# **SIEMENS**



# **Climatix IC**

# Remote monitoring and intelligent diagnostic for POL controllers - Tenant

**User Guide** 

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## Cyber security disclaimer

Siemens provides a portfolio of products, solutions, systems and services that includes security functions that support the secure operation of plants, systems, machines and networks. In the field of Building Technologies, this includes building automation and control, fire safety, security management as well as physical security systems.

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art security concept. Siemens' portfolio only forms one element of such a concept.

You are responsible for preventing unauthorized access to your plants, systems, machines and networks which should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. Additionally, Siemens' guidance on appropriate security measures should be taken into account. For additional information, please contact your Siemens sales representative or visit the following website:

https://www.siemens.com/global/en/products/automation/topic-areas/industrialcybersecurity.html.

Siemens' portfolio undergoes continuous development to make it more secure. Siemens strongly recommends that updates are applied as soon as they are available and that the latest versions are used. Use of versions that are no longer supported, and failure to apply the latest updates may increase your exposure to cyber threats. Siemens strongly recommends to comply with security advisories on the latest security threats, patches and other related measures, published, among others, under the following website:

https://www.siemens.com/cert/ => 'Siemens Security Advisories'.

# Legal note

Legal note concept

This guide includes notes that must be followed to prevent damage to property. Notes dealing only with damage to property use the signal word NOTE and an exclamation point.

They are depicted as follows:

NOTICE			
Type and source of hazard			
	Consequences in the event the hazard occurs		
Measures/prohibitions to prevent the hazard			
Qualified personnel	Only qualified personnel may commission the device/system. In this regard, qualified personnel have the training and experience necessary to recognize and avoid risks when working with this device/system.		
Proper use	The device/system described here may only be used on building technical plants and for the described applications only.		
	The trouble-free and safe operation of the device/system described here requires proper transportation, correct warehousing, mounting, installation, commissioning, operation, and maintenance.		
	You must comply with permissible ambient conditions. You must comply with the information provided in the Section "Technical data" and any notes in the associated documentation.		
	Fuses, switches, wiring and grounding must comply with local safety regulations for electrical installations. Observe all local and currently valid laws and regulations.		
<b>Disclaimer</b> The content of this document was reviewed to ensure it matches the hardwork firmware described herein. Deviations cannot be precluded, however, so the cannot guarantee that the document matches in full the actual device/system information provided in this document is reviewed on a regular basis and a required corrections are added to the next edition.			
Software used	All open source software components used in this solution/service (including copyright owners and license agreements) can be viewed at the following link:		
	• Go to https://www.climatixic.com in the footer on entry "OSS".		
	Direct: <a href="https://www.climatixic.com/Content/OSS_ClimatixIC.htm">https://www.climatixic.com/Content/OSS_ClimatixIC.htm</a>		

# Imprint

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# **1** About this document

# 1.1 Revision history

Version	Date	Changes	Section
ae	2025-01-28	New onboarding videos	Getting to know Climatix IC [→ 13]
		Added reference to Rule Editor documentation	Additional information [→ 14]
		Added new reference: 'Automatic password reset'	Register via e-mail invitation [→ 55]
		Created new section	Multi-Factor Authentication [→ 68]
		Created new section	Detailed display of updates to Cloud elements in the 'Data point trend viewer' [→ 86]
		Description of new function: Change web graphic display size	Web graphic [→ 94]
		Added Integration of parameter files	Integrated third-party plants using configuration files for Modbus gateways [→ 108]
		Created new section	Create new administrator and assign roles [→ 151]
		Update screenshot, added note on TenantAPIUser.	Assign administrator roles [→ 154]
		Created new section	Scripting editor [→ 288]
		Created new section	Alarm Dashboard menu [→ 307]
		Added new search function by ASN and BSP version.	Search, sort, group [→ 370]
		Created new section	Example: Standard delivery [→ 380]
		Section spit up into subsections	Using the optimum portal role [→ 382]
		Added 'TenantAPIUser' to the table	Specific administrator roles [→ 385]
		Deleted reference to 'Alarm ticket	Entire document

ad	2024-07-24	Summarized information in a single section	Technical requirements [→ 18]
		Supplemented table 'Overview symbols'	Operation menu [→ 80]
		Added note on account duration without user activity	Basic data/tenant key (distributor) [→ 157]
		Created new section	Automatic assignment of application sets on plants [→ 166]
		Created new section	Inactive user [→ 181]
		<ul> <li>New paragraphs:</li> <li>'For roles with restricted plant rights: Additional right to select application sets by name and version number'</li> <li>'Assign a Sub-Tenant a role other than the Main-</li> </ul>	Roles [→ 182]
		Tenant's'	
		<ul> <li>Updated access path and screenshot</li> <li>Described the new function 'Mapping ID for the application set version'</li> </ul>	Default data for plant settings [→ 163]
		Updated screenshot	Set User Dashboards for various display sizes [→ 237]
		Supplemented function 'Hide Y axis'	Hide Y axis in a chart tile [→ 247] Bar tile [→ 243] Line tiles [→ 244]
		Supplemented table 'Privileges: Entries: #25 'Apps / Energy Dashboards' #27 'Plant / Application set'	Roles and privileges [→ 379]
		Tables: Supplemented entry 'Alarm Dashboard'	Using the optimum portal role $[\rightarrow 382]$
		New entry 'Delete an account without activity'	Glossary
ac	2024-04-11	New illustration of Landing page	Entire document
		Removed references to use in China	Entire document
		Modified 'Account names (roles)'	Getting to know Climatix IC
		Described new login procedure	Entire document, section Entering Climatix IC [ $\rightarrow$ 47], Register [ $\rightarrow$ 54]
		Updated section with new login procedure	Account details and log out $[\rightarrow 72]$
		Supplemented note to switch off 'Min/Max value' function	Work with the dashboard Trend Viewer [→ 77]
		Deleted subsection 'Unlink external accounts'	User [→ 150]
		'API Technical User' role: Described limitation on assignment by the Main-Tenant Administrator	Assign administrator roles [ $\rightarrow$ 154], Using the optimum portal role [ $\rightarrow$ 382]
		Described automated notifications and deleting inactive accounts	Basic data/tenant key (distributor) [→ 157]
		Created new section	Scaling data point values [→ 233]
		Described new display options for User Dashboards	Set User Dashboards for various display sizes $[\rightarrow 237]$
		Described new function 'Fill out trend lines'	Line tiles [→ 244]
		Described 'Multiplication function'	Rendering dynamic with mappings $[\rightarrow 277]$
		Revised section	Developer API [→ 302]
		Deleted section	Preparations for Siemens SI Apps
		Moved section	COV files [→ 364]
		Supplement restricted role assignment at 'Tenant Billing Administrator'	Using the optimum portal role $[\rightarrow 382]$
		New entry 'MFA'	Glossary

1

Revision history

As of	2024-01-03	Modified info box on first-time login	Set up multi-factor authentication and first- time login [→ 61]
		Supplemented info box 'Resolution of Climatix IC values'	Data points [→ 85]
		New chapter with a description of the copy function	Copied alarm times from system alarms [→ 90]
		Content structure reorganized, new function "Free text field 'Type" added: • Separated general settings and plant-specific settings • Added new section	Application sets menu [→ 113]
			Plant settings [→ 129]
		Described new function: 'Display BSP version of an plant'	Plants [→ 144]
		Note on 'MTU' added.	M2M router [→ 201]
		Described new 'Plant user' menu	Plant users [→ 178]
		'Service+' paragraph: Supplemented test phase over one year	Plant settings [→ 212]
		New chapter: 'Smart Energy Service'	Smart Energy Service [→ 219]
		Described new function 'Use fixed columns'	Set User Dashboards for various display sizes [→ 237]
		Described new 'Energy Dashboard' function	Energy dashboard [→ 254]
		Added new section	Alarm Dashboard
		Added new section	Rule Editor
		Section restructured	Preparations
		Required software versions updated. Warning added.	Required software versions [→ 348]
		Cross-reference and new chapter on COV files added to the appendix	Plant files [→ 132] COV files [→ 364]
		Added Subscription type 'Monthly' New entry 'MTU'	Glossary
aa	2023-08-15	Added 'Systems', 'Plants' and 'Tenants' to section and adapted the UI structure	Application sets menu [→ 113]
		Added reference to COV files/groups	Plant files [→ 132]
		Updated screenshot	Assign administrator roles [→ 154]
		Described new workflow on creating API keys.	API accounts [→ 160]
		Revised section on architecture	Plant Dashboards [→ 224]
		<ul><li>Added description of new functions:</li><li>Change the order of data points</li><li>Display additional Information on data points</li></ul>	Line tiles [→ 244]
		Added description of new functions: • Copy API keys	Documentation [→ 303]
		Added new section: FAQ	FAQ [→ 306]
		Described new synchronization of application sets and plants using the Rule Editor	Preparations
		Adapted tables 'Roles and privileges': Adapted descriptions to items 2 and 23	Roles and privileges [→ 379]
		Revised tables: <ul> <li>'Specific administrator roles'</li> <li>'Role description Siemens Apps'</li> </ul>	Using the optimum portal role [→ 382]
az	2014-10-07 2023-04-14	Initial edition to edition 12.2022	See revision history for older document versions

## **1.2 Getting to know Climatix IC**

## Videos

Title	URL
Climatix IC on Youtube	https://www.youtube.com/watch?v=5_NuNjhyHyg
Specific user roles in Climatix IC (Youtube)	https://youtu.be/gtZJ9AwfLe0 (German)
	https://youtu.be/kiPp014jrZA (English)

## **Onboarding videos (in English)**

Title	URL
Climatix IC Onboarding – Technical Training (34:49)	https://www.youtube.com/watch?v=fF_xhQQIvHs&t=194s
Climatix IC Onboarding – Node-RED intro (01:30)	https://www.youtube.com/watch?v=b8BCQkLT2_o

## **Climatix IC product page**

The Climatix IC product pages provide a comprehensive information offering on the product.

Deployment region	URL
Climatix IC	https://www.siemens.com/climatixic

## **Try out Climatix IC**

For Climatix IC				
Start	https://www.climatixic.com			
The following test tenants are available	<ul> <li>DEMO.IC.OZW: OZW772, OZW672, OCI670</li> <li>DEMO.IC.S300: S300HRV</li> <li>DEMO.IC.GetConnected: POL</li> <li>DEMO.IC.CLX: POL (AHU, Chiller)</li> </ul>			
Account names (roles)	demo@climatixic.com     service@climatixic.com Password.01			

## **1.3 Additional information**

Document title	Type of document	Document no.
Product and service data sheet: Manually and automatically renewable service subscriptions	Data sheet	A6V10449189
Climatix controllers: POL687	Data sheet	Q3903
Climatix controllers: POL63	Data sheet	Q3230
Climatix controllers: POL6x8	Data sheet	A6V10990076
SCOPE tool online help	Online help	
SAPRO tool online help	Online help	
HMI4Web and dynamic web graphics	User's guide	A6V101099045
Climatix Technical Limits	Quick Reference Guide EN	A6V101099058en
Rule Editor for intelligent alarm applications	User guide (English only)	A6V12441323

Section "Support [ $\rightarrow$  353]" describe how to access the OEM extranet.

## 1.4 Before you start

## **Target audience**

Tenant Administrators of HVAC manufacturers (OEM) are the target audience for this document.

#### **Document conventions**

Depiction of text markups

Special text markups are displayed as follows in this document:

>	Prerequisite for an instruction
⇒	Interim result of an instruction
→	Final result of an instruction
Text	Hyperlink, reference
"Text"	Term that has a standing definition in the program

#### Depiction information/ tips



The "i" symbol identifies supplemental information and tips to simplify procedures.

## Trademarks

Trademarks	Legal owner
BACnet™	American National Standard (ANSI/ASHRAE 135-1995)
LON®	Echelon Corporation
Google, Google Chrome	Google Inc.
Mozilla Firefox	Mozilla Corporation
Safari	Apple Inc.
Edge	Microsoft Inc.
Site24x7	Zoho Corporation

We forgo the labeling (e.g. using the symbols <sup> $\otimes$ </sup> and <sup>TM</sup>) of third-party trademarks for the purposes of legibility based on this list.

# 2 Climatix IC, remote monitoring and intelligent diagnostic

HVAC plants with Climatix controllers can connect to Climatix IC $\uparrow$  - 'Cloud-based solution for remote monitoring and intelligent diagnostic'.

Climatix IC $\uparrow$  supports your organization with remote maintenance 24/7, available anywhere to significantly reduce maintenance costs.

## 2.1 Key benefits

Climatix IC↑ web applications offer:

- Remote access to plant devices worldwide and 24/7
- Plant owners and managers can analyze:
  - Current status
  - History
  - Access to schedules and settings
- Real-time consumption data (currently available as an history export) helps identify "consumption anomalies" that often point to underlying mechanical problems. This permits preventive maintenance.
- Climatix IC↑ web operation simplifies and modernizes operation at all access levels.

#### Remote maintenance – at any time from any location

HVAC systems often operate a considerable distance from OEM production centers, supplier or service organizations, resulting in high service and travel costs, especially during warranty periods.

Climatix IC↑ facilitates diagnostics, optimization of settings, or system upgrades from any location. Even if a visit to the plant does prove necessary, however, the available data enables service engineers to work more efficiently.

## Connection – straightforward and effective

Today, most Climatix controllers are equipped with a built-in IP interface. The controller connects automatically to the Climatix IC $\uparrow$  via this interface.

#### Web-based - always up to date

Climatix IC↑ operates with standard web browsers that support HTML5. The service engineer logs on via a laptop and directly accesses the plant. No special software or cables required.

## 2.2 Key functions

Climatix IC↑ includes the following key functions:

- Collects alarms and routes them to the responsible service organization.
- Upgrades to installed plants: Application and firmware enhancements or saving control parameters to the cloud. Everything can be scheduled for specific times.
- Process data analysis permits systematic improvements to plant efficiency.
- The application can be used by any PC or laptop; no additional software required.

## **3 Requirements**

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## 3.1 Start your digitalization project

The glossary includes explanation of terms commonly used in the Cloud and used here.

## 3.1.1 Ordering tenant functionality

Climatix IC $\uparrow$  is a multi-tenant system that provides an individualized area (tenant $\uparrow$ ) closed to the outside. Contact your local Siemens POC if you are interested in establishing your own tenant $\uparrow$ .

## 3.1.2 Select a subscription and digital wallet

## Subscription

The Product and Service Data Sheet, PSDS (successor to the current data sheet under the same document number A6V10449189) and Annex "Order Options" to your Digital Service Agreements (DSA) assist you in selecting the proper Subscription↑.

## New freedom with the "Digital wallet"

The digital wallet allows you to independently manage your Climatix IC↑ subscription. After familiarizing yourself with the process, you can purchase on credit, manage the product, forward credits to your Sub-Tenants, and quickly check the consumption data and without an interface, much like shopping in retail.

#### Additional information:

- Billing
- Digital wallet

## 3.2 Technical requirements

The current Climatix controllers are preconfigured to automatically connect to Climatix  $IC\uparrow$  as soon as they are connected to the Internet. First review the following system requirements:

#### Internet access

- The Ethernet cable must be connected to the controller's IP connection (T-IP).
- The controller requires a direct connection to the Internet, i.e. without proxy.
- Port 443 (https) is open, from the device to the outside on the Internet.
- Broadband Internet is recommended for the controller due to the program size.
- It is further important that the Internet connection is stable.

#### Web browser

The browser must support HTML5.

- The latest versions (as of the publication date) of the following browsers were tested: Google Chrome, Mozilla Firefox, Microsoft Edge, and Safari (based on iOS) by Apple
- Internet Explorer is no longer supported.

## **Climatix controller BSP**

- POL63x: VVS11.64 or higher, from January 2023 VVS11.66.
- POL68x: VVS11.64 or higher, from January 2023 VVS11.66.

For support for controllers: See Siemens SIOS Portal: <u>support.industry.siemens.com/cs/ww/en/view/109747351</u>

Access to SIOS requires login: <u>support.industry.siemens.com/</u>.

	NOTICE				
i	<ul> <li>Additional information</li> <li>The upgrade process is documented in "Upgrade [→ 96]".</li> <li>"Prepare and load current BSP [→ 360]" documents where you can download the current BSP.</li> </ul>				

## **SCOPE tool version**

The SCOPE tool maps, generates, and uploads to controllers as of VVS 10.32 or higher.

## Controller loaded with SAPRO application

- Climatix controllers must be loaded with a valid SAPRO application.
- The BSP LED must be green.

## 3.3 Scan and use codes

## 3.3.1 Data Matrix Code

The activation key for your Climatix controller is included in the controller's firmware and can be read there using the SCOPE tool. The activation key is also printed on the actual controller as a DMC.

You can scan the code using a code reader app. The result is a text string. **1P**S55396-C488-A100+**31P**POL648.80/STD+**S**160908Z000000005+**23S**00-A0-03-EB-01-04+**3C**AAAAA-BBBBB-CCCCCC-DDDDD-EEEEE

The text string is subdivided into code letters:

- 1P: Siemens stock number (SSN); fixed
- 31P: Siemens device type (ASN); fixed
- S: Date (YYMMDD), series, serial number, variable
- 23S: MAC address (hex); variable
- 3C: Climatix IC activation key; unique device ID

Conclusion

Example

Your Climatix supports the automation of your business processes, e.g. during sign-up or pre-registration. You no longer need to connect the controller to get its ID.

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The data matrix code on the box includes information such as the Siemens device type (ASN) and date of manufacture. The activation key is not included on the box.

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# 4 Engineering with SCOPE

## 4.1 Preparing the application (VVS11)

The content displayed in Climatix IC $\uparrow$  supplies watch pages that can be loaded to the controllers with the SCOPE tool (as of VVS11).

"SCOPE application: Watch pages (VVS10) [ $\rightarrow$  354]" archives the analog workflow for VVS10.

Applications loaded on Climatix include watch pages that provide setpoints, present values, and other data.

Application engineers use the SCOPE tool to create the watch pages and download the generated file (OBHcomp.ucf) to the controller.

As soon as the Climatix controller is connected to Climatix IC, the controller provides the defined information, derived from the watch pages, among others. The example below demonstrates how to create a watch page in the SCOPE tool, add values to it and, finally, download it to the controller.

In the field, existing Plants↑ often already have a watch page with cloud-capable data.

## 4.1.1 Open an empty demo project and connect locally

S Demo_2019-05 - Climatix SCOPE				×
i 🞢 Menu 🗸 🔂 🗋 🥻 🔊 (° ) 🔜 🖨	🏺 Connect	▼ POL648_EB4A89 ▼ USB   🐼 Start Ap	plication 👻	
Project 👻 🕂	Setti	ngs		4 Þ 🗙
	Communicat	ion	Current Language	
Settings	Target:	Unknown 🗸	English ~	
<ul> <li>Configuration</li> <li>Security</li> </ul>	Interface:	USB ~	Engineering Unit Support	
📜 Languages 📝 Project	USB		enable $\vee$	
Soot Note			Security Level	
⊡IIII Target IIIII Time Diagnostics □ IIII Data Points	Device: Auth:	not available ~	Factory ~	
Parameter Up- and Download     Documentation     Watch Pages				

We begin with an empty demo project:

- ▷ SCOPE tool VVS11 is open.
- ▷ There is a local, physical connection (e.g. via the USB service port) between the PC and the Climatix controller.
- 1. Select "Menu > Project > New" and save a new SCOPE project to a suitable location using an appropriate name.
- 2. Go to "Settings" for your new project in the project tree.
- 3. Enter the controller password in the "Settings" pane in the "Auth:" field.
  - ➡ The locally connected controller displays in the header of the connection list.
- 4. Select the controller.
- ⇒ The controller is now connected and starts to read the data point list (visible in the window "Browser for Data Points").

S Demo_2019-05 - Climatix SCOPE					$\times$
🗄 🎢 Menu 🗸   🔂 🗋 🎁   🄊 (*   🔚 🔛	bisconne 🗑	ct 🝷 POL648_EB4A89 USB   💽 S	Stop Applica	tion 👻	
Project 👻 👎	Setti	ngs			4 Þ 🗙
S Demo_2019-05	Communicat	ion		Current Language	
Settings	Target:	POL6x8	$\sim$	English $\checkmark$	
i Configuration 	Interface:	USB	~	Engineering Unit Support	
📜 Languages 📝 Project	USB			enable $\checkmark$	
Foot Note				Security Level	
⊡∭i Target @ Time	Device:	POL648_EB4A89	$\sim$	Factory ~	
Diagnostics     Data Points     Parameter Up- and Download	Auth:	•••••			

## 4.1.2 Check / modify security levels and language sets

## Check / modify security settings

S Demo_2019-05 - Climatix SCOPE		
🌃 Menu 🗸 🛐 🗋 👔 🖉 🕫 🔛 🔜	Disconnect 👻	POL648_EB4A89 USB   💽 Stop Application 👻
Project 👻 🕈	Settings	💦 Config Security
	Security Settings	
Settings	Level	Description
	0	Full Access
Kecurity	2	Factory
📕 Languages	4	Service
💕 Project	6	User
Foot Note	253	Enduser

- 1. In the project tree, go to "Configuration > Security".
  - ➡ It includes predefined standards that are used in this version, e.g. in the AHU standard application as well.
- 2. Check or modify the roles and access concept as needed.

#### Check / modify language set

roject 👻 👎		Config Security	Config Languages					
E-S Demo_2019-05 -	Languages Language Application	Global	Text Catalog SystemText Oem	Text Project Text				
The Security Constraints Languages Constraints Project	✓ English ✓ Swedish ✓ German	English Swedish German	Key	Comment	English	German	French	Italia
	French Italian Com 1 (0x4000)	French Italian English	eTextinputAll AutoStn		#*0*1*2*3* Automation	Automation		-
Diagnostics     Data Points     Z Parameter Up- and Download	Com 2 (0x4001)	English	Application info Unit0 Unit1	[18] Plant info [16] Interface unit [16] Common unit	Plant info Interface Common	Anlageninfo Schnittstelle Allgemein	To translate To translate To translate	To trai To trai To trai
Documentation 			Hierarchy00 Hierarchy01		Hardware	Hardware	To translate To translate	To trai To trai
Calendars			sUnit0 sUnit1	<pre>[9] Interface unit [9] Common unit</pre>	Interface Common	Schnitts. Allgemein	To translate To translate	To trai To trai
			sHierarchy00 sHierarchy01		Hardware Common	Hardware0 Allgemein	To translate To translate	To trai To trai
HMI			dFree dimension1 dFree dimension10	<ul><li>[4] project specific free defin</li><li>[4] project specific free defin</li></ul>				
			dFree dimension2 dFree dimension21	<ul><li>[4] project specific free defin</li><li>[4] project specific free defin</li></ul>				

- 1. Go to "Configuration > Languages".
  - ⇒ This includes both the defined language scope as well as the complete text database for your project.
- 2. You can set up additional languages by right-clicking > "New" in the pane for the language set.
- 3. You can also clear an existing language.
- 4. Save the settings for the new language scope to take effect.

## 4.1.3 Set up own text for watch page

"Configuration > Languages" also includes the project text database (tab "Project Text"), where you can create a text for your own subsequent web page.

🗹 English	English	📥 Add	
Swedish	Swedish	Kev	Comment
🧹 German	German	кеу	Comment
French	French	eTextinputAll	[1/250] HMI: Texti
✓ Italian	Italian	AutoStn	[16] Automation st
Com 1 (0x4000) Com 2 (0x4001)	English	Application info	[18] Plant info
Com 2 (0x4001)	English	Unit0	[16] Interface uni
		Unitl	[16] Common unit
		Hierarchy00	[16] Hardware hier
		Hierarchy01	[16] Common hierar
		sUnit0	[9] Interface unit
		sUnitl	[9] Common unit
		sHierarchy00	[9] Hardware hiera
		-Wierershy01	[9] Common hierarc
New Text		nensionl	[4] project specif
Key: Page1		nension10	[4] project specif
Comment: Comment		nension2	[4] project specif
Value: MyPage1			
	ОК	Cancel ue	

1. Click "Add..."

⇒ The "New Text" dialog box opens.

- 2. Edit the fields "Key:" and "Value:" as needed and confirm with OK.
  - ⇒ You text is added to the end of the project text list.
- 3. Scroll to your new text.
- **4.** Translate the web page text in the corresponding column in the desired languages.
  - ⇒ You can later change languages in Climatix IC.
- 5. Save to secure all actions.

S Demo_2019-05 - Climatix SCOPE				_	□ ×
🗄 🎬 Menu 🗸 🔀 🗋 🍞 🖗 🛛 🔛 📑	👦 Disconnect 🝷 POL6	548_EB4A89 USB 🛛 💽	Stop Application 👻		
Project 👻 🗖	Settings 💦	Config Security	Config Languages	🛓 Watch Pages*	4 Þ 🗙
Project   Project   Project   Configuration  Security  Configuration  Project  Foot Note  Target  Target  Diagnostics  Data Points  Parameter Up- and Download  Documentation  Watch Pages  Schedulers  Calendars  Trend  Online  Archive  Engineering  HMI	Settings 💦			Watch Pages*         Page Properties         Settings       Advanced         Mapping         Page Identifier         Page2         Object Id         Drop object id here         Enable Object Id         Drop object id here         Page Text         <%Page1%>         Security Level for Page Access         Enduser	x 4 b x 4 b x 4 b x 4 v x 4 v 4 b x 4 v
니(현철) Mapping Support			< >	Default Item Write Security Level	~
	🕍 Text Catalog 🎉	Settings 🕼 Format 🕻	S Error List		

## 4.1.4 Create watch page

- 1. In the project tree, go to Data Points > Watch Pages.
  - ⇒ The "Navigation" tab is displayed by default. You can see that a basic structure is already created.
- 2. Switch to the "Project" tab.
- 3. Right-click the area below the existing watch pages and select "New...".
  - ⇒ The "Page Properties" opens on the right with the "Settings" tab.
- 4. Use the previously created (and translated) text key as the "Page Text". Delete the default entry in "Page Text" and start to type using the following syntax: <%Page1%>.
  - ➡ The "Matching Text Catalog" opens; the suggestions become more precise as you enter more text.
- 5. Double-click to use the suggestion.
- **6.** The security levels for Page Access and Write Security Level are also located under the "Settings" tab.

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For example, the setting "End user" for Page Access and "Service" for Write Security Level means that any user up to and including the end user can read the values, but only users up to and including service can write values to the page.

/ 🗟 Watch Page	*5				
Project OEM	System Navigation				
Name	Page	Page2			
Main overview Main menu	Page1 Page10	Name System clock - Hour	Write Status writable	Dimension h	Page
MyPage1 Main switch	Page2 Page3	System clock - Minute System clock - Second	writable writable	min s	
		RoomTmp - PresentValue Target - DisplayName	writable read-only	С,	
		< .			
🗽 Text Catalog 👔	🖗 Settings 🕼 Format (	🛿 Error List			

4.1.5 Add values to watch page

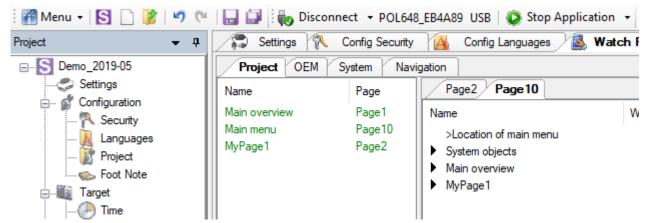
- $\triangleright$  A watch page is setup.
- ▷ In the SCOPE tool, the "Browser for Data Points" is open and shows Plant↑ data points.
- 1. Select the desired Member↑ (e.g. the PresentValue) for a data point and drag the Member↑ to the watch page workspace.
  - ➡ The "Item Properties" for the data point are displayed to the right. The "Settings" tab is enabled.
- 2. In the "Settings" tab, access rights can be issued that differ from the watch page (recommended only as an exception). <Inherit> means that the rights are inherited from the watch page setting (recommended).
- 3. Switch to the "Mapping" tab.
  - You can see whether JSON is selected for graphics engineering and/or Cloud for mapping to Climatix IC. Cloud also has a selection for automatic and definable that corresponds 1:1 to the entries for "Automatic:" and "Definable:".
- 4. Save the changes to the watch pages using the Save button.

NOTICE						
	Definable values must be unique throughout the project					
l	Ensure when working with talking definable values during cloud mapping that the values are unique throughout the project, e.g. with your own data storage of the texts.					

## 4.1.6 Check structure and mappings

#### Check web page structure

S Demo\_2019-05 - Climatix SCOPE



New web pages are initially gray in the "Project" tab. The page must be added to a hierarchical structure to be fully engineered.

- 1. Double-click the superposed web page (in the example, Main menu, Page10).
- 2. Drag your new web page to the pane for the superposed web page.
- ⇒ The new web page is added to the structure and is displayed in green in the "Project" tab.

	Object Id	Member Id	Application	Communication 1	Communication 2	
0000	Pages					
0001	0xF040 0x02	0x0000	Page2	253		
0002	Data points					
0003	0x0010 0x00000001	0x8140	10P5UX5QHY	<1,1,'10P5UX5QHYWMC',0-0,4,253>		
0004	0x0010 0x00000001	0x8140	21CBNSBEZU	<2,2,'21CBNSBEZUJTM',0-1,4,253>		
0005	0x0010 0x00000001	0x8140	31_HGNH3FQ	<3,3,'31_HGNH3FQ6-W',0-2,4,253>		
0006	0x2203 'Unitl\RoomTmp'	0x8140	6WHH60489P	[0.50,0.10]<256,256,'6WHH60489PMAOR		
0007						
0008	Calendar					
0009	0x2209 0x031A94E2	0x8140	TVGKR7IP (	<256,256,'TVGKR7IP',,,>		
0010	0x2209 0x031ACAE0	0x8140	TVR_5FKD (	<256,256,'TVR_5FKD',,,>		
Files for Mapp	-					
Description	File	Time	Location Typ	e		
Translati				-	2	
BACnet	BAcnet	2018-01-11 16:	· · · · ·	-	2	
Languag     JSON		2019-05-15 16:		-		
	GenericCloud	2019-05-15 16: 2019-05-15 16:		5		
Translati		2013-03-13 16: n 2018-01-11 16:		-		
Docume		2018-01-11 16:		-	-	
		2012 01 11 10.				

#### **Check mappings**

Briefly check the mapping generated by engineering before generating the final mapping and loading it to the controller:

- 1. In the project tree, go to "Engineering > Mapping Support".
  - ➡ The mapping is listed in the window "Files for Mapping" and selected for generation.
- 2. Double-click line "Cloud".
  - ⇒ There you find, among others, objects that you created, such as the web page and data points. The entry for a data point in Communication 1 includes your engineering with the encoded syntax. Use F1 to go to Help on Mappings and search for "Cloud Mapping" for all the details on the syntax.
- 3. Double-click line "Languages".
- 4. Check whether the language set is correct.

NOTICE				
	No changes in mapping support			
!	Changes and translations are made exclusively in the actual watch pages. The table view for mapping support is for viewing and review only. You must refresh the table view (F5) before saving the mapping if the mapping support table view is open while changes are still being made to the watch pages.			

## 4.1.7 Generate loadable mapping file

The various mappings are compiled to a single, loadable file.

- ▷ Engineering is completed, the required mappings are available and were checked in "Files for Mapping".
- Click "Generate"
- ➡ In the "Loader Control" window, the line Mapping-Comp displays the current timestamp in block font.

## 4.1.8 Download mapping file to the controller

The OBHVNcomp.ucf, generated in the previous step, is now downloaded to the controller.

t 👻		Settings	🔨 Config Securit	y 🔼 Config	Languages 🗟	Watch Pages 🦯 强 Mappi	ng Support	4 ۵
Demo_2019-05	Ma	pping Support						
Settings		📝 Cla	oud:GenericCloud	🗸 Languages	:GenericLang			4 Þ ;
	Read		Object Id	Member Id	Application	Communication 1	Communication	2 1
Languages	<u> </u>	0000	0xE000 0x0007	0x001		-;en;sv;de;fr;it		E
Project		0001	0x27 0x1	0x1101		-;en;sv;de;fr;it		E
		0002						
Target					I		I	
···· 🕗 Time								
Diagnostics								
Data Points								
Parameter Up- and	Dc							
Documentation     Watch Pages								
Schedulers		<						
Calendars		Files for Map	pina					-
Trend			F					
Online		Description	1 I	File	Time	Location Type		
Archive		Transla		ObjLang_Project	2018-01-11 16:0			
Engineering		BACnet		BAcnet	2018-01-11 16:0			
强 НМІ		Langua	-	GenericLang	2019-05-15 16:1			
Mapping Support		JSON Cloud		GenericJSON GenericCloud	2019-05-15 16:1 2019-05-15 16:1			
		Translat		GenericCioud ObjLang_System	2019-05-15 16:1			
				ComDoc_All	2018-01-11 16:0			
				comboc_Air				
		🔠 Generat	te		Use memb	er names support Project		
		👍 Files 🔺	Text Catalog					
	>		-					
Control								<b>▼</b> ₽
iles Erase BSP B	N-Files							
e File	Tim	ne	GUID		Target GUID		Message	
pplication MBRTCode.u	cf -		-		7A20F11C-34E2-45	4A-A822-E963ED13CED1		
HMI-Cnf-Comp HMIcomp.ucf	-		-			DB-A50D-5E51033467AA		
Mapping-Comp OBHVNcomp		19-05-15 16:14	4:46 6AF4C52	20-67D5-4F69-A		69-AC1A-F720E19E7551		
HMI4Web HMI4Web.uc BACnet Client BACnet.csv	-		-		DD1C/458-59AA-4/	A75-85D8-FEDC83B60F28		
BACnet Client BACnet.csv Light-Version ScopeConfig.	ucf -		-					
Egneversion Scopeconing.			-		-			

- 1. In the SCOPE tool, select "Menu > View > Loader"
- 2. In the menu line, click "Stop Application".
- **3.** The "Load" button is enabled once the application is stopped (BSP LED orange).
- **4.** In the loader, highlight line Mapping-Comp (OBHVNcomp.ucf) line and click "Load".
- 5. In the menu line, click "Start Application".
- ⇒ The application is running once the BSP-LED is green.
- ⇒ The controller is now prepared to send defined data to Climatix IC.

## 4.2 Connect and exchange data

#### Browser for Data Points **-** ₽ X G Member Name Value Dim ^ Configuration - (Collection) Object Data 0x1000 FullSize 382 System - (Collection) 358 0x1001 DvnamicSize ·· Object handler - (DiagObjectHandler) 0x1100 DisplayName IP-Config System clock - (SystemClock) 0x2000 LimitsIP 255 Target - (Target) 00-A0-03-EB-4A-89 0x0000 MAC Process bus - (aoProcessBus) DHCP Advanced 0x0001 IP-Config. - (aoIP) Active (1) Climatix IC - (aoCSL) 0x0002 HostName POL648\_EB4A89 BACnet - (aoBACnet) 0x0003 Link Passive (0) IO-Module bus - (aoIOExtBus) 0x0004 100MBit Passive (0) . ... Event history - (ao Event) → 0x0005 704751808 GivenIP → 0x0006 GivenIP[w] 192 Harm list - (ao Aarm) → 0x0007 GivenIP[x] 168 . Alam-snapshot - (aoAlamSnapshot) GivenIP[y] → 0x0008 1 ···· HMI - (aoHMI) GivenIP[z] → 0x0009 42 Password - (aoPWD) → 0x000A GivenMask 16777215 . Archive - (aoArchive) → 0x000B GivenMask[w] 255 · Communic.modules - (Collection) → 0x000C 255 GivenMask[x] i Unit1 - (aoUnit) → 0x000D GivenMask[y] 255 i⊕ ltf - (aoUnit) → 0x000E GivenMask[z] 0 🗄 ·· Cmn - (ao Unit) → 0x000F GivenGate 16885952 → 0x0010 GivenGateway[w] 192 🗄 Z2 - (ao Unit) < 🗄 73 - (ao Unit) Object ID=0x0022 0x00000001 (aoIP: '0x00000001')

4.2.1 Connect to the Internet (IP)

🎆 Browser\* 🛕 Alarm | 🕕 Protocol | 📠 Loader

- ▷ SCOPE tool is connected locally to the target controller.
- 1. Go to "Menu > View > Browser".
- In SCOPE, in the "Browser for Data Points", go to "SystemObjects > IP-Config".
- 3. Check the following member settings

#### DHCP

The network configuration is taken from the DHCP server, if available.

Member ID	Member name	Setting
0x0001	DHCP	Active

The DHCP server must provide the following information:

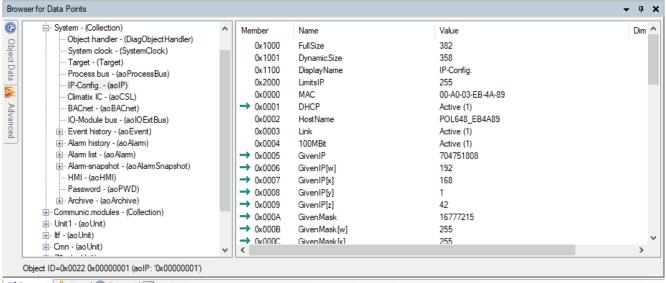
- Current controller IP address
- Correct subnet mask
- Gateway IP address, if needed

#### **Fixed IP address**

Make the following settings if **no** DHCP server is available:

Member ID	Member name	Setting
0x0001	DHCP	Passive
0x0035	IP	Local controller IP address
0x0036	SubnetMask	Correct subnet mask for the local network
0x0037	Gateway	Gateway IP address or 0.0.0.0, if no Gateway is required
0x0038	PrimaryDNS	Valid DNS server address, e.g. 8.8.8.8 (Public DNS Google*). DNS-Server to resolve Internet domains
0x0039	SecondaryDNS	Backup for PrimaryDNS

#### Check success



🕵 Browser\* 🛕 Alarm 🕕 Protocol 📠 Loader

Both members↑ provide a note on success in this step:

- 0x0003: Link: Set to active (1)
- 0x0004: 100MBit: Set to active (1)

The next step "Connect to cloud (CSL) [ $\rightarrow$  31]", lists all other criteria to ensure the controller communicates with Climatix IC (Cloud).

## 4.2.2 Connect to cloud (CSL)

#### **Table overview**

<b>.</b>	Device - (aoDevice)	Member	Name	Value	Dim	Туре	
	EnableObjects - (Collection)     SystemObjects - (Collection)	0x1000	FullSize	566		WORD	
	DiagObjHandler - (DiagObjectHa	0x1001	DynamicSize	246		WORD	
		0x1100	DisplayName	CSL-Config		STR16	
	- Target - (Target)	0x1101	EnumEnable	Disabled*BSPonly*Enabled		STR40	
	ProcessBus - (aoProcessBus)	0x1200	EnumComState	OK*-*IPErr*ServerErr*InternalErr*ResponseErr		STR80	
	····· IP-Config - (aoIP)	0x1201	EnumCSLState	-*IPErr*Init*InitErr*Reg*RegErr*Description*Connected		STR80	
	CSL-Config - (aoCSL)	0x1202	EnumCSLUpgrade	Wait*Yes*No		STR20	
	BACnet - (aoBACnet)	0x1102	BitCERTCheck	Domain#Time#SelfSigned#RootCA		STR40	
	···· IOExtensionBus - (aoIOExtBus)	0x1103	BitOptions	RTA#NA		STR40	
	EventHistory - (aoEvent)	→ 0x0000	ServerIP	https://clx.connectivity.ccl-siemens.com		STR80	
	🖶 · AlarmHistory - (aoAlarm)	0x0001	ComState	OK (0)		WORD	
	🖶 AamList - (aoAlam)	0x0002	CSLState	Connected (7)		WORD	
	🗄 ·· Alarm Snapshot - (ao Alarm Snaps	→ 0x0003	MappingLanguage	16384		WORD	
	···· HMI - (aoHMI)	→ 0x0004	EnableConnection	Enabled (2)		WORD	
		0x0005	Reserved	0		ULONG	
	· Archive - (aoArchive)	→ 0x0006	Distributor	SBTAdmin!		STR20	
	ComExtension - (Collection)	→ 0x0007	Reconnect Time	15	s	WORD	
<	>	→ 0x0008	Reserved	30	s	WORD	

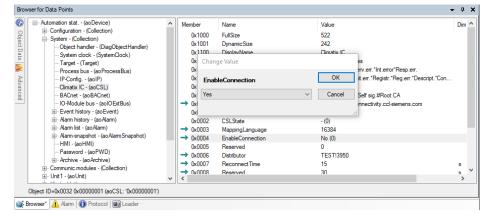
🎯 Browser 🛕 Alarm | 🕦 Protocol | 🔤 Loader

- 1. In SCOPE, in the "Browser for Data Points", go to "SystemObjects > CSL-Config".
- 2. Check the following member settings:

Member ID	Member name	Setting
0x0000	ServerIP	Server URL with connection protocol
		For Climatix IC:
		<i>NOTICE!</i> As a rule, do not change this value; the proper value comes from the BSP of the controller.
		<u>https://clx.ccl.climatixic.com</u> (From VVS11.66 and D21)
		• <u>https://www.connectivity.ccl-</u> <u>siemens.com</u> (Obsolete, up to VVS11.46)
0x0004	EnableConnection	"Switch" for connecting. Is run as the <b>last</b> step.
0x0006	Distributor↑	The distributor key assigns the controller to the correct Tenant <sup>↑</sup> .
0x0007	ReconnectTime	Wait in seconds between two connection attempts

## Workflow in detail and chronologically

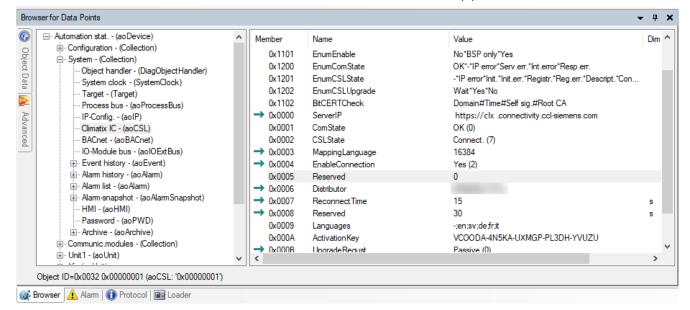
- ▷ You have the Distributor↑ information (compare: "Basic data/tenant key (distributor) [→ 157]").
- ▷ SCOPE tool is open and connected to the target controller.
- 1. In SCOPE, in the "Browser for Data Points", go to "SystemObjects > CSL-Config".
- 2. Check the ServerIP: Do not change the default setting https:// clx.connectivity.ccl-siemens.com.
- **3.** Enter the distributor↑/tenant↑ key in Distributor. The key is provided by the Tenant Administrator↑ or is preset in the SAPRO project (aoCCL Block).
- **4.** The "switch" is used for connecting only at the end: Set EnableConnection to Enabled.



