

# Intelligent Rack Transfer Switch



## Features

- ▶ Fast transfer: Load transfer times 4 – 8ms.
- ▶ Reliable transfer between sources regardless of phase.
- ▶ Over-sized relays (rated 48A) and SCRs (rated 70A).
- ▶ Eliminates electrical arcing that leads to transfer relay failure.
- ▶ 3.3mm vs. typical 0.6mm air gap to prevent arcing due to surges.
- ▶ Inlet surge protection and field replaceable, fast-blow fuses for short circuit protection.
- ▶ Energy metering and power quality monitoring.
- ▶ User configurable thresholds for power quality.
- ▶ Ethernet, Modbus and SNMP networking.
- ▶ USB ports for Wi-Fi, camera, tablet, and cascading.
- ▶ Alarm and status updates via GSM text, email and syslog.
- ▶ Supports Raritan plug-and-play environment sensors.
- ▶ Runs in up to 60°C(UL), 50° C(CE) environment at 85% RH.
- ▶ Energy efficient and produces less heat.

## Raritan's innovative rack transfer switch designed for performance and reliability.

Raritan's hybrid rack transfer switches use electromechanical relays and silicon-controlled rectifiers (SCRs) to transfer a load between two sources. The result is performance and reliability that exceeds that of standard automatic transfer switches (ATS) and at a lower price point than static transfer switches (STS).

### Industry leading performance:

- ▶ Uses SCRs to provide STS-like transfer times and eliminate electrical arcing and welding of relays; hybrid relay plus SCR-design allows hand off of the transferred load to a relay, making it power efficient and producing less heat.
- ▶ Fast detection time ensures failed power feeds are detected and the loads transferred within 4 to 8ms.
- ▶ Only rack transfer switch with power metering, energy quality monitoring and support for optional environmental sensors.
- ▶ Local and remote web-based monitoring and control

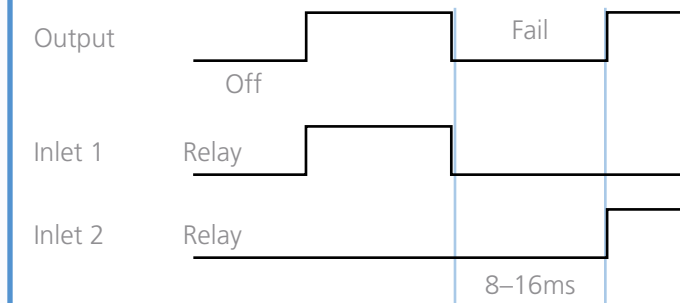
### Designed with maximum reliability in mind:

- ▶ Oversized relays, rated at 48A, and SCRs, rated at 70A, even though the transfer switches are intended for 16A and 32A loads.
- ▶ Prevents transfers of output short circuits which could lead to failure of the second power feed.
- ▶ Uses two single throw relays instead of one double throw relay (a single point of failure) to support reliable out-of-phase transfers.
- ▶ Uses relays with an air gap of 3.3mm vs. the 0.6mm gap used in most transfer switch relays on the market. Prevents arcing due to surges.
- ▶ Offers a 30% larger surface area between the relay contacts to handle larger currents.
- ▶ Offers surge protection, field replaceable output short protection, redundant internal power supplies and redundant controllers.

# A Transfer Switch That Is More Intelligent, More Reliable, Easier to Use

The majority of data center transfer switches on the market fall short of expectation.

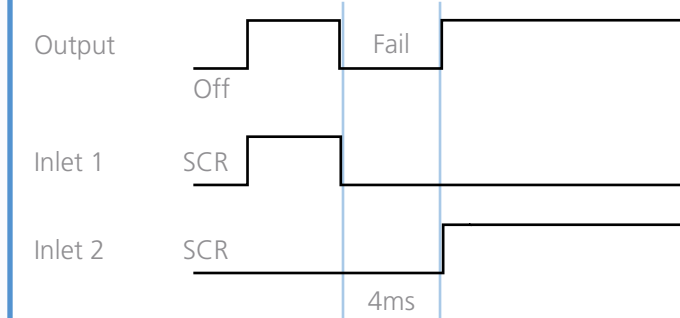
## ATS (relay-based) Transfer Time



### Electromechanical Relay Switches (ATS):

- ▶ Vendors' transfer times vary from 8 to 16ms.
- ▶ The contacts often weld together due to electrical arcing; one of the leading causes of electromechanical relay transfer switch failure.
- ▶ Relay only solutions do not indicate when the relay has welded and is therefore no longer able to switch power feeds. Thus data center operators only know their transfer switch has failed when it's too late, i.e. there is a power failure and no switchover occurs.

