

InfraSolution[®] Z-3001

Rack Access Control



Simple. Flexible. Compact

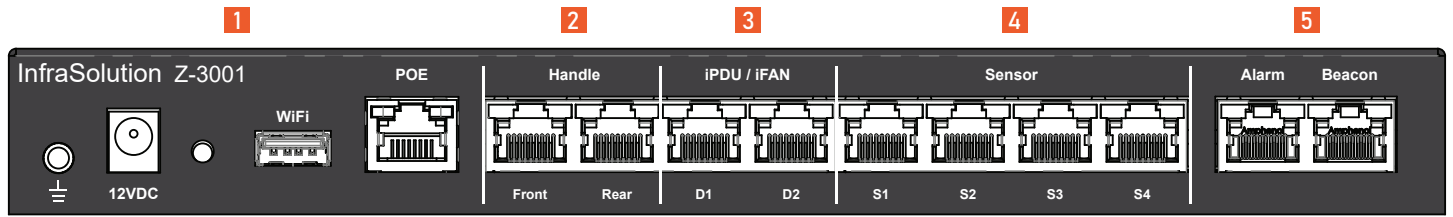
Rack access control has become critically important for all data centers and server rooms.

InfraSolution Z-3001 access control solution not only meets the high level of rack access security but also supports POE to reduce the implementation time and expense of having electrical power cabling installed. Moreover, the compact Z-3001 control box is compatible to a variety of rack handle packages which allows the flexible and simple integration to different kinds of IT server racks.



**AUSTIN
HUGHES[®]**

Intelligent Rack Access Control Solution



1 Network & Power Connection

- **PoE (Power over Ethernet) :**
Connect to PoE switch for network IP access & power.
- **USB WIFI Port :**
Optional WIFI kit connection
- **Alternative 12VDC :**
If PoE power connection unavailable

2 Smart Handle Connection

- **Z-700 smart access control package :**
Swing handles + door sensors + control panel(s)
or
- **Z-800 smart access control package :**
Handles + door sensors

3 iPDU & iFAN Connection

- **Intelligent PDU :**
1-Phase & 3-Phase PDUs
 - **Intelligent Fan :**
Door mount fan & 1U fan tray
- * iPDU and iFan support cascading up to 4 respectively

4 S1 / S2 / S3 / S4 – Sensor Connection

- **Temperature & Humidity Sensor :**
Low profile design with magnetic base to affix to rack (2m or 4m)
- **Temperature Sensor :**
Low profile design with magnetic base to affix to rack (2m or 4m)
- **Smoke Sensor :**
Once triggered, red LED lights up with continuous beep sound (1m or 3m)
- **Shock Sensor :**
Alert the physical vibration on the rack (1m or 3m)
- **Water Sensor :**
Via 5M rope round the rack bottom, detect any fluid leakage (3m)

5 Alarm & Beacon

- **Alarm :**
Connect to 3rd party alarm system
- **Blue LED Beacon :**
Alerting user to alarm status (1m or 3m)

Key Benefits

Remote Management of Rack Access, Sensors & Multi-devices Over IP

- Complete remote rack access solution with monitoring, control, alarm & reporting.
- Wide range of sensors for complete environmental monitoring, including temperature, humidity, smoke, shock and water leakage.
- Integration support to 3rd party alarm system. Optional LED Beacon available for alerting user when problem occurred.
- Expandable to power and cooling management via connection to InfraPower M series Serial iPDU and InfraCool iFan respectively.

Save Manpower & Travel Costs

- Reduce manpower and travel costs by negating the need for staff to actually be at the rack location, improving uptime and productivity.

Enterprise Level IP Authentication

- Active Directory (AD), Lightweight Directory Access Protocol (LDAPv3 / LDAPS).
- Remote Access Dial-In User Service (RADIUS) protocol, or local credential database.
- Strong passwords and granular user/user group permissions.
- Support high-speed network IP via Gigabit IP LAN port

3rd Party DCIM & Software


- Supports 3rd party DCIM via SNMP V2 / V3
- Licensed InfraSolution Z Premium available for comprehensive remote management of rack access, sensors & multi-devices.
- Remote management protocols: HTTP(S); SSH Command Line Interface; Telnet; SMTP; IPv6/IPv4.