## **Check success**

You can assume, according to the criterion indicated for both member↑ that the controller is communicating with Climatix IC (Cloud):

- 0x0001: ComState must be on OK (0)
- 0x0002: CSLState must be on Connected (7)

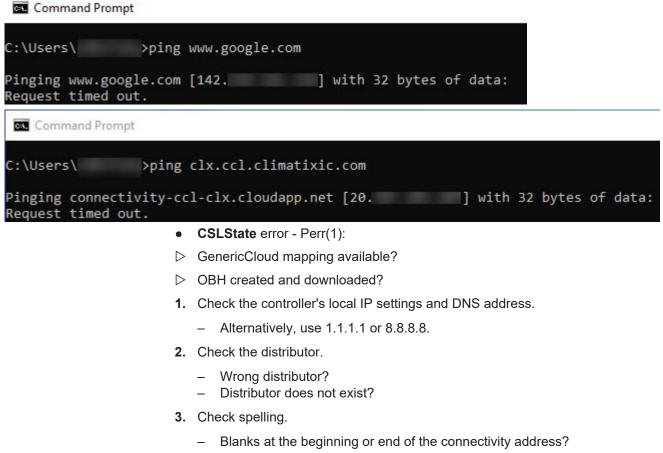


#### **Error messages**

Error messages are always displayed in the cloud help. Common errors are:

- ComState error Perr(1): Check the Internet connection
- 1. Ping www.google.com
- 2. Ping connectivity URL: <u>clx.ccl.climatixic.com</u>

'ComState' describes the state of communication with the cloud.



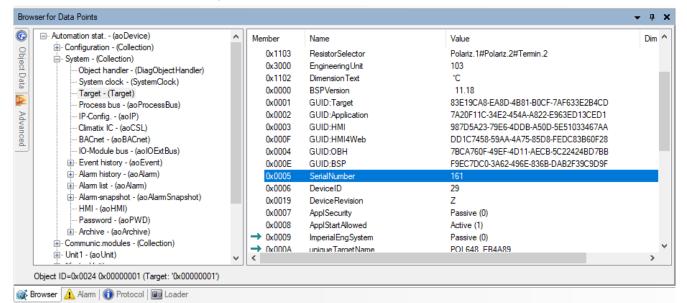
'CSLState' describes the CSL state.

## 4.2.3 Result in Climatix IC

The controller is logged in to Climatix IC with the steps described in "Connect to the Internet (IP) [ $\Rightarrow$  29]" and "Connect to cloud (CSL) [ $\Rightarrow$  31]" and entered in the list of "Non-assigned plants". Compare the documentation starting at "Plants [ $\Rightarrow$  144]".

The serial number or the activation key is helpful for finding your controller in Climatix IC; both are always an element of the initial plant name (you change them as a rule). The data is also readable in the SCOPE tool.

Example of the controller in the SCOPE tool:



#### Example of the same controller in Climatix IC:

Climatix IC			DEMO.IC.CLX	English (United States) 🔻	armin.goelzer@siemens.com 🔻
Dashboard Operating	Application set Administratio	on Apps			
Administration > Plants					4
Plants	Assigned Unassigned				
Users	Tenant ↓			D Q Search	
Tenants	🔺 🔊 🕨 Name	Ť	Description	Country City	Phone Address
Plant roles	<ul> <li>Tenant: DEMO.IC.CLX</li> </ul>				
Pre-register	→ 161-POL648				

The number "161" is also an element of the initial name in Climatix IC.

#### Result

After performing the various steps described in the complete documentation, you now have the following situation in Climatix IC "Operation > Data points". This information can be used as an example for engineering watch pages and data points:

Plant dashboard					C
Data points 🔊 🔊	System clock - Hour	0 h	<b>SAN</b>		#
Alarms	System clock - Minute	1 min	<b>S</b>		#
Web access	Suctom clask			1.	
Upgrade	System clock - Second	42 s	<u> </u>		*
History	RoomTmp RoomTmp - PresentValue	-252.8 °C	Can b		#

## 4.3 Virtual cloud data points VCI and VCP

## Virtual Cloud Items (VCIs)

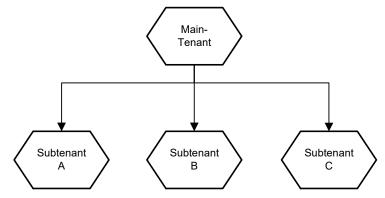
External data (e.g. weather info) is mapped via API to VCIs and read or written by virtual plants<sup>↑</sup> or a plant with a physical controller.

#### Virtual Cloud Plant (VCPs)

External data can be saved to VCPs via API. VCPs are listed, in addition to plants with physical controllers, in the plant list. VCPs can, for example, group multiple IoT devices with no relationship to a Climatix controller and operate them in the Cloud.

## **5** Tenants and Sub-Tenants

You can set up additional Sub-Tenants within your tenant area to improve the structure of your business workflows.



## 5.1 Set up Sub-Tenants

A (sub) Tenant key↑ is automatically generated when setting up a Sub-Tenant↑. The key can be used on specific 'Climatix IC Workflows'.

NOTICE					
i	We recommend always using the Main-Tenant key $\uparrow$ as the Distributor $\uparrow$ on the controller.				

Conceptually, a Sub-Tenant is an independently administered area. Create a Sub-Tenant Administrator↑ there.

The following outlines the standard procedure and a variant. "Additional information" includes section references on settings that are not outlined here in detail.

## Standard workflow

- $\triangleright$  You are logged on as the Main-Tenant Administrator on Climatix IC<sup>1</sup>.
- 1. Go to "Administration > Tenants↑".
- 2. Click "Create new tenant".
- 3. Assign a name and description of the Sub-Tenant in the "Basic Data" area.
  - Edit the description of the Sub-Tenant as required.
  - The procedure is the same as for editing a Main-Tenant: See chapter 'Edited existing Main-Tenant [→ 43]'.
- **4.** Select "Active" to display the Sub-Tenant in the tenant selection of the portal navigation ribbon.
- 5. Confirm the entries with "Save".
- ➡ The Sub-Tenant is set up. A "tenant key↑ (distributor↑)" is automatically created.

### Variants: Create a Sub-Tenant from a Main-Tenant template

As a rule, the settings, roles↑, and applications for a Main-Tenant also largely work for the Sub-Tenants↑. The aforementioned data can be exported from the Main-Tenant↑ and imported to the Sub-Tenant during set up.

- ▷ You are logged on as the Main-Tenant Administrator on Climatix IC.
- 1. Go to "Administration > Tenants".
  - ⇒ Displays the overview with Main-Tenant and all Sub-Tenants.
- 2. Select the Main-Tenant.
- 3. Click "Export template".
  - $\Rightarrow$  The data is packed in a zip archive.
- **4.** Select "Save file" and save the zip archive to a suitable location. Never unzip the zip archive.
- **5.** Go to "Administration > Tenants".
- 6. Click "Create from template".
- 7. Assign a name and description of the Sub-Tenant in the "Basic Data" area.
- **8.** Select "Active" to display the Sub-Tenant in the tenant selection of the portal navigation ribbon.
- 9. Click "Browse..." and go to the location of the zip archive.
- 10. Select the zip archive.
- 11. Confirm the entries and selection with "Save".
- ➡ The Sub-Tenant is set up. The same basic settings, roles↑, and application sets as the Main-Tenant are available.

i

You can also export and import templates from Sub-Tenant to Sub-Tenant. So that similar Sub-Tenants can be set up quickly.

### **Additional information**

- "Tenants [→ 156]" includes information on settings "Connection supervision" and "Operations Role↑ access level" that are not explained here.
- Information on "Default data for plant settings" and "Key performance indicators", not otherwise explained here, is available in "Tenants [→ 156]".
- Note: Default data and KPIs are set up in the Sub-Tenant as per the Main-Tenant. Default data and KPIs edited in the Sub-Tenant is overwritten if something changes in the Main-Tenant.
- Learn how your Sub-Tenant inherits entire application sets in section "Settings [→ 114]", under Basic Data.

# 5.2 Set up Sub-Tenant Administrators

Conceptually, a Sub-Tenant↑ is an independently administered area. By default, a Main-Tenant Administrator cannot activate a plant↑ in the Sub-Tenant.

- $\triangleright$  You are logged on as the Main-Tenant Administrator on Climatix IC.
- $\triangleright$  A Sub-Tenant area is set up.
- **1.** In the tenant selection (portal navigation bar), select the desired Sub-Tenant area.
- 2. Go to "Administration > Users".
- 3. Click "Create new admin".
- 4. Create a Tenant Administrator.
- 5. Close the process with "Save".

	NOTICE
i	• On the system side, the Main-Tenant Administrator differs only in that the Sub-Tenant is unable to set up additional Sub-Tenants (maximal 2 levels).

# 5.3 Move plants to Sub-Tenants

Moving plants↑ to Sub-Tenants and back to the Main-Tenant is very easy. The following compares possible timeframes for the move. Find the workflow that best fits your business activities.

	NOTICE
i	<ul> <li>The menus and buttons mentioned in the workflows are explained in detail beginning from Section "Entering Climatix IC [→ 47]".</li> <li>The following workflows illustrate the initial moving of plants. Section "Removing plants that were moved [→ 42]" displays moving at a later date.</li> </ul>

### 5.3.1 Offline move by tenant admin

Pre-registered plants↑ can be administered offline in Climatix IC. The ➡ button (Activate plant↑) permits access to the "Move" menu. A Sub-Tenant Administrator is required for final activation if the Main-Tenant Administrator↑ does not have admin rights in the Sub-Tenant.

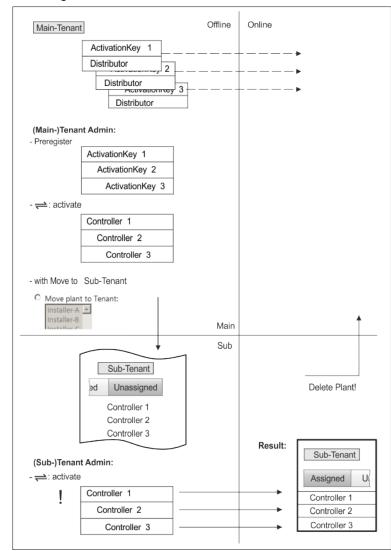


Fig. 1: Offline move

i

Note that the distributor is generally set to Main-Tenant on the controller. In other words, deleted and reconnected plants are entered in the Main-Tenant area.

### 5.3.2 Online move by tenant admin

Plants↑ that "go" online↑, register at the Main-Tenant under "Unassigned↑" where the Main-Tenant can administer it. The ➡ button (Activate plant↑) permits access to the "Move" menu. A Sub-Tenant Administrator is required for final activation if the Main-Tenant Administrator does not have admin rights in the Sub-Tenant.

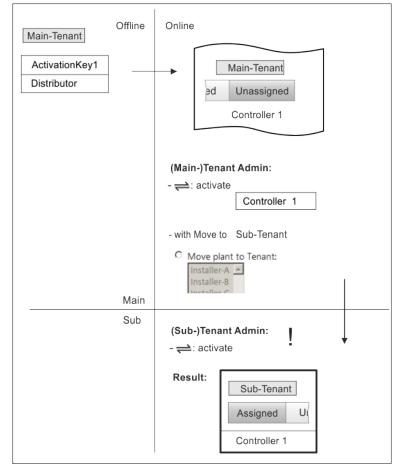


Fig. 2: Online move

Note that the distributor is generally set to Main-Tenant on the controller. In other words, deleted and reconnected plants↑ are entered in the Main-Tenant area.

### 5.3.3 Offline or online move by the user

The sign-up procedure (registration) permits the user to move plants to Sub-Tenants after the fact. To this end, the tenant-key (distributor) of the desired Sub-Tenant is entered in the "Tenant-Key" field.

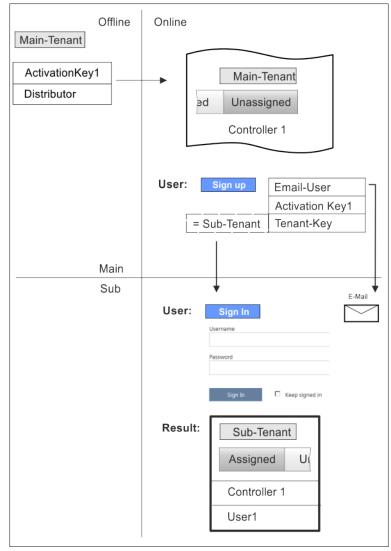


Fig. 3: Moving online by the user

Plants that are still offline $\uparrow$ , but pre-registered, can be moved by the user as part of the sign-up procedure (registration) to a Sub-Tenant. To this end, the tenant key $\uparrow$  (distributor $\uparrow$ ) of the desired Sub-Tenant is entered in the "Tenant key" field.

Main-Tenant Offline	Online
ActivationKey1        Distributor	- 1 ]
(Main-)Tenant Admin: - Preregister Controller 1	
User: Sign up Email-User Activation Key1 = Sub-Tenant Tenant-Key Main	
Sub User: Sign In Username Pessword Sign In C Keep signed in	Result: Sub-Tenant Assigned U( Controller 1 User1

Fig. 4: Moving offline by the user

### 5.3.4 Removing plants that were moved

The "Hide" procedure is available if plants↑ were moved and activated, to be able to remove the plant.

All plant settings are retained when hidden. The plant switches to the

""Unassigned"↑" tab where the ≓ button (Activate plant↑) opens access to the "Move" menu.

# 5.4 Edited existing Main-Tenant

For an existing Main-Tenant, the description field can also be edited retrospectively.

- 1. Go to Administration > Tenants > [My Tenant] > Basic Data.
- 2. Customize the description text as desired.
- 3. 'Save' the change.

Dashboard	Operating	Application set	Administration	Apps	
Administration >	Tenants >	L'CTX			
Systems					Export template Save
Plants		▼ Basic Data			
Users		Name		_CLX	
Tenants		Description		CreditBased & Service+ 2days free CustomerName: 'Siemens Schweiz AG'	
Roles				Street: 'Gubelstr. 22' ZipCode: '6300' City: 'Zug'	
Pre-register				Country: 'Switzerland' CustomerTenantContact:	
M2M router				ch@siemens.com CustomerBillingContact: ch@siemens.com	
Third-Party A	pps			chesicherscom	
		Country		Switzerland	~

# 6 Basic workflows: Tenants, installers, and end users

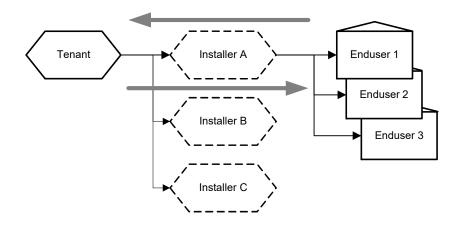
Climatix IC can be used to set up individual, customized workflows. The following 3 exemplary workflows illustrate and describe the interaction between Tenant Administrators, installers, and end users.

The portal role↑ of Tenant Administrator is used only as an example here. In the real world, e.g. a Tenant Site Viewer can be used to perform administrative tasks.

The overview forgoes technical details. Additional information is available in the following section if you want to implement one of the workflows depicted here:

- The commands and buttons mentioned here are explained in detail as of • Section "Entering Climatix IC [ $\rightarrow$  47]".
- Privileges are explained in "Roles and privileges [ $\rightarrow$  379]". •
- "Initial connection of plant and user [+ 373]" displays even more details if you intend to implement workflows.

# 6.1 Tenant Administrator activates each plant



Short characteristics

Central plant management.

•

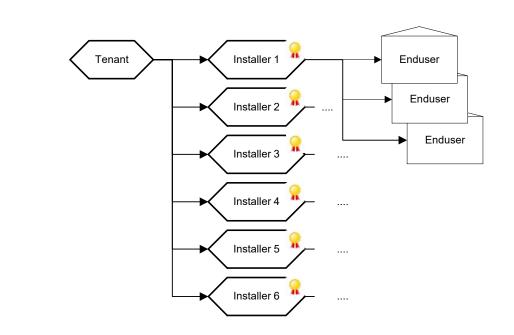
- The on-site installer provides the activation key to the Tenant Administrator (by telephone or modern means, such as a smart phone app).
- The Tenant Administrator activates each plant with =. •
- The Tenant Administrator adds the on-site installer to the plant. • The roles of installers and end users are designed as follows:

**Privileges** 

- Not entitled to independently activate plants.
  - Entitled to add additional installers or end users.

i

-



# 6.2 Tenant admin determines installer authorization

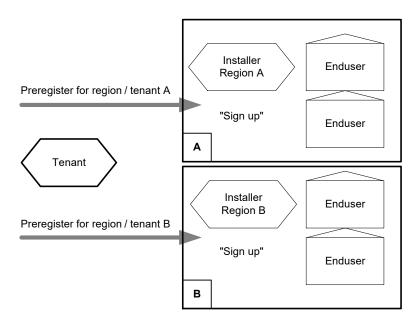
- Installers, who for example completed a training course, are added to the user list.
- The Tenant Administrator adds the authorized installer to a reference plant.
- The roles of installers and end users are designed as follows:
  - Entitled, to set up end users.
  - Not entitled to set up additional installers (this limitation is only possible as a regulation at this time).
  - Entitled to activate plants.

Short characteristics

Privileges

A6V10450042\_en--\_ae

# 6.3 Installers work autonomously in an assigned region



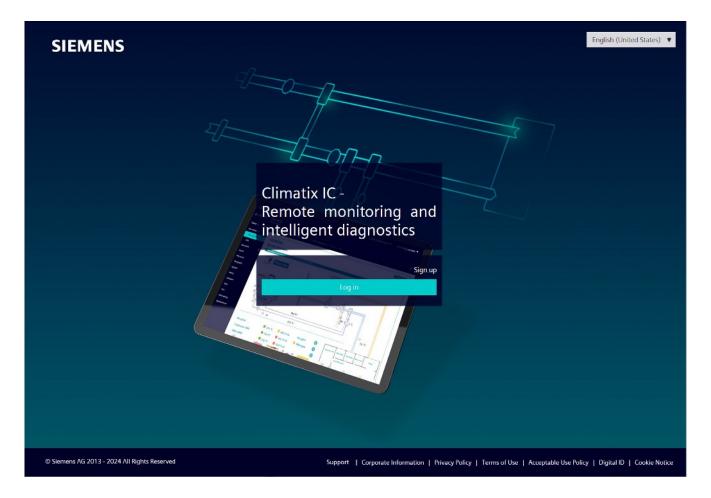
Short characteristics

- This workflow is suitable where the service business is largely outsourced (contractors).
- There are two ways to assign plants to spaces belonging to a Sub-Tenant:
  - Pre-registration of plants: Centralizes assignment.
  - Using the (sub)-tenant keys (not depicted in the image) by installers: Assignment here is decentralized using the distribution of the "keys".
- The installers use the sign-up/registration procedures. Sign-up/registration has two effects:
  - First-time login to Climatix IC.
  - The installer becomes the owner of the currently connected plant.
  - The installer can then activate other plants in one way or another.

Privileges/ Administration in the region Determining which privileges are adequate for installers and end users in the regions depends on whether administrative structures are required, for example, in the form of regional Sub-Tenants.

# 7 Entering Climatix IC

• Enter Climatix IC at <u>https://www.climatixic.com</u>.



# 7.1 Assistance on the start page

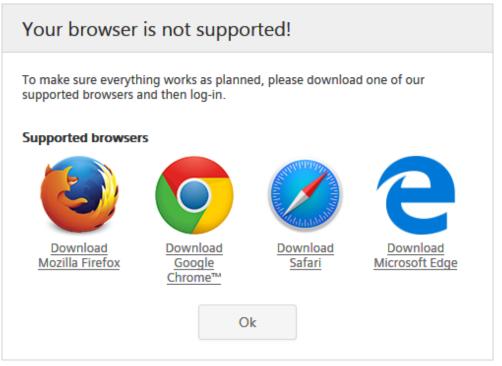
### Accessible documentation

- "Support" on the start page provides an introduction.
- The comprehensive help for reading is located at the same location after login.

Support request	
Flyer Climatix IC	
Getting Started POL	
Getting Started OZW	
IC Data sheet Climatix	
Dashboard ClimatixIC	
	Support

### Information on unsupported browsers

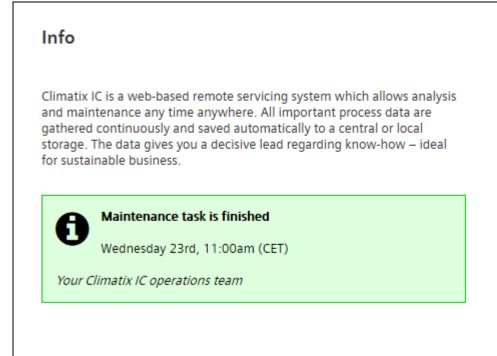
An information window indicates when Climatix IC is opened by an unsupported browser.



# Central maintenance information from the Climatix IC Operations Team

Maintenance and important improvements are prominently displayed on the start page.

A color code (green, yellow, red) intuitively indicates the relevance of the information. Once logged in, you can access the same information at any time using the Info symbol (upper right). The Info symbol flashes for news.



### **Climatix IC Dashboard**

You are investigating an event and want to know whether Climatix IC was online at a specific time? The Climatix IC Dashboard provides easy-to-understand and objective information on what services are or were available. The service can be subscribed to via various channels and media. The URL is: <u>https://status.climatixic.com/</u>

Support	Climatix IC	History	<u>Status</u>		Subscribe To Updates

All Systems Operational

Climatix IC - Remote monitoring and intelligent diagnostics | 远程监控和智能诊断 - siemens.com/climatixic

Global deployment	~	🗄 China deploy	ment   中国部署 💿	~
90 days ago 99.99 % uptime	— Today	90 days ago —	100.0 % uptime	— Today
□ API services   API服务 ?		🗄 External servi	ices l 外部服务 📀	~
Global API Portal ClimatixIC	~	90 days ago —	99.35 % uptime	— Today
90 days ago ——— 100.0 % uptime ——	— Today			
Europe Cloud API ClimatixIC ?	×			
90 days ago — 100.0 % uptime —	— Today			
China Cloud API ClimatixIC	×			
90 days ago ——— 100.0 % uptime ——	— Today			
<ul> <li>Operational</li> <li>Degraded Performa</li> </ul>	nce 🔺	Partial Outage	🕻 Major Outage 🛛 🎤 Ma	intenance
		enter obtage	e majer o'atage 🛛 🥐 ma	a construction from the

← Incident History

Powered by Statuspage

Uptime over the past 90 days. View historical uptime.

### **Cookie information**

hr



By clicking "Accept All Cookies", you agree to the storing of cookies on your device to enhance site navigation, analyse site usage, and assist in our marketing and performance efforts.

Manage Preferences

Accept All Cookies

The cookie information displays the first time you query Climatix IC in the web browser. You can modify your preferences at any time under 'Footer > Cookie preferences'.

Siemens also wants to evaluate the statistics on the Climatix IC offering to improve user experience. Select "Accept all cookies" to accept.

Siemens respects your privacy. You can modify your preferences under "Manage settings".

#### Manage Consent Preferences:

+ Strictly necessary cookies	Always active
+ Performance cookies	
+ Marketing cookies	

### Language selection

• Set the language in the portal navigation ribbon to the right.

### Info on own portal role↑

The ability to find out the current portal role↑ can be very helpful, especially when working with various portal roles↑ in Climatix IC. They are located on the portal navigation ribbon by your login name.

ates) 🔻	@bluewin.ch	▼
(TenantAdm	ninistrator) Account details	
	Log out	

•

# 7.2 Access concept to Climatix IC

#### Systematic security during access

Climatix IC provides two access methods that ensure systematic security.

- A user who already has access to Climatix IC, triggers an invitation e-mail: Access via "Register via e-mail invitation [ $\rightarrow$  55]".
- You possess a device activation key. You can simultaneously activate the device and create a user account. Access via 'Self-registration as plant owner using an activation key  $[\rightarrow 58]'$ .

### Integrate external logins

	NOTICE
i	User who want to use the same login for the Cloud API cannot use the external login.

Climatix IC integrates various external login providers. A user, e.g. who often uses Google tools and is logged on to Google, can also use this login data to log into Climatix IC. In the background and not visible to the user, the third-party providers are also forwarded through the Azure AD B2C procedure. See section "Register via e-mail invitation [ $\rightarrow$  55]".

NOTICE		
	Reliably delete persistent external login data from the browser	
!	External login procedures store information in the browser to increase user comfort. We recommend <b>private or incognito mode</b> for personal PCs, especially for public PCs. These browser modes reliably delete information when exiting the browser.	

#### Frequently asked questions on logins

The following are answers to FAQs on logins.

# How does login work with a social provider as the external login provider?

- You still need the Climatix IC user account as the starting point.
- The procedure as described in the following sections automatically connects an external login account at a social provider (e.g. from Microsoft, Google, or Siemens ID) to your Climatix IC account.
- After linking, you can click the logo of one of the listed social providers to login. The provider queries your login data.
- Simply click "Log-in" > "Logo of the social provider", to return to Climatix IC as long as the login data of the last login is stored in a browser session.
- The Climatix IC user e-mail address and the e-mail at the social provider must match.

### When is a login not recommended or what should I look out for?

- Unprotected PCs without a windows login (e.g. private PC or Internet café) are not suitable, since the login data can remain in the browser.
- We recommend the incognito mode for your browser.
- Delete the browser data beforehand if you intend to switch the login role and use various external logins for both roles (check the browser's online help on how to do this).

# What is the bill of quantity for IC user accounts and accounts at social providers?

• 1 account at a single social provider for 1 Climatix IC account and vice versa.

### What is considered a secured login and logout?

• The terms and conditions of the login provider apply

# 7.3 Register

You must register as a new user in Climatix IC prior to logging into Climatix IC. You can register in one of two ways:

- A Tenant Administrator invites the new user (see section 'User [→ 150]').
  - The new user receives an e-mail with an invitation link and follows the workflow at the link (see section 'Register via e-mail invitation [→ 55]').
- The new user has a plant with an activation key or tenant key.
  - The user can independently log in to Climatix IC using the activation key.
  - Using the workflow in section 'Self-registration as plant owner using an activation key  $[\rightarrow 58]$ '.

The user can independently log into Climatix IC using the account after registering.

• For information on logging in, see section 'Registration and login [ $\rightarrow$  60]'.

### 7.3.1 Register via e-mail invitation

- ▷ A Tenant Administrator or a user with access to menu 'User [→ 150]' sets up a new user account with the e-mail address of the new user.
- ▷ Climatix IC sent an invitation e-mail with a link to Climatix IC. The user received the e-mail.
- **1.** Click the link in the invitation e-mail from Climatix IC.
  - ➡ The Climatix IC start mask opens in the default browser with the e-mail address (1) of the invited user in the entry field.
  - A supplemental window opens with cookie preferences:

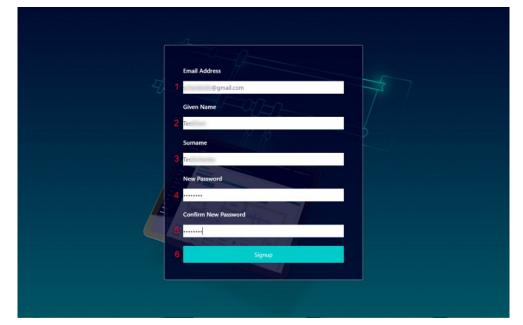
We value your privacy By clicking "Accept All Cookies", you your device and to the associated pr navigation, analyze site usage, and performance efforts. You may withor "Manage Preferences" button in our	rocessing of data to enhance site assist in our marketing and draw your consent at any time via the
Cookie Notice Manage Preferences	
Reject Cookies	Accept All Cookies

2. Set and confirm cookie preferences:

We value your privacy X						
Siemens and certain third parties use cookies on climatixic.com. The details regarding the types of cookies, their purpose and the third parties involved are described below and in our Cookie Notice. Please click on "Allow All" to consent to our usage of cookies in order to have the best possible experience on our websites. You can also set your preferences or reject cookies (except for strictly necessary cookies). Cookie Notice						
Categories		Services				
<b>Marketing</b> These technologies are that are relevant to you		serve ads 🛛 💌 🗸				
Functional These technologies ena the website.	These technologies enable additional functionalities of 🛛 🔍 🗡					
Strictly necessary These technologies are required to use the core functionality of the website.						
Performance These technologies enable us to analyse the use of the website in order to measure and improve performance. ○ ○ ○						
Confirm my Choices	Reject All	Allow All				

⇒ The cookie window closes.

- **3.** Enter the first name (2) and last name (3) of the new user in the corresponding fields.
- 4. Enter a password for the new user access (4).
  - Comply with password security requirements (see info below).
  - ➡ Entering a weak password triggers a note and the registration procedure is blocked until the password meets the minimum security requirements.
- **5.** Repeat the password to confirm (5).
  - A note displays if the two passwords do not match, and the registration procedure is blocked until both passwords match.
- 6. Select 'Signup' (6).
- ⇒ You are registered.
- ⇒ The Climatix IC landing page opens for registration and login. See 'Set up multi-factor authentication and first-time login [→ 61]'.



NOTICE				
i	<ul> <li>The Climatix IC password must include:</li> <li>At least 8 characters and includes at least one of the 4 character groups:</li> <li>Latin capital letters (AZ)</li> <li>Latin low-case letters (az)</li> <li>Digits (09)</li> <li>Non-alphabetic characters (e.g. !, \$, +,?)</li> </ul>			

NOTICE				
i	<ul> <li>Protect passwords</li> <li>Do not pass on your user name and password for Climatix IC to a third party.</li> <li>Encrypt e-mails that include the user name and password.</li> </ul>			

NOTICE				
i	Automatic password reset			
	The existing password is reset after 180 days. A new password must be entered thereafter:			
	<ul> <li>Password requirement (see note prior).</li> <li>Do not reuse a previous password: Climatix IC saves the last 5 passwords and blocks reuse. A warning displays when attempting to enter a previous password.</li> </ul>			

### 7.3.2 Self-registration as plant owner using an activation key

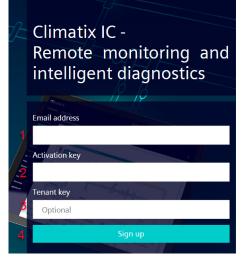
The user can independently register as the plant owner in Climatix IC. The Tenant-User must already be set up in tenant. The Tenant-User is then entitled to start the plant sign-up procedure. The plant does not have a default user in this case. An administrator adds a Default-User to the plant at a later date.

Procedure:

- $\triangleright$  The activation key is available.
- $\triangleright$  A tenant key is available as an alternative.
- 1. Go to the Climatix IC landing page: <u>www.climatixic.com</u>.
- 2. Click 'Register'.
  - ⇒ A new log-in mask opens:



- **3.** Enter your e-mail address (1).
- 4. Complete field 'Activation key' (2) or 'Tenant key' (3).



- 5. Click 'Register' (4).
- ⇒ You are registered.
- ⇒ The Climatix IC landing page opens for registration and login. See 'Set up multi-factor authentication and first-time login [→ 61]'.
- ⇒ The plant↑ is activated but there is no plant owner.
- ⇒ But the Tenant-User can directly access the plant.

Self-registration is a multi-step procedure:

- First-time login of a user, without an invitation by another Climatix IC user with the appropriate privileges.
- Plant activation tusing a valid activation key
- The new user is added to the plant the role 'Owner'
- Optional: Direct move the plant to a Sub-Tenant↑ area

The registration process is illustrated using a real scenario at "Offline or online move by the user [ $\rightarrow$  41]".

# 7.3.2.1 Manage plant data

i

You must enter information on the plant to complete the registration process. Compare the explanations in "System settings [ $\Rightarrow$  205]".

# 7.4 Registration and login

Access to Climatix IC is a two-step procedure:

- 1. First-time access to the login procedure for Climatix IC determines the login workflow.
- 2. The following logins to Climatix IC provide fast, simple, and secure access to Climatix IC using the previously determined login procedure.

You must register to log into Climatix IC. See section 'Register [→ 54]'

The login authentication for Climatix IC is performed by the authentication service of the identity provider and not by Climatix IC.

The Microsoft service Azure AD B2C creates an account for the default login (as a replacement for the former Climatix IC login). The user logs in as usual with the user name and password.

Climatix IC supports the following external login providers:

- Microsoft Private Accounts
- Google Private Accounts
- Siemens ID (not for Siemens employees using other Siemens apps)
- Siemens employee (Siemens employees only, via Microsoft Entra ID)

Multi-factor authentication MFA↑ must be set up and enabled at the appropriate login provider as needed. Consult the documentation from the applicable login provider on how to set up MFA.

### Access control to Climatix IC via Microsoft Azure AD B2C

The external login providers listed above bundle the access information to Climatix IC in one authentication service: Microsoft Azure AD B2C. The authentication service saves and manages access data to Climatix IC.

#### Important note:

- The Climatix IC account and external provider login are in a 1:n relationship.
- The user can select and automatically link to an identity provider at any time.
- Users of API accounts or third-party apps, created based on Climatix IC APIs, must use the default login. MFA↑ is not required in this case.
- The e-mail address used for the external login provider and the Climatix IC account must be the same.
  - You cannot use one e-mail address for an external login provider, such as Microsoft, and then use the service to log in to an account under a different e-mail address on Climatix IC.

New as of D25: Access data is no longer managed internally in Climatix IC as of the introduction of Azure AD B2C. Existing menus to manage and edit access information, such as linking a Climatix IC account to an external login provider, have been switched off.

Existing accounts are automatically switched to the new login procedure during first-time login.

i

# 7.4.1 Set up multi-factor authentication and first-time login



The "Registration" described here applies to first-time login only.

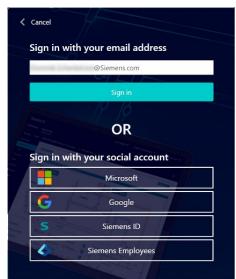
**Requirements for login**: A user account is setup and an e-mail invitation is sent. Or self-registration using an Activation key or Tenant key was performed (See 'Register [ $\rightarrow$  54]'.

The following description of the login procedure includes configuring the external login for future logins (First-time login via a social provider [ $\rightarrow$  65]).

### Login



- > An e-mail with the invitation link was received.
- $\triangleright$  The registration process was completed (See 'Register [ $\rightarrow$  54]').
- 1. Go to the Climatix IC landing page: <u>www.climatixic.com</u>.
- 2. Set the cookies (See 'Register via e-mail invitation [ $\rightarrow$  55]').
- 3. Click "Login".
- 4. Enter the e-mail address registered with the Climatix IC account and click "Login".



A new mask requests you install an authentication service app on an external device (cell phone or tablet).



- Install the recommended authentication services (1) or other authentication service (See 'Example for setting up an authentication service [→ 64]').
- 6. Click "Continue" (2).

Abbrechen
Scan the QR code
Using your app scan this QR code and click "Continue"
osing your upp scarrais an cope and circa continue
Can't scan? Try this
Still having trouble?
Once you have added your account to your authenticator app, choose "Continue" to enter your One-time password code.
2 Continue
8 Total I

A OR code displays

- Scan the QR code (1) with the authentication service and save Climatix IC as a new password generator (See 'Example for setting up an authentication service [→ 64]').
- 8. Click "Continue" (2).
  - ⇒ A new mask requests that you enter the code.

inter the verification	tion code from your authenticator ap
nter your code	
Enter your cod	e

- **9.** Enter the one-time password from the Climatix IC password generator (1) and click "Check" (2).
- ⇒ The login is successful and the Climatix IC landing with dashboard opens.

### Secure login and out

Note the following functions for login/out:

- **30 minute session timeout**: The connection automatically ends after 30 minutes of inactivity. The web page returns to the Login screen. *NOTICE!* Only the activity on the first tab is registered when working in multiple browser tabs.
- The user account is locked for 60 seconds after 10 attempts with the wrong password.
  - Additional attempts only extend the lockout.
  - Microsoft '<u>Smart Lockout</u>' is used here.
- For security reasons, a new login is required after 24 hours of uninterrupted user activity.

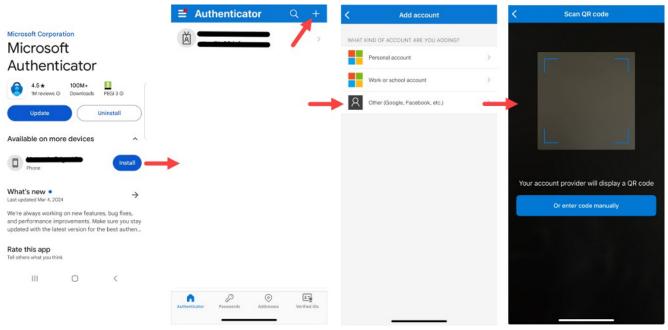
NOTICE				
i	<ul> <li>Protect passwords</li> <li>Do not pass on your user name and password for Climatix IC to a third party.</li> <li>Encrypt e-mails that include the user name and password.</li> </ul>			



For log-out, see also "Account details and log out".

# 7.4.1.1 Example for setting up an authentication service

'Microsoft Authenticator': An example of how to set up an authentication service on an external device (cell phone or tablet).



- ▷ An external device (cell phone or tablet) is available.
- > The external device has Internet access.
- $\triangleright$  You have administrator rights to install the software.
- **1.** Go to the app store for the external device.
- **2.** Select an authentication service from the app store and install on the external device.
  - For example, 'Microsoft Authenticator', 'Google Authenticator' or similar apps.
- 3. On the installed authentication service, create an account using the '+' icon.
  - Select the type of new account: 'Other (Google, Facebook, etc.)'.
- 4. Use the new account to scan the QR code provided by Climatix IC.
- $\Rightarrow$  The authentication service is installed.
- ⇒ A new account is setup in the authentication service.
- ⇒ The account on the external device is linked to the Climatix IC account.

## 7.4.2 First-time login via a social provider

Login using an external authentication service



In the login dialog, select the button with your external identity provider under "Log in with social network account" and follow the login procedures of the external provider.



For log-out, see also "Account details and log out".

### 7.4.3 Fast login with existing account

The workflow to log into Climatix IC is as following once the account is setup:



### Log in via social provider

- 1. Go to the Climatix IC landing page: <u>www.climatixic.com</u>.
- 2. Set the cookies (See 'Register via e-mail invitation [ $\rightarrow$  55]').
- 3. Click "Register".
  - ⇒ A mask opens to select the social providers.
- **4.** Click your social provider (1):
  - ➡ Microsoft (private account)
  - ⇔ Google (private account)
  - SiemensID (not for Siemens users)
- **5.** Log in at an external identity provider.
- **6.** Enter local Climatix IC password once for verification and linking to the account.
- ⇔ Complete login.
- ⇒ The login is successful and the Climatix IC landing with dashboard opens.

### Log in as Siemens employee

- 1. Go to the Climatix IC landing page: <u>www.climatixic.com</u>.
- 2. Set the cookies (See 'Register via e-mail invitation [ $\rightarrow$  55]').
- 3. Click "Register".
- 4. Option 1: Enter e-mail address and click login (2).
  - ⇒ You are automatically forwarded to the Siemens Entra ID login.
- 5. Option 2: Click "Siemens employees" (3).
  - ⇒ Login is automatic via Siemens Entra ID.
- ⇒ The Climatix IC with dashboard opens.

### Secure login and out

Note the following functions for login/out:

- **30 minute session timeout**: The connection automatically ends after 30 minutes of inactivity. The web page returns to the Login screen. *NOTICE!* Only the activity on the first tab is registered when working in multiple browser tabs.
- The user account is locked for 60 seconds after 6 attempts with the wrong password.
  - Additional attempts only extend the lockout.
  - Microsoft '<u>Smart Lockout</u>' is used here.
- For security reasons, a new login is required after 24 hours of uninterrupted user activity.

### 7.4.4 Multi-Factor Authentication

An existing Multi-Factor Authentication (MFA) can be reset in Climatix IC. This is required when an external device used for MFA is replaced.