## STS (SCR-based) Transfer Time



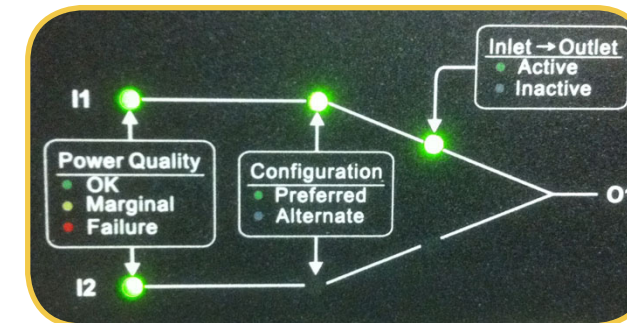
### Silicon-Controlled Rectifier Switches (STS):

- ▶ Offer very fast transfer times (normally 4 to 6ms), but are over five and a half times more expensive than electromechanical switches.
- ▶ Draw significantly more energy than electromechanical relays and produce more heat thereby consuming cooling resources.
- ▶ Are less energy efficient requiring forced cooling and lower maximum operating temperatures.
- ▶ Reduce the energy efficiency of the rack.

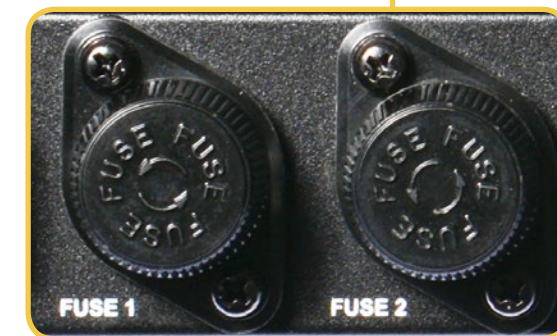
### Multifunction Display



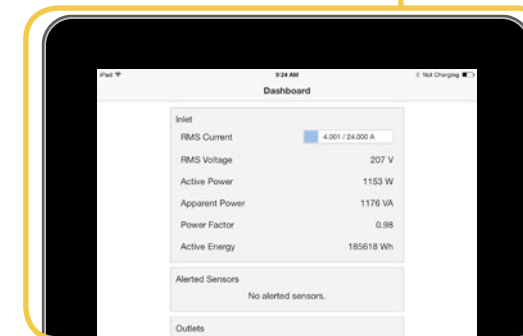
### Transfer Switch Indicator Lamps



### Transfer Switch Indicators and Controls



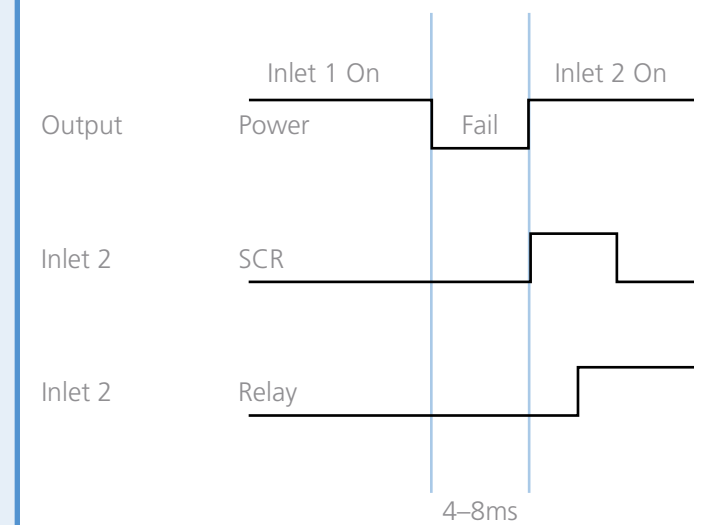
### Field Replaceable Short Circuit Protection



### Manage from USB-A ports

Raritan's innovative hybrid design is fast and reliable.

## Raritan Hybrid (relay+SCR-based) Transfer Time

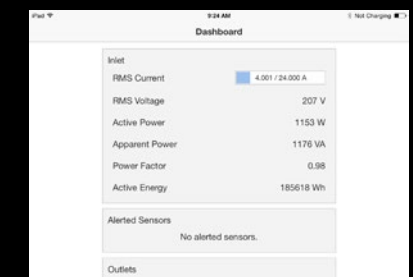


### Raritan's Patent-Pending Hybrid Design:

- ▶ Solid state components provide speedy transfer.
- ▶ Patent-pending circuitry reduces wear on electro-mechanical components.
- ▶ Eliminates electrical arcing that leads to transfer relay failure.
- ▶ Identifies output short circuits and sends an alarm so the short circuit may be corrected before the power transfer is made manually.
- ▶ Speed of an STS at a lower cost.
- ▶ Fan-free design for increased reliability.

