

Infra Family

Total Intelligent Rack Solutions

Access Control



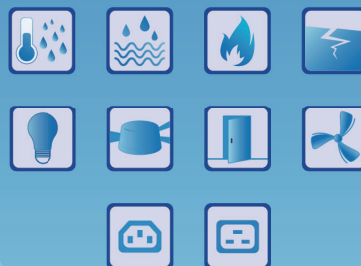
Rack PDU



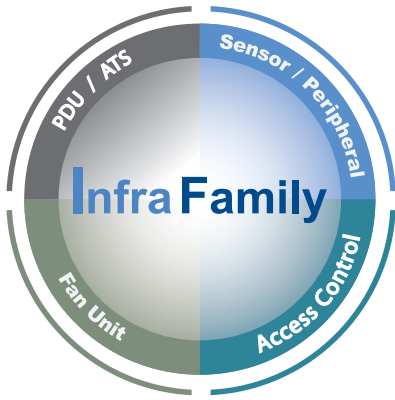
Rack Cooling



Rack Sensors



Intentionally
Blank



Solutions for IT racks have become critically important for all data centers and server rooms. Austin Hughes offers a broad range of data center infrastructure solutions based on 19-inch rack mount architecture. These solutions include our **InfraPower®**, **InfraCool®**, **InfraGuard** and **InfraSolution®** product lines. Whether you require a single piece of infrastructure, or a fully integrated intelligent rack solution, **InfraFamily** delivers the perfect solution for your requirements.

InfraPower® Rack Power



- 1-PH / 3-PH Intelligent, Metered & Basic PDUs. 0U, 1U / 2U. Single / dual feed
- 1-PH Intelligent & Metered ATS. 1U / 2U.
- 1-PH / 3-PH Intelligent Inline Meter. Single / dual feed

Quality reliable Power Distribution Units (PDUs) to suit all your requirements: basic, metered, intelligent PDUs in single or three phase. Coloured or dual feed PDUs enable clear differentiation of primary and redundant power feeds within the rack. Our comprehensive PDU range is complimented with ATS (Automatic Transfer Switches) and In-line Meters, providing all the power management solutions you require.

InfraCool® Rack Fan



- Intelligent & Basic fan units for your rack level airflow solution
- Various fan unit form factors for different cooling requirements

Temperature control is one of the top missions for data center managers. Our cost-efficient solution is designed to provide cooling as an integral part of your rack equipment. Intelligent fan models provide local and remote management capabilities. In addition, fan speeds can be automatically adjusted according to the temperature detected by the sensor. InfraCool solutions provide appropriate airflow while minimizing operation costs for data centers.

InfraGuard Rack Sensors



- A wide range of sensors for complete environmental monitoring
- Maintain optimum operational conditions within the data center

Remote management of IT rack environments is vital for mission critical data centers. Environmental issues affecting your racks, including high temperature & humidity, smoke, water leakage, physical threats, unauthorized door access, and power & cooling inefficiencies, can have a significant impact on operational performance. Our centralized environmental monitoring system was developed to help you achieve high levels of operational stability.

InfraSolution® Access Control



- Z-3001 offers the ultimate rack access management with PoE & software
- X-2000 enables complete rack access management with software
- S standalone package provides a cost effective rack access security

Rack access control has become critically important for all data centers and server rooms. InfraSolution products enhance rack level security by upgrading existing racks with NumPad / SmartCard locks. Advanced versions further increase your security and access efficiency through software or 3rd party DCIM, environmental management, and integrated control with monitored and switched rack PDUs.

Austin Hughes has developed the new InfraPower 2000 series cutting-edge rack power solutions for your IT environment, including a comprehensive range of 1-phase to 3-phase PDU with a new design intelligent meter and lockable / combo IEC outlets.

CONNECTION - Secure Auto Lock.

- Patented IEC outlets with slide lock mechanism design by Austin Hughes
- L13 Slide-lock C13 outlets connectable & lockable to C14 plugs using generic IEC cables
- L19 Slide-lock C19 outlets connectable & lockable to C20 plugs using generic IEC cables
- X19 Slide-lock combo C13 / C19 outlet connectable & lockable to C14 / C20 plugs using generic IEC cables

REMOTE ACCESS - High Availability.

- Z IP PDU model with embedded dual Gigabit ethernet LAN IP for redundant network access via IP
- Enterprise-level IP authentication support e.g., Active Directory (AD), LDAPv3 / LADPS, RADIUS or local credential database

METERING - Precise Intelligence.

- Z & M meters provide real-time local & remote power management
- Billing grade meter accuracy within +/- 0.5%

LINKING - Cost Saving Efficiency.

- Both Z & M iPDUs provide daisy chain functionality
- Via one single Z IP PDU or PDU dongle up to 32 iPDU levels can be accessed via single network IP

CONFIGURATION - Diversified & Customizable.

- 110V, 208V, 230V, 400V, 415V and more Volt inputs
- 1 Phase, 2 Phase & 3 Phase PDU
- 10A to 100A Amp inputs
- Up to 48 outlets for standard models; Custom outlet configurations available
- 0U, 1U & 2U form factor for standard models; Customized chassis size and color available
- C13, C19, US NEMA, UK, Schuko, French, Fused IEC and other outlet selections available
- Variety cordset & inlet available
- Top or Bottom Feed
- Flexible Mounting :
 - all vertical PDUs are supplied with screw button & universal bracket mounting kits
 - all rackmount PDUs are supplied with horizontal rackmount kits

Smarter.
Slimmer.
Superior.

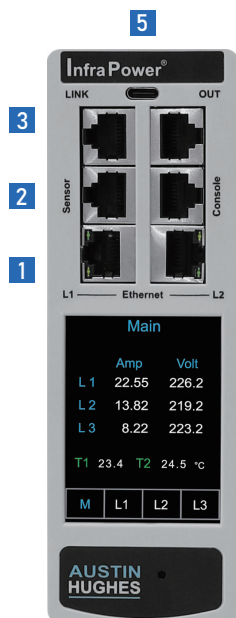


Intelligent Model Coverage

InfraPower 2000 Series Intelligent PDUs are available with a variety of models and functionality.

