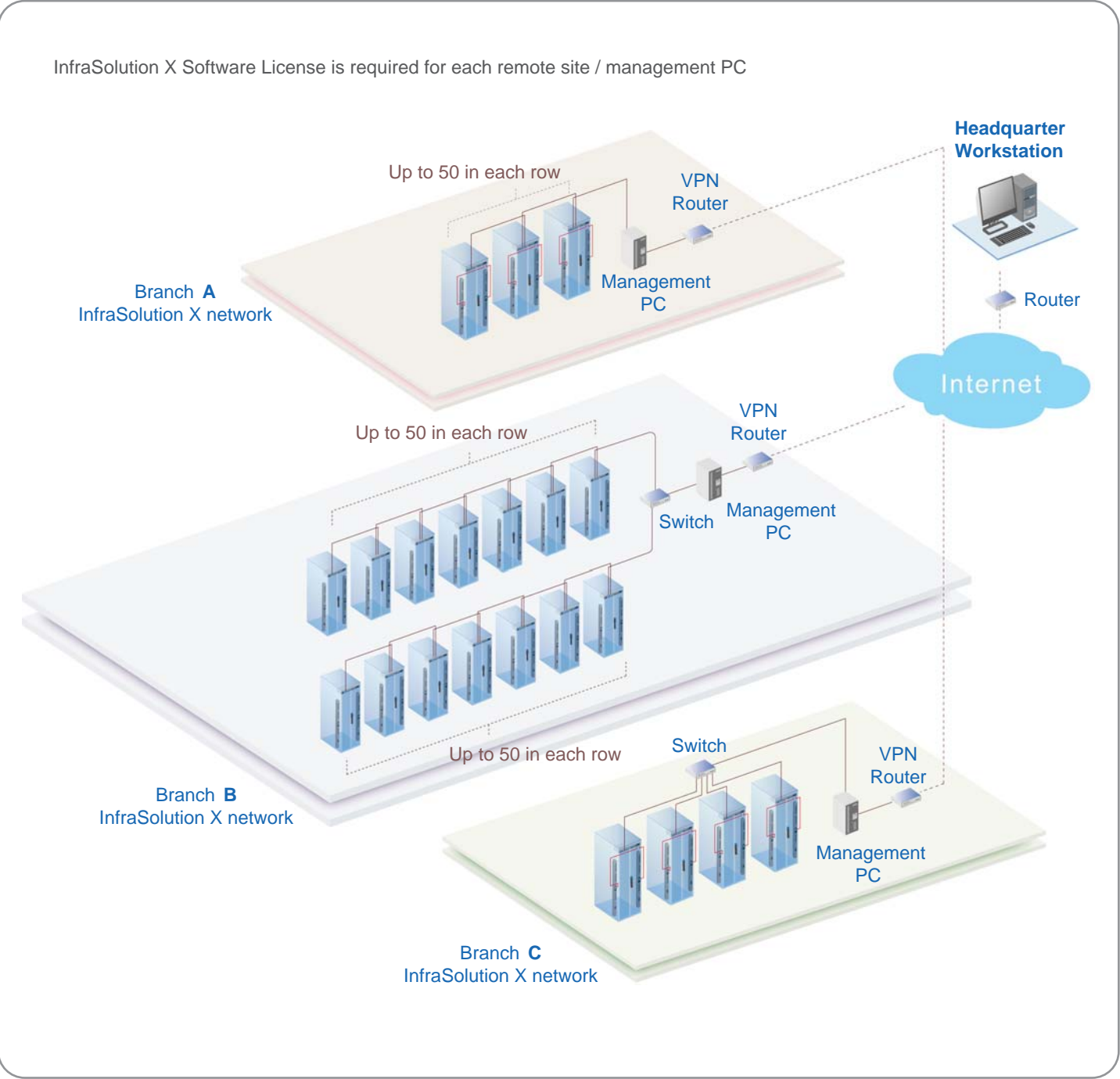
InfraSolution X can be also applied to the remote site for access and monitoring over IP anytime and anywhere.

