



Power
ConneX

THE BEST SOLUTION for your NETWORK POWER



SMART & INTELLIGENT PDUs CATALOG

FibreConneX (Thailand) Limited
Email: sales@fibreconnex.com
www.fibreconnex.co.th | 083 008 6560

PX's Solution

About Us

PX Smart and PX Intelligent PDUs offers more than just power distribution.

It's offers real-time remote power monitoring, environmental sensors, data center infrastructure management.

By monitoring physical access points, the PDUs increase cabinet security to protect your systems and data.

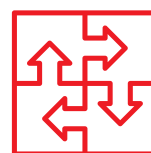
With some of the highest outlet densities and the smallest form factors available in the market, your cabinets will be functioning at their most resourceful state.



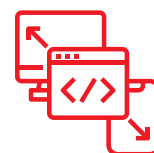
**Designed for high
availability**



**Optimized energy
and capacity
management**



**Simplified
integration with
management tools**



**Compatibility with
racks and
power chain**

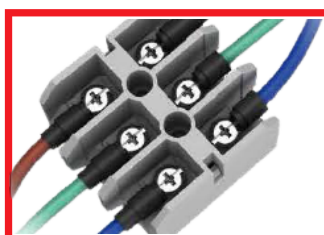


PX SMART PDU's

PX SMART PDUs

PX SMART PDUs (IP-PDUs) is designed for small and medium-sized data center. Via Web interface, it offers reliable power distribution and metering at the inlet level and support environment sensors to monitor temperature and humidity. The PX SMART PDUs makes it easy to make informed capacity planning decisions and to increase availability and energy efficiency. Safe and reliable in-field maintenance without affecting power supply to IT equipment.

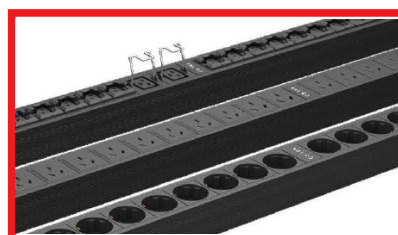
Product Features



1

Terminal block

Professional manufacturing process makes terminal block solid and reliable; terminal block box provides enough space for onsite cable connection.



4

Outlets

A wide variety of outlets including IEC, GB, UK, NEMA etc. are available for easy and flexible configuration which make your PDU unique.



2

Circuit breaker

High sensitive Legrand circuit breaker secures the IT devices and reduces the accidental losses.



5

Copper bar

High quality Phosphor bronze which has better elasticity, electrical conductivity and wear resistance; automatic welding process ensures quality consistency and reliability.



3

IP module

Hot swap module monitors critical electric data locally and remotely; metering accuracy 1 %; threshold setting & multi mode alerts make data center safer.



6

Housing

High-strength and eco-friendly aluminum alloy material provide safer protection. Customizable size and color give unique features to customers.

Main Functions

Monitor

- Remotely monitor voltage / current / power / real power / power factor / energy consumption at inlet level.
- Remotely monitor circuit breaker on/off status.
- Remotely environment monitoring Temperatures and Humidity.

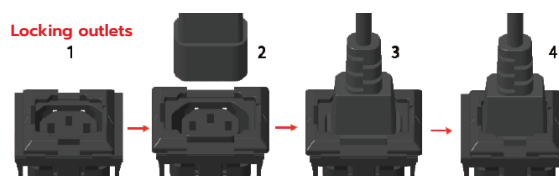
Control and Configure

- User-defined threshold settings of voltage / current at inlet level.
- User-defined threshold settings of Temperature and Humidity.
- Support local and remote management via Web, SNMP, Telnet
- Support standard communication protocols such as SNMP V1, V2, V3, DHCP, HTTP(S), IPv4, NTP, SMTP(S), TFTP and Modbus RTU.
- Perfectly compatible with PowerConneX Manager software to manage Max 1000 PDUs.
- One IP address support up to 5 **IP-PDUs** via daisy-chain

Alarm

Thresholds of critical electric parameters can be set to send alerts. When risk occurs, PDU buzzer beeps and the LCD indicator flashes; at the same time, E-mail and Trap alerts will be sent to the administrator automatically which keep them well notified of the running status and help them lower the management risks.