	IP PDU Series				Serial PDU Series			
	Z-2100 (Z)	Z-2200 (Zi)	Z-2300 (ZS)	Z-2400 (ZSi)	M-2100 (M)	M-2200 (Mi)	M-2300 (MS)	M-2400 (MSi)
Embedded Dual IP	•	•	•	•	✗	✗	✗	✗
Strip Power Monitoring	•	•	•	•	•	•	•	•
Circuit Power Monitoring	•	•	•	•	•	•	•	•
Circuit Breaker Monitoring	•	•	•	•	•	•	•	•
Outlet Level Monitoring		•		•		•		•
Outlet Level Switching			•	•			•	•

New Generation Meter



Z IP Meter

- 1 Embedded dual LAN IP
- 2 Sensor port x 1
 - support single or daisy chain sensors (up to 4)
- 3 LINK & OUT cascading ports
 - up to 32 levels of M / Z meter iPDU
- 4 Console port x 1
 - PDU configuration
- 5 USB-C function port x 1
 - WIFI
 - firmware update
 - backup power for meter against PDU power failure
- * The latest Z PDU controller, powered by ARM9 CPU (Microchip AT91SAM9G25)

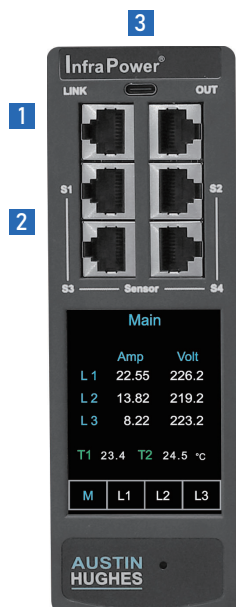
2.8" Touchscreen Color Display

The sharp & highly visible display of 2.8" touchscreen LCD provides local data of:

- Energy Consumption (kWh)
- Power (KW)
- Power Factor
- Current (Amp)
- Voltage (V)
- Temperature & Humidity

Billing Grade Meter Accuracy

The +/- 0.5% accuracy of the InfraPower PDU meter is vital for billing accuracy, energy efficiency, capacity planning and performance monitoring.



M Serial Meter

- * IP connection via Z meter PDU or IP dongle
- 1 LINK & OUT cascading ports
 - up to 32 levels of M / Z meter iPDU
- 2 Sensor port x 4
 - support single or daisy chain sensors
- 3 USB-C function port x 1
 - backup power for meter against PDU power failure

Hot-swappable Meter Design

Easily replace meter & power module without interrupting critical operations, ensuring maximum uptime and flexibility. Simplify maintenance and minimize downtime with this innovative and user-friendly solution.

Mechanical Design - Outlets.

In 2023, Austin Hughes takes great pride in announcing the obtainment of a patent for our outstandingly designed IEC outlets. This significant milestone encompasses the auto lock design of L13, L19 outlets, and combo X19 outlet. In addition to the patented innovative design, the materials and manufacturing of these new outlets strictly adhere to UL standards.

X19 Slide-lock Combo C13 / C19 Outlet

- Patented slide lock design by Austin Hughes
- Patented hybrid of IEC C13 & C19 outlet design by Austin Hughes
- X19 outlets provides the flexibility to connect C14 and C20 plugs in the same outlet
- Simplify PDU outlet configuration and provides flexibility to accommodate different power distribution requirements
- Secure C13-C14 and C19-C20 power cords and avoid accidental disconnection
- LED available for Switched PDUs to indicate outlet on / off status

L13 Slide-lock C13 Outlet

- Patented slide lock design by Austin Hughes
- Built-in slide locking lever automatically lock the C14 plug after insertion
- Secure C13-C14 power cords and avoid accidental disconnection
- LED available for Switched PDUs to indicate outlet on / off status

L19 Slide-lock C19 Outlet

- Patented slide lock design by Austin Hughes
- Built-in slide locking lever automatically lock the C20 plug after insertion
- Secure C19-C20 power cords and avoid accidental disconnection
- LED available for Switched PDUs to indicate outlet on / off status

Color selection for slide lock outlet

Colored L13 & X19 IEC outlets allow easy identification of rackmount equipment power paths, and facilitate power distribution management.



Mechanical Design - Chassis.

- Slim profile 0U chassis design with only 56mm in width and 55mm/68mm in depth
- Industrial grade chassis supports PDU operating temperature -5 to 60°C
- 8 colored chassis available for primary & redundant (A&B) power feed differentiation



Standard

Alternative Outlet

US NEMA, UK BS1363, German Schuko, French, standard IEC C13 & C19 outlets are available. For project based custom requirements, specific outlets (e.g., Fused IEC, Australian, South African or International) are also available.



Safety & quality assurance

In the same year, Austin Hughes has proceeded the submission to UL . With a profound understanding of the significance of safety in PDUs, we firmly believe that both safety and quality are indispensable. The UL qualified further solidifies our commitment to delivering secure and reliable products.

Daisy Chain PDU Connection.

InfraPower rack intelligent PDUs provide connection ports for PDU daisy chain. To daisy chain units, each PDU can simply be connected in series to the next by Cat5/6 cables. With the 1st level Z PDU with embedded IP, up to 32 daisy chain levels can be achieved. Z and M series 1-phase/ 3-phase PDUs can be inter-cascaded in a single daisy chain, up to 32 PDU levels.

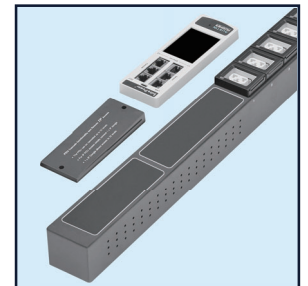
Field Replaceable Design.

