# Why the Hybrid Rack Transfer System is Superior to Both ATS and STS Systems


Raritan®

# Most commercially available data center power transfer switches fall into one of two categories:

| | |
|---|---|
| Relay-based Automatic Transfer Switches (ATS) | Static Transfer Switches (STS) that rely on silicon-controlled rectifiers (SCRs) |

Raritan®

Both the ATS and STS have inherent design flaws that hinder performance and reliability – two areas where a hybrid rack transfer switch really excels.


Raritan®

ATS switch transfer times vary from 10 to 16ms, and switching can require an additional 4 to 5ms. This can exceed the 20ms needed to keep IT equipment running, making it a potential liability.

Raritan®

In an ATS the contact and pole often fuse together due to electrical arcing: it’s one of the leading causes of relay-based failure. ATS do not indicate when the relay has fused and is no longer able to switch power feeds, so operators don’t know until it’s too late.

Raritan®

STS systems offer very fast transfer times - normally 4 to 6ms. But, there's a huge trade-off here in terms of price: they are often over five times more expensive than relay-based switches!

Raritan®

STS systems draw significantly more energy than relay-based switches and thereby produce more heat, forcing you to provide greater power and cooling resources.

Raritan®

It’s easy to see why both ATS and STS systems may fall short of the mark.

| | ATS | STS |
|---|---|---|
| Transfer Times | 10 to 16ms | 4 to 6ms |
| Reliability | ✗ | ✓ |
| Price Point | $ | $$$$ |

Raritan®

So why is the hybrid rack transfer switch a better solution for your data center power management system?