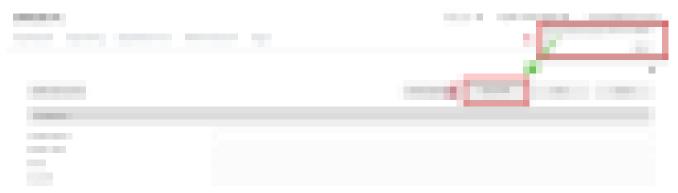
Note: Multi-Factor Authentication using an external service (i.e. non-Climatic IC device), for example, Google, internal Siemens or similar must be reset using that service.

### Independent reset of Multi-Factor Authentication

When changing to a new external device, the account owner must change the MFA to the new device in Climatix IC to continue to access the account.

How to proceed as the account owner:

- ▷ A Climatix IC account with access to a tenant is available (See 'Register [→ 54]').
- ▷ A Multi-Factor Authentication via Climatix IC is setup (see 'Set up multi-factor authentication and first-time login [ $\rightarrow$  61]').
- > The external device originally used to authenticate is available.
- 1. Go to Account details (1).
- 2. Select 'Reset MFA' (2).
  - ⇒ The existing MFA is reset.
- 3. Log out of Climatix IC.
- 4. Log in to Climatix IC using the existing log-in data.
- **5.** Follow the instructions on how to set up a new MFA (See 'Set up multi-factor authentication and first-time login [ $\rightarrow$  61]').
  - Use the new external device.
- ⇒ The MFA is renewed.
- ⇒ The new external device is not integrated for future authentication.
- ⇒ The device used to date can no longer be used for authentication.



### Have the Tenant Administrator reset the MFA.

The user can no longer access the account if the external device is lost or damaged. The Tenant Administrator can reset the account MFA in this case. Procedure as the Tenant Administrator:

- ▷ A Climatix IC account with access to the tenant is available (See 'Set up multifactor authentication and first-time login [→ 61]').
- ▷ MFA was set up via Climatix IC.
- The device originally used for authentication is no longer available (for example, due to damage or loss) and a new device must be integrated for authentication.

- 1. Go to "Administration > User > 'Account for reset'".
- 2. Select 'Reset MFA' (1).
  - ⇒ The existing MFA is reset.
- 3. The account owner is notified that the MFA was reset.

Dashboard Operating	Application set Ad	ministration Apps						0
Administration > Users >	@gmail.com							Ą
Systems				1	Reset MFA	Save	De	lete
Plants	Basic data							
Upgrade	Tenant		_CLX					
Users	Email address							
Tenants	Roles							
Roles	Systems							
Pre-register	Plants							

Additional steps as the account owner:

- ▷ The Tenant Administrator resets the MFA stored for the account.
- **1.** If the user is logged in to Climatix IC: Log out.
- **2.** Log in to Climatix IC using the existing log-in data.
- Follow the instructions on how to set up a new MFA (See 'Set up multi-factor authentication and first-time login [→ 61]').
  - Use the new external device.
- $\Rightarrow$  The MFA is renewed.
- ⇒ The new external device is not integrated for future authentication.

# 8 Portal page design and basic data

# 8.1 Webpage setup

			4
1)	Climatix IC	DEMO.IC.CLX 🔻 English (United States) 🔻	@siemens.com ▼
	Dashboard Operating	Application set Administration Apps	5
(10)	Operating > Demo Rack_TH1a_	POL648.80_AHU-v.4.00 (P  ► Data points  ► Inputs	*(6)
9—	– Plant dashboard		
-	Data points 🔊 🔊	Room Room temperature - Present value	42.8 °C 🖿 🧍
	Alarms 🐥	Room unit	23.4°C
	Web access	Room unit temp - Present value	23.4 C
	Web graphic	Supply air	36.7 °C 🔟 🦧
	Upgrade	Supply air temp - Present value	
	History	Outside air Outside air temp - Present	45.6 °C 🕍 🦧
	Scheduler	value 8	

- **1** Portal navigation ribbon
- 2 Switch tenant
- 3 Change language
- 4 Account details and log out
- 5 Primary navigation (the menu scope is based on privileges)
- 6 Pin to dashboard (here: The entire menu)
- 7 Refresh view (Blue: HTML update active; grey: HTML update inactive)
- 8 Desktop
- 9 Secondary navigation
- 10 Menu path (enabled)

Additional information The Climatix IC user interface offers numerous state-of-the-art intuitive operating features. Some of these features are compiled in "Search, sort, group [ $\rightarrow$  370]".

# 8.2 Change tenant area

A tenant is a closed area in the portal. You must be assigned more than one area to switch.

- **1.** Click "Select tenant" button.
  - ⇒ Opens a drop-down list of possible tenants.
- 2. Select the desired tenant.

# 8.3 Change language

The portal is available in various languages.

- **1.** Click "Select language" button.
  - ⇒ A drop-down list opens with available portal languages.
- 2. Select the desired language.

# 8.4 Account details and log out

### Query profile details

- 1. Click 'Profile details and log-out' next to the user name/e-mail.
- 2. Select in "(<Cloudrole>) profile details".
  - ➡ Displays entry fields for you user profile. None of the data is required but it can be useful if you need to contact support.
- 3. Enter meaningful data user company/person and "Save" to confirm.
- **4.** Click "Delete my profile": The user is deleted from the entire system↑ and no longer has access.

### Account details

Climatix IC		TEST_CLX V	English (United States) 🔻	@siemens 🔻		
Dashboard Operating Application set	Administration Apps			(TenantAdministr	ator) Account details Logout	
Delete my account				Save	Cancel	
My account						
Contact person						
Owner name						
Street						
Zip code						
City						
State						
Country						
Phone						
Preferred engineering system (Climatix)	Metric				~	
Preferred plant language (Climatix)	English (United States)				~	
Web graphic PIN (Climatix)					۲	
Number formatting	<tenant default=""></tenant>				~	

#### **Selections and entries**

Most entries are self-explanatory and are used for potential contact, e.g. by the Plant Administrator, Tenant Administrator, or support:

Preferred engineering system (Climatix)	Data points are automatically converted to the selected unit of measure					
Preferred plant language (Climatix)	Refers to controller texts that were loaded to Climatix IC.					
	The display language for the controller texts are determined by the following sequence:					
	1. Selected Climatix IC language.					
	2. "Preferred plant language" (Climatix)					
	3. Engineering language, as a rule English					
Web graphic PIN (Climatix)	<b>Comment:</b> The settings are ignored by controllers with BSP as of VVS11.					
	The personal PIN permits the display of corresponding web graphics. The PIN data has the first priority here. The role↑ in the application set also has a PIN.					
	<i>NOTICE!</i> In the event you accidentally changed the PIN, it is better to simply delete it so that role PIN can be active.					
Number formatting	The Tenant-Admin sets the default setting for number formats in the "Administration >					

The following explanations on selections and entries:



Number formats are explained in "Basic data/tenant key (distributor)".

#### Log off

To log off the portal, click "User profile and log-out" and select "Log-out".

This is better than simply closing the window:

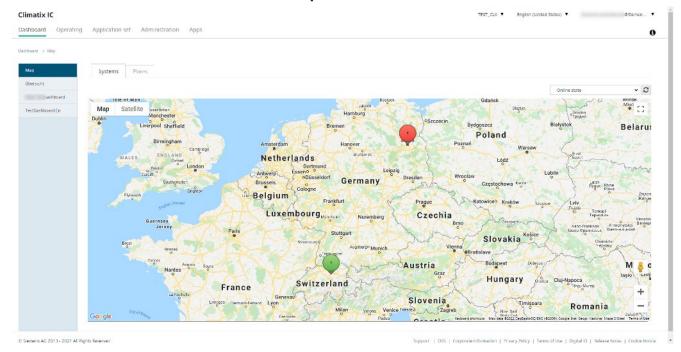
- The session is terminated. •
- When you return to the portal, you are not automatically logged on, but rather • have to select the user name and password.

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## 9 Dashboard

The dashboard is your personalized Climatix IC start screen. The dashboard is divided in:

- **Map**: The geographic location of the system and plants accessible to you in connection to a configurable KPI (**K**ey-**P**erformance-Indicator).
- **Overview**: The plant overview as configured by you includes your "Favorites" as tiles, similar to the desktop on your PC.



#### 'Dashboard > Map'

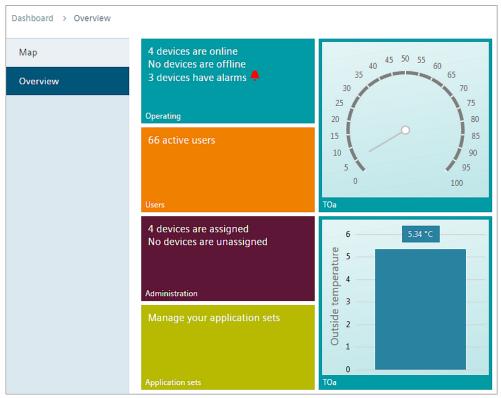
• Each available for systems and plants.

- Display in separate tabs.
- KPIs for systems and plants are integrated exclusively in the assigned maps.
- Street and satellite information is provided by Google and offers supplemental information for service calls.
- It goes directly from the map to the data points and settings.
- Your plant's online status is the first KPI by default. Additional KPIs define a user with administrator rights with just a few clicks.

#### **Additional information**

You can learn how to create a KPI with just a few click in "Tenants [ $\Rightarrow$  156]", the sub-section on Key Performance Indicator.

#### 'Dashboard > Overview'



- The tiles include your quick links to menus, your most important values in graphical or numeric displays, entire web graphics or trends started in a powerful Trend Viewer.
- Compile these elements in Dashboard editor for plants and systems [→ 223] and export them to the Dashboard overview.

#### **Default tiles**

The following menus are displayed by default (but limited by privilege) as default tiles: Operation, application sets, administration and users.

#### Basic tile operation

A click (left or right) in a menu tile offers:

- Show page, data points, Trend Viewer
- Show page, data point, Trend Viewer in a new tab

#### Alarm query

Click the red alarm symbol to list plants with current alarms.

#### Additional information

- "Use your own dashboard [→ 76]" shows plant operators, service technicians, etc. how to take advantage of 'Dashboard > Overview'
- To learn how to setup your own dashboard, see "Dashboard editor for plants and systems [→ 223]".
- "Create dashboards specific to applications for individual roles [→ 251]" demonstrates how administrators can create and assign user-specific dashboards.

## 9.1 Use your own dashboard

#### Use the dashboard

- 'Dashboard > Overview' serves your work organization much like the desktop on your PC.
- The 'Dashboard > Overview' has no impact on other users.
- Design the 'Dashboard > Overview' so that you can accomplish as many tasks as possible from here.

#### 'Dashboard > Overview'

- 'Dashboard > Overview' is available by default. You can import to the Dashboard Editor and rename it there. 'Dashboard > Overview' can be deleted by overwriting it with another dashboard.
- You can use 'Dashboard > Overview' for example as a template for new dashboards and change as needed. And then save and export it.

#### User dashboards

- You can setup User Dashboards below 'Dashboard > Overview'.
- You create the User Dashboards in the Dashboard-Editor [→ 223].
- Go to 'File > Save as User Dashboard' to use the dashboard.

#### Share overview and User Dashboards

You can share your individual 'Dashboard > Overview' and your User Dashboard with co-workers; keep in mind however that the co-workers may have other privileges to menus or plants. Elements without privileges are hidden or an appropriate comment is added.

• Go to 'File > Export/Import' to share a User Dashboard.

#### **Use as Plant Dashboard**

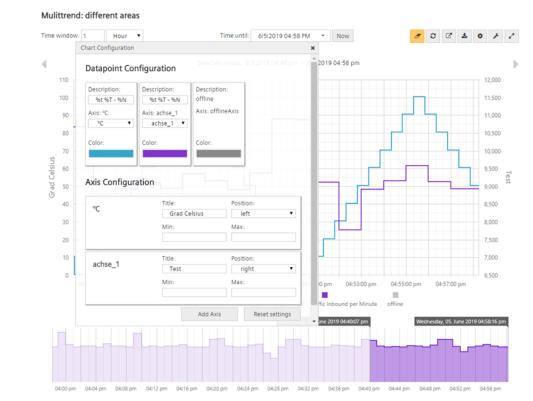
Section "Plant Dashboard [ $\rightarrow$  84]" presents a dashboard that cannot be individually customized, for example, one that is always the same for a given role. An administrator must also create a 'Dashboard > Overview' or a user board and save it to the application set to create this kind of Plant Dashboard.

#### Use as System Dashboard

Section "Plant Dashboard [ $\rightarrow$  84]" presents a dashboard that cannot be individually customized, for example, one that is always the same for a given role. An administrator must also create a 'Dashboard > Overview' or a user board and save it to the application set to create this kind of System Dashboard.

#### Additional facts about dashboards

- Your changes to the 'Dashboard > Overview' and any User Dashboards are saved in the user profile and are not visible to other users.
- Save the newly created dashboard locally to your PC in 'File > Export' and share it to other users as needed.
- The other user goes to 'File > Import' and then 'File > Save as User Dashboard'.



## 9.2 Work with the dashboard Trend Viewer

**Start Trend Viewer** 

You start the Trend Viewer from a superposed dashboard or a Plant Dashboard:

- Left-click a chart:
  - Display Trend Viewer
  - Display Trend Viewer in a new tab (recommended for detail analysis)

**Trend Viewer functions** 

displays the Trend Viewer in full screen mode.

The Trend Viewer has the following, listed functions:

- The initial view in the Trend Viewer matches the setting on the dashboard.
- Two time bars:
  - Top: Exact selection area with high Y axis resolution.
  - Bottom: Selection range on a timeline with a small Y axis resolution.
- Setting the depicted timeframe: Time window with number / Time unit / End / Calendar function.
- Now button: Timeframe end is the current time.
- Restore button *after manual zoom.*
- Zoom.

- Scroll to previous/next time section, shift a selection (below only)
- Ruler with values box to capture values on the ruler position.
- Disable/enable data point series: Click the key.
- Export data point series to csv format (one file per data point series):
  - With the export icon , the written, set timeframe.
    - With button

\_

- , the manually selected zoom range.
- Export data point rows in csv format (multiple data point rows in a file):
   Multiple values or trends can be exported.
  - Use symbols or to export.
    - Select the 'Export sampling period'.
  - Indicated the sampling period:

d	
Second	~
12:55:00 PM	
Cancel	Download
	Second 12:55:00 PM

9

C	Refresh the view
•	Show and hide elements of the Trend Viewer Note: A large number of minimum and maximum values significantly impacts system performance. As a consequence, 'Display min and max' is disabled by default. If 'Min and max' is required:
	<ul> <li>Select 'Display min and max'.</li> <li>The trend viewer is refreshed with the updated values.</li> </ul>
æ	<ul> <li>As a supplement to fixed settings in charts (Dashboard Editor [→ 223]), the chart can be finely tuned in the Trend Viewer. The specific operator can make modifications directly in the Trend Viewer to optimize analysis of the data series:</li> <li>Axis label (tokens can be used)</li> <li>Color of the data series</li> <li>Own scaling with min./max. values</li> <li>Additional axis</li> <li>Switching axis assignment of data series</li> </ul>

#### Additional buttons

NOTICE
Edit charts Whereas the settings in "Edit tile" remain fixed on the diagram, any fine tuning in the Trend Viewer using remains only in the browser for the specific user and only for the applicable diagram.

## 10 Operation menu

#### System overview

Menu 'Operation > Systems' displays available "Systems [ $\rightarrow$  140]", including any assigned information, such as name, description, application set, address, alarm, and online status.

The systems display the common state of all assigned plants. A plant with a notification, such as alarm, is also supplied in the overall state of the assigned system.

The 'Systems' tab is only visible to users with system rights. Only plants are displayed to other users.

System	ms	Plant	s									
enant †									C	Q Search		
		(	►	Name	Description	Phone	Address	ZipCode	Application Set Description	Application Set Name	City	Country
- Tenan	t: TEST_C	LX										
				System-Building-Paris	System grouping or Site grouping test Gr		Alexanderplatz 1	10178	Test App.Set for System Structure	SystemApplicationSet-1	Berlin	DE (Germany
1		(1:	0	System-Building-Zug	System grouping or Site grouping test Gri		Theilerstrasse 1a	6300	Test App.Set for System Structure	SystemApplicationSet-1	Zug	CH (Switzerla

Click a system name to go to that System Dashboard. You can access the system overview for the selected systems to include assigned plants, web graphic, files loaded to the system, system settings, and application sets.

The plants displayed in the System Dashboard can be set up in the Main-Tenant or Sub-Tenant.

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#### **Plant overview**

Available plants are displayed in the 'Operating > Plants' menu. The plants are identified by name, description, application set, address, alarm and online status.

Dashboard Operating Application set Administration Apps

System	ns F	lants	5									
nant †										멸	Q CLX	
۲		((t-		Name 1	Index	System	0	Description	ICCID	Service+	Phone	Activation key
Tenant	:CD	(										
0				Berlin-AHU	33	System-Bu		TEST-DELETE-USER				ABHY7Q-BRHZD-TXORN-C
۲		?		E5EAFI-EUKCL-E3DJY-C27Y7-QV								E5EAFI-EUKCL-E3DJY-C27
0	*	?	►	GTE OFFLINE				54807-POL687 777			3950	6XNTQM-2UF5H-XDLHX-
0		?		K52V2P-D4GR2-UPAIY-C4BYC-AC								K52V2P-D4GR2-UPAIY-C4
0		?		LKSKUX-XHTMS-EXL2K-PCWHL-3								LKSKUX-XHTMS-EXL2K-PC
		((:-		Plant-D22-ReleaseNotes-green			0	DEMO Plant 5004			29-391-893-2824	ACAHUM-QWOTK-EFPRJ-C
		al		Plant-D22-ReleaseNotes-red			0	DEMO Plant 0003	+123456			RPL57Z-UCRK7-UPLEV-V4
		((:-		Plant-D22-ReleaseNotes-yellow			0	DEMO Plant 0006			92-774-882-3640	GJOUDM-USHGR-UDOWL-

#### Additional information

"Search, sort, group [ $\rightarrow$  370]" in the Appendix includes operating notes that help you modify comprehensive lists to improved usability.

#### **Overview symbols**

lcon	Description/Function
	Click: Goes to "Web access"
	<ul><li>"Cursor": Web graphic preview</li><li>Click: Goes to "Web graphic"</li></ul>
÷	At least one alarm is active. In systems: At least one assigned plant is in alarm state. Click: Goes to alarm list (active alarms)
3	Plant is online↑.
<b>.</b> "	Plant is online↑ using a 3G router. "Cursor": Displays the ICCID number as a tooltip
?	<ul> <li>Unclear plant state due to missing data transmission:</li> <li>The plant was offline over a longer period.</li> <li>And: No present plant state is recognized.</li> <li>The state display is updated once the plant resumes transmission of state.</li> </ul>
	Summary of pending tasks. In systems: At least one assigned plant has a planned or on-going task.
(), () ()	Release notes are available. See section "Set up notifications about plant upgrades [→ 135]".

## 10.1 Systems and plants

#### Navigation

In the 'Operation' menu you can

#### search by plants

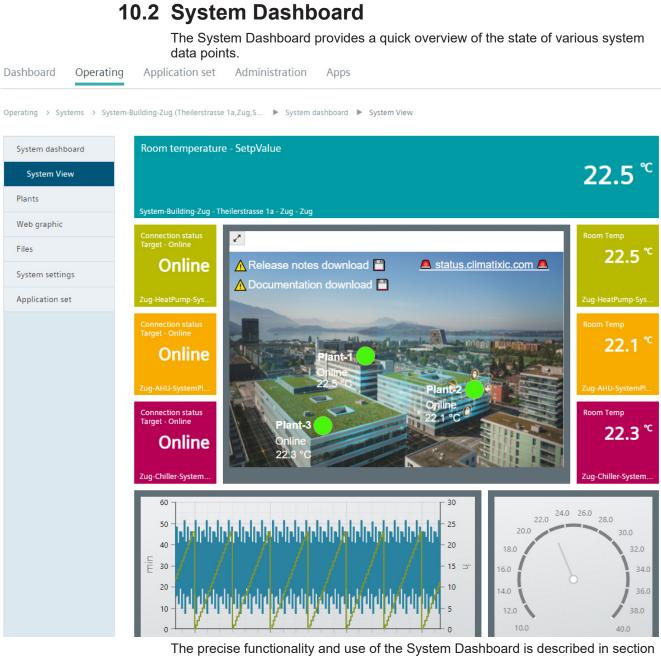
Individual tenants can integrate a lot of plants. As a result, manually search for specific plants in a list at the tenant can by quite time consuming. You can narrow the search to specific parameters to limit the number of plants displayed:

- **1.** Enter a key term with a plant characteristic in the search field (1), for example, a plant name or address, etc.
  - ➡ The number of displayed plants is reduced to the number that have the entered features.
- 2. Enter the 'Application set name' (2) of the plants for search.
  - ➡ The number of displayed plants is reduced to the number that have the entered application set name.
- **3.** Enter the 'Application set version' (3) of the plant for search.
  - ➡ The number of displayed plants is reduced to the number that have the entered application set version.

Dashboard Operating Application set Administration Apps Alarm Dashboard<sup>Ye</sup> Rule Editor<sup>Ye</sup>

Syster	ns	Plant	5												
Fenant †												Ga 1	Q Zug		0
0		ŵ	•	Name	1	Index	System	0	Description	Application set name		Application set version	BSP version	ASN	
									2	Q, Zug	3	Q 2.0 4	Q 11.28	Q POL687	
▼ Tenant	t: TEST_(	CLX													
1			۲	Zug-HeatPump		1	System-Bu		GTE-PLANT-EnhPriv	Zug-HeatPump		2.0	11.28	POL687	

0



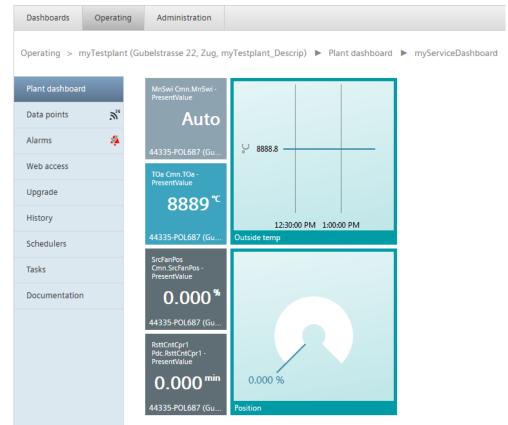
The precise functionality and use of the System Dashboard is described in section "Dashboard [ $\rightarrow$  74]". Creating dashboards is described in section "Dashboard editor for plants and systems [ $\rightarrow$  223]".

For more information on systems, see "Systems: Overview [→ 141]".

## 10.3 Plant Dashboard

You learned about dashboards in "Dashboard [ $\rightarrow$  74]".

The Home Dashboard may also include plants with different application sets, but only one application set may apply to Plant Dashboards and also assign specific roles.



Design and administrative functions were intentionally left out of Plant Dashboards. If needed, they are made by a superposed portal role↑ to all locations within the application set.

- Additional information
- A guide to creating Plant Dashboards is available in "Create dashboards specific to applications for individual roles [→ 251]".
- For more on Trend Viewer that you can start from any diagram, see "Work with the dashboard Trend Viewer [→ 77]".

## 10.4 Data points

	NOTICE
1	Operator interventions via Climatix IC change the situation on the plant
•	Make sure that you have enough information on the actual on-site situation.

#### Data access and role

Users see the plant data points as per their role and preparations made in the SCOPE tool. Both requirements are described in:

- "Relationship between SCOPE security level, roles, and application security levels [→ 377]"
- "Open an empty demo project and connect locally [→ 20]" and the following section

Operating > Climatix Digit	al AHU panel (Via Vedano 5,Mo 🕨 Data points 🦧
Plant dashboard	Main menu
Data points 🔊 🔊	Main overview
Alarms	Inputs
Web access	
Web graphic	Outputs
Upgrade	System

#### Online and offline data points

- (Near) real-time values are displayed if the plant is online.
- The last recorded values are displayed if the plant is offline.

Operating > Climatix Digital AF	HU panel (Via Vedano 5, Mo 🕨 Data points 🕨 System		#
Plant dashboard			Q
Data points 🔊 🔊	Target Target - Online	Online	#
Alarms	Target Target - Item Updates Total	117310	#
Web access			
Web graphic	Target Target - Item Updates per Minute	0	#
Upgrade	Target	275	1
History	Target - Item Updates Current Month		~
Scheduler	Target Target - Traffic Inbound	287199326 bytes	#
Tasks	Total		

i

#### **Climatix IC value resolutions**

The display of Climatix IC values is configured automatically:

- <1 = 3 decimal places. For example: 0,000
- <10 = 2 decimal places. For example: 0.00
- <1000 = 1 decimal place. For example: 0.0
- > 1000 = No decimal places. For example: 0

### 10.4.1 Detailed display of updates to Cloud elements in the 'Data point trend viewer'

Only the current sum of all entries displays if values on data points change due to new entries from Cloud elements. The data point menu 'Show chart' has a detailed view with a timeline trend display of the individual data point entries.

The detailed view permits a precise analysis of the data value over the selected periods. This allows highly precise device control, for example, to set COV thresholds ('COV files [ $\Rightarrow$  364]').

#### Open chart

Proceed as follows to display history data point trend data:

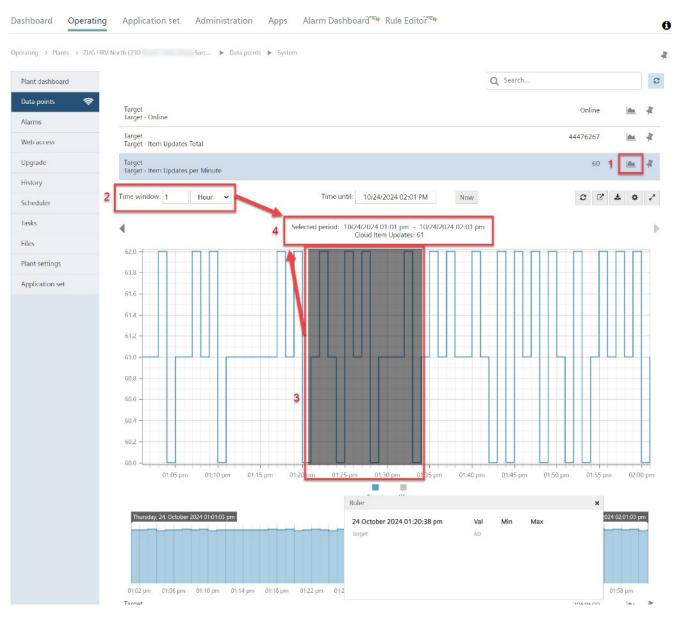
- 1. Go to "Operating > Plants > 'My plant' > Data points > 'My data point'".
- 2. Click the trend icon 'Show chart' 🔺 (1) on the desired data point.
- A detailed view of the data point's cloud elements opens in the chart 'Data point Trend Viewer'.
- ⇒ The history trend data can be analyzed.
- A diagram has no data that can be displayed in a chart if the 'Show chart'

```
icon 🕍 is unavailable.
```

The functionality of the data point Trend Viewer is the same as the dashboard Trend Viewer, see "Work with the dashboard Trend Viewer [ $\rightarrow$  77]".

#### Features

- Select the time horizon (2).
- Consider a zoomed view of the event period by highlighting the desired period on the chart (3).
- Each entry represents an update to the cloud element.
- Summary of cloud element update during the select period (4).
- The data point Trend Viewer is visible to all users regardless of user rights.



#### Use of data point or dashboard Trend Viewer

Not all data points for your plant are mapped to the dashboard diagrams. Data points not mapped there can be analyzed in the data point Trend Viewer.

#### 10.4.2 Search

You can search for data points in the search field. For example, by name, data point ID or Cloud ID:

Name

\_

- Freetext search
- BACnet ID
- ID designator
  - 0! = System cloud items
    - 1! = Application data point

Search function is case sensitive. Even a partial entry of a string results in matches.

The search filter displays all pages with the Cloud item matches. Multiple referenced cloud items after only displayed once.

Search by data point name:

shboard	Operating	Application set Administration Apps				)
erating > Plar	nts > Zug-HeatP	ump (Zählerweg 9,Zug,GTE-PLANT 🕨 Data points 🕨 Search				
Plant dashboa	rd	Q te	emp		0	C
Data points	.ad	Target	35.6 °C			#
Alarms	*	- InternalTemperature				
Veb access		writeable Temperature Object writeable Temperature description - writeable Temperature member	18.2	Gan		#
Veb graphic		Eurost Temperature Object			1.	
Jpgrade	0	Expert Temperature Object Expert Temperature description - Expert Temperature member	13.6	COMP		#
History		Virtual data point Analog Temp 1 Virtual - VMember	22.5 °C			#
Scheduler		Virtual data point Analog Temp 2	21.0.95		IA.	
Tasks	Ø	Virtual - VMember	21.9 °C			4

#### Search by System cloud items:

ashboard O	)perating	Application set Administration Apps			(
perating > Plants	> Zug-Heat	Pump (Zählerweg 9,Zug,GTE-PLANT 🕨 Data points 🕨 Search			4
Plant dashboard			Q 01	0	C
Data points Alarms	al A	Target Target - Online	Online		#
Web access		Target Target - Item Updates Total	41913481		#
Web graphic		Target Target - Item Updates per Minute	1		#
Upgrade History	0	Target Target - Item Updates Current Month	44495		#
Scheduler		Target Target - Traffic Inbound Total	10502420620 bytes		#
Tasks	Ø	Target Target - Traffic Inbound per Minute	289 bytes		#

rating → Plants → Zug-	HeatPump (Zählerweg 9,Zug,GTE-PLANT 🕨 Data points 🕨 Search		
Plant dashboard		Q 1!	3
Data points	SetpValue SetpValue - PresentValue	50.0 °C 🖉 🕍	#
Web access	DisplayValue DisplayValue - PresentValue	50.0°C 🖋 🕍	4
Web graphic	Target - GUID:Target	1C507826-0C1B-6448-ADCA-6B1F00DDA5B9	#
Upgrade 🚺	Target - GUID:Application	0F1B655D-5DCB-4FBD-BF60-08F06CED9CC3	#
History Scheduler	Target - GUID:BSP	48773D12-1ADB-40EA-8287-70C25653E022	Ŧ
Tasks 🥝	Module 2		#

# Operating > Plants > Zug-HeatPump (Zählerweg 9,Zug,GTE-PLANT... ) Data points ) Search Plant dashboard Data points Alarms Target -internalTemperature 35.6 °C

#### 10.4.3 Copied alarm times from system alarms

The time stamps specified in data points for triggered alarms can be copied for error analysis and reused elsewhere:

- $\triangleright$  An alarm was triggered on a system.
- 1. Go to the menu "Operation > Plants > 'My plant' > Alarms > Active alarms".
- 2. Or: go to menu "Operation > Plants > 'My plant' > Alarms > Alarm history".
- 3. Click 🖺 on the desired alarm.
- ⇒ The complete timestamp is copied to the cache.

Dashboard	Operating	Application set Administration	Apps		6
Operating > Pla	ants > Zug-HeatF	Pump (Zählerweg 9,Zug,GTE-PLANT 🕨 Alarms			Į.
Plant dashbo	ard				C
Data points	ail	Active alarms			
Alarms					<b>②</b> 🖪
Web access		Alarm time	ļ	Text	Alarm value
Web graphic		→ 06/02/2022 10:08:58 AM 🖪		AnalogValue AnalogValue - Reliability	op.loop
Upgrade	0	10 20 50			< 1 >
History					
Scheduler		Alarm history			

The time stamp in the cache can be added to the trend chart using copy-and-paste:

- $\triangleright$  A time stamp for an alarm is stored in the buffer memory.
- Go to the menu "Operation > Plants > 'My plant' > Data points > Alarming0001 > 'AnalogValue - Reliability' > 'Display diagram' (1)".
- 2. Copy the timestamp from the clipboard to the 'Time to:' text field (2).
- 3. Click on 'Update' (3).
- $\Rightarrow$  The alarm time displays in the diagram (4).

Dashboard O	perating	Application set Administration Apps	0
Operating > Plants	> Zug-HeatP	ump (Zählerweg 9,Zug,GTE-PLANT ) Data points Natarming0001	*
Plant dashboard		Q Sear	ch 2
Data points	.ad	AnalogValue AnalogValue - OutOfService	Active 🖋 🕍 🤻
Alarms Web access	*	AnalogValue AnalogValue - Reliability	op.loop ք 🕍 🦧
Web graphic		Time window: 1 Hour	3 0 2 4 9 2
Upgrade	0		
History		4 Selected period: 12/01/2023 05:12 pm - 12/01/2023 06:12 pm	•
Scheduler		Conf.err.	
Tasks	0	Fault	

A6V10450042\_en--\_ae

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## 10.5 Alarms

An alarm note displays for a plant fault.

Alarms are displayed on both the system as well as the plant level. The symbol



An alarm for an individual plant is displayed on the system level as an alarm for the entire system. The name of the impacted plant is displayed under "Alarms > Active alarms".

All plants with active alarms are listed under "Active alarms" if multiple plants are in an alarm state within a system.

Click the time stamp under "Alarm time".

⇒ A drop-down list opens with alarm details.

Operating > Systems > System-Building-Zug (Theilerstrasse 1a, Zug, S... > Alarms

lants	Active alarms				
larms 🐥					🕅 🕼
eb graphic	Alarm time	Ţ	Plant name	Text	Alarm val
iles	▼ 06/02/2022 10:08:58 A	м	Zug-HeatPump	AnalogValue AnalogValue - Reliability	op.loc
/stem settings					
oplication set	Event state		Fau	lt	
	Priority type		Alar	m class 1	
	Value Point		Ana	logValue AnalogValue - Reliability	
	Trigger Point		Ana	logValue AnalogValue - Fault	
	Alarm string		+ 02	2.06.2022 10:08:58 AnalogValue (AnalogValue-Fa	ault): op.loop
	Alarm ID		870	41239556045260	
	Filtering		C	•	
	10/24/2021 5:38:56 PM	1	Zug-Chiller	Out of range	
	10 20 50				< 1 >

The alarm is transferred to "Alarm history" once the source is resolved.

stem dashboard				
ants	Active alarms			
arms 🔔	Alarm history			
eb graphic				Ø G
25	Alarm time ↓	Plant name	Text	Alarm va
stem settings	▶ 06/08/2022 12:15:38 AM	ZUG-AHU-North	Device connection ok	
plication set	• 06/08/2022 12:07:37 AM	ZUG-AHU-North	Device connection lost	
	06/06/2022 9:51:25 PM	ZUG-AHU-North	Device connection ok	
	• 06/02/2022 10:08:58 AM	Zug-HeatPump	AnalogValue AnalogValue - Reliability	op.lo
	► 06/02/2022 10:08:20 AM	Zug-HeatPump	AnalogValue AnalogValue - Reliability	
	• 05/15/2022 9:24:47 PM	ZUG-AHU-North	Device connection lost	
	05/15/2022 12:18:51 PM	ZUG-AHU-North	Device connection ok	
	• 05/15/2022 11:14:44 AM	ZUG-AHU-North	Device connection lost	
	02/15/2022 9:32:14 AM	ZUG-AHU-North	Device connection lost	
	▶ 01/28/2022 4:06:20 PM	ZUG-AHU-North	+ 28.01.2022 14:43:09 AnalogInput (AnalogInput-Fault): Fault	

Click the plant name to view the plant in alarm state.

⇒ The display jumps from the System Dashboard to the Plant Dashboard.

Operating > Plants > Zug-HeatPump (Zählerweg 9,Zug,GTE-PLANT... > Alarms

Plant dashboard			c
Data points 🥱 3G	Active alarms		
Alarms 💄			8
Web access	Alarm time	↓ Text	Alarm value
Web graphic	06/02/2022 10:08:58 AM	AnalogValue AnalogValue - Reliability	op.loop
Upgrade	10 20 50		< 1 >
History			
Scheduler	Alarm history		

For additional information on the system, see 'Systems [ $\rightarrow$  140]'.

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## 10.6 Web access

Users can see the controller's web server under web access, e.g. HMI@web. It is basically a full emulation of the local (physical) HMI.

The remote operator (remote maintenance) has the same menus as the local user and can provide targeted navigation help.

Dashboards	Operating	Application sets	Administration				
Operating > 4	4335-POL687	(Gubelstrasse 22, Zug, 1	est controller docu) 🕨	Web access			
Plant dashboard	4						ĊĽ
Data points	<i>"</i>	SIEMENS					
Alarms	*	STEWENS	,				
Web access							
Upgrade		Home	Refresh				Login
History		Info	Mar dan				
Schedulers			Main Enter	menu password		•	-
Tasks			SuCtl		Of:		
Documentation			CapCt	.1	Of:	· · ·	
			PdcMg		Of:	E 🕨	
Plant settings			Pdc		Of:	E 🕨	
			Pdc2		Of:	E 🕨	
			Overv	riews		•	
			,				ок
		<u> </u>			ESC		

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## 10.7 Web graphic

Operating > NEW-TEST-GTE-PLANT (, Brussels, 107051-POL687 Ready test: Graphic & WebAccess) 🕨 Web graphic > Air Handling Unit - 001 CAS Solution Ahu10 (2D DIN Color).svg

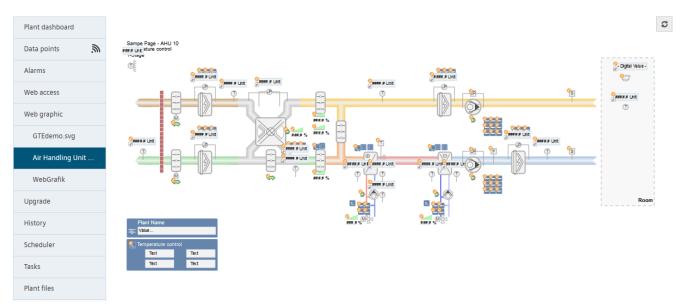


Fig. 5: The figure shows an example of a POL controller

Web graphics (visualization with live data) use the already available JSON interface. Web graphics offer SVG graphic support. Web graphics can be assigned, the same as dashboards, to specific roles and enabled.

The entry "Web graphic" is only displayed in secondary navigation if a web graphic is implemented.

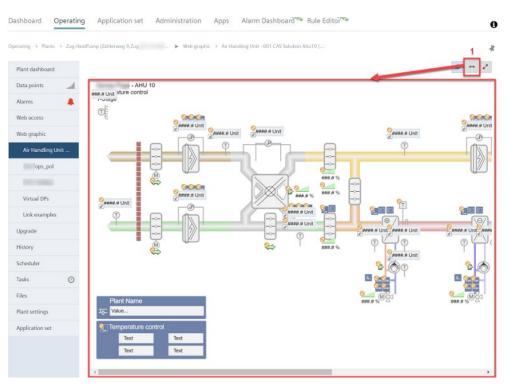
#### 10.7.1 Change web graphic display size

The web graphic is scaled by default: The graphic size adapts to the size of the browser window.

This may, however, cause the graphic to be very small and difficult to read in a very small browser window.

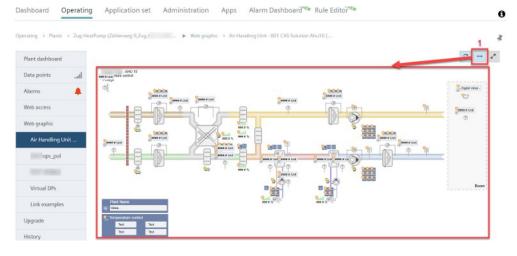
The web graphic can be decoupled from the size of the browser window and set to the original size to view it in detail in smaller browser windows:

- $\triangleright$  A web graphic displays in the browser.
- 1. Select 'Toggle picture scaling' (1).
  - $\Rightarrow$  It rescinds the scaling and returns the web graphic to the original size.



**2.** Select 'Toggle picture scaling' (1) again.

 $\Rightarrow$  The web graphic is rescaled to match the browser window.



## 10.8 Upgrade

#### Area: Files

	NOTICE
i	<ul> <li>Additional information</li> <li>"Prepare and load current BSP [→ 360]" documents where you can download the current BSP.</li> </ul>

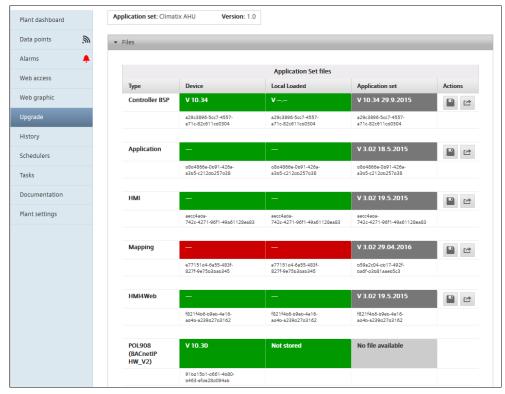
	NOTICE
	More robust upgrade process
i	<ul> <li>A more robust upgrade mechanism is available on controllers with BSP VVS ≥ 11.54 (in delivery).</li> <li>For example, improved handling of network outages.</li> <li>The user interface and operation described below remain unchanged.</li> <li>Please read the release notes for Climatix IC Deployments.</li> </ul>

An authorized user can remotely upgrade a complete Climatix System↑ (controller, connected COM modules and POL98 /96 ECV2 modules).