Meter

A field replaceable RMS meter with 2.8" color LCD display with touchscreen functionality. The hot swappable design helps eliminate maintenance downtime by simply replacing a possible defective meter without a service interruption.

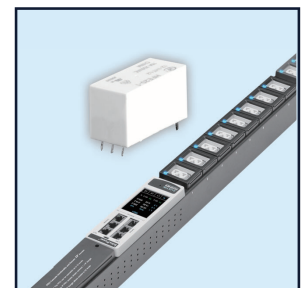
DC Module

Given the mission critical nature of the environment the intelligent rack PDU is designed, built and manufactured to provide extremely high levels of resiliency. In addition to the hot swappable digital local touchscreen display, field replaceable DC power modules are used within the intelligent PDU models to avoid unnecessary downtime.



Latching Relay.

Outlet LEDs are built-in for switched PDU models with outlet switching functionality. Outlet switching is controlled via latching relays. Ensuring an 'always on' operational performance and outlet status returning to a pre-power outage after a planned or unplanned shutdown. Power consumption during normal or standard operation is low and therefore assists to reduce energy usage of the overall PDU.



Safety | Protection.

Downtime can be incredibly expensive in data centers and lead to data loss in mission-critical applications. InfraPower PDUs offer a range of safety devices that protect equipment from unexpected power quality issues, protect users from harm while working on the rack.

Selection for safety devices

Magnetic Circuit Breaker (MCB) / Earth-leakage Circuit Breaker / Resettable Fuse / Surge Protector / EMI Filter / Residual Current Monitor (RCM)

Software.

PDU management software 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. InfraPower intelligent PDU offers 3 kinds of remote management solutions for users' selection.

1. Free Management Software IPM-04

Free IPM-04 management software offers instantaneous visibility into crucial power quality, energy efficiency, and equipment health. By employing the most comprehensive and precise power management, you can effectively handle energy optimization, capacity planning, remote PDU control, environmental optimization, troubleshooting and maintenance with confidence.

Capacity	<ul style="list-style-type: none"> • 50 x iPDU Group Support (Just 1 IP for 32 iPDU level) • 1600 x iPDU Support • 5 x Concurrent User
Power Quality Measurements (kWh, kW, kVA, Power Factor, Amp)	<ul style="list-style-type: none"> • Inlet Power Monitoring • Branch Circuit Power Monitoring • Outlet Level Monitoring
Power Outlet Control	<ul style="list-style-type: none"> • Outlet Level Switching • Outlet Scheduling
Alarming	<ul style="list-style-type: none"> • Circuit Breaker (MCB) Monitoring • Rising Threshold & Alert • Overload Threshold & Alert
Environmental Monitoring	<ul style="list-style-type: none"> • Temperature (°C / °F) • Humidity (%) • Smoke Detection • Door Open / Close Detection
Reporting	<ul style="list-style-type: none"> • PDU log • Outlet log • Sensor log • Event log

2. Web Based GUI PPS-04-S

A web-based GUI is integrated with Z IP PDU or external IP dongle (IPD-03-S). It is ideal for users who simply require the power monitoring and input switching under a single PDU daisy chain (up to 32 PDU levels).

3. 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 power, cooling and environmental factors across facilities and IT systems. InfraPower intelligent PDU supports SNMP or REST API integration and hence user can remotely manage the PDU via their DCIM.

Austin Hughes offers cutting-edge rack PDUs for your IT environment, including a comprehensive range of 1-phase to 3-phase rack PDUs. InfraPower Power Distribution Units encompass Intelligent PDUs, Metered PDUs, and Basic PDUs. Offered in many sizes and configurations, our Rack PDUs provide the voltage, current, outlet number and type of connections required to fit any need.



InfraPower Rack PDU Features		Intelligent 2000		Intelligent	Metered		Basic
		Z IP	M Serial	W	MK	MD	
Outlet Switching + Strip/ Circuit/ Outlet Power Monitoring Over IP		ZSi	MSi	WSi			
Outlet Switching + Strip/ Circuit Power Monitoring Over IP		ZS	MS	WS			
Strip/ Circuit/ Outlet Level Power Monitoring Over IP		ZI	MI	WI			
Strip / Circuit Level Power Monitoring Over IP		Z	M	W			
Strip / Circuit Level Power Monitoring via Local Meter		•	•	•	•		
Circuit Breaker Monitoring & Trip Alarming		•	•	•			
Phase Balance % for 3-Phase PDUs		•	•	•			
Embedded Dual 100/1000 LAN IP		•					
Hot-Swappable Meter with 2.8" Color Touchscreen LCD		•	•	•			
Hot-Swappable Meter with 1.8" Color Touchscreen LCD					•		
Billing Grade Meter Accuracy, ±0.5%		•	•	•	•		
3-digit RMS Current Meter with Accuracy, ±3%						•	
Field Replaceable ACDC Power Module		•	•	•			
PDU Cascade Up to 32 Levels		•	•	•			
Serial Console Port for PDU Configuration		•					
USB-C Function Port for WIFI, Firmware Update or Meter Backup Power Source		•					
USB-C Function Port for Meter Backup Power Source			•				
No. of Sensor Ports (Support Single or Daisy Chain Sensors**)		1**	4**	2			
Sensor Support : Temperature-humidity / Temperature / Smoke / Door Sensors		•	•	•			
DCIM support : SNMP V2 / V3 & Rest API		•	•	•			
Free Management Software (Max. 1600 PDUs)		•	•	•			
Configuration Range :	110V, 208V, 230V, 400V, 415V and more Volt inputs	•	•	•	•	•	•
	1 Phase, 2 Phase & 3 Phase PDU	•	•	•	•	•	•
	10A to 100A Amp inputs	•	•	•	•	•	•
	Up to 48 outlets for standard models	•	•	•	•	•	•
	0U, 1U & 2U form factor for standard models	•	•	•	•	•	•
	Dual Feed Models	•	•	•	•	•	•
Outlets :	X19 with C13 & C19 Connectivity & Slide-Lock	•	•		•	•	•
	L13 (C13) & L19 (C19) with Slide-Lock	•	•		•	•	•
	C13 & C19	•	•	•	•	•	•
	US Nema, UK / SCH / FR	•	•	•	•	•	•
	Fused IEC	•	•	•	•	•	•
	International, South Africa, Australian, etc	•	•	•	•	•	•
Safety Devices :		•	•	•	•	•	•
Options :	Hydraulic MCB / Resettable Fuse	•	•	•	•	•	•
	ELCR / Surge Protector / EMI Filter	•	•	•	•	•	•
	RCM (Residual Current Monitoring Module)	•	•	•			
	Temp + Humid / Temp / Smoke / Door Sensors	•	•	•			
	Door Mount PDU Panel with 4.3" Color LCD	•	•	•			
	WiFi Kit (direct connection to PDU)	•					
PDU IP Dongle			•	•			
Operating Temperature -5 to 60°C		•	•	•	•	•	•