IP-PDUs Models



Part-Number	Input (A)	Control Function	Protection Function	Input Plug	Sockets Type
PXS5IHNTN-C305	15A	None		NEMA 5-15P	5xC13
PXS5IVNTB-C308	15A			NEMA 5-15P	8xC13
PXS5IVNTB-UL08	15A			NEMA 5-15P	8xUL
PXS5IVNTB-C312	15A		VDR Surge	NEMA 5-15P	12xC13
PXS5IVNTB-UL12	15A		Protection	NEMA 5-15P	12xUL
PXS5IVETB-C312	16A	Circuit		IEC309 16A	12xC13
PXS5IVFTB-C312	32A	Breaker		IEC309 32A	12xC13
PXS5IVETB-C320C904	32A			IEC309 32A	20xC13 + 4xC19
PXS5IVNSB-C312	15A		Hot-Swap	NEMA 5-15P	12xC13
PXS5IVESB-C312	16A		Surge	IEC309 16A	12xC13
PXS5IVFSB-C312	32A			IEC309 32A	12xC13
PXS5IVESB-C320C904	32A			IEC309 32A	20xC13 + 4xC19



PX Intelligent PDU's

PX Intelligent PDUs Series

PX Intelligent PDUs, under FibreConneX Limited., independent research and development can effectively and accurately monitor the changes of current, voltage and power consumption of equipment in server rooms in real-time. Server room administrator can export energy consumption of server room equipment in a certain time quickly and easily and analyze it effectively, then make the immediate decision to reduce the consumption. Energy saving of datacenter is both responsibility and duty. PowerConneX remote monitoring and management PX Intelligent PDUs is indispensable expert of energy saving in datacenter. PX Intelligent PDUs is offered in four different feature levels:

Monitored per PDUs (MP)

PDUs that have the ability for aggregate power monitoring to quickly identify potential power issues, and reclaim available or underutilized power capacity.

Monitored per Outlets (MO)

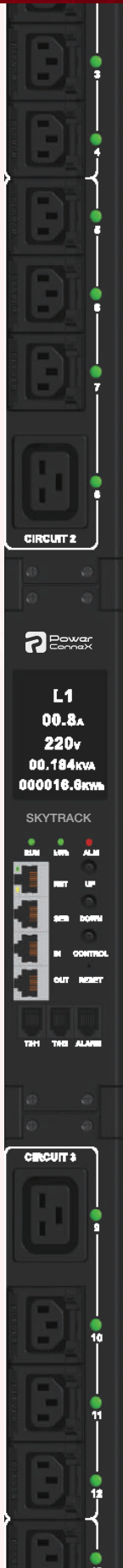
PDUs that have the ability for outlet level power monitoring to quickly identify potential power issues, and reclaim available or underutilized power capacity at the outlet level enabling the redeployment or decommissioning of individual servers to reclaim available or underutilized power capacity.

Monitored per PDUs and Switched (MPS)

PDUs that have the ability for aggregate power monitoring and outlet level switching capabilities for individual outlets or a group of outlets. Enabling power sequencing, rebooting equipment or restrict unauthorized use of individual outlets.

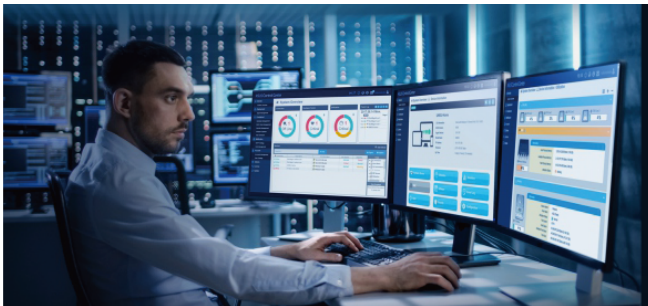
Monitored per Outlets and Switched (MOS)

PDUs that have the ability for outlet level power monitoring and outlet level switching capabilities for individual outlets or a group of outlets. Power monitoring at the individual outlet level provides actionable management data on the power consumption of each connected IT device enabling the redeployment or decommissioning of individual servers to reclaim available or under-utilized power capacity.



PX Intelligent Manager

- Centralized management software - PowerConneX Manager is designated power and environmental monitoring solution for data center managers.
- It can monitor and manage all the power data, operation status and IT environments from PX Intelligent PDUs. The software has the characteristics of concurrent data collection, multi-thread polling, daisy-chain connection, free-of-installation and etc. The features of automatic equipment identification, bulk firmware upgrade, one-button set up and fast response time make it suitable for small and medium-sizes data center which hosting less than 1000 PDUs and enables facility managers to closely monitor and efficiently utilize their existing data center.
- This software is safe, efficient, reliable and scalable, which enables you to reduce capital and operating expenditures by providing the information and control you need. And it also helps to improve energy efficiency management of your existing power infrastructure.



