



CASE STUDY

Data Center

Facility at a glance

Name
Manhattan Data Center

Location
New York, USA

Solution
(3) Daikin Maverick® II commercial rooftop units and Intelligent Systems®

Photograph: iStockphoto

The Sales and Service branches of the Daikin Applied New York office worked together and identified a solution to the customer's requirements.

Daikin Intelligent Systems Solves Manhattan Data Center Dilemma

Business Growth Required More Cooling and More Control

Issues

A corporate data center in New York had two 50-ton Maverick II units installed with the second unit providing critical redundancy. As the number of servers installed in the space grew, the cooling load in the data center grew as well. The second Maverick II unit became a primary unit and a third unit was installed to provide redundancy and avoid expensive downtime in case of a loss of cooling.

The data center facility did not have a building automation system and therefore had no way to automatically bring up the backup unit if one of the two primary rooftop units failed. The Sales and Service branches of the Daikin Applied New York office worked together and identified Intelligent Systems as the solution to the customer's requirement for rooftop sequencing, remote access, and alarm notification.

Solution

Intelligent Systems was set up with three ancillary control loops. One loop monitors the status of the two primary units. If the software program recognizes an alarm status in either of those two primary units, it initiates the startup of the third rooftop unit to meet the cooling load requirement. Another loop monitors the discharge air temperature of the two primary units and the discharge air set point. If the discharge air temperature exceeds the set point by 10 degrees for 30 minutes, then the third rooftop unit is started and the rooftop producing the insufficient cooling is shut down.

All three loops are programmed to send alarm notifications using the email feature of the software. Whenever a primary rooftop unit is shut down by any of the ancillary loop control sequences, the software emails a message notifying the data center response team (facility staff and their mechanical contractor) that a unit has shut down. When the control sequence has started the third unit, the software monitors the status of the third rooftop and sends a message notifying the response team that the back-up unit is indeed running.

Outcome

Since completing the Intelligent Systems installation and programming, the building's HVAC service provider has responded to alarms prior to the site even knowing that a problem occurred. Critical cooling is maintained and the data center servers continue to function reliably.

