



Intelligent Rack Transfer Switch

Hybrid Rack Transfer Switch with Outlet-Level Metering and Switching

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.
- Current sampling at 4,800 times per second for load transfers within 4 to 8ms.
- The PX3TS-5000 series features outlet-level metering and switching.
- Only rack transfer switch with power metering, energy quality monitoring and support for optional environmental sensors.
- Local and remote web-based monitoring, and control, and alarms.

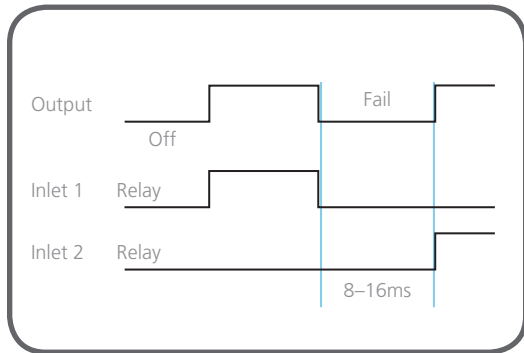
Designed with Maximum Reliability in Mind

- 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.
- Hybrid design eliminates out-of-phase transfer problems like arcing and provides more deployment options since the feeds do not have to be the same phase.
- 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 relay contact surface area to handle larger currents.
- Offers surge protection, field replaceable output short protection, redundant internal power supplies and controllers.

Features

- 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 contact air gap to prevent arcing due to surges.
- Inlet surge protection and field replaceable, fast-blow fuses for short circuit protection.
- Inlet or outlet-level metering and switching, with 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.
- 20W power consumption.
- SecureLock™ ready to prevent accidental disconnects.

Most Transfer Switches on the Market Fall Short of Expectations



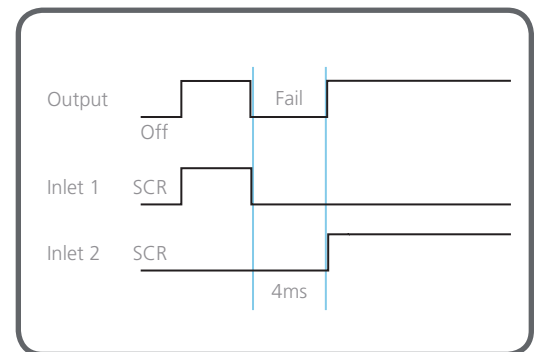
ATS (relay-based) Transfer Time

Electromechanical Relay Switches (ATS):

- Vendors' load 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 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.

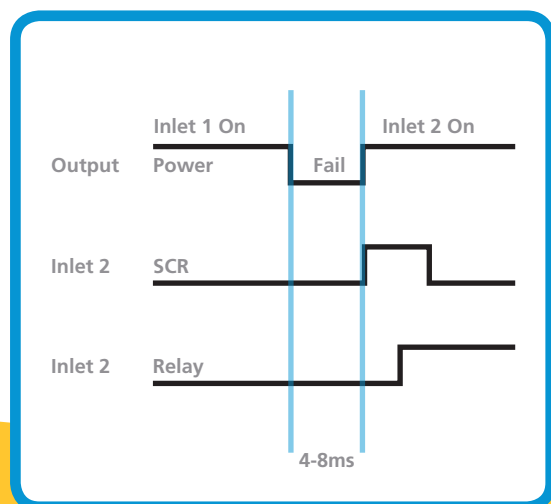
Silicon-Controlled Rectifier Switches (STS)

- 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.



STS (SCR-based) Transfer Time

Here's How Raritan's is Different

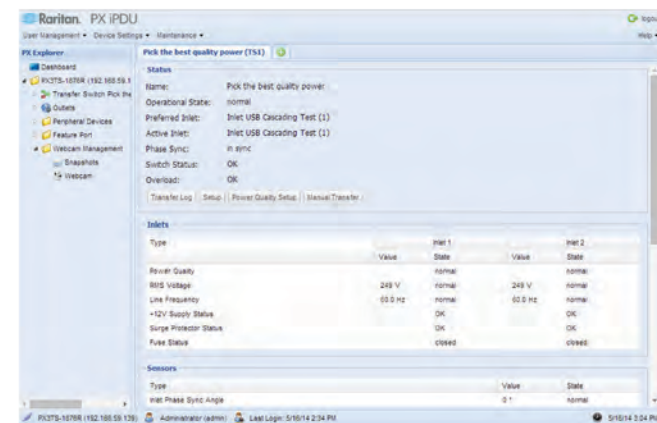
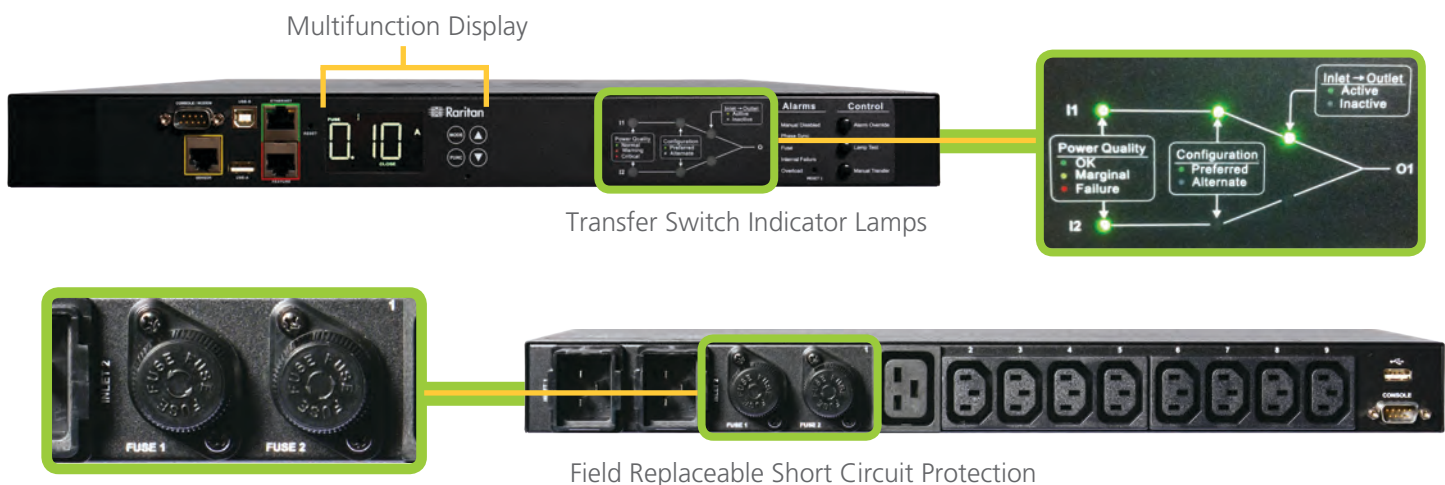