This includes:

- backing up parameters (commissioning data)
- upgrading firmware and applications
- restoring original parameters

"Upgrade" displays the actual situation on the controller (left side) versus the assigned application set (to the right). A dash next to the controller means no problems; the color green is decisive. Below the version, a checksum indicates that the application set and controller file are the same.



#### Tips and explanation

#### SD card

• To upgrade connected COM modules or ECV2 modules, the controller needs to have a SD card, because of the firmware size. The latest generation of C600 controllers can update the modules for the first time without an SD card.

#### Status overview

- The status overview includes:
  - Current version on the device (left side)
  - Local files (middle) loaded on the controller/SD card
  - Files from the application set (right side)
- The status overview has the following color code:
  - Green: The file loaded on the controller (or SD card) matches the file in the application set.
  - Red: The file loaded on the controller (or SD card) does **not** match the file in the application set.
  - Olive green: The file saved on the controller (or SD card) matches the file in the application set but is not loaded.
  - Gray: Source files

#### Action buttons

Action buttons can save files locally on a PC or send them to the controller.

NOTICE
The procedure described below (recommended) for automatic upgrades loads the upgrade files to the controller. Storage may not suffice on the controller if you also saved the same files there with the action button.

The 'Send to Controller' function can be hidden under 'Administration > Roles > Owner > Permissions > Attachment Upgrade Expert Mode'. See Roles and privileges [ $\rightarrow$  379].

#### Automatic upgrade

You can set the upgrade to a specific date/time to start it automatically. Use the "Start upgrade" button. The upgrade task is entered in "Tasks" and can be tracked there.

onfigure upgrade		
Schedule		
04/21/2016 11:16:53 am	×	
Download timeout		
10		
Application shutdown timeout		
5		
Retries		
3		
Notify		
armin goelter@siemens.com		
Parameter		
<use current=""></use>	$\checkmark$	
BACnet		
<use current=""></use>	~	
Comment		
	~	
	Ok C	ance

#### Possible settings

Setting	Description
Schedule	Date/time of the scheduled upgrade
Max. timeout for download	Timeout for the file download to the controller (in minutes)
Timeout for application shut down	Timeout for application shutdown in minutes
Retries	Number of permitted update retries
Notifications	E-mail address for the upgrade report.
	Use a semicolon to separate multiple recipients.
Parameters	Parameter used for the upgrade
BACnet	The BACnet client file used for the upgrade
Comment	Free text comment on upgrade (displays in the task list).
	Also used as parameter file comment.

#	Command	Description
1	File downloads	All necessary downloads are executed.
2	Query plant upgrade	Upgrade query to the controller. The application must be shut down during a defined time (Member 0x000C UpgradeAllowed = TRUE). "Application shutdown timeout" can be configured for each upgrade.
3	Upload parameters	The changes are saved to the Cloud. They are restored after the upgrade.
4	Upload BACnet file	The BACnet file is saved to the Cloud. The file is restored after the upgrade. Note: "Upload failed:1" displays is BACnet is not used.
5	Stop application	Stops the application.
6	Upgrade plant	The actual upgrade with the downloaded files.
7	Restart controller	Automatic controller restart.
8	Start application	Starts the application.
9	Restore parameters files	Parameters are restored.
10	Restart controller	Automatic controller restart.
11	Restore parameters files	Parameters are restored.

Upgrade workflows (not applicable to upgrade procedures as of VVS11.54)

The plant is updated after these 11 steps. The defined e-mail recipient receives a report on the results of the upgrade. The upgrade progress can be followed in the Task history menu.

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#### Area: Online actions

Plant dashboard	Applikations-Set: GTE-POL687-VVS11 Version: 11	
Data points 🔊	Files	
Alarms	Online actions	
Web access	Site files	
Web graphic	Command progress	Command
Upgrade		Restart controller
History		Stop application
Scheduler		Start upgrade process
Tasks		Start application
Files		Upload cloud mapping
		Create controller trace
Plant settings		Create parameter file
Application set		Create BACnet file

Whereas the button "Start upgrade process" in the area "Files" provides an automated process, the actions in the area Online actions are immediately online and run without automated process steps. Siemens recommends "Update automatically".

The following note on the individual command (additional information is available in the SCOPE online help on the analogous SCOPE commands):

Command	Description
Restart controller	Stop the controller; it restarts automatically.
	NOTICE! Wait for cloud reconnect!
Stop application	Stops application.
	NOTICE! Wait for cloud reconnect!
Start upgrade process*	Manual upgrade process without an automatic workflow.
Start application	Start application.
	NOTICE! Wait for cloud connect!
Upload cloud mapping	Upload data point descriptions again.
	NOTICE! No impact on the application or controller.
Create controller trace	Generate controller diagnostics and upload to cloud.
	NOTICE! No impact on the application or controller.
Create parameter file	Generate controller parameter file and upload to cloud.
	NOTICE! No impact on the application or controller.
Generate BACnet file	Upload BACnet client file for the controller to the cloud.
	NOTICE! No impact on the application or controller.

\* You must manually adjust the workflows described for automatic upgrade. For example, Start > Wait (Reconnect) > Upgrade > Wait (Reconnect) > Start.

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The files uploaded to the cloud are assigned as plant files to the controller. See "Files in plants [ $\rightarrow$  106]".

The 'Online actions' function can be hidden under 'Administration > Roles > Owner > Permissions > Attachment Upgrade Expert Mode'. See Roles and privileges  $[\rightarrow 379]$ .

#### **10.8.1** View and confirm release notes in the plant

The Tenant-Administrator can upload a cloud file 'Release notes' as PDF. See section "Set up notifications about plant upgrades [ $\rightarrow$  135]". The 'Release note' is displayed in the plant under 'Application' as new status message, highlighted in color and can be downloaded and acknowledged.

 A new release note displays in the list of plants under '<sup>(1)</sup> (upgrade available)' and is highlighted in the corresponding color.

Dashboard Operating Application set Administration Apps

Syster	ms	Plant	S					
nant 1								
0		((t·		Name 1	Index	System	0	Description
Tenan	t: TEST_C	CLX						
		((1:		<u>Plant-D22-ReleaseNotes-green</u>			0	DEMO Plant 500
		أنبي		Plant-D22-ReleaseNotes-red			0	DEMO Plant 000
		()		Plant-D22-ReleaseNotes-yellow			0	DEMO Plant 000

- 1. Go to "Administration > Plants > 'My plant' > Upgrade".
  - ⇒ The new cloud file is available under 'Release notes'.
- 2. Click the icon for the new cloud file.
- The overview of the application set files is available in "Operation > Plants > 'My plant > Upgrade".

Upgrade

ang y hand y cagne	eatPump (Zählerweg 9,Zug,GTE-PLANT 🕨 Upgi					
Plant dashboard	Application set: Zug-HeatPump Versic	on: 20.0				
Data points	Files					
Alarms 🌲			Application set fi	les		
Web access	Туре	Device	Local Loaded	Application set	Action	S
Veb graphic	Controller BSP	V 11.28	Not stored	V 11.24		
Jpgrade 🚺		4b773d12-1adb-40ea-8287-70c25653e022		d3cc9a72-bb63-4b04-8e88-143f2665c6ce		
listory	Application	-	Not stored	V 11.41		2
cheduler		Of1b655d-5dcb-4fbd-bf60-08f06ced9cc3		326c35cd-4781-4692-be52-6074a216b220		
isks 🕗	НМІ	-	Not stored	V1		2
les		5d772238-93b1-461d-9675-ef948f2d83dc		3d09c34d-bad2-4e85-9a8d-7b04b66556c6		
ant settings	Mapping		Not stored	V1		2
oplication set		c714223a-45d1-4b8d-b9f6-38c1133952d0		913dce35-9680-4dbf-a272-357b73c8c52f		
	HMI4Web	_	Not stored	V1		5
		c8920831-bd68-4af6-8281-c1f6b61c8a63		bc5d775a-84f6-4322-82c2-80fdcef0d786		2
	Scope light configuration File		Not stored	V1		2
	COV configuration file for cloud	-	Not stored	V1		2
				b2cf35dc-05a5-41fd-bdfc-4af582f43a17		
	Release notes			0	*	Acknowledge notification

- 1. As an alternative, you can go to "Operation > Plants > 'My plant > Upgrade".
  - ⇒ The new cloud file is available under 'Release notes' (1).
- 2. Download the cloud file using the download icon 📥 .
- **3.** Start the upgrade (2).
  - ⇒ The option 'Confirm release' (3) is automatically acknowledged.
  - ⇒ The 'Release notes' row no longer displays.
  - ⇒ The icon for new release notes and download options no longer displays.
- **4. Alternative**: Confirm the release notes via 'Confirm release notes' (3), if you want to acknowledge the note without actually starting the upgrade.
  - $\Rightarrow$  The option 'Confirm release' (3) is acknowledged.

## 10.9 History

The "Plant log" (history) consists of two parts:

- Data point history: Who changed the setpoint remotely and when
- Command history: Who changed files remotely, for example, due to upgrades or restore parameters

Operating > NEW-TEST-GTE-PLANT-EnhPriv (Zählerweg 7,... ) History

Plant dashboard				
Data points	<b>?</b> "	Datapoint history		
Alarms		Sent	↓ Payload	Resu
Web access		03/10/2020 3:33:06 PN	AnalogValue AnalogValue - Reliability = no sens. Commanded by: devop.cloud@gmail.com	ОК
Web graphic Upgrade		03/10/2020 3:33:01 PN	AnalogValue AnalogValue - Prio02 = 30.0 °C Commanded by: devop.cloud@gmail.com	ОК
History Scheduler		03/10/2020 3:32:56 PN	AnalogValue AnalogValue - Reliability = OK Commanded by: devop.cloud@gmail.com	ОК
Tasks		03/10/2020 3:32:46 PN	AnalogValue AnalogValue - Reliability = ov.range	ОК

## 10.10 Schedules

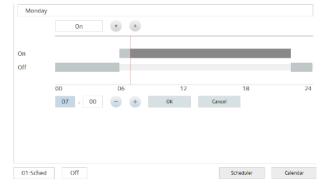
The user can remotely edit available schedulers or calendars.

Operating > TEST_BIL	LING_PLANT_basicpr	iv ( Place Charle 🕨 Sched	uler			4
Plant dashboard						Save
Data points	<b>9</b> 24					
Alarms	A Mon					
Web access	Tue		_			
Web graphic	Wed		_			
Upgrade						
History	Thu					
Scheduler	Fri		_			
Tasks	Sat					
Files	Jac					
Plant settings	Sun					
Application set	Exp					
		00	06	12	18	24
	Sche	dule steps (Schedule st	eps)			Calendar
	1Ste	p				

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The hierarchy name as shown as of deployment D11 renders it easier to distinguish the various schedules.

The user selects the desired day and adjusts the time scheduler accordingly.



## 10.11 Tasks

The "Active tasks" window displays scheduled plant updates. The "Task history" window permits subsequent analysis.

Operating > Climatix Digital	AHU panel (Via Vedano 5,N	lo 🕨 Tasks				#
Plant dashboard						Ċ
Data points 🔊	<ul> <li>Active tasks</li> </ul>					
Alarms	▼ Task history					
Web access	Start 🗢	Progress	Comment	Status	End	
Web graphic	2/14/2019 7:00 AM	100 %   Completed. Device informa		$\checkmark$		
Upgrade	1/17/2019 7:14 AM	1 %   Device information initializati		₼		
History	1/16/2019 3:39 PM	100 %   Completed. Device informa		$\checkmark$		
Tasks	1/16/2019 3:20 PM	100 %   Completed. Upgrade contr		$\checkmark$		
Files	1/14/2019 8:07 AM	1 %   Device information initializati		$\mathbb{A}$		
Plant settings	1/13/2019 10:32 PM	1 %   Device information initializati		$\mathbb{A}$		
Application set	1/13/2019 3:59 PM	1 %   Device information initializati		⋒		
	ra ka Page 1	of 7 🏎 🖬				

## 10.12 Files

## 10.12.1 Files in plants

The documents and files are located in the File menu. All files can be downloaded

with the symbol  $\checkmark$ . The following illustration displays the files assigned by its source:

Dashboard	Operating	Application set	Administration	Apps

Operating	>	Plants	>	Zug-HeatPump	(Zählerweg 9, Zug	GTE-PLANT	Files

Plant dashboard	Show parameter files				Upload parameter file	Upload plant file
Data points 🛛 🥱 3G	Source 1			Ci Q	Search	
Alarms 🌲	Name	Description	Created	Modified	Version	Download
Web access	<ul> <li>Source: ApplicationSet</li> </ul>					
Web graphic	FirstStepsClimatixIC.pdf	FirstSteps Climatix IC	04/04/2022 3:46 PM	04/04/2022 3:46 PM	2015-05	<u>*</u>
Upgrade	✓ Source: Bacnet					
History	BACnet20170919-162113.csv	BACnet Client	09/19/2017 6:21 PM	09/19/2017 6:21 PM	3.6	*
Scheduler	BACnet20190204-171204.csv	VVS11.24 Update	02/04/2019 6:12 PM	02/04/2019 6:12 PM		*
Tasks 🕐	BACnet20190204-172047.csv	Update BSP 11.24	02/04/2019 6:20 PM	02/04/2019 6:20 PM		*
	BACnet20190204-173702.csv	Versuch 5	02/04/2019 6:37 PM	02/04/2019 6:37 PM		*
Files	✓ Source: CtrlTrace					
Plant settings	CtrlTrace20170919-162122.TAR	Controller Trace	09/19/2017 6:21 PM	09/19/2017 6:21 PM	5.4	*
Application set	CtrlTrace20190124-090302.TAR		01/24/2019 10:03 AM	01/24/2019 10:03 AM		*

NOTICE				
i	<ul> <li>Visibility of command buttons</li> <li>"Display parameter file" is only displayed for privilege "Plant upgrade/"</li> <li>"Source: Plant" is only displayed for privilege "Plant file access"</li> <li>Buttons "Upload parameter file" and "Upload new file" are only displayed for</li> </ul>			
	privilege "Manage plant files".			

"Files"/ Source:	File creation (menu)	Description	Example	
Plant	Operating > 'my plant' > Files > Upload plant file	The plant is visible when queried	Plant documentation	
application set	Application set > 'my application set' > Documentation > Upload new documentation files	When querying each plant with the application set	Application documentation	
Parameter * (Case 1)	Controller SD card via PC: Operating > 'my plant' > Files > Upload parameter file	The parameter file was saved from the controller to the SD card	Parameter.ucf	
Parameters (Case 2)	Operating > 'my plant' > Upgrade > Area: Online actions > Button: Create parameter file	The parameter file is saved from the controller to the cloud	Parameters [current date].ucf	
Parameter (auto backup) *	Application set > 'my Appl-Set' > Settings > Range: Automatic parameter backup	The parameter file is saved from the controller to the cloud	AutoBackupParam[curr ent date].ucf	
Parameter (auto backup persistent) *	Create the same as (auto backup); but: Initial backup is always persistent Manual: Operating > Files > Auto backup file properties	The parameter file is saved from the controller to the cloud, persistent AutoBackupPara ent date].ucf		
Create controller trace	Operating > 'my plant' > Upgrade > Area: Online actions > Button: Create controller trace	Controller trace file was saved from the controller to the cloud	CtrlTrace [current date].tar	
BACnet *	Operating > 'my plant' > Upgrade > Area: Online actions > Button: Create BACnet file	BACnet client file of the controllers was saved to the cloud	BACnet [current date].csv	

 $^{\ast}$  These functions currently available for POL controllers  $\uparrow$  only

#### Access by role to plant files

Plant dashboard			S	ave De
Data points	3"	File name	CtrlTrace20190124-091138.TAR	
Alarms	٠	Description File URL	CtrlTrace20190124-091138.TAR	Update f
Web access		File version		
Web graphic		Available for	<ul> <li>Select all</li> </ul>	
Upgrade			Enduser	
History			<ul> <li>Factory</li> <li>Owner</li> </ul>	
Scheduler			Service	
Tasks			Vser	
Files				Downl

The access to plant files can be limited for roles.

## 10.12.1.1 Integrated third-party plants using configuration files for Modbus gateways

Third-party (non-Siemens) plants can be integrated in Climatix IC. They are integrated via the Modbus interface and POL448 controller with Climatix IC gateway functionality. Mapping files in format 'parameter.ucf' and 'OBHVNcomp.ucf' are generated by an Excel tool and provided by the application team. The files are created for each plant and loaded under "Operation > Plants" as plant file in Climatix IC. The mapping files are either plant files or parameter files.

As an alternative, the plant files can also be loaded via the Cloud API in Climatix IC.

#### Creating and uploading mapping files

- 1. Request the Excel tool to create plant or parameter files from the Climatix IC application team.
- **2.** Create plant or parameter files in format 'parameter.ucf' or 'OBHVNcomp.ucf' for third-party (non-Siemens) plants.
- 3. Go to "Administration > Plants > 'My plant' > Files".
- 4. Select 'Upload plant file' or 'Upload parameter file'.
  - ⇒ The dialog page opens (see "Files in systems [→ 111] > section 'Upload own files' ".

Dashboard	Operating	Application set	Administration	Apps
-----------	-----------	-----------------	----------------	------

Operating > Plants > Zug-HeatPump (Zählerweg 9,Zug,GTE-PLANT... > Files □ Show parameter files Upload parameter file Upload plant file Plant dashboard Data points Q Search Source 1 De Alarms Description Created Modified Version Download Name Web access Source: CtrlTrace Web graphic CtrlTrace20190124-091138.TAR 01/24/2019 10:11 AM 01/24/2019 10:11 AM ÷ 0 CtrlTrace20210506-144748.TAR 05/06/2021 4:47 PM 05/06/2021 4:47 PM \* Upgrade CtrlTrace20220602-093740.TAR 06/02/2022 11:37 AM 06/02/2022 11:37 AM \* History Source: Objecthandler mapping Schedule Ł OBHVNcomp.ucf Mapping File 02/21/2023 6:03 PM 02/21/2023 6:03 PM Tasks 0 Files 20160105 Swissbau Magazin.pdf 07/11/2018 10:44 PM 05/14/2019 10:25 AM ÷ Magazin Plant settings AHU V3.2 008 EndUser(2).svg + Web Graphic 05/06/2021 4:12 PM 05/06/2021 4:12 PM Application set FirstStepsClimatixIC.pdf First Steps ClimatixIC 06/02/2022 11:16 AM 06/02/2022 11:16 AM ÷ 2 10 20 50 < 3 >

- **5.** Follow the instructions from 'Upload own files' and load your plant or parameter file as a mapping file to Climatix IC.
  - Only UCF files can be selected to upload a plant file.
  - ⇒ The mapping file is available in the 'Upgrade' menu as a plant or parameter file.

**i**]

Only one mapping file can be loaded per plant.

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- **1.** Follow the steps in "Upgrade [ $\rightarrow$  96]" to create an upgrade.
  - ⇒ New drop-down lists for 'Mapping file' as well as 'Parameter' are enabled.
- **2.** To upload to a plant file: Select tab 'Plant' or 'Application set' in 'Mapping file'. *Or* to upload a parameter file: Select tab 'Plant' or 'Application Set' in 'Parameter'.
- 3. Select the mapping file and click [OK].
- $\Rightarrow$  The upgrade with the new mapping file is configured.
- ⇒ Non-Siemens plants are integrated in Climatix IC with the configuration.

Plant file loaded in Climatix IC:

Configure upgrade	e	×		
Schedule				
03/15/2023 02:41 PM		-	Application set	
Download timeout(minutes	)		V 11.24	
60			d3cc9a72-bb63-4b04-8	e88-143f2665c6ce
Application shutdown timed	out(minutes)			
30			V 11.41	
Retries				
3			326c35cd-4781-4692-b	
Notify				
t@s	iemens.com		V 1	
Mapping file <use application="" set=""></use>		~	3d09c34d-bad2-4e85-9	Pa8d-7b04b66556c6
Plant	Application set			
Modified	Name	Ve	rsion	Description
02/21/2023 06:03 PM	OBHVNcomp.ucf	1		Mapping File

Parameter file loaded in Climatix IC:

Configure upgrade	1	>	<b>&lt;</b>		
Schedule 11/12/2024 05:25 PM			1.41		
Download timeout(minutes) 60			35cd-478		
Application shutdown timeo 30	ut(minutes)				
Retries 3			lc34d-bac		
Notify @si	emens.com		co25.060		
Mapping file <use application="" set=""></use>		~	10620-900		
Parameter <use current=""></use>		~	775a-84f		
Upgrade	Plant	Applica	tion set	Backup persiste	ent Backup
Modified	Name		Version		Description
05/06/2021 04:11 PM	AHU_V3.2_008_	_EndUser(2).s	1		AHU_V3.2_008_EndUser(2)
02/06/2019 10:53 AM	Param2017122	0-171645.UC	1		
09/08/2018 03:00 PM	PlantParameter.	ucf	1.1		Plant Parameter
 Cro					

\* . .

### 10.12.2 Files in systems

Documents and files can be found for system in the Files menu. The files are also

shboard Operation	ng Application set Administration	Apps				
rating > Systems > Sys	tem Building Zug (Theilerstrasse Ta,Zug,S 🕨 Files					
iystem dashboard						Upload system f
lants	Source 1			맥	Q Search	
Neb graphic	Name	Description	Created	Modified	Version	Download
Files	- Source: ApplicationSet					
System settings	ClimatidC-D19-PREVIEW.pdf	System Preview	02/23/2022 12:28 PM	02/23/2022 12:28 PM	202202160800	*
Application set	Siemens SI BP Cloud solutions	Siemens SI BP Cloud solutions for contracts	02/23/2022 12:28 PM	02/23/2022 12:28 PM	1	*
	Smart Information Delivery (SID)	Siemens Smart Information Delivery (SID) for documents	02/23/2022 12-28 PM	02/23/2022 12-28 PM	1	*
	Tenant Online-Help	Tenant Online-Help ClimatixIC	02/23/2022 12-28 PM	02/23/2022 12:28 PM	latest	*
	* Source: System					
	FirstStepsOlimatixIC.pdf	FirstSteps Climatick	02/16/2022 8-09 AM	02/16/2022 8-09 AM		*

### Upload own file

You can load and provide your own documents or graphics to the system.

- ♦ Click 'Upload System File'.
- $\Rightarrow$  A new dialog box opens:

		Files > Add file				
System dashboard					D	Save
Plants	File name		B			
Veb graphic	Description					
iles	File Url					
ystem settings			A	Drop ye		
pplication set			-			
	File version		B			

- 1. Drag your file to the 'File Url' field (A).
  - ⇒ It displays a file preview.
- 2. Complete the remaining fields with file info (B).
- 3. Under 'File version' select one or more roles to determine which users can display the file (C).
- 4. Click Save (D).
- $\Rightarrow$  The file is loaded and saved to the system or plant.

# 10.13 Plant settings

The Settings menu is a link here to "Administration > Plants > 'my plant' > Plant settings".

# 10.14 Application set

The Application set menu has a link here to "Application sets > Plant application set / System application set > 'My plant / My system' > Settings > Basic data".

# 11 Application sets menu



Certain menus are hidden for your access depending on the plant/Portal role↑ and/or your subscription↑ (e.g. application set, administration, or Apps↑).

Application sets provide all functions an OEM application engineer needs to create complete Climatix software packages (firmware, SAPRO application, COM mappings and HMI file).

The Plant Administrator can select the correct application set without specific knowledge of Climatix programming.

#### Summary

The user can view available application sets within the tenant space. There are three tabs to display application sets for systems, plants, or tenants. All application set types operate in the same way. For details, see section 'General functions in application sets:  $[\rightarrow 114]$ ':

Create or edit application set, or create from template:

- Sections "Settings [→ 114]" to "Documentation [→ 121]" describe the settings and components of an application set.
- Section "Import application sets [→ 122]" describes how to import an existing application set.

Working with application set variants:

Section "Working with application set variants [ $\rightarrow$  125]" documents the benefits of setting up application sets.

# Specific functions in application sets for systems, plants, or tenants

See section:

- System application sets [→ 127]
- Plant application sets [→ 128]
- Tenant application set [→ 138] s

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# **11.1 General functions in application sets:**

# 11.1.1 Settings

#### Export application set

Once your application set is created with all the settings and files, you can create a similar set with export/import. To export, select the "Export template" button. Import is described in section "Import application sets [ $\rightarrow$  122]".

Tip: The application export function is the most comprehensive method for backing up a firmware and application version and distribute it as a complete packet, e.g. as a template for another controller type.

#### Basic Data

Application set > GTE-POL	687-VVS10 🕨 Settings			*
Settings	Export template	Сору	Save	Delete
Application	▼ Basic Data			
Documentation		GTE-POL687-VVS10 8 - POL687.xx/STD - PO 10 8	L687 standard controller	

#### Name, Description, Variant

Assign the attribute name, description, and variant that make it easy to track at a later date, e.g. for search and browse.

Attachments have additional maintainable attributes that go beyond the input options for system application sets. For a description of the system-specific attributes: see chapter 'Plant settings [ $\Rightarrow$  129]'.

# Inherit Main-Tenant application sets to the Sub-Tenant Visible for Sub-Tenants

With the selection "Visible for Sub-Tenants", all Sub-Tenants "inherit" an application set. You can use it to organize central management of application sets.

#### Inherit: Application set and roles as a package

Since the roles are mapped to the application set for a tenant (see the following illustration), the application set and roles are inherited as a **Packet** to the Sub-Tenant during 'Inherit'.

ettings	E×p	ort temp	olate Cop	y Sa	ive	Delete
pplication	▶ Basic Data					
ocumentation	► Alarm configu	ration				
	► Datapoint view	v configu	uration			
	▼ User access co	onfigurat	ion			
	Plant roles	Se	Web graphic file	Dashboard file	Plant files	Н
	User	6		DashboardConfig	[Show all]	0
	Service	4	Air Handling Uni	DashboardConfig	[Show all]	
	Owner	4	Air Handling Uni	DashboardConfig	[Show all]	
	Factory	2	Air Handling Uni	DashboardConfig	[Show all]	
	Enduser	253	Air Handling Uni	DashboardConfig	[Show all]	

None of the settings and data links illustrated in the graphic can be changed by the Sub-Tenant. Conversely, the Sub-Tenant benefits from a central management of the "packet".

#### Differentiation

We distinguish between the following cases when packaging a Main-Tenant application set:

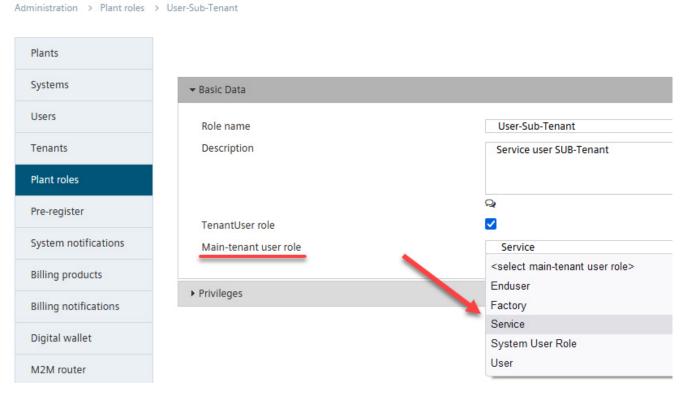
- 1. When assigning a plant, use only "Inherited user roles of Main-Tenant". In this case, Climatix IC can calculate the data piont access rights on how this operates on the Main-Tenant level or Sub-Tenant level without inheriting from one level to the other.
- 2. Use original roles from the Sub-Tenant when assigning a plant that uses an inherited application set. In this case, all original Sub-Tenant roles must be mapped to Main-Tenant roles. This is solely intended to clarify the data point access rights within the package.

#### Framework and limits to mixing Main-Tenant and Sub-Tenant roles

- You benefit from centralized data management when using inherited application sets and original roles in Sub-Tenant while being able to define original Sub-Tenant roles.
- Only when it comes to accessing data points, Sub-Tenant roles are mapped to an existing Main-Tenant role to access the data points.
- Only the Main-Tenant role of owner can be mapped onto the Sub-Tenant role owner.

#### Procedure

To map the Main-Tenant data point access rights to a Sub-Tenant role, select in "Administration > Roles > [Roles] > area: Basic Data > Main-Tenant user role" the Main-Tenant role with adequate access rights to data points that may apply to the particular Sub-Tenant role.



#### **Tenant application set**

You can design an application set at your tenant as 'Tenant application set'. A tenant application set operates like a meta application set: Dashboards for the tenant application set are displayed on **all** plants at the tenant as a Plant Dashboard, even for plants that are not assigned to an application set. This type of tenant applications set normally does not contain any dedicated application since it does not work on all plants. Useful contents of a tenant application set are support telephone numbers, application versions or status of the application.

NOTICE				
i	<ul> <li>A tenant application set is already defined if the button is disabled (grayed out). You can see this in the application set overview.</li> <li>A new tenant application set can only be set up once the existing set is deleted.</li> </ul>			

#### Alarm configuration

An alarm can be defined in advance for each application set.

- The characters to form the alarm text are described in the SAPRO online help, topic "Alarm handler"
- The standard text suffices for most cases.

%s %d.%m.%y %H:%M:%S %t (%T-%N): %V
Metric
0

	<b>Changes take effect at controller reconnect.</b> Reconnect the controller to apply the changes.				

#### Data point view configuration

Setting the appearance on plant data points. Refer here to SAPRO online help, topic "Watch Pages".

Note

### User access configuration

The content of the following figure serves as an example.

ttings	E×p	port temp	olate Cop	y Sa	ive	Delete
oplication	▶ Basic Data					
ocumentation	► Alarm configu	uration				
	► Datapoint vie	w configu	uration			
	▼ User access co	onfigurati	ion			
	Plant roles	Se	Web graphic file	Dashboard file	Plant <mark>f</mark> iles	Н
	User	6		DashboardConfig	[Show all]	0
	Service	4	Air Handling Uni	DashboardConfig	[Show all]	
	Owner	4	Air Handling Uni	DashboardConfig	[Show all]	
	Factory	2	Air Handling Uni	DashboardConfig	[Show all]	
	Enduser	253	Air Handling Uni	DashboardConfig	[Show all]	

- Roles: Defined in "Administration > Roles".
- Security level: Access right (data points, web graphic, dashboard) in Climatix IC.
   It must be consistent with the security settings from the corresponding SCOPE projects.
- Web graphic file: Selection of SVG graphics saved to the "Plant file".
- Dashboard file: Selection of JSON dashboard files saved to the "Plant file".
- Plant file: Selection of application documentation saved in "Miscellaneous files".
- HMI-PIN (for plants with BSP < VVS11): Additional security key. Compare "Web graphic [→ 94]". Corresponds to the SCOPE HMI password.

```
More on the topic
```

"Relationship between SCOPE security level, roles, and application security levels  $[\rightarrow 377]$ " depicts the relationship between SCOPE security settings, roles, and security levels.

0

#### Automatic parameter backup

Automatic parameter backup backs up parameter settings in a systematic manner.

"Automatic parameter back up" is available as an extension to your service product. Additional information is available in data sheet A6V10449189.

#### Application set > Plant Application set > Climatix AHU > 1.0 > Settings

Operating

Dashboard

0		Synchronize to Rule Editor	Create variant	Export template	Сору	Save	Delete
Settings	▶ Basic Data						
Application	Alarm configuration						
Documentation	Datapoint view configuration						
	<ul> <li>User access configuration</li> </ul>						
bcnbvcnb	▼ Automated Parameter Backup						
	Enable automatic parameter backup Cyclic creation time [h] Amount of archived files	<ul> <li>∠4</li> <li>365</li> </ul>					

- Select check box "Enable automatic parameter backup" to enable backup.
- Define a "Cyclical creation time [h]", e.g. 24 hour to perform a backup on a daily basis.
- Define the "Amount of archived files", e.g. 365, to overwrite parameters for daily backups only after one year.

#### Practical benefits of automatic parameter backup

1. The "Automatic parameter backup" is switched on for an application set.

Application set	>	Climatix AHU	►	Settings	
-----------------	---	--------------	---	----------	--

Settings		
Plant files	<ul> <li>Basic Data</li> </ul>	
Miscellaneous files	Alarm configuration	
	Datapoint view configuration	
	User access configuration	
	✓ Automated Parameter Backup	
	Enable automatic parameter backup	•
	Cyclic creation time [h]	24
	Amount of archived files	365

2. Backup parameters are set up for a controller with this type of application set.

Plant dashboard	Show parameter files	
Data points 🔊	Source 🕇	
Alarms 🐥	Name 1	Created
Web access	Source: Application set	
Neb graphic	Source: Ctrl trace	
Upgrade	<ul> <li>Source: Parameter</li> </ul>	
opgrade	<ul> <li>Source: Parameter (automatic backup persistent)</li> </ul>	
History	AutoBackupParam20180906-060113.UCF	9/6/2018 8:01 AM
Scheduler	AutoBackupPersistentParam20180903-120009.UCF	9/3/2018 2:00 PM
Tasks	<ul> <li>Source: Parameter (automatic backup)</li> </ul>	
	AutoBackupParam20180915-050125.UCF	9(15(2018-7:01 AM

Note the following in the illustrated example:

- Parameter backup was started on 3.9.2018 (3-Sep-2018) between 1 and 2 pm. The first parameter set was saved on the hour at 2 pm. Each saved change is listed for the first time at the start of the next hour.
- An initial parameter set is always persistent (automatic backup persistent).
- In addition, at a later time, the parameter set for 6.9.2018 (6-Sep-2018), 8 am was rendered persistent. You can render a parameter set persistent or not by clicking it in the list and opening "Details".
- At the time the screen shot was done, the backups are visible from 7 to 9 am.
- 1. For example, a persistent as well as a current parameter backup is now available in the upgrade planner.

Configure upgrade	×		_	
ichedule				
09/15/2018 09:16:41 am				
		1.1		
ownload timeout (minutes)			_	
10				
Application shutdown timeout (minutes)				
5			_	
letries			_	
3		C. State and some second of		
lotify				
@bluewin.ch			_	
arameter		Access of the second	_	. 3
<use current=""></use>	•			
Upgrade Plant	Application set	Backup persistent	Backup	
Modified +	Name		Version	Des
(Date(1536220495230)) /Date(1536220495230)	AutoBackupParam2	0180906-060113.UCF		
IDate(1535976018693)/ /Date(1535976018693)/	and the second second	entParam20180903-120009.04	1.1	

### **11.1.2** Documentation

#### **Documentation files**

Files of a purely informational nature (e.g. documents or diagrams), belonging to the topic of applications, are uploaded under "Documentation". The documents can then be accessed in the menu "Operating > 'my controller' > Files".

Application set > GTE-POL	687-VVS11 🕨 Documentation		4	t
Settings			Upload new documentation fi	le
Application	Name	Description	Version	
Documentation	FirstStepsClimatixIC.pdf	FirstSteps Climatix IC	2015-05	•
	I I I I I I I I I I I I I I I I I I I			



The Device ID is used, for example, to assign the documentation files of an application set to a controller, as explained in Section "Settings [ $\rightarrow$  114]".

### 11.1.3 Import application sets

Application sets include all the engineering on an application. The export/import function for application sets is available to export/import an application set as a whole to another controller context.

- The device ID can be changed during import: Incompatible files are automatically deleted.
- A mapping table assigns the roles:
  - Roles with the same names are assigned as a recommendation.
    - Unknown source roles can be assigned to existing target roles.

#### How to export/import an application set

		Synchronize to Rule Editor Create variant Export template Copy Save Delete
		ejnamenike te here kener streke terhene kener streke terhene streke
ettings		
pplication	Name	POL638
ocumentation	Description	4 - POL638/STD - POL63x controller with IP
	Variant	1.0
	Device IDs	4
	Encrypted security UUID	·
	Visible for Sub-Tenants	2
	Alarm configuration	
	Datapoint view configuration	
	User access configuration	
	<ul> <li>Automated Parameter Backup</li> </ul>	

Plant roles	Security	Web graphic file	Dashboard file	Plant files	HMI-PIN
	255			[Show all]	0000
User	6	Air Handling Unit - 001 CAS Solu	TEST_TREND.json	TEST END USER MANUAL.pdf	7659
Service	4	SCADA.svg	TEST_TREND.json	[Show all]	7659
Owner	0	SCADA.svg Air Handling Unit - 001 CAS Solu	previewAHUplant123.json	TEST END USER MANUAL.pdf FirstStepsClimatixIC.pdf	7659
TEST2	255				0000
Factory	2		DashboardConfiguration-2016-0	[Show all]	
Enduser	255			TEST END USER MANUAL.pdf	

- ▷ The starting point is an application set (figure above), where the compatible files are to be imported to another controller context.
- ▷ Even finely tuned user access (figure below) should remain at the target location, as long as assignable roles are found.
- Select the source application set from "Application set > 'my application set' > Settings".
- **2.** Press the "Export template" button and save/back up the zip file (includes the entire application set) accordingly.
- **3.** Keep at hand an overview of the roles available at the target location, e.g. as in the following figure.

Dashboard	Operating	Application set	Administrat	tion A	ops	
Administration	> Plant roles					#
Plants						Create new plant role
Users					Q Search	
Tenants		Role name	Ť	Description	1	
Plant roles		APIAppUser		User opera	tes plant with SCOPE	security read level. User operates p
> <u>Pre-register</u>		Enduser		User opera	tes plant with SCOPE	security read level. User operates p
		Factory		User opera	tes plant with SCOPE	security level. User manages user
		<u>Owner</u>		User opera	tes plant with SCOPE	security level. User manages user
		Service		User opera	tes plant with SCOPE	security level. User manages plant
		<u>User</u>		User opera	tes plant with SCOPE	security level read/write. User oper
		10 20 50				< 1 >

- 4. Go to the target location, to "Application sets".
- 5. Press "Create from template" button.
- **6.** Enter the name and other attributes. You can also use entries from the source with "Take over from template".
- **7.** Enter the new device IDs as applicable. BSPs with differing device IDs are not imported.
- 8. Select the previously exported zip archive and press "Save".

Dashboard Operating Ap	plication set Administration Apps		
Application set > Create from template			Ţ.
		Cancel	Save
Name	my_AHU_imported		
Description	<take from="" template=""></take>		
Version	<take from="" template=""></take>		
Device IDs	<take from="" template=""></take>		
Encrypted security UUID	<take from="" template=""></take>		
Visible for Sub-Tenants			
Tenant application set			
Template file	Choose File applset_teatixic.zip		

**9.** Assign the roles. In the example from the following figure, the user access rules for TEST, TEST2, and User are not taken over. The user access rules for factory and end user are mapped to the roles manager and employee.

Resolve us	Resolve user roles					
Source plant ro	oles	Target plant roles				
TEST		<not mapped=""></not>				
User		<not mapped=""></not>				
Service		Service				
Owner		Owner				
TEST2		<not mapped=""></not>				
Factory		Manager	⊗ -			
Enduser		Employee				
	Ok	Cancel				

- ⇒ The result is displayed in the color contrast below as to which assignments were affected.
- ⇒ The complete file set that was imported is available in the menus "Plant files" and "Other files".

Plant roles	Security	Web graphic file	Dashboard file	Plant files	HMI-
TEST	255			[Show all]	00
User	6	Air Handling Unit - 001 CAS Solu	TEST_TREND.json	TEST END USER MANUAL.pdf	76
Service	4	SCADA.svg	TEST_TREND.json	[Show all]	76
Owner	0	SCADA.svg Air Handling Unit - 001 CAS Solu	previewAHUplant123.json	TEST END USER MANUAL.pdf FirstStepsClimatixIC.pdf	76
TEST2	255				00
Factory	2		DashboardConfiguration-2016-0	[Show all]	
Enduser	255			TEST END USER MANUAL.pdf	
Enduser User access configurat Plant roles		Web graphic file	Dashboard file	TEST END USER MANUAL.pdf Plant files	HMI-F
User access configurat	ion	Web graphic file	Dashboard file		HMI-I
User access configurat Plant roles	ion Security	Web graphic file SCADA.svg	Dashboard file TEST_TREND.json	Plant files	
User access configurat Plant roles Employee	Security 255			Plant files TEST END USER MANUAL.pdf	
User access configurat Plant roles Employee Service	Security 255 4		TEST_TREND.json	Plant files TEST END USER MANUAL.pdf [Show all]	HMI-1 76

### **11.1.4** Working with application set variants

#### Differences/benefits versus unassociated application sets:

The section Import application sets documents how to copy application sets and, for example, use them for other controller types. Variants to application sets are intended to promote further development of the application sets and to retain the association to the basic application set.

- There is always one basic application set: The oldest (in time). The settings
  "Visible for Sub-Tenants" and "Tenant application set" are only available on the
  basic application set. The basic application set can still be changed, even if
  variants were already formed from it.
- Variants are the newer (in time) derivatives of the basic application set. Variants can be changed as needed, except Device IDs that were taken over from the basic application set.
- The next older variant is assigned to the new basic application set if the basic application set is deleted and the settings "Visible for Sub-Tenants" and Tenant application set" are enabled.
- The variants include the entire application set with all files and links.

#### Changes for "Export template"

- If using "Export template" with an application set that has variants, one or more variants can be selected. The basic application can be left out.
- The exported structure with the variants is created during import. The oldest application set is the basic application set.