POE & WIFI

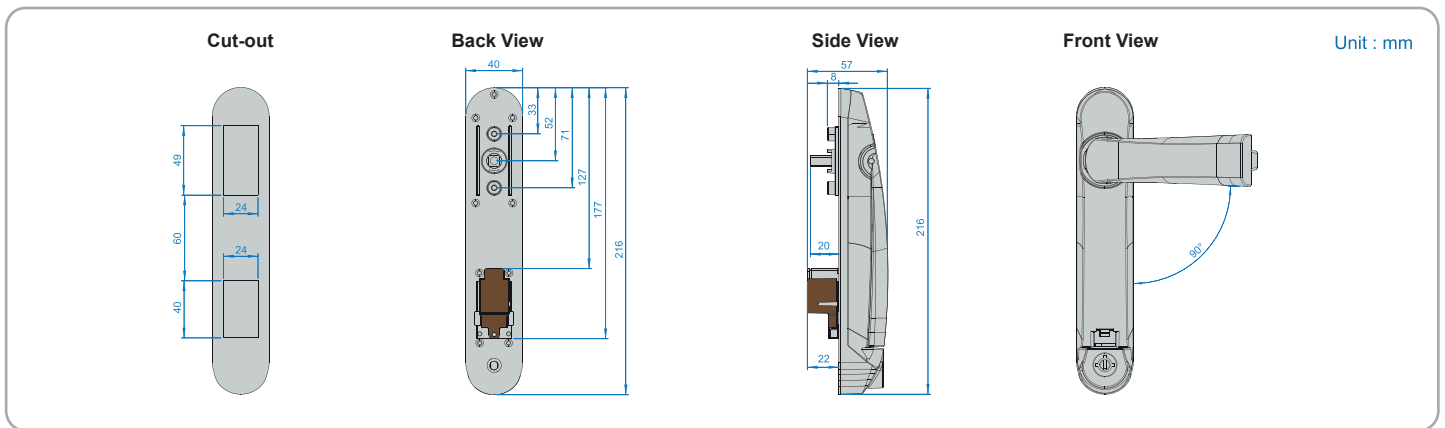
- POE reduces the implementation time of electrical power cabling, and negate the need for separate installation of data and power infrastructures.
- Optional WiFi kit (IPD-WIFI) complies with 802.11 g/n/ac.

Z-700 Smart Handles

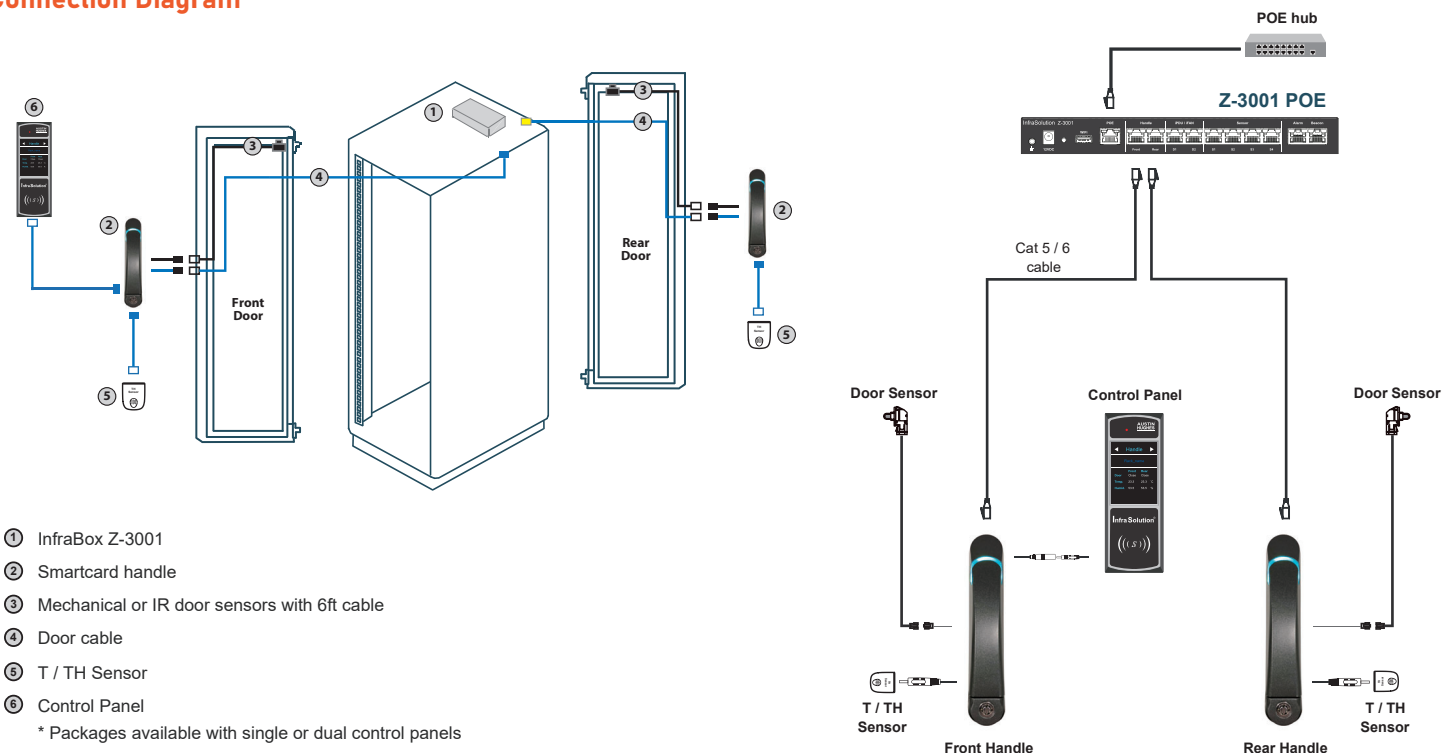
To satisfy high level data center security requirements, Austin Hughes developed the rack access solution with alloy swing handles & 2.8" touchscreen control panel. The InfraSolution Z-700 smart handle package provides an innovative yet affordable solution for secure rack access in today's data centers.