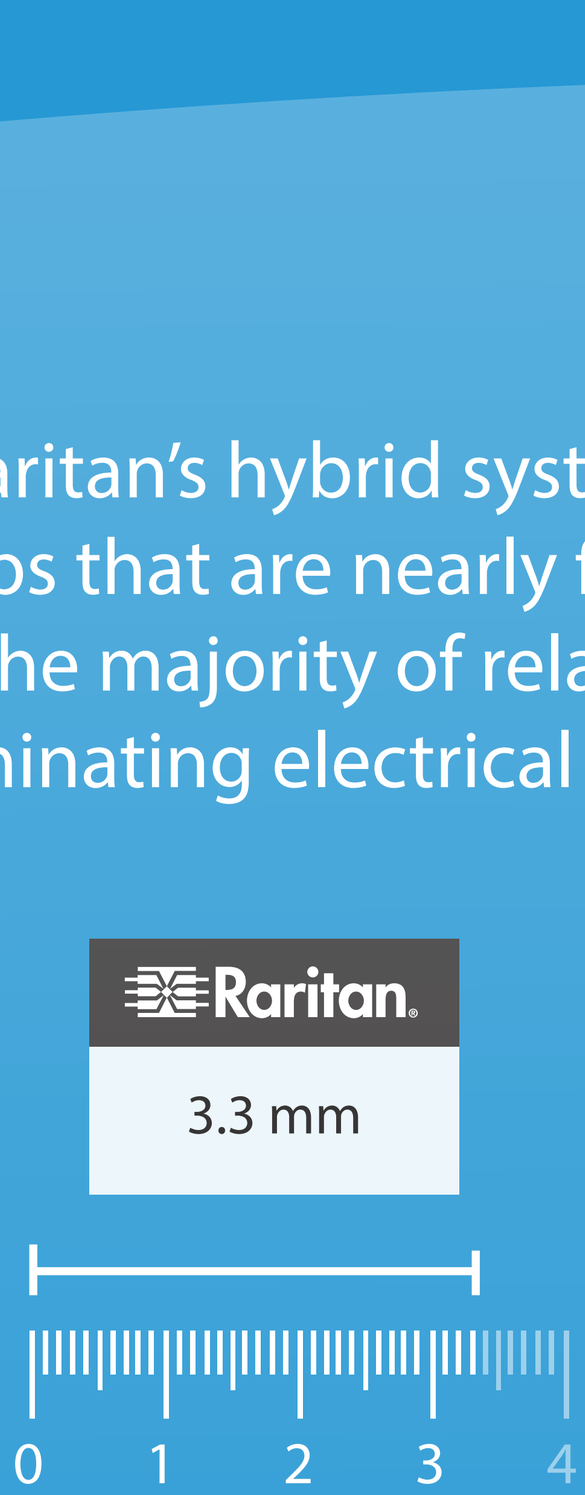

Raritan®

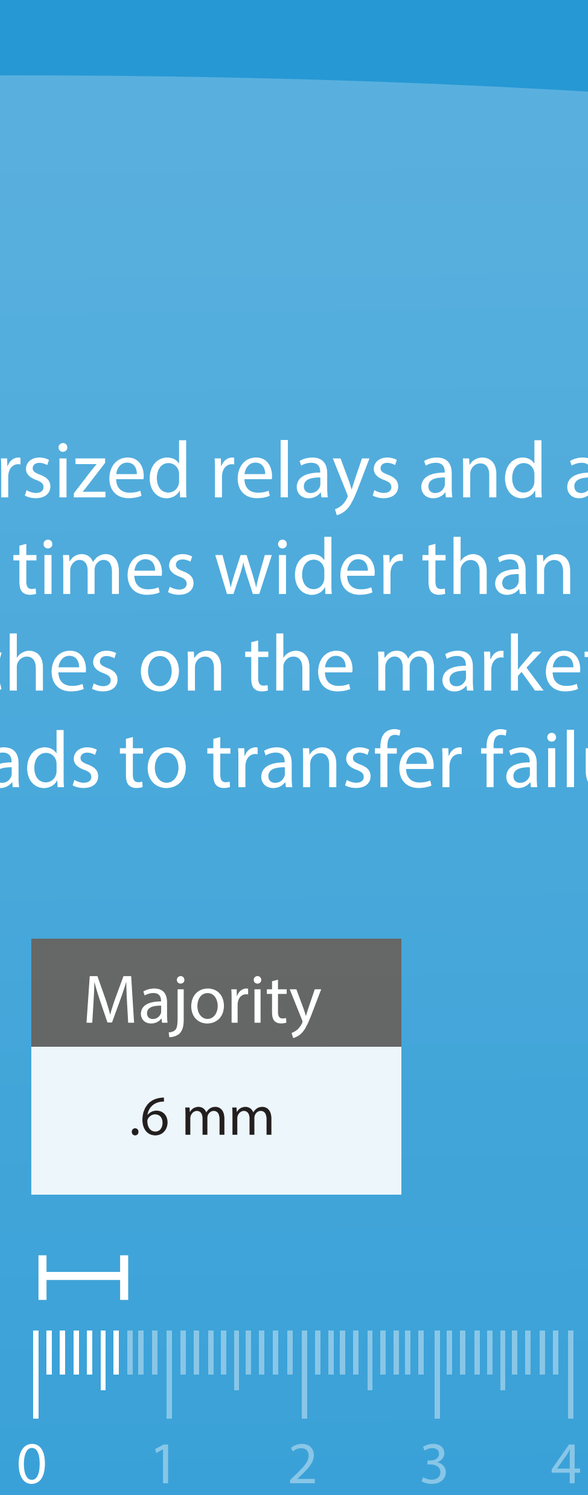
A hybrid transfer switch combines electromechanical relays and silicon-controlled rectifiers to provide a speedy transfer time of 4 to 8ms; speeds virtually identical to the STS, at a much lower cost.