### Smart Controller Enables Remote Monitoring and Management:

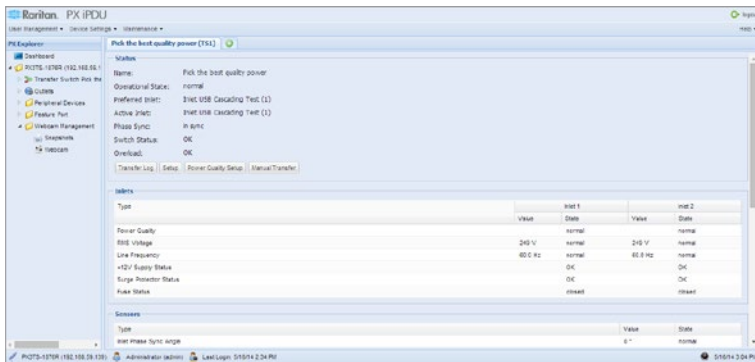
- ▶ Intuitive GUI, SNMP, Modbus, TCP/IP, JSON-RPC for scripting, IPv4 / IPv6.
- ▶ Full depth chassis.
- ▶ Front and rear tablet access and control via USB ports.
- ▶ Threshold alerting and status updates via GSM text, email and syslog.
- ▶ Logs transfer times for reporting.
- ▶ Support for plug-and play sensors.
- ▶ USB ports support Wi-Fi, camera, tablet, and cascading.



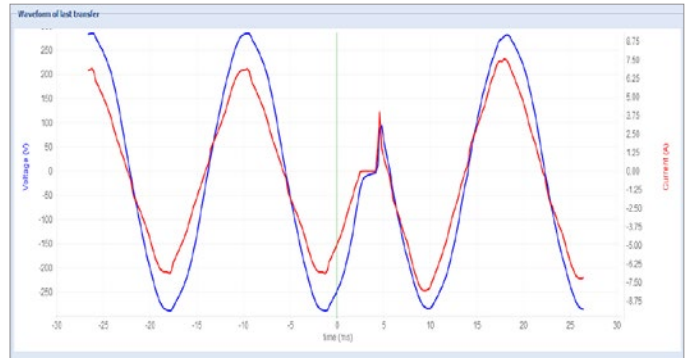
# PX3TS Models and Configurations

## PX3TS-18xx

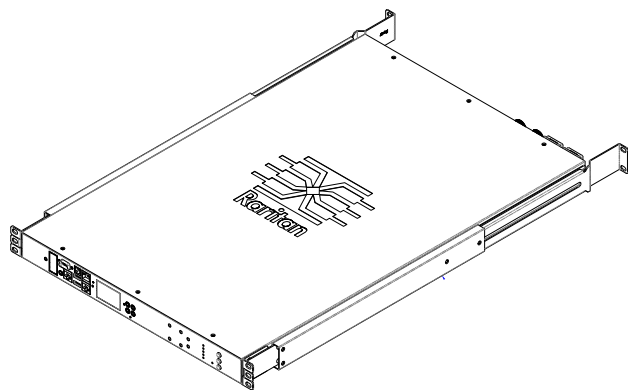
Model	Chassis	Input Voltage	Plug Type	Output Voltage	Outlet Type (QTY)	Current	Circuit Breaker (QTY)	10/100 Ethernet
PX3TS-1464R	2U	200-240	(2) NEMA L6-30P	200-240	16 x C13 4 x C19	24	2 x 20A 2-pole	Yes
PX3TS-1469R	2U	200-240	(2) IEC 60309 32A	200-240	16 x C13 4 x C19	32	2 x 16A 1-pole	Yes
PX3TS-1469A1R	2U	240	(2) Clipsal 56P332	240	16 x C13 4 x C19	32	2 x 16A 1-pole	Yes
PX3TS-1469A2R	2U	240	(2) Clipsal 56PA332	240	16 x C13 4 x C19	32	2 x 16A 1-pole	Yes
PX3TS-1876R	1U	200-240	(2) NEMA L6-20P	200-240	8 x C13 1 x C19	16	0	Yes
PX3TS-1875R	1U	200-240	(2) IEC 60309 16A	200-240	8 x C13 1 x C19	16	0	Yes
PX3TS-1875A1R	1U	240	(2) Clipsal 56P320	240	8 x C13 1 x C19	20	0	Yes
PX3TS-1875A2R	1U	240	(2) Clipsal 56PA320	240	8 x C13 1 x C19	20	0	Yes



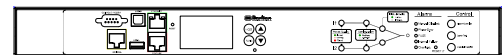
PX iPDU Dashboard



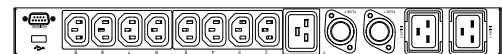
AC Waveform for Last Transfer



Front



Rear



Call **1.800.724.8090** or visit [www.raritan.com/transfer-switch](http://www.raritan.com/transfer-switch)

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\*To qualify for advanced replacement under the standard warranty, you must register the product at <http://www.raritan.com/support/product-warranty-registration>. Specifications are subject to change without notice.