

DAIKIN APPLIED EUROPE

# Daikin on Site

## Operation Manual

### Operator, Trained Operator & Owner Roles

02/02/2018

**DAIKIN** English (United States) ▼

Welcome to Daikin on Site

Our cloud-based monitoring and controls solution for chiller plants & air handling units.

Access to Daikin on Site is by invitation only. Get in touch with us at [fgs\\_servicebusiness@daikineurope.com](mailto:fgs_servicebusiness@daikineurope.com) to find out more.

We invite you to visit our [main site](#) to find more information about our products and services.

Sign In

E-mail address

Password

Sign In  Keep signed in

[Cannot access your account?](#)

Daikin Applied Europe S.p.A.  
Daikin Europe N.V.

Daikin on Site – Remotely yours!



## Table of Contents

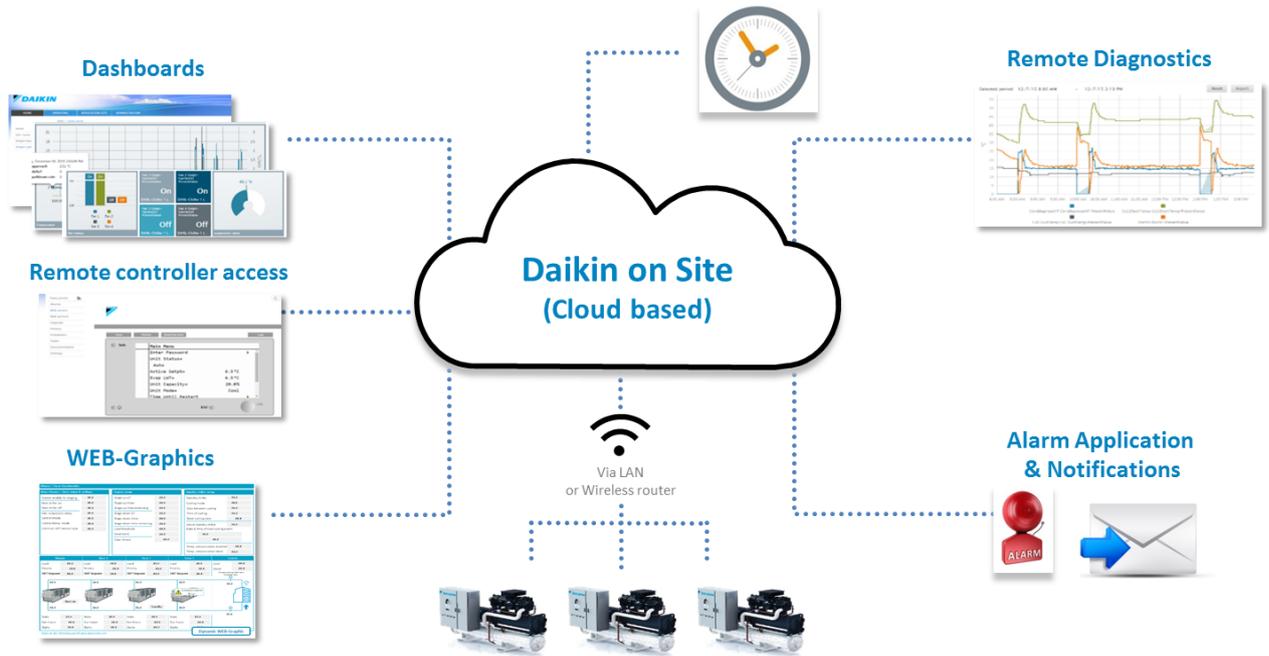
Target Audience of this Operating Manual.....	3
Scope of this Operating Manual .....	4
Exemption from liability.....	4
A few notes before you get started .....	4
Supported web-browsers .....	4
User roles .....	5
The first time you Sign-in to Daikin on Site.....	6
Security functions for Sign-in and Sign-out.....	6
Did you forget your password?.....	6
Daikin on Site main portal.....	7
Setting your preferred language.....	8
Defining your account details .....	8
Log-out of Daikin on Site.....	9
Switching between Tenants.....	9
Dashboards navigation .....	10
Map .....	10
Overview .....	12
OPERATING Plant Table .....	13
Searching & Sorting Plants.....	14
OPERATING Detailed Plant view .....	15
Plant dashboard .....	16
Trend Viewer.....	17
Trend viewer details.....	17
Setting the time period in the Trend viewer.....	18
Deactivating and activating dataset display .....	19
Zooming features.....	19
The ruler of the Trend viewer .....	20
Dataset export .....	20
Data points.....	21
Data points – Value change request .....	22
Data points – Show Trend feature .....	22



Breadcrumb trail .....	23
Alarms .....	24
Web access (Available to the Trained Operator and Owner roles) .....	25
Web graphic .....	26
History .....	27
Schedulers .....	28
Calendar .....	31
Plant settings (Only available for the Owner Role) .....	32
Alarm configuration and Cloud .....	33
Replacing Plant .....	33
Plant notifications .....	34
ADMINISTRATION .....	39
Activate plants .....	39
Personalised Dashboards .....	40
Adding information to dashboards .....	41
Designing dashboards .....	42
Rearrange tiles .....	43
Edit tile .....	43
Remove tile .....	44
Add chart .....	44
Chart types .....	48
Download dashboard .....	49
Upload dashboard .....	49
Application Set .....	50
Data acquisition and storage .....	50
Data storage .....	51
Security .....	52
Data privacy .....	52
Decommissioning of a Plant .....	52
APPENDIX A – Web graphic examples .....	53
Chiller Overview (Operator access level) .....	53
Chiller Overview (Trained Operator & Owner access level) .....	54
Chiller Master/Slave Staging & Sequencing (Trained operator & Owner access level) .....	55
iCM light – Standard Chiller plant room solution (Trained operator & Owner access level) .....	56



AHU – Modular (Trained operator & Owner access level) ..... 57





## Target Audience of this Operating Manual

This Operating Manual is designed to introduce Daikin on Site cloud-based features available to the **Operator**, **Trained Operator** and **Owner** Roles performing operational tasks, such as monitoring of equipment status, setting of operational set-points and schedulers of the connected HVAC equipment and system controls solutions.

## Scope of this Operating Manual

This Operating Manual introduces the generic features of the Daikin on Site cloud-based application. It does not address the functionality of connected HVAC equipment and system controllers, such as Chillers, Air handling units (AHUs), intelligent chiller room manager (iCM), etc.

For detailed information on equipment and system controllers please consult their specific Operating Manuals.

## Exemption from liability

The content of this document was reviewed to ensure it matches the hardware, software and firmware described herein. Deviations cannot be precluded however, so that we cannot guarantee that the document matches in full the actual device/system. The information provided in this document is reviewed on a regular basis and any required corrections are added to the next edition.

Feel free to contact the Daikin on Site support team at [fqs.technicalservices@daikineurope.com](mailto:fqs.technicalservices@daikineurope.com), if you identify errors or deviations between described and actual Daikin on Site functionality.

## A few notes before you get started

The structure and content of this Operating manual is partially outlined as a tutorial, especially in chapters that describe more comprehensive functionality, such as Alarm notifications, Schedulers, Personalised dashboards.

It makes good sense to have Daikin on Site at your fingertips when you read this Operating manual; to try out described functionality.

## Supported web-browsers

The following browsers are supported by Daikin on Site:

- Mozilla Firefox
- Google Chrome
- Safari
- Microsoft Edge



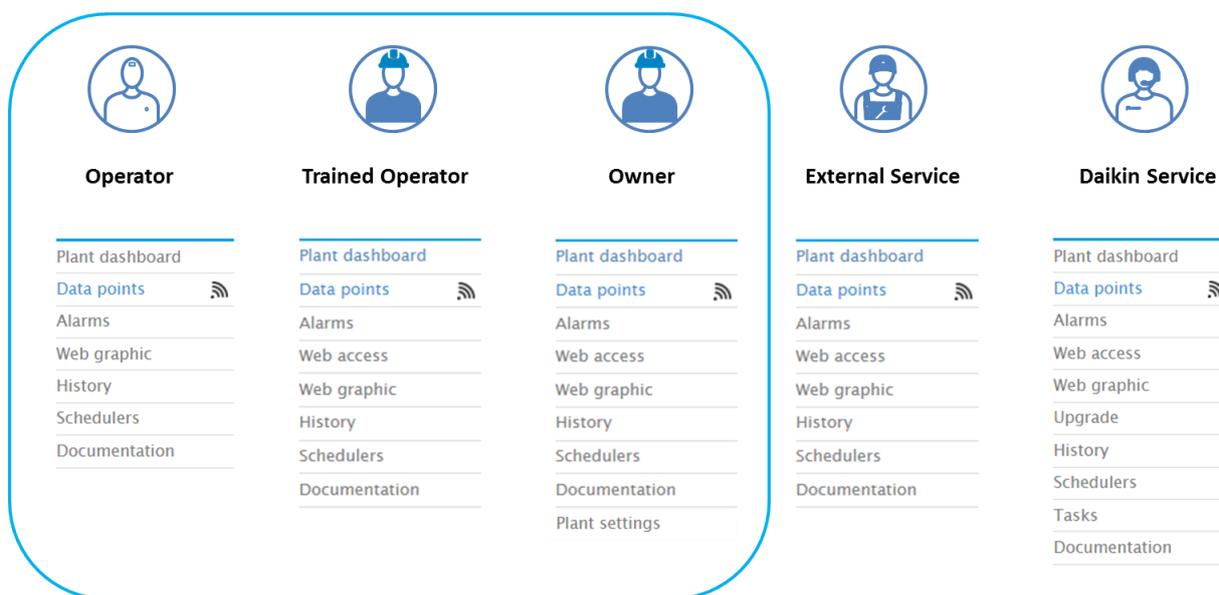


## User roles

Daikin on Site supports five User roles:

- **Operator** with read only access to data points
- **Trained operator** with access to operational data points and settings
- **Owner** with access to operational data points and settings
- **External service** with access to operational data points and some settings for commissioning and maintenance
- **Daikin Service** with full access to all data points

Access to Daikin on Site functions is also User role specific:



This Operating manual describes functionalities available and/or relevant for the **Operator, Trained Operator** and **Owner** User roles.

**Note:** The **Trained Operator** role and the **Owner** role have the same data point read and write access. The only difference between the two roles is that the **Owner** role has access to **Plant settings** that allows this role to manage **Plant users** and create alarm **Notifications**.

**Note:** As this manual describes several User roles, screen shots and descriptions might address functionalities that are not available to a specific User role. It is stated throughout the manual for which User roles a specific function is available.



## The first time you Sign-in to Daikin on Site

In order to Sign-in to Daikin on Site you need to be invited. That happens when a Daikin on Site Administrator has granted you access to one or more Plants and you received an email from Daikin on Site with a temporary password.

Sign In

E-mail address

Password

Sign In  Keep signed in

[Cannot access your account?](#)

With the E-mail invitation on hand you take the following steps:

- Navigate to [WWW.DaikinOnSite.com](http://WWW.DaikinOnSite.com) and you will see the landing page with the Sign-in mask shown above.
- Enter your E-mail address and your (temporary) password and click **Sign in**
- You are then requested to change the temporary password
  - **Note:** A secure password consists of at least 8 characters and must include at least one number and one special character
- Create and confirm your secure and personal password
- Click **Change password** to confirm your personal password
- Your personal password is now active and you are forwarded to Daikin on Site main page.

## Security functions for Sign-in and Sign-out

Note the following security functions for Sign-in and Sign-out:

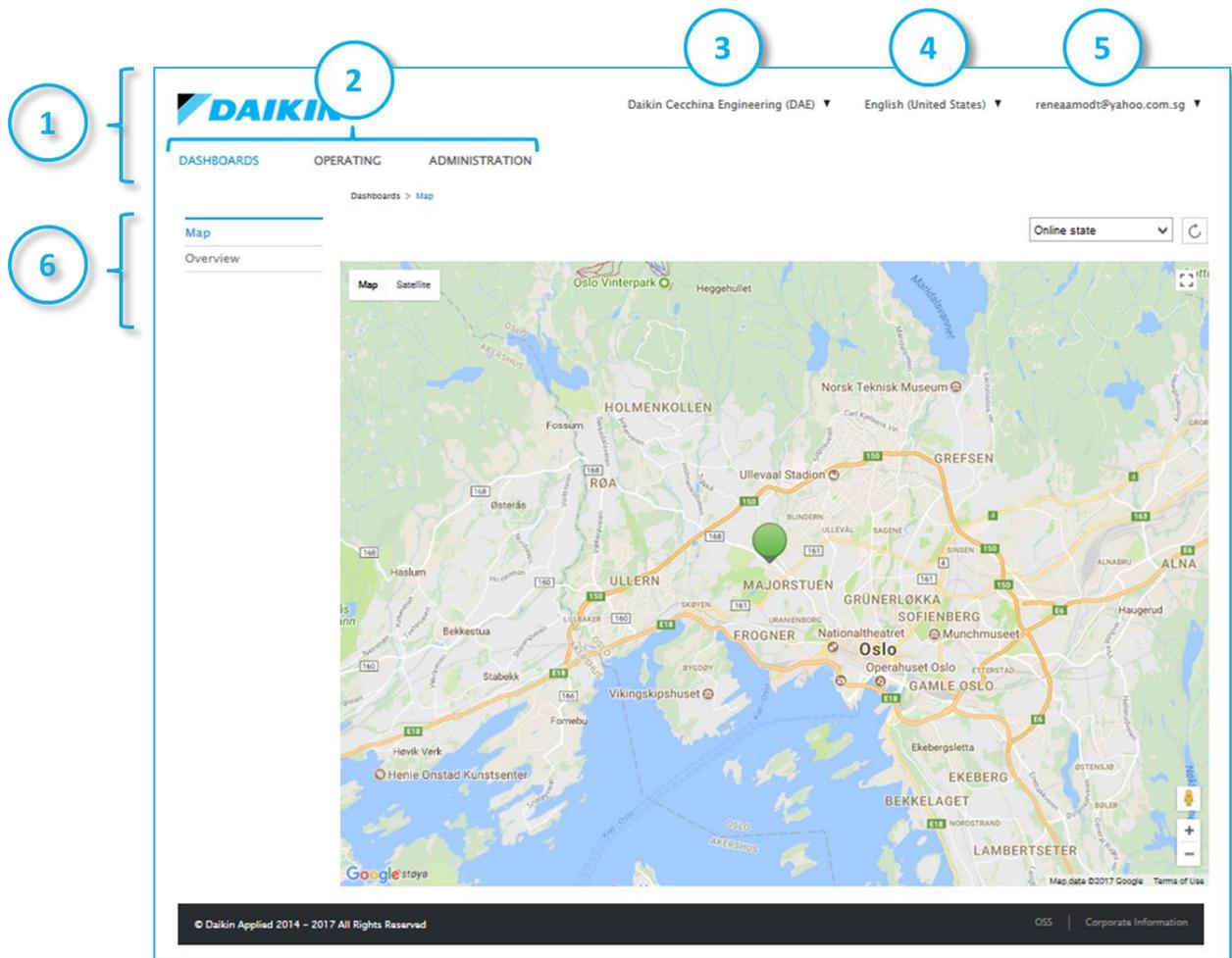
- Your session is automatically ended after 30 minutes of inactivity. Daikin on Site then automatically returns to the landing page.
  - **Note:** Only activity on the first web-browser tab is registered, when working with multiple web-browser tabs.
- Your user account is locked after 5 failed attempts to enter your password. You are then referred to the **Forgot password** function, which will allow you to set a new password
- For security reasons, a new Sign-in is automatically required after 24 hours of uninterrupted user activity.

## Did you forget your password?

Use the **Reset password** function if you have forgotten your password and follow the instructions.



## Daikin on Site main portal



Above you see the Daikin on Site main portal with the markings 1 to 6 that are explained below:

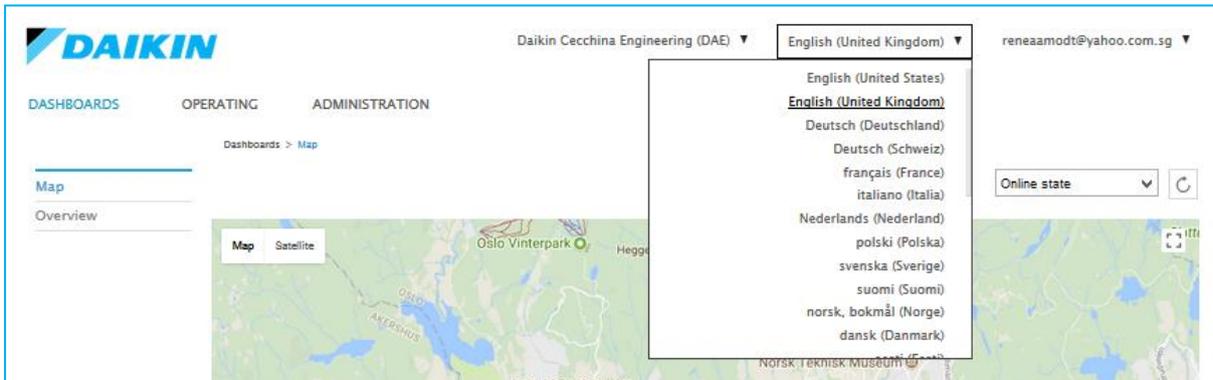
1. Refers to the span of the Daikin on Site primary navigation ribbon
2. Refers to the primary navigation functions within Daikin on Site
  - a. **DASHBOARDS**
  - b. **OPERATING**
  - c. **ADMINISTRATION**
3. Refers to the so-called **TENANT SWITCH**
4. Refers to **LANGUAGE SETTING**
5. Refers to **ACCOUNT DETAILS & LOG OUT**
6. Refers to the secondary navigation menu. The secondary navigation menu is context depended, as you will see later in this document.

The functionality behind the various navigation possibilities is explained in the next paragraphs.



## Setting your preferred language

Daikin on Site currently supports 28 languages. You will find the Daikin on Site language setting at the top of the main page, as shown below.



**Note:** This language setting refers to texts that are part of the Daikin on Site cloud-based application and does not apply to texts that are imported from a Plant controller.

## Defining your account details

You define your **Account details** by selecting the top right menu at the Daikin on Site main page, as shown below.



After selecting **Account details** the mask below will be displayed:

My account

Contact name

Owner name

Street

Zip code

City

State

Country

Phone

Preferred engineering unit system (Climatix)

Preferred plant language (Climatix)

Web graphic PIN (Climatix)

Save Cancel

Change password Delete my account



Most input fields in this mask are self-explanatory and not mandatory for you to fill. The following fields need additional clarification:

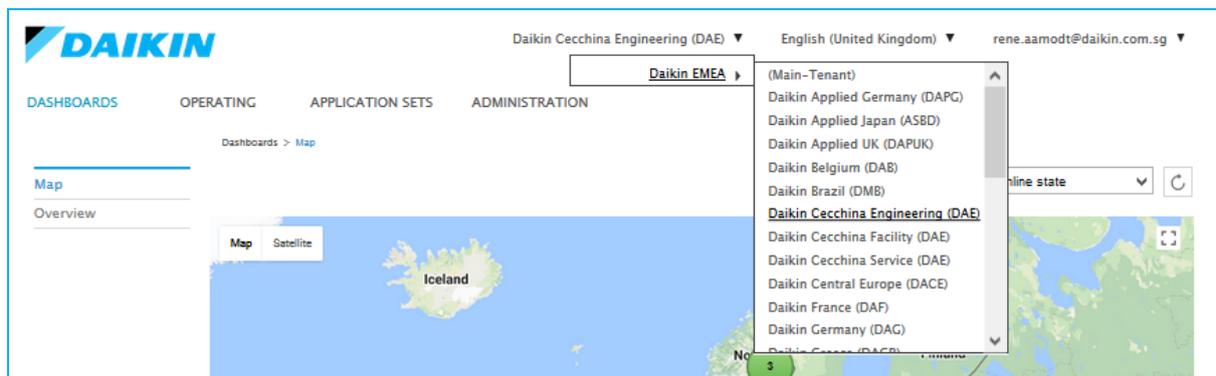
- **Preferred engineering unit system** can be set to **SI Metric** or **Imperial**. Based on your setting Daikin on Site will automatically convert data point values received from a Plant to your preferred engineering unit system
- **Preferred plant language** refers to texts that are imported from a Plant controller. The preferred language can be set to any of the languages supported by the Daikin on Site cloud based application.  
**Note:** Only if the preferred language is available in a Plant controller will Plant specific texts be shown on Daikin on Site. If the preferred language is not available in a Plant controller, then the Plant controllers defined default language will be shown.
- **Web graphic PIN DO NOT SET THIS FIELD**, as it might prevent web-graphic to be shown correctly. If you set the field by mistake, then delete the field and save your settings.