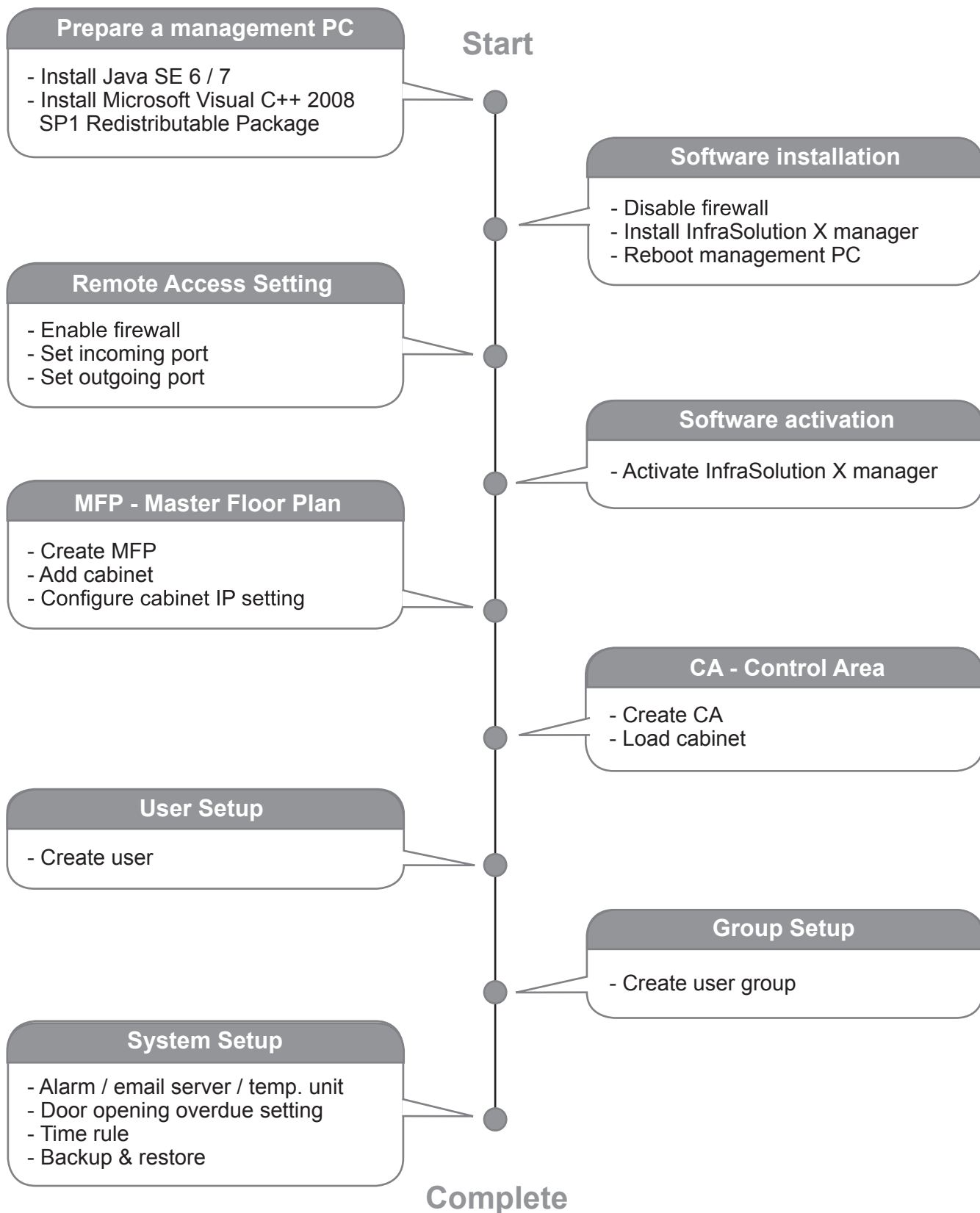
InfraSolution X Software License is required for each remote site / management PC



< IV > Branches

For a global or scalable company, it is vital to remote access and monitor the network of their nationwide and worldwide branches. InfraSolution X provides an ideal solution to keep an eye on rack access security and environmental condition.