Most data centers provide power source redundancy in order to ensure critical devices have no power related downtime. For single-corded rackmount IT devices, the InfraPower ATS is a perfect fit to provide power failover. It includes dual power inlets for connection to both a primary power source and a redundant, secondary power source.

W series iATS

- 2.0" Touch color LCD Meter
- 1 x Embedded Gigabit LAN IP



B series iATS

- LED current Ammeter
- 1 x Embedded Gigabit LAN IP



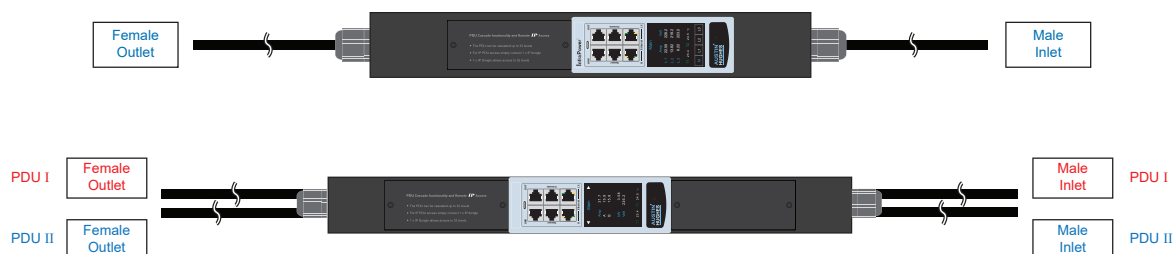
Basic ATS

- LED current Ammeter



InfraPower Rack ATS Features	Intelligent W series			Intelligent B series			Basic
	WSi	WS	W	BSi	BS	B	
Input Source Switching Over IP	•	•	•	•	•	•	
Input Source Switching Locally	•	•	•	•	•	•	•
Outlet Switching Over IP	•	•		•	•		
Outlet Power Monitoring Over IP	•			•			
Strip / Circuit Power Monitoring Over IP	•	•	•	•	•	•	
2.0" Color Touchscreen LCD Meter	•	•	•				
3-digit RMS LED Current Meter				•	•	•	•
Billing Grade Meter Accuracy, ±0.5%	•	•	•	•	•	•	
Accuracy ± (3% of the reading + 5 last digits)							•
Embedded 100/1000 LAN IP	•	•	•	•	•	•	
Input Source Transfer Time	< 10 ms	< 10 ms	< 10 ms	< 10 ms	< 10 ms	< 10 ms	< 10 ~ 16 ms
Input Source Preference Selection	•	•	•	•	•	•	•
Power LEDs for Input Source (Primary & Secondary)	•	•	•	•	•	•	•
Built-in Web Based Management GUI	•	•	•	•	•	•	
- Input Source Switching Notification	•	•	•	•	•	•	
- Reporting & Logs	•	•	•	•	•	•	
- Alarm Alert	•	•	•	•	•	•	
- DCIM support : SNMP V2 / V3 & Rest API	•	•	•	•	•	•	
Free Management Software (Max. 1600 iATS)	•	•	•	•	•	•	•
Single Circuit & Dual Circuit Models	•	•	•	•	•	•	•
Hydraulic-magnetic MCB Protection	•	•	•	•	•	•	•
Mounting Bracket	•	•	•	•	•	•	•
Outlets : US NEMA / C13 / C19 / UK / SCH / FR	•	•	•	•	•	•	•
IEC309 16A / 32A	•	•	•	•	•	•	•
L620R / L630R	•	•	•	•	•	•	•
Outlet # : 1 ~ 24	•	•	•	•	•	•	•
Operating Temperature -5 to 60°C	•	•	•	•	•	•	•

For legacy sites where basic rack PDUs have been previously installed, Inline Meters provide an ideal upgrade solution to enable real-time power monitoring. InfraPower Inline Meter is the most effective PDU enhancement approach which can be retrofitted to basic PDUs to enable local monitoring plus remote management.



Single Phase

Dual Feed Inline Meter

230V Model	Amp	Inlet (Male)		Outlet (Female)	
DEW-16A_EN	16A → 16A	16A EN	x 2	16A EN	x 2
DEW-32A_EN	32A → 32A	32A EN	x 2	32A EN	x 2
DEW-63A_EN	63A → 63A	63A EN	x 2	63A EN	x 2

208V Model	Amp	Inlet (Male)		Outlet (Female)	
DEW-20A_L620	20A → 20A	L6-20P	x 2	L6-20C	x 2
DEW-30A_L630	30A → 30A	L6-30P	x 2	L6-30C	x 2

110V Model	Amp	Inlet (Male)		Outlet (Female)	
DEW-15A_515	15A → 15A	15A 5-15P	x 2	15A 5-15R	x 2
DEW-20A_520	20A → 20A	20A 5-20P	x 2	20A 5-20R	x 2
DEW-20A_L520	20A → 20A	20A L5-20P	x 2	20A L5-20R	x 2
DEW-30A_530	30A → 30A	30A 5-30P	x 2	30A 5-30R	x 2
DEW-30A_L530	30A → 30A	30A L5-30P	x 2	30A L5-30R	x 2

* 1.5m cordset standard for inlet & outlet. Specific cordset length available.