## Log-out of Daikin on Site

You find the Daikin on Site **Log-out** in the top right menu at the Daikin on Site main page, as shown below.



## Switching between Tenants



This function might or might not be relevant for you.

First of all 'What are Tenants?'



Daikin on Site is structured like the file system on your computer. The root is called the **Main Tenant**. Folders under the root are called sub-tenants A **Sub-tenant** can be a business unit like e.g. Daikin Holland. All Plants that are under Daikin Holland’s jurisdiction resides under the **Sub Tenant** Daikin Holland.

If you only have access to Plants within one **Sub-Tenant**, which will be a typical case, then switching between sub-tenants is irrelevant to you and you can ignore this function.

However, if you have access to multiple sub-tenants, then you can switch between them in the menu shown above.

Once you switch to a specific **Sub-Tenant**, then you reduce your view to Plants assigned to the selected **Sub-Tenant**.

### Dashboards navigation

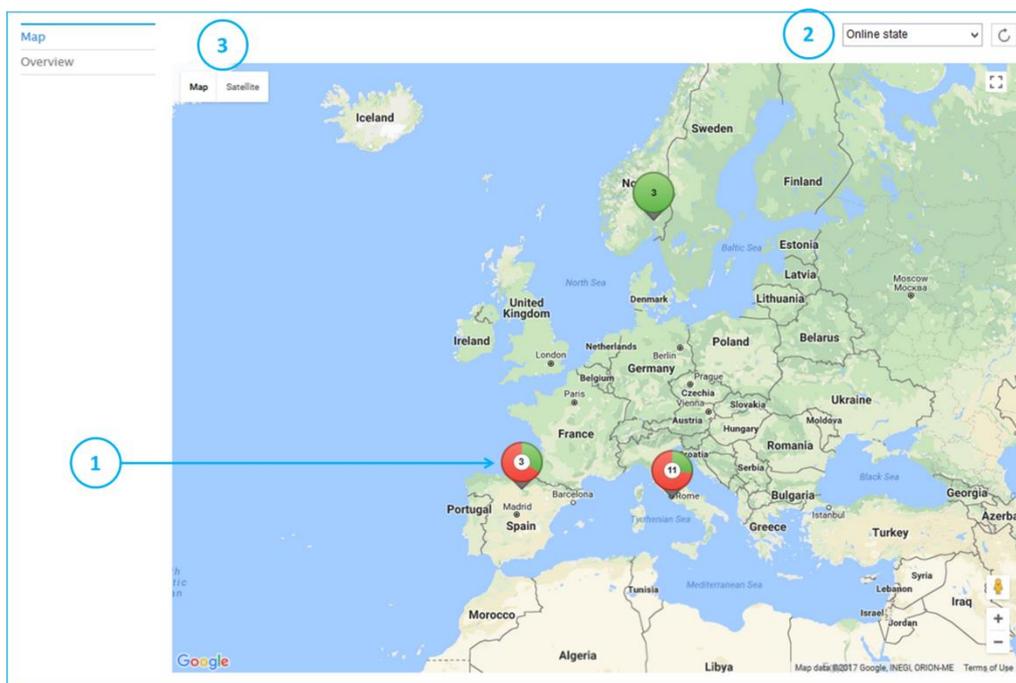
In your very first session entering Daikin on Site, the **DASHBOARD** navigation menu will be highlighted and a **Map** will be shown. In all future sessions the view of the main portal page will depend on where you left it before log-out. The latest view will be the view when you re-enter.

The **DASHBOARDS** navigation menu will initially offer you the sub-navigations:

- **Map** – An overview of where Plants are located geographically.
- **Overview** – Information on the status of Plants/Devices.

### Map

Within the Map you will see the geographical position(s) of one or more Plants, symbolized by one or more Plant bubbles/tags.

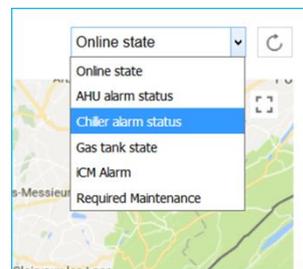




In the above Map we see 3 Plants in Spain (Marked with 1), 11 Plants in Italy and 3 Plants in Norway.

The colour of the Plant bubbles depends on the selection of the so-called Key Performance Indicators **KPI** (Marked with 2). The default **KPI** is the **Online Status** of the Plant(s). Plants that are online are indicated with green and offline Plants are indicated with red. In the above **Map** we see that in Spain one out of three plants is online and in Norway all three plants are online.

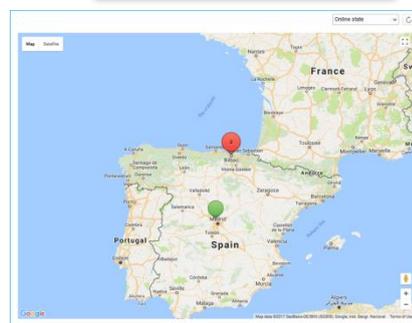
You can switch between **KPIs** (Dropbox marked 2). The selected **KPI** will filter the displayed Plants. For example: If you chose the **KPI Chiller alarm status** then only Plants that are chillers will be shown, with Red indicating alarm and green indicating no alarm.



**Map (zooming)**

You can zoom-in and zoom-out in a Map by pressing “Ctrl” and scroll-in or scroll-out with the mouse wheel.

To the right we have zoomed in on Spain and we see that Plant bubbles breaks up showing the Plants’ geographical locations in more detail.



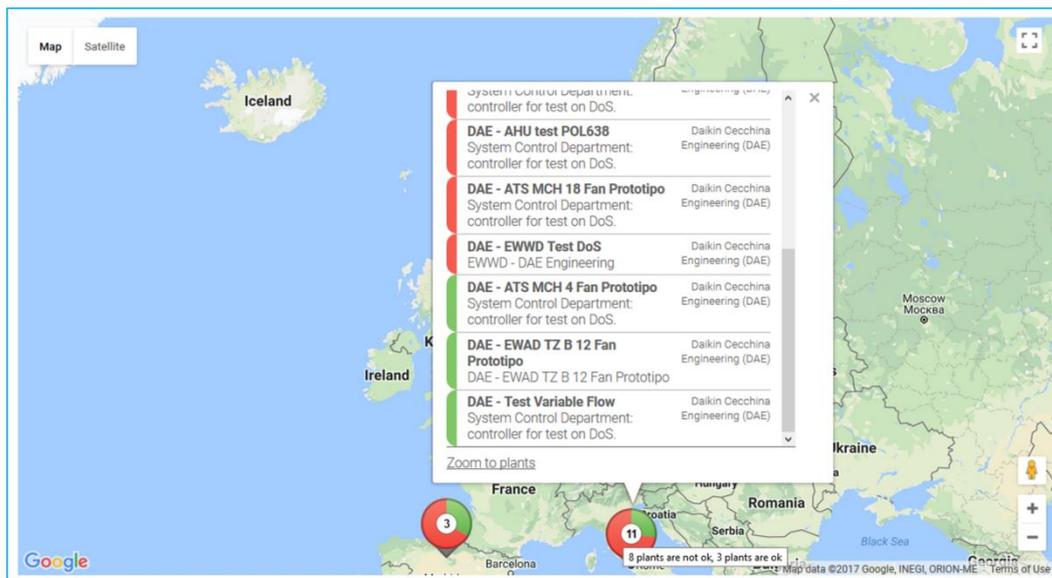
By switching from **Map** to **Satellite** (Marked 3) and zooming in even further on a Plant, we see details of the city/site where the Plant is located.

In some cases you might even see the equipment in focus.



**Map navigation to Plant OPERATING view**

Clicking on a Plant bubble will open a pop-up window with additional Plant details, as shown below for the 11 Plants in Italy.



From this pop-up window you can navigate to the **OPERATING** view of a specific Plant that you want to investigate, by clicking on the Plant.

Zoom to a more detailed view on the Plant’s geographical position, by clicking on the **Zoom to plants** at the bottom of the pop-up window.

## Overview

The **DASHBOARDS Overview** (Marked 1) displays by default two so-called dashboard tiles that



provide you with the following information:

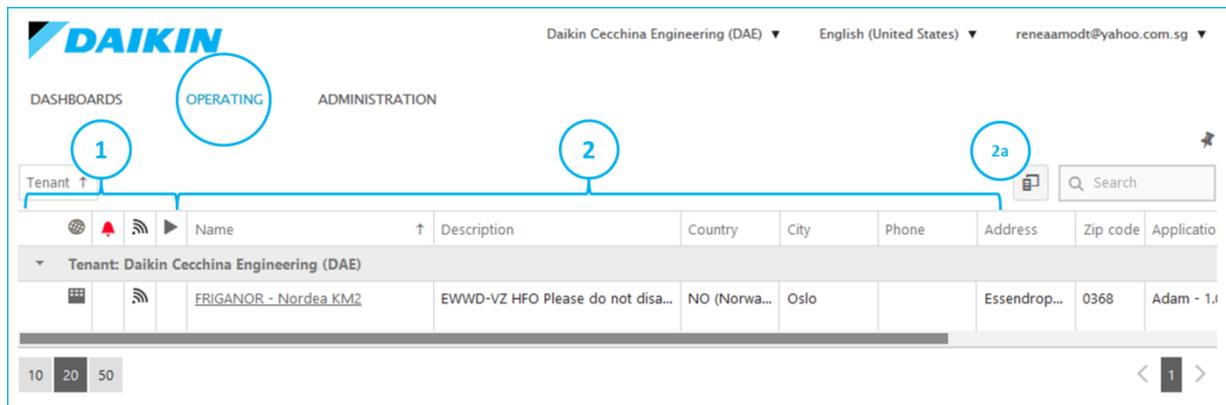
- The blue **Tile** shows you the No. of Plants/Devices that are online, offline and in alarm.
  - Navigate to the **OPERATING** Plant Table view, by right or left clicking on the tile.
  - Click on the alarm icon and you will see a list of Plants in alarm.
- The purple **Tile** shows the No. of Plants/Devices that are **Assigned** and **Unassigned**.
  - Navigate to the **ADMINISTRATION** Plant table view, by right or left clicking on the tile.

For detailed information on **Assigned** or **Unassigned** Plants; please consult the chapter **ADMINISTRATION**.



## OPERATING Plant Table

As mention previously you can navigate to a Plant via the **DASHBOARDS Map**. An alternative way to navigate to a Plant is via **OPERATING** located in the primary navigation section of the Daikin on Site main page.



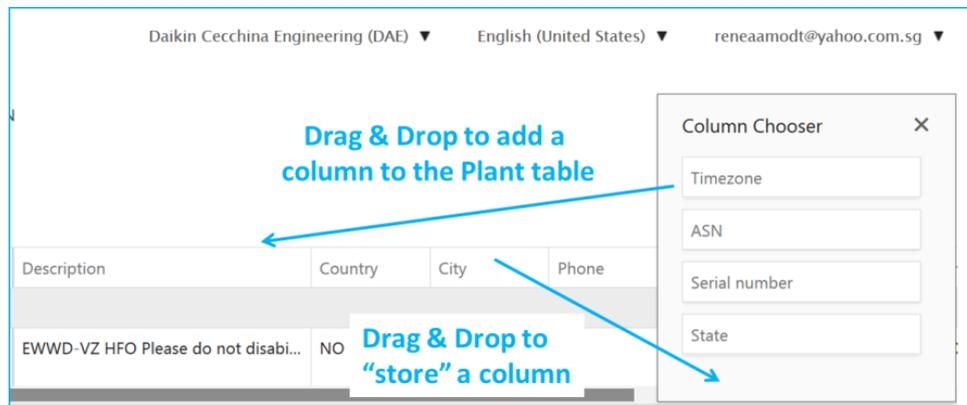
The **OPERATING** view displays a table with one or more Plants; each row in the table is representing one Plant.

To the left side of the Plant row a number of columns with icons are displayed (Marked 1)

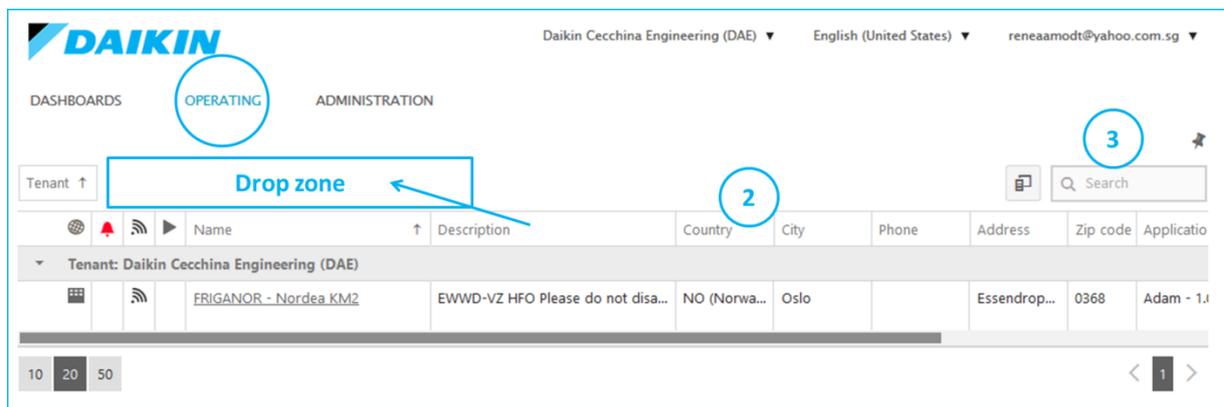
- The first icon  indicates whether a dynamic web-graphic is assigned to the Plant.
  - If you hover over the icon, with the cursor, a web-graphic will be displayed in a pop-up window on top of the Plant table.
  - If you click on the icon you will navigate to a dedicated window for web-graphic display (More about web-graphics later)
- The second icon  is only shown if the Plant is in alarm status.
  - If you click on the alarm icon you will navigate to the Alarm application. For details, please consult the **Alarms** chapter.
- The third icon  shows whether the Plant is online and whether communication to the Daikin on Site is LAN based or wireless. If there is no icon displayed then your Plant is offline.
  -  This icon indicates that the Plant is online and connected via LAN
  -  This icon indicates a wireless connection e.g. via a M2M router
- The last icon  is shown when a task is in progress. E.g. is it a task when Dakin on Site is up or down-loading files, from or to a Plant.
- If you click on the **Tasks** icon you will navigate to the **Tasks** overview page. For details, please consult the **Tasks** chapter. The columns (Marked 2) are showing information that is defined done under **Plant settings**; more about **Plant settings** later in this document.
- You can rearrange the sequence of columns by dragging & dropping them into the positions you prefer. **Note:** Exception is the Plant Name column that is always the first column.



- The function  (marked 2a) allows you to add additional columns or to remove/store shown columns. Click on the symbol and the “**Column Chooser**” window will appear. Drag & drop columns from or to the Plant Table.



### Searching & Sorting Plants



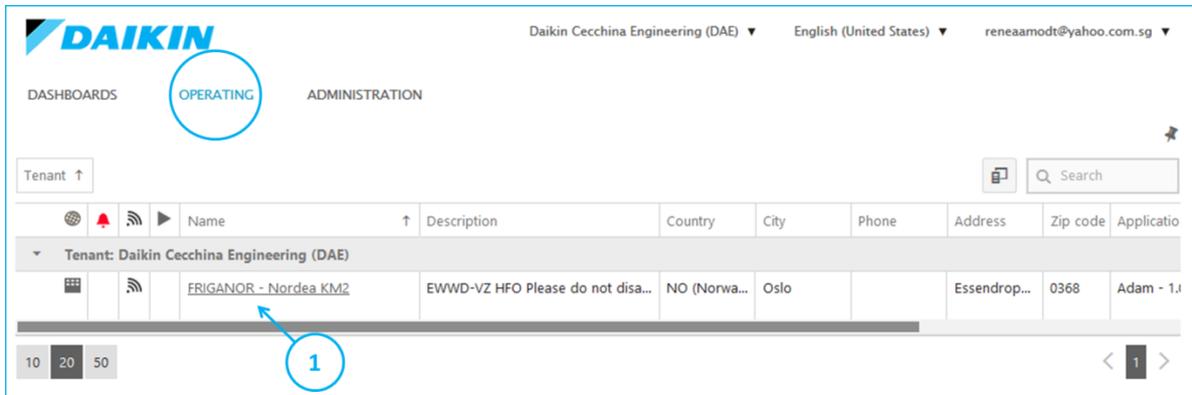
There are several features that support you in developing an overview of Plants, in case you are having a great number of Plants:

- You can drag and drop a column from the Plant Table into the above indicated **Drop zone** and Plants will be grouped based on the dropped column. E.g. dragging the **City** column to the drop zone will group your plants by their **City** definitions.
  - You can move a column from the **Drop zone** and back into the Plant Table, by drag & drop.
- By clicking on a column’s description text e.g. **Country** (Marked 2), you can sort all Plants by their **Country** definition, in ascending or descending order.
- By entering a text in the search field (Marked 3), the Plant Table will automatically filter Plants, only showing Plants containing any text matching your search string.

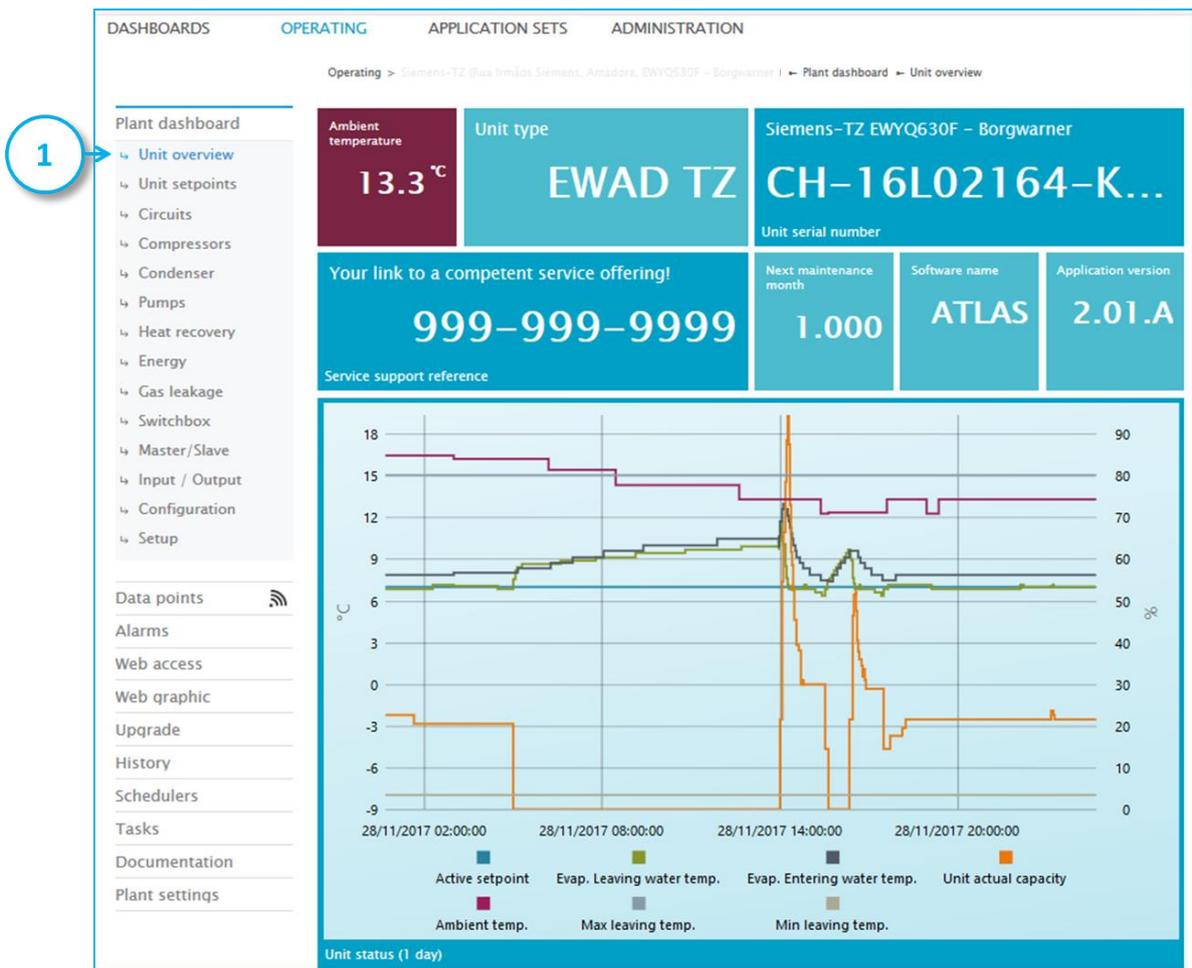


## OPERATING Detailed Plant view

You can navigate to more detailed Plant information by clicking on the underlined Plant name, shown below (Marked 1)



This action will result in an expansion of the context-dependent secondary navigation menu and the plant's default **Plant dashboard** will be shown.