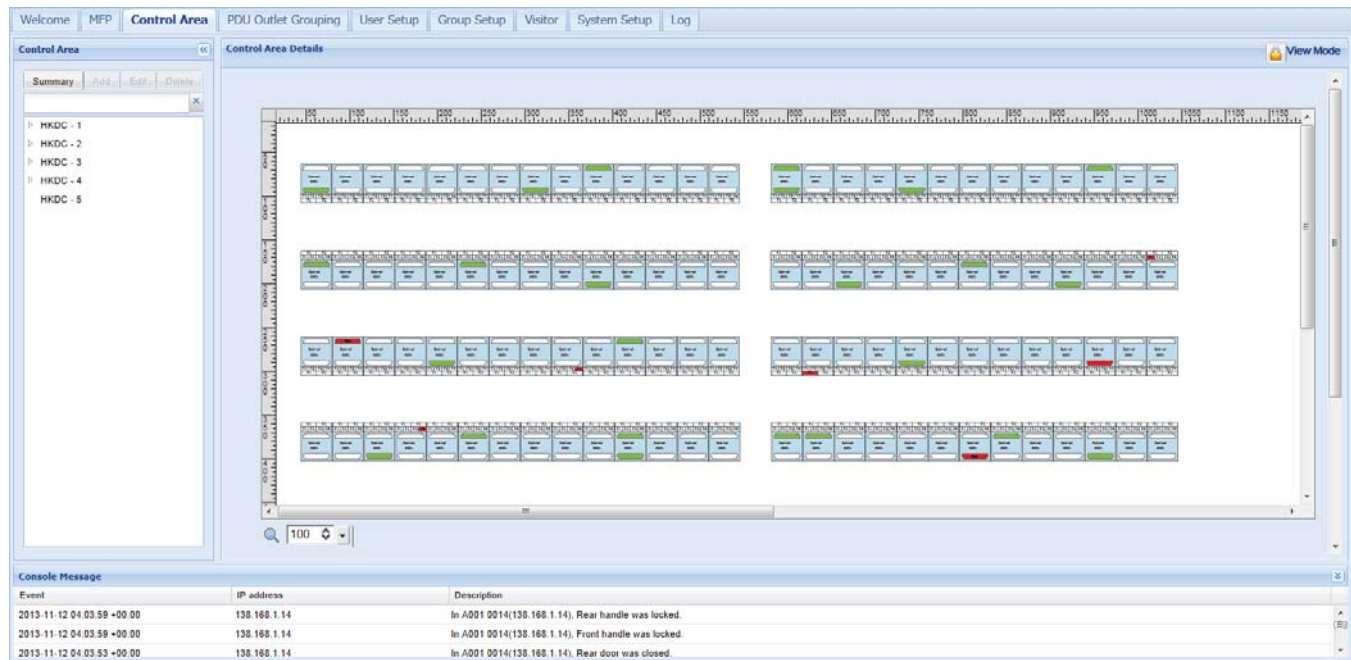




InfraSolution® X Manager X-ISM is a LICENSED rack management software to monitor up to 3000 racks remotely.

Each InfraBox connects a pair of smartcard handles to secure the rack access control, and connect a variety of sensors to provide an environmental monitoring solution. To enhance the functionality, up to 1920 x kWh PDU / 960 x Fan Unit can be monitored through InfraSolution X Manager as well. Up to 100 concurrent users can access the management software remotely to achieve the demand of multi-user / multi-tasking in nowadays' time sharing data center operation.

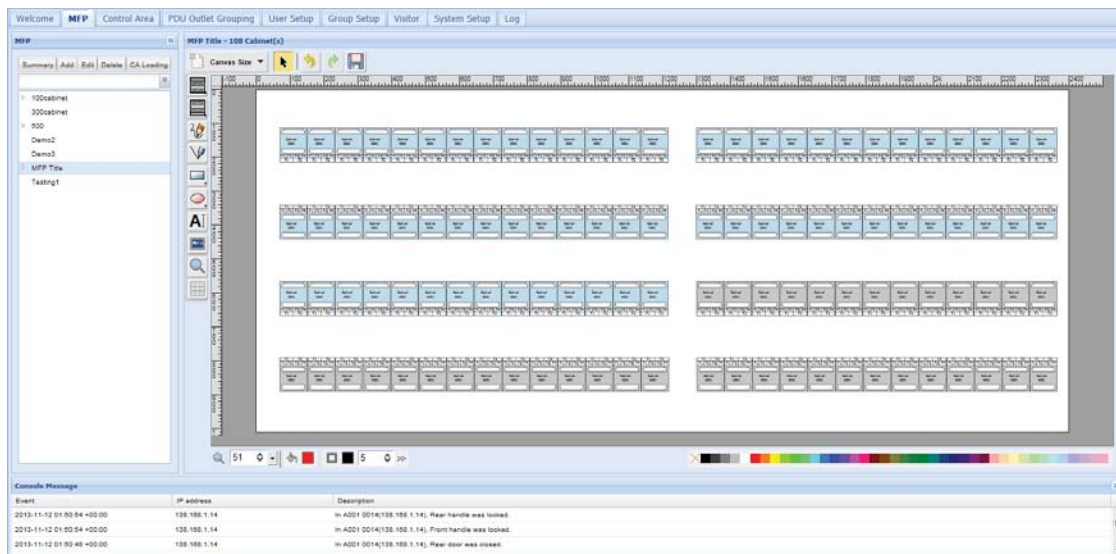
[Details](#)