**Raritan Hybrid (relay+SCR-based)
Transfer Time**

Raritan's Patent-Pending Hybrid Design

- Solid state components provide speedy transfers.
- 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.
- The PX3TS-5000 series provides outlet-level switching and metering as well as reliable power to single corded devices.
- Speed of an STS at a lower cost.
- Fan-free design for increased reliability.

Raritan's Transfer Switch is Faster, More Intelligent, More Reliable, and Easier to Use



PX Intelligent Rack Transfer Switch Dashboard

Smart Controller Enables Remote Monitoring and Management

- Intuitive GUI, SNMP, Modbus, TCP/IP, JSON-RPC for scripting, IPv4 / IPv6.
- 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 environment sensors.
- USB ports support Wi-Fi, camera, tablet, and cascading.

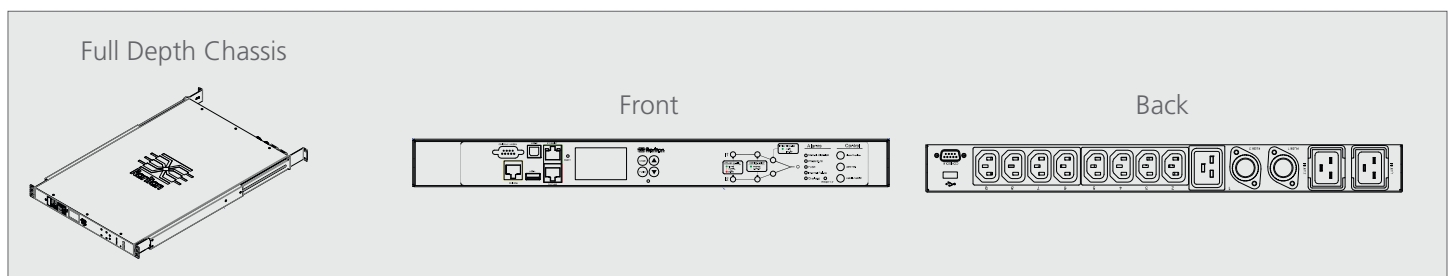
Web-Based Remote Power Monitoring

Real-time remote power quality monitoring with user defineable thresholds and alerts for voltage and frequency. Includes AC waveform of last transfer and metering of power loads.

AC Waveform for Last Transfer



Model	Chassis	Input Voltage	Plug Type	Output Voltage	Outlet Type (QTY)	Current	Circuit Breaker (QTY)	10/100 Ethernet
PX3TS-5184CR	1U	200-240	(2) IEC C-20 (UL)	200-240	7 x C13; 1 x C19	16	0	Yes
PX3TS-5191CR	1U	200-240	(2) IEC C-20 (CE)	200-240	7 x C13; 1 x C19	16	0	Yes
PX3TS-1876CR	1U	200-240	(2) IEC C-20 (UL)	200-240	8 x C13; 1 x C19	16	0	Yes
PX3TS-1876R	1U	200-240	(2) NEMA L6-20P	200-240	8 x C13; 1 x C19	16	0	Yes
PX3TS-1875CR	1U	200-240	(2) IEC C-20 (CE)	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
PX3TS-1147R	1U	120	(2) NEMA L5-20P	120	8 x NEMA 5-20R	16	0	Yes
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



PDView - Integrated Tablet Display via USB Port

Turns your tablet or phone into a remote display that provides at-the-rack display of all critical data. Simply plug your mobile device in the front or rear USB port to access. Available for iOS and Android devices.



Ready to Learn more about Raritan's Intelligent Rack Transfer Switch?

Visit www.raritan.com/transferswitch or call 1.800.724.8090 for more information.

Raritan is a proven innovator of power management solutions, DCIM software, and KVM-over-IP for data centers of all sizes. Based in Somerset, NJ, Raritan has a global presence across 38 offices, serving 76 countries and 50,000 locations worldwide. Raritan's award-winning hardware and software solutions increase energy efficiency, improve reliability, and raise productivity. For more information, please visit www.raritan.com or call 800-724-8090.

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