The various secondary navigation possibilities will be described in detail in the next chapters.



## Plant dashboard

Every Plant type (Chiller, AHU, iCM, etc.) has a predefined **Standard dashboard**. A **Standard dashboard** is divided into application specific views on instant, as well as historical data. For a chiller, it is typically views on Unit, Circuits, Compressors, Condenser, Energy meter, etc.

Below is a subset of a dashboard view on an air-cooled chiller unit.

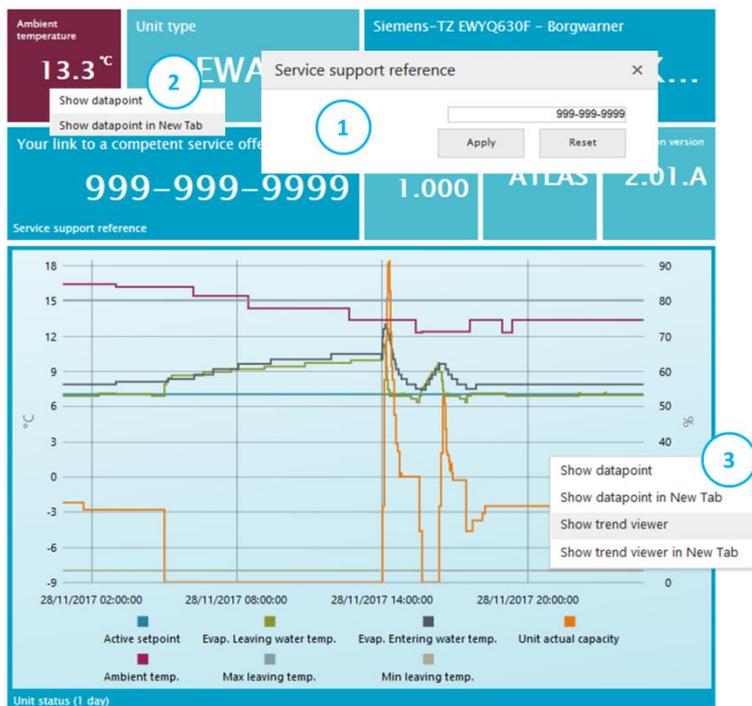
The upper part of the dashboard displays a collection of **Basic Tiles** showing instant values.

The lower part displays a **Chart Tile**, showing the historical values of a set of data points, over the last 24 hours.

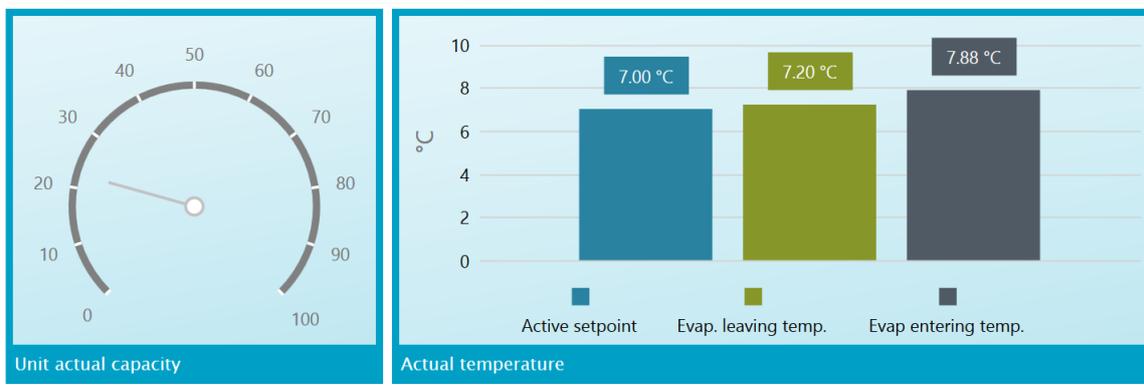
**Basic Tiles** that displays values of settings can be changed directly in the dashboard, by Users that have the required access level. Click on the Tile and a pop-up window (Marked 1) will be opened for you to change the value.

Right or left click on any **Tile** to navigate to **Show data point** information (Marked 2). The **Data points** view is described later in in this document.

**Line Chart Tiles**, **Bar Chart Tiles**, **Circular Gauge Tiles** and **Bar Gauge Tiles** offer an additional and highly valuable navigation feature. Right or left click and navigate to: **Show trend viewer** (Marked 3). The **Trend Viewer** is described in the next chapter.



Sample of **Circular Gauge** and **Bar Chart**:



**Note:** You can build your own personalized dashboard to supplement predefined standard dashboards. See chapter **Personalised Dashboard** for more details.



## Trend Viewer

You navigate to the **Trend Viewer** by right or left clicking on any **Chart Tile** within a **Dashboard**.

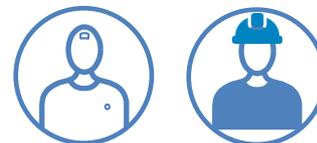


## Trend viewer details



The **Trend viewer** comes with a great number of functions. The default settings are taken from the **Chart** you navigated from, which will show datasets from the **Chart**, typically over a period of one day.

Within the **Trend viewer** you can change the period of time for display of datasets, you can zoom-in and out on datasets, deactivate and activate the display of individual datasets and export data to CSV files.



### Setting the time period in the Trend viewer

The time duration of data to be displayed within the **Trend viewer** is initially determined by the **Time window**. To the right you see the range that can be set.

Time window  

- Day
- Second
- Minute
- Hour
- Day
- Week
- Month
- Year

After a redefinition of the **Time window** you need to confirm your settings by refreshing the **Trend viewer**, you do that by clicking on the refresh icon.

You find the icon in the upper right corner.



The **Trend Viewer** then reloads datasets within the requested **Time window**.

If we want to see data from e.g. April 2017, then we can use the **Time until** feature, in combination with the **Time window**.

Time until

Click on the **Time until** shown date or the icon to the left of the date. This will open a pop-up window for you to set the date for **Time until**.

◀ May 2017 ▶

Mo	Tu	We	Th	Fr	Sa	Su
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

Time

Hour

Minute

Second

As we want to see data from April 2017, we set the date and time to May 1<sup>st</sup>. We then set the **Time window** to 1 Month and press refresh to get data loaded. Data are loaded for 1 Month, until 1<sup>st</sup> of May. Below the result:



The black arrows to the right and left of the **Trend viewer** page allow you to browse through datasets, in steps of the defined **Time window**.

Time window

1 ◀ 02/11/2016    29/11/2017 ▶ 2

The black arrow to the left (Marked 1), shows the date that data recording started for the Plant. The black arrow to the right (Marked 2) shows the **Time until** date.

With the setting of the **Time window** to e.g. 1 Month, clicking on the arrow (marked 1), loads data from the previous month, clicking on the arrow (Marked 2), loads data from the next month, if available.



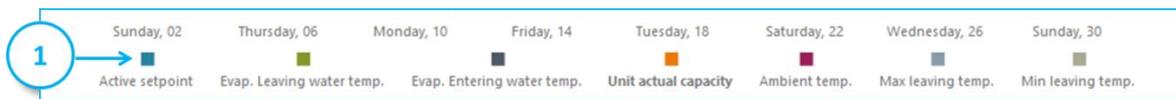
You can set the **Time until** to current date and time, by pressing the **Now** icon.

Time until  

After the **Time until** has been set to **Now**, you need to confirm the **Now** setting, by clicking the refresh icon, and data will then be loaded.

### Deactivating and activating dataset display

You can deactivate a data point's dataset display by clicking on its colour coding square (Marked 1), next to the data point's description text



Activate the display of a data point's datasets, by clicking the colour coding square again.

### Zooming features



There are a number of Zooming features available to you:

1. Click & drag your cursor over an area of interest, then release the cursor to zoom-in on the datasets (Marked 1)
2. Click on the display area and use your mouse wheel to zoom-in and zoom-out (Marked 2).  
**Hint:** You get better control of this function when you press Ctrl, as you roll the wheel.
3. Drag the right and left edges (Marked 3) to encapsulate the area you want to zoom-in on. As you release an edge, datasets will be loaded.

In order to reset the view to **Time window** settings after zoom-in, click the refresh icon.





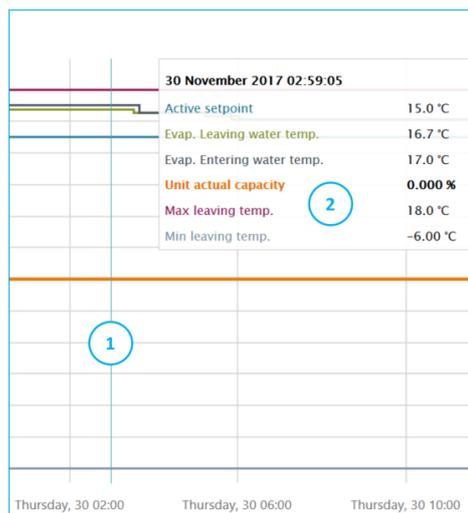
### The ruler of the Trend viewer

As you move your cursor over the display area a **Ruler** (Marked 1) will move across datasets.

The date, time and the actual values of data points are updated in the pop-up window (Marked 2), relative to the Rulers position on the timeline (x-axis).

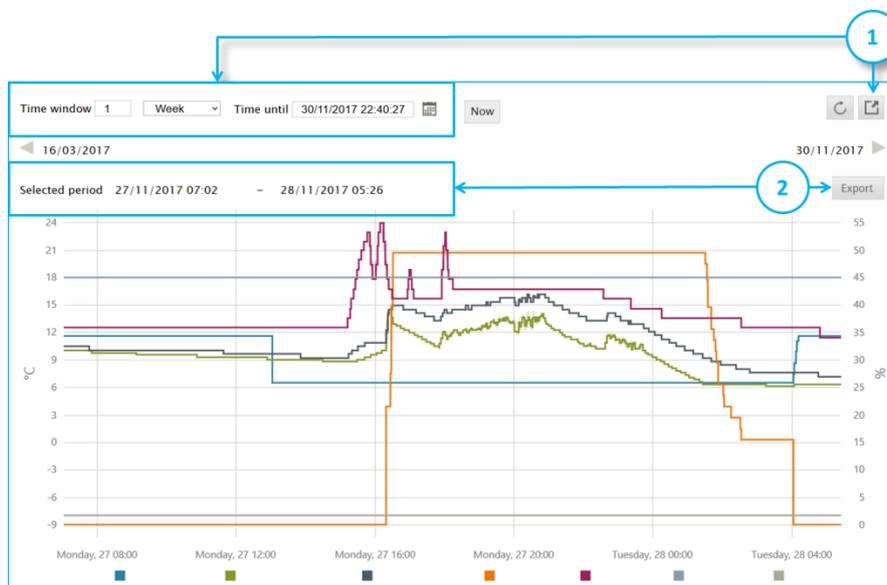
**Hint:** Click on a dataset of interest and its description text and unit text, as well as its corresponding x-axis will be **highlighted**.

Minimum and maximum display (TBD)



### Dataset export

You can export datasets to CSV (Comma Separated Values) files from the Trend viewer, by clicking one of the two export icons, located in the upper right corner.



The export icon  (Marked 1) exports data sets based on the time period defined in the **Time window** and **Time until** definition.

The export icon  (Marked 2) exports data sets from the **Selected period** of the currently displayed data sets. This is helpful, as there might be a difference between the **Time window** and **Time until** definitions and the displayed data sets, in case you have zoomed, as shown above.

When exporting data you will get one CSV file per data point.

**Note:** The datasets across the CSV files are not time synchronized, as Daikin on Site does NOT capture datasets in fixed interval, but is using the method of **Change of Value (COV)**.

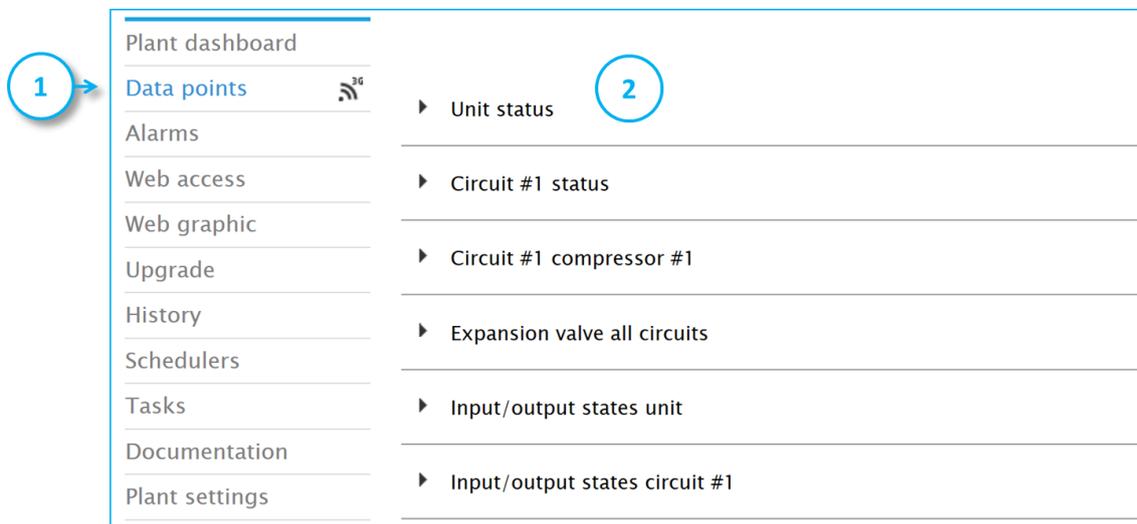
For more information on the COV concept, please consult the chapter **Data acquisition and storage**.



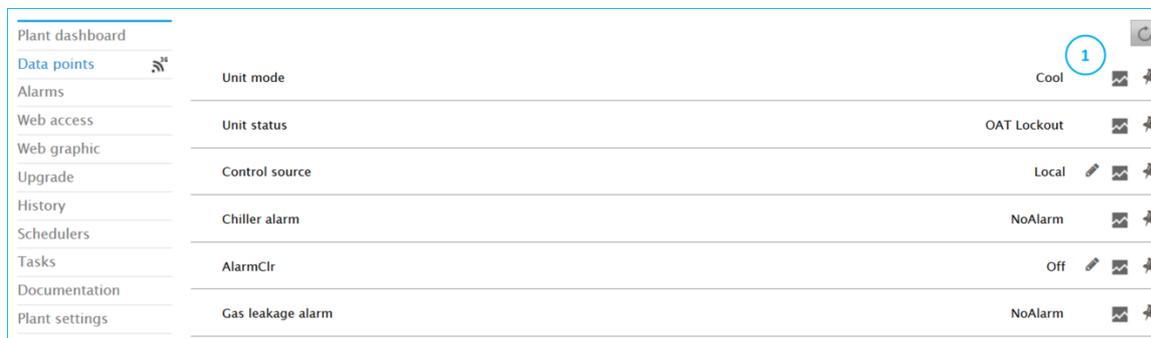
## Data points

In the **OPERATING** detailed Plant view you find the navigation menu **Data points** (Marked 1). Selecting **Data points** will take you to a page showing the data point chapter structure of the Plant that you are viewing (Marked 2).

**Note:** Depending on your **User role** you will see more or less chapters.



Clicking on a chapter will take you to the **Data points** of the chapter.



If the Plant is online then you see **Data points** as near real-time values. If the Plant is offline, then you will see the last recorded value.

**Note:** Near real-time is the term used to indicate the delay between a data point's value change in the controller and the time it takes for this value change to reach Daikin on Site, which typically is a few seconds.

In addition you see a number of icons:

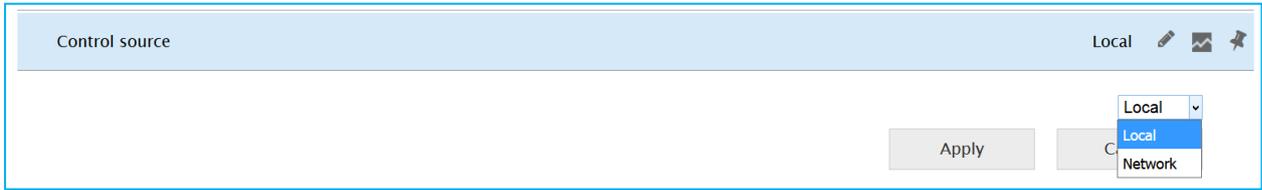
- The **Pen icon** indicates that the data point value can be manually changed by you. Click on the data point value and a dialog will open for you make a value change request. See next chapter for details.
- The **Pin icon** is for personalized dashboard. See chapter **Personalized Dashboard**.
- The **Show trend icon** is explained in the next chapters.





### Data points – Value change request

To change a data point’s value manually, you click on the data point value and a dialog will be opened. **Note:** The **Operator role** has read access to data points only.



Change the value and click apply to execute a value change request.

**Note:** You can only make a change request when the Plant is online. Your change request is fetched by the Plant controller and **NOT** sent to the Plant controller by Daikin on Site. The request is then executed by the Plant controller and a confirmation is sent to Daikin on Site. This procedure might take a few seconds.

**Note:** Consult the **Data acquisition and storage** chapter for more information on how communication is designed between Plant controllers and the Daikin on Site cloud-based application.

### Data points – Show Trend feature

Every data point has its historical changes stored in the cloud. Many data points are participating in the **Standard dashboards**, which facilitate Trend viewing of multiple data points.

However, you might find that a particular data point of interest is not covered by a **Standard dashboard** and you can then under **Data points**, access its historical trend.

Click on the data point **Show trend** icon (Marked 1) and the following view will open up.



