



Public

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**Operating Manual
D-EOMOC04109-26_00EN**

iDataCentre Manager Air side



iDCM Airside Versioning

Revision	Software Version	Changelog
0 –09/2026		First issue

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1 WHAT IS IDCAM AIRSIDE

1.1 iDCM AirSide Description

iDCManager Airside is the next-gen smart airside control software system released by Daikin Applied Europe. It is a highly specialised solution designed to monitor and control airside equipment, for controlling and monitoring airside equipment.

iDCManager Airside has an intuitive HTML5 interface, effortlessly accessible across any web browser. Users gain real-time insights into plant performance, compare equipment efficiency, chart historical data, and monitor alarms.

For maximum flexibility, the platform also includes a dedicated Plant Manager page, enabling manual control of airside devices directly from the interface.

1.2 Datasheet

Product Name	iDataCentre Manager Airside
Summary of Features	Application-wide functionality: • Feature rich HTML5 user interface • Multi-language support (English, Italian, Traditional Chinese, Simplified Chinese) • Alarming • Charting • History Air-side Equipment Management functionality: • User-friendly data hall zone visualization • Single zone supervisory control • Centralized setpoint control • Remote equipment mode control • Remote equipment start/stop • Manual user override for all controls • Scheduled temperature setpoints setup for data hall zones • Plant cooling call calculation
Applicable system type	• Support for Air Cooled side:
Equipment compatibility	Air Side Equipment • Daikin PRO-C • Daikin PRO-W • Daikin-PRO-WS • Daikin CDU
Equipment count	• Five Sizes: ○ Up to 12 Air-Side units ○ Up to 24 Air-Side units ○ Up to 36 Air-Side units ○ Up to 48 Air-Side units ○ Up to 68 Air-Side units
Equipment limit	• The integration of different devices under the same iDCM AirSide controller is not possible.
Applicable sectors	• Datacenter
Web user interface technology	• Accessible via standard web browser without need for proprietary tools. • Desktop & tablet access. • Secured by HTTPS protocol User access level control. • Read only access for general user, operator access for plant manager user, engineering access for commissioning user.
Hardware platform	DMC400 series: • Quad-core Cortex-A53 (ARMv8) 64-bit SoC @ 1.4Ghz • 2GB DDR4 SDRAM, 8GB eMMC storage

	• 2 x 10/100/100 Mbps ethernet ports • 24 VAC +20% / -15%, 24VDC +/-3% • 9.6VA AC/300mA DC. When supplying 4 x PU to PJ Panel Bus max consumption is 60VAAC or 700mA DC • 2x RS-485 – Modbus RS485, BACnet MSTP. Isolated ports
Environment	Operating Temperature -20°C to +60°C Relative Humidity Range 10 – 90% RH, non-condensing
Software platform	Niagara N4 framework, developed by Tridium

Table 1 - iDCManager Airside Datasheet

1.3 Licensign

According to the number of devices to be integrated and managed, five different sizes of iDCManager Airside are suggested:

- Up to 12 Air-Side units
- Up to 24 Air-Side units
- Up to 36 Air-Side units
- Up to 48 Air-Side units
- Up to 68 Air-Side units

The license is strictly related to the size of the iDCManager Airside and it is unique for the controller inside iDCManager Airside.



In case of changes in configuration that can increase the number of devices integrated and possible request of a different license, iDCManager Airside stop working.

1.4 iDCM Primary side compatibility

iDCManager Airside is fully compatible with iDCManager Primary Side, providing a unified and scalable control architecture for datacentre applications.

When used together, the two systems provide comprehensive monitoring and control of both the Primary Side and the Airside.

This configuration allows operators to supervise, compare, and coordinate plant operation from a single interface, ensuring consistent data flow, enhanced system efficiency, and simplified maintenance procedures.

By integrating iDCManager Airside with iDCManager Primary, users achieve full visibility and unified management of the entire HVAC infrastructure, encompassing both chilled water generation and air handling systems.

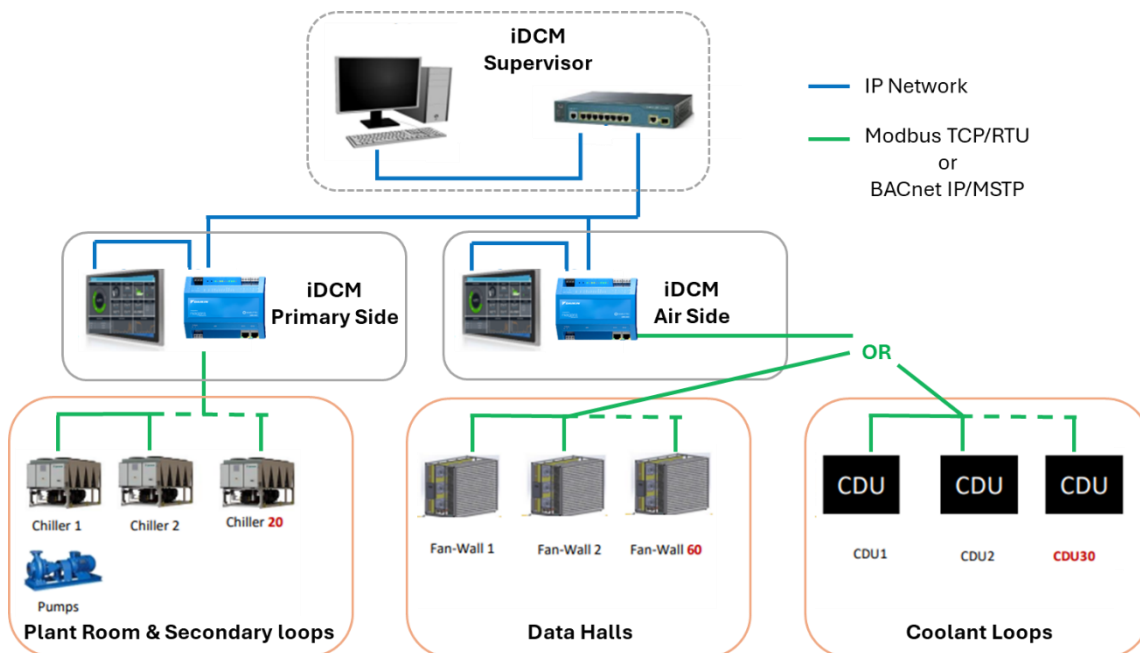


Figure 1- iDCM integrated system with FanWalls or CDUs

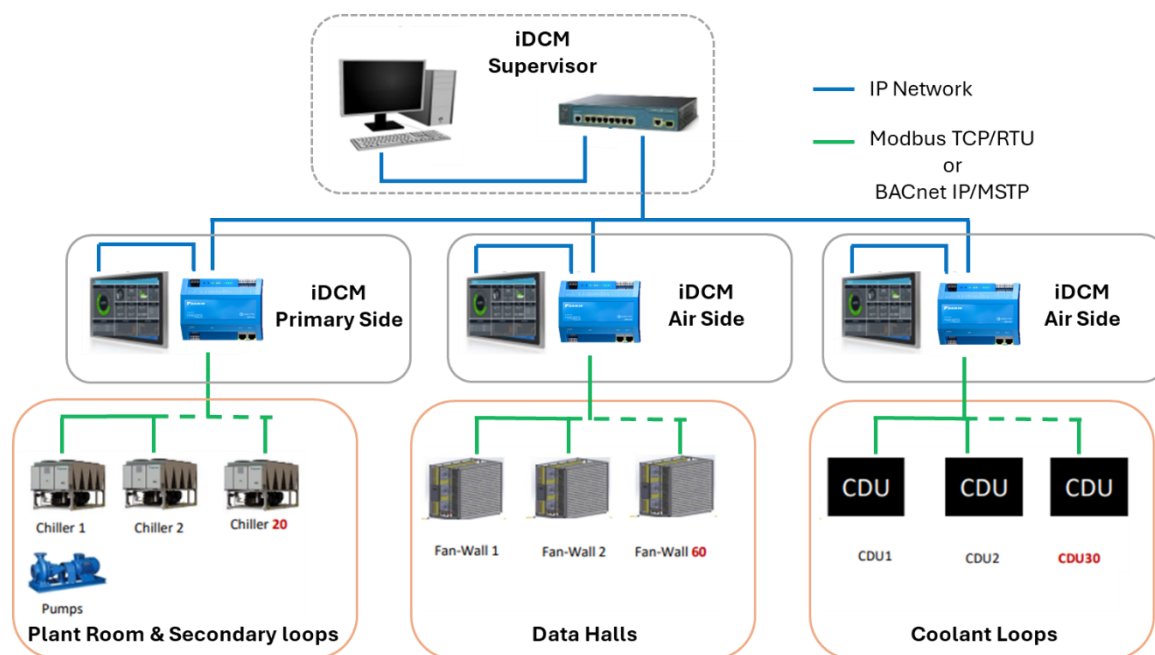


Figure 2 - iDCM integrated system with FanWalls and CDUs

iDCM Supervisor is a higher-level monitoring and management platform designed to supervise both iDCM Primary side and iDCM Air side.

iDCM Supervisor advanced data analysis, reporting, and centralized control capabilities.

However, iDCM Supervisor is supplied as a separate system, quoted independently by the Daikin Applied Europe, and is not included within the scope of this manual.



The integration of Fan-Walls and Cooling Distribution Units under the same iDCM AirSide controller is not possible.



For more details on iDCM Primary side, please refer to D-EOMACIDCMAC_01EN manual.

2 INSTALLATION MANUAL

2.1 Hardwired Connections

iDCManager Airside is equipped with an I/O module for the integration of up to eight universal inputs.



The addition of each input must be agreed directly with the factory.

Please refer to iDCManager Air side Electrical Diagram for detailed information.

2.2 iDCManager Airside Network connection

iDCManager Airside manages the compatible air side Daikin devices through Modbus/RTU Communication Network. iDCM Airside provides 2 Modbus RS485 ports. These can be extended to up to 10 ports using up to 2 Modbus RTU extended modules.

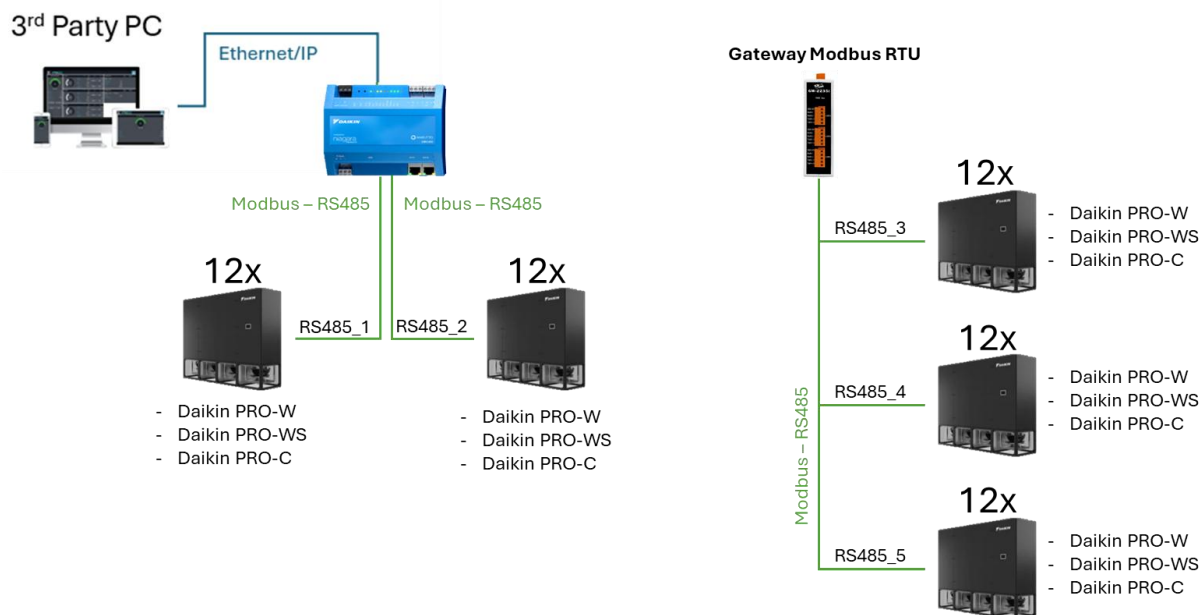


Figure 3 – iDCM Airside Network connection



The number of devices that can be connected in a daisy chain depends on the total distance of the physical connection.



Device connection via TCP/IP network is not directly supported.

For any configuration of this type, please contact the factory for verification and specific instructions.

In any case, the connection of serial devices over TCP/IP must be performed exclusively on the customer's network, in compliance with local security and network configuration policies.

2.2.1 iDCM Airside Modbus Network installation

It is important to respect the below limitation to avoid instability in the communication network:

- 3-wire cable Twisted and Shielded
- Electrical characteristics:
 - o Nom. Conductor DCR: 72 Ohm/km
 - o Nom. Capacity: 39pF/m
 - o Nom. Impedance: 120 Ohm
- Bus cable length between 2 Units Max. 700 m
- Total bus cable length Max. 1,000 m



If more than 10 devices are connected to a Modbus network, two resistors 120 Ohm must be connected to the beginning (iDCManager Airside panel RS485 terminals) and to the end of the cabling (last device RS485 terminals).

Starting from iDCM Airside panel, the RS485 terminals [Ref1, A+, B-] of each devices must be connected in series.

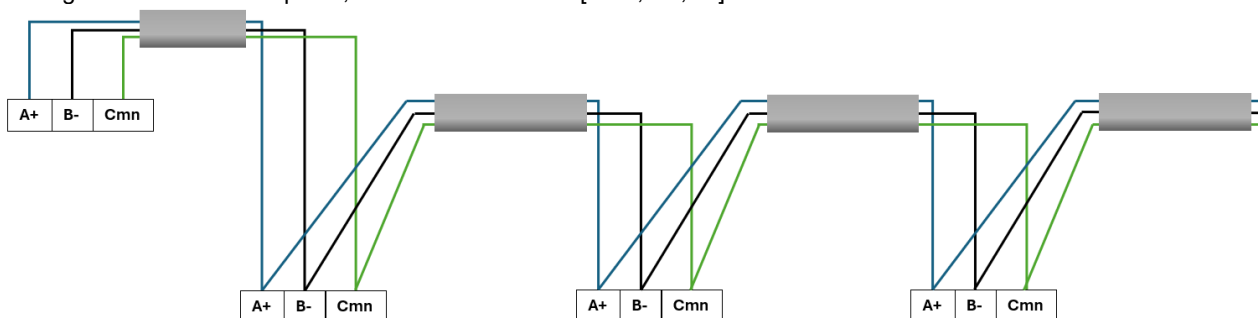


Figure 4 - General Example of Modbus Network



Do not connect additional devices to Modbus network except of iDCM Airside compatible devices



Star or tree configuration of the Modbus network are not supported and they can cause communication issues.