Z-700P	Features	Z-700M
	✓ Intelligent design with patent	✓
	✓ Dual security: smartcard+numpad	✓
	✓ Rugged alloy swing handle	✓
	✓ Sophisticated control panel w/ touchscreen	✓
	✓ Proximity 26-bit smartcard compatible	✓
	✓ MiFARE 26-bit smartcard compatible	✓
	✓ Dual locking system (electronic and mechanical lock)	✓
	✓ Electronic lock released by smartcard+numpad, or software	✓
	✓ Rack access status and alarm indication by LED	✓
	✓ Individually keyed lock options available	✓
	✓ Left side opening standard (optional right side open)	✓

Alloy Swing Handle with Universal Mounting Design





Connection Diagram

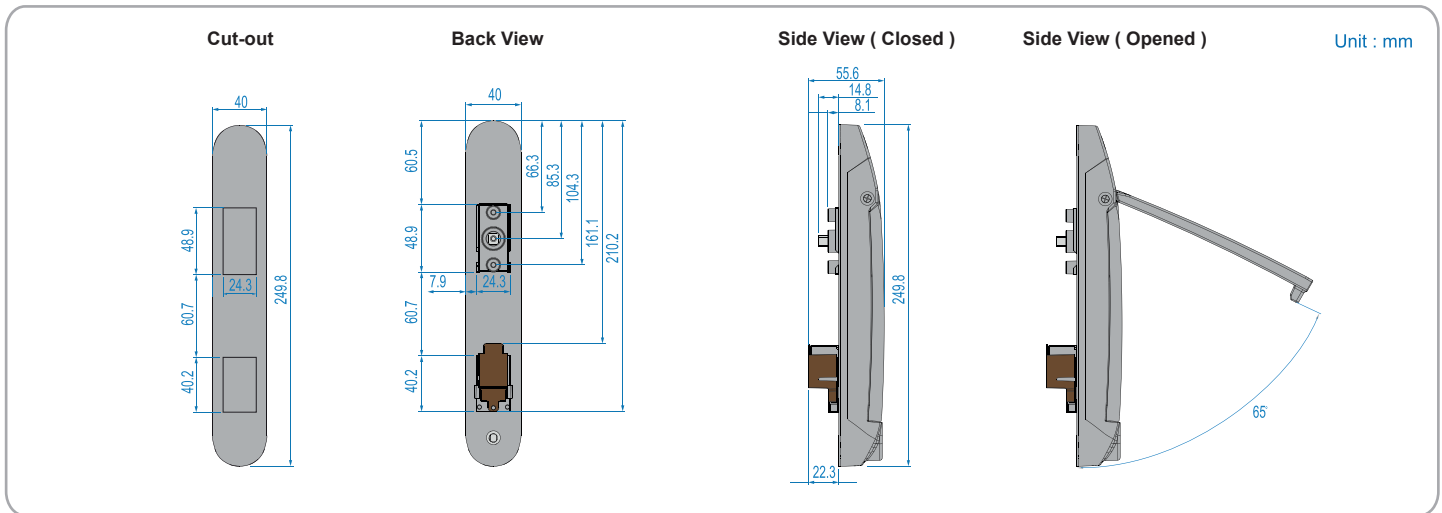


Z-800 Smart Handles

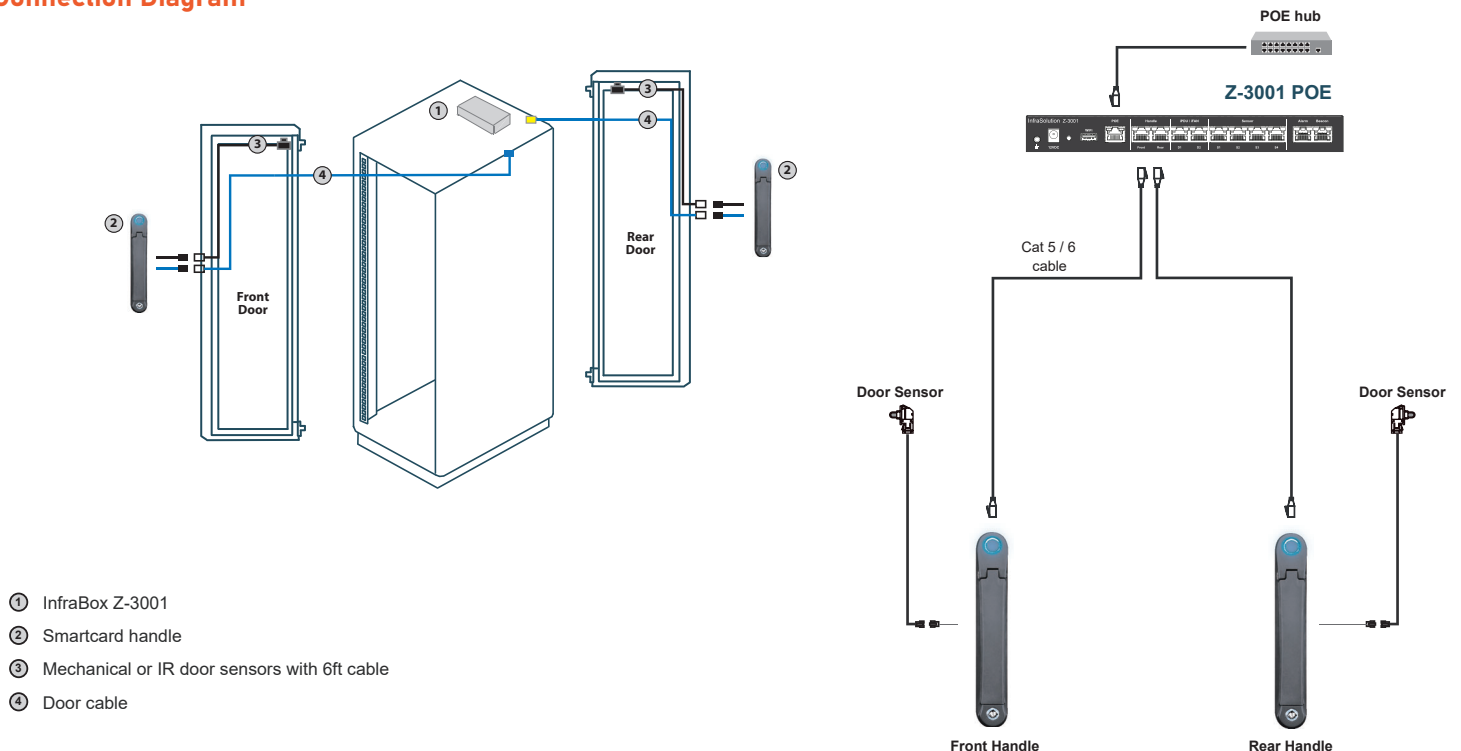
To meet the simple but highest level of rack access control solution, the smart handle Z-800 package applies the same handle mounting cut-out of most global branded IT server racks . It avoids costly and complicated door customization for the smartcard handle integration.