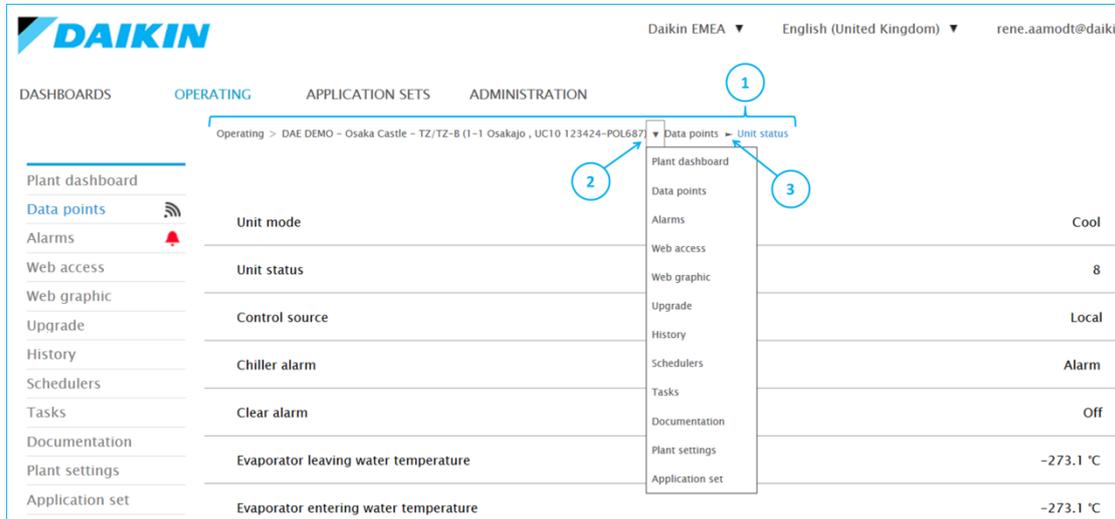
The setting of the **Time window**, **Time until**, **Now**, Zoom via drag & drop, and **Export** to CSV file, follows the already described functionalities in the chapter **Trend viewer**.



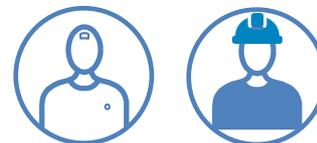
## Breadcrumb trail

A **Breadcrumb trail** is a type of secondary navigation scheme that reveals your location in a website or Web application. The term comes from the Hansel and Gretel fairy tale in which the two title children drop breadcrumbs to form a trail back to their home.

You find the **Breadcrumb trail** (Marked 1) towards the top of the page:

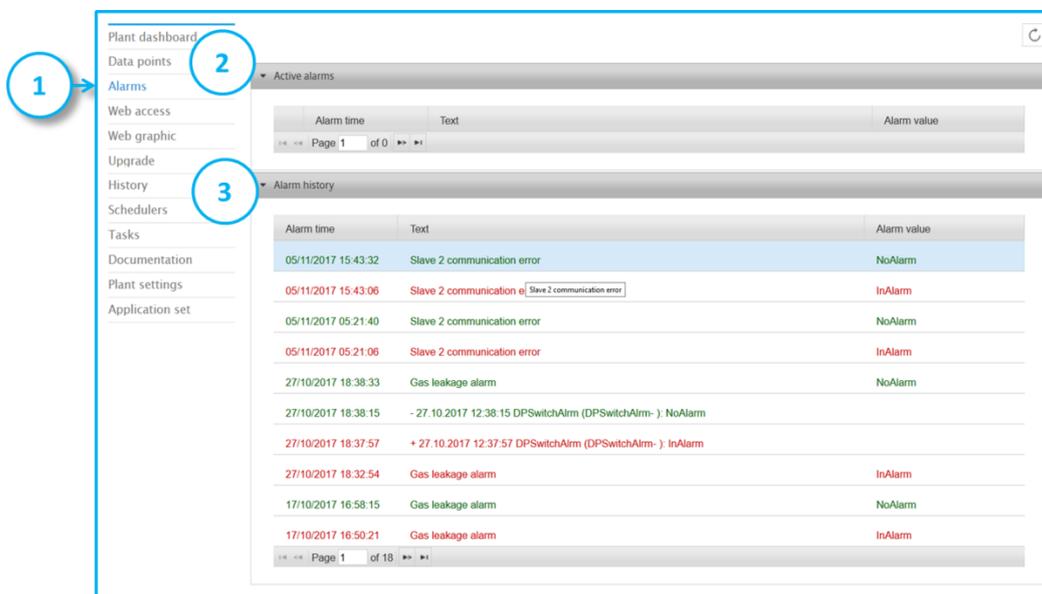


Arrows (Marked 3) along the trail shows where a secondary navigation pop-down menu (Marked 2) is available. Click on the arrow and a pop-down menu will appear. You can navigate directly from the pop-down menu to the listed menu items.

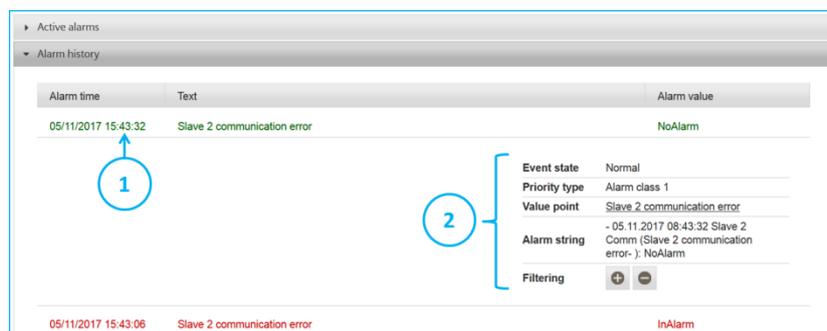


## Alarms

The **Alarms** application (Marked 1) provides you with an overview of **Active alarms** (Marked 2), as well as the Plants **Alarm history** (Marked 3).



Click on an Active or Historical alarm and the view will expand for more details:



The details (Marked 2) are:

- **Event state:** (Normal/Alarm)
- **Priority type:** Can be any of 15 Alarm classes.
- **Value point:** If the alarm is directly related to a physical data point, then the **Value point** will be shown, otherwise not. When the **Value point** is shown, then you can navigate to the data point in question, by clicking on its **underlined** Alarm text.
- **Alarm string:** Shows the Alarm string received from the Plant, with the time stamp at the time zone where the Plant is located. The time stamp (Marked 1) shows the time zone, where the User of Daikin on Site is located. In the above example; The User accessed Daikin on Site in Singapore, viewing a Plant located Norway.
- **Filtering:** Click on the icon and **only** the selected Alarm will be shown in the Alarm list. Click on the icon and the selected Alarm will be **excluded** from the Alarm list. Refresh the Alarm list by re-entering **Alarms**.

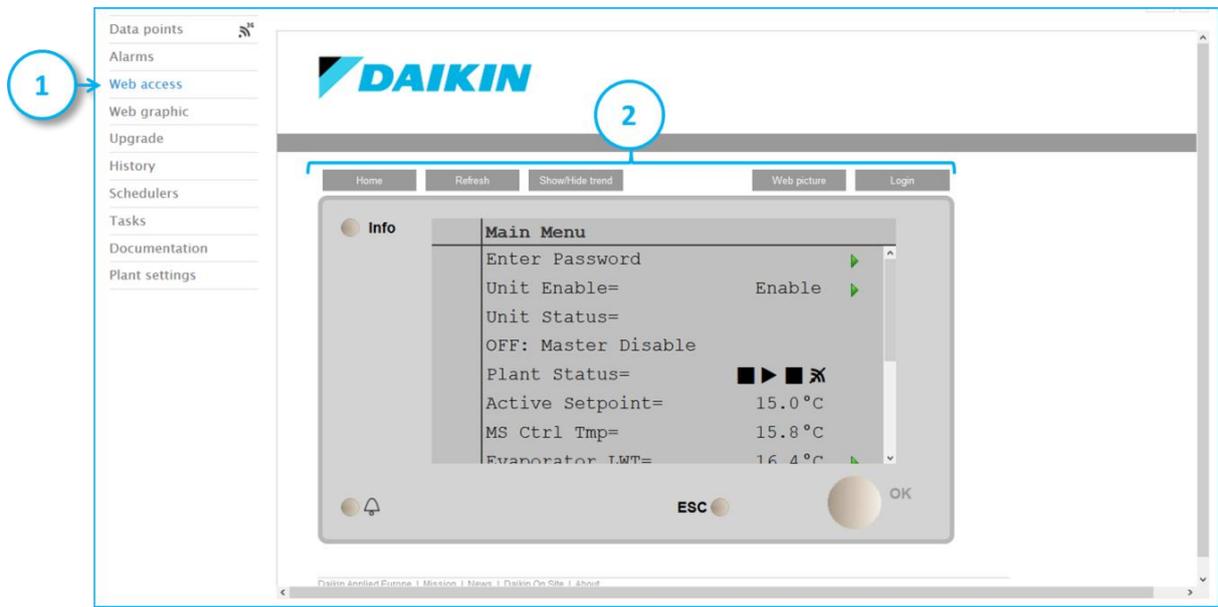


## Web access (Available to the Trained Operator and Owner roles)

This function is emulating the LED HMI functionality available in Plant controllers. In other words; you get access to HMI functionality, as if you were onsite operating the Plant controllers HMI e.g. on a chiller. **Note:** This function is only available to the **Trained Operator** role.

The feature is available for all Plant controllers that have an HMI mapping file loaded.

At the point in time you click on **Web access** (Marked 1) Daikin on Site has no knowledge of the HMI of the Plant HMI that you want to view. The Plant controller will fetch your request on Daikin on Site and initiate the upload of its HMI configuration. This will take several seconds. Once it is uploaded you will see the following:



The Features (Marked 2) are from left to right:

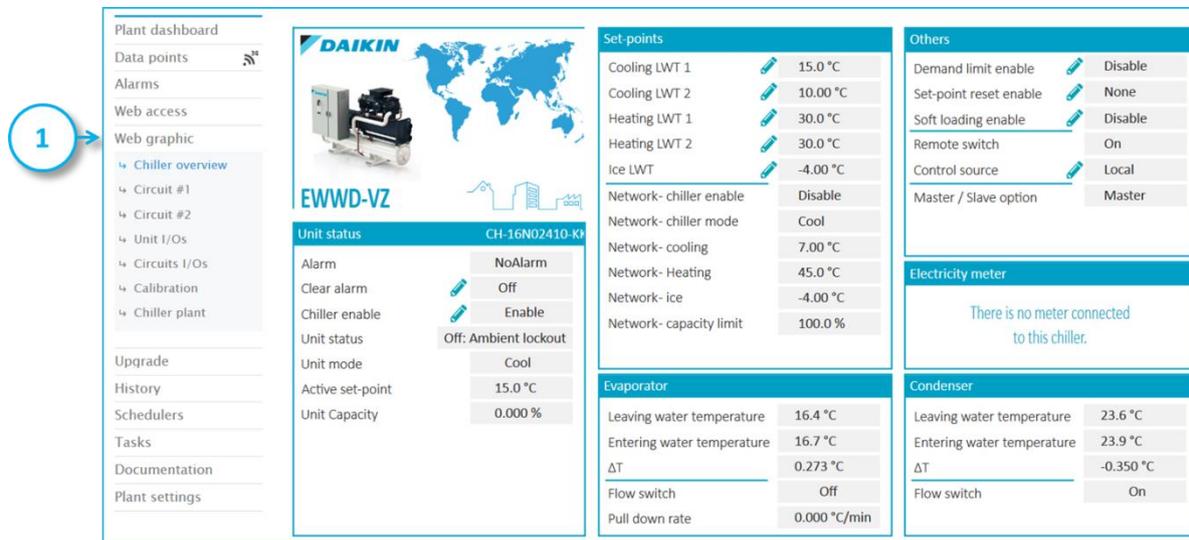
- **Login:** Click and a pop-up window appear, for you to enter and save your password. The password expected is that of the controller.
- **Web picture:** This function will show a dynamic Web graphic, if a Web graphic is loaded on the Plant controller. Currently Daikin does not support Web graphics on Plant controllers, so this function can be ignored.
- **Show/hide trend:** The use of the Daikin on Site **Plant Dashboard** and **Trend viewer** is recommended.
- **Refresh:** Will refresh the HMI display.
- **Home:** Will take you to the root/first page of the HMI.



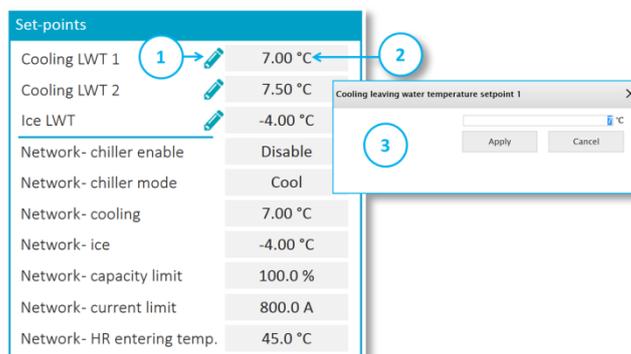


## Web graphic

When you choose this function (Marked 1) a default **Web graphic** will be shown. If you have access to several web graphics a menu of web-graphics will open up, for you to choose from.



Web graphics are showing near real time values and allowing you to change settings where the **Pen icon** is displayed (Marked 1). To make a value change request, click on the value (Marked 2) and a pop-up window will appear (Marked 3). **Note:** The **Operator Role** has read access only.



**Note:** The near real-time term is used to indicate the delay between a data point’s value change in the controller and the time it takes for this value change to reach Daikin on Site, which typically is a few seconds.

**Note:** You can only make a change request when the Plant is online. Your change request is fetched by the Plant controller and **NOT** sent to the Plant controller by Daikin on Site. The request is then executed by the Plant controller and a confirmation is sent to Daikin on Site. This procedure might take a few seconds.

Web graphics are designed to support the different task that a **User role** needs to performed and is constantly undergoing improvement and expansion of scope.

In APPENDIX A of this document, you will find a collection of **web graphic** examples.



## History

The Plant log **History** (Marked 1) records two kinds of events:

1. **Set-point events:** Recording the email address of the person that changed a set-point, via Daikin on Site, and the value of the set-point change and the date/time the event took place.
2. **Upgrade events:** Recording the email address of the person that executed, via Daikin on Site, an **Upgrade** event, the type of the **Upgrade** event and the date/time the event took place. See the chapter on **Upgrade** for more details.

Submitted	Payload	Result
10/08/2017 18:45:34	Not available or access denied Commanded by: m.mattia@daikinapplied.eu	OK
10/08/2017 15:08:45	Circuit 2 VFD maximum speed = 3600 rpm Commanded by: l.delferraro@daikinapplied.eu	OK
10/08/2017 14:31:31	Not available or access denied Commanded by: m.mattia@daikinapplied.eu	OK
05/08/2017 12:50:55	01:Schedule = <complex> Commanded by: l.delferraro@daikinapplied.eu	OK
05/08/2017 12:49:32	Chiller enable = Scheduler Commanded by: l.delferraro@daikinapplied.eu	OK
05/08/2017 05:23:36	01:Schedule = <complex> Commanded by: l.delferraro@daikinapplied.eu	OK
05/08/2017 05:17:59	Quiet mode enable = Enable Commanded by: l.delferraro@daikinapplied.eu	OK

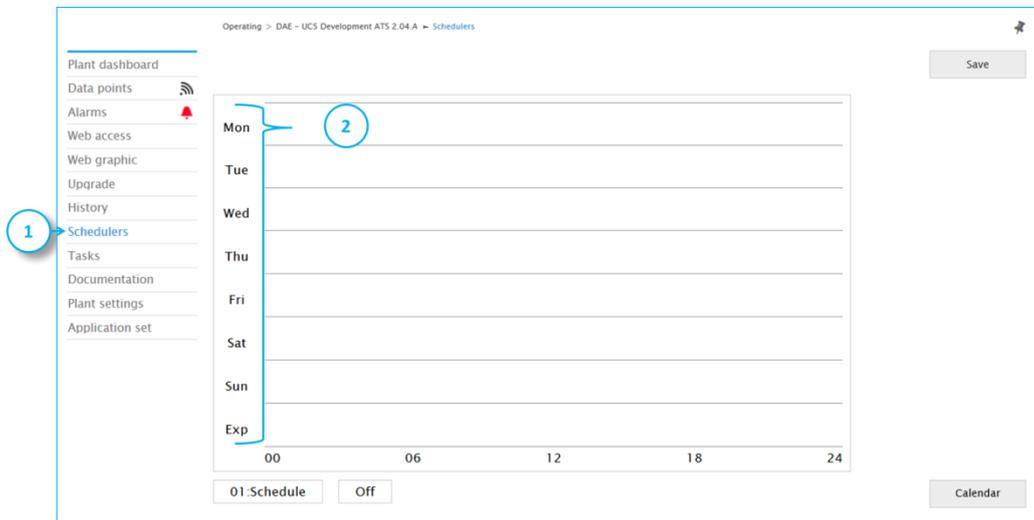
**Note:** Changes made via Daikin on Site are recorded, except for changes made via **Web access**. Changes made via the Plant controller’s LED HMI or by other means than Daikin on Site, are not recorded in the Plant **History** log.



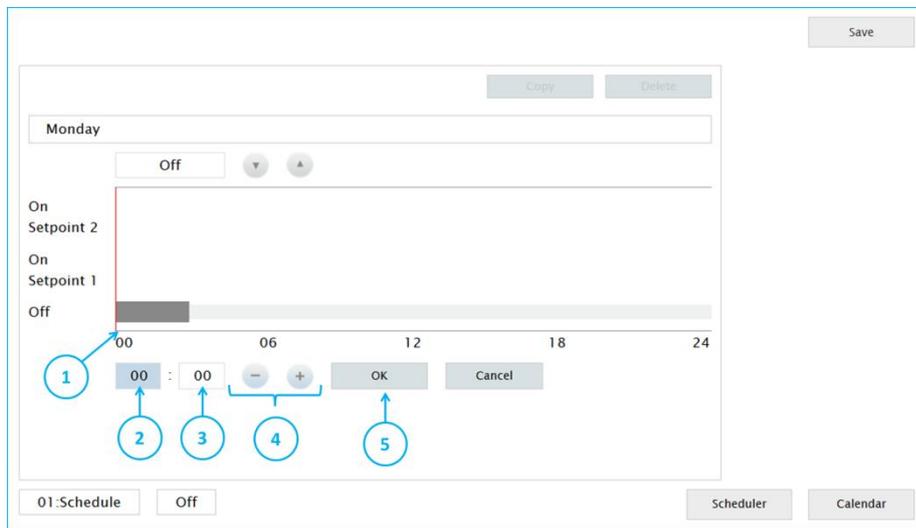
## Schedulers

The **Schedulers** menu (Marked 1) will only be available when there are one or more schedulers available in the Plant controller.

**Note:** Settings made via Daikin on Site in **Schedulers** and in the **Calendar** are residing in the Plant controller and **not** in the cloud, so a controller needs to be online in order to make changes.



When you enter the **Schedulers** page you select the week day you want to define/change. Click on the week day (Marked 2) to navigate to the below view:



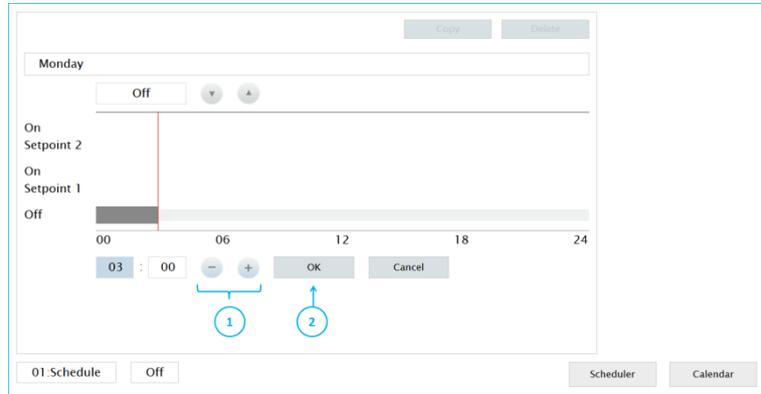
In this example we selected Monday and are setting a data point with the stages (**Off**, **On Setpoint 1**, **On Setpoint 2**).

We click on the timeline where the Off-state needs to begin (Marked 1). By selecting the field (Marked 2) we can adjust the Begin-time for Off-state, in steps of one hour, using the Minus and Plus icons (Marked 4). Selecting the field (Marked 3) will allow adjustments in steps of one minute, via



the Minus and Plus icons. When the Begin-time is defined, we select OK (Marked 5), this will release the function for defining the End-time for the Off-state.

The End-time is adjusted using the Plus and Minus icons (Marked 1) and confirmed with OK (Marked 2).



The Begin-time for **On Set-point 1** is inserted, by clicking on the time line (Marked 1).