DCIM Integration

DCIM as tools used to “monitor, measure, manage and/or control data center utilization and energy consumption of all IT-related equipment.”

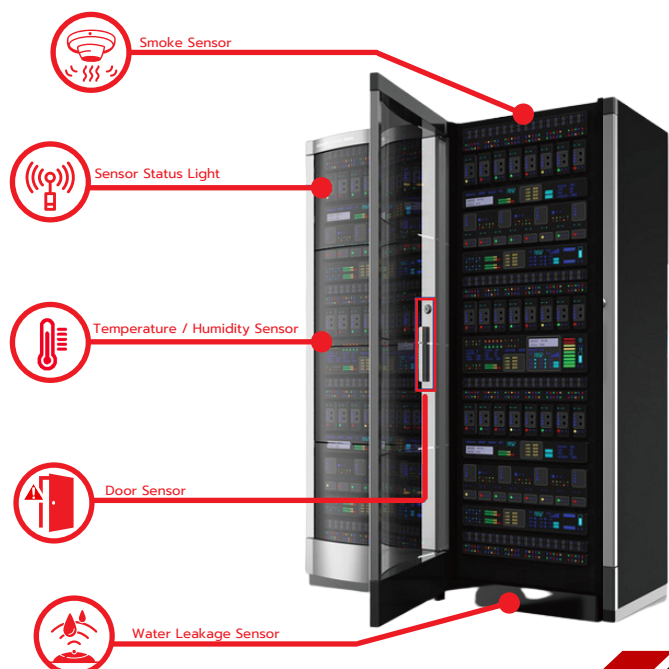
While data center management is the set of strategies and techniques

administrators develop and use to operate their IT facilities, DCIM most often refers to the software tools and solutions that managers can rely on to help visualize and manage their critical assets. Data center infrastructure itself is the core physical or hardware-based resources and components – including all IT infrastructure devices, equipment, and technologies – that comprise a data center.

Environmental Sensor

Compatible with a vast and expanding ecosystem of plug-and-play environmental sensors, PX Intelligent PDUs allow temperature, humidity, door lock security, smoke detection, water leakage detection to be both simple and economical.

- Smoke sensor
- Sensor status Light
- Temperature/Humidity sensor
- Door sensor
- Water Leakage sensor



PX Intelligent PDU's products, under FibreConneX Limited., independent research and development, can monitor the electricity consumption and overload changes of equipment in server room and it can help the server room administrators, at any time, to analyze and make the appropriate adjustments and optimization of server room's power supply according to the situation. Newly developed PX Intelligent PDU's can not only lower power consumption of itself through good design of the internal structure, but also achieve the effect of energy saving and emission reduction of the entire datacenter through intelligent control, thus, it is a necessary energy-saving expert for datacenter management. PX Intelligent PDU's has 2 categories:

PX-Skytrack PDU's

Bases on the SUM (Sustainable, Upgradeable and Maintainable) concept, PX-Skytrack PDU's can be reconfigured or thermal upgraded without affecting the normal operation of data center power. Users can remotely manage PX-Skytrack PDU's, accurately measure the power consumption of the entire PDU or each output, self-define the alarm threshold, set up the power on and off delay and monitor the micro-environment of the cabinet via external sensors.

PX-Infinite PDU's

Bases on the SUM (Sustainable, Upgradeable and Maintainable) concept, PX-Infinite PDU's can be upgraded from PX-Skytrack PDU's and can be reconfigured or thermal upgraded without affecting the normal operation of data center power.

PX-Infinite PDU's has stronger and more detailed management function: free group management of outlets; proactive overload protection; different administrative privileges, two-level alerts, data graphing, batch backup and upgrade, extensible sensor ports, more secure network protocols. With all these features, PX-Infinite PDU's can satisfy the demands of high-end data center power management.

SUM Concept Design

S

Sustainable : Reduce operating costs

- A data center has an average design life of more than 20 years; during that period hardware in any rack may change several times. PX's Intelligent PDU's can have functionality added and power outlet structure increased, diminished or changed to suit changes as they occur, without affecting power supply to remaining equipment.

U

Upgradeable : Increase uptime/availability

- By using different outlet modules or NMC (intelligence) modules, a user can easily and flexibly alter the performance and capability of a PX's Intelligent PDU's, changing and managing reporting, control and accessibility characteristics as client management and hardware change requirements develop

M

Maintainable : Improve(MTTR), and energy efficient

- Easy for maintenance, output module can be replaced or upgraded without dismounting or powering off the PDU's.