Blazing-Fast
Transfer Times

Raritan®

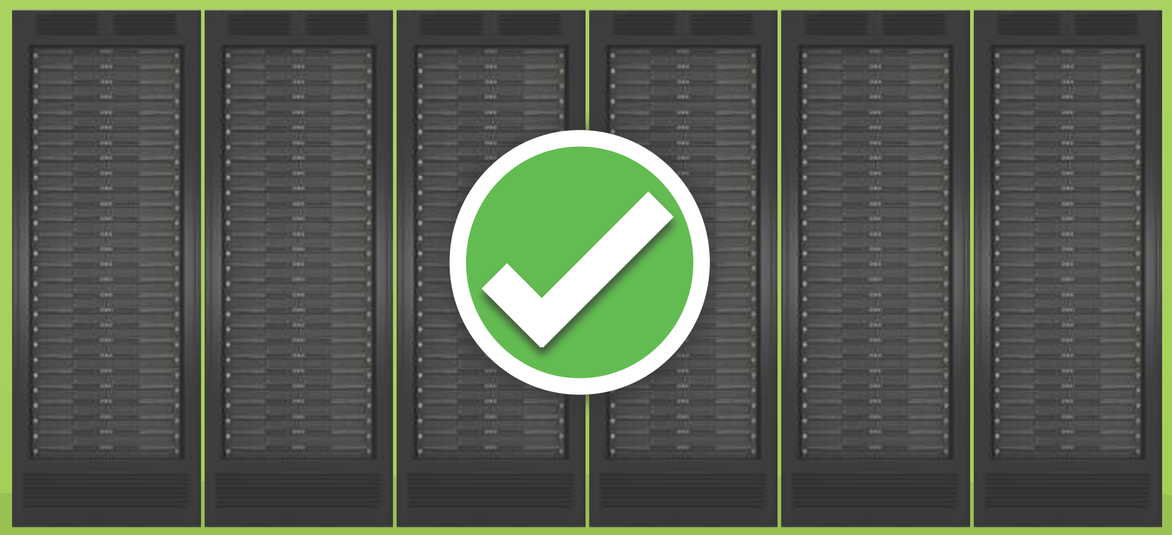
Raritan's hybrid system offers oversized relays and air gaps that are nearly five and a half times wider than on the majority of relay based switches on the market eliminating electrical arcing that leads to transfer failure.




Raritan

Raritan's hybrid transfer switch offers surge protection, field replaceable fuses, and disaster recovery in case of a shorted load. They're also energy efficient - consuming a mere 20W - and thereby produce less heat resulting in fewer issues during installation and day-to-day use.



Raritan®

It’s clear to see how the hybrid transfer switch cleverly uses the qualities of both electromechanical relays and silicon-controlled rectifiers.

| | ATS | Hybrid | STS |
|---|---|---|---|
| Transfer Times | 10 to 16ms | 4 to 8ms | 4 to 6ms |
| Reliability | ✗ | ✓ | ✓ |
| Price Point | $ | $$ | $$$$ |

Raritan®

Raritan's hybrid rack transfer system also offers intelligent features found in no other transfer switch on the market.

Raritan®

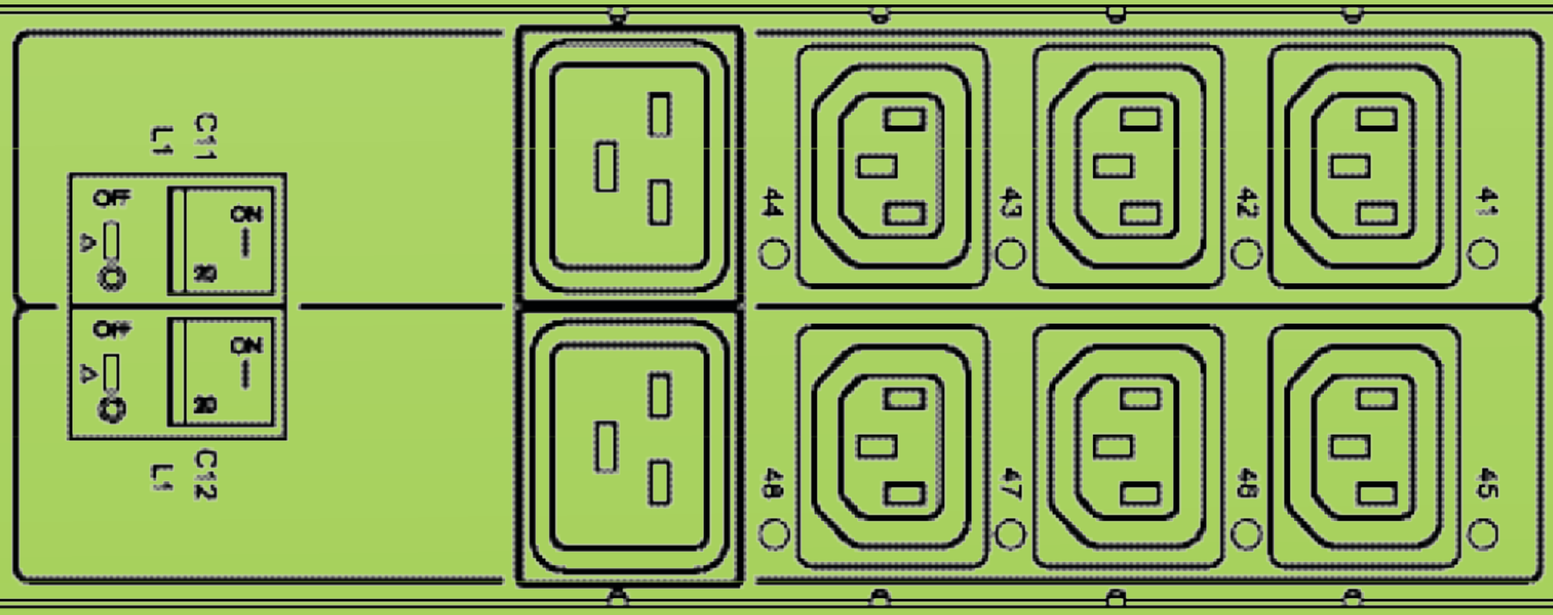
Real-time remote energy metering and power quality monitoring with user defined thresholds and alerts for voltage and frequency.

