

The fastest chiller restart after power failure



Ensure the fastest chiller restarts with Quick Start feature

Temperature-sensitive operations such as data center, pharmaceutical, and manufacturing facilities require constant cooling for equipment and processes. If power fails and cooling is interrupted, critical operations may also fail—risking millions of dollars in equipment failure and operational downtime.

Now there's a sure way to reduce the risk of cooling disruption—the Quick Start feature from Johnson Controls. This feature for YORK® centrifugal chillers with OptiSpeed™ variable-speed drive can save you both time and money by:

- Reducing time for chiller restart after power failure
- Rapidly re-establishing chilled-water temperature
- Keeping process equipment cooled
- Reducing risks of expensive downtime
- Providing a faster initial start, too

Reduce restart time to seconds

After power is interrupted, it can take a standard centrifugal chiller many minutes to restart. But with the Quick Start feature, once power is restored, the chiller can restart in as little as 25 seconds!

However, we understand that your application does not just require the chiller to restart, but needs the fastest delivery of chilled water at the design temperature. In Figures 1, 2, and 3 on the next page, restart times are measured from the moment the power fails, and the backup generator is assumed to have established emergency power in 15 seconds.

Faster restarts due to smarter power management

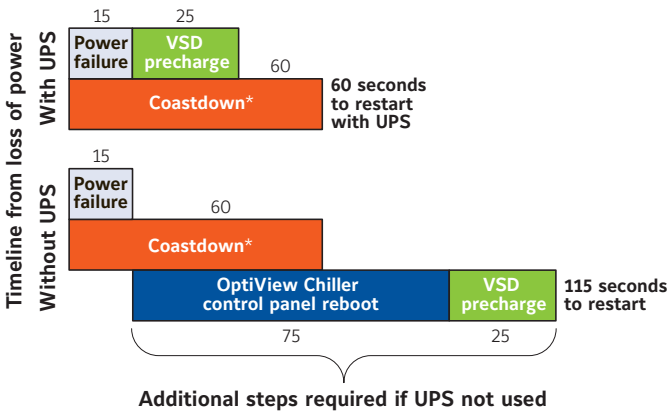
The Quick Start feature is available in two configurations, for use with or without an uninterruptible power supply (UPS):

Quick Start feature without UPS is fast:

- Once emergency power is established, the chiller can restart as soon as the OptiView™ control panel reboots (75 seconds) and the OptiSpeed drive precharges (25 seconds), assuming coastdown of the compressor has been completed. If emergency power is available after 15 seconds, the chiller will restart in 115 seconds after power was lost.

Quick Start feature with UPS is **faster**:

- The UPS keeps the OptiView and OptiSpeed control circuits energized and the oil heater operative until the emergency generator is activated, which eliminates the need for control panel reboot. The chiller will restart in 60 seconds after power was lost.



*Coastdown time for a 500-ton chiller

Figure 1: Required steps when power interruption occurs with and without UPS.

Faster restart restores specified leaving chilled-water temperature quicker

The Quick Start feature not only minimizes chiller restart time, it reduces the time required for the re-establishment of the design leaving chilled-water temperature (LCHWT). The Quick Start feature utilizes accelerated loading logic, with the inlet vanes fully open, to re-establish the specified leaving chilled-water temperature faster. While the actual time to re-establish the LCHWT will depend on plant design, compressor size, and operating conditions, a chiller equipped with the Quick Start option can cut the time by as much as 70%.

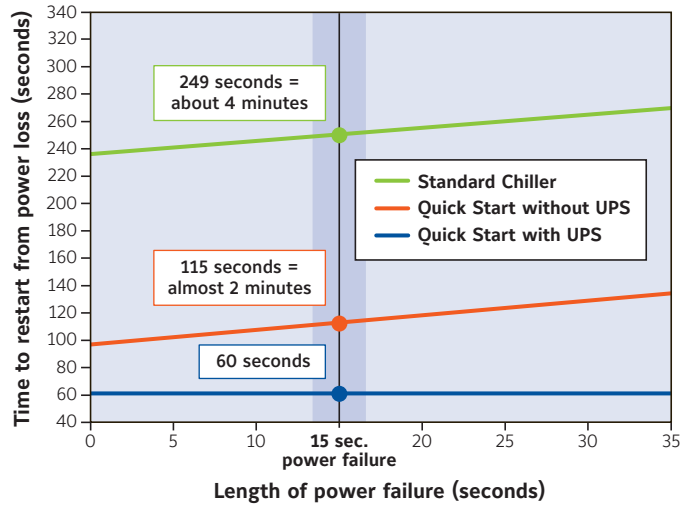


Figure 2: Restart times for 500-ton chiller.

Proven performance

With over 100 Quick Start installations in the field, you get the peace of mind knowing your chillers – and your operation – can be protected from the consequences of power failure by Johnson Controls.

For details on how the Quick Start feature can protect your application, contact your nearby Johnson Controls sales office today.

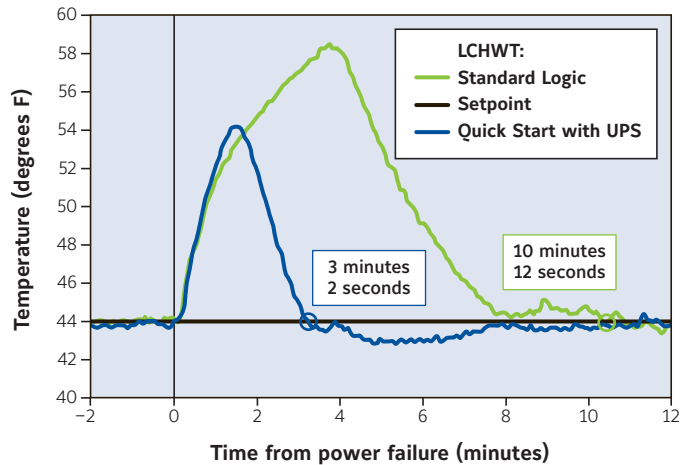


Figure 3: Time to re-establish LCHWT for 500-ton chiller at low load.