Main Functions

Main Functions	Skytrack	Infinite
Monitoring	●	●
Switching	●	●
Energy Monitoring	●	●
Daisy-chain connection	●	●
Centralized management	●	●
User-defined thresholds	●	●
Alarm notification	●	●
Last known state power-on	●	●
NMC module remote firmware upgrade	●	●
Output module remote firmware upgrade	●	●
Feature extension port	●	●
Adjustable display direction	●	●
Standard user management	●	
Multiple user management		●
Event and data logs	●	●
General network and security protocols	●	
Multiple network and security protocols		●
Temperature & Humidity sensor / logical ports	●	
Temperature & Humidity / smoke, door contact, water leakage and logical ports		●
Network security and Anti-hacker system		●
Outlet groups management		●
Schedule outlets event		●
Power cut-off protection when overload		●
WIFI connectivity		●



Classification

Items		Description			
Product Category		PX-SKYTRACK		PX-INFINITE	
Product Type		Standard		Network security ruggedized	
Product structure		Modularized	Separated	Modularized	Separated
Product features		Hot-swap, upgradeable, replaceable, scalable.	Customizable product to meet specific requirements.	Hot-swap, upgradeable, replaceable, scalable.	Customizable product to meet specific requirements.
Materials		sheet metal	Aluminum alloy	sheet metal	Aluminum alloy
Socket type	Socket	IEC320, NEMA 5-15R	Customizable	IEC320, NEMA 5-15R	Customizable
	color	 Standard color     Different color available a request			
Number of outlet	0U	24, 32, 36, 42 outlet	8 outlet as a group customizable	24, 32, 36, 42 outlet	8 outlet as a group customizable
	1U	8 outlet		8 outlet	
	2U	16, 24 outlet		16, 24 outlet	
Dimention LxWxH	0U	S	1829 x 56 x 52 mm	1829 x 56 x 52 mm	L x 66.6 x 44.4 mm
		H	1829 x 56 x 52 mm	1829 x 56 x 52 mm	
	1U		482.6 x 130 x 44.4 mm	482.6 x 130 x 44.4 mm	
			482.6 x 130 x 88.8 mm	482.6 x 130 x 88.8 mm	

Key Features of Intelligent PDUs



Real-time Monitoring
of Power Environmental and Physical Access Security



Cable Retention Clip
effectively prevent downtime caused by accidental cable fall out.



Environmental Sensors
easily monitor the cabinet environment with a verity of external sensors.



Daisy-Chain
enables multiple PX PDUs to share the same network thus to save IP resources.



Low Profile Hydraulic Circuit breakers prevent current overload in each branch circuit and keep PDU running stable.



Build-in Web Interface
monitors PDUs parameters via web browser with no dedicated software required.



kWH Metering Accuracy
accurate kWh metering allows you to measure actual energy usage for accurate customer or department charge-back billing.



DCIM Integration
integrate to communicate with existing DCIM or BMS solution through SNMP or standard Modbus interface.



Product Features

The world's most innovative intelligent Modular Power Distribution Units, **PX-Skytrack PDUs**, is designed to improve uptime and energy efficiency while reducing carbon footprint and operating costs.

Based on the concept of SUM (Sustainable, Upgradeable & Maintainable), PowerConneX exclusive hot-swap design allows quick and easy replacement without affecting the power supply to IT equipment.

By changing the controller, you can also get **PX-Skytrack PDUs plus** version which named **PX-Infinite PDUs**. Replacing of output modules allows you to upgrade a monitored PDU to switched one.



High resolution LCD display
2.8" TFT color LCD with high resolution display clear and rich information of PDU data and configuration.



Billing grade accuracy
Accurate kWh metering function measures actual energy usage for charge-back billing.



Flush mount low profile design
Low profile magnetic circuit breaker and slim chassis save valuable space in the rack.



Cable retention clip
Effectively prevent downtime caused by accidental cable fall out.



Flexible mounting options
Pre-installed button or brackets mounting for vertical PX PDUs installation into the rack.



High-density power distribution
Fewer PDUs with more outlets in the same spacer to support increasing data centre power needs.



Daisy-Chain**
Enables multiple PX PDUs to share the same network thus to save IP resources.



Environmental monitoring
Optional plug-and-play environmental sensors alert potential threats which could cause downtime.



Replaceable & scalable output modules
Meet the needs of developing technologies and changing business.