Features		X-ISM
Capacity	InfraBox	3000
	Concurrent User	100
System Setup	Backup / Restore Setting	✓
	Time Rule Setting	✓
	Alarm Mail Server Setting	✓
	Audio and Visual Alarm Output Setting	✓
Cabinet Overview Door	Status of Door, PDU, Sensor & Fan Unit	✓
	Door Open by Remote	✓
	Last Door Open & Close Record	✓
Sensor / Peripheral	Status Monitoring	✓
	Temp-Humid Alarm Threshold Setting	✓
PDU	Energy Consumption kWh / Amp Monitoring	✓
	Outlet Level Measurement	✓
	PDU Outlet Schedule	✓
	Outlet Switch ON / OFF	✓
	Amp Alarm Threshold Setting	✓
	Amp Rising / Low Alert Threshold Setting	✓
	Temp-Humid Monitoring	✓
Fan Unit	CFM & Temp. Monitoring	✓
	Unit CFM (fan speed) Setting	✓
	Auto CFM Control Setting	✓
	Individual Fan Kit ON / OFF	✓
	Fan Unit ON / OFF	✓
Chart / Event / Reporting	System & Device Event Reporting	✓
	Temp-Humid Line Chart of InfraBox	✓

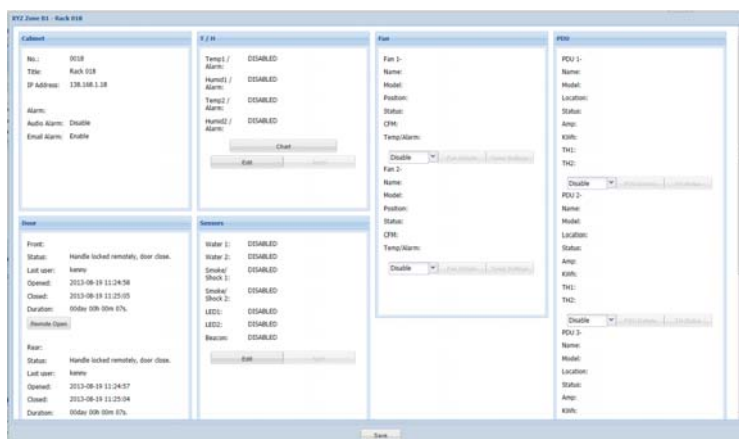
MFP - Master Floor Plan

- An actual Cabinet floor plan
- To create Cabinet & configure the IP setting for the cabinet.
- MFP can be more than one. No. of MFP is subject to the site scale & plan by floor, zone, building, branches or remote sites.



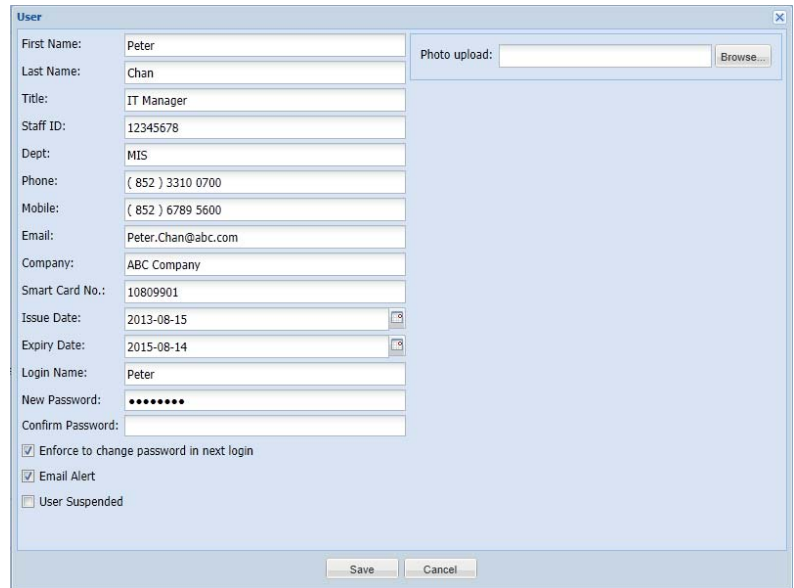
CA - Control Area

- To build a Control Area for some specific cabinets to monitor, configure & control.
- All cabinets in the CA should be loaded from the MFP.
- CA can be more than one. How many CA is subject to the User plan.
- CA has 2 modes : Edit mode & View mode.
- Under Edit mode, users can configure not only cabinets but also devices such as PDU, Fan unit & sensors.
- View mode is designed for users with limited authority so they can only monitor the status of Cabinet & device.



User Setup

- To create a user list for building the user group.
- Each user has his own login name & password for remote System login.
- Each user also has his own smartcard for cabinet access
- Before users join a user group, they can do nothing.