Raritan®

Monitors power utilization at the inlet, outlet, or PDU branch circuit level to prevent tripped breakers, uncover hidden capacity, and use resources efficiently.

Raritan®

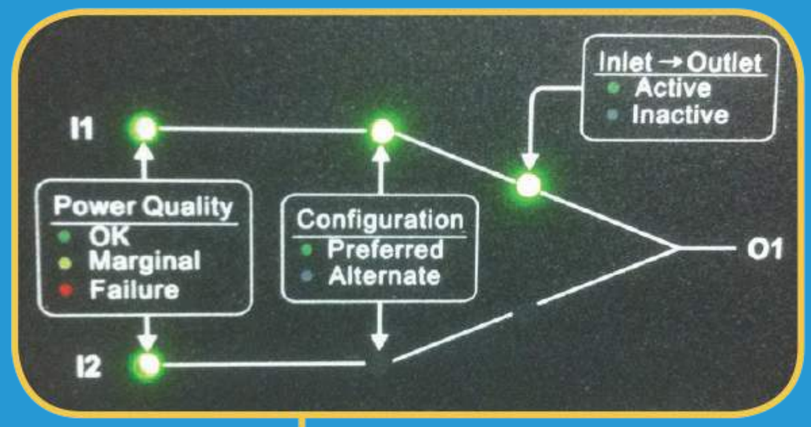
Features outlet-level switching for rebooting hung servers or keeping outlets off to prevent unauthorized access, ensure proper provisioning, and avoid tripped breakers.