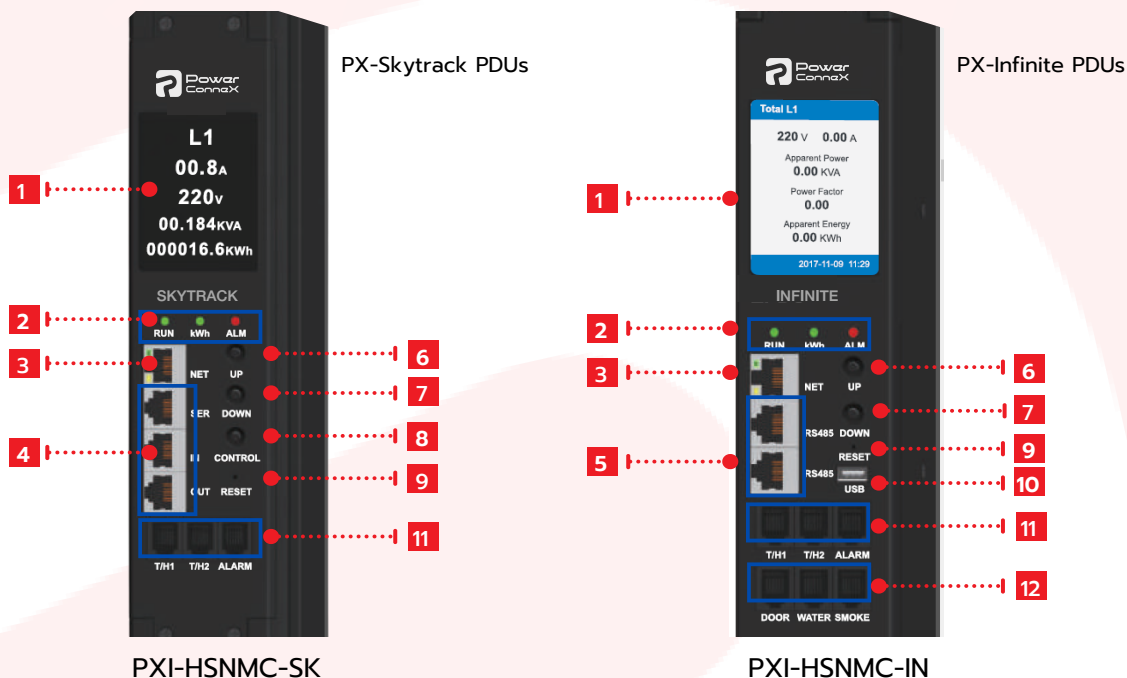


Upgradable & hot-swap controller
The controller can be replaced or upgraded (skytrack to infinite) without the need to power down your rack.

** One IP address support up to 4 PX-Skytrack PDUs via daisy-chain

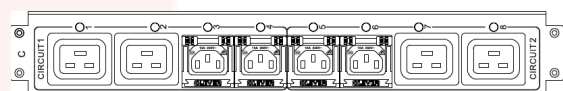
** One IP address support up to 10 PX-Infinite PDUs via daisy-chain

Hot-Swap NMC

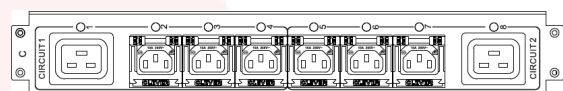


1. Display Screen
2. RUN indicator, kWh indicator, ALM Alarm indicator
3. NET port
4. SER port: serial port, IN/OUT port: for daisy-chain
5. RS485 port
6. UP button
7. DOWN button
8. CONTROL button
9. RESET button
10. USB port
11. T/H1 port: sensor port 1, T/H2 port: sensor port 2, ALARM port
12. DOOR sensor port, WATER LEDGE sensor port, SMOKE sensor port

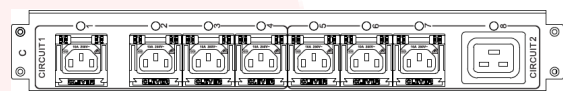
Hot-Swap Output Module



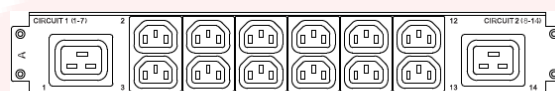
PXI-HSOM-A 4 x IEC320 C13, 4 x IEC320 C19



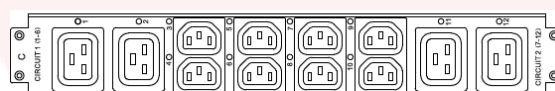
PXI-HSOM-B 6x IEC320 C13, 2 x IEC320 C19