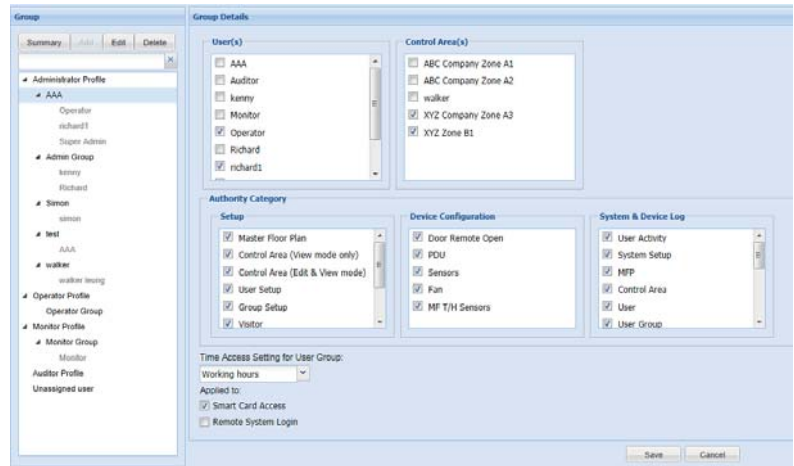


The 'User' form contains the following fields and options:

- First Name: Peter
- Last Name: Chan
- Title: IT Manager
- Staff ID: 12345678
- Dept: MIS
- Phone: (852) 3310 0700
- Mobile: (852) 6789 5600
- Email: Peter.Chan@abc.com
- Company: ABC Company
- Smart Card No.: 10809901
- Issue Date: 2013-08-15
- Expiry Date: 2015-08-14
- Login Name: Peter
- New Password: [masked]
- Confirm Password: [empty]
- ☒ Enforce to change password in next login
- ☒ Email Alert
- ☐ User Suspended
- Photo upload: [empty] [Browse...]
- Buttons: Save, Cancel

User Group

- To form a user group from the User list.
- To define the user group with authority and which Control Area(s) to monitor & access.
- Each user subordinated to only ONE user group.
- If the user wants to join one more user group, a new login name, password & smartcard number MUST be assigned.
- Each user group MUST select ONE time rule. All group user can access the cabinet according to the time period of the selected time rule.
- Without time rule assignment, All group user cannot access the cabinet.

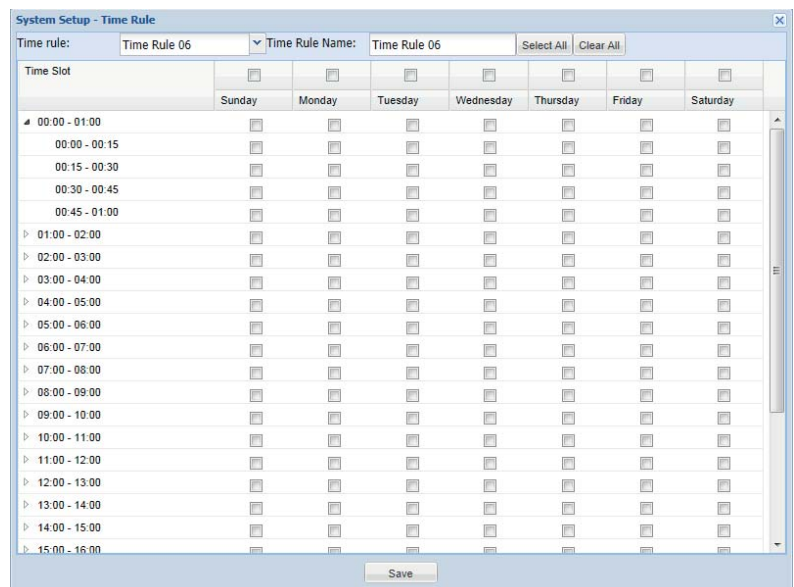


The 'Group Details' form includes the following sections:

- Group:** Summary, Add, Edit, Delete buttons.
- Administrator Profile:** List of users including AAA, Auditor, kenny, Monitor, Operator, Richard, Simon, test, walker, walker testing, Operator Profile, Operator Group, Monitor Profile, Monitor Group, Auditor Profile, and Unassigned user.
- User(s):** List of users to be added to the group (AAA, Auditor, kenny, Monitor, Operator, Richard, richard1).
- Control Area(s):** List of control areas to be assigned (ABC Company Zone A1, ABC Company Zone A2, walker, XY2 Company Zone A3, XY2 Zone B1).
- Authority Category:**
 - Setup:** Master Floor Plan, Control Area (View mode only), Control Area (Edit & View mode), User Setup, Group Setup, Visitor.
 - Device Configuration:** Door Remote Open, PDU, Sensors, Fan, MF T/H Sensors.
 - System & Device Log:** User Activity, System Setup, MFP, Control Area, User, User Group.
- Time Access Setting for User Group:** Working hours, Applied to: ☒ Smart Card Access, ☐ Remote System Login.
- Buttons: Save, Cancel

Time Rule

- To set time rules up to 32.
- Afterward, all time rules will be shown in user group for their selection.
- Only ONE time rule can be assigned to ONE user group.