Raritan

Multifunction Display


Transfer Switch Indicator Lamps

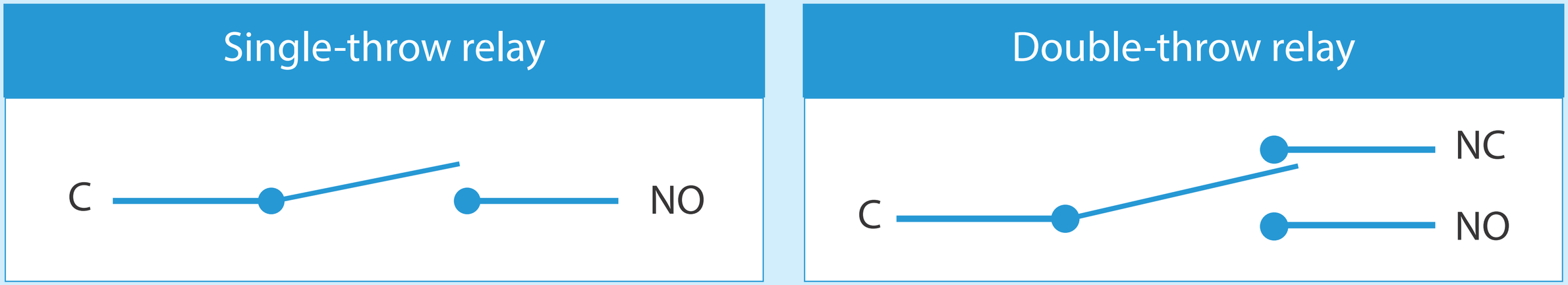



Transfer Switch
Indicators and Controls

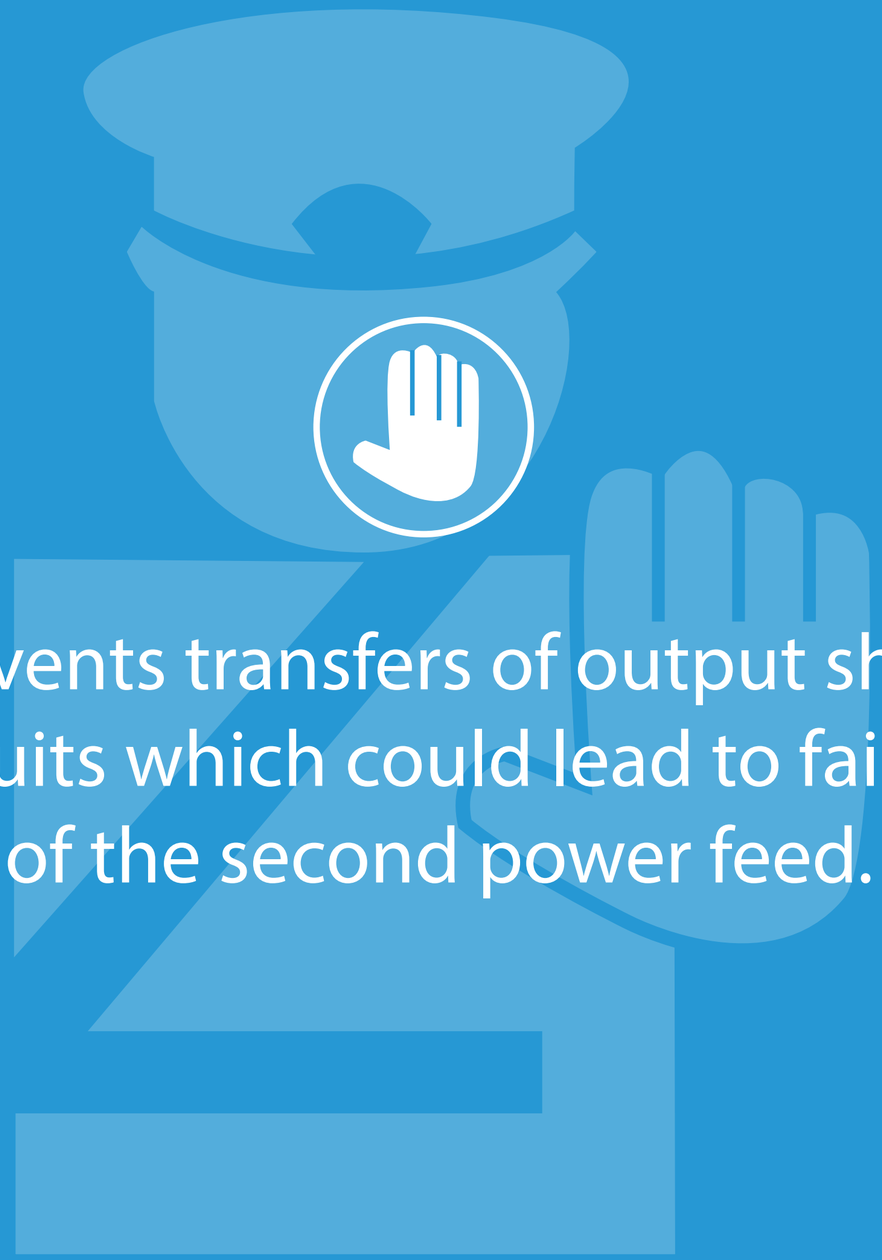

Built-in sensors that detect failed power feeds and ensure break-before-make power transfer from one power source to another within 4 to 8ms.

Raritan®

Support for out-of-phase power transfer by using two single throw relays instead of one double throw relay (a single point of failure) to support reliable transfers regardless of power phase.