2.3 iDCManager Airside Interface

It is possible to access the iDCManager Airside interface connecting the Ethernet Port to any computer using any web browser.

If a web browser on a third-party support device is not available, iDCManager Airside cannot be accessed.

The cable to be used is:

- Type: Ethernet CAT6A LSZH.



A computer or touch panel is not part of Daikin provision.

3 NAVIGATION

iDCManager Airside is provided with a web interface. This interface can be accessed through any web Browser (MS Edge, Google Chrome, Firefox, etc).

User needs to connect a Personal computer or tablet through an ethernet cable to the iDCManager Airside controller Ethernet port.

iDCM Airside Controller has two Ethernet ports configured with default IP address

- Ethernet Port 1 (Eth0):
 - o IP Address: 192.168.1.100
- Ethernet Port 2 (Eth1):
 - o IP Address: 192.168.40.200
- Both Port:
 - o SubnetMask: 255.255.255.0

Typing in the web browser the address <https://192.168.1.100:9092>, the login page will display



iDCManager Airside controller and panel are not provided with a physical interface. User must provide a personal computer or a tablet to access to the controller.

3.1 Login Page

Upon reaching login screen of iDCManager Airside web interface, the user will first be prompted to enter a username and password.

There are three level of access, each of them with specific rights:

- Dashboard: able to access and monitor the plant operation only to the Overview page. Dashboard user has no access to the configuration portal and Plant manager view.
- PlantManager: PlantManager user operate manually the device of the plant. PlantManager can monitor the whole system and override commands and setpoints for Air Side devices.
- Configurator: Config user can commission an iDCManager Airside project installation and edit plant design information and control parameters. Config user can change configuration of iDCManager Airside, to change settings of the control functions, to override commands and setpoints for each device, monitor the whole system.

MasterStation

Username: proConfig

Password:

Login

Figure 5 - Login Screen

3.2 Navigation Menu

According to access level a different menus can be accessed.

In case of PlantManager level, only monitoring pages will be displayed. User can monitor the main information and access to “Alarm” page.

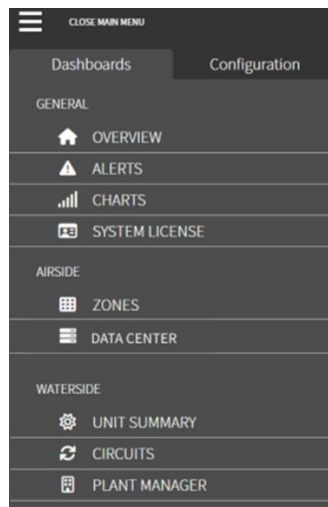


Figure 6 - PlantManager Menus

In case of Configurator level, user has access to PlantManager menus, Configuration menus:

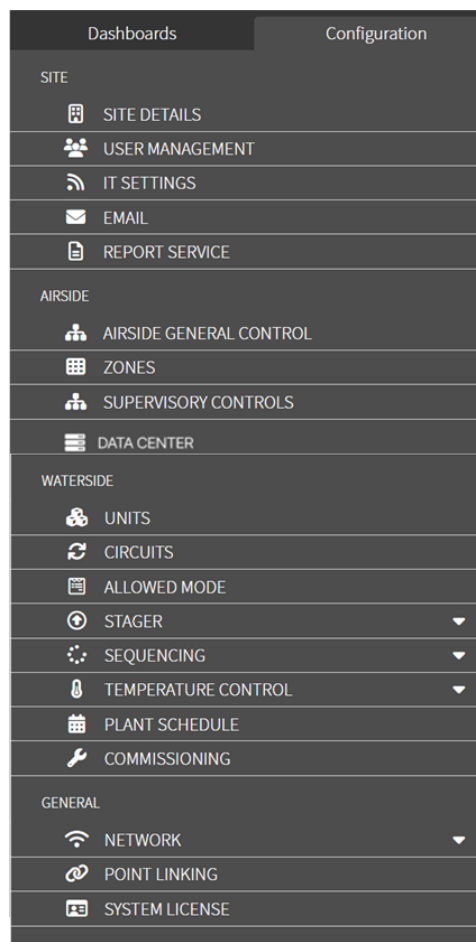


Figure 7 - Configuration Menus

4 CONFIGURATION MANUAL

In the following sections, all the menus of iDCManager Airside configuration for HVAC system will be explained. This chapter is intended to be used by trained Daikin Service engineers and only to check the configuration in iDCManager Airside. Configuration Portal Navigation

The user can navigate around the iDCManager Airside “Configuration Portal” by clicking the menu icon in the top left of the iDCManager Airside screen.



Some menus contain settings to be fine-tuned to grant an optimal management of the iDCManager Airside. Other menus instead are related to configuration of the devices and they should not be modified.

The navigation menu will appear from the left side of the screen as below. Only the highlighted menus are “Configuration” menu

- SITE
 - **Site Configuration**
 - User Management
 - IT Settings
 - Email
 - Report Service
- AIRSIDE
 - Airside General Control
 - Zones
 - **Supervisor Control**
 - **Data Center**
- WATERSIDE
 - Units
 - Circuits
 - Allowed Mode
 - Stager
 - Sequencing
 - Temperature Control
 - Plant Schedule
 - Commissioning
- GENERAL
 - Network
 - Point Linking
 - System License

The user can close the main menu and return to the current screen by pressing 'close main menu' at the top of the navigation menu. The user can also choose to log out of iDCManager Airside by clicking the 'logout' button.

A user can switch to the Dashboard Portal by clicking on the 'DASHBOARD' tab. A series of alternate read-only screens are present within the dashboard portal.

Please refer to the iDCManager Airside User manual chapter for information regarding the iDCManager Airside “Dashboard portal”.

4.1 Site Configuration

Accessing as Configurator user, the first page to display is the Site Configuration menu

SITE DETAILS

Site Name: Daikin Applied HVAC system

SITE CONFIGURATION

Unit Arrangement: Parallel

Currency Code: EUR

CO2 Factor: 0,19 kgCO2e

Electricity Tariff: 0,00 EUR / kWh

Figure 8 - Site Configuration

Site Details and Configuration	
Parameter	Description
Site Name	The site name can be configured here. The site name will appear at the bottom left hand of the screen in the footer after it has been configured
Unit Arrangement	The Unit Arrangement will be configured here. The 'Parallel' option indicates a plant with units in a standard configuration.
CO2 Factor	The carbon dioxide equivalent factor per common unit.
Electricity tariff	The electricity tariff will be configured here.

4.2 Data Hall Configuration

The Data Hall Configuration page allow users to add, delete, and manage Data Halls, individual Thermal Zones within the selected Data Halls, as well as zone equipment associated with the selected zone.



Any Kind of modification of the Configuration (Adding or deleting an equipment) can lead to a malfunctioning of the iDCManager Airside management.



Daikin Service Engineer is allowed only to change "name" to Zone Group, Zone and Equipment, to avoid any wrong configuration.

4.2.1 Data Hall Auto Configuration

To add the Data Hall, click *Add Data Hall* button.

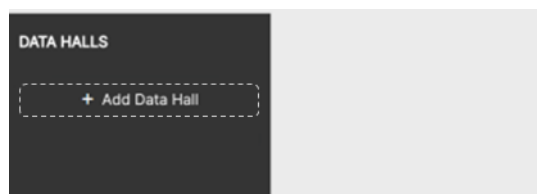


Figure 9 – Adding Data Hall

After clicking the "Add Data Hall" button, an Auto-Configure Data Hall pop-up window appears, allowing the autoconfiguration of the data hall by specifying the number of Cooling Equipment and rack rows. After entering the data and clicking the "Submit" button, the system generates optimal thermal zones with the selected Cooling Equipment and rack rows, arranged according to their physical location.

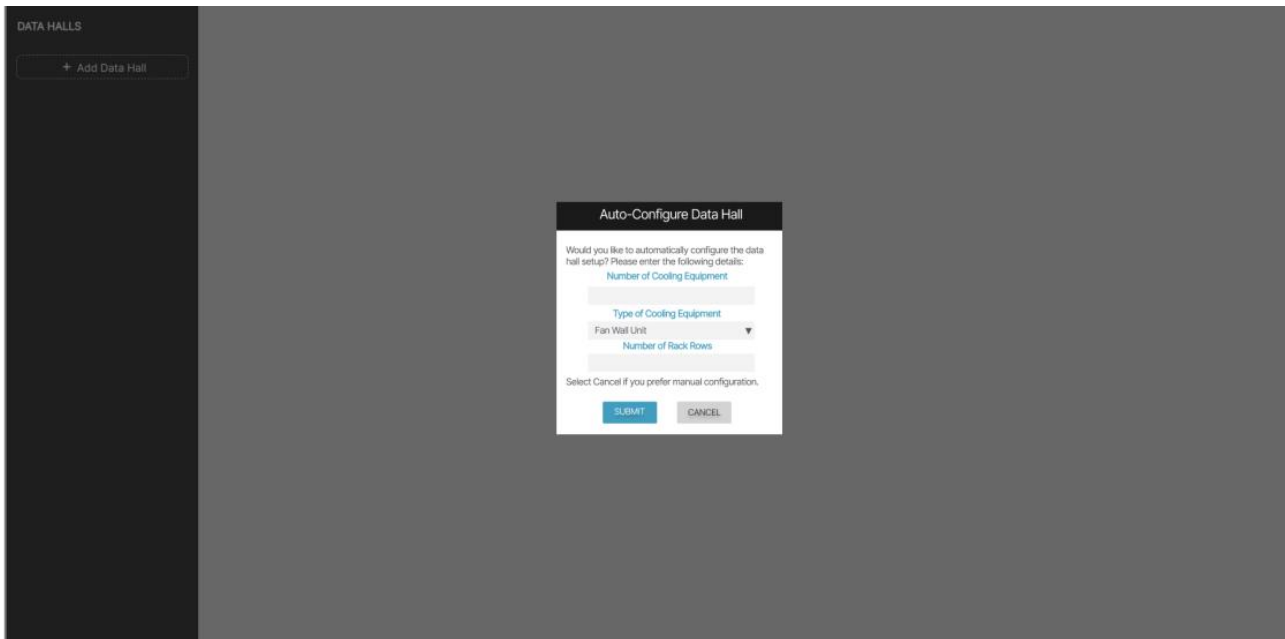


Figure 10 – Auto-Configure Data Hall pop-up

However, once Cooling Equipment and rack rows are created in a selected zone, the equipment can be moved to other thermal zones on the configuration page of the data hall.

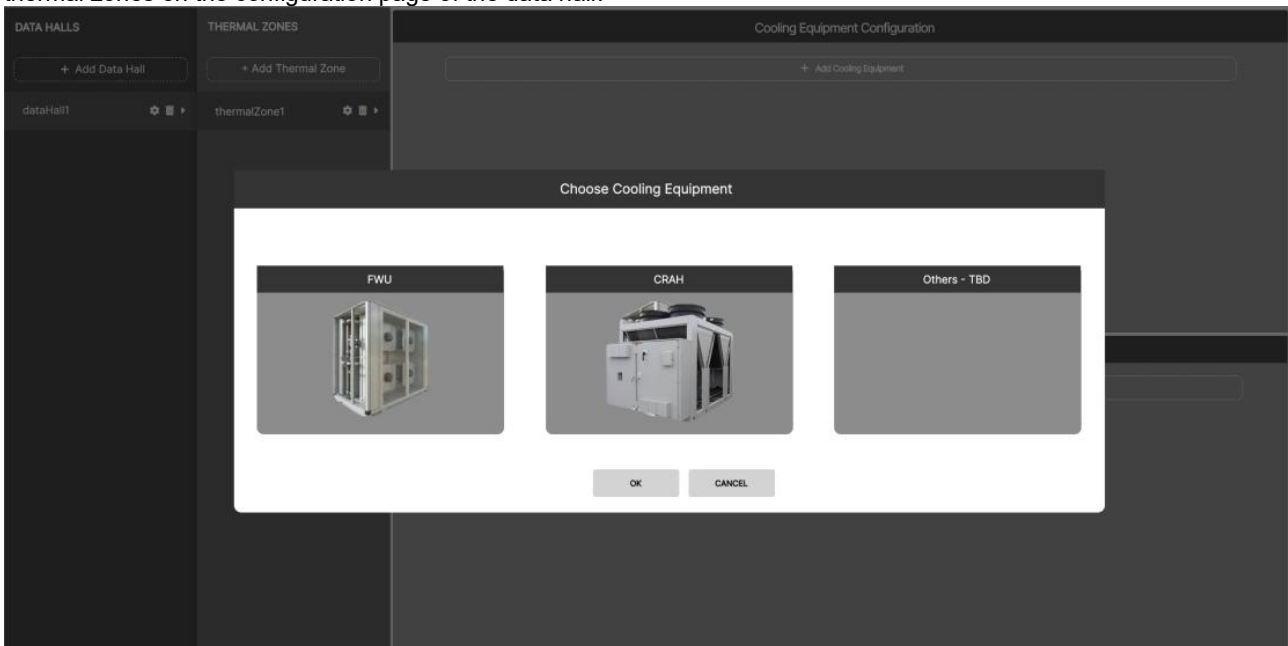


Figure 11 – Choosing cooling equipment

4.2.2 Data Hall Manual Configuration

To add the Data Hall, click *Add Data Hall* button.

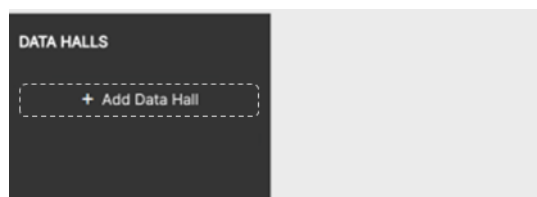


Figure 12 – Adding Data Hall manually

After clicking the "Add Data Hall" button, an Auto-Configure Data Hall pop-up window appears, allowing the autoconfiguration of the data hall by specifying the number of Cooling Equipment and rack rows. After entering the data and clicking the "Submit" button, the system generates optimal thermal zones with the selected Cooling Equipment and rack rows, arranged according to their physical location.