PXI-HSOM-C 7x IEC320 C13, 1 x IEC320 C19



PXI-HSOM-D 12 x IEC320 C13, 2 x IEC320 C19



PXI-HSOM-E 8 x IEC320 C13, 4 x IEC320 C19

Main Functions

Remote Access

- Remote access via build-in Ethernet port.
- Support network communication protocol including HTTP(S), Telnet, SSL, SMTP(S), DHCP, NTP, IPv4, SNTP and DNS.
- Support SNMP V1, V2, V3 and Modbus RTU

Monitor

- Remotely monitor voltage / current / power / power factor / energy consumption at input, circuit level
- Remotely monitor voltage / current / power / energy consumption at outlet level (MO / MOS series)
- Remotely monitor circuit breaker on/off status.
- Rack environment monitoring via external connected sensors.
- Extension sensor box support more environmental sensors like door contact, smoke sensor and water leakage sensor.
- Event logs supported

Control and Configure

- Remotely control (Switch on / off / reboot) individual outlet (MPS / MOS series)
- User-defined sequential power on / off delay (MPS / MOS series)
- Last known power on (MPS / MOS series)
- User-defined threshold settings of voltage / current at input and circuit level.
- User-defined threshold settings of voltage / current at outlet level (MPS / MOS series)
- Support multiple user accounts with different administrative privileges.
- One IP address support up to 4 PX-SKYTRACK PDUs via daisy-chain

PX-SKYTRACK Models

Input current (A)	Rack space	Sockets Type	Dimension (LxWxH)	Part Number (-XXX) (-MP -MO -MPS -MOS)
32A	0U	12xC13 + 12xC19	1850x56x52 mm.	PXISHVFTH-C312C912
		18xC13 + 6xC19		PXISHVFTH-C318C906
		21xC13 + 3xC19		PXISHVFTH-C321C903
		24xC13 + 12xC19		PXISHVFTH-C324C912
16A	1U	36xC13 + 6xC19	482.6x130x44.4 mm.	PXISHVFTH-C336C906
		6xC13 + 2xC19		PXISHHNTNTH-C306C902
		12xC13 + 4xC19		PXISHHFTNTH-C312C904
32A	2U	16xC13 + 8xC19	482.6x130x88.8 mm.	PXISHHFTNTH-C316C908

Monitored per PDUs (MP)
Monitored per Outlets (MO)
Monitored per PDUs and Switched (MPS)
Monitored per Outlets and Switched (MOS)

Main Functions

Remote Access

- Remote access via TCP/IP and build-in Ethernet port.
- Support network communication protocol including TCP/IP, PPP, UDP, HTTP(S), Telnet, SSH, SSL, SMTP(S), DHCP, TFTP, NTP, IPv4, IPv6, LDAP/S, TSL, SNTP and DNS.
- Support SNMP V1, V2, V3, Modbus RTU, MAC address, Syslogs, Radius
- Access permission management

Monitor

- Remotely monitor voltage / current / power / power factor / energy consumption at input, circuit and group level
- Remotely monitor voltage / current / power / energy consumption at outlet level (MO / MOS series)
- Remotely monitor circuit breaker on/off status.
- Rack environment monitoring.
- Extension sensor box support more environmental sensors like door contact, smoke sensor and water leakage sensor.
- Event logs and graph records supported

Control and Configure

- Remotely control (Switch on / off / reboot) individual outlet (MPS / MOS series)
- User-defined sequential power on / off delay (MPS / MOS series)
- Last known power on (MPS / MOS series)
- Schedule outlet action (on / off) (MPS / MOS series)
- Proactive overload protection
- Power cut-off when overload
- Outlet groups management
- User-defined threshold settings of voltage / current at input and circuit level.
- User-defined threshold settings of voltage / current at outlet level (MPS / MOS series)
- Support up to 10 user accounts with different administrative privileges.
- One IP address support up to 10 PX-INFINITE PDUs via daisy-chain

PX-INFINITE Models

Input current (A)	Rack space	Sockets Type	Dimension (LxWxH)	Part Number (-XXX) (-MP -MO -MPS -MOS)	
32A	0U	12xC13 + 12xC19	1850x56x52 mm.	PXIIHVFTH-C312C912	-XXX
		18xC13 + 6xC19		PXIIHVFTH-C318C906	
		21xC13 + 3xC19		PXIIHVFTH-C321C903	
		24xC13 + 12xC19		PXIIHVFTH-C324C912	
16A	1U	36xC13 + 6xC19	482.6x130x44.4 mm.	PXIIHVFTH-C336C906	-XXX
		6xC13 + 2xC19		PXIIHFNTH-C306C902	
		12xC13 + 4xC19		PXIIHFTH-C312C904	
32A	2U	16xC13 + 8xC19	482.6x130x88.8 mm.	PXIIHFTH-C316C908	



PX-Infinite Functions

PX-Infinite PDUs is an upgraded PDU version by changing the hot-swappable controller and the outlet modules which comes with more capabilities, features and better security.