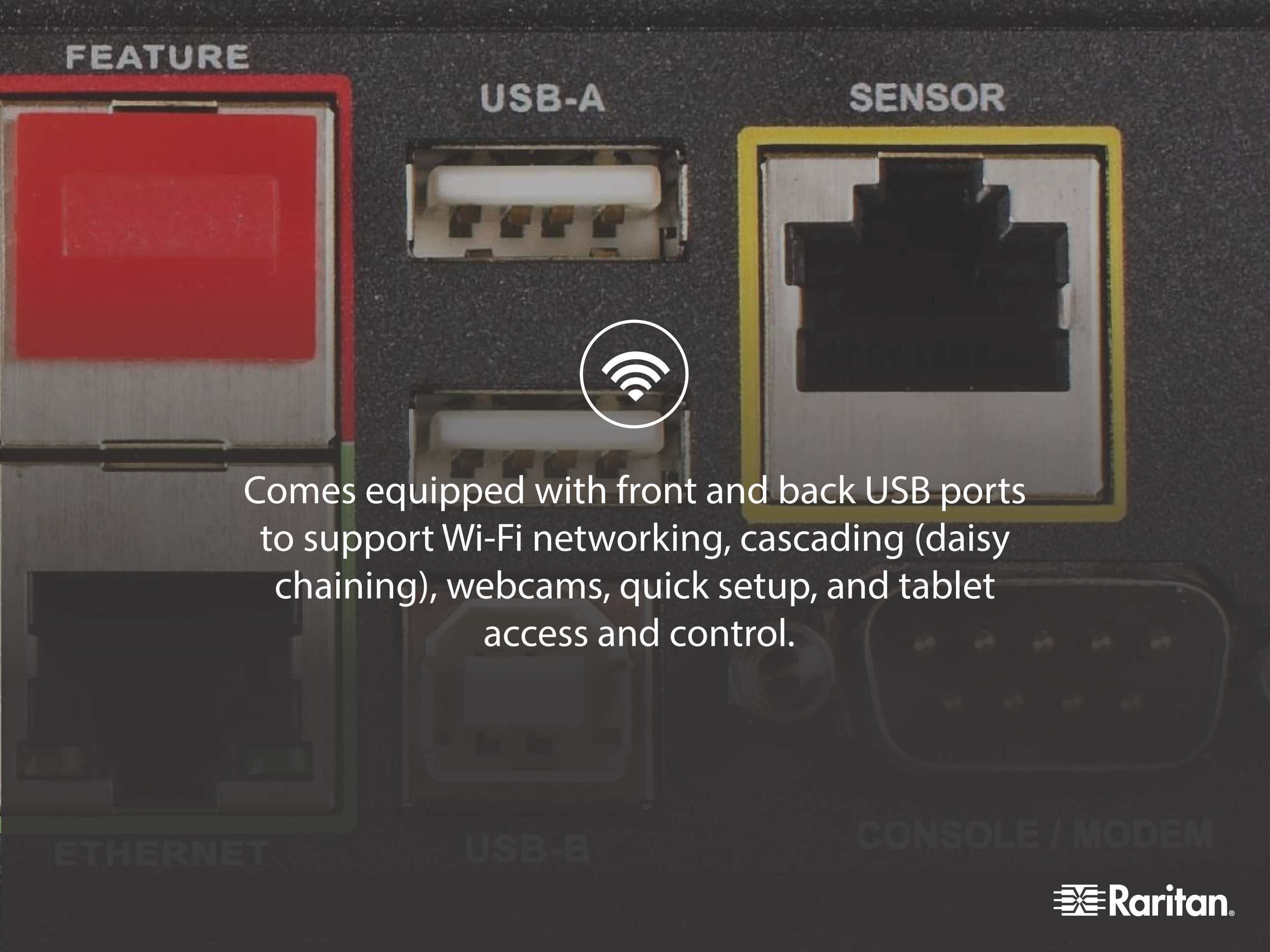



Raritan®



Prevents transfers of output short circuits which could lead to failure of the second power feed.

Raritan®




Comes equipped with front and back USB ports to support Wi-Fi networking, cascading (daisy chaining), webcams, quick setup, and tablet access and control.

Raritan®

Features ports for plug-and-play environmental sensors that allow you to set thresholds and receive alerts to monitor critical environmental conditions.

Raritan®

Seamlessly integrates with Raritan's Power IQ® DCIM Monitoring solution for effective data center power infrastructure management.

Raritan®

Learn more about Raritan's innovative hybrid rack transfer switch or speak to a data center power management expert today!

Learn More About the Product

Schedule an Online Demo


Raritan®