

# i-BOX

exception monitoring

***Security, environmental monitoring  
& remote site monitoring***

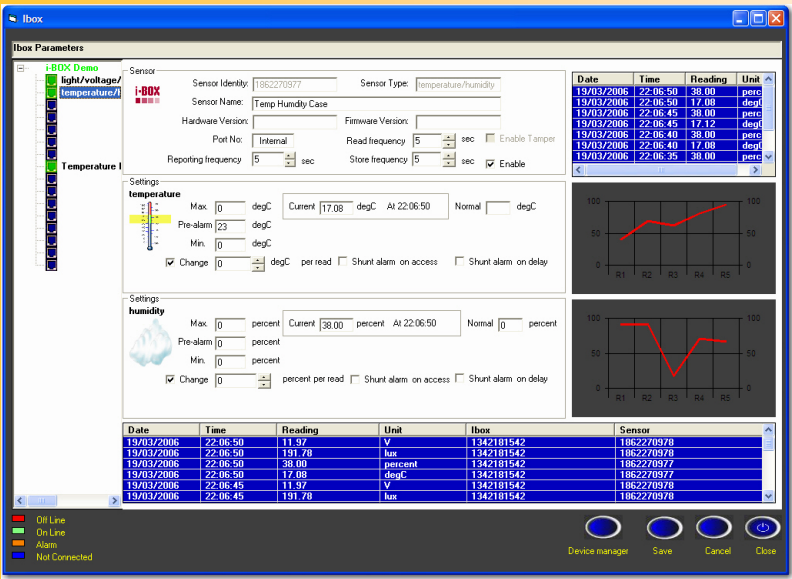
***Safeguard equipment and systems  
24/7/365***



The i-BOX provides true **RFID access control security, intrusion, environmental monitoring** and **remote-site monitoring** within a single small boxed solution.

Each i-BOX has a built-in temperature, humidity, light level and internal voltage sensor—with 14 ports for plug and play connection of additional smart sensors, together with two access control ports.

Many essential servers, network infra-structures and other business-critical assets are located within cabinets and racks shared with others. The room may have intrusion and access control protection however individual companies have no control of their own assets.



i-BOX provides extensive environmental monitoring for rooms and cabinet enclosures, the scalability of the system reflects this. Using strategically placed smart sensors, the system administrator has a clear picture of the condition within multiple parts of each enclosure. Temperature measurements can vary significantly, concentration of equipment can produce hot spots—i-BOX can measure the temperature between equipment providing early warning of a potential problem. As the load on servers, switches, and routers varies, so does the heat output. Monitoring suitable conditions within acceptable limits is vitally important—i-BOX monitors temperature, humidity, power, flood, smoke, hot spots and others, preventing environmental conditions exceeding recommended thresholds—this in turn gives un-rivalled protection to sensitive equipment.

Administrators may require detailed environmental information and conditions within the rack or cabinet—using the i-BOX gives you a clearer and more up-to-date picture whilst providing alerts and ample warning before conditions become critical or out of control. In addition, i-BOX can be monitored remotely via LAN or WAN.



For maximum flexibility, the i-PAL and t-BAR solutions incorporate precision access control. The unique identifier built into the RFID smart card will allow or deny access to each of the doors connected to the system. When connected to an i-BOX, the transaction will be recorded, providing a date and time stamp.

Detailed reports of valid and invalid transactions can be filtered by single or groups of doors, employee name, company or department, individual date or date range. These reports can be printed or exported into a database or spreadsheet for analysis.

If a card is lost, the software has a Replace Wizard which can automatically delete the lost card and

replace with a new one—copying the access privileges across.

Each cardholder record includes a photo ID which allows the import of an image in .JPG, .BMP, or .GIF format; alternatively a USB camera can be connected to snap a live image of the person directly into the database. This photo image can be displayed each time the card is used on the main transaction screen.

When network cameras are associated the live image on the network camera can be compared with the database photo image.