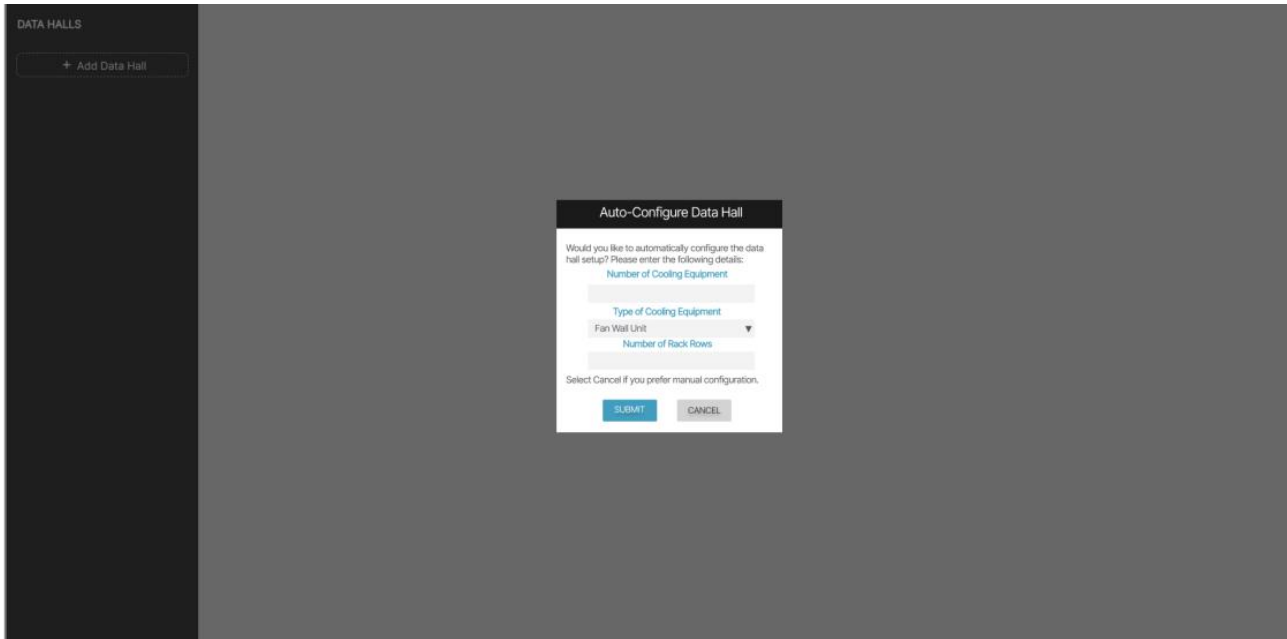


Figure 13 – Auto-Configure Data Hall pop-up

To choose the Data Hall manual configuration, click *Cancel* button.

When the *Cancel* button has been clicked, DataHall1 will be created, and is possible add manually thermal zones by clicking the *Add Thermal Zone* button. The thermal zones will be in order of left to right in the data hall layout.



Figure 14 – Adding a Thermal zone

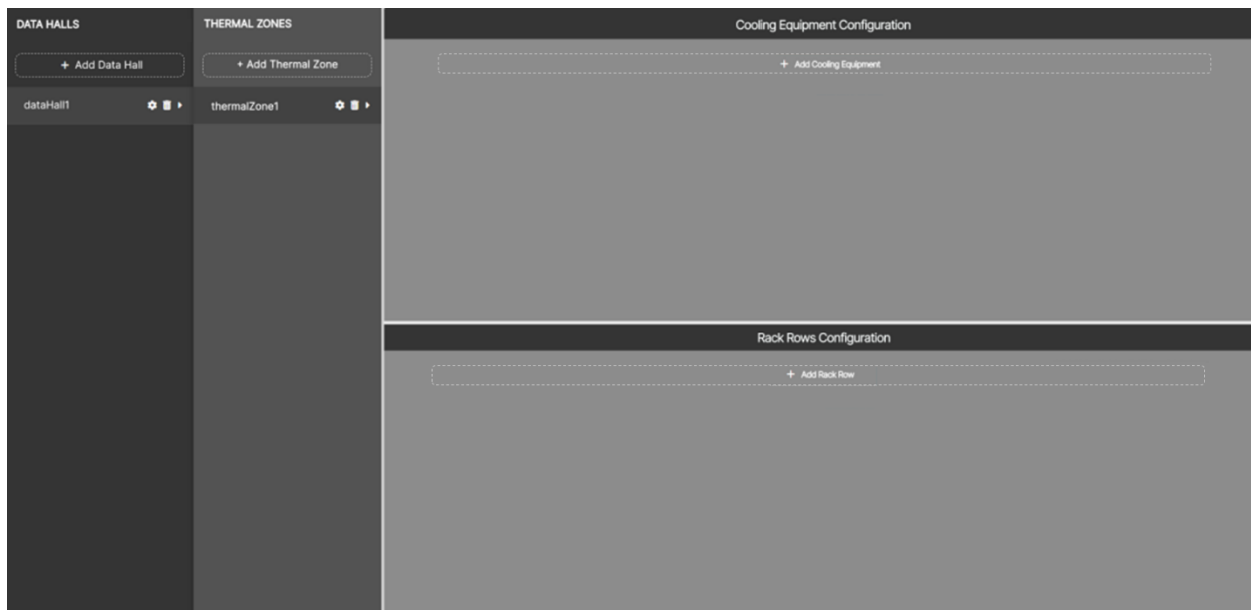


Figure 15 – Thermal zone configuration

There are separate sections for cooling equipment and rack rows. To add cooling equipment or rack rows click either the *Add Cooling Equipment* or *Add Rack Row* button.

When *Add Cooling Equipment* has been clicked, a Cooling Equipment pop up will be displayed.

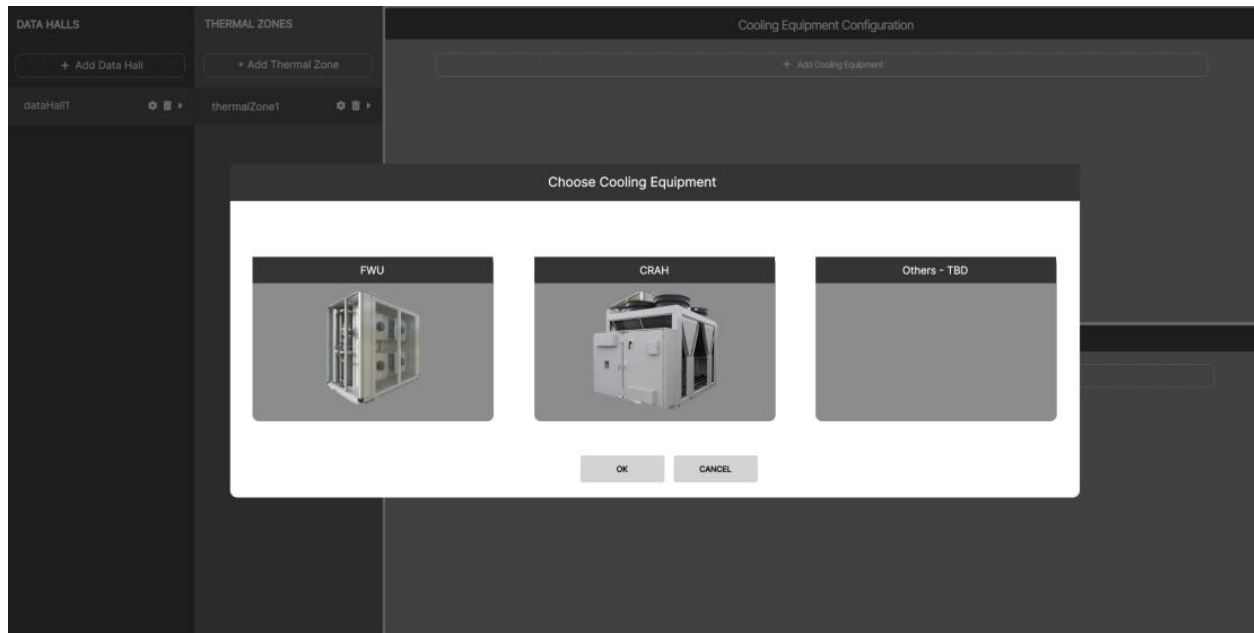


Figure 16 – Choosing cooling equipment

When the "Add Rack Row" button is clicked, no additional popup will appear; instead, a rack row will be automatically added and displayed in the Rack Row Configuration section.

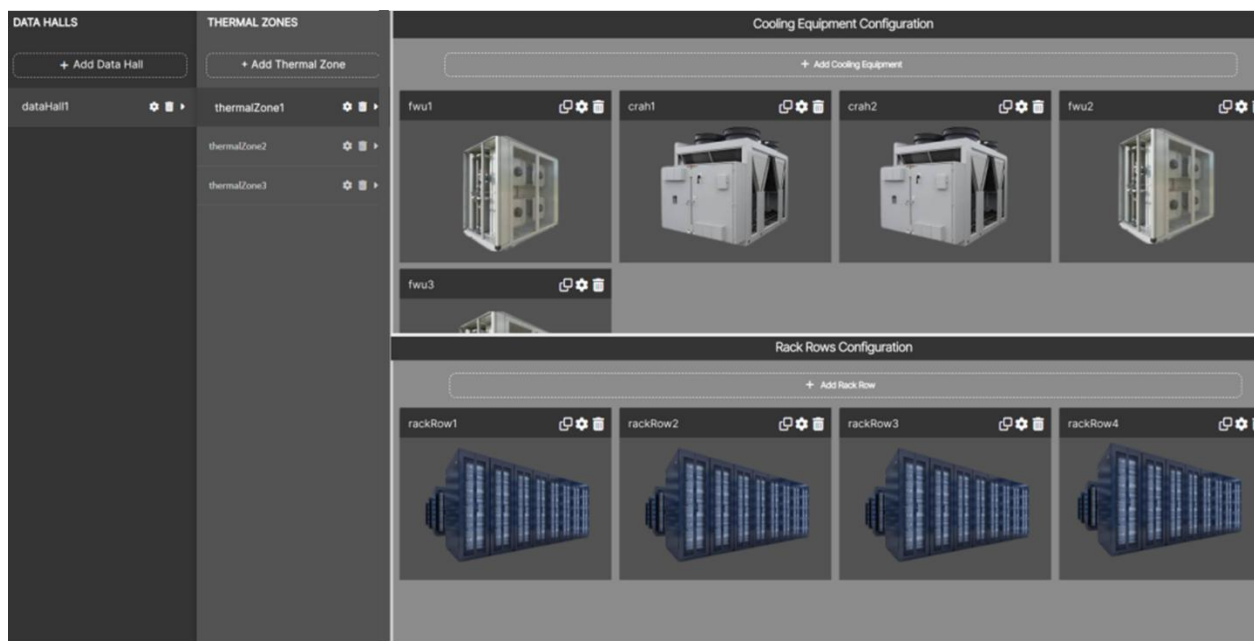


Figure 17 – Cooling equipment configuration page

4.2.3 Data Hall Setting

To configure the Data Hall, click on the gear icon next to the name of Data Hall. A window should appear as displayed below.

Figure 18 – Data Hall Setting

Field	Data Type	Default Value	Min	Max	Description
Display Name	String	-	-	-	Data Hall display name
Fault Compensation Airflow Setpoint Increase (Opposite)	Numeric (%)	-	0%	100%	Percentage change in airflow setpoint applied to an equipment whose opposite pair has gone into fault.
Fault Compensation Airflow Setpoint Increase (Adjacent)	Numeric (%)	-	0%	100%	Percentage change in airflow setpoint applied to an equipment whose neighbour has gone into fault.
Fault Compensation DP Setpoint Increase (Opposite)	Numeric (%)	-	0%	100%	Percentage change in DP setpoint applied to an equipment whose opposite pair has gone into fault.
Fault Compensation DP Setpoint Increase (Adjacent)	Numeric (%)	-	0%	100%	Percentage change in DP setpoint applied to an equipment whose neighbour has gone into fault.
Apply Fault Compensation for Opposite Equipment	Boolean	True	-	-	Whether to adjust setpoints of opposite equipment of faulted equipment.
Apply Fault Compensation for Adjacent Equipment	Boolean	True	-	-	Whether to adjust setpoints of neighbouring equipment of faulted equipment.

Click on the schedule tab to set the schedule for the Zone.

Figure 19 – Data Hall Schedule

4.2.4 Thermal Zone Setting

To configure the thermal zone, click on the gear icon next to the name of zone group. A window should appear as displayed below to change the name.

Figure 20 – Thermal Zone Setting

Click on the schedule tab to set the schedule for the Zone.

Figure 21 – Thermal Zone Schedule

4.2.4.1 Equipment Setting

To configure the thermal zone, click on the gear icon next to the name of zone group. A window should appear as displayed below.

Field	Data Type	Default Value
Display Name	String	-
Supply Air Temperature Setpoint	Numeric (°C)	Data Hall's equipmentSupplyAirTemperatureSetpoint
Min Supply Air Temperature Setpoint	Numeric (°C)	15°C
Max Supply Air Temperature Setpoint	Numeric (°C)	35°C
Flow Control Variable	Flow / DP	DP
Airflow Setpoint	Numeric (L/s)	Data Hall's equipmentAirflowSetpoint
DP Setpoint	Numeric (kPa)	Data Hall's equipmentDpSetpoint
Min DP Setpoint	Numeric (Pa)	10kPa
Max DP Setpoint	Numeric (Pa)	45kPa
Fan Speed Mode	Constant / Fixed Steps / Variable	Variable
Number of Fan Speed Steps	Integer	3
Fan Speed Starting Step Index	Integer	0
Design Fan Speed	Numeric (Hz)	50

DATA HALLS
THERMAL ZONES
Equipment Configuration

+
dataHall1

1. Fan Wall Unit Configuration
2. Call Calculation
3. Schedule

Display Name
Supply Air Temperature Setpoint
Min Supply Air Temperature Setpoint
Max Supply Air Temperature Setpoint
Flow Control Variable
Airflow Setpoint
DP Setpoint
Min DP Setpoint
Max DP Setpoint
Fan Speed Mode
Fan Speed Steps
Fan Speed Starting Step Index
Fan Design Speed

fwu1
0 °C
0 °C
0 °C
Flow
0 L/s
0 Pa
0 Pa
0 Pa
Constant
0
0
0 Hz

Previous
Next
Cancel

Figure 22 – Fan Wall Setting

Click on the Call Calculation tab to set the Call Calculation setting.

DATA HALLS
THERMAL ZONES
Equipment Configuration

+
dataHall1

1. Fan Wall Unit Configuration
2. Call Calculation
3. Schedule

Call Calculation Variable
Cooling Call Weight
Excludes from Cooling Call Calculation
Overrides Cooling Call Calculation

Valve Position
1.00
Yes No
Yes No

Previous
Next
Cancel

Figure 23 – Call Calculation setting

Field	Data Type	Default Value
Cooling Call Calculation Variable	Valve Position / Fan Speed	Valve Position
Exclude From Cooling All Calculation	Boolean	False
Cooling Call Calculation Weight	Numeric	1.0
Overrides Cooling Call Calculation	Boolean	False

Click on the schedule tab to set the schedule for the Equipment.