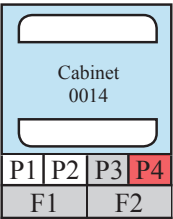
The 'System Setup - Time Rule' form displays a table for defining time rules:

Time Slot	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
00:00 - 01:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
00:00 - 00:15	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
00:15 - 00:30	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
00:30 - 00:45	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
00:45 - 01:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
01:00 - 02:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
02:00 - 03:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
03:00 - 04:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
04:00 - 05:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
05:00 - 06:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
06:00 - 07:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
07:00 - 08:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
08:00 - 09:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
09:00 - 10:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10:00 - 11:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11:00 - 12:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12:00 - 13:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13:00 - 14:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14:00 - 15:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15:00 - 16:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Buttons: Save

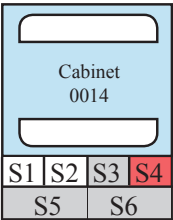
Cabinet icon has two layers, the layer one by default shows on all control area under view mode for status monitoring. User can click cabinet icon to switch to layer two.

Layer one



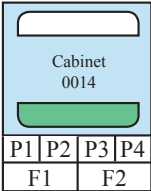
- show PDU status (**P1,P2, P3, P4**)
- if PDU is enabled & connected, **P** icon in WHITE color
- if PDU is enabled BUT disconnected, **P** icon in **RED** color
- if PDU is on alarm status, **P** icon also in **RED**
- if PDU is disabled, **P** icon in GREY color
- show Fan unit status (**F1, F2**)
- if Fan unit is enabled & connected, **F** icon in WHITE color
- if Fan unit is enabled BUT disconnected, **F** icon in **RED** color
- if Fan unit is on alarm status, **F** icon also in **RED** color
- if Fan unit is disabled, **F** icon in GREY color

Layer two



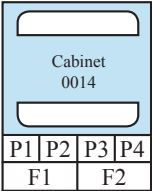
- show TH sensor status (**S1, S2**)
- if TH sensor is enabled & connected, **S1, S2** icon in WHITE color
- if TH sensor is enabled BUT disconnected, **S1, S2** icon in **RED** color
- if TH sensor is on alarm status, **S1, S2** icon also in **RED** color
- if TH sensor is disabled, **S1, S2** icon in GREY color
- show smoke & shock sensor status (**S3, S4**)
- if smoke & shock sensor is enabled & connected, **S3, S4** icon in WHITE color
- if smoke & shock sensor is on alarm status, **S3, S4** icon also in **RED** color
- if smoke & shock sensor is disabled, **S3, S4** icon in GREY color
- show water sensor status (**S5, S6**)
- if water sensor is enabled & connected, **S5, S6** icon in WHITE color
- if water sensor is on alarm status, **S5, S6** icon also in **RED** color
- if water sensor is disabled, **S5, S6** icon in GREY color

Door status

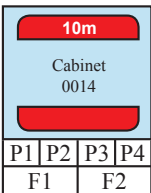


- ← - - Door close status in white
- ← - - Door open status in green

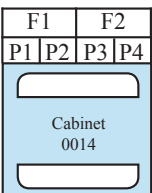
Door direction



- ← - - Front door

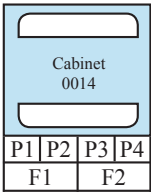


- ← - - Door open overdue status in red (show overdue time)
- ← - - Door alarm status in red (unauthorized open)



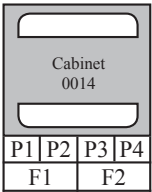
- ← - - Front door

Connection status

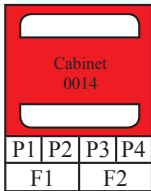


- ← - - Normal connection status (color in blue)

Non-configure cabinet



- ← - - (color in grey)
- In MFP master floor plan, the grey cabinet icon shows that the cabinet has not been configured with IP setting yet.