#### Monitoring and Protection from:

- Human Error
- Negligence
- Intrusion
- Sabotage
- Temperature
- Humidity
- Flood
- Loss of Power
- Air Quality



# Plug & Play i-BOX Smart Sensors



check for latest availability of other sensors due to ongoing developments

<b>Door Panel Position Sensor</b>	Detects the position of side panels or doors
<b>Temperature Sensor</b>	Standard temperature sensor range –20°C to +80°C
<b>Temperature &amp; Humidity Sensor</b>	High accuracy temperature, condensation and humidity sensor
<b>Temperature &amp; Door Contact Sensor</b>	Combined standard temperature and door position sensor
<b>Mains Present Monitoring Sensor</b>	Monitors the availability of mains power
<b>Light Level &amp; Door Contact Sensor</b>	Combined light level and door position sensor
<b>Flood Sensor</b>	Flood sensor with 5 metres of water sensing cable
<b>Smoke &amp; Temperature Detector</b>	Combined optical smoke and temperature detector
<b>Intrusion / Movement PIR</b>	Detection of people for intrusion or presence
<b>Sounder / Beacon Module</b>	Combined sounder and beacon for audio and visual warning
<b>Fan Fail Sensor</b>	Fixed temperature alarm and fan fail sensor
<b>Inputs / Output Module</b>	Two general purpose inputs and 1 relay output module
<b>General Input Module</b>	Two volt-free general purpose input module
<b>Dust Particle Sensor</b>	Monitors the concentration of dust particles in the air flow

The most common reason for network or automated business process failure is human error; this could be as simple as a network cable being re-patched into the wrong socket or the incorrect removal of a plug. The list of potential problems caused by free access to a cabinet or room is the greatest risk of downtime and the consequential business disruption.

For this reason, core to the i-BOX solution is an enterprise level access control element, external or internal cabinet enclosures are locked using the i-PAL or t-BAR locking handles. The protected doors can only be opened with a valid smart card or by a remote operator and automatically temporarily disables certain alarms eg when opening a rack door, the rapid change in temperature.

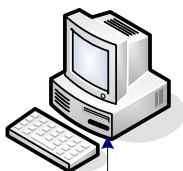
I-PAL and t-BAR handles can function as standalone units or online when connected to an i-BOX.

To minimise network traffic, the i-BOX stores all readings locally, exceptions and alarms however are sent immediately to the central server or monitoring station for further action.

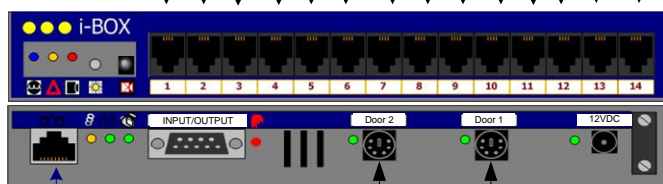
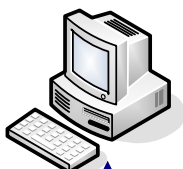
Stored data readings can be used for trend analysis when required and all equipment including sensors are permanently monitored.



**IC-AXGUI**  
AX software  
for configuration and  
support for up to 256 i-  
BOX units per system



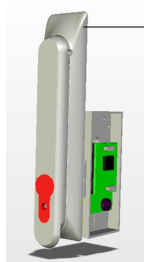
**AX Enterprise  
Software**  
For configuration and  
support of up to 4,096  
systems



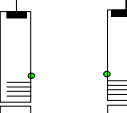
Front Associated  
Network Camera



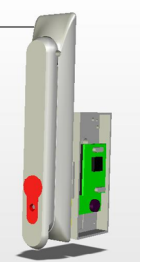
**IC-AX25 or UCL10**  
Front Handle  
or Cabinet Lock



**IC-AX25-DC**  
Door Position  
Contacts



**IC-AX25 or UCL10**  
Rear Handle  
or Cabinet Lock



Rear Associated  
Network Camera



Alarm Triggers  
SMS, Email &  
SNMP Traps



ActiveX SDK for  
3<sup>rd</sup> party  
integration



**IC-INT-DC**  
Door / panel position sensor

**IC-TS**  
Temperature sensor - standard

**IC-HM**  
Temperature, humidity &  
condensation sensor

**IC-TS-DC**  
Temperature & door  
contact sensor

**IC-MI**  
Mains present monitoring  
sensor

**IC-LS**  
Light level & door  
contact sensor

**IC-FS**  
Flood sensor with 5  
metres flood cable

**IC-SD**  
Smoke & temperature  
detector

**IC-INT-P**  
Intrusion / movement PIR

**IC-ASB**  
Sounder / beacon module

**IC-MFT**  
Fan fail sensor

**IC-DPS**  
Dust particle sensor

**IC-IO**  
Inputs / output module -  
interface to auxiliary  
equipment

**IC-PDU**  
Intelligent power distribution unit

48 volt i-Box also available

**IC-PSU**  
12v plug top power  
supply

**Mix & Match**

Any combination of up to 14 additional sensors per i-BOX to configure your own solution



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