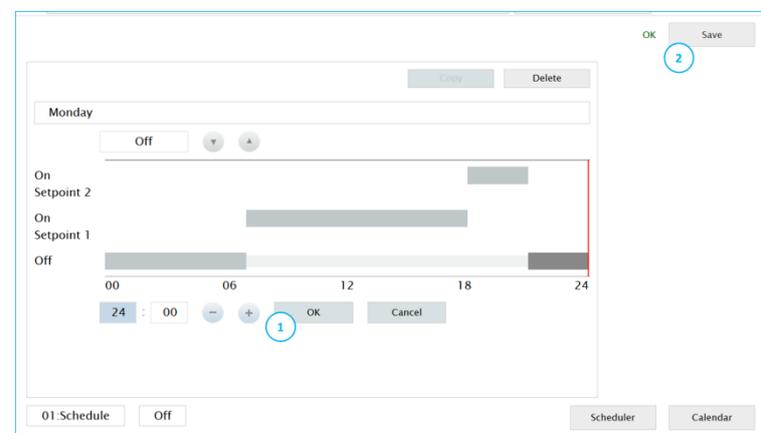
The position of the time range is set to **On Set-point 1**, using the Up arrow (Marked 2).



The time range for **On Set-point 1** is set, applying the same method, as for the Off-state definition.

The scheduler definition for **On Set-point 2**, is done and confirmed with OK (Marked 1)

The complete Monday scheduler is saved (Marked 2) to the controller.

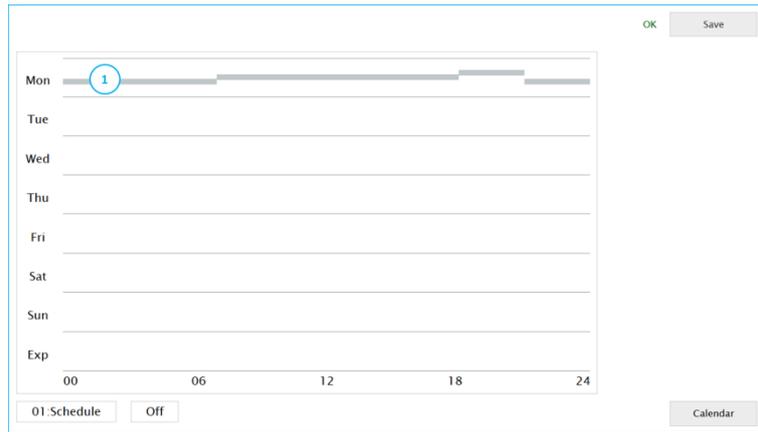




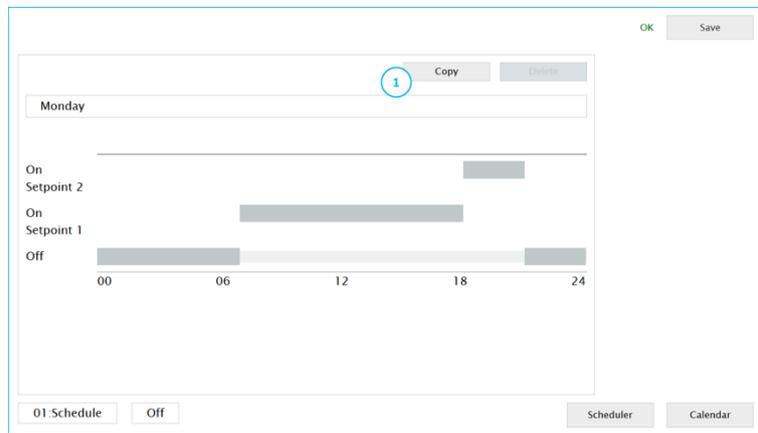
After a successful save to the controller, the following overview is presented:

The Monday scheduler has been defined.

Monday's scheduler can be copied to other weekdays, by re-entering Monday in the scheduler. Click on Monday (Marked 1).

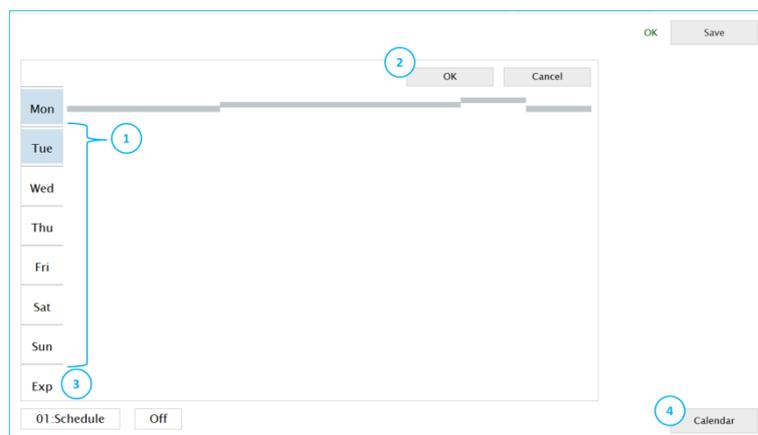


Click on **Copy** (Marked 1) and the below page will open up.



Copy the Monday scheduler to one or more weekdays by clicking on the weekday abbreviations (Marked 1) and confirm with OK (Marked 2).

**Note:** that you have an **Exceptional day** definition available (Marked 3). The **Exceptional day** works together with the **Calendar** (Marked 4)





### Calendar

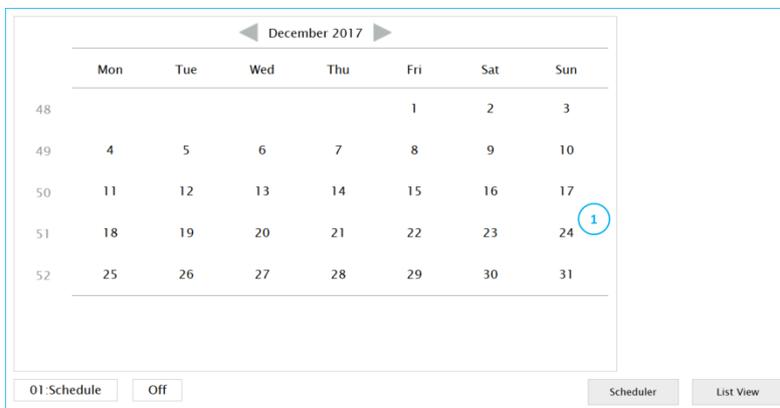
The definition of an **Exceptional day** scheduler is done using the same method as for weekdays.

The **Calendar** allows you to define the days during a year, where the **Exceptional day** scheduler overwrites weekday schedulers.

Click on **Calendar** and the page to the right will appear.

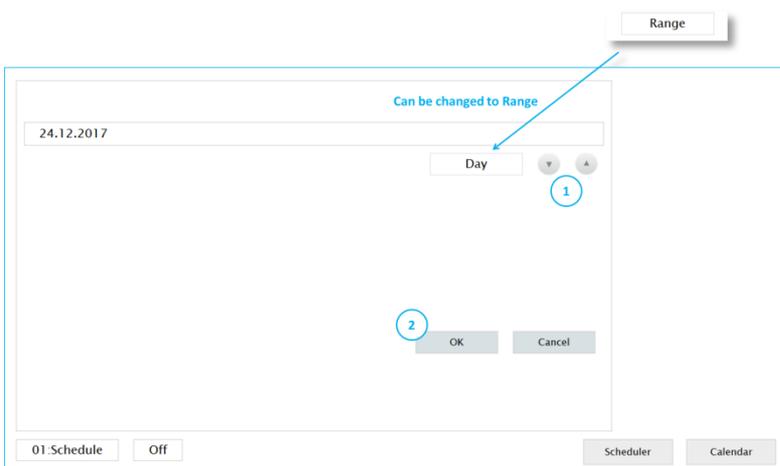
In this example the 24.12.2017 is selected, as an **Exceptional day**.

Click on the 24.12.2017 and the below view appears.



The page shows that the 24.12.2017 will follow the **Exceptional day** schedule.

If a **Range** of days needs to follow the **Exceptional day** scheduler, then we can switch from a single **Day** definition to a **Range** of days definition, by using the Up and Down icons (Marked 1) and then confirming with OK (Marked 2).

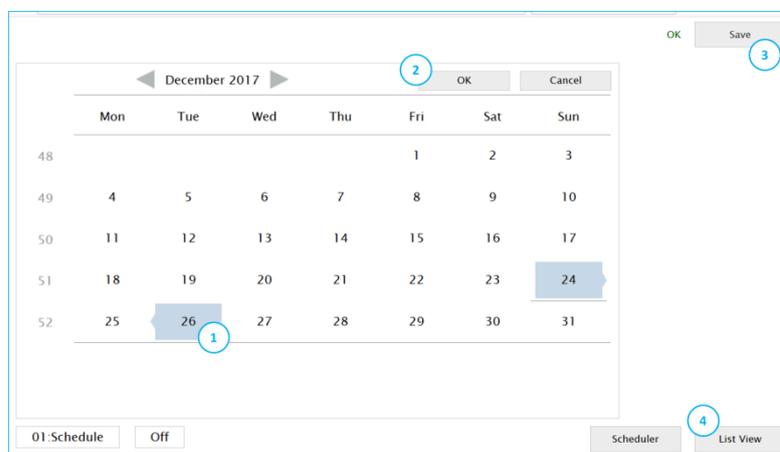


This will open a page for defining the **Range** of days.

By clicking on the 26.12.2017 (Marked 1) the **Range** of days is set from the 24.12.2017 to the 26.12.2017.

The selection is confirmed with OK (Marked 2).

You can set as many **Exceptional days** in the **Calendar**, as needed.





## Plant settings (Only available for the Owner Role)

The correct definition of **Plant settings** is crucial, as these definitions are used to sort and search Plants in the **Operating** view. It is the role of the **Tenant Administrator** to make sure **Plant settings** are fully and correctly defined.

**Note:** The Plant settings are not available to the Service roles, but are included in this document because it is important for Service to understand the full Daikin on Site functionality scope.

The following definitions have to be made:

- **Name** of the Plant (Mandatory).
  - The Plant **name** shall start with your affiliate code e.g. 'DAB – xxxx.....'
- An optional **Description** of the plant, equipment type and free text if convenient.
- A definition of the **Application set** that is assigned to the Plant. See **Application set** chapter for information.
- **Address, Zip code, City, State**, where the Plant is located. You can use the **Find the address** function if you are in doubt of the correct address.
- **Country** in which the Plant is located (Mandatory)
- After defining the above you search for the latitude and longitude coordinates, selecting **Get coordinates**. It is important that you make this step, as the coordinates are needed to place the Plant within the **Map**.
- The **Timezone** in which the Plant is located. This is an important definition, as it used to display time difference between where the Plant is located and where a person providing online support is located.
- Set **Connection Supervision** to **On** if you want to be notified, when Daikin on Site Plant connectivity is lost.
- **Connectivity Supervision delay (in minutes)** defines the time that has to elapse before loss of connection is notified. (Minimum 5 minutes)
- **ICCID (MachineLink 3G)** this field is reserved for the ID of an optional Wireless M2M router. If the field contains a string, then the wireless online icon will be shown in the **Operating** view.
- **Customer Plant ID** holds the Serial No. of the installed Plant.



## Alarm configuration and Cloud

▶ Basic data	
▼ Alarm configuration	
Alarm string	<input type="text" value="&lt;use application set&gt;"/>
Engineering unit system	<input type="text" value="&lt;use application set&gt;"/>
Language	<input type="text" value="&lt;use application set&gt;"/>
▼ Cloud	
Is online	
Last contact	02/12/2017 15:38:00 (Local time: 02/12/2017 08:38:00)
Install date	24/07/2017 16:13:11 (Local time: 24/07/2017 10:13:11)
Activation key	AETWBZ-Q5WFF-AFA74-MUXLI-OTDUA
Plant activated by	f.martini@daikinapplied.eu

For **Alarm configuration** it is recommended to **<use application set>** settings.

The **Cloud** information can be helpful in case of trouble shooting, as it shows the **Last contact** that a Plant controller had with Daikin on Site.

## Replacing Plant

This function allows you to replace a defective Plant controller (MTIII) with a new Plant controller without loss of data.

Plant notifications		<input type="button" value="Replace"/>
Plant settings		
Plant operating	Replacing plant	
Current Activation key	QNEKG3-ESFNF-STL43-WXHTJ-IKUVM	
Plant Name	DAE - TEST 36036-POL687	
New Activation key	<input type="text"/>	
	<b>The 'New Activation key' is required.</b>	

Select **Replace Plant** and enter the **New Activation key** of the new Plant controller. Then select **Replace**.

**Note:** The new controller **MUST** be connected to Daikin on Site, prior to entering the **New Activation key**.

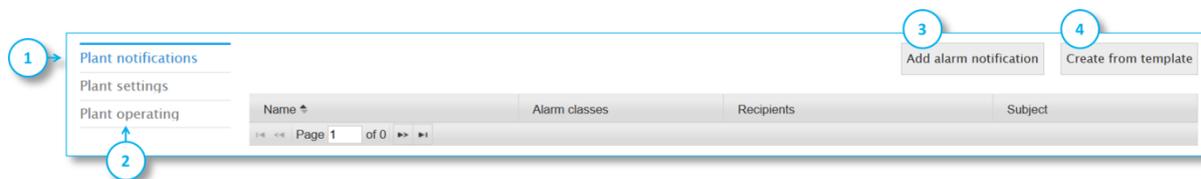


## Plant notifications

This function (Marked 1) allows you to define **Plant Notifications** that are sent via email to selected recipients.

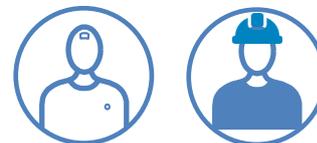
A **Plant Notification** consists of the following:

- **Basic settings**; the definition of the email notification to be sent out
- **Alarm classes**; the definition of which Alarm class is associated with the notification.
- **Alarm times**; the definition of the weekdays and the time window in which the notification shall be active.
- **Excluded dates**; the optional definition of dates during the year, when the notification is not to be active.



Choose **Add alarm notification** (Marked 3) to create your very first notification. Once you have created your first notification, you can save it as a template and use it for future notifications, by loading it via **Create from template** (Marked 4). The menu point **Plant operation** will take you back to the plant view.

**Note:** you can create as many notifications as you need, e.g. one notification going to Daikin Service and another notification going to the customer.



### Basic settings

**Add alarm notification** will take you to an input mask for you to define **Basic settings**.

**Note:** Above you see a list of **Available tokens** (Marked 1). A Token is a generic placeholder that can be inserted in an **Alarm notification**. The token will automatically be replaced with the actual value that it represents, when an **Alarm notification** is executed.

**Note:** The **Tokens PlantReport1** to **PlantReport10** are for the future support of Daikin on Site reporting and not yet relevant. Feel free to ignore them.

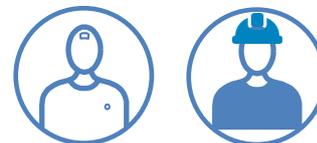
You need to define:

- A **Name** for the notification. E.g. ‘Service Alarm notification’
- The email address for the **Recipients**. In case of multiple recipients, use a colon to separate emails.
- The **Subject**: e.g. ‘Chiller #1 in Alarm’.
- The **Message**. You can use a mix of text and **Tokens**. Place your cursor in the message text, where you want to add a **Token** and click on the **Token** that you want to insert. **Tokens** will automatically be replaced with their associated information, when the notification is sent out.

**Note:** You can add any information in the **Message** e.g. Service contract No., Warranty period, etc.

**Note:** You can insert **Tokens** in the **Subject** field (Marked 3), but you need to copy them from the **Message** field or defined them manually.

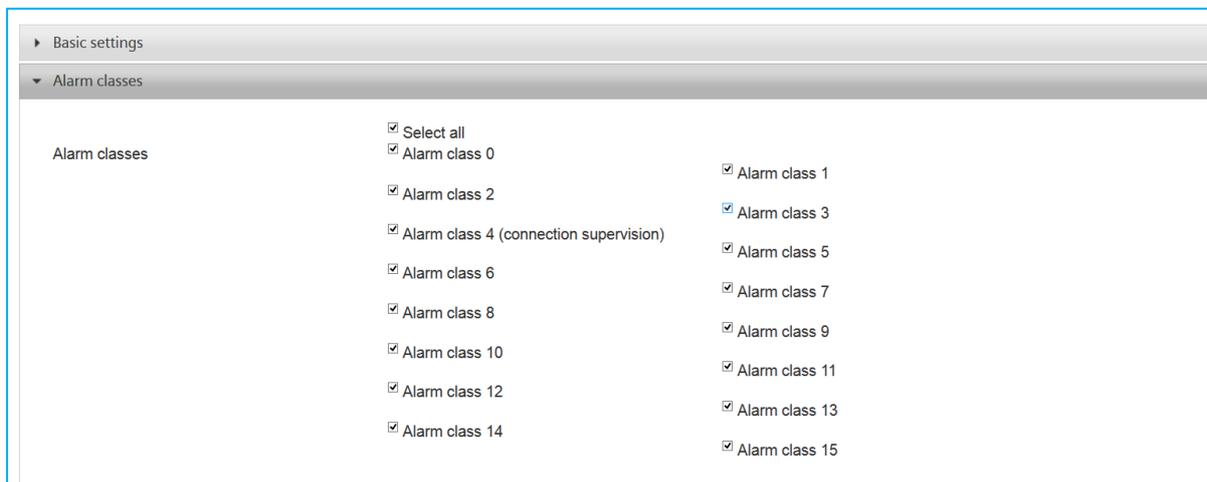
You can send a test notification selecting **Send test notification** (Marked 2). However you will not automatically receive information on whether the notification was received by recipient. That needs to be confirmed ‘manually’.



### Alarm classes

Next step is to define the **Alarm classes** associated to the notification. Currently we only support two Alarm classes:

- **Alarm class 1:** Which all alarms within chillers are assigned to.
- **Alarm class 4:** This class is dedicated to Plant controller **connection supervision**.



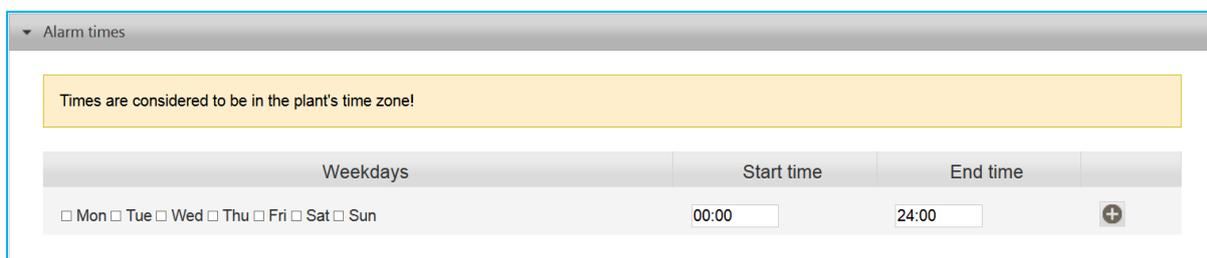
- If you choose all **Alarm classes**, then obviously any alarm will result in a notification.
- **Alarm class 4** works in coloration with the following **Plant settings**:
  - **Connection Supervision delay (minutes)**
  - **Connection Supervision (Off, On)**

A notification will be sent out if **Connection Supervision** is set to **On** and the Plant disconnect from Daikin on Site for period longer than defined by the **Connection Supervision delay**. You can choose to define a dedicated **Notification** for **Connection supervision**.

- Choosing **Alarm class 1** only, will in case of chillers, result in a notification of any alarm, except Plant controller disconnection.

We are currently working on a more refined alarm class concept, where alarms are classified based on their nature.

### Alarm times



This function allows you to define the weekdays and time window for which a notification is active. Select the weekdays and define the time window, before clicking the Plus icon.



This will add an **Alarm times** definition, as seen below. You can add several **Alarm times** definitions for one notification. E.g. Monday to Friday might have a different time window, compared to Saturday and Sunday.

Alarm times

Times are considered to be in the plant's time zone!