#### Changes to the application set used by the plant

- In the event a plant uses an application set with variants, you can also select a variant when selecting the plant application set (See Plant settings).
- <Use latest variant> always uses the last set-up variant.

#### Use-case with application set variants and Sub-Tenants

When a plant is set to <use latest variant>, the improved **Variant** of a Main-Tenant can be distributed to the Sub-Tenant: Delete the basic application set and reselect the improved **Variant** by selecting "Visible for Sub-Tenants".

An upgrade loads the improved variants to the Sub-Tenant devices.

#### Procedure, create a new variant

Climatix IC		
Dashboard Operat	ing Application set Administration	Apps
Application set > GTE-POL6	7-VVS11 ▶ 1.0 > Settings	
1.0		Create variant Export template
Settings	▼ Basic Data	
Application	Name	GTE-POL687-VVS11
Documentation	Description	8 - POL687.xx/STD - POL687 standard controller
1.1		
	Variant	1.0
	Device IDs	8
	Encrypted security UUID	
	Visible for Sub-Tenants	
	Tenant application set	

- **1.** Select the settings of the basic application set or of an existing variant as appropriate. The new variant is formed based on the selection.
- 2. Click "Create variant".

Application set > GTE-POL687-VVS11 > 1.0 > Create new application set version

1.0		
Settings	Name	GTE-POL687-VVS11
Application	Description	8 - POL687.xx/STD - POL687 standard controller
Application	Variant	1.2
Documentation	Encrypted security UUID	
1.1		

3. Enter a meaningful designation for the new variant.

#### Use application set variants in plants

Plants can now be assigned the new application set variant.

Application set	GTE-POL687-VVS11 (8 - POL687.xx/STD - POL687 standard controller)
/ariant	1.1
	<use latest="" variant=""></use>
	1.1
Address	1.0
	•

Note the following about the selection list:

- The sequence for the application set variants is chronological, from newest to oldest, i.e. the lowest entry is the basic application set.
- The last created plant variant is always assigned to the plant for <use latest variant>.

• On	menu 'Application set > Syste Create new application sets - Click button 'Create new Take over and adapt system - Click button 'Create from how to use functions: See se 114]'.	for systems. y system application application set from n template'.	n an existing tem	
System Plant Tenant				
		Creat	te new system application set	Create from template
		Creat	te new system application set	Create from template
	Description			
System Plant Tenant	Description Test App.Set for System Structure	G	Q Search	
System Plant Tenant		Version	Q Search	

# 11.3 Plant application sets

•

8 - POL687.xx/STD - POL687 standard controller

8 - POL687.xx/STD - POL687 standard controller

4 - POL638/STD - POL63x controller with IP

8 - POL687.xx/STD - POL687 standard controller

by Dudkiewicz

Mogli TEST

In menu 'Application set > System' you can:

- Create new applications for individual plants.
  - Click button 'Create new application set'.
- Take over and adapt plant application sets for individual plants from an existing template.

10

1.0

1.0

1.0

1.0

1.0, 1.1, 1.2

8 8

31

4

8

64, 71

- Click button 'Create from template'.
- On how to use functions: See section 'General functions in application sets:

#### $[\rightarrow 114]$ ' and Plant files $[\rightarrow 132]$ .

hboard Operating	Application set Administration Apps			0
System Plant	Tenant			*
		Create new pla	nt application set	Create from template
Name	Description	Version	Device lds	Visible for Sub-Tenants
.DEMO-VirtPlant.Main	Virtual Plant set	1, 3	99	
1-DEMO-VirtPlant-Update-Main	Virtual Plant set	1, 2	99	
Climatix AHU - TEST	4 - POL638/STD - POL63x controller with IP 8 - POL687.xx/STD - POL687 standard controller	1.0, 1.1, 2.0 bcnbvcnb, 3.0	2, 3, 4, 5	
Doku Test ohne Version	D15_export_D16_import	3	8	

GTE-POL687-VVS10

GTE-POL687-VVS11

Lore Starter

<u>Mogli</u>

POL638

POL687

# 11.3.1 Plant settings

#### **Device IDs**

Each Climatix controller type has a unique "Device ID". It must be entered in a new application set to define the validity of application for controller type. Climatix controller device IDs:

ID	ASN	Description
4	POL638/STD	POL63x controller with IP
8	POL687.xx/STD	POL687 standard controller
28	POL648.10/STD	POL6x8 controller, follow-on product for POL63x.00
29	POL648.80/STD	POL6x8 controller, follow-on product for POL63x.70
30	POL688.10/STD	POL6x8 controller, follow-on product for POL687.00
31	POL688.80/STD	POL6x8 controller, follow-on product for POL687.70
32	POL698.10/STD	POL6x8 controlled based on POL688.10 with EEV
33	POL698.80/STD	POL6x8 controlled based on POL688.80 with EEV
34	POL69U.10/STD	POL6x8 controlled based on POL688.10 with EEV & UPS
35	POL69U.80/STD	POL6x8 controlled based on POL688.80 with EEV & UPS
42	POL468.xxx	Climatix controller (29 I/O)
48	POL467.xxx	Climatix controller (30 I/O)
56	POL468.85	C400 RTU variant, 29 IOs; 2 EEVs
59	POS444.05	S400 OEM Customer variant with IO Expander
60	POS466.x5	S400 standard variant
61	POS445.25	S400 OEM customer variant with IO Expander and HMI
62	POS454.05	S400 MINI OEM customer variant
63	POS455.x5	S400 MINI standard variant
64	OCI460.10	Combustion Modbus Cloud Gateway Europa
68	POL468.65/STN	C400er Europe (extended Memory), 29 IOs; 2 EEVs
69	POL467.75/STN	C400er M-Bus (extended Memory), 30 IOs
70	POL468.85/STN	C400 RTU variants (extended Memory), 29 IOs; 2 EEVs
71	POL448.xxx	Climatix Modbus Cloud Gateway
72	OCI460.11	Combustion Modbus Cloud Gateway China

#### Туре

The optional free text field 'Type' assigns an additional characteristic to identify a plant. This feature searches and filters hit lists of plants. By assigning the same characteristic to different plants, these plants can be grouped and displayed as search hits via the search.

ation set 🔸 Plant applicatio	n set > Zug-HeatPump  > 20.0 > Settings		
0		Create variant Export template Copy	Save Delete
ettings	▼ Basic Data		
Application	Name	Zug-HeatPump	
Ocumentation	Description	8 - POL687.xxlSTD - POL687 standard controller	
)			
	Туре	Head-Pump	
	Variant	20.0	
	Device IDs	8	
	Encrypted security UUID		
	Visible for Sub-Tenants		
	Upgrade priority	Release note for plant upgrade.pdf 🛛 🚯 📩	
	Synchronized reference plant	Zug-HeatPump	

- Navigate to "Application set > Plant application set > [Plant] > Settings > Basic data".
- **2.** Fill in the free text field 'Type' with a unique characteristic to assign the plant or a group of plants.
- 3. Click 'Save'.
  - ⇒ The feature was attributed to the plant.
- **4.** If required, enter the same characteristic for additional plants that are then to be displayed in groups.
- ⇒ The plants with the assigned characteristic can be filtered and sorted according to this characteristic.
- ➡ The feature entered is displayed in the corresponding field in the 'Application set type name' column under "Operation > Plants". The search function and the filter function can be used with the entered characteristic.

hboard	Opera	ating	A	pplication set	Administ	tration	Apps								
Susta		Plant													
Syste		Tiant	.5									9	Q Head		8
۵		(lı-		Name	Î	Index	System	0	Description	ICCID	Service+	BSP version	Application set type	Phone	
	nt: _(														
	*	al	0	Zug-HeatPump		1	System-Bu	0	GTE-PLANT-EnhPriv	89314404	✓	11.28	Head-Pump	123	E
10 20	50													< 1	>

The assigned characteristic in 'Type' also appears in the list of data points of the plants assigned with it:

- ♦ Navigate to "Operation > [System] > Data points > System".
- ⇒ A new data point 'Target Application Set Type Name' is available.
- ⇒ The new data point has the previously assigned characteristic as its value.

Dashboard	Operating	Application set Administration Apps		0
Operating > Pla	nts > Zug-Heat	Pump (Zahlerweg 9,Zug,GTE-PLANT 🕨 Data points 🕨 Search		4
Plant dashboa	ard		Q Application	0
Data points	.al	Target	0F18655D08F06CED9CC3	#
Alarms	*	- GÜID:Application		<u> </u>
Web access		Target Target - Application Set Type Name	Head-Pump	#
Web graphic				

**Encrypted security UUID** Currently not supported.

# 11.3.2 Plant files

### **Application files**

Application set > Clima	ix AHU 🕨 Application			4
Settings		Upload new Cloud f	Upload new Specific file	Upload new UCF file
Application	▼ Application files			
Documentation	File type	File name	Description	Version
	HMI for Web file	HMI4Web.ucf	AHU 302	3.02 19.
	Configuration file f	o ScopeConfig.ucf	ScopeConfig	3.02 25.
	<u>HMI file</u>	HMIcomp.ucf	AHU 302	3.02 19.
	Application file	MBRTCode.ucf	AHU302	3.02 18.
	BACnet client file	BACNET.csv	BACNET Client Config	3.02 29.
	Controller paramet	e PARAM.UCF	AHU 302	3.02
	<u>Objecthandler map</u>	CBHcomp.ucf	Mapping AHU302	3.02 29.

A user (with "Plant upgrade" privileges) can upload application files to the set, e.g. the SAPRO application and its HMI engineering files as well as communications mapping. Two different buttons are available to upload:

- "Upload new UCF file": Plant files in the UCF format
- "Upload new specific file": BACnet and SCOPE light files

#### **BSP** files

The user can upload the released firmware (BSP) of the controller for this application set. "Download" ( ) can also resave the file locally.

Application set > Climat	x AHU  Application	#
Settings	Upload new Cloud file Upload new Specific file Up	bload new UCF file
Application	Application files	
Documentation	▼ BSP files	
	File type File name Description	Version
	Controller BSP POL63x_BSP_V1 BSP	10.34 29
	4 14 <4   Page 1 of 1   >> >1	4

#### **COV** files

#### Concept:

Climatix IC support of the COV concept ('Change of Value'). The parameter limit values are set in this concept. Only values that exceed the set parameter limit values are forwarded to the client. The parameter limit values are stored to the COV files.

The COV files are created in SCOPE. To configure the files: See SAPRO and SCOPE documentation:

- Additional information  $[\rightarrow 14]$ •
- Engineering with SCOPE [ $\rightarrow$  20] •

#### Procedure:

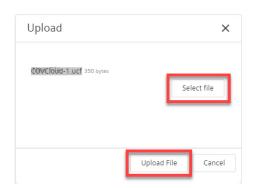
#### Climatix IC

Climatix IC		TEST_CLX ▼	English (United States) 🔻 dominik.schenkel.ext@siemens
Dashboard Operating	Application set Administration Apps		
Application set > Plant application	set > Climatix AHU - > 1.0 > Application		4
1.0		Upload	new Cloud file Upload new Specific file Upload new UCF file
Settings	▼ Application files		
Application	File type File name	Description	Version
Documentation	HMI for Web file HMI4Web.ucf	AHU 302	3.02 19.5.2015
1.1	COV-Configuration file for Cloud COVCloud.ucf	COV Example	1
2.0 bcnbvcnb	Configuration file for Scope light ScopeConfig.uc	f ScopeConfig	3.02 25.5.2015
3.0	HMI file HMIcomp.ucf	AHU 302	3.02 19.5.2015
	Application file MBRTCode.ucf	AHU302	3.02 18.5.2015
	BACnet client file BACNET.csv	BACNET Client Config	3.02 29.9.2015
	Controller parameter file PARAM.UCF	AHU 302	3.02
	Objecthandler mapping file OBHcomp.ucf	Mapping AHU302	3.02 29.04.2016
	<pre>4 14 &lt;4 Page 1 of 1 &gt;&gt; &gt;=</pre>		•
	4		Þ
	► BSP files		
	Cloud files		

- 1. Go to 'Application set > Plant > [My plant] > Application'.
- 2. Click 'Upload new UCF file'.
  - ⇒ A new "UCF file" page opens.

Dashboard Ope	erating Application set	Administration Apps	0
Application set > Plant a	application set > Climatix AHU - TEST	► 1.0 > Application > UCF file	
1.0			Save
Settings	UCF file		
Application	File type		
Documentation	File name	COVCloud.ucf	
1.1	Description File URL	COV Example <new file=""></new>	Upload file
2.0 bcnbvcnb			
3.0	File UUID File version		
		Enter the desired date	

- Enter the desired data.
- 4. Click 'Upload file'.
  - ⇒ A new 'Upload' window opens.



- 5. Click 'Select file' and the actual file.
- 6. Click 'Open'.
- 7. Click 'Upload file'.
- 8. Click 'Save'.
- ⇒ A COV file is saved to the application set.

Additional information

For more information on the structure and use of COV files, see chapter 'COV files  $[\rightarrow 364]$ '.

### Cloud files

Application set > GTE-POL	587-VVS10  Application	ų.
Settings	Upload new Cloud file Upload new Specific file	Upload new UCF file
Application	Application files	
Documentation	• BSP files	
	▼ Cloud files	
	File type File name Description	Version
	Dashboard config DashboardConfi	1.0
	Web graphic Air Handling Uni	0.8
	Page 1 of 1 >> >=	•

The following file types can be loaded using the button "Upload new cloud file":

- Dashboard config files in JSON format
- Web graphic files in SVG format

Additional information

"Create dashboards specific to applications for individual roles [ $\rightarrow$  251]" describes creating own dashboard in JSON format.

### 11.3.2.1 Set up notifications about plant upgrades

#### Concept

Tenant-administrators can provide their Tenant-users with information on upgrades to their plants by loading PDF documents as cloud files to the system. The user can query the documents as "Release notes". The releases are highlighted in color based on the content:

- New functions: Green ①.
- Troubleshooting: Yellow <sup>1</sup>
- Safety improvements: Red 0

The PDF files are displayed in menu "Operation > Plants" in column '1 (Upgrade available)'. The files can be downloaded or confirmed in the plant under "Upgrade". See section "View and confirm release notes in the plant [ $\rightarrow$  101]".

#### Upload new cloud file

- > You have the role of tenant-administrator for Main-Tenant.
- 1. Go to "Application set > Plant > 'My plant' > Application > Cloud files".

Dashboard Operatin	ng Application set Admi	nistration Apps			0
Application set > Plant applica	tion set > Zug-HeatPump ► 20.0 >	Application			
20.0			Create cloud item filter file	oad new Cloud file Upload new Specific file	e Upload new UCF file
Settings	<ul> <li>Application files</li> </ul>				
Application	BSP files				
Documentation					
22.0	File type	File name	Description	Version	
	Web graphic	my_Test_Cloudmapped.s	vg	5	
	Web graphic	VirtualDPs.svg	Virtual DPs	20.1	
	Dashboard config	DashboardConfiguration-	2(	1.0	
Application set > Plant applica	tion set → Zug-HeatPump ► 20.0 →	Application > Cloud file			Save
Settings	Cloud file				
Application Documentation 22.0	File type File name Description File URL	Demo Rele Release note	te for plant upgrade.pdf		► B Upload file
	File version Upgrade priority	D Version A Security (r Bugfix (yel Security (r	re (green) llow)		~
	<b>3.</b> Se	elect "Release not	es" (A).		
	<b>4.</b> Cl	ick 'Upload file' (B	b).		
	₽ 	A new 'Upload' Click 'Select file Click 'Upload file	and select the file for	upload (1).	

Upload	×
New File: Release note for plant upgrade.pdf <sup>25 kb</sup> 1 Select file	
2 Upload File Car	ncel

- $\Rightarrow$  The file name is added to the document name. ⇒ Field 'File URL' is completed with the file name.
- Change the file name in the 'File name' field as needed if the displayed file \_ name is not supposed to match the document file name (C).
- 5. Provide a description and file version (D).
- 6. Enter an upgrade priority (E):
  - 'New feature: Green', if new content is added to the document. —
  - 'Bugfix: Yellow', if fixes for faults/errors are described in the document. —
  - 'Safety: Red', if known safety issues are described in the document. \_
- 7. Click 'Save' (F).

Application set Administration Apps

- Cloud file is uploaded. ⇔
- ➡ Download the cloud file under 'Cloud files' and 'Download' (■).

20.0				Create cloud item filter file	Upload new Cloud file	Upload new Specific file	Upload new UCF fi
Settings	Application files						
Application	► BSP files						
Documentation	▼ Cloud files						
22.0	File type	File	name	Description		Version	
	Web.graphic	my	_Test_Cloudmapped.svg			5	
	Web graphic	Vir	tuaIDPs.svg	Virtual DPs		20.1	
	Dashboard confi	g Da	shboardConfiguration-2(			1.0	
	Dashboard confi	g Vir	tualDP_Dashboard.json	VirtualDataPoints		1	
	Dashboard confi	g GT	Evvs11.json			1	
	Release notes	Rel	ease note for plant upgr	Demo Release Note		Version A	

i

Only PDF files can be uploaded as cloud files. Other file formats are rejected.

#### Update or delete uploaded cloud file

Update file

- You are at "Cloud file > Details" and a cloud file is in the system (see previous section 'Upload new cloud file').
- 1. Click 'Update file'.
- 2. Follow the steps from the previous section on file upload.
- **3.** Modify the content for 'File name', 'Description', 'File version' and 'Upgrade priority' as needed.
- 4. Click 'Save'.
- ⇒ Saves the cloud file saved in the system.

Delete file

- You are at "Cloud file > Details" and a cloud file is in the system (see previous section).
- 1. Click 'Delete'.
  - A confirmation opens
- 2. Confirm with 'OK'.
- ⇒ Deletes the cloud file saved in the system.

Dashboard	Operating	Application set	Administration	App
-----------	-----------	-----------------	----------------	-----

Application set > Plant applica	ation set > Zug-HeatPump  > 20.0	> Application > Cloud file > Details		4
20.0			Save	Delete
Settings	Cloud file			
Application	File type	Release notes		
Documentation	File name	Release note for plant upgrade.pdf		
22.0	Description	Demo Release Note		
22.0	File URL	Release note for plant upgrade.pdf		Update file
	File version	Version A		
	Upgrade priority	Security (red)		~
				Download file

#### View and confirm release notes in the plant

The new cloud file with the corresponding color code displays in the Operation

 $[\rightarrow 80]$ " menu in the list of plants in column ' (Upgrade available)'.

- $\$  Click the icon for the new cloud file: (0, 0) or (0, 0).
- ⇒ The overview of the application set files is available in "Operation > Plants > 'My plant > Upgrade [→ 96]".
- As an alternative, you can go to "Operation > Plants > 'My plant > Upgrade
   [→ 96]".
  - ⇒ The new cloud file is available under 'Release notes'.
- Follow the instructions in section "View and confirm release notes in the plant [→ 101]".

A

# **11.4 Tenant application set**

In menu 'Application set > Tenant' you can:

- Create new application sets for tenants. See the next section 'Tenant application set'.
  - Click button 'Create new tenant application set'.
- Take over and adapt application sets for tenants from an existing template.
   Click button 'Create from template'.

On how to use functions: See section 'General functions in application sets:  $[\rightarrow 114]$ '.

shboard	Operating	Application set	Administration	Apps			0
Syste	em Plant	Tenant					4
						Create new tenant application set	Create from template
Name			Description		Version	Visible for Sub-Tenar	its
<u>TenantApp</u>	olicationSet		Tenant application set		1		
10 20	50						< 1 >

### Tenant application set

You can design an application set at your tenant as 'Tenant application set'. A tenant application set operates like a meta application set: Dashboards for the tenant application set are displayed on **all** plants at the tenant as a Plant Dashboard, even for plants that are not assigned to an application set. This type of tenant applications set normally does not contain any dedicated application since it does not work on all plants. Useful contents of a tenant application set are support telephone numbers, application versions or status of the application.

NOTICE							
i	<ul> <li>A tenant application set is already defined if the button is disabled (grayed out). You can see this in the application set overview.</li> <li>A new tenant application set can only be set up once the existing set is deleted.</li> </ul>						

# **12 Administration menu**



Certain menus are hidden for your access depending on the plant/Portal role $\uparrow$  and/or your subscription $\uparrow$  (e.g. application set, administration, or Apps $\uparrow$ ).

Administration provides functions to manage plants, users, tenants, and roles.

#### Summary

The overview provides access to superposed administrators with the menus Plants, Users, Tenants, and Roles. The user has access to manage a specific plant, if selected in the overview, with the menus Users, Alarm notifications, Settings, and Operating.

Climatix IC				TEST_CLX V	English (	United States) 🔻	(	pelan@bluewin.	ch 🔻
Dashboards Operati	ng Application sets Administration								
Administration 🕨 Plants									#
Plants	Assigned Unassigned							Activate Pl	ant
Users	Tenant ↑				D Q S	earch			
Tenants	Name 1		<i>"</i>	Description	Country	City	Phone	Address	Zip c
Plant roles	<ul> <li>Tenant: Country-A</li> </ul>								
Pre-register	ABCVXL-XLYMI-6HDQP-AIBQJ-BIG		?	TEST	RU (Russia)	Abaza		TETs	
	DH Tino Dev		<i>"</i>	FS 62254-POL638	CH (Switzerl	Nänikon	3950	Fengzhi Eas	1000
	▼ Tenant: Installer-RegionX								
	44335-POL687	*			CH (Switzerl	Zug		22 Gubelstr	630(
	▼ Tenant: TEST_CLX								
	10638-POL638	÷		Name	SE (Sweden)	Borlänge		Nygårdsväg	781
	GTE-VVS11	*		54807-POL687	DE (Germany)	Berlin	3950	Panoramast	1017
	NEW_TEST_GTE_PLANT		9	107051-POL687	RF (Relaium)	Rruccole			

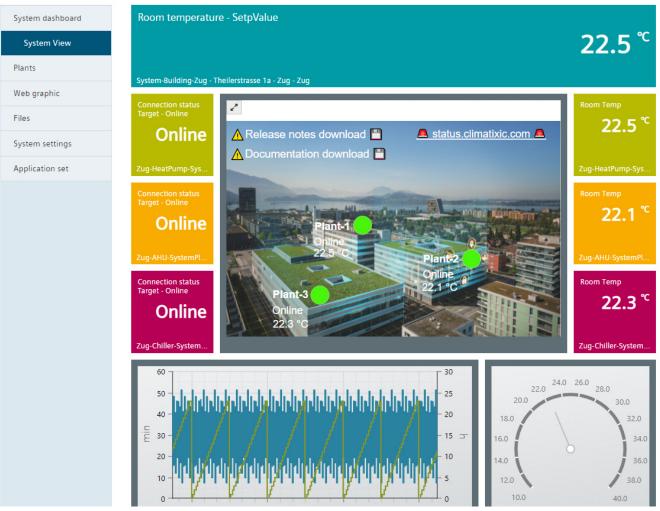
# 12.1 General administration

## 12.1.1 Systems

A new **System** level was introduced as part of deployment D19 to control and monitor plants.

Dashboard Operating Application set Administration Apps

Operating > Systems > System-Building-Zug (Theilerstrasse 1a,Zug,S... + System dashboard + System View



Multiple plants can be groups in a system. The superposed 'System' level displays a summary of all assigned plants.

The system↑ displays the overall state of the system, special system web graphics, system dashboards as well as details on assigned plants. Multiple plants can be monitored at the same time.

Ideally, plants are grouped within a system that has a logical connection. For example:

- Plants in geographically related rooms.
- Plants with the same function.

Tenant Administrators can create systems by setting up a system with specific properties (for example, system names) and then assign it to multiple plants. Plants can be sorted hierarchically within a system.

Systems are displayed in their own menus below the 'Administration' menu--similar to plants' (see "System administration [ $\rightarrow$  202]"):

Dashboard Oper	ating	Applicati	on set	t /	Administration	Apps			
Administration > Systems									
Systems									Create new System
Plants		Tenant 1					a	Q Search	
Users			(11:	•	Name	Description			
Tenants		- Tenant:	TEST_C	X					
Roles			1		System-Building-Paris	System grouping or Site grouping test Group plants to a system Step 1 - D18: Users access are inherit from System to	Plant	t, Summery of alarm 8	& online state Step 2 - D19: Syste
Pre-register			(1:	0	System-Building-Zug	System grouping or Site grouping test Group plants to a system Step 1 - D18: Users access are inherit from System to	Plant	t, Summery of alarm 8	& online state Step 2 - D19: Syste
Third-Party Apps		10 20	50						< 1 >

# 12.1.1.1 Systems: Overview

Detailed information on functionality and operation is available in the following sections:

- Using the System Dashboard: "System Dashboard [→ 83]"
- Basic principle of systems: "Systems [→ 140]"
- Set up a system: "Creating a new system [→ 142]"
- System notifications: "System notifications [→ 203]"
- System user: "System user [→ 202]"
- System settings: "System settings [→ 205] "
- System plants: "System plants [→ 207]"
- Application sets for systems: "application set [→ 208] "
- Operation for systems: "System operation [→ 208] "
- Create system dashboards: "System Dashboards [→ 253]"
- Configuring system graphics: "System graphics [→ 286]"
- Access authorizations to systems: "Using the optimum portal role [→ 382]", table "Portal roles rights matrix"

### 12.1.1.2 Creating a new system

#### Setting up a system

- ▷ You are a Tenant Administrator.
- 1. Go to "Administration > Systems".
- 2. Click 'Create new System'.
- ⇒ A new system is created.
- ⇒ The view switches to 'System settings'.

Dashboard	Operating	Applicati	on set	1	Administration	Apps	0
Administration >	> Systems						
Systems						Create new Sy	stem
Plants		Tenant 1				Q Search	
Users			(0-		Name	Description	
Tenants		* Tenant:	TEST_C	LX			
Roles			1		System-Building-Paris	s System grouping or Site grouping test Group plants to a system Step 1 - D18: Users access are inherit from System to Plant, Summery of alarm & online	e state
Pre-register			((ı-	0	System-Building-Zug	System grouping or Site grouping test Group plants to a system Step 1 - D18: Users access are inherit from System to Plant, Summery of alarm & online	e state
Third-Party Aj	pps	10 20	50			< 1	>

System settings are available in "System settings [→ 205]".

#### Save system

- 1. Go to "Administration > Systems > System settings".
- 2. Click 'Save'.
- ⇒ The system is saved.

Administration >> Systems >> System-Building-Zug (Theilerstrasse 1a,Zug,S... >> System settings

Systems		Save Delete	
System users	Basic Data		
System settings	Name:	System-Building-Zug	
System plants	Description:	System grouping or Site grouping test  Group plants to a system	
Application set		Step 1 - Dis: Users access are inherit from System to Plant, Summery of alarm & online state Step 2 - D19: System Dashboards, Graphic, Files •	
System operating	Application Set:	SystemApplicationSet-1 (Test App.Set for System Structure)	
Plants	Variant:	8088 🗸	
		Find adress	
Users	Address:	Theilerstrasse 1a	
Tenants	Zip-Code:	6300	
Roles	City:	Zug	
	State:	Zug	
Pre-register	Country:	Switzerland 🗸	
Third-Party Apps	Lat/Long:	47.1793577 8.5142114	
		<u>Get coordinates</u>	
	Phone:		
	Timezone:	(UTC+01:00) Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna	
	Customer Settings 1:		
	Customer Settings 2:		

#### **Delete system**

- $\triangleright$  You are a Tenant Administrator.
- 1. Go to "Administration > Systems > System settings".
- 2. Click 'Delete'.
- $\Rightarrow$  The system is deleted.

Administration -> Systems -> System-Building-Zug (Theilerstrasse 1a, Zug, S... -> System settings

Systems			Save	Delete				
System users	Basic Data							
System settings	Name:	System-Building-Zug						
System plants	Description:	Description: System grouping or Site grouping test Group plants to a system						
Application set		Step 1 – D18: Users access are inherit from System to Plant, Summery of alarm & online state Step 2 – D19: System Dashboards, Graphic, Files		•				
System operating	Application Set:	SystemApplicationSet-1 (Test App.Set for System Structure)		*				
Plants	Variant:	Variant: 8088						
Users		Find adress						
Users	Address:	Theilerstrasse 1a						
Tenants	Zip-Code:	6300						
Roles	City:	Zug						
	State:	Zug						
Pre-register	Country:	Switzerland		~				
Third-Party Apps	Lat/Long:	47.1793577 8.5142114						
		Get coordinates						
	Phone:							
	Timezone:	(UTC+01:00) Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna		~				
	Customer Settings 1:							
	Customer Settings 2:							

For details on deleting, for example, dealing with existing data: see "Delete systems [ $\rightarrow$  207]".



Only Tenant Administrators may set up new systems or delete existing ones.

For more information on systems, see "Systems: Overview [→ 141]"

Dashboard Operating

Application set

# 12.1.2 Plants

#### **Display plant BSP version**

In the list of assigned and non-assigned plants, there is an overview of the BSP version of the respective installations. The respective BSP version is displayed here for new installations. Older, existing plants automatically sent this value during deployment D24. Older plants that were not online during deployment send the value the first time they connect to Climatix IC.

- 1. Go to 'Administration > Plants'.
- 2. Click "Column selection"

Administration Apps

- Drag the "BSP version" entry into the header of the table using drag-and-drop [→ 228]. (See also chapter "Search, sort, group [→ 370]").
- A new column "BSP version" displays with the BSP versions of the plants listed in the table.

Systems	Assigned		Unas	signed							_			Activate plan
Plants	Tenant †										4	Q 7 19		
Upgrade		(1-	►	Name 1	System	Index	Description	BSP Version		Service+	Phone	Activ	Column picker	×
Jsers	- Tenant: T	✓ Tenant: TEST_CLX											State	
enants		(0-		ZUG-HRV-			TEST PLANT - M/ F	11.36				ASIL	Time zone	
oles		(1)		Zug-HRV-F	System-Buil	2	VirtPlant-0010-Cv				55-221-839	Y2W4	ASN	
re-register	*	.all	0	7ug-HeatF	System-Buil	1	GTE-PLANT-EnhFr	11.28	8931440		123	E7417	1	
		Ŷ		Zug Chille	System Buil	З	My virtual plant 0					MR02	Serial number	
Digital wallet		-		Plant-D22			DEMO Plant 0006				92-774-882	GIOL		

#### Unassigned plants

The button ""Unassigned" $\uparrow$ " displays new plants, yet to be assigned, as well as hidden plants $\uparrow$  (see "Delete, hide, and replace plants [ $\rightarrow$  217]").

ninistration > Plants													1	
Systems	Assigned	Unassi	gned									Activate	Activate Plant	
Plants	Tenant 1	Tenant 1 Q. Search												
Isers	Assign		•	Name	Description	locid	Service + (Changes will be updated at midnight)	Phone	Activation Key		Customer Plantid	Address	ZipO	
enants	* Tenant: 1	EST_CLX												
oles	$\leftrightarrow$	1		GISNI4-PXNJ5-UXE5R-TIT2C-OFX3E					GISNJ4-PXNJ5-UXE5R-TIT2C					
re-register	$\leftrightarrow$	1		GW7N5U-EKKDD-UDC25-PC5ZI-QV7PU					GW7N5U-EKK0D-UDC25-PC					
Thins-Perty Apps	↔	1		K52V2P-D4GR2-UPAIY-C48YC-ACNGA					K52V2P-D4GR2-UPAIY-C48M					
	$\leftrightarrow$	1		L5QP7X-V4JTE-UH05T-JPWHY-2PHZI					L5QP7X-V4JTE-UHO5T-JPWH	Y-2PHZI				
	$\leftrightarrow$	1		LKSKUX-XHTMS-EXL2K-PCWHL-3DVU4	KUX-XHTMS-EXL2K-PCWHL-3DVU4 LKSKUX-XHTMS-EXL2K					HL-3DVU4				
	$\leftrightarrow$	1	6	LVUVYZ JHUKP UFLIB N3GAV XAF2U	VUVYZ JHUKP UFLIB N3GAV XAF2U LVUVYZ JHUK					V XAF2U				
	↔	1	NBCRE7-A22VS-EPHBB-7XE5W-FFISE						NOCRE7-A2ZVS-EPH08-7XE5					
	↔	1		PZOYFB-I7VAL-URICU-VBGAE-E44TM					PZOYFB-17VAL-URICU-VBGAE	E44TM				
		1		RBHSQU-7XV3Z-UTHX3-ODR2A-T6WXU					RBHSQU-7XV3Z-UTHX3-ODF	2A-T6WXU				

# **Assign plants**

To enable an unassigned plant, click ( $\rightleftharpoons$ ). The plant settings open (see "Plant settings [ $\rightarrow$  212]").

Administration > Plants > 1	TEST NEW D10 SignUp (208 North Mo	ntana > Plant settings		4			
Plants	The plant has been activated.			×			
Plant users	Replacing Plant	Save	Hide / Move	Delete			
Plant notifications	Replacing Plant	Save	Hide I Move	Delete			
Plant settings	▼ Basic data						
Application set	Name	TEST NEW D10 SignUp					
Plant operating	Description	AFJQQQ-XBVRF-PVJNK-4FREA-2A34Y					
Users							
Tenants	Application set	Climatix AHU (4 - POL63 Find the address	88/STD - POL63x control	ler with IP 8 - ▼			
Plant roles	Address	208 North Montana Ave	nue				
Pre-register	Zip code City	59601 Helena					

"Find the address" and "Get coordinates" are available in the Google service to locate the plant on the map.

When Sub-Tenants $\uparrow$  exist below the Main-Tenants $\uparrow$ , the system asks for the tenant $\uparrow$  where the plant is activated prior to displaying the plant settings.

## Activate plant

In addition, the "Activate plant<sup>↑</sup>" button is also available. The function displays a form that queries the activation key in addition to the plant settings. A plant activated in this manner is entered directly in "Assigned<sup>↑</sup>".

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# 12.1.3 Upgrade

Use the upgrade functions to upgrade multiple plants at the same time. Upgrade allows you to:

- Select any number of plants using search and filter functions.
- Select or clear individual plants.
- Set upgrade parameters.
- Set the timeframe for upgrades.
- Upgrade grouped plants simultaneously as a batch.
- Gain a quick overview on the state of the upgrades on various plants and different upgrade tasks.
- ♦ Go to "Administration > Upgrade".
- ⇒ See a list of all planned, current, and completed batch upgrades.

The list of the current number of upgrades is displayed as statistics along with the specific state:

- Planned
- On-going
- Completed
- Failed
- Canceled
- Skipped

Dashboard Operating Application set Administration Apps

nistration > Upgrade									
ystems									New batch upgrad
lants							Ę	Q Search	
pgrade	Name	Start	End	Scheduled	► Running	✓ Succeeded	A Failed	M Cancelled	👼 Skipped
sers	UPDATE-RUN-002	15/02/3023 01:00	15/02/3023 02:00	1	0	0	0	0	0
nants	Berlin	17/03/2023 12:30	17/03/2023 14:00	0	0	0	0	2	0
	UPDATE-RUN-001	16/02/2023 04:00	16/02/2023 05:00	0	0	0	0	4	0

- ♦ Click one of the specified upgrades.
- An overview of update status of batch upgrades and the impacted plants displays.

ministration > Upgrade	> Upgrade_Anlagen-B											
Systems										Cancel batch upgra	de Dele	te batch upgrade
Plants	Tenant [								G	Q Search		
Upgrade	Upgrade status	Name	Description	ICCID	Servicer	Phone	Activation key	Customer plant ID		Address	Zip code	Application s
Users	- Tenant: Counti	ry-A										
lenants .	Scheduled	Berlin Chiller	Mogli (firstly POL448) 169 OCI460				NLV			Alexanderplatz 5	<mark>10178</mark>	Mogli TEST
toles	+ Tenant: Counti	ry-D										
re-register	0	Berlin-HeatPump	plant 0099			J-303-7391	DXG	AL		Alexanderplatz 1	10178	Virtual Plant:
Digital wallet	Scheduled											

0

# 12.1.3.1 Create batch upgrade

## Select plants for upgrade

- 1. Click "New batch upgrade".
  - ⇒ Opens a new window for "Scheduler upgrade".
- 2. Select the plants for upgrade.
  - Use "Filter by application sets" to display the plants (1). Multiple filters can be applied.
- **3.** Highlight the desired plants using flags (2).
- ⇒ Select the plant for upgrade.

		ct the plant for upg	laue.		
ashboard Operati	ing Application set	Administration Apps			
dministration > Upgrade	> Schedule upgrade				
Systems	Filter by application <b>1</b> CI sets:	imatix AHU - TEST Zug-HeatPo	ump	3 Tenant / Schedule b	atch upgrad
Plants	Tenant 1		C s	earch	
Upgrade					
Users	Select all plants	Name	Description	ICCID	Service+
Tenants	▼ Tenant:CLX				
Tenano		Berlin-AHU	TEST-		
Roles	2 🗆	TEST BILLING PLANT offline	PLANT ==> 14.8.2019		
Pre-register		Zug-HeatPump	GTE-PLANT-EnhPriv 107051-POL687	89314404000316872929	
Digital wallet		<u>zug-neatrump</u>	GTE-FLANT-LIMPIN 107051-POL067	07314404000310072929	

10	20	50

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M2M router

# Configure the upgrade

- 1. Click "Tenant / Schedule for batch upgrade" (3).
  - ⇒ The "Configure upgrade" windows opens.
- **2.** Complete the entry fields:
  - Assign a name and comments to the upgrade.
  - Set the start and end times for the upgrade and select to use local plant time or your local time for the upgrade.
  - Specify how often and how long the system attempts to upgrade before canceling the process.
  - Enter an e-mail for notifications.
  - Specify the mapping file, parameter, and BACnet used.

1 >

Name	
Demo upgrade	
Demo upgrade	
Start	
07/03/2023 14:18	•
Start	
07/03/2023 14:21	
Use plant's time zone	
When checked, the plants will be up	dated in the timesnan
of their respective local time zone. Othe	
will be applied to all plants.	rwise, your local time
Name	
60	
Application shutdown timeout (minutes	;)
30	
Retries	
3	
Notify	
Demo-upgrade@siemens.com	
Mapping file Use application set	
Ose application set	•
Parameter	
Use current	*
BACnet	
Use current	~
Comment	

- 3. Click "OK".
- $\Rightarrow$  A batch upgrade was set up and entered in the list of batch upgrades.
- $\Rightarrow$  The status of the batch updates is displayed.

# 12.1.3.2 Cancel or delete a batch upgrade

- 1. Select and click a batch update from the list of setup batch updates.
- 2. Click "Cancel batch upgrade" (1).
- $\Rightarrow$  The batch update is canceled.
- ⇒ The status of the individual plant upgrades changes to "Canceled".
- ⇒ The entry for batch upgrade remains in the list.
- ⇒ The upgrades of individual plants are displayed as "canceled" in the batch upgrade statistics.
- Click "Delete batch upgrade" (2).
- ⇒ The batch update is deleted. The entry for the batch upgrade is deleted from the list.

ashboard Oper	ating Application set	Administrat	tion Apps				
dministration > Upgrade	e > Demo-Upgrade_Anlagen-B						
> <u>Systems</u>					Can	cel batch upgrade	Delete batch upgrade
Plants	Tenant 1			Ę	Q Se	arch	2
Upgrade	Upgrade status	Name	Description	ICCID	Service+	Phone	Activation key
Users	✓ Tenant: Country	/-A					
Tenants	Scheduled	Berlin-Chiller	stly POL448) 169-OCI460				NLWTSA-
Roles	<ul> <li>Tenant: Country</li> </ul>	/-D					
Pre-register	0	Berlin-HeatPump	plant 0099			47-729-303-7391	IXGMDQ-
Digital wallet	Scheduled						
M2M router	10 20 50						< 1 >

# 12.1.4 User

The Tenant Administrator creates a new user with portal rights in this menu, e.g. as another Tenant Administrator.

It is normally sufficient to set up a normal user (e-mail account and user Role) at "Administration > Systems > [my system] > System user or "Administration > Plants > 'my plant' > Plant user". The user automatically receives the "User" portal role.

The user's e-mail account is specified under "Basic data" when creating it. In addition, an expiration date for the user's access to the portal can be specified.

• If an expiration date is specified, the user is informed by e-mail when the access period expires.

lant users	▼ Basic Data	
Plant notifications	E-mail address	@gmx.ch
Plant settings	Expires after	
opplication set		
Plant operating	▶ Plant Roles	< MAY 2020 >
rs		SUN MON TUE WED THU FRI SAT
ants		X X X X X X X
nt roles		××× × 6 7 8 9

Dashboard	Operating	Application set	Administration	Apps	0
Administration	> Plants > Zug-H	eatPump (Zählerweg 9,Zug	g,GTE-PLANT > Plant u	ers → @gmail.com	7

ystems			Save	Delete
lants	• Basic Data			
Plant users	▼ Roles			
Plant notifications	User	User operates plant with SCOPE security level read/write. User operates plant with Web-Graphic access.		
Plant settings	Service	User operates plant with SCOPE security level. User manages plant upgrade. User operates plant with Web-Graphic access.		
Application set	Owner	User operates plant with SCOPE security level. User manages user accounts, plant settings and plant upgrades. User operates plant with Web-Graphic access. (default user for self registration)		
Plant operating pgrade	Enduser	User operates plant with SCOPE security read level. User operates plant with Web-Graphic access.		
lsers	System User Role	System User role to access plants within a system.		