Maximize control

- Group outlets for remote reboot, power measurement information across a single PX-Infinite PDUs.
- Multiple user group levels and outlet access permissions.
- Proactive overload protection.

Trending and power reports

- View Logs for user access, discovery, user actions, and alarms for trouble shooting.
- Record/view/report historical data and graph to understand where your energy is going.

Detect a wide range of environmental conditions

- Every PX-Infinite PDUs is designed to accommodate up to 5 external sensor probes with user customizable alarms and notification.
- Extended sensor box is available for more sensor probes.

Enhance security


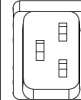
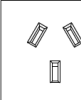
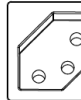
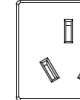




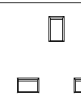
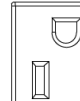
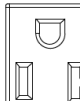
- Strong encryption, password, and advanced authorization options including IPv6, TLS, Radius, syslog, MAC filtering, LDAP/S, and Active Directory.
- Zebra Security & PowerConneX Manager Security support.



Customization Models

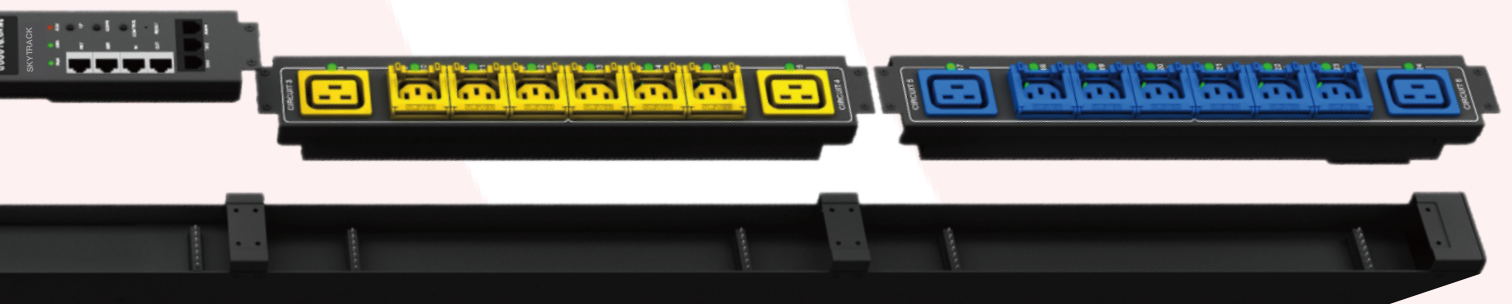
The **PX-Skytrack PDUs** and **PX-Infinite PDUs** are support to customize with the non swappable outlet types as the requirement of aluminum alloy chassis.

Outlet Types

					
IEC320 C13	IEC320 C19	AS/NZS-10A, 15A	NBR 14136	GB 1002/10A, 16A	SR 107-2-D1
Code C3	Code C9	Code AS	Code NB	Code GB	Code SR
					
NF-C61-314	DIN 49440	INDIA SOCKET	BS 1363(90°)	NEMA 5-15R	NEMA 5-20R
Code NF	Code DI	Code IN	Code BS	Code N1	Code N2

Customize Models

Input current (A)	Rack space	Dimension (LxWxH)	Product Series Skytrack I Infinite		Outlet	Series
32A	OU	L x 66.6 x 44.4 mm.	PXIS	or PXII	SVFTH-	
					X1 X2 X3 X4 X1 = Outlet Code X2 = Number of outlet X3 = Outlet Code X4 = Number of outlet	-XXX



Automatic Transfer Switch

PX Automatic Transfer Switch

**MOST COST-EFFECTIVE AND RELIABLE
LOAD AUTOMATIC TRANSFER SWITCH**

PX-ATS (Automatic Transfer Switch) is the upgraded version based on the previous one. It combines the power management technology with complete independent intellectual property right. Integrated the network communication, remote management, automatic transfer and power distribution technology into this well-designed automatic transfer switch which can be upgraded from local management level to remote management level.