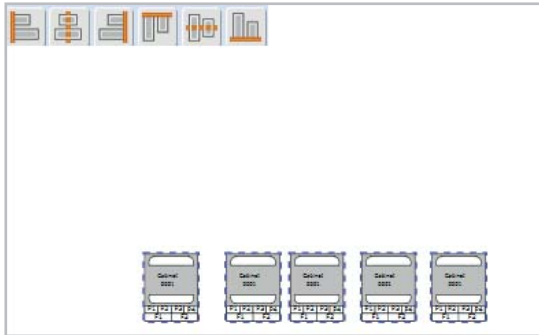


- ← - - Disconnection status (color in red)

In CA control area, the grey cabinet icon shows that the cabinet has been deleted in master floor plan. The user should remove this non-function cabinet from control area.

Cabinet Alignment

- >> Provided by MFP & CA
- >> For user to arrange the cabinet in a neat way
- >> Top / middle / bottom alignment
- >> Left / center / right alignment



Individual Cabinet Door

- >> Door open by remote
- >> View the record of last door open & close record

Door

Front:

Status: Handle locked remotely, door close.
Last user: kenny
Opened: 2013-08-19 14:45:31
Closed: 2013-08-19 14:46:13
Duration: 00day 00h 00m 42s.
Remote Open

Rear:

Status: **Unauthorized open**
Last user: Anonymous User
Opened: 2013-08-19 14:47:07
Closed: 2013-08-19 14:47:34
Duration: 00day 00h 00m 27s.
Remote Open

Fan

- >> Status
- >> Fan Unit Setting
- >> Temp. Setting

XYZ Zone B1 - Rack 018 - Fan Details

Fan unit level: 02 RF-1.3 1U Fan Tray

Status: Connected
Unit switch:
Name: Rack 22
Unit CFM:
Position: Top

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

Save

Sensor / Peripheral

- >> Sensor Status (provided by CA view mode)
- >> Sensor Setting

Sensors

Water 1:
Water 2:
Smoke:
Shock:
LED1:
LED2:
Beacon:
Alarm out:

PDU

- >> Status
- >> PDU / Temp + Humid Setting
- >> Outlet Schedule
- >> Outlet Switch ON / OFF

XYZ Zone B1 - Rack 018 - PDU Details

PDU Level: 03 V24C13-22A-005

Status: Connected
Name: Rack 18 23C13M05
Location: Rack 18 23C13M05
PDU kWh: 0.00
PDU load amp: 0.0
Power Factor: 0.4
App Power (W): 0.03

Outlet	Max. amp	Load amp	Alarm amp	Peak amp	Wkh	Status	Switch
01	16.0	0.0	13.0	0.0	0.0	On	<input type="button" value="ON"/>
02	16.0	0.0	13.0	0.0	0.0	On	<input type="button" value="ON"/>
03	16.0	0.0	13.0	0.0	0.0	On	<input type="button" value="ON"/>
04	16.0	0.0	13.0	0.0	0.0	On	<input type="button" value="ON"/>
05	16.0	0.0	13.0	0.0	0.0	On	<input type="button" value="ON"/>
06	16.0	0.0	13.0	0.0	0.0	On	<input type="button" value="ON"/>
07	16.0	0.0	13.0	0.0	0.0	On	<input type="button" value="ON"/>
08	16.0	0.0	13.0	0.0	0.0	On	<input type="button" value="ON"/>
09	16.0	0.0	13.0	0.0	0.0	On	<input type="button" value="ON"/>
10	16.0	0.0	13.0	0.0	0.0	On	<input type="button" value="ON"/>

System Setup

- Backup & Restore
- Alarm Setting, Mail Server Setting, Audio Visual Alarm
- Temperature unit
- Door opening overdue setting
- Time Rule

Device & Event Log

- | | |
|------------------|-------------------|
| Devices : | System : |
| ➤ Cabinet | ➤ Console |
| ➤ Door Access | ➤ Control Area |
| ➤ Fan | ➤ MFP |
| ➤ PDU | ➤ Outlet Grouping |
| ➤ Sensors | ➤ System Setup |
| ➤ T/H Sensor | ➤ User |
| | ➤ User Activity |
| | ➤ User Group |
| | ➤ Visitor |

SNMP

InfraBox can manage the following connected devices via SNMP :

- Smartcard handles
- PDUs
- Fan Units
- Sensors
- Peripherals

Individual Key Lock



- Up to 500 individual key-locks available

Part no. :

ISK-C051 set of 2 for front & rear door

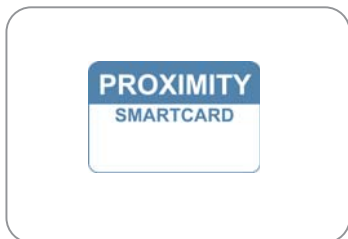
Unique Key Lock



- Unique key dedicated to single project / customer regionally
- For project size over 500 racks