DATA HALLS

THERMAL ZONES

Equipment Configuration

dataHall1

1. Fan Wall Unit Configuration

2. Call Calculation

3. Schedule

Fan Wall Unit Configuration

WEEKLY SCHEDULE

SPECIAL EVENTS

SUMMARY

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
3:00 AM							
6:00 AM							
9:00 AM							
12:00 PM							
3:00 PM							
6:00 PM							
9:00 PM							

Event Start

Event Finish

Event Output

12:00 AM

12:00 AM

☐
false

Schedule Mode

Use Zone Group Schedule

Use Custom Schedule

Previous

Next

Cancel

Figure 24 – Equipment Schedule

4.3 Coolant Loop Configuration

The Data Hall Configuration page allow users to add, delete, and manage Data Halls, individual Thermal Zones within the selected Data Halls, as well as zone equipment associated with the selected zone.

The Coolant Loop Configuration page allow users to add, delete, and manage Coolant Loop, individual Cooling Distribution Units within the selected Coolant Loop.

To add the Coolant Loop, click *Add Coolant Loop* button.

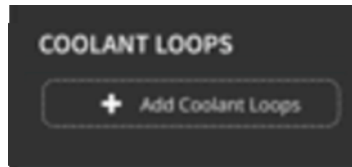


Figure 25 – Adding a Coolant Loop

When the *Add Coolant Loops* button has been clicked, Coolant Loop will be created.

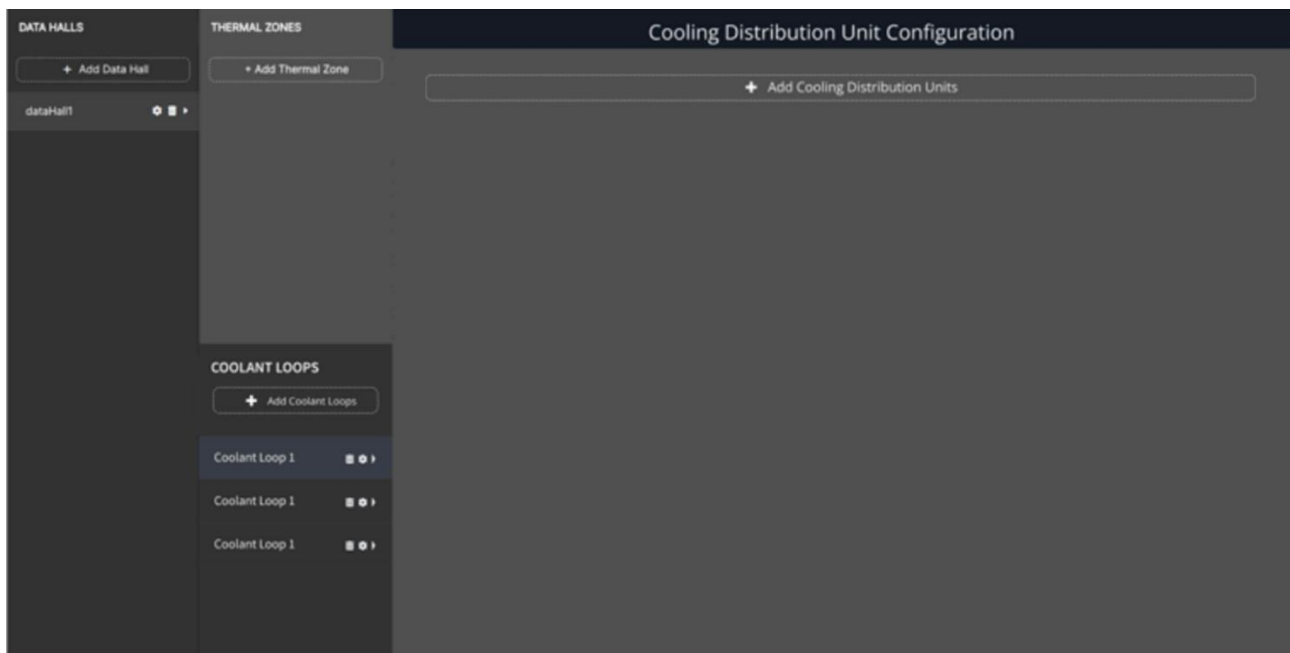


Figure 26 – Coolant Loop menu

4.3.1 Coolant Loop Setting

To configure the coolant, click on the gear icon next to the name of coolant loop. A window should appear as displayed below to change the name.

Figure 27 – Coolant Loop Setting

Click on the schedule tab to set the schedule for the Coolant Loop.

Figure 28 – Coolant Loop Schedule

Click on the Associated Rack Row tab to link the selected Coolant Loop to the available rack rows.

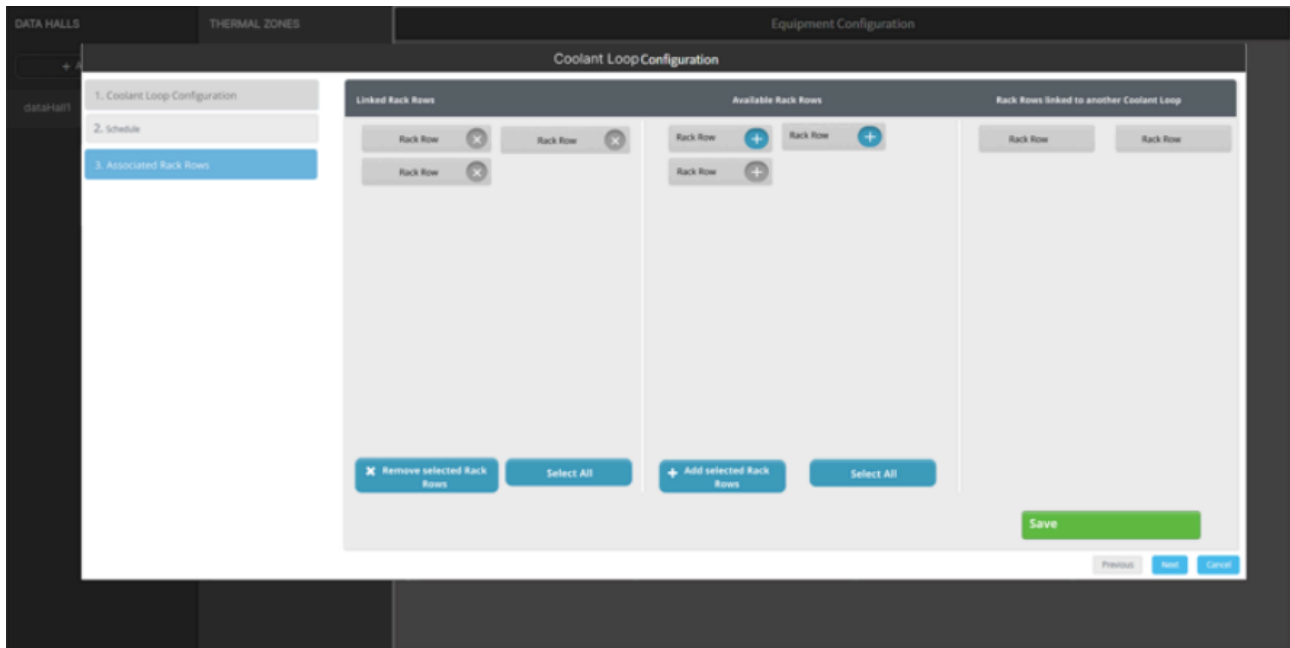


Figure 29 – Coolant Loop associated rack row

When a new coolant loop is added, the widgets to add and access CDUs show up.

4.3.2 Cooling Distribution Unit Setting

To add the Coolant Loop, click *Add Cooling Distribution Units* button

To configure the CDU, click on the gear icon next to the name of CDU.

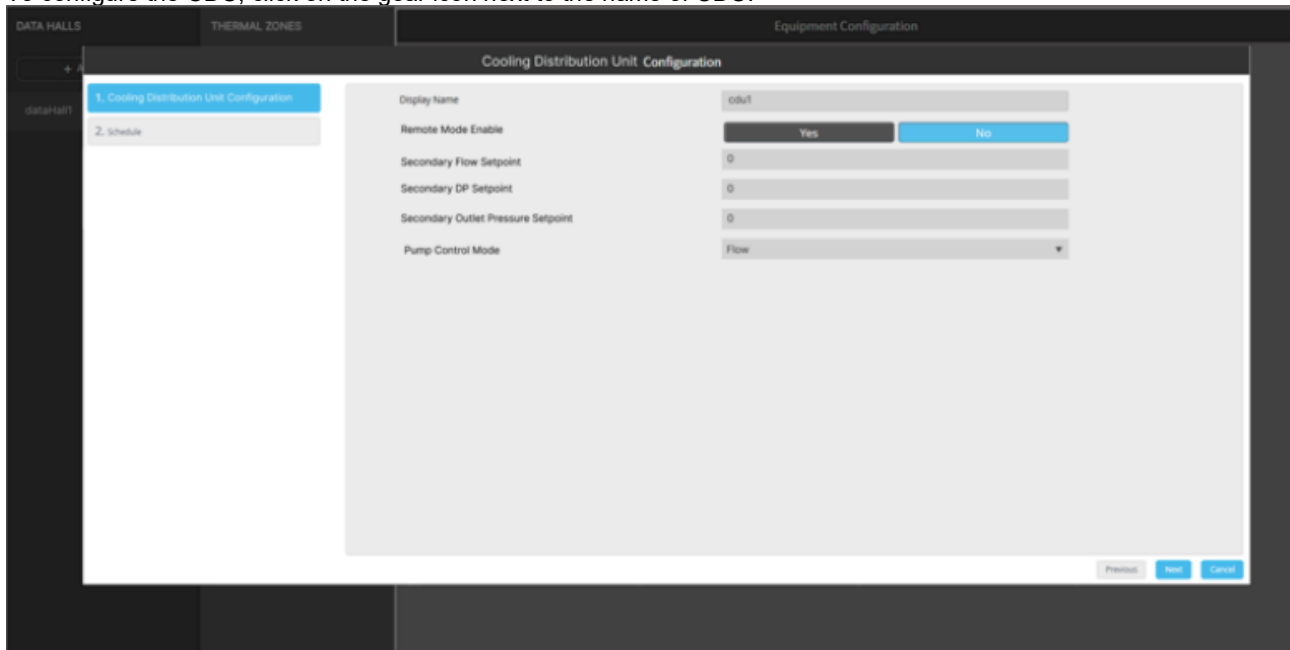


Figure 30 – Cooling Distribution Unit Setting

Field	Data Type	Default Value
Display Name	String	-
Remote Mode Enable	Boolean	False
Secondary Flow Setpoint	Double (L/s)	-
Secondary DP Setpoint	Double (kPa)	-
Secondary Outlet Pressure Setpoint	Double (kPa)	-
Pump Control Mode	Enum	Flow

Click on the schedule tab to set the schedule for the Cooling Distribution Unit.

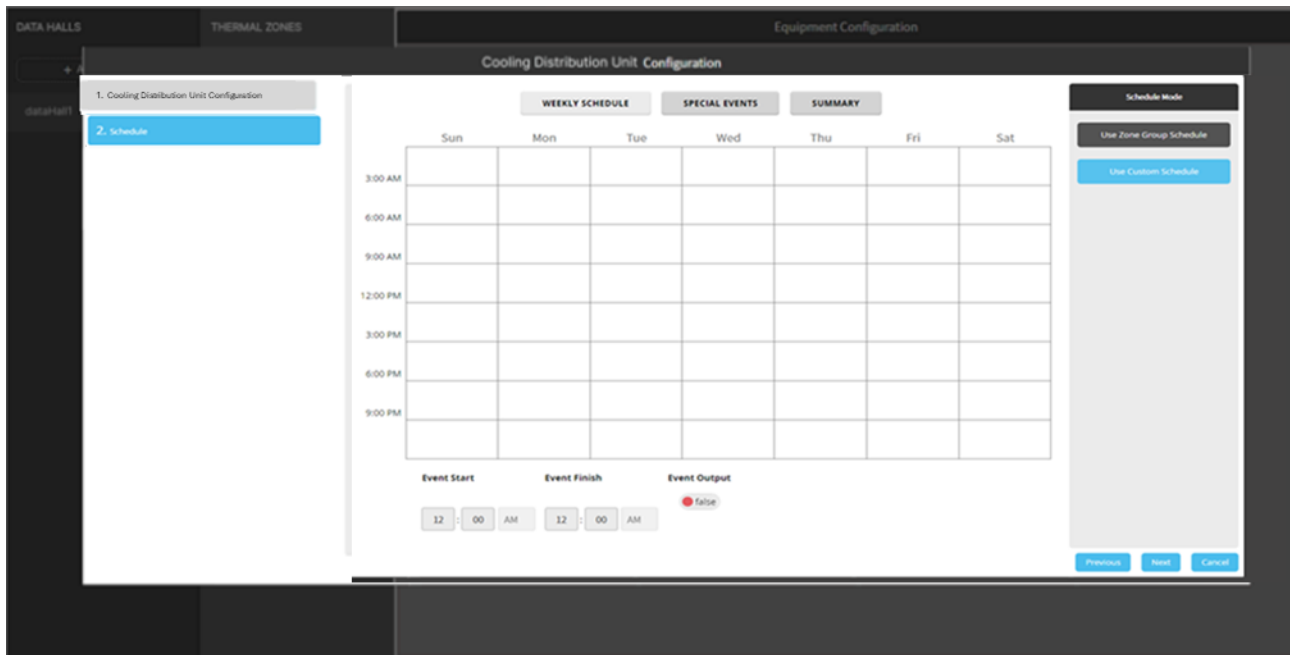


Figure 31 - Cooling Distribution Unit Schedule

4.4 Supervisory Controls: Call Groups Configuration

The Call Calculation Group support advanced configurations for managing cooling calls in data centres. This feature enables users to configure each call calculation group and manage them by mapping airside equipment to the respective groups in the data centres.

Additionally, users have the option to associate a group with a secondary circuit and capability to calculate the plant-level cooling call calculations.

To configure a Call Calculation Groups click on the *Configure* button.

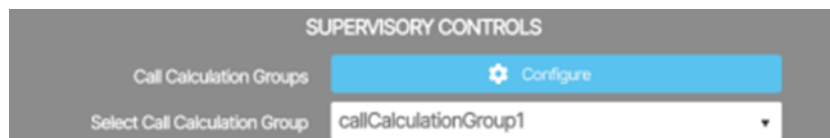


Figure 32 – Call Calculation Groups

When the Call Calculation Group Configure button is clicked, a popup window will appear. In this window, users can map each call calculation group to the available airside equipment.