Z-800P	Features	Z-800M	
	✓ Intelligent design with patent	✓	
	✓ Universal mounting design for global branded racks	✓	
	✓ Proximity 26-bit smartcard compatible		
		✓ MiFARE 26-bit smartcard compatible	✓
	✓ Dual locking system (electronic and mechanical lock)	✓	
	✓ Electronic lock released either by smartcard or software	✓	
	✓ Rack access status and alarm indication by LED	✓	
	✓ Individually key lock option available	✓	
	✓ Left side opening standard (optional right side open)	✓	
			

Universal Mounting Design



Connection Diagram



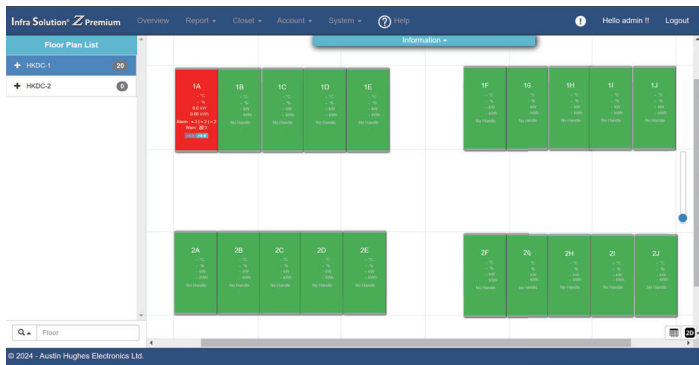
Remote Management Over IP

InfraSolution helps reducing manpower and hence improving uptime and productivity. It also benefits users with capacity planning and increasing the overall efficiency of the data center.

InfraSolution Z-3001 offers 2 ways of remote management solutions for users' selection.

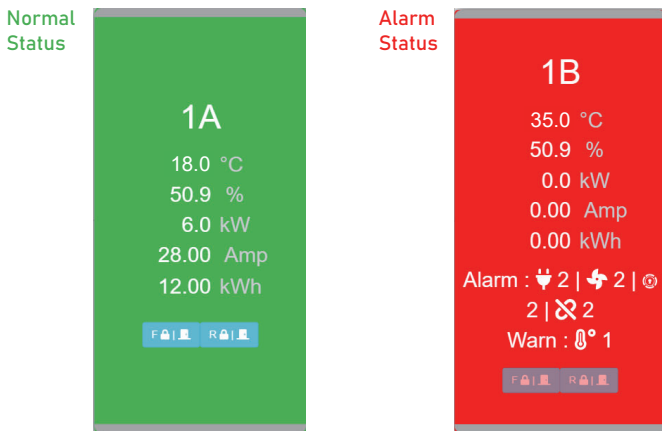
► Licensed InfraSolution Z Premium (ISP-Z3001)

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 4000 x kWh PDU / 4000 x Fan Unit can be monitored through InfraSolution Z Premium. 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.

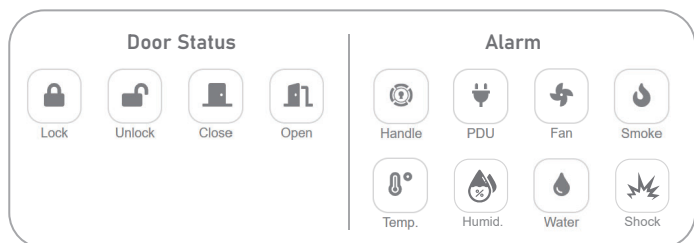


Key Benefits

- The device template function allows users to copy settings to multiple Z-3001 boxes to save implementation time.
- Via remote handle unlock by group, user can select multiple handles and release them remotely simultaneously.
- High security level mechanisms including Local User Authentication, Lightweight Directory Access Protocol (LDAP) & Microsoft Active Directory (AD).