The most recent ATS provides reliable and redundant power to connected equipment. The ATS has two input power source, if the primary source shutdown it will seamlessly switch to the secondary power source automatically. ATS has 4 basic models available if user wants to realize remote management, it requires just a SNMP card to upgrade the basic type to the remote management one.

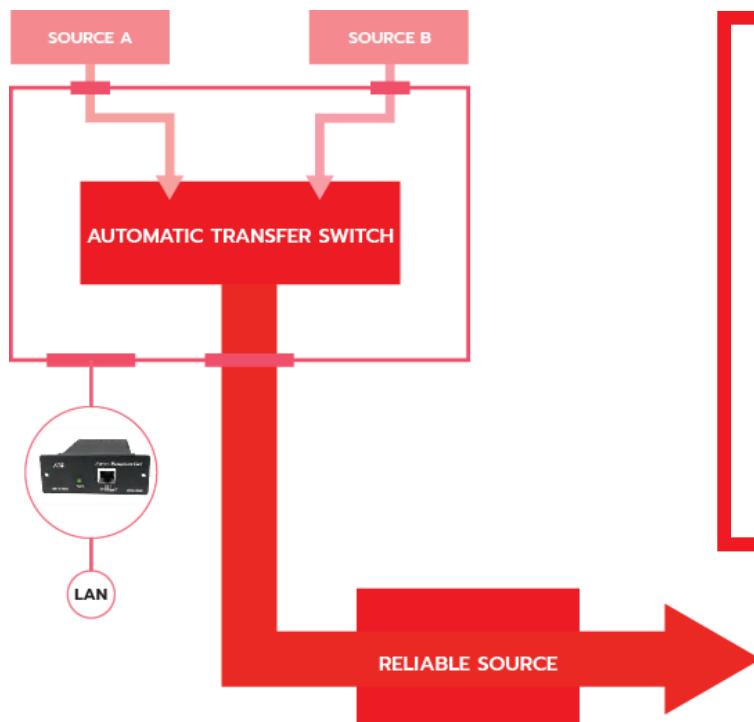


Basic ATS:

when primary source becomes unavailable ATS seamlessly transfers to secondary source.

Intelligent ATS:

plugged in a SNMP card into the basic ATS, user can monitor, control and manage the device remotely via network.



Key Features.

1. Seamlessly transfer between source A and B
2. Input power monitoring of source A and B
3. Input and output voltage monitoring
4. Load current monitoring
5. Local and remote automatic alarm
6. Load transfer in 10-16 ms
7. Inlet and Branch Circuit Monitoring

Automatic Transfer Switch

Main Functions

Main functions	Performance Index	Classification			
		Basic ATS			
		PXATS-IC20-C306C902-B	PXATS-IE16-C306C902-B	PXATS-IF32-C312C904-B	PXATS-IF32-OF01-B
Transfer	Transfer polarity	L, N			
	Transfer time	10 ≤ 16ms			
Communication	Serial port	[1] RJ45			
	Network port	[1] RJ45			
Alarm	Logical port	[1] Ø5 earphone jack to connect audible and visible alarm			
	Remote notification	Email alarm			
Display	Output current	LED, 3 digits in red, accuracy 100mA ±1%+1			
	Output voltage	LED, 3 digits in red, accuracy 100mA ±1%+1			
	A/B source indicator	A/B power supply indicator			
	Primary source indicator	A/B power supply indicator			
	Present source indicator	A/B power supply indicator			
	A/B power source	Power supply A/B			
Input	Input type	IEC320 C20 socket	IEC60309 16A plug	IEC60309 32A plug	Web interface display
	Input voltage	180~260VAC 50/60Hz			
	Load current	16A			
Output	Output connections	[6] IEC320 C13 [2] IEC320 C19	[6] IEC320 C13 [2] IEC320 C19	[12] IEC320 C13 [4] IEC320 C13	IEC60309 32A cable connector
	Load current	16A			
Rack space		1U			
Protection	Overload protector	Included			
Dimension L*W*H (mm)		482.6 * 220.0 * 44.4 mm			
Environment	Working condition	Temperature: 0~45°C, Humidity: 5~95%			
	Storage condition	Temperature: -5~45°C, Humidity: 5~95%			

ATS Intelligent Models



PXATS-IC20-C306C902



PXATS-IE16-C306C902



PXATS-IF32-C312C904



PXATS-IF32-OF01



**Power
ConneX**