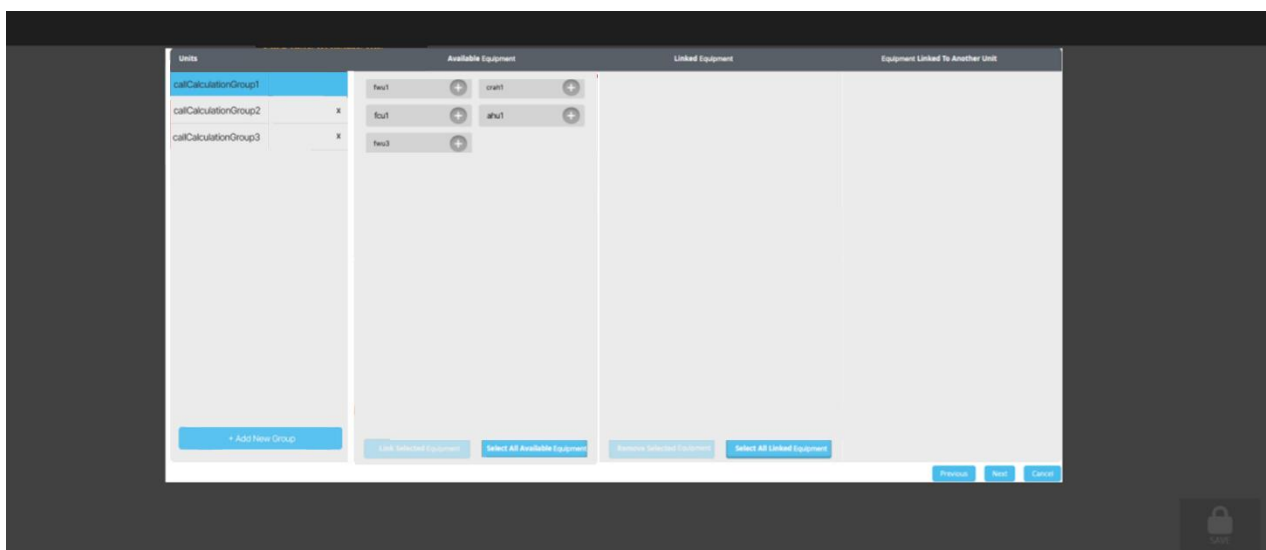


Figure 33 – Call Calculation Groups Configuration

To create a new group, users can click the *Add New Group* button.

To delete an existing group, users can click the *x* button next to the group's display name.

A *Select All Available Equipment* button is also provided, allowing users to select all equipment at once. This feature works seamlessly for both single and multiple group configurations. By default, it will create a single group containing all the equipment and use it for the call calculation.

Users can configure call calculation groups by selecting a group from the multiple options available. Once a group is selected, the corresponding sections for Select Secondary Circuit and Cooling Call will appear for further configuration.

SUPERVISORY CONTROLS

Call Calculation Groups [Configure](#)

Select Call Calculation Group callCalculationGroup1

COOLING CALL

Call Strategy Weighted Average

Call Enable Delay 30 s

Call Disable Delay 30 s

Weighted Position Enable Threshold 30.0 %

Weighted Position Disable Threshold 10.0 %

Associated Secondary Circuit for Group None

[SAVE](#)

Figure 34 – Supervisory Controls

5 SETTING MANUAL

iDCManager Airside settings of the functions to manage the HVAC system can be changed accessing with “Configuration” access level.

The navigation menu will appear from the left side of the screen as below. Only the highlighted menu are “Settings” menus. Those menus contain parameter to be fine-tuned during the commissioning of the system.

- SITE
 - Site Configuration
 - **User Management**
 - **IT Settings**
 - **Email**
 - **Report Service**
- AIRSIDE
 - **Airside General Control**
 - Zones
 - **Supervisor Control**
 - **Data Center**
- WATERSIDE
 - Units
 - Circuits
 - Allowed Mode
 - Stager
 - Sequencing
 - Temperature Control
 - Plant Schedule
 - Commissioning
- GENERAL
 - Network
 - BACnet
 - Point Linking
 - System License



Not highlighted menus are “Configuration” menu that are automatically filled importing “Configuration File” generated by SmallAppliedeXpress. It is highly recommended to NOT change any parameter in the Configuration menus.

5.1 Airside General Control Settings

In the Airside General Control page, the user will be able to set the general airside control settings and enable the following optional control modes:

- Pre-Cooling Mode
- Afterhours Cooling
- Freeze Protection Mode

GENERAL SETTINGS

Cooling Activation Offset: 1.0 Δ°C

Daily Setpoint Force Write Time: 12:00 AM

Setpoint Force Write Null Pulse Duration: 30 s

PRE COOLING MODE SETTINGS

Pre-Cooling Mode Enabled: Enabled Disabled

AFTERHOURS SETTINGS

Afterhours Cooling Enabled: Enabled Disabled

FREEZE PROTECTION SETTINGS

Freeze Protection Enabled: Enabled Disabled

SAVE

Figure 35 - Airside General Control Settings

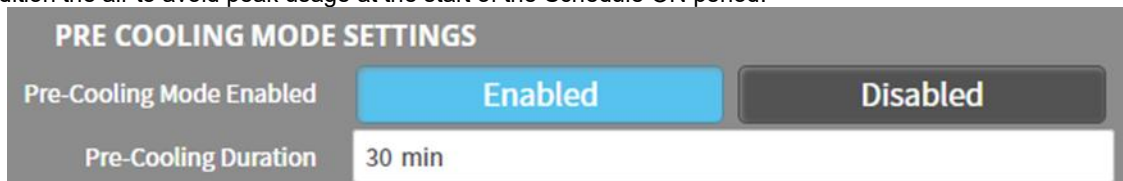
5.1.1 General Settings

Parameters	Description	Units
Cooling Activation Offset	Temperature offset from cooling setpoint used to activate the Endpoint Equipment cooling mode. (for 4 pipe systems)	Δ°C
Daily Setpoint Force Write Time	Time of the day at which the heating/cooling temperature setpoints are reset to the values configured. This is to overwrite temperature setpoints changes made by users at the local controller level.	
Setpoint Force Write Null Pulse Duration	The period of time null is sent for at "Daily Setpoint Force Write Time", before reverting back to controls.	

Table 2 – Airside Control - Setting

5.1.2 Pre Cooling Mode Settings

Optional Pre-Cooling mode that will start Endpoint Equipment before the occupied schedule indicates to do so in order to precondition the air to avoid peak usage at the start of the Schedule ON period.



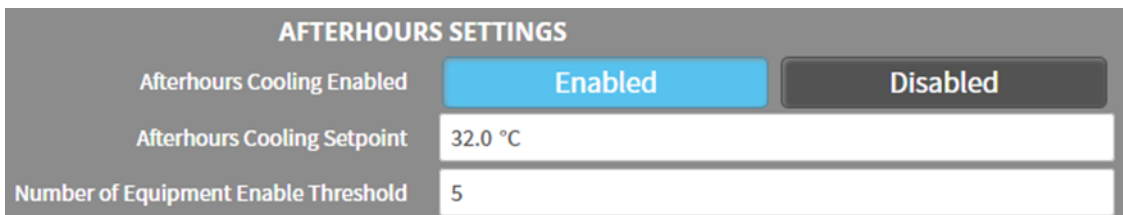
The interface shows 'PRE COOLING MODE SETTINGS'. It has a toggle for 'Pre-Cooling Mode Enabled' set to 'Enabled' (blue button) and 'Disabled' (grey button). Below it, 'Pre-Cooling Duration' is set to '30 min' in a text field.

Figure 36 - Preconditioning Settings

Parameters	Description
Pre-Cooling Duration	The duration in minutes that the system should enable the cooling mode prior to the scheduled ON time.

5.1.3 Afterhours Settings

Optional mode to control the temperature outside of the scheduled operation hours.



The interface shows 'AFTERHOURS SETTINGS'. It has a toggle for 'Afterhours Cooling Enabled' set to 'Enabled' (blue button) and 'Disabled' (grey button). Below it, 'Afterhours Cooling Setpoint' is set to '32.0 °C' and 'Number of Equipment Enable Threshold' is set to '5' in text fields.

Figure 37 - Afterhours Settings

Parameters	Description	Units
Afterhours Cooling	The cooling and heating setpoints the system should be controlled to outside of scheduled operating hours.	°C
Number of Equipment Enable Threshold	The number of equipment threshold (N) to trigger the mode control. E.g. If any N Endpoint Equipment (or all Endpoint Equipment if fewer than N) in the Zone exceed their Afterhours Cooling Setpoint.	

5.1.4 Freeze Protection Settings

Optional mode that triggers the heating mode if any of the Endpoint Equipment temperature sensors fall below the configured temperature setpoints.

Figure 38 - Freeze Protection Settings

Parameters	Description	Units
Enter Freeze Protection Threshold	The temperature threshold that enables the freeze protection mode.	°C
Exit Freeze Protection Threshold	The temperature threshold that will trigger the freeze protection mode to end.	°C

5.2 Supervisory Controls Settings

Users can select and configure cooling call strategies by selecting an option from a drop-down. The following options are available:

- Disabled
- Trim Response
- Weighted Average

Figure 39 - Airside Supervisory Control

5.2.1 Cooling Call Trim Response Strategy

This strategy works as follows:

A Cooling call will be activated or deactivated, if a number of equipment running mode have a load approximation above or below a threshold for longer than a delay.



The load approximation of an airside equipment is considered by default as the valve position.

Figure 40 Call Calculation as Trim Response

Parameter	Description
Call Enable Delay	The time in seconds for which the call enable logic has to be true for before the call is enabled.
Call Disable Delay	The time in seconds for which the call disable logic has to be true for before the call is disabled.
Trim Response Number Equipment Used	The number of equipment with the highest load approximation (%) to check.
Trim Response Enable Threshold	Load approximation threshold at which the cooling call will be enabled.
Trim Response Disable Threshold	Load approximation threshold at which the cooling call will be disabled.

Table 3 - Airside – Trim Call - Setting

5.2.2 Cooling Call Weighted Average Strategy

This strategy works as follows:

A Cooling call is activated or deactivated if the weighted average of load approximations among endpoint equipment running is above or below a threshold for longer than a delay.

COOLING CALL

Call Strategy	Weighted Average ▼
Call Enable Delay	30 s
Call Disable Delay	30 s
Weighted Position Enable Threshold	20.0 %
Weighted Position Disable Threshold	10.0 %

Figure 41 - Call Calculation as Weighted Average

Parameter			Description
Call Enable Delay			The time in seconds for which the call enable logic has to be true for before the call is enabled.
Call Disable Delay			The time in seconds for which the call disable logic has to be true for before the call is disabled.
Weighted Threshold	Position	Enable	Threshold for the calculated average load approximation at which the cooling/heating call will be enabled.
Weighted Threshold	Position	Disable	Threshold for the calculated average load approximation at which the cooling/heating call will be disabled.

Table 4 - Airside - Weighed Call - Setting

5.3 User Management

A user with “Config” access level can add other user profile to the iDCManager Airside, assigning the UserName, Password and Access Level

Navigate to the User Management page via iDCManager Airside Configuration navigation pane. The screen below should appear.

Figure 42 - User Management Settings

To add a new user, select the *Add User* button at the top right corner. The window, as observed below, should appear.

Figure 42 - User Management Settings

Full Name	Username	Email	Access Level	Units	Active	Actions
☐	proConfig		config	English	True	<button>Configure</button>
☐	proDashboard		dashboard	Metric	True	<button>Configure</button>
☐	plantManager		plantmanager	Metric	True	<button>Configure</button>
☐	proWorkbench		workbench	Metric	True	<button>Configure</button>

Figure 43 - User Management Wizard

CREATE A NEW USER

Full Name

Username

Email

Access Level

Language

Password

Confirm Password

Units

Active

Save Cancel

Figure 43 - User Management Wizard

Enter all required information and press the *Save* button to add this user. The added user should now be added to the *User Management* screen as seen below.

When adding/configuring user, user "access level" can be chosen from following three options:

- config - Config user can commission an iDCManager Airside project installation, and edit plant design information and control parameters. Config user has full access to the configuration portal and dashboards portal.
- plantManager - PlantManager user has access to iDCManager Airside dashboards portal and Plant manager view. On Plant manager view, the plant can be operated manually. PlantManager user has no access to the configuration portal.
- dashboard – Dashboard user is able to monitor the plant operation in iDCManager Airside dashboards portal. Dashboard user has no access to the configuration portal and Plant manager view.



It is highly recommended to provide only PlantManager users and Dashboard Users for the final customer

To alter any settings of an existing user, select the *Configure* button for that user on the right hand side of the screen. A window as observed below should appear.

Once new data and values have been entered, select the *Save* button to save all changes for that user.

If a user or multiple users need to be deleted, users can be selected by selecting the check box next to the required users, Once all required users have been selected, press the *Delete User* button. The window as seen below will appear to confirm the deletion of the selected user

Press *OK* if this is the user that is required to be deleted. This user will then be removed from User Management list.

5.3.1 Default Users

Name	Authentication Scheme	Nav File	Roles
proConfig	config	file:^nav/configuration.nav	config
proDashboard	dashboard	file:^nav/dashboards.nav	dashboard
plantManager	plantManager	file:^nav/plantmanager.nav	plantManager

5.4 Email Service Configuration and Setting

In the Email Service Configuration page, users can configure accounts for the Niagara Email Service
To access this page, select the Email Configuration option under Services in the Main Menu.

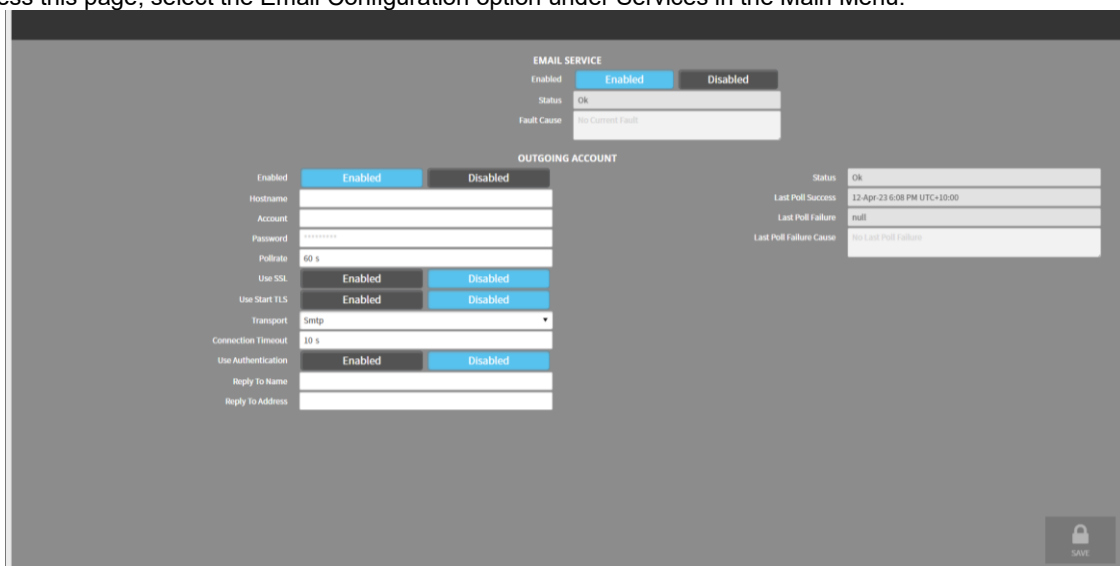


Figure 44 - Email Configuration page

5.4.1 Email Service

The following data can be configured for the Email Service

Parameter Name	Description
Enabled	Whether the Email Service is enabled.
Status	The current Status of the Email Service.
Fault Cause	The latest Fault Cause from the Email Service.