Weekdays	Start time	End time	
<input checked="" type="checkbox"/> Mon <input checked="" type="checkbox"/> Tue <input checked="" type="checkbox"/> Wed <input checked="" type="checkbox"/> Thu <input checked="" type="checkbox"/> Fri <input type="checkbox"/> Sat <input type="checkbox"/> Sun	00:00	24:00	+
Mon, Tue, Wed, Thu, Fri	00:00	24:00	-

You delete an **Alarm times** definition by clicking the Minus icon.

### Excluded dates

Excluded dates

Times are considered to be in the plant's time zone!

Start date	End date	
02/12/2017	02/12/2017	+

**Excluded dates** define days during the year when the notification should not be active. To add **Excluded dates** definition, enter **Start date** and **End date** and select the Plus icon. You can add as many as you need.

Excluded dates

Times are considered to be in the plant's time zone!

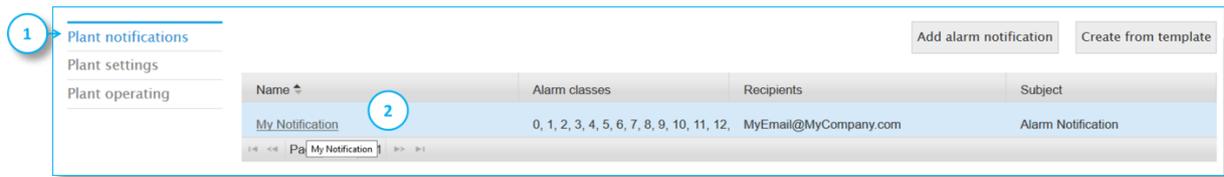
Start date	End date	
24/12/2017	25/12/2017	+
24/12/2017	25/12/2017	-

You delete an **Excluded dates** definition by clicking the Minus icon.

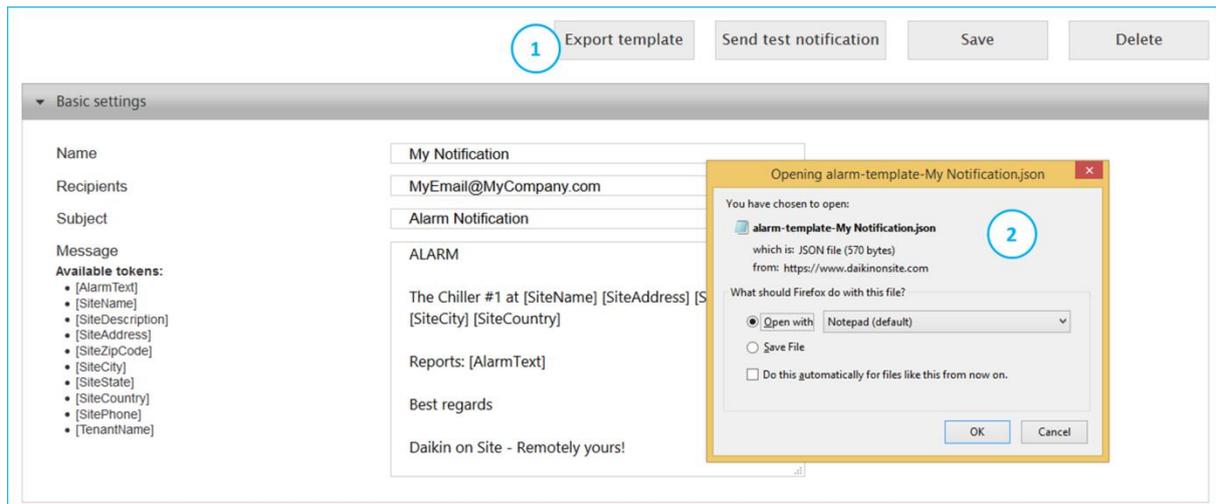
Last but not at least; you **Save** your notification.



### Create Plant notification from template

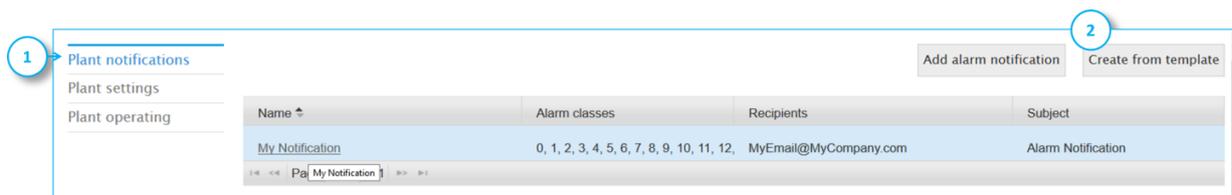


You can use any already defined **Plant notification** (Marked 1) as a template. Open an existing Plant notification (Marked 2).

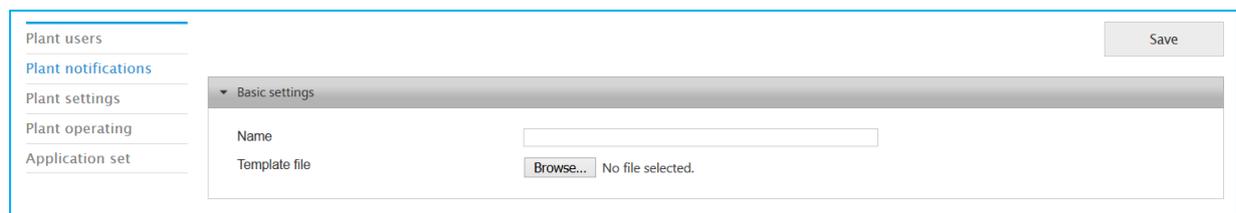


Select **Export template** and a dialog-box appear, for you to save the selected notification, as a template to your notebook.

For future notifications you can use the saved template as a starting point:



Select **Create from template** (Marked 2) and select your template:





## ADMINISTRATION

In the **ADMINISTRATION** page (Marked 1) you see the Plants of the **Sub-tenant** you have selected.

**Note:** You might only have access to one **Sub-tenant** and you therefore see all the Plants you have access to. However, if you have access to more than one **Sub-tenant** then the Plants listed, are the Plants you have access to within the selected **Sub-tenant**.

You can customize the display of the Plant table using the methods described in the chapter **OPERATING Plant table**.

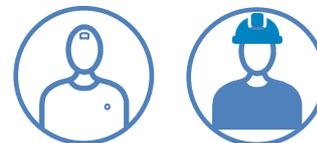
The screenshot shows the 'ADMINISTRATION' page with the following elements:

- Navigation tabs: DASHBOARDS, OPERATING, ADMINISTRATION (selected).
- Breadcrumbs: Administration > Plants.
- Section title: Plants.
- Tenant filter: Tenant ↑ (set to Daikin on Site Smart Center (DAE)).
- Search bar: Search.
- Table columns: Name, Description, Country, City, Phone, Address.
- Table data:
 

Name	Description	Country	City	Phone	Address
DAE - UC2 Development ATS	123734-POL687	IT (Italy)	Ariccia		Via Piani D
- Footer: 10 | 20 | 50 (pagination) and < 1 > (page navigation).

### Activate plants

**Note:** This task (Marked 2) is done by the **Tenant Administrator** on first **Plant** connection and can therefore be ignored.



## Personalised Dashboards

All Chillers, AHU, etc. commercially released for Daikin on Site integration, come with predefined **Standard Dashboards**. However, you can make your own personalized **Dashboards**.

Select **DASHBOARDS** (Marked 1) on the main page and then select the menu **Overview** (Marked 2).



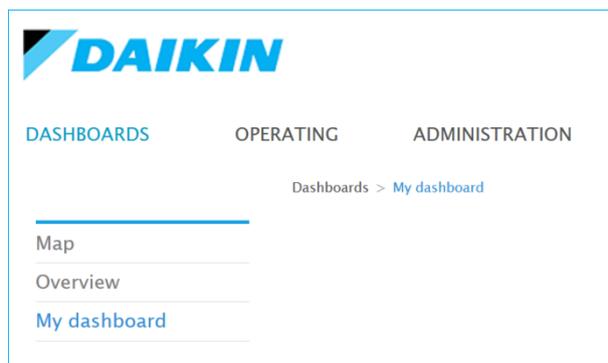
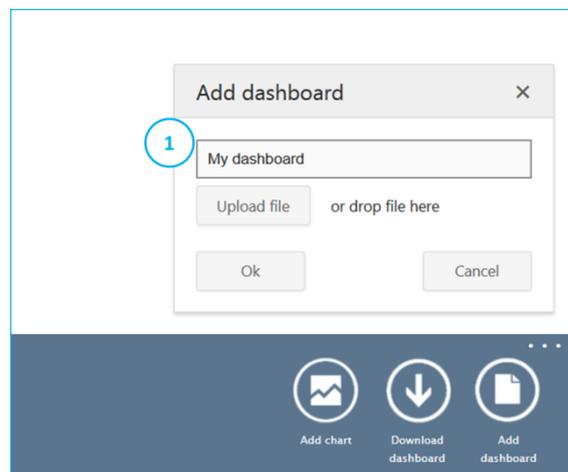
In the lower right corner of your page you see three dots (Marked 3). This is the menu for creating **Personalised dashboards**. Click on the dots and the following menu will open up.

The menu allows you to:

- **Add dashboard**
- **Download dashboard**
- **Add chart**

Choose **Add dashboard** and the add dashboard pop-up window appears.

In this example I have chosen to name the new dashboard **My dashboard** (Marked 1), but you can give it any name. I click **Ok** and a dashboard folder named **My dashboard** will be created.



When you select **My dashboard** you will discover that, at this point in time, it is an empty folder.

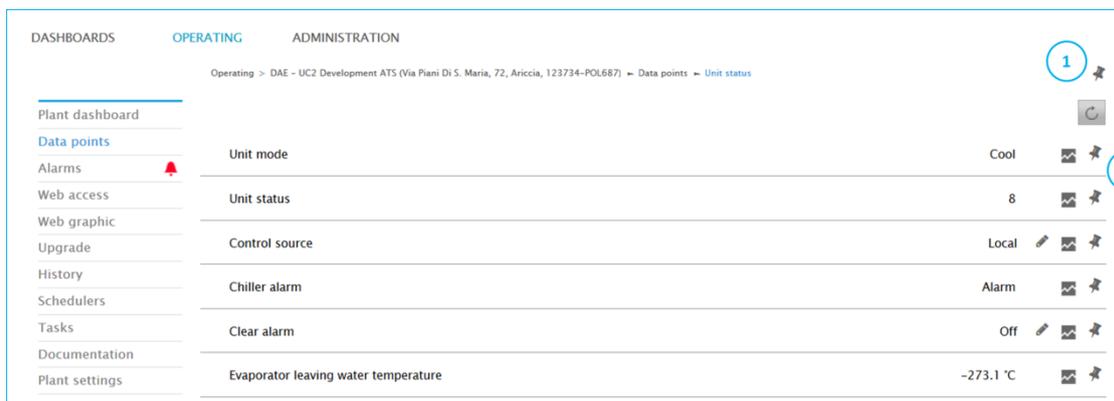
The next step is to decide on which information I want in **My dashboard**.

**Note:** you can add as many dashboards as needed.



## Adding information to dashboards

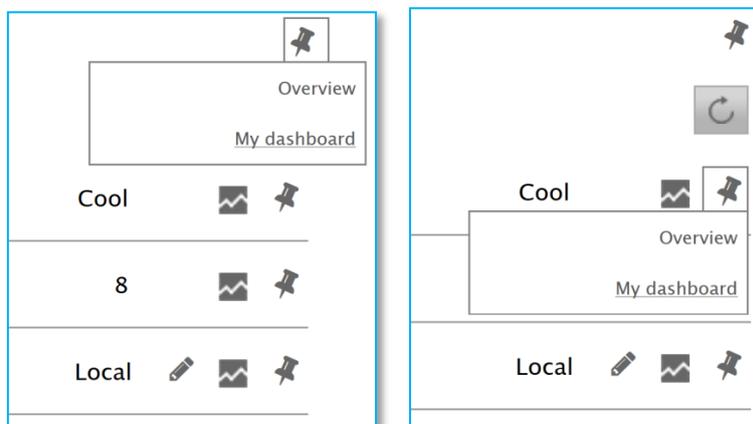
You will probably have seen the pin icon throughout the Daikin on Site application.



The pin icon allows me to add two different kinds of information to **My dashboard**:

1. **Shortcuts** that will allow me to navigate from **My dashboard** to any page within the Daikin on Site application. The shortcut pin (Marked 1) is located at the upper right corner of any Daikin on Site page.
2. The second type of information is **Data points**. Go to **Data points** and you will see that every data point has a pin next to it (Marked 2)

By selecting a pin, I can add any shortcut and data point to **My dashboard**.



For **My dashboard** I add:

- A shortcut to Data points
- The chiller leaving temperature
- The chiller entering temperature
- The chiller leaving temperature active set-point

I can in add as many shortcuts and data points as needed.

**Note:** You can mix data points and shortcuts from different Plants in the same Dashboard.



## Designing dashboards

After adding the shortcut and the three data points I re-enter **My dashboard**.

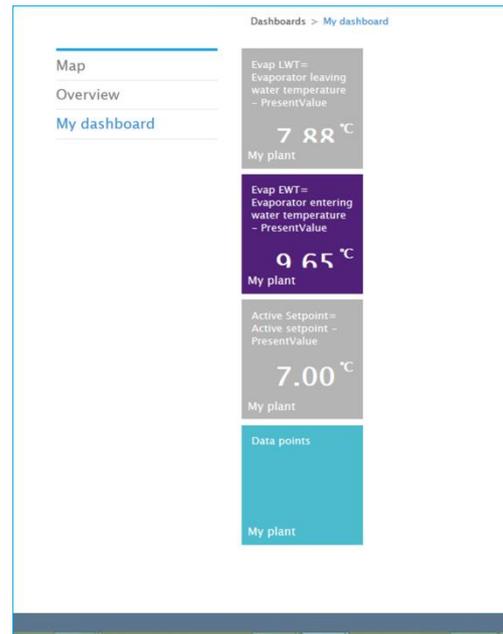
I see four **Basic Tiles** representing the information that I have added.

The **Tiles** shows the description text, current value and the Plant name for the data points I have added. For the shortcut I see the page name and the Plant name.

With the **Basic Tiles** as a starting point, I can now start designing **My dashboard**.

I do that by clicking on the dashboard menu at the lower right corner of my screen.

I see that a number of items have been added to the menu.

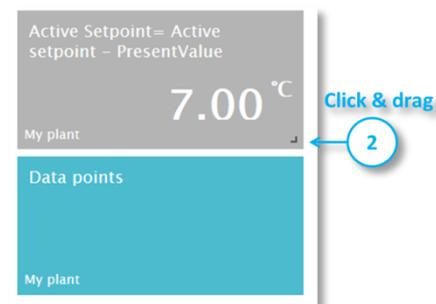
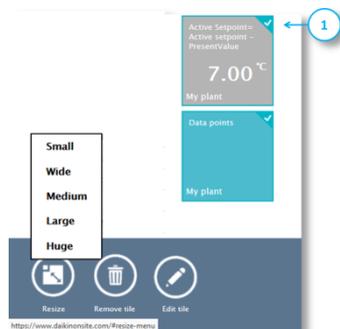


The **Rename dashboard** and **Remove dashboard** have been added.

With the Dashboard menu open I click/select one **Basic Tile** and additional options will be added to the Dashboard menu, at the left side.



I can now: **Resize, Remove or Edit** a Tile.



I can resize one or more **Tiles** via the Dashboard menu. I select a **Tile** to resize, by clicking on. A selected **Tile** is shown with a tag (Marked 1).



To resize a **Tile** using the mouse; I hover my cursor over the **Tile** and an icon in the lower right corner of the Tile appears (Marked 2). I click on the icon and drag the **Tile** to the size I need.

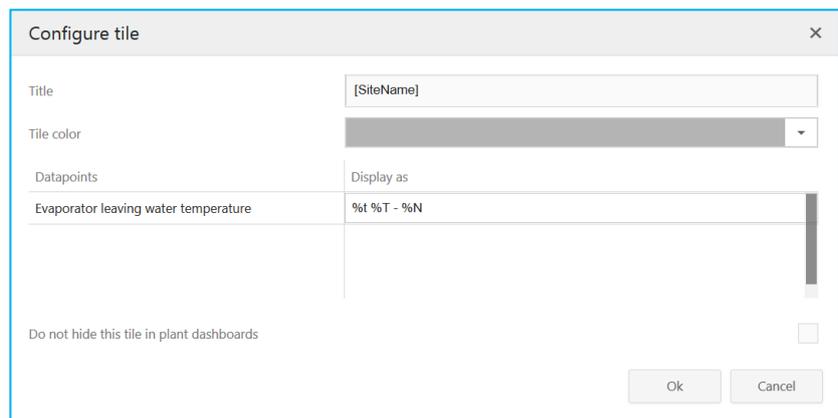
### Rearrange tiles

With an **open** Dashboard menu I can rearrange **Tiles** by drag & drop.



### Edit tile

To edit a **Tile** I select it and click on the **Edit tile** menu and the following dialog appears:



In this dialog box I can

- Define the **Title** of the **Tile** by entering a text or by selecting a **Token**.
  - A popup window with a range of **Tokens** to select from pops up when I click in the **Title** field.
- I can set the colour of the **Tile** to one of Daikin’s approved visual identity colours.
- I can set the **Display as** text for the data point, either to a text that I manually enter or any combination of text and **Tokens**.
- The checkbox **Do not hide this tile in plant dashboard**, is used when designing Standard dashboards and can be ignored in this context.



**Note:** To add a **Token**, click on the position in the field where you like to insert it and then click on the Token.

**Note:** If you have selected more than one **Tile**, when choosing **Edit tile**, then the dialog will allow you to set the colour of all selected **Tiles**, but no further settings are supported for multiple entry.



### Remove tile

You delete a **Tile** from a dashboard using **Remove tile** in the Dashboard menu.

**Note:** It is a common mistake that users have selected more **Tiles** than they are aware of, when selecting **Remove tile**, resulting in **Tiles** being unintentionally deleted. I use one of two methods to make sure that I don't unintentionally delete **Tiles**:

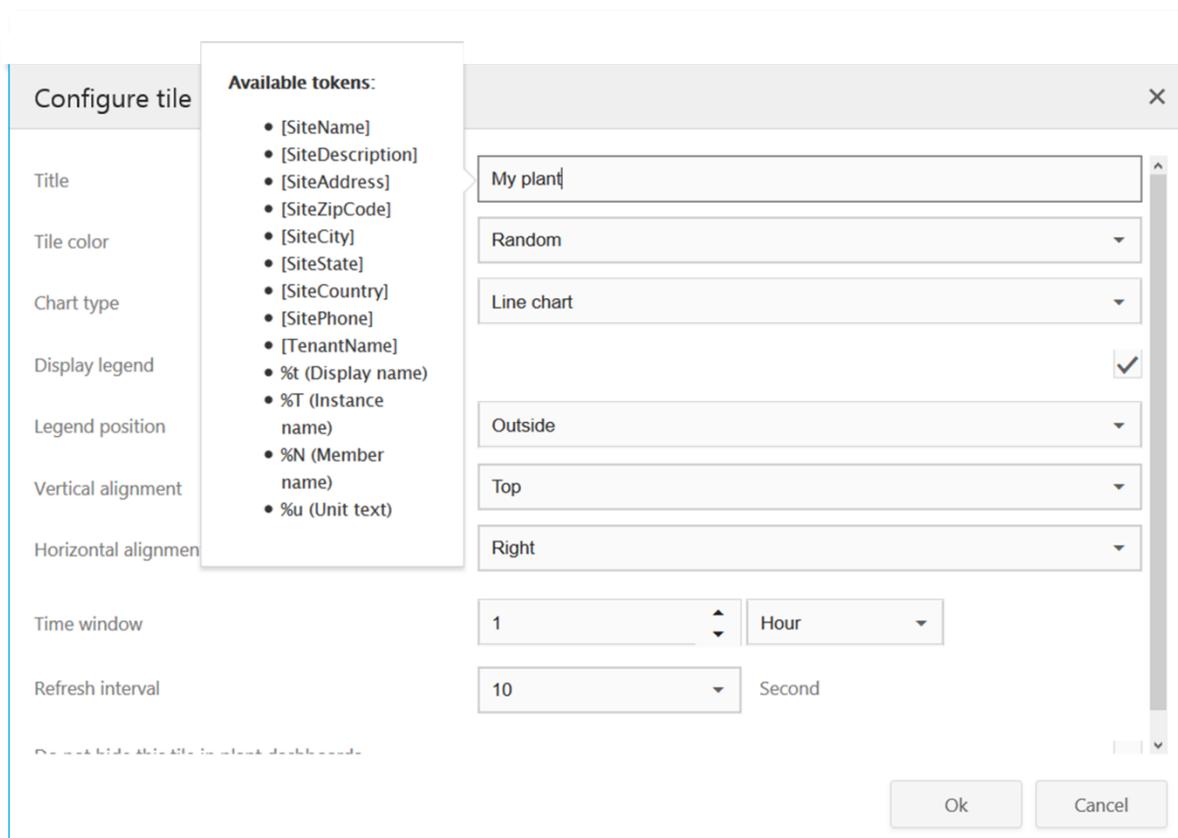
- I close the Dashboard menu and reopen it, which will deselect all selected **Tiles**. Then I chose the **Tiles** to be removed.
- I deselect **Tiles** by clicking on selected Tiles, until I see that the **Remove tile** menu disappears from the Dashboard menu, which tells me that all **Tiles** have been deselected; then I select **Tiles** to be removed.