Additional information

- "Portal role of an application-related role [→ 381]" includes an overview of portal roles.
- Take note of the explanations provided directly next to the selection of roles.

# 12.1.4.1 Create new administrator and assign roles

A Tenant Administrator can create a new administrator for specific roles or function within its tenant area.

The Tenant Administrator invites the new administrator to save the e-mail address to Climatix IC and assign the desired administrator rights to the address. A request to log in to Climatix IC is sent to this e-mail address.

The new administrator role is confirmed and activated by logging in as the new administrator in Climatix IC.

#### Set up and invite a user as a new administrator

- > Own administrator rights are available for the currently set tenant.
- > The e-mail address is available for the new administrator.
- 1. Go to 'Administration > Users'.

Dashboard Operation	ng Application set	Administration	Apps Aları	m Dashboard 🐄	Rule Editor **	Y		0
Administration > Users								
Systems	By Tenant By	Tenant and Role					a	Create new admin
Plants	Tenant T Sub-	Tenant 1 <b>T</b>						G
Upgrade	Email addre	SS	Ļ	Login provider	R	oles	Contact person	Phone
Users	Q gmail					user		
Tenants	CLX							
Roles	<ul> <li>Main-Tenan</li> </ul>	t						
Des register	1@	<u>gmail.com</u>		CIAM Service	U	lser		
Pre-register		22@gmail.com		CIAM Service	U	lser		
Digital wallet	b	1@gmail.com	С	<u>Reinvite</u> <u>Revoke</u>	d u	lser		
M2M router	-	@gmail.com		CIAM Service	U	lser		
Third-Party Apps		@gmail.com		CIAM Service	U	ser		

- 2. Select 'Create new admin' (a).
  - $\Rightarrow$  A new window opens.
- **3.** In 'Basic settings > E-mail address' (1), enter the new administrator's e-mail address.
- In 'Roles' (2), select the rights for the new administrator (See 'Assign administrator roles [→ 154]'.)
- 5. Click 'Save' (3).

	General a	administration							
Dashboard	Operating	Application set	Administration	Apps	Alarm Dashboard ***	Rule Editor			0
Administration >	Users								#
Systems								3	Save
Plants		Basic data							
Upgrade		Tenant		_(	ELX				
Users		1 Email address							
Tenants		2 Roles							

- A new administrator is created and displays in the list of available administrators (b).
- ⇒ The new administrator has the required rights.
- An e-mail is sent automatically to the e-mail address entered for the new administrator with an invitation to access the tenant in Climatix IC.
- ⇒ The user must login the first time to change the roles for the new administrator.

#### Re-invite the new administrator

- ▷ A new administrator is set up and the e-mail address displays in the list of available administrators.
- > The newly invited administrator has not yet activated the administrator account.
- ▷ The column Login Provider displays both options 'Re-invite' and 'Revoke'.
- 1. Select 'Re-invite' (c).

Administration menu

- ⇒ The window 'Re-send invitation e-mail for user' opens.
- 2. Confirm with 'Yes'.

Re-send	invitation e-	mail for user
Are you sure	e you want to re-sen	d invitation e-mail for this user?
	Yes	No

⇒ The re-invite e-mail is sent to the user's e-mail address.

## Revoke the invitation to the new administrator

- ▷ A new administrator is set up and the e-mail address displays in the list of available administrators.
- > The newly invited administrator has not yet activated the administrator account.
- > The column Login Provider displays both options 'Re-invite' and 'Revoke'.
- 1. Select 'Revoke' (d).
  - ⇒ The window 'Revoke invitation for user' opens.
- 2. Confirm with 'Yes'.

Revoke	invitation fo	or user	3
Are you sur	e you want to revo	oke the invitation for this	user?
- [	Yes	No	

- ⇒ The invitation is revoked to Climatix IC for the user.
- ⇒ The e-mail address for the new user is deleted from the list of tenants.
- $\Rightarrow$  The user can log in to Climatix IC.

# 12.1.4.2 Assign administrator roles

A Tenant Administrator can assign administrator roles to an existing user within a tenant.

The selection options for each role are restricted in order to exclude illegal combinations of rights within an administrator role:

- Main administrator roles
  - A single role can be selected.
  - Secondary administrator roles
    - Multiple selection of roles possible.

Apps Alarm Dashboard Rule Editor

- Some roles can only be assigned by Main-Tenant Administrators.
- Plant user roles

Administration

Application set

A role can be selected/cleared.

For a detailed description of the function: See text to the right next to role designation.

The strength of the individual roles is described in the appendix in section "Using the optimum portal role [ $\rightarrow$  382]".

stems		Save Dele
lants	Basic data	
lpgrade	Roles	
Jsers		
	Main administrator roles	
enants	TenantAdministrator	This admin role allows the user to pre-register, activate and manage plants and users for the allocated Main-/Sub-Tenant with plant access level as Administrator (OZW) or Security-0 (POL).
oles	Operations	This admin role is intended for a user that has a support role. This user is allowed to activate plants, check users for the
Pre-regist <mark>e</mark> r		allocated Main-Sub-Tenant on an admin level, read application sets and has read plant access. He has access rights to search plants and check the status on an admin level.
Digital wallet	TenantSiteViewer	This admin role allows the user to pre register and activate plants for the allocated Main /Sub Tenant, without plant acco
	TenantUser (Service Operation)	Allows access to all tenant's plants using privileges from a configured plant role.
/I2M router	TenantAPIUser	This administrative role can access all readonly API endpoints.
hird Party Apps	Secondary administrator relat	
	Secondary administrator roles Application/dministrator	This admin role allows the user to view and edit the Application sets for the assigned Tenant
	TenantBillingAdministrator	This administrate allows the user to view and early the Application Sets for the assigned rename This administrate allows the user to read the billing status and history for the assigned Tenant.
	TenantBillingViewer	Allows the user to view digital wallet for the assigned tenant.
	RemoteToolAccess	Allows the user to access all plants via Remote tool access.
	LicenseManager	Allows the user to manage device licenses.
	AlarmDashboardUser	It is administrative role can access the "Alarm Dashboard" app.
	RuleEditorUser	This administrative role can access the "Rule Editor".
	ScriptingRuntimeUser	This administrative role can access the "Scripting Editor" section under Apps
	ApiTechnicalUser	It is administrative role can access the "Developer API" section under Apps and use Try-it there.
	Plant user roles	
	User	This is a plant/system related role as "User", e.g. Owner, Service, Enduser.
	Systems	
	Plants	

**Note**: The 'TenantAPIUser' can only be assigned by the Main-Tenant Administrator or Sub-Tenant Administrator with their own digital wallets.

Dashboard

Operating

0

# 12.1.4.3 Check access to systems and plants

Tenant Administrators can check what access permissions an individual user has within the tenant. For this purpose, the user can call up an overview of these access rights for systems or plants.

#### For systems

- ♦ Go to 'Administration > Users > [User to review] > Systems'.
- ⇒ All user access permissions to systems in the tenant are displayed.

Plants     Basic Date       Users     Roles       Trenants     Systems       Roles     Image: Comparison of the system sector of the system se							
Isers     Roles       enants     Systems       oles     Q       Name     Description       System-Building-North     System grouping or Site grouping test Group plants to a system Step 1 - D18: Users access are inherit from S     Tenant     Role name       System-Building-North     System grouping or Site grouping test Group plants to a system Step 1 - D18: Users access are inherit from S     Service	ystems			Save	Unlin	ik external acco	Delete
Systems       Des     Q. Search       eregister     Name     Description       2M router     System-Building-North     System grouping or Site grouping test Group plants to a system Step 1 - D18: Users access are inherit from Spice of Service	ants	Basic Data					
Name     Description     Tenant     Role name       System-Building-North     System grouping or Site grouping test Group plants to a system Step 1 - D18: Users access are inherit from S <sub>2</sub> Service	iers	Roles					
Name     Description     Tenant     Role name       2M router     System-Building-North     System grouping or Site grouping test Group plants to a system Step 1 - D18: Users access are inherit from Sports     Service	enants	Systems					
Image: Control of the second	oles			G	Q Search.		
	e-register	Name	Description			Tenant	Role name
System-Building-Zug System grouping or Site grouping test Group plants to a system Step 1 - D18- Users access are inherit from St. CLX System User Rol	2M router	System-Building-North	System grouping or Site grouping test Group plar	its to a system Step 1 - D18: Users access a	re inherit from Sy	Same Inter	Service
Ind-Party Apps	ird-Party Apps	System-Building-Zug	System grouping or Site grouping test Group plar	its to a system Step 1 - D18: Users access a	re inherit from Sy	_CLX	System User Role

# For plants

- ♦ Go to 'Administration > Users > [User to review] > Plants'.
- ⇒ All user access permissions to plants in the tenant are displayed.

nistration > Users >	@gmail.com			
ystems			Save Unlink external a	accounts Delete
ants	Basic Data			
sers	Roles			
enants	Systems			
bles	Plants			
e-register			Q Search	
2M router	Name	Description	Tenant	Role name
ird-Party Apps	AHU v4 C600	Michael Teanach	Siemens SE GC	User
	HOEMEOFFICE OZW772	Jevice 6KCG7H-ESGUI-6LBA7-ACQAH-7KJHA	OZW	Owner
	Main-Horizon -POL688	horizon 10486764-POL688	SmartAlarm	Owner
	SUB-POL687-GTE	67691-POL687 App GTE	_SmartAlarm-SUB1	Owner
	PLANT1	ABCFJW-CIUMI-6JH5I-ACQAH-7NIJM	_GET_CONNECTED	Owner
	Plant-0001-4DP	plant 0001	Date: DBD	Owner
	Plant-0002-21DP	plant 0002	Danie (DED)	Owner
	Plant-0003-1004DP	plant 0003	Date (1983)	Owner
	tPlant-0003	plant 0003	CLX	Owner
	tPlant-001	plant 001	KIOSK-MODE	Owner

# 12.1.5 Tenants

## Summary

The overview displays tenants available to you (main and Sub-Tenants).

The Tenant Administrator and Tenant Billing Administrator can query the "Billing reports" here.

- The last monthly bill
- "All billing reports"
- In the "Billing" column, the individual reports for the main and Sub-Tenants

## Function: Create new tenant

Creating tenants and available variants (e.g. export/import) is described in section "Set up Sub-Tenants [ $\Rightarrow$  36]".

Select a (your) tenant for functions described below.

# 12.1.5.1 Basic data/tenant key (distributor)

## **Basic Data**

#### Name, description

Enter the corresponding designations here.

#### Country

Under Main-Tenant↑, enter the tenant's contract country. It is the country where the tenant agreement (Digital Service Agreement) was concluded with the Siemens regional company.

#### Active

Dashboard Operating Application set

Administration Apps

You can disable a Sub-Tenant.

#### Tenant key (distributor)

You can read the tenant key (distributor) in the Basic Data area. "Glossary" has additional information on the tenant key (distributor).

ystems			Export template	Save
ants	Name	_CLX		
pgrade	Description	CreditBased & Service+ 2days free CustomerName:		
sers		Carlone 1000		
nants	Country	Switzerland		
	Active	12		
Settings	Tenant key (Distributor)	3950		
API account	Hidden for other domains			
Application info	Max. cloud event history entries (fallback)	50		
	Max. cloud event storage duration (fallback) [days]	10		
ey performance	Max. command history entries	10		
lilling	Max. command history storage duration [days]	10		
anned domains	Sender email address for administrative tasks	noreply@com		
	Connection supervision (Default)	On		
lant users	Number formatting	Simple (15728640)		
'S	Operating landing page option	Dashboard		
register	Operations role access level	0		
tal wallet	User inactivity period before email notification [days]	365		

#### "Tenant-key figures"

Basic Data also publishes tenant-specific key figures that are informative and useful to the Tenant Administrators. Sub-Tenants have the same key figures as their Main-Tenants.

#### E-mail address of the sender for administrative tasks

A tenant can automatically inform its users per mail. The send address is saved here.

#### Default connection supervision

The default connection supervision (triggers an e-mail if the plant goes offline) can be disabled.

Third-Party Apps

#### Number formatting

Selection as "Simple" (example: 15728640), "With thousand separator" (example: 15,728,640) and "Large numbers" (example: 16M). The setting applies for the entire tenant and has a 1:1 impact on the depiction of the data point under "Operation > 'my plant' > Data points". The display also considers local convention derived from the browser.

The diagram labeling and ruler are prioritized using the following criteria:

- Large numbers are displayed in space-saving fashion on the axis.
- The ruler displays the exact, complete value.

#### Operating landing page option

Selecting "Dashboard" or "Web picture" sets the start menu for systems or attachments at tenant level.

Depending on the selection, when accessing the plant ("Operation > Systems > [my system]" or under "Operation > Plants > [my plant]")

- either the associated plant dashboard
- or the associated Web graphic

is displayed.

#### Access level "Operations role"

Whereas the portal role tenant-admin has full rights and the portal roles tenant site viewer, application admin and tenant billing admin have no plant rights, it may make sense to assign (limited) plant access to the portal role "Operations". The setting "Operations role access level" can predefine the plant access level (for the role "Operations") for the entire tenant.

Any role defined on a specific plant overrides the tenant-wide default rights of "Operations".

#### Time period of inactivity by the user prior to e-mail notification [Days]

The Tenant Administrator can set a time frame to automatically clean up the tenants of unused user accounts. The e-mail address associated with the account is notified of an impending deletion of the account in the event of inactivity:

- Enter the number of days before notification of inactive accounts.
- All user e-mail addresses at the tenant without activity receive an e-mail after this period. The content of the e-mail notification can be customized via Rebranding.
- ⇒ The system cannot distinguish between inactive accounts requiring notification and inactive accounts that do no not.

#### Time period of inactivity by the user prior to delete [Days]

The Tenant Administrator can set a time frame to automatically clean up the tenants of unused user accounts. The account is deleted for inactivity:

- ♦ Enter the number of days before deleting inactive accounts.
- All user e-mail addresses without activity, stored at the tenant, receive an email seven days prior to deleting the account notifying the user that the account will be deleted if there is no activity within that time. The content of the e-mail notification can be customized via Rebranding.
- All user e-mail addresses without activity, stored at the tenant, receive another e-mail one day prior to deleting the account notifying the user that the account will be deleted if there is no activity within that time.
- All user accounts stored at the tenant are deleted if there is no activity within that time.
- ⇒ The system cannot distinguish between inactive accounts requiring deletion and inactive accounts that do not.

Siemens default tenants are set to automatically delete an account after 3 years (1095 days) without activity.

## **Overview of inactive accounts**

Menu 'Inactive user [ $\Rightarrow$  181]' provides a quick overview of all inactive and reported accounts for a Tenant Administrator.

# 12.1.5.2 API accounts

API programming in the API portal is designed as a rule to be independent of the Climatix IC concept.

Developer APIs require 'Keys' ('Primary key' and 'Secondary key') to test and ultimately publish code. Climatix IC offers a user interface with 'API accounts' that generate 'Keys' via the user interface to support organizational workflows.

	NOTICE
i	<ul> <li>Climatix IC does not actually generate the keys; it merely houses the process.</li> <li>Of course, you can still generate keys as always in the API portal.</li> </ul>

A typical scenario can be described as follows:

An OEM tenant with subscription that includes the API function package (IC30, IC40) contracts one or more (internal or external) API/APP developers to program APPs in the tenant area. The programmers receive the aforementioned keys.

#### **Procedure in API accounts**

- ▷ Your tenant has a subscription↑ with API function package (IC10, IC30, IC40).
- $\triangleright$  You have the role of Tenant Administrator.
- 1. Go to "Administration > Tenants > Area: API accounts".
  - ➡ The menu 'API accounts' is enabled as part of the subscription to the API function package. The key is stored there.
- The key is used for API development and testing (see section 'Documentation [→ 303]').
- 3. The key can be regenerated as needed.
- 4. On how to use API keys: See next section 'API Key [ $\rightarrow$  160]'.

# **API Key**

The API keys are not linked to the user's email address. API accounts are provided in the Tenant Administrator based on order type (see section 'API accounts  $[\rightarrow 160]$ ').

Existing, personal API accounts with a registered email address remain. But new, personal API accounts can no longer be created. (see section 'Old API accounts  $[\rightarrow 162]$ ').

Two API keys are provided per API account:

- Development key
  - Limited to 10 queries/second
  - The development key is used to develop and test new API applications.
  - The development key cannot be used in operational environments.
- Production key
  - Limited to 500 queries/second
  - The production key is used on an operational system.
  - Only a Tenant Administrator can query the production key.

Dashboard	Operating	Application set	Administration	Apps			6
Administration >	Tenants >	CLX > API account					
Systems		API keys					
Plants					G	Q Search	
Upgrade		Product				Туре	
Users		639f7eb5-b863-47	ec-bb88-	- Development		Development	
Tenants		639f7eb5-b863-47	/ec-bb88-	- Production		Production	
Settings		10 20 50					< 1 >
API accour	nt						
Applicatio	n info	Legacy API accounts					

- Access to API keys:
- 1. Go to 'Administration > Tenants > [My Tenant] > API account'.
- 2. Development key: Click the product in the 'Development' row.
- 3. Production key: Click the product in the 'Production' row.
  - ⇒ This opens a new window 'API product details'.
  - ➡ It displays one primary and one secondary key each for development and product (the key is hidden):

API product de	etails		×
Primary key	•••••	•••••	Regenerate
Secondary key	•••••	••••••	Regenerate
			Close
Click the <sup>●</sup> icc ⇒ The key displ			
	ays:		×
➡ The key displ	ays:	2a0878 👁	Regenerate
➡ The key displ API product de	ays: etails	2a0878 👁 186dad 👁	

- 5. Highlight the desired key and right click or copy (copy and paste).
- ⇒ The API key is ready for use.

An existing primary or secondary API key "Development" can be added directly to 'Developer API' without first going to the 'Administration' menu. See Section Documentation [→ 303]

i

The development key and production key can be regenerated:

- 1. In 'API product details' click 'Regenerate' on either the primary or secondary key.
  - ⇒ This opens a mask to confirm key regeneration.
- 2. Click 'Yes'.

Regene	rate key		
Are you sure	e you want to re	generate the pri	mary key?
	Yes	No	

 $\Rightarrow$  The selected key is renewed.

# **Old API accounts**

Personal API accounts are still available or can be deleted as needed. New personal API accounts can no longer be created.

					NOT	ΓΙCΕ	
	!		Once	e deleted, a pe	on of pe	ersonal API accounts API account can no longer be retrieved since there is create personal API accounts.	
Dashboard	Operating	Application	on set	Administration	Apps		0

stems	API keys		
ants	Legacy API accounts		
lpgrade		Q Search	
sers	Email address	State	
enants	@gmail.com	active	Delete
Settings	l@gmail.com	active	Delete
API account	@siemens.com	active	Delete
Application info	@gmail.com	active	Delete
Application info	<u>r@gmail.com</u>	active	Delete
Key performance	10 20 50		< 1

i

Recommendation: Delete any unused personal API accounts and use only accounts created by the Tenant Administrator.

# 12.1.5.3 Default data for plant settings

A Tenant Administrator can prepare default data for import. As a counterpart, the default data must be prepared and loaded using the SCOPE tool. Entries of the same name in the cloud act as keys for the mapping name prepared in SCOPE. The SCOPE items "ApplicationInfo" are typically used in the Diagnostic folder. All SCOPE items can be used as a rule, however.

A result, for example, is that the entire controller series signs in to the cloud using the default information (default first time commissioning).

The mechanism described here only works at initial login or after completely deleting the plant and reassigning it.

#### Proceed as follows:

i

Name	Value Read	Value Write	Dimension	Comment	
ApplicationInfo4 - INFO4	myTestplant_Descrip	myTestplant_Desc	iption		
ApplicationInfo5 - INFO5	Gubelstrasse 22	Gubelstrasse 22			
ApplicationInfo6 - INFO6	Zug	Zug			
ApplicationInfo3 - INFO3	myTestplant	myTestplant			
				Edit Watch Item	
				Object 0x0020 0x00000001	
wserfor Data Points				Name	
				%N - INFO3	
AutoStn - (aoDevice)      EnableObjects - (Col	nation)	Member	Name	Manalan	
EnableObjects - (Col SystemObjects - (Col		0x1000 0x1001	FullSize	Mapping	
+ ComExtension - (Col			Dynamic Size	Automatic: 21CBN	ISBEZUJU0
Diagnostic - (aoDiag		0x1100	DisplayName	Definable: INFO3	
⊕ Cmn - (aoUnit)		0x1200	EnumParaLoad BitFilter	Demable. Intros	
		0x1102	Bithiter EnumBesetCause	JSON	Cloud
		0x1201 0x0000	Application Info 1		
		0x0000		C Automatic	C Automatic
PdcFeC - (aoUnit)		→ 0x0001	Application Info2 Application Info3	Definable	O Definable
i - Pdc - (aoUnit)		$\rightarrow 0x0002$	Application Info4		
		$\rightarrow 0x0003$ $\rightarrow 0x0004$	Application Info5	COV	
		→ 0x0004	Application Info6	0	0
		0x0005	CycleTimeActual		0
		0x0007	Cycle Time Average	Read Member and S	Security Level
		0x0008	CycleTimeMin	0x0002	
		0x0009	CycleTimeMax	J0x0002	<empty level="" security=""></empty>
		→ 0x000A	Cycle Time Reset		
		0x000B	MSRFailure	Write Member and S	
		0x000C	MSRFailureType	0x0002	<empty level="" security=""></empty>
		0x000D	MSRStartupFinished		
		→ 0x000E	FactoryRestore	Comment	
		→ 0x000F	FactorySave		
		→ 0x0010	OEM-FactoryRestore		
		→ 0x0011	OEM-FactorySave		
		→ 0x0013	ApplicationDefault		OK Cancel

#### In the SCOPE tool > SCOPE tool is open with a project and connected to the target controller.

- ▷ "Browser for Data Points" displays.
- > Watch pages with a target watch page for the default data is displayed.
- 1. In the browser, go to Diagnostic.
- 2. Enter the desired data in write access ApplicationInfo3 to ApplicationInfo6.
- 3. Drag ApplicationInfo1 through ApplicationInfo6 to the target watch page.
- 4. Right-click the item and select "Edit item...".
- **5.** Ensure that Cloud/Definable is enabled. Thus the entry is considered for Definable.
- **6.** In the Mapping pane, under "Definable" enter the cloud mapping name, e.g. INFO3.
- 7. Save the watch pages.
- **8.** Under Mapping Support, generate the mapping files (double-click GenericCloud to highlight Mapping Support as changed-with a star).
- 9. Save Mapping Support.

Apps

**10.** Stop the application and load the mapping to the controller using the loader.

#### In Climatix IC

Dashboard Operating Application set Administration

istration > Tenants >	CLX > Application info mapping		
stems			Save
ints	Mapping ID for the name	INFO3	
grade	Mapping ID for the description	INFO4	
ers	Mapping ID for the address Mapping ID for the zip code	INFO5	
nants	Mapping ID for the city	INFO6	
Settings	Mapping ID for the state		
API account	Mapping ID for the country Mapping ID for the application set name	INFO1	
Application info	Mapping ID for the application set version		
Key performance	Mapping ID for the ICCID		
Billing	Mapping ID for the customer plant ID		
Banned domains			

- **1.** Go to "Administration > Tenants > 'my Tenant' > Area: Mapping application information".
- **2.** Enter the suggested content in the corresponding cloud mapping name to connect to the controller data.

Roles Pre register M2M router Third-Party Apps

#### Result

We recommend a waiting time of 5 minutes from connecting to the Ethernet and starting the "Unassigned" menus.

Dashboards	Operating	Applicatio	in sets	- Yuan	inistration			
dministration	▶ Plants							
Plants		Assigned	Unassign	ed				
Users		Drag a colu	mn header	here	to group by that column	Ð	Q, Search	
Tenants		Name	Ť	3	Description	Addres	is	
User Roles		myTestolan		3	myTestplant_Descrip	Gubels	trasso 22	

The mapped default data is already visible in the "Unassigned" tab. The information on the plant is available in plant settings once assigned.

Plant users	The plant has been assigned.			×
Alarm notifications	Replacing Plant	Save	Hide	Delete
Plant settings	Replacing have	5070	Hide	belete
Operating		_	_	
	Name	myTestplant		
	Description	myTestplant_Des	crip	
	Application set	<no application<="" th=""><th>set&gt;</th><th>•</th></no>	set>	•
	Address	Gubelstrasse 22		
	Zip code			
	City	Zug		

# Automatic assignment of application sets on plants

Tenant Administrators can simplify plant commissioning. The variant of an application set in field 'Mapping ID for the application set version' can be entered to this end.

- 1. Go to "Administrators > Tenants > Mapping application information".
- **2.** Assign the desired ID feature.
- ⇒ The application set version is uniquely identified.
- ➡ The plant must be linked to the application set version as included in the entered Mapping IDs.

nistration > Tenants >	CLX > Application info mapping		
ystems			Save
lants	Mapping ID for the name	INFO3	
pgrade	Mapping ID for the description	INF04	
	Mapping ID for the address	INFO5	
sers	Mapping ID for the zip code		
enants	Mapping ID for the city	INFO6	
Settings	Mapping ID for the state		
	Mapping ID for the country		
API account	Mapping ID for the application set name	INFO1	
Application info	Mapping ID for the application set version		

Climatix IC automatically assigns the latest application set version if no version number is entered.

		Assigning application sets under the same name, but with different versions The ID feature 'Mapping-ID for the name of the application set' to assign a specific application set to a plant. The ID of the application Cloud Item is entered here. The
		content of the Cloud Item is added to the duration and taken over in the plant setting.
		You can determine the assignment using the application set using the correct Device ID if an application set is used multiple times.
		To assign the correct version of an application set to a plant:
		1. Enter the name of the application set in the 'Mapping-ID field for the name.
		<b>2.</b> Enter the version of the application set in the 'Mapping-ID field for the version.
		⇒ The application set with the correct name is connected to the plant.
		⇒ The application set with the correct version is connected to the plant.
		The menu 'Plant settings' displays the application set with the correct name and variant:
Dashboard	Operating	Application set Administration Apps
Administration	Plants > :F	Plant-0NaN (7541 Herman Mission,West > Plant settings
Systems		
Plants		▼ Basic data

Plant users	Name	Plant-ONaN
Plant notifications	Description	plant ONaN
Plant settings		
Application set	Application set	App_set (Application_set_data for user)
Application set	Application set Variant	App_set (Application_set_data for user) V100

# 12.1.5.4 Key performance indicators (KPIs)

The home page 'Map' displays the geographic location of your plants or systems using a color code that reflects a KPI (Key-Performance-Indicator). Intuitive, the color green represents an OK state, yellow for warning, and red means the indicator is not OK.

[**i** 

You must define the longitude/latitude of your plant or system for it to appear on the map. See "System settings [ $\rightarrow$  205]".

## KPIs for systems and plants

KPIs can be set up for systems for plants. The corresponding setting is made on the KPI level (see below, section "Syntax for KPI data point ranges").

Depending on the selection, a KPI is displayed automatically on the dashboard on the map for system or on the map for plants.

Normal data point IDs are used for system KPIs. Specific system tokens are not required.

## Step-by-step guide to setting up a KPI

A system or plant data point is selected below on the SCOPE project and defined as KPI for the "Map".

- ▷ SCOPE tool is open with the project loaded on the target controller.
- ▷ "Browser for Data Points" is open.
- In the 'Browser for Data Points', go to a data point that can accept multiple states (multistate) and is available and typical for all plants or systems in the tenant space.

Member	Name	Value	
0x1000	FullSize	148	
0x1001	DynamicSize	6	
0x1100	DisplayName	OpM	
0x010D	InstanceName	CapCil.OpM	
0x1101	Status Text	Null*Off*Clg*Htg*Dfr	States
0x0135	NumberOfStates	4	
→ 0x0100	PresentValue	Off (1)	
→ 0x0106	OutOfService	Passive (0)	
→ 0x5000	CommunicationInfo	0	

The 5 states in the example have one-up numbers 0...4 that can be addressed in the KPI.

- **1.** For example, drag-and-drop the PresentValue of the selected data point to a watch page prepared for the KPI.
  - ⇒ "Edit Watch Item" displays.

# In SCOPE tool

Edit Watch Item
Object
0x230B 0x549F4889
Name
2(T - 2(N)
Mapping
Automatic: 6WHH6KRM1N2G8R
Definable: 1-OPERATING_MOD
I JSON I Cloud
O Automatic
Definable     Definable
0
Read Member and Security Level
0x0100 <empty level="" security=""></empty>
Write Member and Security Level
0x0100 <empty level="" security=""></empty>
Comment
I
OK Cancel

- **2.** Ensure that "Definable" is selected under "Cloud". Thus the entry is considered for Definable.
- **3.** Modify the entry under definable as needed.
- 4. Save the watch page.
- **5.** Double-click GenericCloud to force a change marking in Mapping Support, indicated by a small star.
- 6. Save Mapping Support.
  - ⇒ Check the date in the loader of the mapping file. It must be up-to-date.
- 7. Stop the application, load the mapping file, and restart the application.

#### In Climatix IC

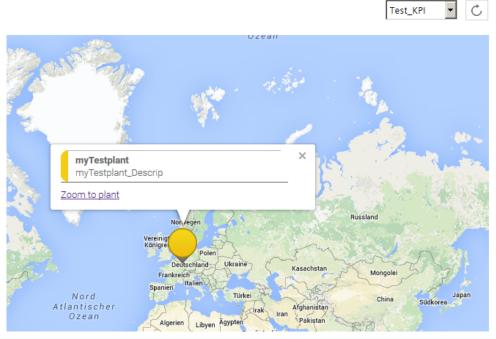
- $\triangleright$  You have the portal role<sup> $\uparrow$ </sup> Tenant Administrator<sup> $\uparrow$ </sup>.
- 1. Go to "Administration > Tenants↑ > 'my tenant' > Pane: Key performance indicators".

	Plants			
	Users	,	Basic Data	
	Tenants	•	<ul> <li>Plant settings default data</li> </ul>	a
Edit Watch Item		•	<ul> <li>Key performance indicato</li> </ul>	ors
Object 0x230B 0x549F4889				
Name			KPI Datapoint ID	Name
<mark>%T - %N</mark>			1-OPERATING_MOD	Test_KPI
	RM1N2G8R		Datapoint ID	Datapoint name
Definable: 1-OPERA				
SON ISON	Cloud			
C Automatic	C Automatic			
© Definable	O Definable			

- 2. Transfer the definable entry from SCOPE to "KPI Mapping ID" in Climatix IC.
- 3. Name the KPI appropriately.
- 4. Click the symbol "Edit all languages", to translate the KPI names on the right side in all desired languages. For translation, you can use the token↑ [PlantsCount] that displays the number of plants or systems.
- 5. Assign the data point states to the KPI states (see the next Section).
- 6. Save the KPI entry.

#### Result

- 1. Go to "Dashboards > Map".
- 2. In the KPI list box (top right), select your configured KPI.



All plants or systems with geographic coordinates are displayed on the world map showing the data points for the KPI.

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Key performance in

Tip: Switching between various KPIs can result in an unfavorable map section. Press Ctrl + F5 to display the updated version of the world map and data.

#### Syntax for KPI data point ranges

The following graphic illustrates how easy and flexible it is to configure ranges for the KPI.

PI Mapping ID	Name	Available for	•		•	
SYSTEM ResetCause	ResetCause	🗹 Plants 🗔 Systems	0	1,2	3	G
YSTEM]UpgradeAllowed	UpgradeAllowed	Plants Systems	1	0	2	9
YSTEM]UpgradeRequest	UpgradeRequest	Plants 🗹 Systems	0	0	1	9
BASTG56VR7OARB	MV001-Value	Plants 🗌 Systems	0,3,6,9	1,4,7,10	2,5,8	c
apping ID	Datapoint name	Plants 🗍 Systems	0	1	2	5

## Address system data points

Always use the following syntax to address system data points:

System data point	KPI data point ID syntax
Target - ResetCounter	[SYSTEM]ResetCounter
Target - SD:CardIn	[SYSTEM]SDCardIn
Target - OperationalTime	[SYSTEM]OperTime
Diagnostic - MSRFailure	[SYSTEM]AppFail
Diagnostic - MSRFailureType	[SYSTEM]AppFailType
Diagnostic - ResetCause	[SYSTEM]ResetCause
CSL-Config - UpgradeAllowed	[SYSTEM]UpgradeAllowed
CSL-Config - UpgradeRequest	[SYSTEM]UpgradeRequest

## Translate KPIs

KPIs can be translated. The following graphic outlines how to go to the translation menu:

9 Datapoint I		Name	-		<b>_</b>	-	
SYSTEM]Res	etCa	ResetCause	0	1,2		3	9
SYSTEM]U	Key perfo	rmance indicators	5				9
I3ASTG56	Language	Language	Name	Green marker text	Orange marker text	ked marker text	Q
Datapoint I	cs-CZ	čeština (Česká republ					9
	da-DK	dansk (Danmark)					
	de-CH	Deutsch (Schweiz)	ReglerNeustart	grün [PlantsCount]	Gelb [PlantsCount]	rot [PlantsCount]	
	de-DE	Deutsch (Deutschland)	ReglerNeustart	grün [PlantsCount]	Gelb [PlantsCount]	rot [PlantsCount]	
	el-GR	Ελληνικά (Ελλάδα)					
	en-GB	English (United Kingd	ResetCause	green [PlantsCou	orange [PlantsCo	red [PlantsCount]	
	en-US	English (United States)	ResetCause	green [PlantsCou	orange [PlantsCo	red [PlantsCount]	
	es-ES	español (España, alfa					
	et-EE	eesti (Eesti)					
	fi-Fl	suomi (Suomi)					
	fr-FR	français (France)					
	hu-HU	magyar (Magyarország)					
	·· · -	10.16 AC 10.5					

## Inherit KPIs from Main-Tenant and Sub-Tenant

All KPIs are inherited as a rule from the Main-Tenant to the Sub-Tenant.

- The inherited KPIs are displayed in the Sub-Tenants with as read-only values.
- The inherited Main-Tenant KPIs are grayed out (A).

As of D19, you can select or clear automatic inheritance within the Sub-Tenant. A KPI that is cleared from the Main-Tenant is hidden in the Sub-Tenant.

- $\triangleright$  The KPI is grayed out, preceded with an icon  ${}^{\textcircled{}}$  or  ${}^{\textcircled{}}$  .
- ♦ Click <sup>●</sup> to hide a KPI.
- ➡ The icon switches to
- ⇒ The KPI is hidden in the Sub-Tenant.
- ⇒ The KPI is hidden on the map in the 'Dashboard' menu.
- ♦ Click to show a KPI.
- ➡ The icon switches to
- ⇒ The KPI displays in the Sub-Tenant.
- ⇒ The KPI is displayed on the map in the 'Dashboard' menu.

In addition, you can create your own KPIs that are independent of the Main-Tenant.

- KPIs that can be edited are displayed in black font (B).
- Set up a KPI as previously described in paragraph 'Set up a KPI step-by-step'.
- ⇒ The new KPI is displayed on the map in the 'Dashboard' menu.

+	KPI Mapping ID	Name	Available for	•		•	
۲	[SYSTEM]ResetCause	ResetCause	🛛 🔤 Plants 🗍 Systems	0	1,2	3	9
	[SYSTEM]UpgradeAllowe	UpgradeAllowed	Plants 🖾 Systems	1	0	2	9
A	[SYSTEM]UpgradeReque	UpgradeRequest	Plants Systems	0	0	1	Q
•	N3ASTG56VR7OAR8	MV001-Value	Plants Systems	0,3,6,9	1,4,7,10	2,5,8	G
R	virtBinary1	TEST	🗹 Plants 🗹 Systems	0	1	1	9
٠	Mapping ID	Datapoint name	Plants 🗆 Systems	0	1	2	9

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\* Key performance indicat

A maximum of 20 KPIs can be created or inherited per tenant.

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# 12.1.5.5 Billing

A brief introduction to subscriptions is available in "Select a subscription and digital wallet [ $\rightarrow$  17]". The following figure illustrates an example for an "Annual" $\uparrow$ .

▼ Billing		
Subscription	IC20.400-5	~
Automatic reorder products	Select	
Fallback Subscription	IC20.100	$\sim$
Billing Recipients	@siemens.com, @siemens.com, @siemens.com	
Billing language	Italian (Italy)	$\sim$
Customer Order Number (Tenant ID)	CLX-WAJI W6TM	
Billing limits have been exceeded		
Fallback service product is active		
Digital wallet		
Remaining plants	1	
Remaining cloud event traffic	1289231677	

"Billing" displays the key data on the current subscription.

#### Subscription

The name of your Climatix IC subscription (additional information is available in the Climatix IC product and service data sheet (A6V10449189).

#### Automatic reorder products (for annual)

To enable/disable automatic reorder products, click the entry field and select the subscription to be extended.

The wallet must have sufficient credits for the process to work. The credits can be ordered, for example, through the Siemens Industry Mall.

Number of credits to automatically transfer:

You can select the number of credits to be transferred automatically, either:

- Manually specify in the 'Fixed Amount' text box
- Or have it calculated automatically by checking 'Calculated automatically'. **Fallback subscription**

Is used when the standard subscription expired. Set by Siemens to IC20.100.

#### **Billing recipients**

As a rule, Siemens enters multiple recipients by mutual agreement. These people receive the relevant and current billing information by e-mail. The e-mails are automatically generated information.

#### **Billing language**

The language selected for e-mail correspondence.

#### Your order number (Tenant ID)

Is needed on all service orders relating to Climatix IC and M2M routers, including data packets.

Dashboard	Operating	Application set	Administration	Apps		0
Administration >	Tenants >	_CLX > Billing				
Systems					Save	e
Plants		Service product			TT_CreditBased_CLX	~
Upgrade		Fallback service product			IC20.100	~
		Billing recipients			@gmail.com, /@siemens.com	
Users		Billing language			English (United States)	~
Tenants		Tenant billing ID			CLX-WV7J6Y3DXDWEPO41	
Settings		Billing limits have been ex	ceeded			
API accour		Fallback service product is	active			
AFLaccour	n.	Digital wallet				
Application	n info	Remaining credits			8398	
Key perfor	mance					

#### **Billing limit is exceeded**



Is currently only set when there is no fallback subscription.

If selected, your tenant is in a blocked state, since the billing limits are exceeded and the additional extension has expired.

Billing limit is exceeded means:

- Your tenant changes to the service product IC20.100 ("Get connected"); i.e. you continue to have a plant overview but cannot intervene on the plant.
- Note also that no history data can be logged in this state.
- Additional plants can no longer be registered in this state.

#### Grace period symbol

The grace period symbol in the header for Climatix IC provides optical support on

these deadlines (S). Click the symbol to quickly be informed on the state of your subscription.

#### Fallback subscription is active

This case occurs if all subscriptions have expired and were not extended or the credit level in the wallet is zero.

#### **Digital wallet**

If active, you can independently execute all orders via 'Wallet'.

In secondary navigation, the menu "Digital wallet" with its submenus is visible and can be used for your purchases and view credit.



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#### Remaining plants (for annual)

The number plants allowed by your subscription minus currently activated plants.

	NOTICE
	Hide plants
i	<ul> <li>Plants activated above and beyond the permissible limit are entered via "Hide" in the area "Unassigned".</li> <li>The same can happen if multiple subscriptions are active, one expires and was not renewed in a timely manner.</li> <li>You can purchase and manually activate additional subscriptions to reassign hidden plants and actively switch them.</li> </ul>

#### Remaining cloud event traffic (for annual)

Available update per your subscription.

#### Remaining credits (for monthly)

Current tenant credits.

## **Billing e-mail information**

**Principle:** Climatix IC notifies in a timely and comprehensive manner when the billing limits are pending or reached to prevent a tenant area from being blocked. All orders and changes to your billing product are also communicated by mail.

For example, you receive:

- Monthly billing data.
- Informs that a new billing product was assigned, in other words, that the product type has changed.

# 12.1.5.6 Lock domains

Unwanted user domains can be locked for a specific user. A negative list is set up in the corresponding tenant menu. Entries in the negative list prevent the registration of users using the locked domains.

## Locked domains

- ▷ You are a Tenant Administrator.
- 1. Go to "Administration > Tenants > 'my tenant' > Locked domains".
- 2. Click 'Create new domain'.
  - ⇒ The 'Create new domain' dialog opens.
- 3. Enter and save the domain to be locked.
  - You can use wildcards (e.g. \*) as needed.
- ⇒ A new domain is created and displayed in the 'Domain' list.
- ⇒ The unlocked domain can no longer be used to register users.
- ⇒ A lock entry is saved automatically.

## Unlock a domain

- ▷ You are a Tenant Administrator.
- 1. Go to "Administration > Tenants > 'my tenant' > Locked domains".
- 2. Select the domain to unlock in the 'Domain' negative list.
- 3. Click the 'X'.
- ⇒ The domain is deleted from the negative list.
- ⇒ The created domain can no longer be used to register users.



#### 'Undo' function is unavailable

Domains that are deleted from the negative list cannot be restored; you must set them up again using 'Create new domain'.

Dashboard Opera		
Systems	>CLX > Banned domains	Create new domain
Plants		Q Search
Upgrade	Domain	
Users	*test*	×
Tenants	<u>*test.net</u>	×
Settings	@test.*	×
API account	@test.org	×
Application info	<u>user@test.com</u>	×
Key performance	10 20 50	< 1 >
Billing		
Banned domains		
Roles		

# 12.1.5.7 Plant users

User authorizations to the plants can be filtered and grouped at tenant level. This provides the Tenant Administrator an overview of the user's previous authorizations when changing a user or user role and to adjust them without any major effort.