5.4.2 Outgoing Account

The following data can be configured for the Outgoing Account

Parameter Name	Description
Enabled	Whether the Outgoing Email Account is enabled.
Hostname	The Hostname to use for sending Emails from this Account
Account	The account name used for authentication with the Email Service Provider.
Password	The password used for authentication with the Email Service Provider.
Pollrate	The frequency with which to poll the host
Use SSL	Secure Socket Layer for communication with host email server.
Use Start TLS	Enable STARTTLS for emails servers that don't support regular SSL/TLS
Connection Timeout	The connection timeout when connecting to the email host.
Use Authentication	Whether or not the email host requires authentication.
Reply To Name	This account's reply-to name
Reply To Address	This account's reply-to address
Status	The Status of the Outgoing Email account.
Last Poll Success	The last time a poll was successful.
Last Poll Failure	The last time a poll failed.
Last Poll Failure Cause	The reason that the last poll failed.

5.5 IT Settings

Figure 45 - IT Settings

The iDCManager Airside IT settings page can be accessed by clicking "IT SETTINGS" in the main navigation menu. The following parameters can be configured on this page:

IT Settings Page Parameters	
Parameter	Description
Host Name	Define the device host name. This name will be visible to other devices on the IP network
Gateway	Define the IP Gateway, this device is responsible for handling internet traffic. It is likely to be the address of a router
DNSV4 Server1	Define the primary DNS server1. Generally the DNS can be a public DNS or a private DNS server, a public DNS server example is 8.8.8.8
DNSV4 Server2	Define the secondary DNS server2. Generally the DNS can be a public DNS or a private DNS server, a secondary public DNS server example is 8.8.4.4
Web Start	Enable or disable allowing users to login using the Niagara Web Launcher.
HTTPS Port	Define the web port on which the user interface can be reached when using HTTPS (SSL). Note, on the CI-534 hardware the configured port MUST be above 1024.

IT Settings Page Parameters	
HTTP Enabled	Define if the user interface can be reached using HTTP. This is not a secure connection.
HTTP Port	Define the web port on which the user interface can be reached when using HTTP. Note, on the CI-534 hardware the configured port MUST be above 1024.
IP Address	Define the IP address of SCS controller. Take caution in setting this address as incorrect configuration can cause the controller to become unreachable on the network
Subnet Mask	Define the IP Subnet for the SCS controller. This is related to the existing network configuration, generally 255.255.255.0 is utilised as a subnet mask. Take caution in setting this address as incorrect configuration can cause the controller to become unreachable on the network.

5.6 License Services

On this page users can review their license and its features, along with the EULA's that have been agreed to. This page can be viewed from both the Dashboard or the Configuration menus by selecting the "License Service" from the selection of drop downs on the main menu.

Figure 46 - License Page

While unlicensed, users will automatically be directed to this page if they try to access any other feature. The main menu will also be disabled.

Figure 47 - License Page - Unlicensed Controller



If the controller should be unlicensed, please contact Factory

6 USER MANUAL

After logging in to iDCManager Airside interface, a different menu and consequently even different information of the HVAC System will be available according to access level:

- plantManager - PlantManager user has access to iDCManager Airside dashboards portal and Plant manager view.
- dashboard – Dashboard user is able to monitor the plant operation in iDCManager Airside dashboards portal. Dashboard user has no access to the configuration portal and Plant manager view.

6.1 PlantManager Navigation Panel

Upon logging in as “plantManager” access level, user can navigate around the iDCManager Airside screen. The navigation menu will appear from the left side of the screen by clicking the menu icon in the top right of dashboard portal. Desktop users will have access to all iDCManager Airside dashboard screens and functions.

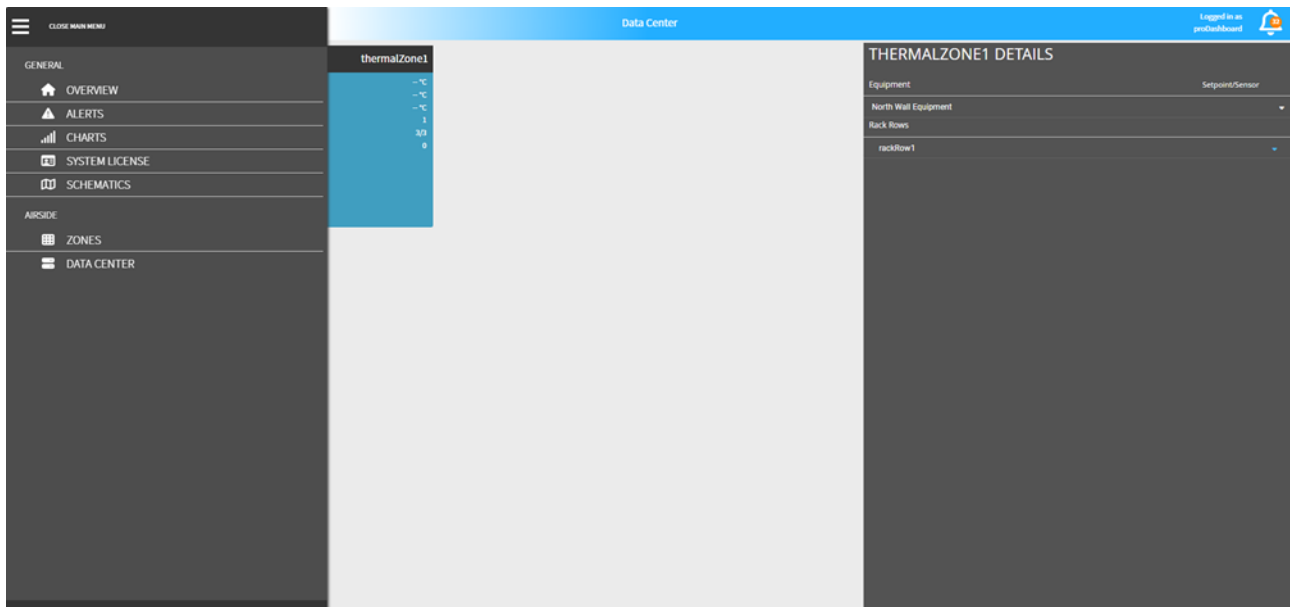


Figure 48 - PlantManager Main Menu

Within the menu, the user can select to visit the following screens:

- Overview
- Alerts
- Charts
- System License
- Airside
 - Zones
 - Datacenter

The user can close the main menu and return to the current screen by pressing 'close main menu' at the top of the navigation menu.

The user can also choose to log out of iDCManager Airside by clicking the 'logout' button.

6.2 Alerts Page

The Alerts screen provides an in-depth look of all the alerts including alarms, faults, and analytics in the system. To navigate to this view, click on the Alerts tab from the main menu or just simple click on the "alarm bell" icon on the top right corner of the header of the page.

Notes:

1. By default, when first visiting the page, only the **"Fault"** of **"All"** equipment for the **last hour** will be shown on the alert table.
2. Users can query alerts based on "Equipment" type, Alert type and timestamps using the Filter pane on the left hand side.

Timestamp	Equipment	Summary
Wed 23/12/2020 09:57:10 PM AEDT	cChillerFault	Ch1_LowLoad
Wed 23/12/2020 09:20:16 PM AEDT	cChillerFault	Ch1_LowLoad
Wed 23/12/2020 09:17:45 PM AEDT	cChillerFault	Ch1_LowLoad
Wed 23/12/2020 09:16:59 PM AEDT	cChillerFault	Ch1_LowLoad
Wed 23/12/2020 09:16:13 PM AEDT	cChillerFault	Ch1_LowLoad

Figure 49 - Alerts Page

The user can click on a particular fault or alarm to receive additional information.

Alarm vs Fault

Alarms and Faults can be filtered out using the Alert type tab, also the alarms are highlighted in **Yellow**, while the faults will be highlighted in **Orange** instead. The timestamps format will be converted automatically and shown in either dd/mm/yyyy (UK) or mm/dd/yyyy (US) depending on the current user login

6.2.1 Filter

By default, when first navigating to this page, the filter will be set for **all equipment** (including chiller and compressor alerts), and for **"fault" type only**. Also, the time range will be set for the **"last hour"** of the current day.

To filter alerts by alert types, simple select the options from dropdowns. Alert type could be "All", "Fault", or "Alarm".

Equipment type will filter out alerts for chiller or for each individual compressor. There is a figure right next to each equipment indicating the total number of active Alarms and Faults for that particular equipment.

Users can also use "calendar" to select the start date and end date, start time and end time could be set easily by corresponding tab on the filter.

The "Query" button will be flashing when there is a new alert just arriving while on this view. When clicked, this button will be greyed out and the alert table will be updated accordingly. In addition, the "Cancel" button could be used to cancel the querying while the job is in progress.

To view detail on each individual alert, simply click on the alert row, the message detailing the cause of the alert will be shown.

6.2.2 Sorting

Alerts can be sorted in a certain order by Timestamp, Equipment, or Summary. To do this, click on the header of the alert table. For instance, to sort by equipment type, click on "Equipment" header of the second column, the content will be sorted by alphabetical order. By default, when first visiting this view, the table will be sorted by Timestamp in descending order, which shows the most recent alert at the top.

6.2.3 Active Alerts

By selecting the *All Active Alerts* button as highlighted in red below, all active alerts will be queried and appear in a pop-up window.

All Active Faults & Alarms		
Timestamp	Source	Select All: ☐
02-Mar-20 11:31:28 AM AEDT	Ch1_LowLoad	☐
02-Mar-20 12:42:40 AM AEDT	Chiller2_cwtIn	☐
02-Mar-20 12:42:40 AM AEDT	Chiller2_calcCwFlow	☐
02-Mar-20 12:42:40 AM AEDT	Chiller2_calcDischargeAppTemp1	☐
02-Mar-20 12:42:40 AM AEDT	Chiller2_calcSuperheatTemp1	☐
02-Mar-20 12:42:40 AM AEDT	Chiller2_chwtIn	☐
02-Mar-20 12:42:40 AM AEDT	Chiller2_calcChwFlow	☐
02-Mar-20 12:42:40 AM AEDT	Chiller2_voltage	☐
02-Mar-20 12:42:40 AM AEDT	Chiller2_cwtOut	☐
02-Mar-20 12:42:40 AM AEDT	Chiller2_calcCompPressureRatio1	☐
02-Mar-20 12:42:40 AM AEDT	Chiller2_calcPowerAbsorbed	☐
02-Mar-20 12:42:40 AM AEDT	Chiller2_chwtOut	☐
02-Mar-20 12:42:40 AM AEDT	Chiller2_calcEvapAppTemp1	☐
REMOVE CANCEL		

Figure 50 - All Active Faults & Alarms

This pop up can be observed above. For only advanced users, active alerts can be removed by selecting the corresponding *Remove* box and pressing OK. These alarms will then be removed.

6.3 Charts Page

The Charts page provides all recorded historical data for all devices such as chillers, pumps, cooling towers, etc.



Figure 51 - Charts Page

The charts page is not available to tablet or mobile users.

6.3.1 Charting

Adding data points

The page is divided into two sections: chart select and charting area. The select tab on the left can be used to select data to plot on the right-hand side space. A maximum of four charts, with four data points is able to be plotted at a time. A warning will pop up if more than four charts, of four data points per chart, are selected. To select the points, use the drill-down menu in the "Points" to create a new chart select the data point on the left-hand side. To add a data-point to an existing chart, select and drag the data point to add and drop it on the chart to add it to. Once selected, the point will be underlined and highlighted.

Once plotted, the currently examined value of the point will be displayed on the right-hand side of the chart. The detailed information of the point including the exact value and time is shown in a square box on the chart with a little dot highlighted. When users select different points on the chart, this detailed box will dynamically move along to show the value and time at any specific instance. For the sake of better visibility, different colors are used for plotting each data point. The title will also clearly mark which data point is being plotted.

To set the time range for charting:

- Use the drop-down menu in the "Time Range". By default, when first loading this page, the time range will be set to "Today".

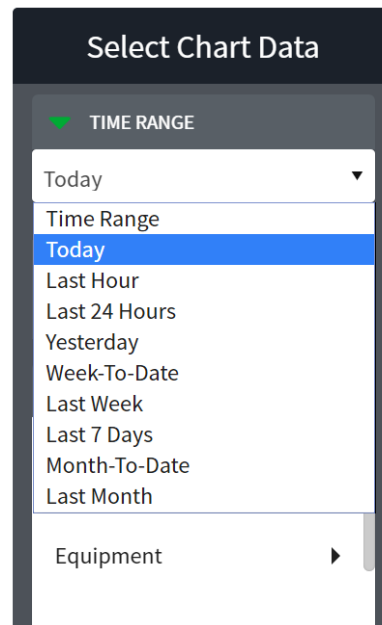


Figure 52 - Chart Selection pane

- To select a custom time range, select "time range", and press the clock icon below the drop-down menu. A pop-up will appear where the start date/time and end date/time can be configured.

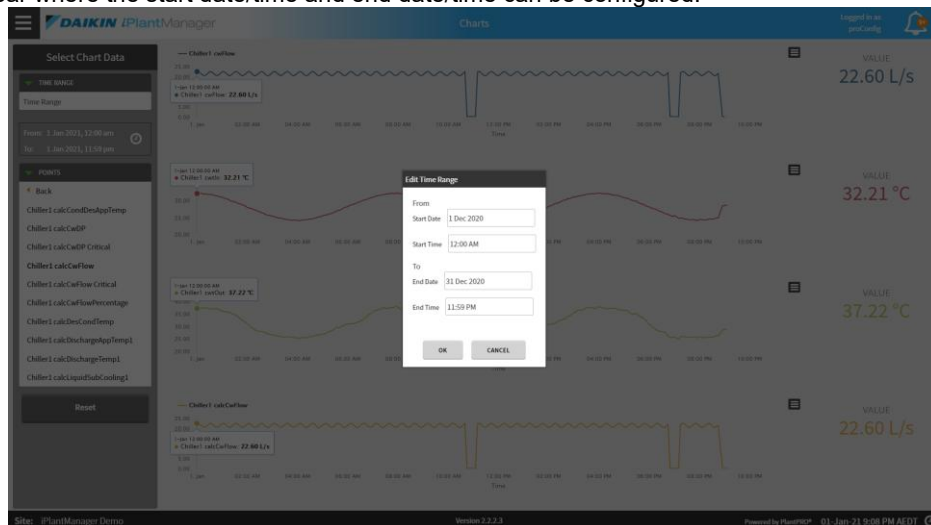


Figure 53 - Chart Customized Time range

Removing data points

To remove a single data point simply click on the data point in the left-hand side or click the name of the data point in the title of the chart. To remove all charts and data points, simply click on the "Reset" button at the bottom of the left-hand side of the data select section.