### Add chart

It is now time to get to the more exciting components of a **My dashboard** design, namely the **Chart Tiles**. You add a **Chart Tile** via the **Add chart** function towards the left side of the Dashboard menu.



Select **Add chart** and the following dialog appear:



The use of Tokens is the same within **Chart Tiles** as for **Basic Tiles**.

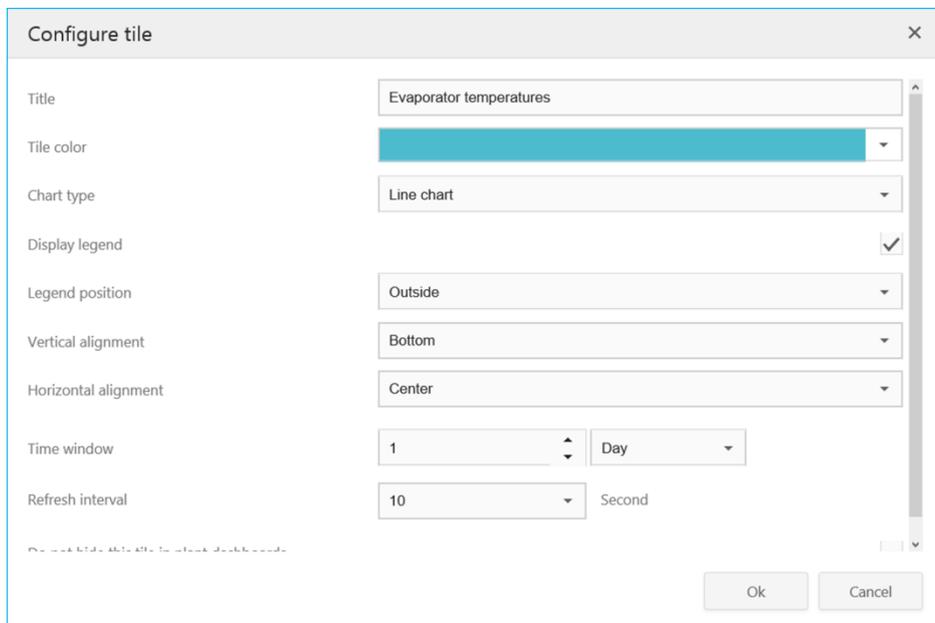


The following Chart Tile settings are available:

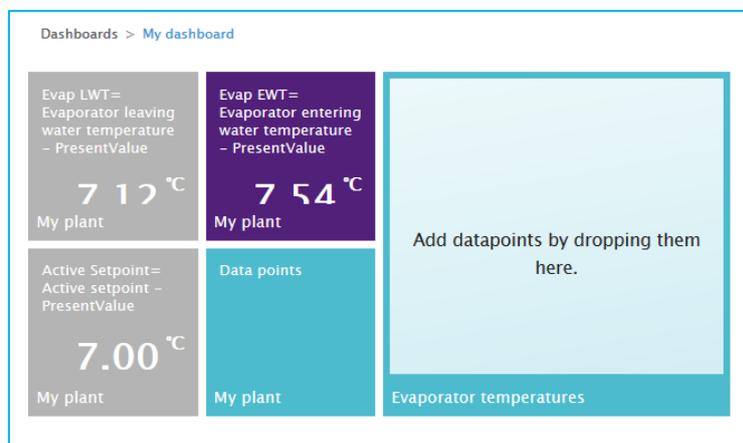
- **Title** (E.g. Evaporator temperatures)
- **Tile colour**, as for Basic Tiles.
- **Chart type**, which is any one of five types.
- **Display legend**, basically (No, Yes). If yes then the:
  - **Legend position**, **Vertical alignment** and **Horizontal alignment** need to be defined.
- **Time window**, which is only available for the **Chart type** = **Line chart**, defines the timeline for the x-axis.
- **Refresh interval**, defines how often data points in a chart are updated.



In **My dashboard** I would like to add a **Line chart** that displays Leaving temperature, Entering temperature and the Active evaporator set-point, over the last 24 hours. I set the Chart definitions, as shown below and confirm I with Ok.

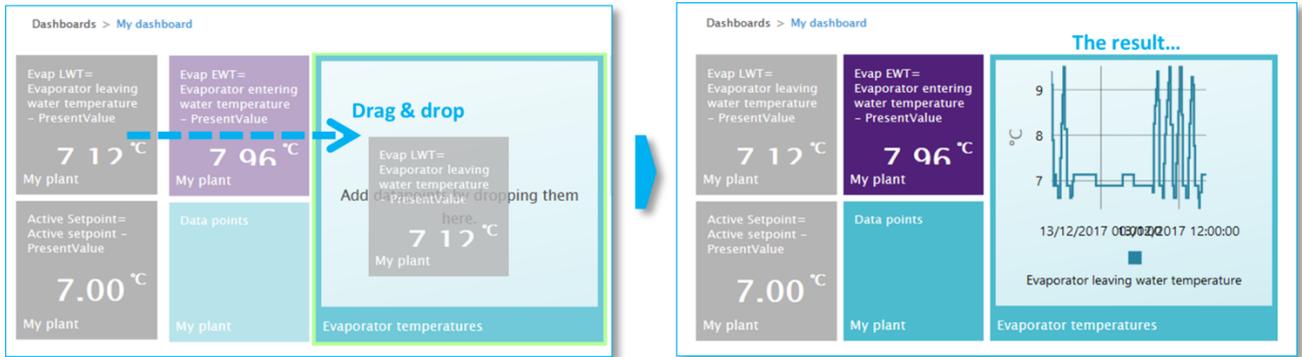


The result in My dashboard looks as follows:

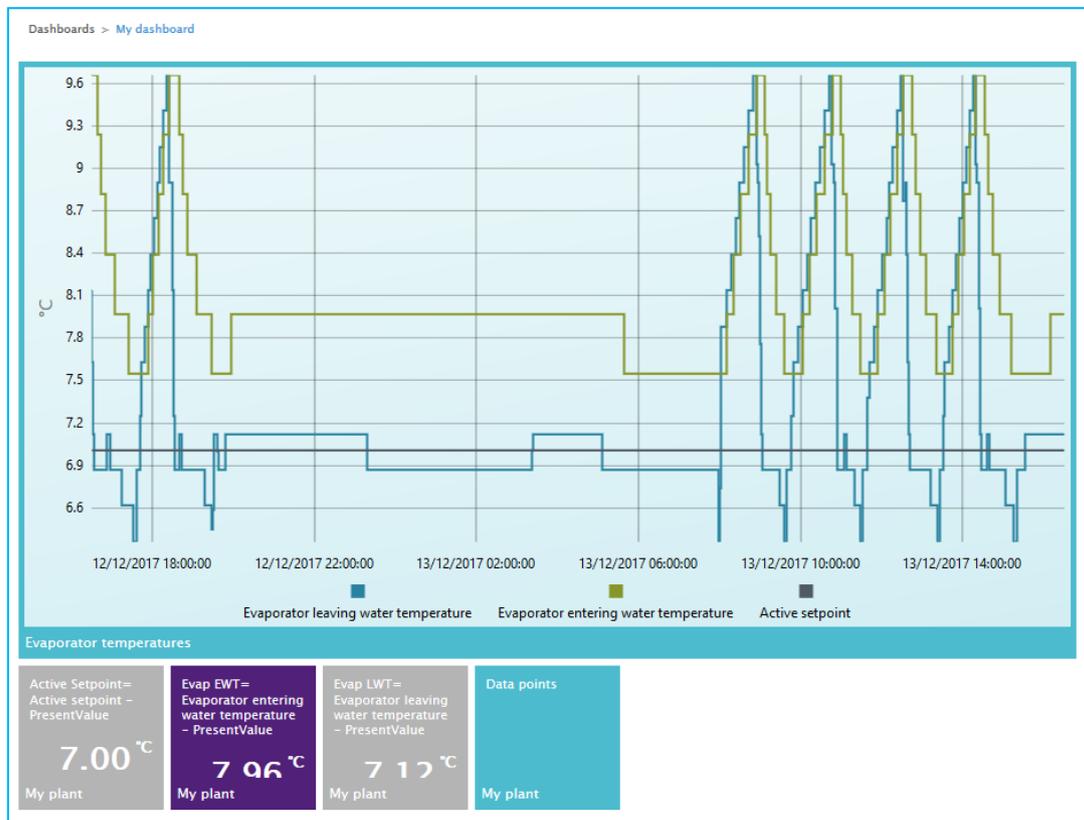




The next step is to assign the data points to the **Line chart** 'Evaporator temperatures'. I do that by dragging the data points **Basic Tiles** over the **Line chart** and drop them.



After dragging all **Basic Tiles** to the **Line chart**, I resize it:



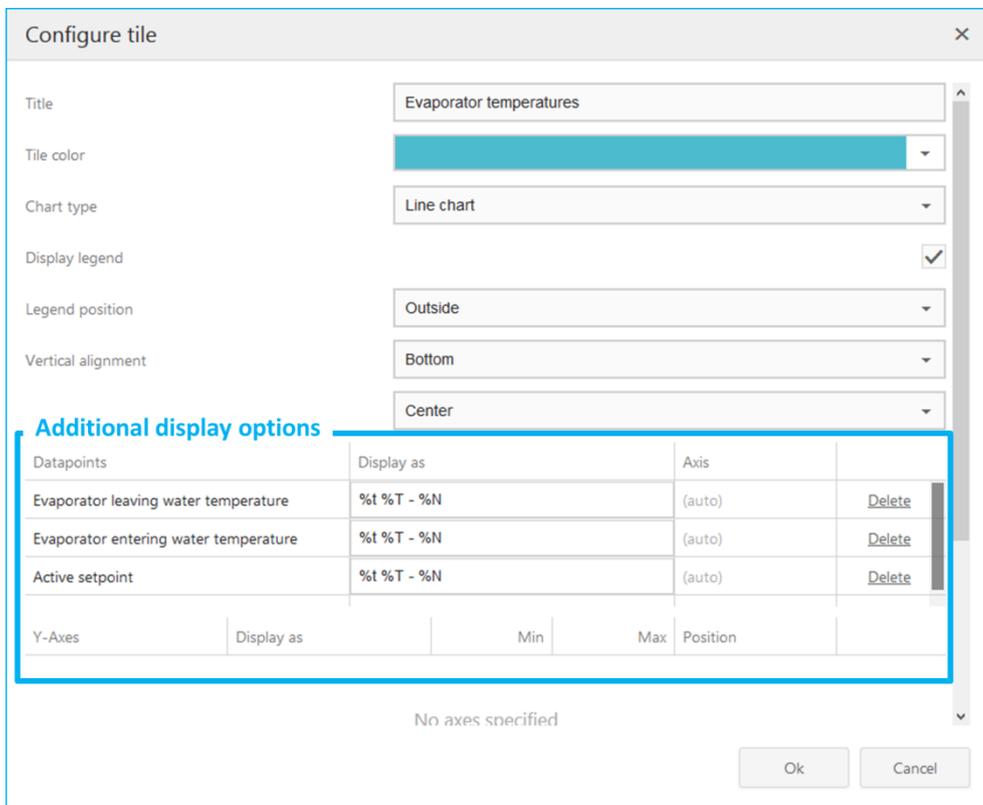
**Note:** I still have the **Basic Tiles** in **My dashboard**, but after they have been assigned to the **Line chart**, I can delete them, without the **Line chart** losing the associations.

**Note:** You can mix data points from different Plants in the same Chart. You might e.g. like to see the Actual capacities of three chillers in the same **Line chart**, to observe the performance of a staging strategy.

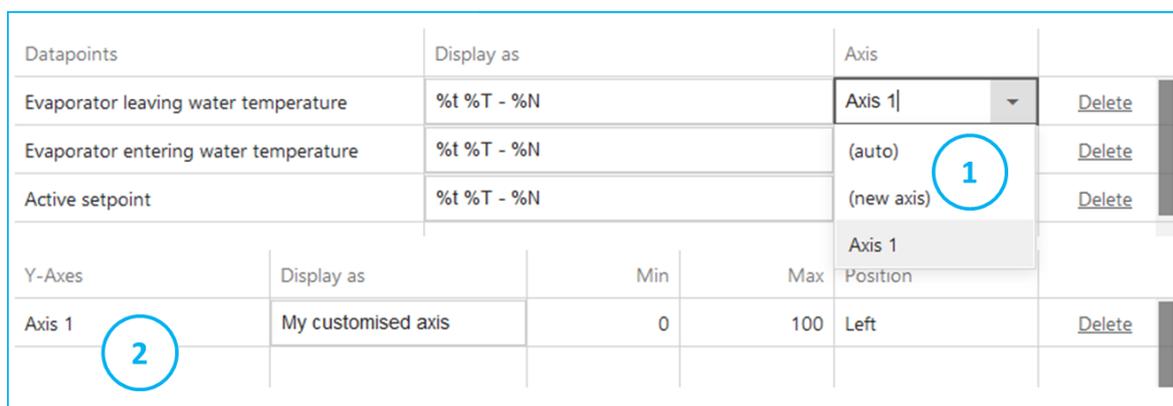


I can leave the **Line chart** as defined or I can select it and choose **Edit tile** in the Dashboard menu for more options.

As I enter the **Edit tile** dialog of the **Line chart** I see additional display options for the assigned data points:



For the data points in the **Line chart** I can now edit the text **Display as**, using free text or **Tokens**. I can create new **Y-Axis** definitions, if needed. Last but not at least; I can **Delete** a data point from the **Line chart**, if needed.

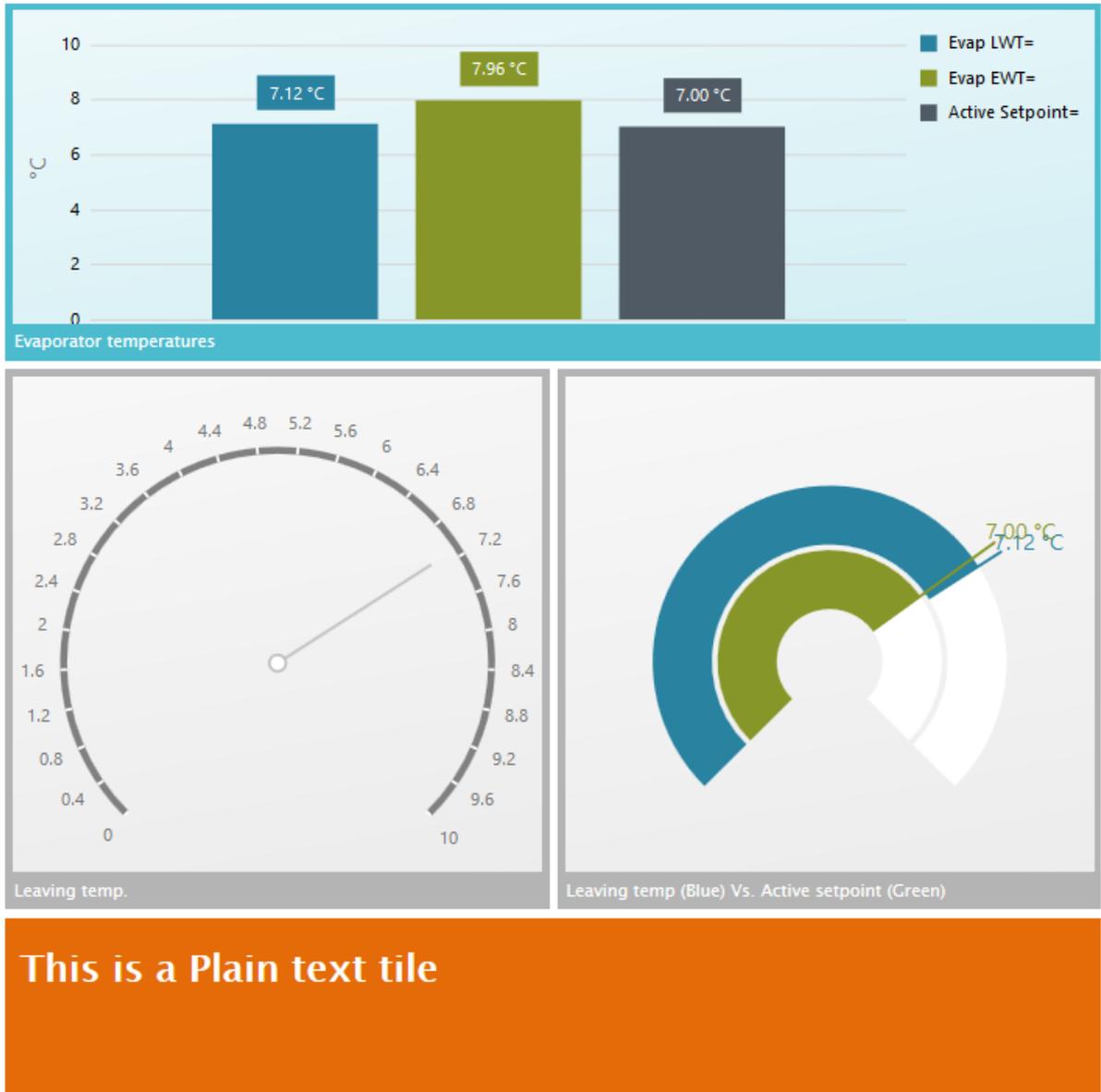


To define a customised Y-Axis I select **Axis - (new axis)** (Marked 1) and make the needed definition (Marked 2).

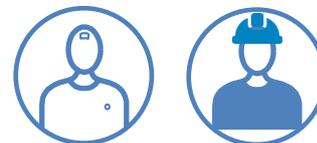


### Chart types

Beside **Line chart** the following charts are available:



At the top the **Bar chart** tile followed by the **Circular chart** and the **Circular bar chart** Tiles. In bright orange the **Plain Text Tile** that allows you to display free text, e.g. for providing clarification to a user.