Single Feed Inline Meter

230V Model	Amp	Inlet (Male)	Outlet (Female)
EW-16A_EN	16A → 16A	16A EN	16A EN
EW-32A_EN	32A → 32A	32A EN	32A EN
EW-63A_EN	63A → 63A	63A EN	63A EN

208V Model	Amp	Inlet (Male)	Outlet (Female)
EW-20A_L620	20A → 20A	L6-20P	L6-20C
EW-30A_L630	30A → 30A	L6-30P	L6-30C

110V Model	Amp	Inlet (Male)	Outlet (Female)
EW-15A_515	15A → 15A	15A 5-15P	15A 5-15R
EW-20A_520	20A → 20A	20A 5-20P	20A 5-20R
EW-20A_L520	20A → 20A	20A L5-20P	20A L5-20R
EW-30A_530	30A → 30A	30A 5-30P	30A 5-30R
EW-30A_L530	30A → 30A	30A L5-30P	30A L5-30R

Three Phase

Dual Feed Inline Meter

400V Model	Amp	Inlet (Male)		Outlet (Female)	
DPW-16A_EN	16A → 16A	16A EN	x 2	16A EN	x 2
DPW-32A_EN	32A → 32A	32A EN	x 2	32A EN	x 2
DPW-63A_EN	63A → 63A	63A EN	x 2	63A EN	x 2

208V Model	Amp	Inlet (Male)		Outlet (Female)	
DPW-20A_L1520	20A → 20A	20A L15-20P	x 2	20A L15-20C	x 2
DPW-20A_L2120	20A → 20A	20A L21-20P	x 2	20A L21-20C	x 2
DPW-30A_L1530	30A → 30A	30A L15-30P	x 2	30A L15-30C	x 2
DPW-30A_L2130	30A → 30A	30A L21-30P	x 2	30A L21-30C	x 2
DPW-50A_CS8365C	50A → 50A	50A CS8365	x 2	50A CS8364	x 2
DPW-60A_EN	60A → 60A	60A EN	x 2	60A EN	x 2

* 1.5m cordset standard for inlet & outlet. Specific cordset length available.

Single Feed Inline Meter

400V Model	Amp	Inlet (Male)	Outlet (Female)
PW-16A_EN	16A → 16A	16A EN	16A EN
PW-32A_EN	32A → 32A	32A EN	32A EN
PW-63A_EN	63A → 63A	63A EN	63A EN

208V Model	Amp	Inlet (Male)	Outlet (Female)
PW-20A_L1520	20A → 20A	L15-20P	L15-20C
PW-20A_L2120	20A → 20A	L21-20P	L21-20C
PW-30A_L1530	30A → 30A	L15-30P	L15-30C
PW-30A_L2130	30A → 30A	L21-30P	L21-30C
PW-50A_CS8365C	50A → 50A	CS8365	CS8364
PW-60A_EN	60A → 60A	60A EN	60A EN

Thermal management presents big challenges for today's data centers, chief among which is cooling equipment in enclosed racks. **InfraCool®** intelligent cooling solutions provide appropriate airflow, while helping minimize operational costs associated with data center energy consumption. Make InfraCool an integral part of your rack cooling strategy today.



Fan Series	Door Mount Fan Panel	Rackmount Fan Tray			Raised Floor Mount Fan
Intelligent Master	MRF-33.9	✗	MRF-1.6	MRF-1.9	WF-66.4
Intelligent Expansion	RF-33.9	✗	RF-1.6	RF-1.9	
Basic	F-33.9	F-1.3	F-1.6	F-1.9	F-66.4
Fan Number	9	3	6	9	4 (EC Fan)
Total CFM	972	324	648	972	2172
Airflow					
Temp. Port	1	1	1	1	2
Temp. Sensor	1	1	1	1	2
Intelligent Model Features:					
16 Daisy Chain Levels	✓	✓	✓	✓	✗
Auto Fan Speed Control	✓	✓	✓	✓	✓
Control Panel	✓	✓	✓	✓	✓
Individual Fan On/Off via software	✓	✓	✓	✓	✓
Alarm Temp. Setting	✓	✓	✓	✓	✓
Unit CFM Setting	✓	✓	✓	✓	✓
Temperature Monitoring	✓	✓	✓	✓	✓
Fan Status Monitoring	✓	✓	✓	✓	✓
CFM Status Monitoring	✓	✓	✓	✓	✓

To maintain optimum operational conditions in data centers, getting instant notification of environmental fluctuations is vital. **InfraGuard** offers a wide range of sensors for complete environmental monitoring of IT racks.