Features of InfraSolution Z Premium (ISP-Z3001)	
Capacity	1000 x InfraBox (max.) 100 x Concurrent User (max.)
System Setup	Backup / Restore 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 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



► 3rd Party DCIM via SNMP V2/V3 or REST API

Many data centers apply DCIM (Data Center Infrastructure Management) to centralize the management for monitoring rack status, security, power, cooling and environmental factors across facilities and IT systems. InfraSolution Z-3001 supports SNMP or REST API integration and hence user can remotely manage the rack access control, power, cooling, sensors & peripherals via their DCIM.

Sensors & Peripherals

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

Apart from the mechanical or IR door sensors, InfraSolution Z-3001 offers other sensor options for complete environmental monitoring, including temperature, humidity, smoke, shock and water leakage. Optional peripherals such as flashing LED beacon and integration support to 3rd party alarm system are designed for use with the sensors for a comprehensive local environmental monitoring solution.

Z-DSW



Mechanical Door Sensor (Pair)

- Low cost / precise
- Cost efficient integration to new rack
- Size (52 x 22.5 x 30.75 mm)
- 2M cord
- Connect directly to handles

Z-DIR



IR Door Sensor (Pair)

- Light weight with magnetic base
- No custom cutting required on doors
- Mini size (33 x 19 x 7 mm)
- 2M cord
- Connect directly to handles

Z-TH01-2M / 4M



Temperature & Humidity Sensor

- Low profile design with magnetic base for easy affixing to the rack
- Plug & play
- 2M or 4M cord

Z-T01-2M / 4M



Temperature Sensor

- Low profile design with magnetic base for easy affixing to the rack
- Plug & play
- 2M or 4M cord

Z-S01-1M / 3M



Smoke Sensor

- Once smoke alarm triggered, red LED lights on with continuous beep sound
- 1M or 3M cord

Z-V01-1M / 3M



Shock Sensor

- Once sensor alerted the physical vibration on the rack, red LED lights on
- 1M or 3M cord

Z-W01-3M



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
- 3M cord

Z-FB03-1M / 3M



Blue LED Alarm Beacon

- Highly visible for alerting user to alarm status
- 1M or 3M cord

IPD-WIFI



WIFI Kit

- WIFI kit with 1M cord
- 802.11 g/n/ac WiFi
- Low-profile design wireless athena
- Magnetic base design for tool-less affix

EPW-2.5A



2.5A Power Adapter

- 12VDC 2.5A power supply for no POE connection
- Auto-sensing 100 to 240VAC, 50 / 60Hz

Multi-function Devices

Rack iPDU InfraSolution Z-3001 supports new InfraPower M-2000 series Serial iPDU, including a comprehensive range of 1-Phase & 3-Phase PDUs with a new design intelligent meter and lockable / combo IEC outlets.

Intelligent PDU Features	InfraPower M-2000 Series			
	M-2100 (M)	M-2200 (Mi)	M-2300 (MS)	M-2400 (MSi)
Strip / Circuit Level Power Monitoring	●	●	●	●
Outlet Level Power Monitoring		●		●
Outlet Switching On/ Off			●	●
PDU Cascade Up to 4 levels under Z-3001	●	●	●	●
Billing Grade Meter Accuracy Within +/- 0.5%	●	●	●	●
Hot-Swappable Meter with 2.8" Color Touch ID	●	●	●	●
Field Replaceable DC Module	●	●	●	●
USB-C Port for Meter Backup Power Source	●	●	●	●
Sensor Support : Temp + Humid / Temp / Smoke / Door Sensors	●	●	●	●
Configuration Range :	110V, 208V, 230V, 400V, 415V and More Volt	●	●	●
	10A to 100A Amp Inputs	●	●	●
	0U, 1U & 2U form factor for standard models	●	●	●
Slide-Lock Outlets :	X19, C13 & C19 Connectivity with Slide-Lock	●	●	●
	L13, C13 Connectivity with Slide-Lock	●	●	●
	L19, C19 Connectivity with Slide-Lock	●	●	●
Outlets :	UK, SCH, FR & US Nema	●	●	●
Safety Devices :	Hydraulic MCB / Resettable Fuse	●	●	●
	ELCR / Surge Protector / EMI Filter / RCM	●	●	●
Operating Temperature	-5 to 60°C	●	●	●



Rack iFan Cooling the equipment is always important. InfraBox Z-3001 can be connected to InfraCool intelligent fans for a complete rack airflow solution.