6.3.2 Chart Exporting

The chart can be exported to .png or .csv files by clicking on a little button on the top right corner of the chart. A corresponding file will be saved to a local computer or external hard drive.

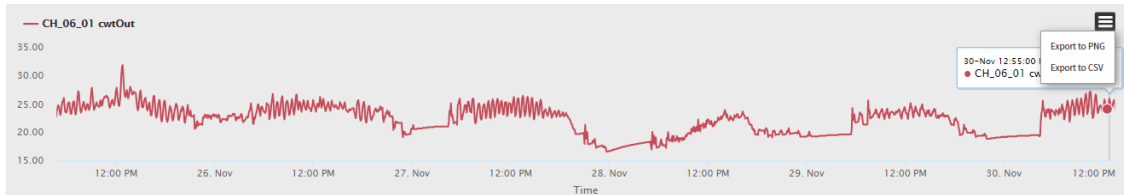


Figure 54 - Chart Export Button

FILE HOME INSERT PAGE LAYOUT				
Cut Copy Paste Format Painter		Clipboard Font		
A1		Time		
	A	B	C	D
1	Time	Series 1		
2	28-08-18 0:00	6.498418		
3	28-08-18 0:05	6.5		
4	28-08-18 0:10	6.5		
5	28-08-18 0:15	6.5		
6	28-08-18 0:20	6.5		
7	28-08-18 0:25	6.5		
8	28-08-18 0:30	6.5		
9	28-08-18 0:35	6.5		
10	28-08-18 0:40	6.5		
11	28-08-18 0:45	6.5		
12	28-08-18 0:50	6.5		
13	28-08-18 0:55	6.5		
14	28-08-18 1:00	6.5		
15	28-08-18 1:05	6.5		

Figure 55 - Cart Export File .csv

6.4 Airside

Accessing to the main menu, PlantManager user can open the “Zones” menu.

The Zones Dashboard allows a user to both view and control the airside of iDCManager Airside. The page contains a detailed summary of the Airside layout of your installation, from Data Halls down to the individual equipment. The control of the individual equipment is available to a Configuration or Plant Manager user, with all users having access to view all data from the airside equipment.

The page consists of 3 major regions, with the left region containing Data Halls, the middle region contains Thermal Zones, with the right region containing the individual equipment of a selected zone, for example CRAHs and Fan Walls.

DATA CENTER	Thermal Zone 1	Thermal Zone 2	Thermal Zone 3	Thermal Zone 1 DETAILS
Data Hall 1	Min Zone Temperature: 8.00 °C Median Zone Temperature: 12.00 °C Max Zone Temperature: 18.00 °C Rack Rows: 1 Running Equipment: 1/1 Faulted Equipment: 0	Min Zone Temperature: 7.00 °C Median Zone Temperature: 11.00 °C Max Zone Temperature: 17.00 °C Rack Rows: 2, 3 Running Equipment: 2/2 Faulted Equipment: 0	Min Zone Temperature: 6.00 °C Median Zone Temperature: 12.00 °C Max Zone Temperature: 20.00 °C Rack Rows: 4 Running Equipment: 0/1 Faulted Equipment: 1	EQUIPMENT SAT Setpoint/Sensor NORTH WALL EQUIPMENT FW 2 NORTH 15.00/15.20 °C SOUTH WALL EQUIPMENT FW 2 SOUTH 16.00/16.50 °C RACK ROWS Rack Row 3 Rack Row 4 RELATED FAILOVER EQUIPMENT NORTH WALL EQUIPMENT FW 1 NORTH FW 3 NORTH SOUTH WALL EQUIPMENT FW 1 SOUTH FW 3 SOUTH
Data Hall 2	Thermal Zone 4 Min Zone Temperature: 6.00 °C Median Zone Temperature: 12.00 °C Max Zone Temperature: 20.00 °C Rack Rows: 5 Running Equipment: 0/1 Faulted Equipment: 0			

6.4.1 Schedule Control

The Schedule configuration (📅) will be present on 4 levels with the following hierarchy:

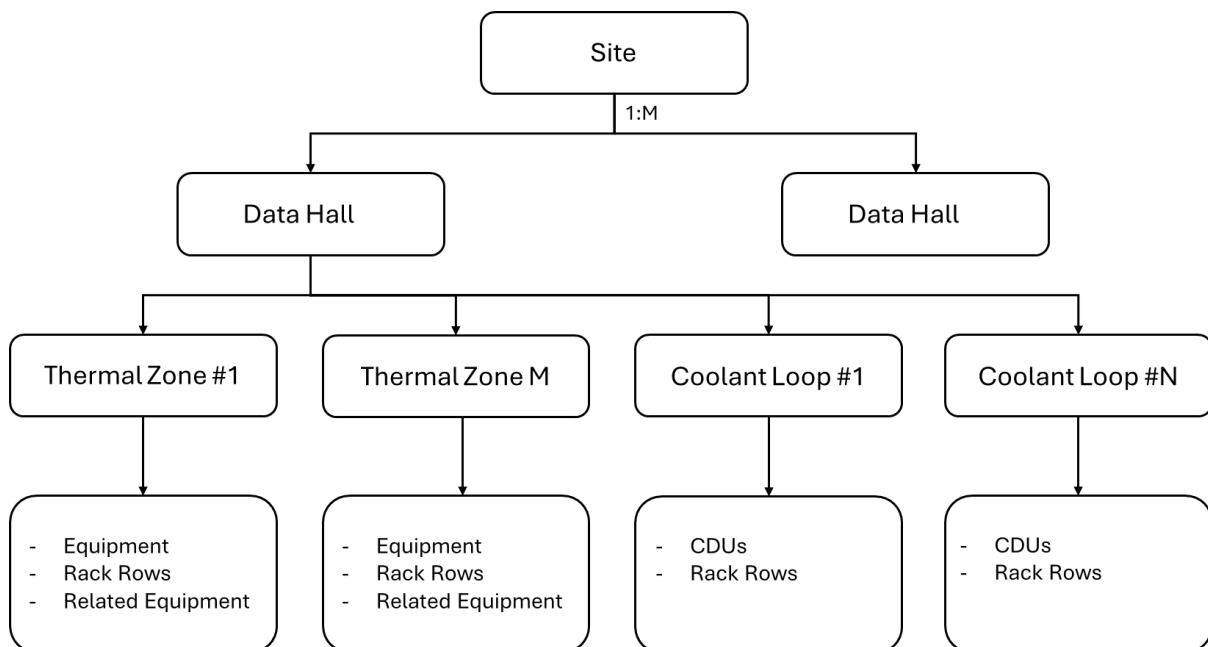


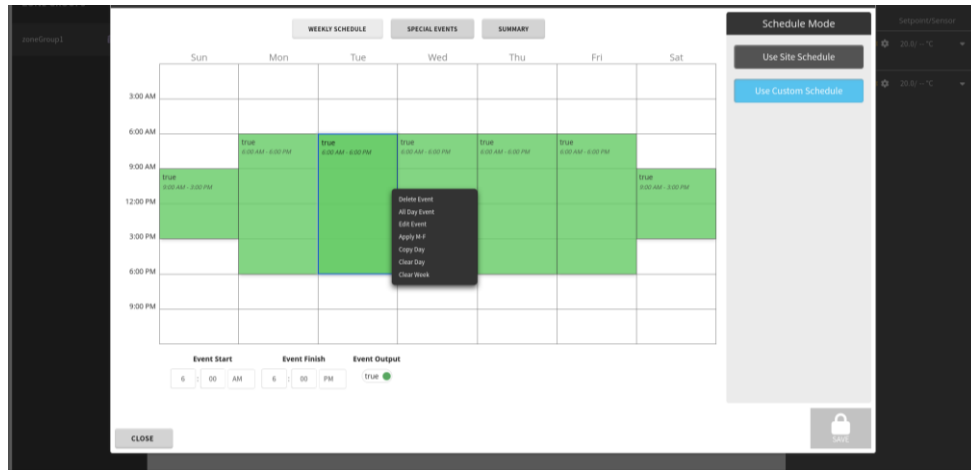
Figure 56 - Airside hierarchy

If a schedule is not enabled at a given level, the schedule of the parent level will be used, all the way up to the site, which must always have a configured schedule.

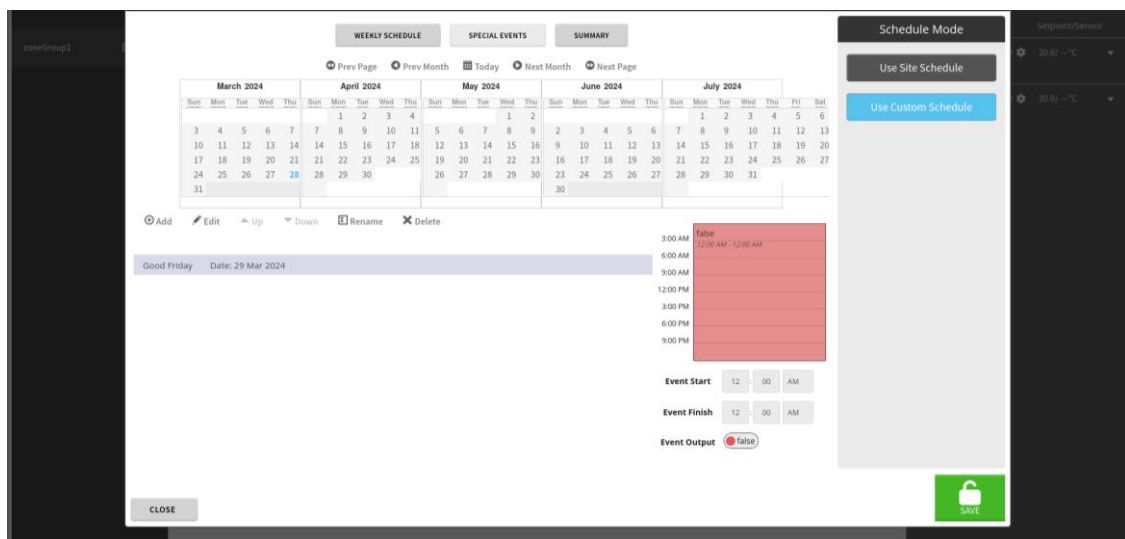
When clicking on the 📅 icon for any entity, a popup dialog will be displayed as shown below. This can be used to configure the enabled hours for that entity, and any children entities without schedules of their own. On the right, one of two options can be chosen to schedule enabling control.

First, the "Use (parent) schedule" option, will use the parent entity schedule as its own schedule. Note that "Site" is the top level, therefore cannot use parent schedule.

Second, the "Use Custom Schedule" option, will allow user to configure times to enable during the week. Click and drag on each week day to configure hours during which contained equipment should be enabled. Any duration without an active period will be a time during which the equipment is disabled. Right click on a period to delete it or access options to apply the same period on other days.



Special events can also be configured using the special events tab. Click add to add a new event, configure the appropriate day or days for this event to override the default weekly schedule and then use the day overview at right to configure the equipment state for the event.



Finally, the summary tab can be used to see the month-by-month overview of the schedule. Each day is coloured blue if equipment will be enabled by this schedule for any time during that day. The days can be clicked on to view the hour-by-hour changes to enable state.

WEEKLY SCHEDULE
SPECIAL EVENTS
SUMMARY

Prev Page
Prev Month
Today
Next Month
Next Page

March 2024
April 2024
May 2024
June 2024
July 2024

Sun	Mon	Tue	Wed	Thu	Sun	Mon	Tue	Wed	Thu	Sun	Mon	Tue	Wed	Thu	Sun	Mon	Tue	Wed	Thu	Sun	Mon	Tue	Wed	Thu	Fri	Sat
3	4	5	6	7	7	8	9	10	11	5	6	7	8	9	2	3	4	5	6	7	8	9	10	11	12	13
10	11	12	13	14	14	15	16	17	18	12	13	14	15	16	9	10	11	12	13	14	15	16	17	18	19	20
17	18	19	20	21	21	22	23	24	25	19	20	21	22	23	16	17	18	19	20	21	22	23	24	25	26	27
24	25	26	27	28	28	29	30			26	27	28	29	30	23	24	25	26	27	28	29	30	31			
31															30											

28-Mar-24 12:00 AM AEDT
false (ok)
Default Output

CLOSE
SAVE

Schedule Mode
Use Site Schedule
Use Custom Schedule

6.4.2 Setpoint Control

The Setpoint configuration () will be present on 3 levels with the above hierarchy from the Data Halls and down. When a setpoint is applied at a given level, it will be set on all equipment below it. For example, applying a setpoint to a Data Hall will affect all equipment in all Thermal zones in that Data Halls.

When clicking on the  icon for any entity, a dialog as depicted below will be displayed. This can be used to configure the Cooling and Differential Pressure setpoints for that entity, and all contained entities without configured temperature and differential pressure setpoints of their own.

Setpoint Configuration - Thermal Zone 1

Thermal Zone 1

Supply Air Temperature Setpoint
0.00 °C

Override
Clear

Differential Pressure Setpoint
2.00 kPa

1h:58m:31s
Clear

▲ The override will apply to all equipment in Thermal Zone 1

CLOSE

Figure 57 - Setpoint setting

6.4.3 Data Halls

Data Halls represent a collection of individual regions (Thermal Zones) within a datacenter, for example a Data Hall could represent an entire floor that consists of multiple thermal zones within that hall.

By selecting a Data Hall from the left hand menu, iDCManager Airside will display all Thermal Zones that belong to the selected Data Hall in the middle region of the page. As mentioned earlier, both the Schedule and Setpoints can be controlled by a Plant Manager or Configuration user by selecting the Calendar and Cog respectively.