Temp. + Humid. Sensor



Temp. Sensor



Door Sensor



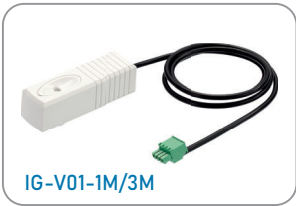
Water Sensor



Smoke Sensor



Shock Sensor



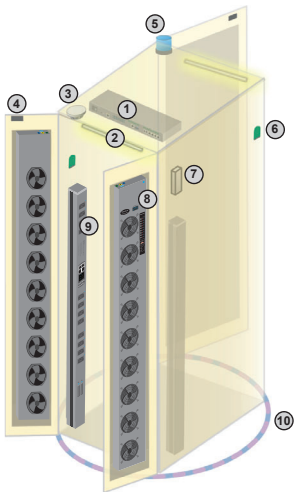
LED Beacon



LED Light Bar



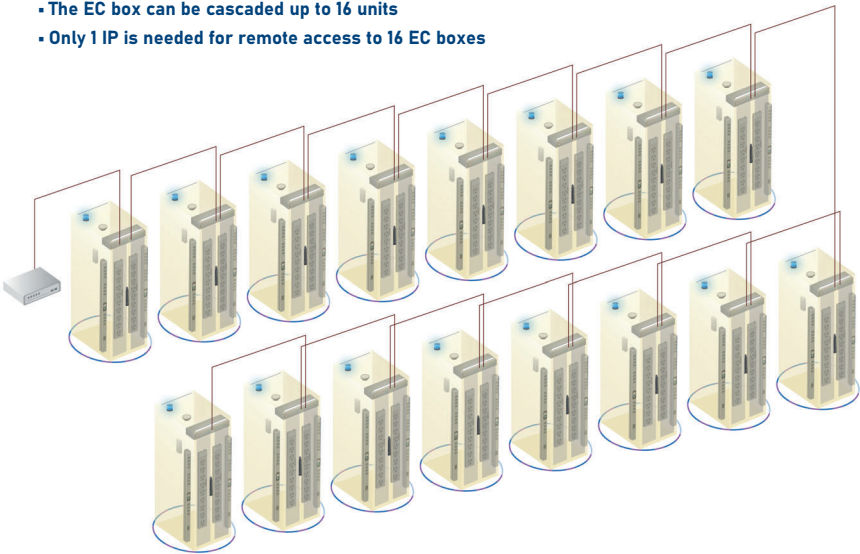
Sensor Installation



Item	Qty	Item	Qty
① EC Box	1	⑥ TH or T Sensor	2
② LED Light Bar	2	⑦ Shock Sensor	1
③ Smoke Sensor	1	⑧ iFan	2
④ Door Sensor	2	⑨ iPDU	2
⑤ LED Beacon	1	⑩ Water Sensor	1

Sensor Network Connection

- EC-300M is the 1st unit of the daisy chain
- The EC box can be cascaded up to 16 units
- Only 1 IP is needed for remote access to 16 EC boxes



InfraGuard Software IGM-03

- Supports 30 IP addresses
- 480 EC boxes
- 1920 iPDUs
- 1920 iFans
- Thousands of rack sensors



To satisfy high level data center security requirements, Austin Hughes has launched InfraSolution Z-3001 access control solution. X-3001 supports POE to reduces the implementation time and expense of having electrical power cabling installed.



InfraSolution Z-3001 offers 2 smart access control package for customer selection.

Z-700 with swing handles + door sensors + control panel(s)

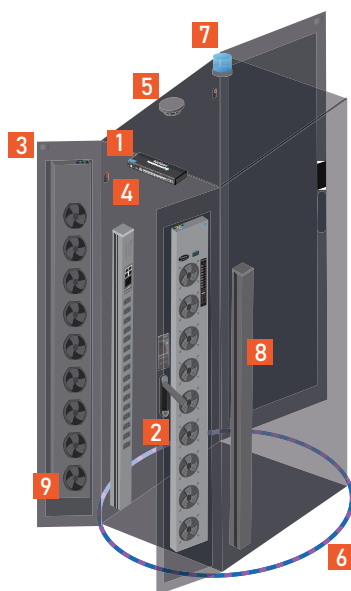


Z-800 with handles + door sensors

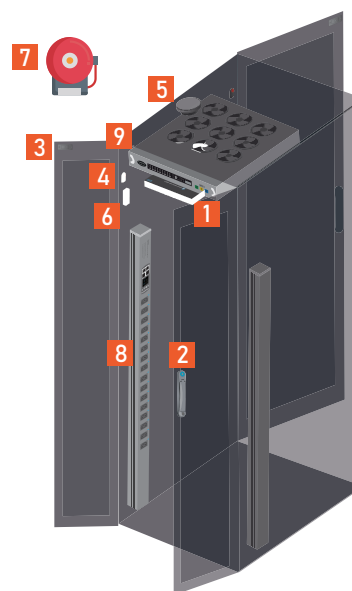


As a total IT rack solution, InfraSolution Z-3001 covers not only the rack access control features, but also the rack power, cooling and environmental management. User can implement the InfraSolution racks based on the installation environment and scenario. The following scenarios are two of the examples for your reference.

Scenario 1



Scenario 2

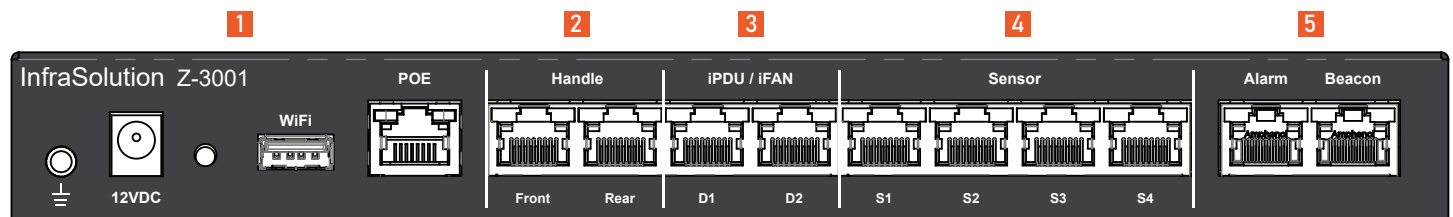


- 1 InfraBox Z-3001
- 2 Z-700 Smart Handle with Control Panel (pair)
- 3 IR Door Sensor (pair)
- 4 Temp. & Humid. Sensor (pair)
- 5 Smoke Sensor
- 6 Water Sensor
- 7 LED Alarm Beacon
- 8 M series iPDU (pair)
- 9 Door Mount Fan at Rear Door (pair)