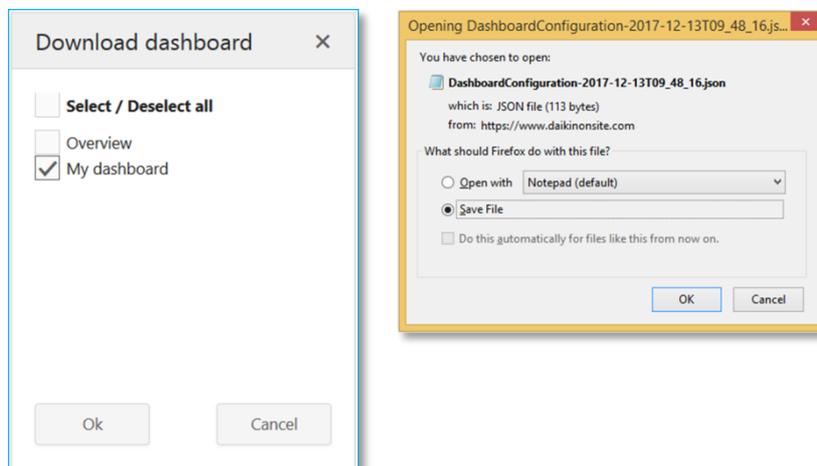
## Download dashboard

Once you have created a **Personalised dashboard** you might want to share it with colleagues that have access to the Plant you created the dashboard for.

**Note:** You can mix data points and shortcuts from different Plants in the same Dashboard, but your Personalised dashboard will only work with the Plant or Plants, for which it was created.



Select **Download dashboard** in the Dashboard menu and the following dialog will appear:

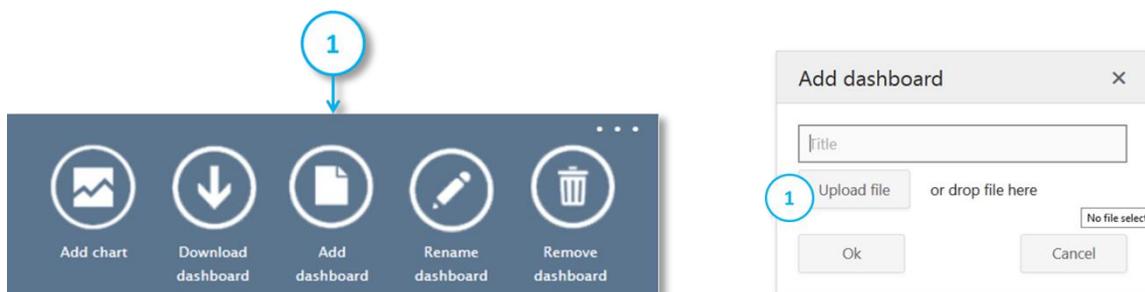


Select the Dashboard or multiple Dashboards that you want to download. Then click Ok and a File save dialog will open, for you to save a Dashboard file.

Send the file to you colleague e.g. via email.

## Upload dashboard

To upload a dashboard you select **Add dashboard** in the Dashboard menu. A dialog opens. Select **Upload file**, to select the Dashboard file you want to upload or drag & drop the file on top of the dialog and the Dashboard will be uploaded.





## Application Set

The term **Application set** is used throughout this document. An **Application set** is a library that holds information related to a specific Plant type. Beside some basic data, it contains:

- **Plant files**, which can be loaded to a Plant controller via the **Upgrade** function.
- **Firmware file**, which can be loaded to a Plant controller via the **Upgrade** function.
- **Cloud files**, which are the **Web-graphics** and **Standard dashboards** created for the different Daikin on Site User roles and specific to the Plant type that the **Application set** has to support.
- **Miscellaneous files**, such as the Operator manual for the Plant type, shown in the Plant **Documentation** function.
- **Administrative definitions**, E.g. the link between User roles **Web-graphics**, etc.

**Note:** it is paramount that connected Plants are linked to the correct **Application set**. The link is established when defining **Plant settings**. As a Plant is upgraded with a new software version, it must be checked, whether the **Application set** link needs to be set to a new **Application set** in **Plant setting**.

**Note:** The naming of **Application sets** is standardised and is always the combination of the software name and the software version of the Plant type it supports. E.g. **ATLAS\_2.04.A**. In this way it is easy to detect whether an **Application set** definition, under Plant settings, needs to be updated following software **Upgrade**. You just have to compare the Plant's software version, against the **Application set** setting and they have to match.

## Data acquisition and storage

Many cloud-based remote monitoring systems in the market place record data in fixed intervals e.g. every 1, 5, 10 or even 15 minutes.

Some solutions are using gateways. Some gateways only have access to a Plant controller's high level interface e.g. Modbus. Some solutions integrate data from a BMS system, rather than directly from Plant controllers.

Many of the above mentioned solutions come with inherent limitations, as they typically don't have rich data point integration and lack sufficient data resolution.

In other words; they do not provide the data points needed for offering truly advanced remote services and are missing important data point events happening in-between interval recordings.

In the case of Daikin on Site, a gateway is not needed in conjunction with the MicroTech III controller, data are acquired directly from the controller and up to 8000 data points can be integrated from one MicroTech III controller.

Furthermore Daikin on Site applies the **Change of Value** concept when recording data. This means that changes in settings, binary and multi-state data points, are recorded the second they take place and a dataset is sent to Daikin on Site.



Analog data point values, like temperatures and pressures, have a **Change of Value** envelope defined 'around' them.

When an Analog data point value moves out of its defined **Change of Value** envelop, a dataset is sent to Daikin on Site.

**Change of Value** envelops are defined per data point and settings are decided based on the data point's nature, importance and the services it participates with, within the Daikin on Site cloud based application.

In other words; the data point scope and the data resolution within Daikin on Site is comprehensive and designed to facilitate current, as well as future, optimal remote services, whether they are performed manually or automatically.

The number of data points integrated from a Plant controller depends on the Plant's configuration. For example, the same chiller type integrates more or less data points, depending on:

- The number of circuits
- Compressor and fan types
- Whether a power meter is installed
- Whether the chiller acts as Master in a Master/slave configuration
- Whether other options are released, such as rapid restart, switchbox temperature, etc.

### **Data storage**

Data recorded by Daikin on Site are stored geo-redundantly, simultaneously in two different data centres within Northern and Western Europe. This is to guarantee Daikin on Site uptime and that data are not lost in case a data centre is out of service.



## Security

Daikin on Site CSA (CERT Security Assessment) SAL-2 is ongoing, which includes intensive security assessment: Hacker testing, DDOS and virus attack, unauthorized read/write access, interface hack, password forgery and key simulation.

Security Certificate based on SHA-256 encryption, between controller and cloud & between cloud and web client.

Communication between Daikin on Site and connected Plant controllers is HTTPS end-to-end encrypted, to prevent wiretapping and man-in-the-middle attack.

Communication between the MicroTech III Plant controllers and the Daikin on Site's cloud base application is **outbound only**.

This means that the MicroTech III Plant controller does not allow incoming connections. The Daikin on Site cloud-based application does not contact the MicroTech III controller, as that is not possible by the design of the communication and not desirable from a security point of view.

The MicroTech III maintains outbound connection with the Daikin on Site cloud-based application in order to deliver data and fetch data generated within the Daikin on Site cloud-based application, e.g. a set-point change.

When connecting a Plant controller to the Internet, a firewall **MUST** be applied and the Firewall **MUST** be configured to permit **outgoing** connections **ONLY**. Incoming connections **MUST** be suppressed.

## Data privacy

Daikin on Site is **EU General Data Protection Regulation (GDPR)** compliant and is obtaining **CSA Security Attestation** - Security Level 2, as defined by the standard IEC/ISA-62443.

Daikin on Site data privacy is conforming to EU Data Privacy Chapter 5.

## Decommissioning of a Plant

Decommissioning of a Plant is done by the Daikin Tenant Administrator that holds overall responsibility for Daikin on Site.

Decommissioning will take place upon:

- Written customer request towards the responsible Daikin on Site **Tenant Administrator**
- Expiry of the yearly Daikin on Site licence agreement, when not renewed by the customer.

Private data such as e.g. email addresses will be deleted by the affiliate's **Tenant Administrator** latest 3 months after termination of the yearly license.



## APPENDIX A – Web graphic examples

### Chiller Overview (Operator access level)

**Note:** No access to changing set points.



**EWAD-C**

Unit status	Enter Data
Alarm	NoAlarm
Chiller enable	Enable
Unit status	Auto
Unit mode	Cool
Active set-point	4.80 °C
Unit Capacity	50.0 %
Ambient temperature	22.2 °C

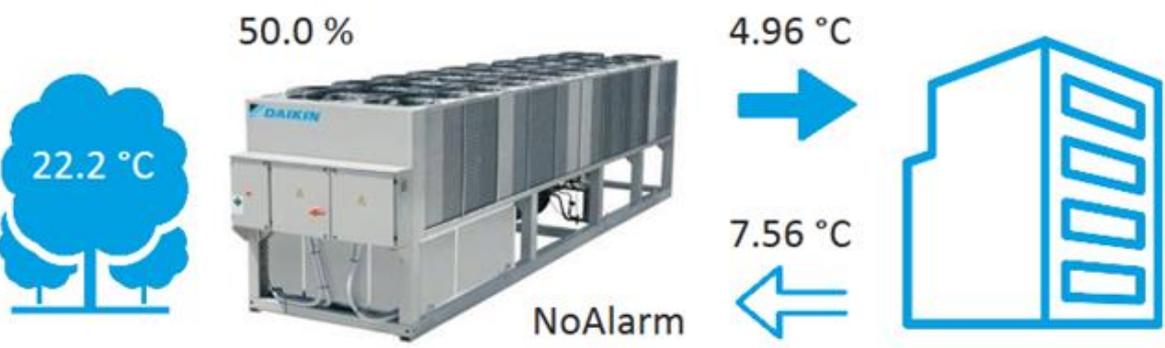
Set-points	
Cooling LWT 1	4.80 °C
Cooling LWT 2	4.00 °C
Ice LWT	-4.00 °C
Network- chiller enable	Disable
Network- chiller mode	Cool
Network- cooling	7.00 °C
Network- ice	-4.00 °C
Network- capacity limit	100.0 %

Evaporator	
Leaving water temperature	4.96 °C
Entering water temperature	7.56 °C
ΔT	2.60 °C
Pulldown rate	0.000 °C/min
Flow switch	On

Others	
Demand limit enable	Disable
Set-point reset enable	None
Soft loading enable	Disable
Quiet mode enable	Disable
Remote switch	On
Control source	Local
Master / Slave option	None

Electricity meter	
There is no meter connected to this chiller.	

Heat recovery	
There is no heat recovery.	



Evaporator pump									
Pump contact 1	On								
Pump contact 2	Off								
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="background-color: #0070C0; color: white;">Pump control</th> </tr> </thead> <tbody> <tr><td>Pump control</td><td>#1 Only</td></tr> <tr><td>Pump 1- run hours</td><td>55621</td></tr> <tr><td>Pump 2- run hours</td><td>0.000</td></tr> </tbody> </table>		Pump control		Pump control	#1 Only	Pump 1- run hours	55621	Pump 2- run hours	0.000
Pump control									
Pump control	#1 Only								
Pump 1- run hours	55621								
Pump 2- run hours	0.000								

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Page 53 of 57



## Chiller Overview (Trained Operator & Owner access level)



**EWAD-C**

# Set-point Access

<b>Unit status</b>	<b>Enter Data</b>	<b>Others</b>																				
Alarm	NoAlarm	Demand limit enable: Disable																				
Clear alarm	Off	Set-point reset enable: None																				
Chiller enable	Enable	Soft loading enable: Disable																				
Unit status	Auto	Quiet mode enable: Disable																				
Unit mode	Cool	Remote switch: On																				
Active set-point	4.80 °C	Control source: Local																				
Unit Capacity	50.0 %	Master / Slave option: None																				
Ambient temperature	22.3 °C																					
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Network- chiller enable</td> <td>4.80 °C</td> </tr> <tr> <td>Network- chiller mode</td> <td>4.00 °C</td> </tr> <tr> <td>Network- cooling</td> <td>-4.00 °C</td> </tr> <tr> <td>Network- ice</td> <td>Disable</td> </tr> <tr> <td>Network- capacity limit</td> <td>Cool</td> </tr> <tr> <td></td> <td>7.00 °C</td> </tr> <tr> <td></td> <td>-4.00 °C</td> </tr> <tr> <td></td> <td>100.0 %</td> </tr> </table>		Network- chiller enable	4.80 °C	Network- chiller mode	4.00 °C	Network- cooling	-4.00 °C	Network- ice	Disable	Network- capacity limit	Cool		7.00 °C		-4.00 °C		100.0 %					
Network- chiller enable	4.80 °C																					
Network- chiller mode	4.00 °C																					
Network- cooling	-4.00 °C																					
Network- ice	Disable																					
Network- capacity limit	Cool																					
	7.00 °C																					
	-4.00 °C																					
	100.0 %																					
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2"><b>Evaporator</b></td> </tr> <tr> <td>Leaving water temperature</td> <td>4.88 °C</td> </tr> <tr> <td>Entering water temperature</td> <td>7.39 °C</td> </tr> <tr> <td>ΔT</td> <td>2.52 °C</td> </tr> <tr> <td>Pulldown rate</td> <td>0.591 °C/min</td> </tr> <tr> <td>Flow switch</td> <td>On</td> </tr> </table>		<b>Evaporator</b>		Leaving water temperature	4.88 °C	Entering water temperature	7.39 °C	ΔT	2.52 °C	Pulldown rate	0.591 °C/min	Flow switch	On	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2"><b>Electricity meter</b></td> </tr> <tr> <td colspan="2" style="text-align: center;">There is no meter connected to this chiller.</td> </tr> <tr> <td colspan="2"><b>Heat recovery</b></td> </tr> <tr> <td colspan="2" style="text-align: center;">There is no heat recovery.</td> </tr> </table>	<b>Electricity meter</b>		There is no meter connected to this chiller.		<b>Heat recovery</b>		There is no heat recovery.	
<b>Evaporator</b>																						
Leaving water temperature	4.88 °C																					
Entering water temperature	7.39 °C																					
ΔT	2.52 °C																					
Pulldown rate	0.591 °C/min																					
Flow switch	On																					
<b>Electricity meter</b>																						
There is no meter connected to this chiller.																						
<b>Heat recovery</b>																						
There is no heat recovery.																						



22.3 °C      50.0 %      4.88 °C      7.39 °C

NoAlarm

<b>Evaporator pump</b>				
Pump contact 1	On		Evapor. recirculation time	30.0 s
Pump contact 2	Off		Pump control	#1 Only
			Pump 1- run hours	55621
			Pump 2- run hours	0.000

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## Chiller Master/Slave Staging & Sequencing (Trained operator & Owner access level)

**Note:** The Operator will have the same view, but will not have access to changing set points.

Main Master / Slave status & settings		Staging setup		Standby chiller setup	
Master enable for staging	Enable	Stage-up ΔT	2.70 °C	Standby chiller	No
Next chiller on	Master	Stage-up timer	5.00 min	Cycling mode	Run Hours
Next chiller off	Slave 1	Stage-up time remaining	0.000 s	Days between cycling	7.00 Days
Min. evaporator temp.	6.00 °C	Stage-down ΔT	1.50 °C	Time of cycling	00:00:00
Control mode	Partial	Stage-down timer	5.00 min	Reset cycling date	Off
Control temp. mode	Leaving	Stage-down time remain.	0.000 s	Actual standby chiller	-
Common LWT sensor type	NTC10K	Load threshold	50.0 %	Date & time of next cycling event:	Unspecified, Monthly/Daily/1900
		Dead band	0.200 °C	00:00:00	
		Clear timers	Off	Temp. comp. enabled	No
				Temp. comp. timer	120.0 min

Master		Slave 1		Slave 2		System	
Load	0.000 %	Load	23.0 %	Load	0.000 %	Load	7.67 %
Priority	1	Priority	1	Priority	1	Mode	Cool
LWT Setpoint	15.0 °C	LWT Setpoint	15.0 °C	LWT Setpoint	15.0 °C	Average entering water temp calculated value	

 15.8 °C Next on	 15.7 °C Next off	 23.7 °C	 15.7 °C ↑ 15.5 °C ↑
------------------------	-------------------------	-------------	----------------------------------

State	Off	On	Off
Run hours	2726	3430	824
Starts	68	69	69

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## iCM light – Standard Chiller plant room solution (Trained operator & Owner access level)

**Note:** The Operator will have the same view, but will not have access to changing set points.

**Emergency stop** OFF

**Emergency stop reset** -

Chiller plant main status	
Alarm status	Fault
Alarm code	010101
Plant enable	OFF
Plant enable mode	Manual
Actual plant enable	0
Plant status	E-stop
Plant operating state	OFF
Plant mode	Cool
Active plant load	0.000 %

Leaving water setpoint	
LWT Control source	7.00 °C
Double setpoint DI-Status	Manual
LWT Setpoint - Manual	7.00 °C
LWT Double setpoint	7.00 °C
LWT Setpoint -BacNet, BMS	7.00 °C
LWT Actual setpoint	7.00 °C

Staging strategies	
Sequencing mode	Enable
Staging mode	Temp
Diff. temp setpoint *)	1.000 dK
Staging by target load	Disable
Target load setpoint	50.0 %
Chiller rotation	Enable
Hours between rotation	24.0 h
Pony chiller	Enable
Pony chiller No.	1
Stage-up inhibit status	UnLock

\*) Diff. temp setpoint for temperatur staging.

Chiller setup				
Full load setpoint	100.0 %	100.0 %	100.0 %	100.0 %
Low load setpoint	0.000 %	0.000 %	0.000 %	0.000 %
No. in fixed sequence	1	1	1	1
Actual capacity	0.000 %	0.000 %	0.000 %	0.000 %
Unit mode	Cool	Cool	Cool	Cool
Operating state	Off	Off	Off	Off
Active setpoint	0.000 °C	0.000 °C	0.000 °C	0.000 °C
Available status	1	1	1	1
Set into maintenance	-	-	-	-
Run hours	0 h	0 h	0 h	0 h
Control source	Remote	Remote	Remote	Remote
Alarm code	-	-	-	-
Alarm reset	-	-	-	-

Evaporator pumps	
Evap. pump forced ON	OFF
Evap. pump forced mode	Manual

Staging timers status	
Temperature Stage-UP	0.000 s
Temperature Stage-DOWN	0.000 s

**Intelligent Manager**

**A flexible solution designed for energy optimisation.**

**Stay connected 24/7 with Daikin on Site Remotely yours!**

Up to 4 chillers...

Manifolded or dedicated pumps

Water cooled or Aircooled chillers

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## AHU – Modular (Trained operator & Owner access level)

**Note:** The Operator will have the same view, but will not have access to changing set points.

**D-AHU (Modular)**

Alarm status: ADK02FCW1170064

Alarm output	Normal
Emergency stop	OK
Fire alarm	

**Overview**

Unit enable	On
Manual operating mode	Auto
Active operating mode	On
Unit state	Scheduler
Summer/winter mode	Winter
Active setpoint	20.8 °C
Actual controls temperature	19.9 °C
Room temperature	19.9 °C
Room air quality	520.4 ppm
Room humidity relative	45.3 %rH
Room humidity absolute	6.52 g/kg
Room enthalpy	36.6 kJ/kg

**Main setpoints**

Cooling	22.0 °C
Cooling economy	30.0 °C
Heating	20.0 °C
Heating economy	18.0 °C
Summer min. supply tmp.	12.0 °C
Summer max. supply tmp.	37.0 °C
Winter min. supply tmp.	23.0 °C
Winter max. supply tmp.	35.0 °C
Pursuit mode	25.0 °C
Pursuit mode economy	20.0 °C
Pursuit band	4.00 °C
Air quality	1500 ppm
Humidification	
Dehumidification	

**Supply fan**

Set-point m3/h	3000
Set-point economy m3/h	2500
Airflow	3023 m3/h
Speed	0.000 R/min
Motor temperature	0.000 °C
Module temperature	0.000 °C
Electronics temperature	0.000 °C
DC-link voltage	0.000 V
DC-link current	0.000 mA
Rotation direction	Counter Clockwise

**Return fan**

Set-point m3/h	3000
Set-point economy m3/h	2500
Airflow	3020 m3/h
Speed	0.000 R/min
Motor temperature	0.000 °C
Module temperature	0.000 °C
Electronics temperature	0.000 °C
DC-link voltage	0.000 V
DC-link current	0.000 mA
Rotation direction	Counter Clockwise

**Energy performance**

Specific fan power

There is no meter connected to this unit.

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