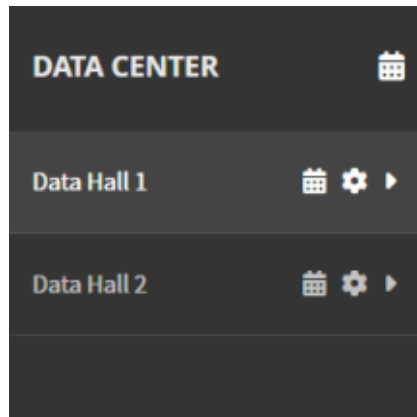


Figure 58 - Data Halls Widget

6.4.4 Thermal Zone

Thermal Zones represent region of a data hall containing a collection of Airside Equipment servicing that region.

Thermal Zones are shown in the centre region and are represented by Cards. The Thermal Zone Card contains a set of relevant data for each Thermal Zone. By selecting a Thermal Zone Card, iDCManager Airside will display all Equipment that belong to the selected Thermal Zone in the right hand side of the screen, and the selected Thermal Zone will be highlighted. As mentioned earlier, both the Schedule and Setpoints can be controlled by a Plant Manager or Configuration user by selecting the Calendar and Cog respectively.

Thermal Zone 1	●	📅	⚙️	Thermal Zone 2	●	📅	⚙️
Min Zone Temperature	8.00 °C			Min Zone Temperature	7.00 °C		
Median Zone Temperature	12.00 °C			Median Zone Temperature	11.00 °C		
Max Zone Temperature	18.00 °C			Max Zone Temperature	17.00 °C		
Rack Rows	1			Rack Rows	2, 3		
Running Equipment	1/1			Running Equipment	2/2		
Faulted Equipment	0			Faulted Equipment	0		

Figure 59 – Thermal Zone Widget

Summary of data shown

Data	Description	SI Unit	US Unit
Min Zone Temperature	Minimum temperature measured in the Thermal Zone	°C	°F
Median Zone Temperature	Median temperature calculated in the Thermal Zone	°C	°F
Max Zone Temperature	Maximum temperature measured in the Thermal Zone	°C	°F
Rack Rows	The number of running Equipment in the zone, followed by the total number of Equipment in the Zone.		
Running Equipment	The number of running Equipment in the Thermal Zone, followed by the total number of Equipment in the Thermal Zone.		
Faulted Equipment	The number of Equipment that are currently in a Faulted state.		

Table 5 - Zone Widget Data

6.4.4.1 Equipment

The Equipment region displays all the End Point Equipment that are associated with the selected Thermal Zone. These are the Equipment that are supplying air to Thermal Zone using the supply water from your Plant. The Equipment are displayed in a list, with each equipment being categorized by their type (CRAH, Fan Wall, Fan Slim Wall, ecc.). Each item in the list will contain a summary of data from their Equipment.

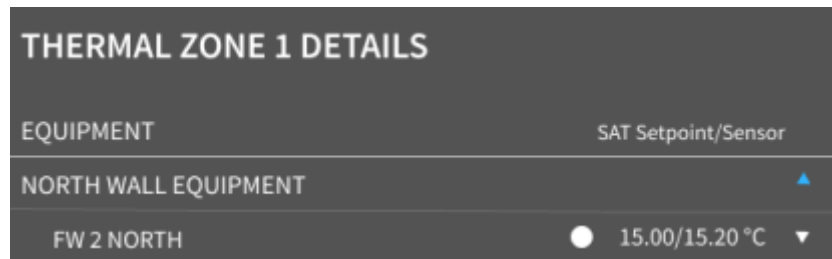


Figure 60 - Equipment Widget

Data	Description	SI Unit	US Unit
Name	The name of the equipment		
Run Status Icon	Green when the equipment is running, gray otherwise.		
Setpoint	The current controlling setpoint of the Equipment.	°C	°F
Temperature	The current room temperature read from the Equipment.	°C	°F
Expand Icon	Expands the row, displaying detailed running information of the equipment.		

Table 6 - Equipment icons

Each item in the list can be expanded, which will display a set of controls for the Equipment if logged in as a Plant Manager or a Configuration user. These controls allow the user to temporarily take control of the Equipment, with some of the controls displaying a popup as they require input from the user. Additionally, the expanded item will also display detailed information about the equipment. Each equipment displays relevant to their equipment type, which are explained below.

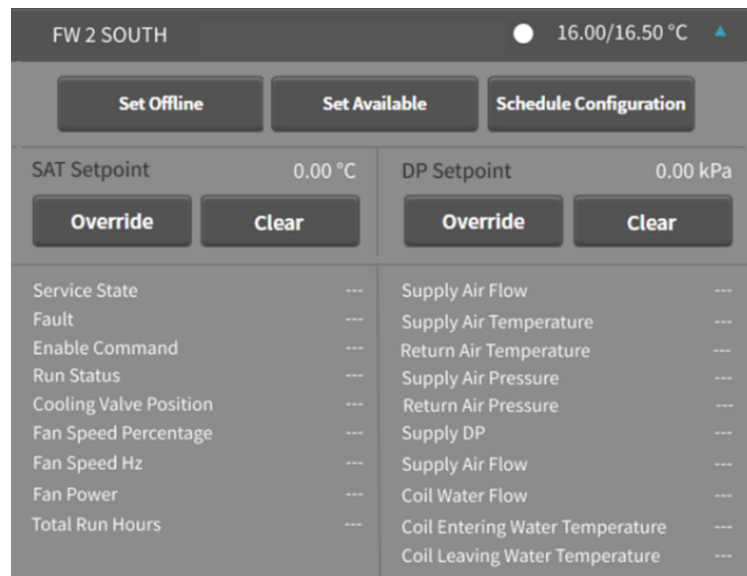


Figure 61 - Equipment Data

Data	Description	SI Unit	US Unit
Service State	The Service State reflects its availability and provides an indication of whether the unit is available and can be included in the control sequence.		
Fault	Whether the Equipment is in a Fault state and stops by itself		
Alarm	Whether the Equipment suffers an alarm that does not stop the functioning but working improperly		
Enable Command	The Enable Command being sent to the Equipment		
Run Status	The Run Status received from the Equipment.		
Cooling Valve Position	The opening percentage of the cooling valve.	%	%
Fan Speed Percentage Feedback	The current fan speed. It could be in percentage or in steps	%	%

Data	Description	SI Unit	US Unit
Fan Speed Frequency Feedback	The current fan speed.	Hz	Hz
Total Run Hours	The total run hours of the AHU.	hr	hr
Supply Air Flow	The current supply air flow	l/s	ft ³ /s
Supply Air Temperature	The current supply air temperature	°C	°F
Return Air Temperature	The current return air temperature	°C	°F
Supply Air Pressure	The current supply air pressure	kPa	psi
Return Air Pressure	The current return air pressure	kPa	psi
Supply DP	The current supply differential pressure	l/s	ft ³ /s
Supply Air Flow	The current supply air flow	l/s	ft ³ /s
Coil Water Flow	The current supply coil water flow	l/s	ft ³ /s
Coil Entering Water Temperature	The current coil entering water temperature	°C	°F
Coil Leaving Water Temperature	The current coil leaving water temperature	°C	°F

Table 7 - Equipment Data

Data	Description
Only Accessible to Configuration and Plant Manager	
Set Offline	Temporarily overrides the Equipment offline for the length of duration selected in the dialog.
Set Available	Clears the override applied by Set Offline.
Schedule Configuration	Configures the Schedule for this Equipment.
Only Accessible to Configuration	
SAT Setpoint	Temporarily overrides the Temperature Setpoint of the Equipment for the length of duration selected in the dialog.
Clear	Clears the override applied by SAT Setpoint.
DP Setpoint	Temporarily overrides the Differential Pressure Setpoint of the Equipment for the length of duration selected in the dialog.
Clear	Clears the override applied by Differential Pressure Setpoint.

Table 8 - Equipment Controls

6.4.4.2 Rack Rows

The Rack Row region displays all temperatures in the rack row associated with the selected thermal zone.

RACK ROWS			
Rack Row 3			
Temperature Sensor 1	18.05 °C	Temperature Sensor 5	19.10 °C
Temperature Sensor 2	19.15 °C	Temperature Sensor 6	18.05 °C
Temperature Sensor 3	19.25 °C	Temperature Sensor 7	19.15 °C
Temperature Sensor 4	19.35 °C	Temperature Sensor 8	19.05 °C

Figure 62 – Rack Row data

Data	Description	SI Unit	US Unit
Temperature Sensor #	The current temperature measured by temperature sensor number #	°C	°F

Table 9 – Rack Row Data

6.4.5 Coolant Loop

A Coolant Loop may include one or more CDUs and is associated with one or more rack rows; no staging is required for CDUs within the Coolant Loop, as they are enabled or disabled according to a defined schedule.

Coolant Loops are shown in the centre region and are represented by Cards. The Coolant Card contains a set of relevant data for each Coolant. By selecting a Coolant Loop Card, iDCManager Airside will display all CDUs that belong to the selected Coolant Loop in the right-hand side of the screen, and the selected Coolant Loop will be highlighted.

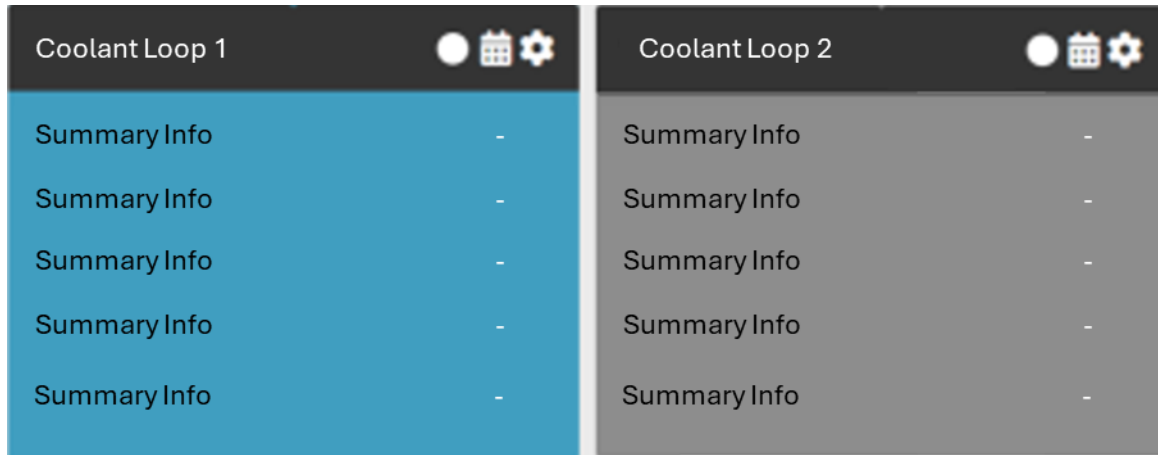


Figure 63 - Thermal Zone Widget

6.4.5.1 Cooling Distribution Unit

The CDU region displays all the Cooling Distribution Units that are associated with the selected Coolant Loop. The CDUs are displayed in a list

Each item in the list will contain a summary of data from their CDU.

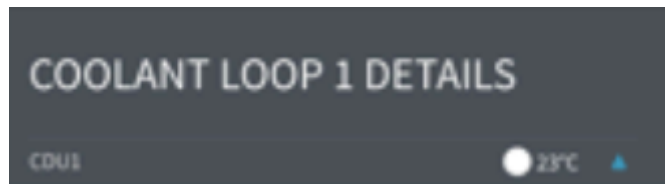


Figure 64 – Cooling Distribution Unit Widget

Data	Description	SI Unit	US Unit
Name	The name of the Cooling Distribution Unit.		
Run Status Icon	Green when the equipment is running, gray otherwise.		
Setpoint	The current controlling setpoint of the Cooling Distribution Unit.	°C	°F
Expand Icon	Expands the row, displaying detailed running information of the equipment.		

Table 10 – CDU icons

Each item in the list can be expanded, which will display a set of controls for the CDU if logged in as a Plant Manager or a Configuration user. These controls allow the user to temporarily take control of the Equipment, with some of the controls displaying a popup as they require input from the user. Additionally, the expanded item will also display detailed information about the equipment. Each CDU displays relevant which are explained below.



Figure 65 – Colling Distribution Unit Data

Data	Description	SI Unit	US Unit
Primary Inlet Temperature	The current primary inlet temperature	°C	°F
Primary Inlet Pre Filter Pressure	The current inlet prefilter pressure	kPa	psi
Primary Outlet Temperature	The current primary outlet temperature	°C	°F
Primary Outlet Pressure	The current primary outlet pressure	kPa	psi
Primary Outlet Flow	The current primary outlet flow	l/s	ft ³ /s
Secondary Flow	The current secondary flow	l/s	ft ³ /s
Secondary Level	The availability of the secondary water level sensor	-	-
Secondary Inlet Pressure	The current secondary inlet pressure	kPa	psi
Secondary Inlet Temperature	The current secondary inlet temperature	°C	°F
Secondary Outlet Pressure	The current secondary outlet pressure	kPa	psi
Secondary Outlet Temperature	The current secondary outlet temperature	°C	°F
Pump X Speed	The current pump speed	Hz	Hz
Pump X Run hours	The total run hours of the CDU	hours	hours
Pump X Input Power	The current pump input power	kW	kW
Heat Exchanger X Primary Valve Position	The current heat exchanger primary valve position	%	%

Table 11 – CDU data

Data	Description
Only Accessible to Configuration and Plant Manager	
Enable	Cooling Distribution Unit enable command.
Clear Alarm	Cooling Distribution Unit clear alarm command.
Only Accessible to Configuration	
Secondary Flow Setpoint	Temporarily overrides the Secondary Flow Setpoint of the Cooling Distribution Unit for the length of duration selected in the dialog.
Clear	Clears the override applied by SAT Secondary Flow Setpoint.
Secondary DP Setpoint	Temporarily overrides the Secondary Differential Pressure Setpoint of the Cooling Distribution Unit for the length of duration selected in the dialog.
Clear	Clears the override applied by Secondary Differential Pressure Setpoint.
Secondary Outlet Pressure Setpoint	Temporarily overrides the Secondary Outlet Pressure Setpoint of the Cooling Distribution Unit for the length of duration selected in the dialog.
Clear	Clears the override applied by Secondary Outlet Pressure Setpoint.

Table 12 – CDU controls

6.4.5.2 Rack Rows

The Rack Row region displays all temperatures in the rack row associated with the selected Coolant Loop.

RACK ROWS			
Rack Row 3 ▲			
Temperature Sensor 1	18.05 °C	Cooling Valve Position	100 %
Temperature Sensor 2	19.15 °C		
Temperature Sensor 3	19.25 °C		
Temperature Sensor 4	19.35 °C		

Figure 66 – Rack Row data

Data	Description	SI Unit	US Unit
Temperature Sensor #	The current temperature measured by temperature sensor number #	°C	°F
Cooling Valve Position	The current cooling valve position	%	%

Table 13 – Rack Row Data

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