- 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)

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

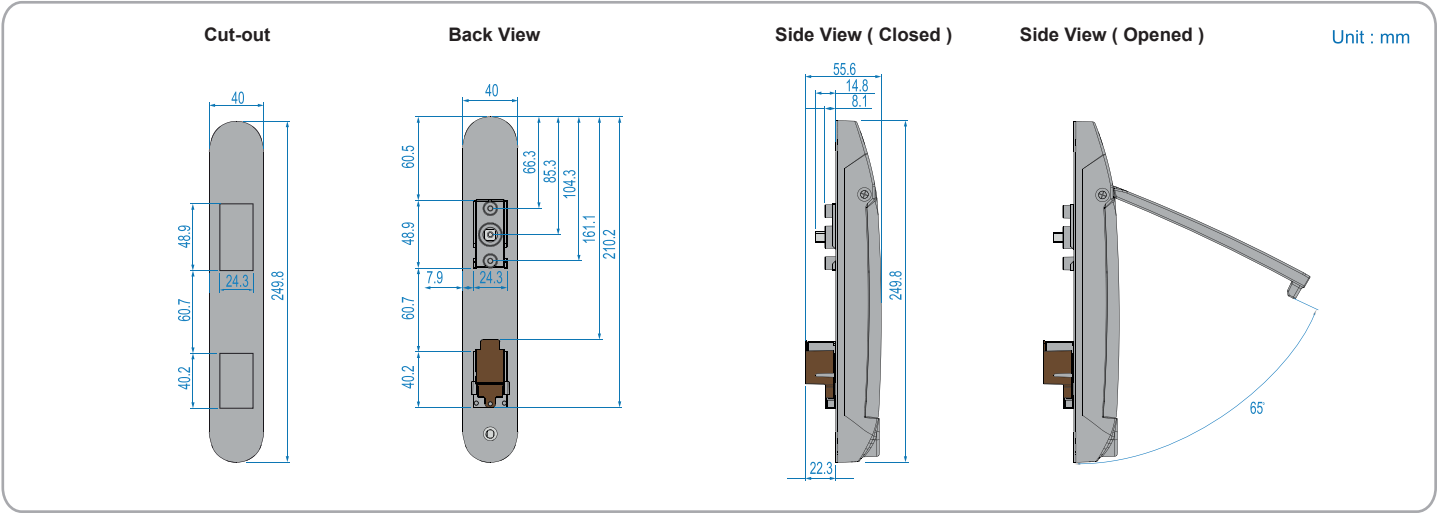
- POE reduces the implementation time of electrical power cabling, and negate the need for separate installation of data and power infrastructures.
- Optional WiFi kit (IPD-WIFI) complies with 802.11 g/n/ac.

Z-800 Smart Handles

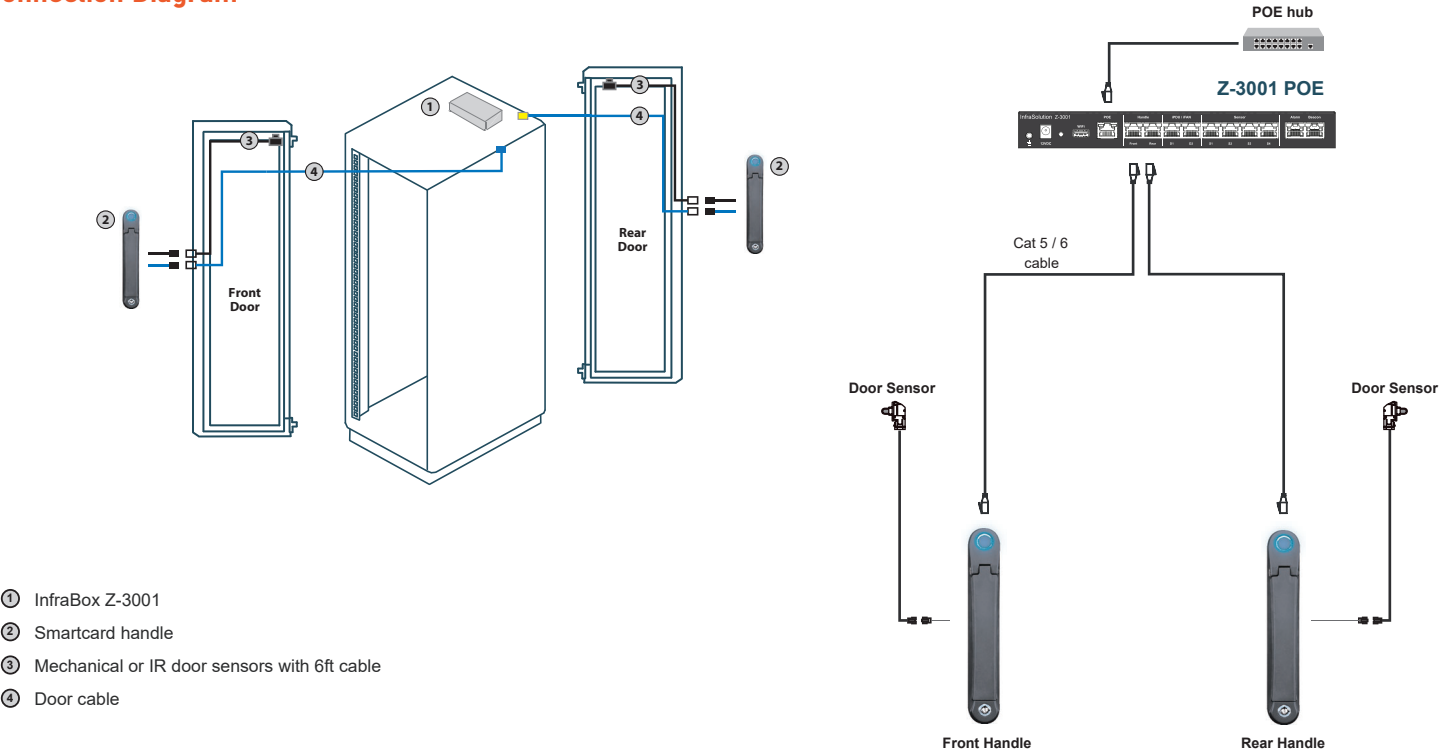
To meet the simple but highest level of rack access control solution, the smart handle Z-800 package applies the same handle mounting cut-out of most global branded IT server racks . It avoids costly and complicated door customization for the smartcard handle integration.