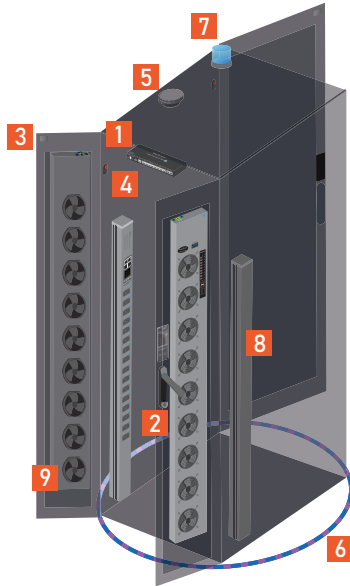
Intelligent Fan Features	InfraCool Fan Series	
	Door Mount Fan Panel RF-33.9	1U Fan Tray RF-1.6 / RF-1.9
Fan Number	9	6 / 9
Total CFM	972	648 / 972
Airflow	<p>Front Door Cool Air In</p> <p>Rear Door Hot Air Out</p>	<p>Top Exhaust hot air out</p> <p>Middle Equipment Cooling</p> <p>Bottom Cool air in</p>
Fan Cascade Up to 4 Levels to InfraBox	●	●
Temperature sensor bundled	1	1
Automatic Fan Speed Control	●	●
Control Panel :	Individual Fan On / Off	●
	Setting for Alarm Temp. & Unit CFM (fan speed)	●
	LEDs for Temperature, Fan Status, CFM Status	●

Rack Access + Power + Cooling + Environmental Sensors

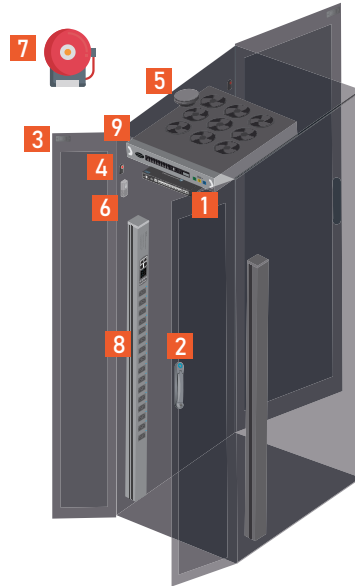
As a total IT rack solution, InfraSolution Z-3001 covers not only the rack access control features, but also the rack power, cooling and environmental management. With a wide range of selection for smart handle models, sensors and multi-function devices, each client can implement the InfraSolution racks based on the installation environment and scenario.

The following scenarios are two of the examples for your reference.

Scenario 1



Scenario 2



- 1 InfraBox Z-3001
- 2 Z-700 Smart Handle with Control Panel (pair)
- 3 IR Door Sensor (pair)
- 4 Temp. & Humid. Sensor (pair)
- 5 Smoke Sensor
- 6 Water Sensor
- 7 LED Alarm Beacon
- 8 M series iPDU (pair)
- 9 Door Mount Fan at Rear Door (pair)

- 1 InfraBox Z-3001
- 2 Z-800 Smart Handle (pair)
- 3 Mechanical Door Sensor (pair)
- 4 Temp. & Humid. Sensor (pair)
- 5 Smoke Sensor
- 6 Shock Sensor
- 7 3rd Party Alarm System
- 8 M series iPDU (pair)
- 9 1U Fan Tray

* The latest InfraBox Z-3001 controller, powered by ARM9 CPU (Microchip AT91SAM9G25)

AUSTIN HUGHES®

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Americas

Austin Hughes Solutions Inc.
21375 Cabot Blvd
Hayward, CA 94545
United States

inquiry@austin-hughes.com

EMEA

Austin Hughes Europe Ltd.
Unit 1, Chancery Gate Business Centre
Manor House Avenue
Southampton, SO15 0AE
United Kingdom

sales@austin-hughes.co.uk

APAC

Austin Hughes Electronics Ltd.
Unit 3608-12, Cable TV Tower
9 Hoi Shing Road, Tsuen Wan
Hong Kong

inquiry@austin-hughes.com

ASEAN

Austin Hughes Pte. Ltd.
164 Gul Circle
#01-07 JTC Space@Gul
Singapore 629621

inquiry@austin-hughes.com

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