## Filter plants by user

- $\triangleright$  The user name to be customized in the tenant is known.
- 1. Go to the menu "Administration > Tenants > 'My Tenant' > Plant user".
- **2.** Enter the full user name in the search field at the top left (1) and click on 'Change user' (2).
  - All installations to which the entered user name is assigned are displayed in the list below (3).
- 3. Select all plans for which the user is to be changed or adapted (4).

Dashboard Operatin	g Application set Administ	tration Apps				0
Administration > Tenants >	CLX > Plant users					#
Systems	Q Øsiemens	s.com 💿 Change user 🛛 🙎		Update role	Delete	Add user
Plants				Ca Q Sea	ch	
Upgrade	C raises all plants	Name	Rescription		Name	
Users 4		3 Berlin-AHU			Owner	
Tenants		Berlin-Chiller	POL448) 169-0C/460		Owner	
Settings		Rerlin-HeatPump	plant 0099		Owner	
API account	10 20 50	-				< 1 >
Application info	_					_
Key performance						
Billing						
Banned domains						

## Update plant role

- 1. Click 'Update role
  - A new 'Update plant role' opens.
- 2. Click the new desired role for the user (1).
- 3. Click 'Save'(2).
- ⇒ The user's role has been changed for all selected systems.

Update plar	nt role	×
Available for	1 O User O Enduser	○ Service ○ Owner ○ Service-Operation ○ System User Role
		Cancel 2 Save

## Add user

- 1. Click 'Add User'.
  - ⇒ A new dialog 'Add user' opens.
- 2. Enter the e-mail address of the new user to be entered for the plants (1).
- 3. Click the desired role for the user (2).
- 4. Click 'Save' (3).
- ⇒ The new user has been entered with the corresponding role for all selected plants.

User:	1	@Siemens.com	
Available for	2 User	O Service	O Owner
	O Enduser	O Service-Operat	tion O System User Role
		Cance	I 3 Save

# Delete

- 1. Click 'Delete'.
  - ⇒ A new dialog 'Delete plant user' opens.
- 2. Click 'Yes'.

Delete user from plar	its
Are you sure you want to delete	the user from the selected plants?
Yes	No

⇒ The new user has been entered with the corresponding role for all selected plants.

Note: If an existing user is to be replaced by a new user in the selected plant, then:

- 1. First, 'Add user' (see above).
- 2. Then, 'Delete' step.
- $\Rightarrow$  In this way, the plants can be filtered according to the previous user.
- ➡ If the user to be replaced is deleted directly from the plants, the filter function for the previous user can no longer be used to add the new user.

## Additional search function and filter option

The second search field on the right-hand side can be used to narrow down the search results. Filters the plant list again by plant name or description:

- In the free text search field, enter a partial or complete name or description of the plants (1).
- ⇒ The number of hits in the plants hit list is reduced to the plants that contain the values entered in the name field or in the description field (2).

dministration > Tenants >		Apps		
Systems	Q Search	Change user	Update role Delete Add	user
Plants			G 1 Q. Berlin	۵
Upgrade	Select all plants	Name	Description	_
Users	0	2 Barlin-AHU	101 MUT-008	
Tenants	0	Berlin-Chiller	POL448) 169-0Cl460	
Settings	0	Berlin-HeatPump	plant 0099	
API account	10 20 50		2	1 >
API account	10 20 50		<	

## 12.1.5.8 Inactive user

Tenant-administrators can easily check the status of inactive accounts in the menu 'Inactive users'.

- A time period for inactivity must be set for user account in the tenant's settings. See 'Basic data/tenant key (distributor) [→ 157]'.
- The menu 'Inactive users' only displays if you enter a 'Time period of user inactivity'.
- ♦ Go to 'Administration > Tenants > [desired tenant] > Inactive users'.
- An overview displays with a list of user e-mail addresses saved in the system as 'Inactive'.

The overview displays the following information on all users that were automatically notified on the pending expiration of your access rights at the tenant:

- Name
- Time of last login
- Number of days without activity at the tenant
- Expiration date of access at the tenant and the date the user account is deleted
- Number of open days until expiration of access to the tenant and the deletion of the user account
- Information icons with additional information that displays when the cursor is over the icon.

On inactive accounts: See 'Basic data/tenant key (distributor) [ $\rightarrow$  157]', 'Period of user inactivity prior to notification by e-mail' and 'Period of user inactivity prior to deleting the user'.

Dashboard Operati	ing Application set Administration	Apps			
aministration > Tenants >	CLX > Inactive users				4
Systems				Q Q	Search
Plants	Name	Last login	Inactivity days	Expiration date	Days to expiration
Upgrade	@my.ch	2023-12-05	223	2024-09-08	55 0
Users	@gmail.com	2023-11-15	243	2024-09-08	55 0
Tenants	10 20 50				< 1 >
Settings					
API account					
Application info					
Key performance					
Billing					
Banned domains					
Plant users					
Inactive users					

# 12.1.6 Roles

The Tenant Administrator defines the roles as per the organizational requirements (e.g. service role). A role regulates access to plant applications.

A sample role matrix is available in the appendix at "Roles and privileges [→ 379]". In contrast to global portal roles, roles relating to the plants can be freely edited.



The role of "Owner" must be available in this form for system-technical reasons and cannot be changed. The system prevents this from happening.

## Make a role for 'TenantUser (<Role>)'

One role can now be defined as the basis for an administrator role: For the 'TenantUser (<Role>)'. The new administrator has automatic access to all tenant plants with the rights of the assigned <Role>.

#### **Background:**

As shown in "Relationship between SCOPE security level, roles, and application security levels  $[\rightarrow 377]$ " and "Roles and privileges  $[\rightarrow 379]$ ", a role is characterized on the one hand by access rights to the system and on the other hand by selfdefined portal rights. TenantUser (<Role>) creates an "Administrator" that can execute the selected role on all plants with a "One-click action".

#### **Procedure:**

Select the desired (<Role>) "Administration > Roles > [Role] > Area: Basis data > TenantUser role".

reasons.

The role of "Owner" cannot be used as TenantUser for system-technical

## Localize roles

The description of roles can be localized.

- You are a Tenant Administrator and you want to localize the description of roles for a tenant area.
- 1. Go to "Administration > Roles".

~

2. Select a role.

		ation dialog opens
Description		
Language code	Language	Description
6-CZ	deština (Česká republika)	
da-OK	dansk (Danmark)	
de-CH	Deutsch (Schweiz)	Anlagen-Owner
de-DE	Deutsch (Deutschland)	Anlagen-Owner
el-GR	Ελληνικά (Ελλάδα)	
en-G8	English (United Kingdom)	
en-US	English (United States)	User operates plant with SCOPE level. User manages user.
#s-85	español (España, alfabetización internac	
f-R	suomi (Suomi)	
1-58	français (France)	propriétaire

- 4. Enter the localized description of the role in the corresponding language line.
- 5. Click "Save".
- In the tenant area in question, a localized tooltip is displayed by moving the cursor over the role in the corresponding language and for all users at all locations for the role.

#### Delete roles.

Roles can be deleted.

- ▷ You are a Tenant Administrator and you want to delete a role.
- 1. Go to "Administration > Roles".
- 2. Select a role.
- 3. Click "Delete".

#### Administration > Roles > Service

Systems			Save	Delete
Plants	▼ Basic Data			
Users	Role name	[ Şervice		
Tenants	Description	User operates plant with SCOPE security level. User manages plant upgrade.		
Roles		User operates plant with Web-Graphic access.		
Pre-register	TenantUser role	Q.		
Third-Party Apps	renantoser föle	<u>u</u>		
	▶ Privileges			

- ⇒ The delete dialog box opens.
- 4. Write the name of the role for deletion in the entry field and confirm the delete.

Delete			>
Enter the r cannot be	name of the user role to undone!	delete it. This operation	
<enter t<="" td=""><td>the role name 'Service' h</td><td>ere&gt;</td><td></td></enter>	the role name 'Service' h	ere>	
<enter t<="" td=""><td>the role name 'Service' h</td><td>ere&gt;</td><td></td></enter>	the role name 'Service' h	ere>	

⇒ The role is deleted.

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The name of the role for deletion must be entered in the entry field exactly the same to prevent unintentional deletions. The deletion cannot otherwise be completed.

	One deleted, a role cannot be retrieved.			
	A deleted role is permanent. User assigned this role loose the associated access rights to the plant. The right cannot be restored.			
	As a consequence, only delete roles that you are sure are no longer needed.			

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# 'For roles with limited plant rights: Additional right to select application sets by name and version number'

A Tenant-Administrator can assign a user with limited rights, the additional right to assign application sets to plants. The additional right grants a user role access to selected application sets and application set versions. This user role can assign a specific application set to a plant.

- > The own role is 'tenant-administrator' in the Main-Tenant.
- 1. Go to "Administration > Roles".
- 2. Select the role for the advanced rights.
- 3. In the "Privileges" menu, select the right 'Plant / Application set.
- 4. Click 'Save'.

ashboard	Operating	Application set	Administration	Apps	
ministration >	Roles > Owne	r			
Plants					Save
Upgrade		▶ Basic Data			
Users		✓ Privileges			
Tenants		Plant / Data Point Acce	.ss 🔽		
		Plant / Single-Upgrade			
Roles		Plant / Manage Users			
Pre-register		Plant / Manage Setting			
		Plant / WebHMI Access			
		Others / Remote-Tool-/			
		Others / CloudAPI Plan			
		Plant / Files			
		Plant / File Access			
		Plant / Alarm Access			
		Plant / Alarm Notificati	ons 🗹		
		Plant / Dashboard			
		Plant / Scheduler			
		Plant / Web-Graphic			
		Plant / ICCID-Customer	-Settings 🔽		
		Plant / Customer-Plant	-ID 🗹		
		Plant / Data Points View	N 🗹		
		Apps / Plant Dashboard	ds 🗹		
		Plant / Expert mode up	ograde 🗌		
		Plant / Manage subscri	ptions 🗹		
		Tenant / API document	tation		
	_	Apps / Energy Dashboa	ard 🗌	_	
		Plant / Application-Set	<b>Z</b>		

In menu "Administration > Plants > 'Own plant' > Basic settings", select dropdown menu "Applications set" and "Variants" and assign available values to the plant. General administration

ants			Replacing Plant	Save	Hide / Move	Delete
Plant users	▼ Basic data					
Plant notifications	Name	Energy - Small - 6.11.2	23			
Plant settings	Description	DH STH plant				
Application set						
Plant operating	Application set	DH Standard v3.xx (DH Sta	indard v3.xx)			

## In the Sub-Tenant for a plant, an inherited Main-Tenant application set and a user local to the Sub-Tenant is assigned a different plant role

The following workflow is only required if an application set from the Main-Tenant and a user role of the Sub-Tenant is used in the Sub-Tenant. Skip the following workflow if the inherited Main-Tenant user role if used.

	NOTICE					
i	<ul> <li>Failure to comply with inheritance rules means the following features are displayed in the plant of the user in the Sub-Tenant:</li> <li>Data points.</li> <li>Dashboards.</li> <li>Web graphics.</li> <li>Application set plant files</li> </ul>					

Application sets in the Sub-Tenant normally inherit the same user role as the Main-Tenant. A different user role can, however, be inherited within the Sub-Tenant, for example, to grant advanced or limited rights to the application set. Perform the following steps:

- Climatix IC is opened in the Sub-Tenant.
- 1. Go to "Administration > Roles > 'Owner' > Basic data".
- 2. The 'Main-Tenant user role' opens. Note: The 'Main-Tenant user role' is only in the Sub-Tenants.
  - Select the user role inherited from the Main-Tenant.

Dashboard Be	dienung Admin	istration Apps		
Administration > Rolle	en > Owner			-
Systeme				Speichern
Anlagen	▼ Basisda	ten		
Benutzer	Rollenr	name	Owner	
Tenants	Beschro	eibung	User operates plant with SCOPE security level. User manages user accounts, plant settings and plant upgrades.	
Rollen			User operates plant with Web-Graphic access. (default user for self registration)	-
Vorregistrieren			Q	
Vonegistaleren	Tenant	User Rolle		
M2M Router	Benutz	errolle des Main-Tenants	<benutzerrolle auswählen="" des="" main-tenants=""></benutzerrolle>	~
			Schulzen olle des Main Tenanis auswählen> Owner	
	▶ Berecht	igungen	UWIKI	

3. Click 'Save'.

\_

- ⇒ The user role of the application set in the Main-Tenant is confirmed.
- 4. Go to "Administration > Roles > 'Desired role' > Basic data".
- 5. The 'Main-Tenant user role' opens.
  - Select the user role that differs from the Main-Tenant.

i

# Administration menu

General administration

inistration > Roles >	User			
Systems			Save	Delete
Plants	·▼ Basic Data			
Jsers	Role name	User		
enants	Description	User operates plant with SCOPE security level read/write. User operates plant with Web-Graphic access.		
oles				
re-register		9		
	TenantUser role			
12M router	Main-tenant user role	<select main-tenant="" role="" user=""></select>		*
		<select main-tenant="" role="" user=""> Enduser</select>		
	<ul> <li>Privileges</li> </ul>	Engineer		
		Factory		
		Northbound API access		
		Service		

- 6. Click 'Save'.
  - ⇒ The application set user role is changed.
- ⇒ The application set in the Sub-Tenant is a different user role in the Main-Tenant.
- ⇒ The rights to the newly assigned user role in the Sub-Tenant is defined in the 'Privileges'.

The user can also be modified in the API.

# 12.1.7 Pre-register

- > You have at least the portal role 'Tenant Site Viewer' and are logged onto the portal.
- 1. In the primary navigation, go to "Administration".
- 2. In secondary navigation, go to "Pre-register".
- Tap or scan the activation key from the controller and enter the code in the "Activation key" field (comma separated or one per line)". Multiple activation keys must be comma separated or entered one per line.
- 4. Click "Activate multiple sites".
  - ➡ The pre-activated controllers are pre-registered for your area (tenant) and are in the menu "Administration > Plants" in the "Unassigned" tab.

## 12.1.8 Digital wallet



This menu is only visible if the digital wallet if it is enabled in "Administration > Tenants > [my Tenant] > Area: Billing".

NOTICE						
i	<ul> <li>The following support info is available in addition to this documentation:</li> <li>Product and service data sheet (A6V10449189).</li> <li>Annex "Order Options" to your Digital Service Agreement (DSA).</li> <li>Release notes on the applicable deployment.</li> </ul>					

The digital wallet allows you to **independently** manage your Climatix IC subscription.

After familiarizing yourself with the process, you can purchase on credit, select a subscription and extend one, transfer credits to your Sub-Tenants, and quickly check the consumption data and without an interface, much like shopping in retail. Meaningful account overviews, up to and including forecasts, further supplement the offering.

## Where can I find answers to my digital wallet?

Note: The listed menus are below "Digital wallet".

#### 'Monthly subscription'

Menu / Table	Aspect	FAQs
> Overview > Header	my tenant	Credit and basic subscription
> Overview > Credit history	Main+subtenant	Your account overview with activities, categories, etc.
> Overview > Tenant assignments	my tenant	Who loaded credits?
> History > Tenant billing history	my tenant	Daily itemization in Basic and Service+ ↑ costs
> Forecast >all use history	my tenant	Monthly accumulation of all 'Expenses', including transfers
> Forecast >Plant consumption Forecast	my tenant	Cost projections, including plant costs

#### 'Annual subscription'

Menu / Table	Aspect	FAQs
> Overview > 'Header'	my tenant	Credit, basic subscription, next expiration, remaining plants
> Overview > Credit history	Main+subtenant	Your account overview with activities, categories, etc.
> Overview > Tenant assignments	my tenant	Who ordered the "Annual'↑ subscriptions'? Active/inactive
> History > Tenant billing history	my tenant	Daily listing of limited variables (plants, traffic)
> Forecast >all use history	my tenant	Monthly accumulation of all 'Expenses', including transfers
> Forecast >Plant consumption Forecast	my tenant	Displays the costs to renew subscription up to 12 months in advance

## 12.1.8.1 Summary

Overview is your classic account statement. Similar to transfers, the Tenant Billing Administrator can add notes to 'Bookings'.

Billing actions include the following categories:

Billing actions	Explanation
Ordering	Credits. Order credits via subscription manager, trusted service, etc.
Plant use	Debt position. For 'Monthly'↑: plant costs only (Basis, Service+)
Other use	Debt position. 'Annual'∱: subscription. 'Monthly'/'Annual': Transfer to Subtenant↑

To find your 'Order number (Tenant ID)', see section " Billing [ $\rightarrow$  174]", 'Your order number (Tenant ID)'.

## 12.1.8.2 Transfer

As Main-Tenant, you can distribute credits to the Sub-Tenants. Proceed as follows:

## Activate "Digital wallet"

- > You have the role of Tenant Billing Administrator at the Main-Tenant.
- **1.** Go to "Administration > Tenants" and select the Sub-Tenant.
- 2. In billing, enable the "Digital wallet" check box.
  - ➡ The first time you setup this Sub-Tenant, a "Transfer" menu displays in the Main-Tenant below the digital wallet.
- **3.** The Main-Tenant Billing Admin can set "Number of credits to be automatically transferred" as an option.

This is practical when "Automatic reorder products" is selected in the Main-Tenant. In this case only the Main-Tenant office needs to stock up on credits via the Industry Mall.

 Follow the instructions in "Digital wallet > Transfer" in section 'Transfer credits to Sub-Tenant' to manually transfer credits to the Sub-Tenant. Or use the automatic booking option as described above.

## Transfer credits from Main-Tenant to a Sub-Tenant

- > You have the role of Tenant Billing Administrator for Main-Tenant.
- 1. Go to "Administration > Digital wallet > Transfer".
  - Solution ⇒ You see an overview of available credits at the Tenant as well as an entry mask to transfer credits.

2	Adm	inist	rat	io	n	m	nenu	J
	-							

General administration

Dashboard	Operating	Application set	Administration	Apps
-----------	-----------	-----------------	----------------	------

Administration > Digital wallet > Transfer

Systems		Available credits: 8238					
Plants							
Upgrade			Transfer				
Users			in a line in a l				
Tenants	Amount	2					
Roles	Customer Order number (optional) Sub-Tenant	Country-B					
Pre-register	Message	Demo <u>transfer</u>					
Digital wallet							
Overview							
T d							

- 2. Complete the data fields:
  - "Amount" of credits for transfer to the Sub-Tenant.
  - "Customer order number (optional)" if the customer number is available and required.
  - "Sub-Tenant": Select a Sub-Tenant from the drop-down menu.
  - "Message": Enter a message with notes on the credit transfer to the Sub-Tenant.
- 3. Click "Transfer".
  - ⇒ A confirmation window opens with an overview of the information.

Really transfer credits?				
Credits to transfer:	2			
Recipient:	Country-B			
Credits left after transfer:	8236			
	Transfer	Cancel		

- 4. Click "Transfer".
- ⇒ The confirmation window closes.
- ⇒ A message displays in the "Transfer" overview
- ➡ The number of credits in the Main-Tenant is reduced by the number of transferred credits.

0

	NOTICE
	Transfer can only be transferred from the Main-Tenant to Sub-Tenant and not from the Sub-Tenant (returned) to the Main-Tenant.
!	The Main-Tenant no longer has access to the excess credits when transferring a large number of credits from the Main-Tenant to the Sub-Tenant.
	Only transfer the required number of credits from the Main-Tenant to the Sub- Tenant.

Note the improved usability:

- Search by 'Customer order number'.
- Free text is supported as well as the entry of order notes.

# 12.1.8.3 Load credits

Climatix IC			BILLING DOC	English (United States) 🔻	@bluewin.ch 🔻
Dashboard Operating	Application set	Administration	Apps		0
Administration > Digital wallet	> Load credits				Ŗ
Plants			Available cree	dits: <b>1050</b>	
Users					
Tenants					Next
Plant roles		Activation	ם ו		
Pre-register	1. Activation ID				
Digital wallet					
Overview	2. Confirm				
Load credits					
Store					
Tenant					

After the automatic order, you receive a mail with the activation ID. Follow the instructions to convert the order to credits.

## 12.1.8.4 Store

nts		Available credi	its: 9600
rs			
ants			
nt roles	Annual Monthly		
-register			
ital wallet	Annual	IC20.400-1	IC20.400-5
Verview		Annual subscription: Connect max.	Annual subscription: Connect m
ad credits		1 plant for light commercial HVAC area (POL4/6xx)	5 plants for light commercial HV area (POL4/6xx)
pre	Service costs	135 credits	450 credits
story			
precast		Select	Select
up	Max assigned plants	1	5
	Max. Event Traffic	3000000	15000000
	Subscription Period	365 days	365 days
	Max. Number of Cloud Items Hi	0	0
	Subscription Tenant History Bu	365 days	365 days

Purchasing Climatix IC products.

NOTICE			
i	<b>No mixing of 'Annual'</b> ↑ <b>and 'Monthly'</b> ↑ <b>subscriptions</b> Please note that you cannot mix "Annual" and "Monthly". Any remaining credits are hidden when changing early until you change back to "Monthly".		

Note the improved usability:

- A Tenant Billing Administrator can return a 'Monthly'↑ subscription to the store with the "Deselect" button. A basic subscription, that is the only subscription↑ in use, must be confirmed twice to return it.
- A number of store products can be vastly simplified using the "Please select entry!" filter. Select your hardware segment and receive only those offerings in the store that are compatible.

## 12.1.8.5 Service+

'Service+' describes a series of auxiliary functions and entitlements that are not included in the standard subscription to Climatix IC. Service+ supplies the additional functionality as needed and bills a higher subscription fee. A Service+ order is activated as part of a supplements service agreement.

The 'Service+' is used on the plant level. All other subscriptions are targeted at the tenant level.

The Service+ functions are displayed as auxiliary functions in Climatix IC Climatix IC user interface. They support customers on installing plants. Auxiliary functions and entitlements from Service+:

- Data point view
- Alarm access
- Plant notifications
- Plant Dashboards
- Manage plant file
- Schedules
- Plant upgrade
- Remote Tool Access access

For a detailed description of the auxiliary functions see section "Roles and privileges [ $\rightarrow$  379]" and "Using the optimum portal role [ $\rightarrow$  382]".

You can determine the duration of the Service+ subscription. See section "Plant settings [ $\rightarrow$  212]", section 'Service+'.

## 12.1.8.6 History

#### For 'Monthly' subscriptions

Daily listing and itemization of Basic (invoiced plants, assigned and connected) and Service+ $\uparrow$  plants.

## For 'Annual' subscriptions

Daily listing and itemization of variable that are limited for 'Annual'<sup>↑</sup>: Active/ remaining plants and billed/remaining event traffic.

# 12.1.8.7 Forecast

The upper table displays the history of all usage and provides an trend that can be extended in the future on 'Monthly'↑ and 'Annual'↑ Subscriptions↑. Note that includes all billing categories, including plant costs and transfers to Sub-Tenants.

The values cumulated at the end of the month.

The lower table provides a forecast. 'Monthly' subscriptions can influence the calculation by entering the number of months that are added to the bill.

Only plant costs for 'Monthly' $\uparrow$  are considered in the lower table. 'Annual' $\uparrow$  subscriptions forecast up to 12 months; all expiration/renewal data of active subscriptions are recorded and forecast.

## 12.1.8.8 Setup

Goes directly to your tenant in the billing area.

- The first time, you must select the purchased product in the "Subscription" field!
   The selection is interpreted as the primary product
  - Additional products, together with the primary product, are possible. The product, however, controls some basic settings.

You no longer have to worry about expiration deadlines if you use automatic reorder products. You can, for example, order credits in advance via the Siemens Industry Mall so that they are available for automatic processes.

# 12.1.9 License Manager

## License Manager benefits and background

Climatix IC		Siemens Licenses	<ul> <li>English (I</li> </ul>	United States) 🔻	er@bluewir	n.ch 🔻
Dashboard Admin	istration					0
Administration > License	Manager > Details					#
License Manager				Add new Feature	Download	License
	Activation Key:	GF RL-M 5K-UBMC4-M HC-	QPKXQ			
	Licensed features:	clxOPC				
	License Keys:		C	Search		
		Activation ID	License server	License server plant ID	Features	Create (
		act_ko4h1onx2ic32cocm	Flexera	0951 5101	clxOPC	05/31/2
		10 20 50			<	1 >

To date, new control functions or maximum extensions to controllers required new hardware. At OEMs or eventually at OEM customers this results in variants to inventories.

Functions that can be activated in the license model include OPC-UA, smartHMIapi, or additional Modbus interfaces. Additional functions are planned in the near term.

Data sheets on functionality or controllers detail which functions are available in a matrix of controller types (e.g. C600) / firmware (BSP).

## **Climatix IC supports two application types**

The Climatix IC License Manager can generate license keys to activate controller functions. Climatix IC supports two application scenarios:

- Use of Climatix IC exclusively to generate license keys:
  - You are granted access to tenant "Siemens Licenses".
  - For operation, you receive a user with the administrator role "License Manager".
  - Licenses created by this user cannot be viewed by other users nor can it be transferred in any form (not even by Siemens). As a consequence, use a login name that is a generic (i.e. impersonal) e-mail address associated with your company.
  - The Climatix IC user interface is tailored to license generation.
  - Online documentation, tailored to this use case is available at 'Footer > Support'.
- Use of the License Manager in addition to Climatix IC core functions:
  - Your existing tenant can also create license keys.
  - An existing Tenant Administrator is also granted the administrator role "License Manager".
  - Licenses created by this user cannot be viewed by other users nor can it be transferred in any form (not even by Siemens).
  - The familiar Climatix IC user interface is extended in the Administration menu by the "License Manager" function. The online documentation includes the new topic.

## Acquire controller licenses / Start with License Manager

- Non-Climatix IC customers use the tenant "Siemens Licenses".
- The function can be enabled upon request for Climatix IC customers.
- Each license/license packet has its own order number.
- Please contact your local Siemens representative for the aforementioned scenarios.

The following procedure consists of three steps:

- 1. Receipt of e-mail with an Activation ID.
- 2. Creation of license with the License Manager in Climatix IC.
- 3. Transfer the generated license to the controller.

## 12.1.9.1 Generate license file

#### Receipt of license management e-mail with Activation ID

SIEMENS		
Ciamana Cm		
Siemens Sm	art Infrastructure - License Management	

Dear Customer,

Thank you for using our products. Attached, you will find the certificate information for the product(s) you have bought.

Sold-to Information License Receiver		2 g_49										
Name 1		Countr	y Pool CS	ID – Italy 🗧	)							
Name 2												
Address												
Location/City		Unspe	cified 999	)								
Country		IT										
Order Attributes Purchase Order Final Customer Order			LICENZA									
Reference Order HQ Sales Order		31 .5 91 94										
Local Site ID		9. 94										
Entitlement ID		ent_ko	/ wky2 lf	t1ua 9mahi	j							
License information SSN P55693-1A100	Product clx_device_	,	Version 1	Quantity 1	Activation ID act_ko4 /ky2_	jvkik4(	72	Ore	der	Туре	Relation	

The e-mail includes the license order number, product name, and activation ID. A license includes one or more features (e.g. OPC-UA).

Go directly to "Add new Feature" to add a feature (e.g. Smart-HMI) to a controller license at a later date. You also receive an e-mail with the activation ID for the additional feature (see below for procedure).

## Determine the controller activation key

The activation key of a Climatix controller uniquely identifies it. The key is used, for example, to login controllers on Climatix IC. The License Manager uses this unique controller key to link a license to a specific controller. The controller's activation key can be found in various locations:

- In the SCOPE tool, e.g. in the LicMngr object.
- Printed on the controller as a DMC code (see "Data Matrix Code") and/or QR code.

#### Generate license file

- ▷ You have the license management e-mail with the controller Activation ID and the activation key to activate the function.
- > You are the License Manager or possess the administrator role.
- $\triangleright$  You are logged in to Climatix IC.
- 1. Go to "Administration > License Manager".
- 2. Click "Create Controller License File".

Create Controller License		^
Controller Activation Key	~ZL~	
	Validate License	Create License

- 3. Enter the activation key and activation ID in the two fields.
- 4. Click "Validate License".
  - A green status is returned if both keys are valid. The license feature displays. Otherwise, information on why the pairing is not possible (e.g. The license was already created).
- 5. If valid, click "Create License".
  - ⇒ The license is created and already loaded on the license server. A row is appended with the activation key and license creation date.
- 6. Click the activation key entry.
- ➡ Two actions are possible in this dialog box: Add new feature to an existing license and Download License.
- As mentioned above, add new features to existing license. Go directly to ".. > License Manager > Details" and simply enter the activation ID.
- "Download License" generates an electronic license file (LicenseFile.UCF). UCF files can be loaded to POL controllers↑. This is explained in the next section.
- The license can also be downloaded with the Cloud API: <u>https://</u> <u>www.climatixic.com/#/Apps/ApiPortal/</u>, resource: /Plants/Licenses.

# 12.1.9.2 Transfer license to controller

The license transfer to the controller is generally designed to be independent of the Climatix IC.

Transfers may vary between the two cases, whether the controller is online or connected to the Internet or offline, i.e. not connected.

"Connect to the Internet (IP)" provides information on how the controller is connected to the Internet.

Brow	wser for Data Points				
🚱 Object Data <u>M</u> Advanced	Configuration - (Collection)     Collection)     System - (Collection)     Object handler - (DiagObjectHandler)     System clock - (SystemClock)     Target - (Target)     Process bus - (aoProcessBus)     IP Config (aoIP)     Olimatri C - (aoCSL)     WLAN-Config (aoWLAN)     BACnet - (aoBACnet)     OPC-UA - (aoOPCUA)     UcMngr - (aoLeMngr)     Ho-Module bus - (aoIOExtBus)     Event history - (aoEvent)     @- Alam history - (aoAam)	<	Member           0x1000           0x1001           0x1000           0x0000           → 0x0001           → 0x0002           0x2000           0x2001           0x2002           0x2002           0x2003           0x2004           0x2005           0x2006	Name FullSize DynamicSize DisplayName ActivationKey LicenseServer CheckServer JSON:Scheduler CustomerProt 1 DemandBlocks OPC-UA C400ConnectionSet 1 MiddleLayer	Value           156           136           LicMngr           O4Y.         IK-TLXO           Intro-//climatixic.com > Default-no change!           Passive (0)           Active (1)           Active (1)           Active (1)           Active (1)           Active (1)           Active (1)           Passive (0)           Passive (0)

## The controller is connected to the Internet

- The controller automatically downloads the license
- Member 'CheckServer' is activated one time to this end (see figure above). The license to the controller is remanent and the CheckServer state is automatically reset to passive (switched off).

## The controller is not connected to the Internet

- The downloaded file 'LicenseFile.UCF' is saved to a SD card (for C600) or USB stick (for C400).
- Insert the SD card or USB stick and restart the controller.

## New as of VVS11.56

 For controllers with tool integration, the following is still available as of VVS11.56: Download from the Scope tool and transfer to controller via REST API.

## 12.1.10 M2M router

Vodafone SIM cards supplied with the Siemens M2M solution, are integrated in Climatix IC and can connect to a plant.

Siemens invoices the data use.

The logistical task of managing numerous wireless connections is significantly simplified by compiling everything by topic in Climatix IC.

A filter function for the SIM card state and search function for ICCID and IMSI rounds out the service.

Click ICCID to open detailed information on the SIM card.

ants		
sers	ICCID: 89 72929	
enants		
	Name	Value
Plant roles	IMSI	20 535
re-register	Contract number	SIEMENS_H_3GB
Digital wallet	Additional information	TTN-15.03.2018
rightar wallet	State	Active live
M2M router	Assigned to plant	TEST_BILLING_PLANT_offline
	Service profile	CH_SIEMENS3GB_EU
	First used	03/15/2018 02:15:27 pm
	Has been active live	Yes
	Session active	Yes
	Session last started	05/07/2020 03:29:17 pm
	Session last updated	05/08/2020 12:29:27 pm
	Session last terminated	
	Session last data transmitted	05/08/2020 12:29:27 pm
	Session last cell id	MMC=000 MNC=000 LAC=0 CID=0
	Session bytes in	1.5M
	Session bytes out	429.1K
	Last detected IMEI	3545 09
	Last detected IMEI timestamp	03/15/2018 04:34:39 pm

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For POL/POS controllers, the MTU (Maximum Transmission Unit) must be set to the maximum value: 1500.

# 12.2 System administration

## 12.2.1 System user

A Tenant Administrator  $\uparrow$  has the right to add system users and assign users a role for this System  $\uparrow.$ 

Administration > Systems > System-Building-Zug (Theilerstrasse 1a,Zug,S... > System users

Systems			Create new User
System users			Q Search
System settings	E-mail address	Role	
System plants	@gmail.com	System User Role	
Application set	10 20 50		
Suctom opporation	10 20 50		< 1 >

- The user receives an e-mail on the new system access if the e-mail account is known in Tenant↑.
- The new user is loaded to Climatix IC and also receives the information on the new system access if the e-mail account is new.

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As mentioned previously in "User [ $\rightarrow$  150]", plant users are best invited to Climatic IC in the manner described here. The user automatically receives portal role $\uparrow$  "User".

## Set limited system access

The function 'limited system access' is available to assign a defined, limited access to certain users (e.g. for servicing).

Email address:		@gm	ail.con	ı			
Expires after:							
User roles	<	< MARCH 2022					
	SUN	MON	TUE	WED	THU	FRI	SAT
	×	28	1	2	3	4	5
	6	7	8	9	10	11	12

- The user is then deleted from the system
- Access applies up to and including the selected date (23:59 hours)
- The time zone of the administrator who makes the setting, applies
- When the access rights expire, a notification is automatically sent by e-mail.

## User rights

A system user receives the same role and rights for all plants assigned to that system. For example, the user can make the same system settings on both the system and the plant.

A plant user that can access a plant assigned to a system, see only the plant and not the superposed system.

For more information on systems, see "Systems: Overview [→ 141]".

Systems
System users
System settings
System plants
Application set
System operating
Plants
Users

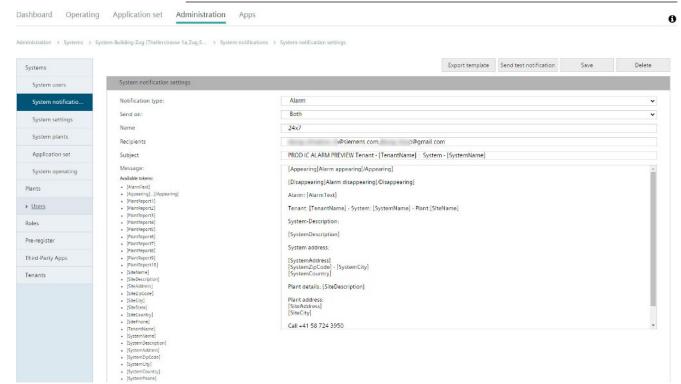
## 12.2.2 System notifications

A Tenant Administratoristrator↑ or user with the right "System upgrade/Alarm notification setup" (e.g. owner) creates one or more system messages per System↑.

"Export template" can reuse a message with the function "Create from template". "Send test notification" quickly tests the functionality without the need to wait for a concrete error.



The entered e-mail address is not verified. A message is lost to an incorrect address. Use "Send test notification".



## **Create system notifications**

#### Start

- 1. In primary navigation, select "Administration".
- 2. Click the name of the desired system.
- 3. In secondary navigation, select "System notifications".
- 4. Click "Add notification".

## Settings for system notifications

Configure the notification in "System notification settings".

- The following describes the notification type "Alarm".
  - The notification type "Report" is supported together with the Cloud API (The documentation is supplied together with the use cases).
- "Send on" triggers a notification for incoming and/or outgoing alarms. A notification is sent for both cases for setting "Both".
- Multiple recipients can be entered, with each e-mail address separated by a comma.
- Click the message token directly to add it to the notification.
- The bracket tokens [Appearing]...[/Appearing] and [Disappearing]...[/ Disappearing] are available based on "Send on". The notification includes the text as defined by you between the brackets. Only the applicable text is added to the notification for "Both".
- Tip: To add a subject line, e.g. the [SiteName], copy it from the actual message to the subject.

#### Alarm classes

• Set the type of alarm under "Alarm classes".

## Alarm times and excluded dates

- Under "Alarm times" and "Excluded dates", define the times you want to receive (or not receive) notifications.
- For "Alarm times" and "Excluded dates", an active entry is only made after

clicking "• clicking"• clicking "• cl

# Side note: Implement message routing using alarm times or excluded data

If an e-mail contact (service person) is responsible 24/7 for all alarm notifications, they will not limit alarm times nor exclude data.

On the other hand, if your organization does share alarm management to multiple e-mail contacts (service personnel), you can easily set up message routing:

- Create an alarm notification with the same wording for each service person.
- Define the times they are responsible in the applicable system notification; the exact hour with Alarm Times or the exact day with Excluded Data.
- Make sure that there are no gaps in times.

# 12.2.3 System settings

## **Basic settings**

Administration > Systems > System-Building-Zug (Theilerstrasse 1a,Zug,S... > System settings

Systems				Save	Delete			
System users	Basic Data							
System settings	Name:	System-Building-Zug						
System plants	Description:	System grouping or Site grouping test			*			
Application set		Group plants to a system Step 1 - D18: Users access are inherit fr Step 2 - D19: System Dashboards, Grap	rom System to Plant, Summery of alarm & online state hic, Files		·			
System operating	Application Set:	SystemApplicationSet-1 (Test App.Set	t for System Structure)		~			
Plants	Variant:	8088			~			
		E	ind adress					
Users	Address:	Theilerstrasse 1a						
Tenants	Zip-Code:	6300						
Roles	City:	Zug						
	State:	Zug						
Pre-register	Country:	Switzerland			~			
Third-Party Apps	Lat/Long:	47.1793577	8.5142114					
		Get coordinates						
	Phone:							
	Timezone:	(UTC+01:00) Amsterdam, Berlin, Bern	n, Rome, Stockholm, Vienna		~			
	Customer Settings 1:							
	Customer Settings 2:							

System information identifies the system and renders it easier to find. Entries are made manually or automatically (for how to proceed, see "Creating a new system [ $\rightarrow$  142]") during initial activation. Some notes on entries:

- The system name replaces the generically generated and used name
- The application set defines the access level for the user, etc.
- System-related properties (e.g. address, city) are required for sorting, grouping, and searching.
- Use "Get coordinates" to find your system's↑ longitude/latitude. Your System↑ cannot be displayed on the "Map" if this information is unavailable!
- **NOTICE!** Change the time zone to the time zone at the system location! 'Planned tasks' and the time stamp for alarms only operate after changing to the correct time zone.
- Customer plant ID is an empty text field that permits the customer to enter text. You can search and group systems by an internal numbering system.

## Additional information

To setup key performance indicators (KPIs) for systems, see: "Key performance indicators (KPIs) [ $\rightarrow$  168]".

To set up a System Dashboard, see: "System Dashboards [→ 253]".

To set up standard data, see "Plant settings [ $\Rightarrow$  212] ", "Default data for plant settings [ $\Rightarrow$  163]".

For more information on systems, see "Systems: Overview [→ 141]".

## 12.2.3.1 Assign a plant to a system

Plants can be assigned to an existing system (to create a new system, see "Creating a new system [ $\rightarrow$  142]").

Plants are assigned to a system in the plant settings.

- $\triangleright$  The target system is already setup.
- 1. Go to "Administration > Plants > [my plant] > Plant settings".
- 2. Under "System", select the desired and setup system.
- ⇒ The plant is assigned to the system.

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Only one system may be select per plant: A plant can only be assigned to one system.

#### Unassign a plant

- 1. Go to "Administration > Plants > [my plant] > Plant settings".
- 2. Click the X icon under "System".
- ⇒ The plant is unassigned from the system.

Systems			Replacing Plant	Save	Hide / Move	Delete
Plants	▼ Basic data					
Plant users	Name	Berlin-Chiller				
Plant settings	Description	Mogli (firstly POL448) 169-0(1460				
Application set		169-UCI46U				
Plant operating	Application set	Mogli (Megli TEST)				•
Users	Variant	1.0				¥
Tenants		Find the address				
	Address	Alexandorplatz 5				
Roles	Zip code	10178 Berlin				
Pre-register	City State	Berlin				
Third-Party Apps	Country	Germany				*
	Lat/Long	52.522714900	13.413663300			
		Get coordinates				
	Phone					
	Timezone	<select timezone=""></select>				~
	Connection Supervision	<default> (On)</default>				*
	Connection Supervision delay (minutes)	5				
	ICCID (MachineLink 35)					
	Customer Plant ID					
	Service+ (Changes will be updated at midnigl	t) Active for [months]: 1				
	Customer setting 1					
	Customer setting 2					
	System	System-Building-Paris				
	System plant number	System-Building-Paris				_
		System-Building-Zug				

4

## 12.2.3.2 Delete systems

When deleting a Systems  $\uparrow,$  the assignments to the system in the plant are also deleted.

The plants remain otherwise unchanged.

A user with only access rights to the system can no longer access the plant after deleting the system assignment.

The deletion process itself is described in section "Creating a new system [ $\rightarrow$  142]".