Part no. : ISK-UKL

Proximity Smartcard

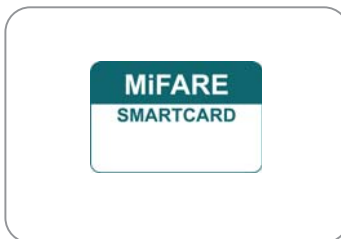


- **Proximity** 26-bit format
- Single card for multiple application
- Custom layout available

Part no. :

ISC-P10 pack of 10

MiFARE Smartcard



- **MiFARE** 26-bit format
- Single card for multiple application
- Custom layout available

Part no. :

ISC-M10 pack of 10

Proximity Card Reader



- Compatible to **Proximity** 26-bit Smartcard format
- Convenient way for Smartcard ID checking
- Driverless for easy installation

Part no. : ISC-PCR

MiFARE Card Reader



- Compatible to **MiFARE** 26-bit Smartcard format
- Convenient way for Smartcard ID checking
- Driverless for easy installation

Part no. : ISC-MCR

Key Hardware

>> InfraBox - X-1000 or X-2000

Connection	X-1000	X-2000
Smartcard Handles w/ Door Sensors	✓	✓
PDU's		✓
Fan Units		✓
Sensors / Peripherals		✓

>> Smartcard handle - Proximity or MiFARE

Smartcard Compatibility	X-600P	X-600M
Proximity	✓	
MiFARE		✓

>> Door Sensor - Inductive or Mechanical

Inductive Door Sensor (S-DSI)	Mechanical Door Sensor (S-DSW)
<ul style="list-style-type: none"> • light weight / mini size / adhesive • easy setup for existing rack retrofit • no custom cutting required on door 	<ul style="list-style-type: none"> • low cost / precise • cost efficient integration to new rack • custom cutting required on door

Management Software

>> Select the Matrix server license package

Part no.	Cabinet License no.	Client License no.
X-ISM-10+5	10	5
X-ISM-20+5	20	5
X-ISM-50+5	50	5
X-ISM-100+5	100	5
X-ISM-300+5	300	5
X-ISM-500+10	500	10
X-ISM-1000+10	1000	10

>> Cabinet license for additional requirement (up to 3000)

Part no.	Cabinet License no.
X-N005	5
X-N010	10
X-N020	20
X-N050	50
X-N100	100
X-N200	200

>> Client license for additional need (up to 100)

Part no.	Client License no.
X-C005	5

PDU (X-2000 only)

InfraPower intelligent PDU :

- WSi** Switched + Outlet measurement
- WS** Switched
- Wi** Monitored + Outlet measurement
- W** Monitored PDU

* All PDUs come with Temp. + Humid. sensor port x 2

Outlet :	Voltage (AC) :
US Nema	110V
IEC C13 / C19	230V / 208V
UK BS1363 + IEC	230V
GR Schuko + IEC	230V

Fan Unit (X-2000 only)

InfraCool remote fan unit :

- RF-33.9** 33U remote door mount fan panel w/ 9 fans
- RF-1.3** 1U rackmount remote fan tray w/ 3 fans
- RF-1.6** 1U rackmount remote fan tray w/ 6 fans
- RF-1.9** 1U rackmount remote fan tray w/ 9 fans

* All remote fan units come with Temp. sensor x 1

Sensor / Peripheral (X-2000 only)

IG-TH01-2M	Temp. + Humid. sensor	w/ 2m cord
IG-TH01-4M	Temp. + Humid. sensor	w/ 4m cord
IG-T01-2M	Temp. sensor	w/ 2m cord
IG-T01-4M	Temp. sensor	w/ 4m cord
IG-S01-1M	Smoke sensor	w/ 1m cord
IG-S01-3M	Smoke sensor	w/ 3m cord
IG-V01-1M	Shock sensor	w/ 1m cord
IG-V01-3M	Shock sensor	w/ 3m cord
IG-W01-3M	Water sensor	w/ 3m Cat6 cable
IG-DSI-2M	Inductive door sensor, pair	w/ 2m cord
IG-DSI-4M	Inductive door sensor, pair	w/ 4m cord
IG-DSW-2M	Mechanical door sensor, pair	w/ 2m cord
IG-DSW-4M	Mechanical door sensor, pair	w/ 4m cord
CLB-IX-002	LED light bar	w/ 2m cord
CLB-IX-003	LED light bar	w/ 3m cord
IG-FB03-1M	LED beacon	w/ 1m cord
IG-FB03-3M	LED beacon	w/ 3m cord



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As a leading global IT manufacturer, Austin Hughes provides TAA-compliant data center solutions, manufactures and assembles products in strategic TAA-certified locations.



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