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



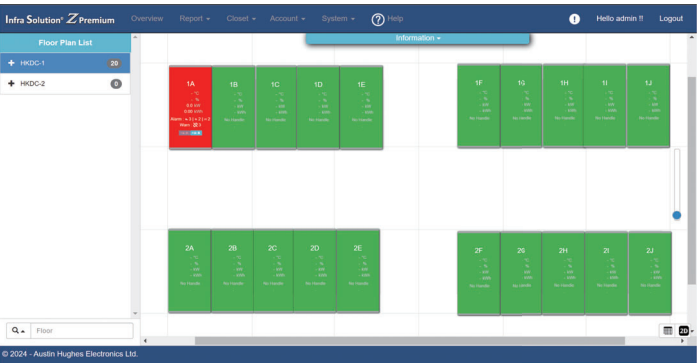
Remote Management Over IP

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.

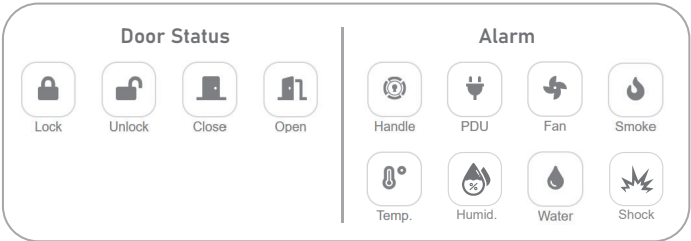
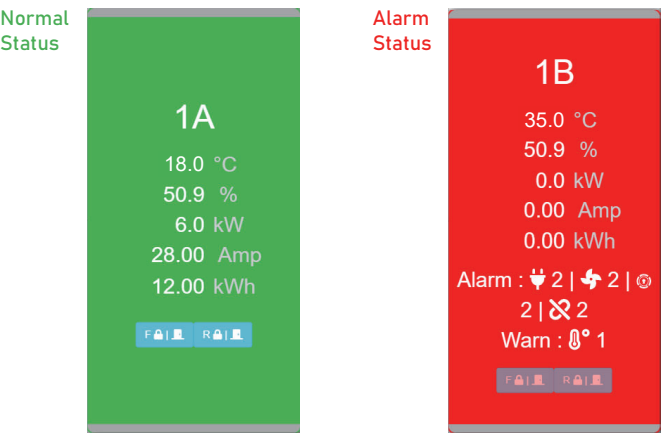
► Licensed InfraSolution Z Premium (ISP-Z3001)

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.

Austin Hughes offers sophisticated security solutions for your rack environment, including a comprehensive range of standalone to networked rack access control. InfraSolution covers networked Z-3001 & X-2000 series, and standalone series. For each series, customer can select 700-handle or 800-handle package.

InfraSolution Rack Access Control Features	Z-3001		X-2000	Standalone	
	Z-700	Z-800	X-800	S-700	S-800
Control Box :					
Embedded 100/1000 LAN IP	•	•	•		
Handle Ports (Front & Rear)	•	•	•		
Built-in Sensor Ports	•	•	•		
Built-in Beacon & Alarm Ports	•	•	•		
48V PoE Input, IEEE 802.3af standard	•	•			
12V External Power Adapter Input	•	•	•		
Smart Handle Package :					
Rugged Alloy Swing Handles with Universal Mounting Design	•			•	
Rugged Handles with Universal Mounting Design		•	•		•
Control Panel :					
Control Panel w/ 2.8" Touchscreen	•			•	
Dual Authorization : Smartcard + Numpad	•			•	
Door Sensor Selection :					
Mechanical Door Sensor	•	•	•	•	•
IR Door Sensor	•	•	•	•	•
Rack Access :					
125K Proximity Smartcard Reader	Z-700P	Z-800P	X-800P	S-700P	S-800P
13.56M MiFARE Smartcard Reader	Z-700M	Z-800M	X-800M	S-700M	S-800M
Electronic Lock Released by Smartcard + Numpad	•			•	
Electronic Lock Released by Smartcard		•	•		•
Electronic Lock Released by Software	•	•	•		
Mechanical Lock in case of Emergency	•	•	•	•	•
Rack Access Status & Alarm Indication by Handle LED	•	•	•	•	•
Remote Management Over IP :					
Built-in Web Based Management GUI					
- DCIM support : SNMP V2 / V3 & Rest API	•	•	•		
Licensed Management Software	•	•	•		
Sensor Options :					
Sensor Support : Temperature-humidity / Temperature / Smoke / Shock / Water	•	•	•		
Multi-device Options :					
Intelligent PDUs - Monitored, Switched, Outlet Measurement	•	•	•		
Intelligent Fans - Door Mount Panel, Rackmount Fan Tray	•	•	•		





Founded in 1995, Austin Hughes is a design and manufacturing group that offers a broad range of solutions based around 19-inch rack mount technology. These solutions include UltraRack IT server rack, InfraRack smart rack, InfraPower rack PDU & ATS, InfraCool rack cooling systems, InfraGuard rack sensors and peripherals, InfraSolution rack access control and CyberView rack LCD KVM switches. We also offer industrial & commercial IT products, such as UltraView professional displays and Mini IP solutions.

Austin Hughes has ISO14001 and ISO9001 approved design, manufacturing, assembly, and test facilities. We support a worldwide customer base through our global locations.



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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