



- Climate zones
- Cooling circuits
- Planning of cooling capacity
- Threshold value analysis
- Revision security
- Historization



// FNT Command Aircon

Transparency and Control of Cooling Circuits and Climate Zones for
Efficient Use of Data Center Climate Resources

Almost half the energy consumed by a typical data center goes on climate control. Since performance demands are constantly changing, it is essential to have an effective means of planning, analyzing, and monitoring climatic conditions in order to make the most efficient use of data center resources – before, during, and after changes to the IT infrastructure. The challenge for data center managers is to ensure that the new processing capacity and the resulting change in heat output is perfectly matched by the available cooling resources.

As a centralized DCIM and asset management package, FNT Command provides precision planning capabilities and predictive analytics to manage all network, server, load, power, and cooling capacities and ensure resource-efficient deployment of all data center assets. When planning cooling circuits and climate zones, the Aircon module provides all the functionality required for coherent management of climate conditions in the data center. It enables managers to plan, monitor, and manage climatic load and performance by room, rack, or climate zone with a high degree of precision. The

cooling circuits and climate devices, as well as the usage of these assets, are documented and monitored with regard to threshold values. Automatic threshold checks assist the user when planning and implementing changes and ensure the most efficient climate control possible. Predefined reports provide all key metrics on the relationship between thermal load and climate performance in individual rooms or racks.

Management of Climate Components

Climate control equipment is collectively referred to as “climate components” and can be documented in full. In addition to technical data and the allocation of devices, climate zones, and climate circuits to a specific climate device, it is possible to store contract and personal data. This enables managers to reproduce internal organizational structures and quickly identify the relevant contact person in the event of a fault.

Climate components are grouped into three categories based on their function:

- Climate generators produce cooling capacity and pass it to a cooling circuit.
- Heat exchangers take this cooling power from a climate generator via a separate cooling circuit and pass it to the climate devices.
- Climate devices take the cooling power from the heat exchangers or directly from the climate generator and pass it to the respective climate zones.

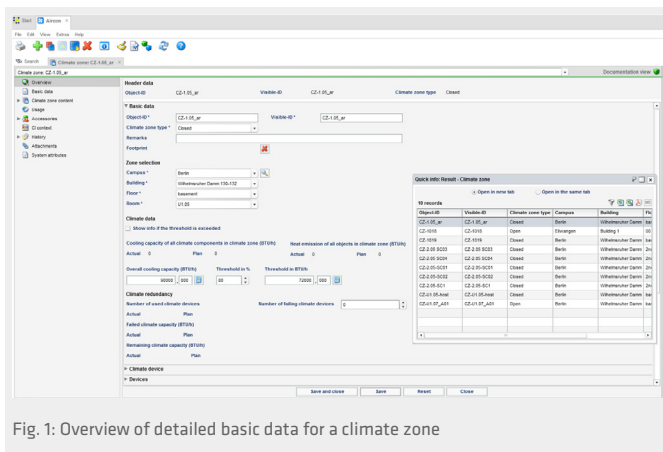


Fig. 1: Overview of detailed basic data for a climate zone

Climate Zones

A climate zone is a specific area within a room in which objects are located and assigned. Each climate device can be assigned to multiple climate zones. There are two types of climate zone:

- Open climate zones: These are areas of a room to which climate and other devices are assigned. For the components in this type of climate zone, the threshold value calculations (thermal load and cooling capacity) are based on the threshold values for the zone and the room.
- Closed climate zones: These are climatically self-contained areas within a room, e.g., sidecoolers or cold aisle containment systems. In closed climate zones, threshold values are only calculated for components within the zone. The cooling capacities and thermal loads of climate and other devices within a closed climate zone are not taken into consideration when calculating threshold values for the entire room.

Cooling Circuits

A "cooling circuit" is a continuous fluid circuit comprising climate devices, heat exchangers, and climate generators, which allows realistic documentation of climate control systems. A distinction can be made between refrigerant and cooling-water circuits.

Threshold Value Calculations

The technical data for devices in a climate zone is automatically used to calculate threshold values. The standard manufacturer's data is provided for each object, with the option of adding empirical values.

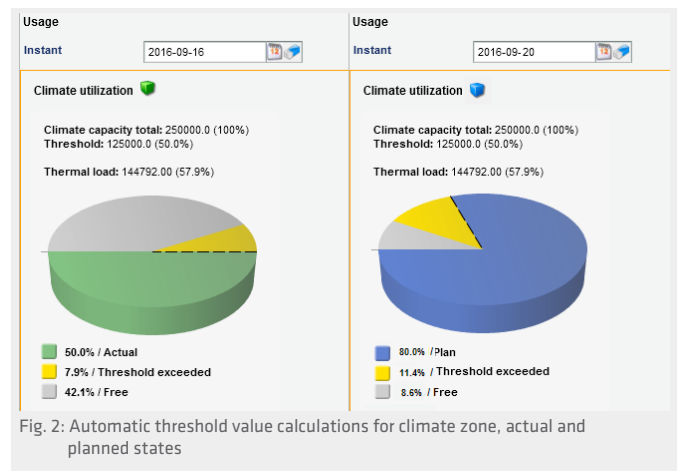


Fig. 2: Automatic threshold value calculations for climate zone, actual and planned states

Reports

The Aircon module includes a range of predefined reports that offer a detailed insight into climate conditions in each zone, room, or rack. Reports can be generated for specified dates and cover the actual and planned states of all IT infrastructure at that time. There are also extensive search and query functions that can be used to filter records in each administrative area and export the resulting data in Excel format.

Attachments and History

Files can be attached to all objects. The history of each object is fully traceable for maximum revision security.

Graphical Representation

In conjunction with the optional Data Center Cockpit module, it is possible to view, analyze, and plan climate zones in a special "footprint" view. The relevant components are color-coded for easy identification.

System Requirements

The FNT Command C base module is a prerequisite for using the Aircon module. The Data Center Cockpit module is also recommended for comprehensive data center management.