# 12.2.4 System plants

The "System plants" menu has an overview of plants assigned to a specific system.

Individual plants are displayed with the applicable state. You see an index assigned to the plant, web graphics, alarm state, online state, pending tasks, plant name, plant description, associated IDs and addresses, etc.:

Systems										G	Q Search	
System users	Index 1	0	(1-	►	Name	Description	loold	Service + (Changes will be updated at midnight)	Phone		Activation Key	Customer
System settings	1	-	<b>*</b> 30	0	Zug-HeatPump	GTE-PLANT-EnhPriv 107051-POL687	89314404000397189151		123		EZ4FAH A3BRE GILOK NMPQB XNFXE	YOUR INC
System plants	2	1	(î)		Zug:AHU	VirtPlant-0010-Owner-SUB			55-221-8	39-8111	Y2WAKA-3XOWV-E7D0J-KLXZZ-2SCVY	D024GUG
Application set	3		(R)		Zug-Chiller	My virtual plant 0002					MRJ2PU-ASCY2-EFLAW-NEWH5-AT7KU	
System operating	10 20	50									<	1 >

plants [ $\rightarrow$  215]". You can search for individual entries or partial entries of values displayed in the plants in the search field:

Index 1	0	0	Namo	Description	locid	Service + (Changes will be updated at midnight)	Phone	Activation Key	Customer Plantid
1				GTE-PLANT-EnhPriv 107051-POL687				EAH-A3BRE-GJLOK-NMPQB-XNFXE	

Click the plant name to go to menu "Plant settings [ $\rightarrow$  212]". For more information on systems, see "Systems: Overview [ $\rightarrow$  141]".

## 12.2.5 application set

The Applications set menu is a link here to "System application sets > 'my application set' > Administration".

You can set in the "User access configuration" drop-down menu, the:

- web graphic file from the graphic editor,
- dashboard file from the Dashboard Editor and
- plant

for display.

- 1. In the entry field, click under 'Basic web graphic files' or 'Dashboard file'.
  - ⇒ This opens a drop-down menu that displays available files.
- **2.** Select the file that is suitable for the role.

3			Cr	eate variant Export template	(	Copy Save	Delete
8	<ul> <li>Basic Data</li> </ul>						
ettings	▼ User access configuratio	n					
pplication	Roles	Basic sec	Basic web graphic files	Dashboard file		Plant files	HMI-PIN
ocumentation	User	6	SYSTEM-1.svg	SystemDashboardConfigurati	on-1.json	Smart Information Delivery (SID)	0000
	Service	4	SYSTEM-1.svg	SystemDashboardConfigurati	on-1.json	Tenant Online-Help	0000
	Owner	0	SYSTEM-1.svg	SystemDashboardConfigurati	on-1.json	[Show all]	0000
	Enduser	253	SYSTEM-1.svg	SystemDashboardConfigurati	on-1.json	Siemens SI BP Cloud solutions	0000
	System User Role	2	SYSTEM-1.svg	SystemDashboardConfigurati	on-1.json	Select	0000
						[Show all]	

The selection process for user access operates in the same way for both systems and plants. See "Application sets menu> Settings [ $\rightarrow$  114]".

For more information on systems in general, see "Systems: Overview [→ 141]".

## 12.2.6 System operation

The Operating menu is a link here to "Operating > Systems". For more information on systems, see "Systems: Overview [→ 141]".

# 12.3 Plant administration

## 12.3.1 Plant users

A Tenant Administrator or user with the right "Manage plant users" (e.g. Owner) adds plant users and provides them a role for this plant.

Administration > Plants	> Climatix Digital AHU VVS10 Simulated (Avtoz > Plant users	#
Plants		Add user
Plant users	自 Q Search	
Plant notifications	E-mail address   Roles	
Plant settings	@siemens.com Factory	
Application set	@siemens.com User	
Plant operating	Owner	
Users	©siemens.com Service	
Tenants	10 20 50	< 1 >

- The user receives an e-mail on the new plant access if the e-mail account is known in tenant.
- The new user is loaded to Climatix IC and also receives the information on the new plant access if the e-mail account is new.

As mentioned previously in "User [ $\rightarrow$  150]", plant users are best invited to Climatic IC in the manner described here. The user automatically receives the "User" portal role.

## Set limited plant access

The function 'limited plant access' is available to assign a defined, limited access to certain users (e.g. for servicing).

users	▼ Basic Data							
notifications	E-mail address	@g	mx.ch					
settings	Expires after							
ation set								
operating	▶ Plant Roles	<		М	AY 20	20		>
		SUI	MON	TUE	WED	THU	FRI	SAT
		26	( ×	28	<b>2</b> 9	3Q	×	X
s		X	( *	X	6	7	8	9
	Set an end date for the acces	55						

Set an end date for the access.

- The user is then deleted from the plant
- Access applies up to and including the selected date (23:59 hours)
- The time zone of the administrator who makes the setting, applies
- When the access rights expire, a notification is automatically sent by e-mail.

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Plants

Pla

Plar

Plar

App

Plar

Users

Tenan

Plant r

# 12.3.2 Plant notifications

A Tenant Administrator↑ or user with the right "Plant upgrade/Alarm notification setup" (e.g. owner) creates one or more plant messages per Plant↑.

"Export template" can reuse a message with the function "Create from template". "Send test notification" quickly tests the functionality without the need to wait for a concrete error.

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The entered e-mail address is not verified. A message is lost to an incorrect address. Use "Send test notification".

ashboard Operat	Administration		0
dministration > Plants >	NEW-TEST-GTE-PLANT (Garteristadt ,Zug, 107	lant notifications >	4
Plants		Export template Send test notification Save	Delete
Plant users			
Plant notifications	Notification type	Alarm	
Plant settings	Send on	Both	
Plant operating	Name	Alarm Notification 24x7	
· · · · · · · · · · · · · · · · · · ·	Recipients	@siemens.com,devop.cloud@gmail.com	
Jsers	Subject	IC ALARM - [SiteName]	
enants	Message	[Appearing]New Alarm[/Appearing] [Disappearing]Alarm solved[(Disappearing]	
Mant roles	Available tokens: • [AlarmText] • [Appearing][Appearing]	[AlarmText]	
Pre-register	[Disapperroj[Disapperroj]     [Rinnteport]     Pinnteport2     Pinnteport2     Pinnteport4     [Rinnteport4     Rinnteport5     Pinnteport5	[TenantName].[SiteName]: [SiteDescription] [SiteAddress] [SiteCity] Call +41 56 724 39	

## **Create plant messages**

#### Start

- 1. In primary navigation, select "Administration".
- 2. Click the name of the desired plant.
- 3. In secondary navigation, select "Plant notifications".
- 4. Click "Add notification".

## **Basic settings**

You configure the notification in "Basic settings".

- The following describes the notification type "Alarm".
  - The notification type "Report" is supported together with the Cloud API (The documentation is supplied together with the use cases).
- "Send on" triggers a notification for incoming and/or outgoing alarms. A notification is sent for both cases for setting "Both".
- Multiple recipients can be entered, with each e-mail address separated by a comma.
- Click the message token directly to add it to the notification.
- The bracket tokens [Appearing]...[/Appearing] and [Disappearing]...[/ Disappearing] are available based on "Send on". The notification includes the text as defined by you between the brackets. Only the applicable text is added to the notification for "Both".
- Tip: To add a subject line, e.g. the [SiteName], copy it from the actual message to the subject.

## Alarm times and excluded dates

- Under "Alarm times" and "Excluded dates", define the times you want to receive (or not receive) notifications.
- For "Alarm times" and "Excluded dates", an active entry is only made after

clicking " •; clicking " • deletes the entry.

## Plant notifications on plants assigned to a system

- Plant notifications are not displayed on plants that are assigned to a system.
- The plant notifications are displayed instead on the superposed system.

## Description of 'Maximum daily number of plant messages'

A max. of 200 e-mails with plant messages are sent per day. Any plant messages are sent the next day when the maximum number of e-mails is reached. Plant message number 200 includes a note that daily limit was reached and additional plant message are only sent on the following day.

The daily counter for sent messages is reset each day at 00:00 UTC (Coordinated Universal Time).

The number of plant messages sent, and not the number of plant events, are counted. You can compile multiple events into one plant message.

# Side note: Implement message routing using alarm times or excluded data

If an e-mail contact (service person) is responsible 24/7 for all alarm notifications, they will not limit alarm times nor exclude data.

On the other hand, if your organization does share alarm management to multiple e-mail contacts (service personnel), you can easily set up message routing:

- Create an alarm notification with the same wording for each service person.
- Define the times they are responsible in the applicable plant notification; the exact hour with alarm time or the exact day with excluded data.
- Make sure that there are no gaps in times.

# 12.3.3 Plant settings

## **Basic settings**

Administration	>	Plants	>	NEW-TEST-GTE-PLANT-EnhPriv	(Zählerweg 7,	>	Plant settings
----------------	---	--------	---	----------------------------	---------------	---	----------------

Plants		Replacing Plant Save Hide / Move Delete
Plant users	▼ Basic data	
Plant notifications	Name	NEW-TEST-GTE-PLANT-EnhPriv
Plant settings	Description	107051-POL687
Application set		
Plant operating	Application set	GTE-POL687-VVS11 (8 - POL687.xx/STD - POL687 standard controller)
Users		Find the address
	Address	Zählerweg 7
Tenants	Zip code	6300
Plant roles	City	Zug
	State	Zug
Pre-register	Country	Switzerland 🗸
Digital wallet	Lat/Long	47.176972700 8.513109800 Get coordinates
	Phone	123
	Timezone	(UTC+01:00) Brussels, Copenhagen, Madrid, Paris
	Connection Supervision	<default> (On)</default>
	Connection Supervision delay (minutes)	5
	ICCID (MachineLink 3G)	89314404000397189151
	Customer Plant ID	YOUR INDIVIDUAL CUSTOMER PLANT ID ABC#0815
	Service+	Active for [months]: 0 Expires after: never
	Customer setting 1	YOUR INDIVIDUAL STRING#1 - AVAILABLE via API and UI
	Customer setting 2	YOUR INDIVIDUAL STRING#2 - AVAILABLE via API and UI
	Alarm configuration	
	► Cloud	

Plant information identifies the plant and renders it easier to find.

Entries are made manually or automatically (for how to proceed, see "Default data for plant settings [ $\rightarrow$  163]") during initial activation. Some notes on entries:

- The plant name replaces the generically generated name as used.
- The application set is important for upgrades, defining user access level, etc.
- Plant-related properties (e.g. address, city) are required for sorting, grouping, and searching.
- Use "Get coordinates" to find your plant's longitude/latitude. Your plant cannot be displayed on the "Map" if this information is unavailable!
- **NOTICE!** Change the time zone to the time zone at the plant location! 'Planned tasks' and the time stamp for alarms only operate after changing to the correct time zone. When selecting a plant address using 'Find address', the time zone of the plant is set automatically (see 'Find address').
- The ICCID number is a unique ID for your SIM card. The entry leads to an online symbol with 3G supplement and display of the ICCID number as a tool tip.
- Customer plant ID is an empty text field that permits the customer to enter text. You can search and group plants by an internal numbering system.
- Customer setting 1 and 2: Individual string; usable via API and user interface.

## Find address

- 1. Click 'Find address'.
  - ⇒ The 'Select address' dialog opens.

4

•	r Basic data							
	Name			Zug-HeatPump				
	Description			GTE-PLANT-Enhl	Driv			
	Description			107051-POL687				
	Application set			Zug-HeatPump	(8 - POI 687 xx/STD - I	POL687 standard controller)		
	Variant			20.0	(0 102007.001010	ocoo, standard controller)		
				20.0	Find the address			
	Address			Zählerweg 9	This the address			
	Zip code			6300				
				Zug				
	City State			Zug				
	Country			Switzerland			0.540000	
	Lat/Long			47.177754000 Get coordinates			8.5132288	800
	Phone			123				
	Timezone			(UTC+01:00) Br	ussels, Copenhagen, I	Madrid, Paris		
		-			10 10 15 13			
		2.	Enter the addi	ress where the	e plant is locate	ed and click 'Browse	' (1).	
			A list of po	ossible matche	es opens.			
		3.	Check the dis	played addres	ses for correct	ness by clicking the	address (2).	
			➡ The extern	nal Google ma	aps service ope	ns in a new browse	r and display	/s
				ss on the map				, -
		4.	Select the cor	rect location b	ov clickina 'Appl	y address' after you	r desired	
			address (3).		, ,	, ,		
	Select addresses							×
-								
	Find the address		7.1.1.	7 (200 7				-
	Find the address		Search	g 7, 6300 Zug				2
			<u>Search</u>					
	We have found the follow	ing a	ddress data for t	he entered geo	location. Please	choose the correct or	es.	
2	Zählerweg 7, 6300 Zug, S	Switze	erland <b>2</b> Apply	address				
1	<u></u>							
1		_	The selected					
						nt's basic settings.		
		⇒	The correct tir	mezone for the	e plant is entere	ed in the plant's bas	ic settings.	
		⇒	The plant is di	isplayed on th	ne map on the I	Dashboard		
Se	rvice+	On	an existing Se	ervice+ subscr	iption, you can	select unlimited ("E	xpiration: Ne	ever")
						] months, expires o	n <date>").</date>	
				ation on Servic	e+ is available	in the glossary.		
		Ba	sic settings:					
		•			l, but the first m	onth/year is active a	as a free tria	I
		Set	month or year tting options for		eriod after logi	n.		
			•		•	dition, the first mont	h/vear is act	ive
		•	as a free trial					
		•		-		onths/years set, in a	ddition, the f	irst
					al month or yea			

After selecting the new period, a new window opens in which the newly selected expiration date must be confirmed by Service+.

You receive an e-mail notification 14 days, 7 days and 1 day in advance as the Service+ reaches its expiration date.

A Tenant Administrator can change or end the preset subscription period of Service+ at any time. The period can differ from the e-mail notifications sent to the system.

- For example if a user enters the wrong subscription period for Service+.
- Or if a user stops payment for Service+ prior to service expiration.

**Connection supervision** Activate an alarm notification for a connection failure in excess of 5 minutes:

- **1.** In the basic data, select "Connection supervision": On.
- 2. In secondary navigation, select menu "Alarm notifications".
- 3. Click "Add alarm notification".
- **4.** In addition to the text, it is the recipient e-mail address that is particularly important under Basic settings.
- 5. Under Alarm classes, select "Alarm class 4" (Connection Supervision) only.

The Tenant Administrator can change the default setting for connection supervision. This takes place at "Administration > Tenants > 'my tenant' > Basic data > Connection Supervision (Default)"

#### Alarm configuration

Each plant can have its own alarm configuration. The settings apply:

- in general, to the plant
- to each reconnect

#### Cloud

The Cloud section has informative data. The activation key plays an important role for "Delete, hide, and replace plants [ $\rightarrow$  217]".

## 12.3.3.1 Index plants

You can assign a numeric index to plants within a system. This is necessary to reference the plants in a web graphic or on a System Dashboard.

1. Go to 'Administration > Systems > [System] > System plants'

⇒ The 'Index' column indicates the assigned index for the plant.

**2.** Sort the plants  $\uparrow$  or  $\downarrow$  by its index:

Dashboard	Operating	Applicat	ion set	Admi	nistra	ation	Apps				
Administration >	Systems > Syste	m-Building-Zu	ıg (Theilers	trasse 1a,Zu	ıg,S	> System	n plants				4
Systems										G	Q Search
System use	ers	Index 1	0		<u></u>	Name	2	Description	lccld		Service + (Changes will be undated at midnight)
System set	tings	1		* 1	<del>,</del> 36 (	O Zug-H	HeatPump	GTE-PLANT-EnhPriv 107051-POL687	89314404000397	189151	
System pla	ints	2			((1-	Zug-A	<u>AHU</u>	VirtPlant-0010-Owner-SUB			
Application	n set	3		۰	(t·	Zug-C	<u>Ihiller</u>	My virtual plant 0002			
System ope	erating	10 20	50								< 1 >

Proceed as follows to assign an index number to a plant:

- 1. Click the name of the plant for indexing.
  - ⇒ Go to 'Plant settings > Basic settings'.
- 2. Enter the desired index number under 'System plant number'.
- 3. 'Save' the change.

Plant administration

stems			Save	Hide / Move	Delete
nts	▼ Basic data				
Plant users	Name	Zug-Chiller			
Plant notifications	Description	My virtual plant 0002			
Plant settings					
Application set	Application set	.DEMO-VirtPlant.Main (Virtual Plant set)			~
Plant operating	Variant	1			~
		Find the address			
ers	Address	Zählerweg 7			
ants	Zip code	6300			
	City	Zug			
es	State	Zug			
register	Country	Switzerland			•
rd-Party Apps	Lat/Long	47.176972700 Get coordinates	8.513109800	)	
	Phone				
	Timezone	(UTC-05:00) Eastern Time (US & Canada)			,
	Connection Supervision	<default> (On)</default>			
	Connection Supervision delay (minutes)	5			
	ICCID (MachineLink 3G)				
	Customer Plant ID				
	Service+ (Changes will be updated at midnight)	Active for [months]: 1 Expires after: 3/2	6/2022		
	Customer setting 1				
	Customer setting 2				
	System	System-Building-Zug			⊗ -
	System plant number	3			_

# You are mostly free to select the index numbers. Sequential number is not required; gaps in the sequence are permitted.



Duplicate index numbers are not permitted.

The system automatically sets a duplicate index number and all subsequent numbers one up. The following note displays when entering a previously used index number:

System plant number

2

The selected plant number is already in use. Setting this value will increase all following plant numbers!

If you want to retain the next higher index number, select another, new index number for the plant.

# 12.3.3.2 Delete, hide, and replace plants

### **Delete plants**

The plant is deleted, including the entire data point history and all personal settings. A controller displays in the tab "Unassigned" $\uparrow$  as a **new** plant if the controller registers in the cloud. The user can no longer access the plant. Only the tenant administration can reassign $\uparrow$  or reactivate them using an activation key. In contrast to "Hide" plant, settings specific to the plant are also deleted.

Dashibbards open	rating Application sets Adm	inistration				
Administration 🕨 Plants >	DH Tino Dev (Tength Fast Road, Claringing R	Nänikon, PS 62254 🕨 Plant sett	ings			*
Plant users			Replacing Plant	Save	Hide / Move	Delete
Plant notifications						
Plant settings	Name	DH Tino Dev				
Plant operating	Description	FS 62254-POL638				

### **Hide plants**

In contrast to deleting a plant, the specific plant settings are retained under hide plant and are immediately available on the plant is reassigned.

### **Replace plants**

"Replace Plant" typically applies to a defective controller. The workflow is the same as depicted below.

l

On the plant

Historical data remains (due to Cloud storage), with the exception of the offline time.

- ▷ The new controller is prepared with the same hardware and loaded application set.
- 1. Uninstall the defective controller and disconnect from Ethernet.
- 2. Label the defective controller and NEVER reconnect it to the Ethernet.
- Using the SCOPE tool, enter the distributor information on the new controller and enable the connection with EnableConnection (see "Connect to cloud (CSL) [→ 31]").
- **4.** Read the ActivationKey via the SCOPE browser in "SystemObjects > CSL-Config" and provide it to your tenant administrator.
- 5. Connect the new controller to the Internet.

In Climatix IC

- > You have the portal role of tenant administrator.
- 1. Check under "Administration > Plant > Unassigned" to ensure that the new plant has completed the reading of the data points.
- **2.** Select the defective controller in the "Assigned" tab and go to plant settings via secondary navigation.
- 3. Click "Replace Plant".
- 4. Enter the key for the replacement controller under "New activation key".

		Replace
Replacing plant		
Current Activation Key	6XNTQM-2UF5H-XDLHX-UQ52T-N5PV4	
Plant Name	GTE Tino Dev	
New Activation Key		

⇒ Confirm with OK to replace the controller.

Really replace this site?
OK Abbrechen

- 5. Wait about 1...5 minutes.
  - ⇒ "Plant settings" displays with all the data from the replaced controller.
- 6. Confirm takeover of the data with "Save".
- $\Rightarrow$  The new controller controls the plant the same as for the exchanged device.

# 12.3.3.3 Smart Energy Service

The 'Smart Energy Service' is an external service for controlling heating costs in district heating systems.

### Target group and use

The 'Smart Energy Service' is intended for owners or operators of buildings with a district heating supply. It monitor and analyze the energy consumption of the district heating system in real time. Further, it controls heating energy to avoid an oversupply or undersupply of district heating.

### Limitations

The 'Smart Energy Service' is currently only available on request.

♦ Contact your local Siemens sales department.

### Services

The Smart Energy Service offers:

- A new subscription: IC50.xxx.
- One basic subscription per tenant.
- An investment-related partial subscription.
- Synchronization of the system with the service provider.
- An extension to 'Billing reports' (see chapter 'Tenants [→ 156]').

# **Technical requirements**

The following technical requirements must be met in order to use the Smart Energy Service:

- A Siemens DH application for district heating systems must be available: DHv3.12.02
- Wireless room sensors must be installed in the building to be monitored.
- A 'Smart Energy Billing' subscription for the tenant and for the individual plnats.

# Activate service

### Activate the Smart Energy Service at the plant billing level

- 1. Navigate to "Administration menu > Attachments > 'Desired attachment' > Plant settings".
- **2.** Check whether the geo-coordinates of the system have been recorded correctly (1).
- 3. Select the subscription from the drop-down menu (2).
  - Three subscriptions are available for small, medium, and large district heating systems. These are categorized by energy consumption in kilowatts:

Basic-Subscription	IC50_SmartEnergy_Medium (101-250 kW) (1000)	~
	<select billing="" product=""></select>	
Synchronized to Smart-Energy provider	IC50_SmartEnergy_Large (251-400 kW) (1000)	
	IC50_SmartEnergy_Medium (101-250 kW) (1000)	
	IC50_SmartEnergy_Small (<=100 kW) (1000)	

- 4. Click 'Save'(3).
  - ⇒ The plant information was synchronized with the Smart Energy Service.
- 5. Check the time stamp under 'Synchronized to Smart-Energy provider' (4).
- ➡ With current time stamp: the plant is synchronized with the Smart Energy Service.

inistration > Plants >	run 2 (/,Einsiedeln,N → Plant sett	3	
Plants		Replacing Plant Save Hide / Move	Delete
Plant users	▼ Basic data		
Plant notifications	Name	run 2	
Plant settings	Description	New assigned, select the subscription and check to run	
Application set			
Plant operating	Application set	DH Standard v3.xx (DH Standard v3.xx)	~
Upgrade	Variant	<use latest="" variant=""></use>	~
		Find the address	
Users	Address	Transact 1	
Tenants	Zip code	8836	
	City	Einsiedeln	
Roles	State	Schwyz	
Pre-register	Country	Switzerland	~
	1 Lat/Long	47. 8.	
	Phone	<u>Cet continuter</u>	
	Timezone	(UTC+01:00) Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna	Y
	Connection Supervision	<default> (Off)</default>	~
	Connection Supervision delay (minutes)	5	
	ICCID (M2M router)		
	Customer Plant ID		
	Service+ (Changes will be updated at midnigh	t) Active for [years]: 0	
	Customer setting 1		
	Customer setting 2		
	2 Basic Subscription	IC50_SmartEnergy_Medium (101-250 kW) (1000)	~

### Activate the Smart Energy Service at the plant application level

- 1. Navigate to "Operation menu > Plants > 'Desired plant' > Web access".
- 2. In the displayed HMI4WEB interface, go to "Main menu > Commissioning > Plant configuration > General" (1).
- 3. Select 'Ext.Outs.temp.Calc.' (2).
- 4. Select 'Yes' from the drop-down menu (3).
- 5. Select 'Save' (4).

ig > Plants > Energ	gy - Small - 6.11.23 (3,Ga	gn 🕨 Web access					
t dashboard							<b>C</b> (
points 👳	CIEMENIC						
ms 🌲	SIEMENS						
access	Operating	Neb graphic		<u> </u>	e Info Metric V	English v	C
graphic	Start page 🕨 M	ain menu 🕨 Commission	ning 🕨 Plant configuration 🕨 Common	config			
rade	Clark page + 1						
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## 12.3.4 Application set

The Application set menu is a link here to "Application sets > 'my application set' > Settings".

# 12.3.5 Plant operation

The Operating menu is a link here to "Operating >'my plant' > Data points".

# 13 Apps menu

**i** 

Certain menus are hidden for your access depending on the plant/Portal role↑ and/or your subscription↑ (e.g. application set, administration, or Apps↑).

# 13.1 Dashboard editor for plants and systems

### Target group and use

The Dashboard Editor is a tool for creating User Dashboards, Plants and System Dashboards. It replaces the current function 'Edit mode' below the 'Dashboard overview' as of D18.

• Existing User and Plant, and System Dashboards are automatically migrated to the new Dashboard Editor.

The new Dashboard Editor can create separate administrator roles to create own dashboards as well as user roles with purely observer rights.

- As a consequence, the Dashboard Editor is primarily designed for administrator roles.
- All user roles can currently access the Dashboard Editor. Administrators will be able to limit access rights by roles in the future.

The Dashboard Editor functions similar to the current 'Edit mode'. However, some workflows are redesigned, for example to access the Dashboard Editor via 'Apps', highlighting data points for the 'Favorites' menu, or sorting tiles on the Dashboard. The Dashboard Editor is designed to accommodate functional extensions as part of upcoming deployments.

The Dashboard Editor is divided into:

- Plant Dashboards to generate dashboards for a quick overview of the plant state: Plant Dashboards [→ 224].
- System Dashboards generate dashboards for a quick overview of the system state: System Dashboards [→ 253].

# 13.1.1 Plant Dashboards

'Plant Dashboards' generate dashboards tailored to individual plants for your overview on your own customized home page. Follow the following workflow:

# 13.1.1.1 Setting up the desktop

### Handling the menu window

When navigating in the Apps menu<sup>↑</sup> to the Dashboard Editor, a desktop opens that

you can display in full screen mode with

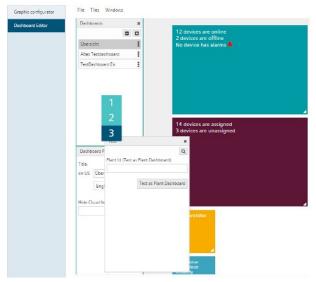
You view the workspace in various display formats to simulate the view of a finished Dashboard on different output devices:

- Narrow to viewing on mobile devices:
- Medium for viewing on tablets:
- Wide for viewing on a desktop:

You can clear individual menu windows that are currently not needed (e.g. Favorites) via "Window" to improve usability.

You can freely position the remaining menu panes or redock them.

You can sort menu windows in the 'Dock' using the number bar.



### 'Favorites' menu

The 'Favorites' menu window is the interface for moving and saving data points and tiles between the plant lists, the workspace, and various dashboards. Here:

- Drop data points from the list of plants to the Favorites menu.
- Drop created tiles to the workspace for subsequent reuse.
- Drag tiles to the workspace for use on different dashboards.

For information on how to handle the Favorites menu window, see 'Create and edit User Dashboards [ $\rightarrow$  229] '.

#### History menu window

The 'History' menu window displays and undoes work steps.

- Perform a work step in the Dashboard Editor.
- ⇒ A new entry is created.
- $\triangleright$  For multiple available entries:
- 1. Click one of the previous entries before your last performed work step.
  - ⇒ All subsequent action steps are undone.

History	×
Initial	
1. Edit Dashboard Title	
2. Select Dashboard	
3. Move Tile	
4. Edit Dashboard Title	
5. Edit Dashboard Title	
6. Edit Dashboard Title	
7. Edit Dashboard Title	

- 2. Perform a new work step.
- ⇒ The existing entries for the undone operations will be deleted.
- ⇒ A new entry is created for the newly performed work step.

	NOTICE
	Loss of existing data
Ţ	Changes listed in the history are only stored in the browser cache and are lost when you exit the window.
•	• Save your changes via the 'Save' button or export your work to avoid losing any changes.

### Clean up work areas and recreate a dashboard

- ♦ Select 'File > New'.
- $\Rightarrow$  A new dashboard is created.
- ⇒ All existing dashboards are deleted from the editor.

NOTICE		
	Loss of existing data	
!	Export the existing dashboard from the User Dashboard to an external file as a backup copy before creating a new dashboard.	
	Existing dashboard configurations are lost when running the function 'File > New'.	

Additional steps on editing a new dashboard are available 'Create and edit User Dashboards [ $\rightarrow$  229]'.

### Import function and switching between dashboards

Select 'File > Import' to import an existing dashboard saved to a file that was previously exported to the workspace.

As an alternative, you can import an existing User Dashboard directly from the Dashboard menu to the Dashboard Editor. Select 'File > Import User Dashboard'. You can also create a dashboard package. It is a group of dashboards that can be imported to an App set.

• Switch between dashboard in 'Window > Dashboard List'.

#### Save

- 1. Select a dashboard.
- 2. Click the disk icon in the upper right-hand corner to save the dashboard.
- $\Rightarrow$  The dashboard is temporarily saved to the browser cache.

### Save as User Dashboard

- **1.** Select a dashboard.
- 2. Saved the selected dashboard as a User Dashboard via 'File > Save as User Dashboard'.
- ⇒ The selected User Dashboard can be displayed via 'Dashboard > Overview'.

	NOTICE
!	<b>'Undo' function is unavailable</b> Ensure that you do not unintentionally overwrite any User Dashboards in 'Dashboard > Overview'. There is no 'Undo' function and the delete is permanent.

### Export

- 1. Select an existing dashboard in the Dashboard menu.
- 2. Export the dashboard in 'File > Export'.
- ⇒ This generates a JSON file and saves it to your default download folder.

### Create and archive dashboard packages

When exporting via 'File > Export', ALL dashboards in the Dashboard Editor are automatically exported to the target file. They form a dashboard package.

Rename the target file identify and reuse your dashboard package.

#### Select, move, and scale tiles

#### Select:

- ♦ Select individual tiles.
  - A small triangle displays in the upper right-hand corner of the tile.
- $\Rightarrow$  The tile is switched to enabled.
- Simultaneously select multiple tiles.
  - Select two tiles using 'Shift' and mouse click.
  - ⇒ All tiles in between are selected.
  - Select two tiles using 'CTRL' and mouse click.
  - ⇒ Only the tiles that have been clicked are selected.
- ⇒ The select tiles are enabled.

#### Only in the Favorites menu: Select all tiles

- ▷ There are tiles in the Favorites menu.
- Click the icon
- ⇒ All tiles in the Favorites menu are selected.

#### Move:

- ♦ Drag [ $\rightarrow$  228] the tile to the desired location.
- ⇒ The tiles resort with the neighboring tiles based on the target location.
- $\Rightarrow$  The tiles do not need to be enabled to move them.

#### Move to 'Favorites'

- ♦ Drag and drop [→ 228] one or more active tiles (See 'Select') to the 'Favorites' menu while holding down the 'CTRL' key.
- ⇒ The activated tiles are saved under 'Favorites'.

#### Zoom

- Select the white triangle in the lower right-hand corner of an enabled tile.
  - Drag the triangle to the workspace to scale the enabled tile.
- $\Rightarrow$  The tile changes size based on the direction.

### Edit tiles

#### Edit individual tiles:

- Select an individual tile.
- ⇒ Any individual properties can be changed.
- ⇒ Individual tiles can also be deleted.
- $\Rightarrow$  Data point tiles can be assigned with drag-and-drop [ $\Rightarrow$  228] to a diagram tile.

#### Edit tile groups:

- Simultaneously select multiple tiles.
- $\Rightarrow$  You can change the tile titles and color on all the tiles.
- $\Rightarrow$  You can also delete all the tiles.

### Short cuts

You can use the common key combinations with the Dashboard Editor:

### Multiple tile selection

- Click multiple tiles.
  - Keep 'Shift' press.

#### Drag tiles or values - Drag-and-drop

- Move tiles or values with the left mouse key.
  - Keep 'CTRL' key.

#### Delete tiles

Use the 'Delete' key on the keyboard.

#### Repeat or undo actions

- $\triangleright$  You have performed a work step.
- ♦ Press 'CTRL + <P>'.
- ⇒ The last performed operation is repeated.
- ♦ Press 'CTRL + <Z>'.
- $\Rightarrow$  The work step is undone and the original state is restored.

# 13.1.1.2 Create and edit User Dashboards

### NOTICE

### Loss of changes Save the changes with the diskette icon after each step. Otherwise, your changes are lost when existing the Dashboard Editor or deleting content.

# **Create a Dashboard**

- 1. In the menu window, select 'Dashboards > + [add new dashboard]'.
- 2. As an alternative, right-click the menu field and select 'Add new dashboard'.
- ⇒ A new dashboard is created with the name 'No title'.

# Delete an existing dashboard

- 1. In the 'Dashboards' menu, select a dashboard to delete.
  - ⇒ The dashboard is highlighted in color.
- 2. In the menu window, select 'Dashboards > [remove selected dashboard]'.
- **3.** As an alternative, right-click the menu field and select 'Remove selected dashboard'.
- ⇒ The highlighted dashboard is deleted.

### Enter a dashboard title in multiple languages

#### Enter a dashboard name in the preset language en-US:

- 1. In the Dashboard menu, select the dashboard to rename.
- 2. In 'Dashboard Properties', enter the English name of the dashboard in 'Title > en-US'.
- ⇒ The entered name is displayed in Dashboards.

### Enter dashboard names for other languages:

- **1.** In 'Dashboard Properties', select the target language from the drop-down menu.
- 2. Add the selected language with 'Dashboard Properties > + [Add translation]'.
  - ⇒ A new text entry field is available in the selected language.
- 3. Enter the dashboard name in the selected language variant.
- ⇒ The entered name is displayed in Dashboards.

# Menus and data points to dashboard

- Click the pin icon [ 
   ] of any menu to add the element to the dashboard as a tile.
- ⇒ The new tile displays in the Dashboard Editor under 'Favorites'.

# Drag tiles to the various storage locations

Tiles can be moved to various locations in the Dashboard Editor:

- Within the workspace.
- Between workspace and favorites.
- From the workspace or favorites to individual user dashboards in 'Dashboards'.
- Data point tiles can be dragged to diagram tiles.
- Diagram tiles can be dragged to multichart tiles.
- ♦ Use drag-and-drop [ $\rightarrow$  228] to move tiles between the various menus.

# Create an empty tile template

- 1. Right-click the workspace and select 'Add new Tile'.
- 2. Left-click a tile variant.
  - ⇒ A new tile displays in the workspace.
- 3. Select the new tile in the workspace.
- 4. Edit the tile in 'Tile properties'.
- 5. Drag the tile to 'Favorites' to save it.
  - Click the tile and press the 'CTRL' key to drag it to Favorites.
- $\Rightarrow$  The tile is saved and can be integrated by dragging it to other dashboards.

For an overview of available tiles: See section 'Available tile types [ $\rightarrow$  240]'.

### Edit tiles

Tile properties can be edited. The type of tile determines which parameters can be edited.

- ♦ Highlight the tile for editing in the workspace.
- ⇒ The parameters that can be edited for this tile type display in 'Tile Properties'.

A tile cannot change its display type once created. For example, a text tile cannot be converted to a data point tile, a bar tile cannot be converted to a line tile, etc.

# **Delete tiles**

- 1. Right-click to select a tile to delete.
  - Select all tiles for removal [→ 228] to remove multiple tiles at the same time.
- 2. In the drop-down menu, select 'Remove selected Tiles'.
  - Or simply use the delete key on the keyboard.
- ⇒ The select tiles are removed from the workspace.
- ⇒ When multiple tiles are selected, all selected tiles are deleted.

# Display dashboard data points in charts

Add one or more data tiles to a dashboard:

- 1. Right-click in the workspace and select 'Add new Tile > Line Tile'.
  - ⇒ A new, empty tile displays in the workspace.
- 2. Select the tile.
- 3. Enter the appropriate data in 'Tile properties':
  - Under 'Default', select the Token↑ and tile color.
  - Under 'Data points' via '+ [add Datapoint]', new data points.
  - Under 'Axis' via '+ [add Datapoint]', new data points, a new designation as well as minimum and maximum values for the vertical axis.
  - Under 'Line chart' refresh interval and period.
  - Under 'Key' the position of the key.
- 4. Select a data point tile.
  - Press 'CTRL' and drag the selected tile to the diagram tile.
- ⇒ The data points are edited in a diagram and displayed in the selected type.

# **Optimize charts**

Optimize available charts:

- 1. Select the desired chart tile.
  - Highlight multiple tiles with Multiple select [ $\rightarrow$  228].
- **2.** Go to 'Tile Properties' to modify or optimize the display.

Example:

- Change the position and orientation of the key
- Shorten displayed data point names with 'Display as'.
- Define data point labeling, axis labeling, and axis position
- Define own scaling instead of automatic scaling, using min./max. values
- Create additional axis and assign data point series to the axis

**i** 

Only tile titles and colors can be edited when selecting multiple tiles. See 'Edit tiles [ $\Rightarrow$  224]'.

Conversely, all properties specific to an individual tile can be edited.

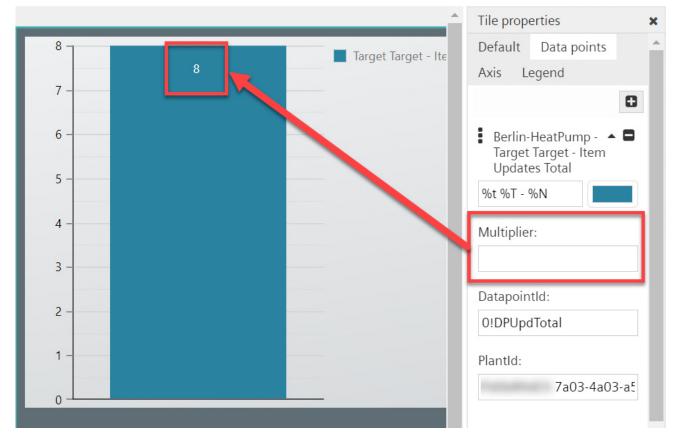
# Scaling data point values

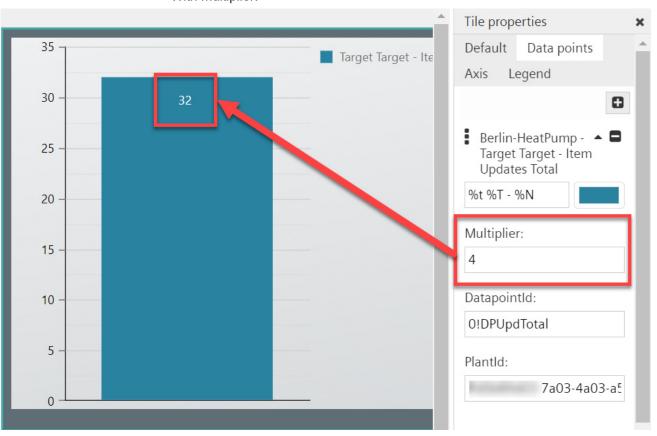
A simple conversion can change how data points display in diagrams. Data points have a multiplier available in the dashboard editor. It can display the real data as transmitted by the plant by a factor x in the dashboard.

The function can be used, for example, to:

- Convert a negative value to a positive value.
- Increase the size of a very small value in a diagram.
- Decrease the size of a very large value in the diagram.
- Convert a value to another unit, for example, Wh to kWh.
- 1. Go to a data point tile.
- 2. Select 'Data points'.
- **3.** On the data point, expand the menu by clicking  $\mathbf{\nabla}$ .
- 4. Enter the multiplier for the data point in the 'Multiplier' field.
- ⇒ The data point is multiplied by the multiplier and displayed to the new size.
- ⇒ The new value is used for display on the dashboard and web graphic but has no effect on the original values.

No multiplier:





With multiplier:

### Pie chart: Display value in color

You can assign specific colors to the bar gauge:

- **1.** Go to 'Tile properties > Display'.
- 2. Click 'Add Color'.
- 3. Click 'Color Ranges' and select a color.
- **4.** Enter a value in the field as the starting point for display the selected color in a pie chart.
  - ➡ The color in the pie chart changes to the preset color as soon as the entered value is reached.
- 5. Repeat the process to enter various colors at different values.

Tile prop	erties			×
Default	Datapoints	Gauge		
Gauge mi	n			-
0				
Gauge ma	ах			
100				
5.0				1
5.0				1
12.5				
			Add Color	

NOTICE	
	Token support
i	All diagram entries that define a display field for a tile, offer token support. Available tokens↑ (including an explanation) are offered automatically. The following are available:
	<ul> <li>Climatix IC tokens specific to a plant, e.g. [SiteName], [SiteAddress], etc.</li> <li>Data point-specific controller tokens (%t, %T and %N)</li> </ul>

# Provide the ability to hide user User Dashboards

In the introductory section on dashboards, we mentioned that Application Administrators can design User Dashboards to provide them as Plant Dashboards to assigned plants and operators. The procedure is explained in 'Create dashboards specific to applications for individual roles [ $\rightarrow$  251]'. Application sets distribute these application-specific dashboards. Application engineers create the application sets and the sets must operate in the field for different plant variants. For example, some of the plants may have 3 heat generators, but variants may have 2 heat generators. Hide Plant Dashboards referring to the 3rd heat generator on plants that have no data points for the 3rd generator. This can be provided with the User Dashboard.

- 1. Highlight a User Dashboards in the 'Dashboards' menu.
- **2.** In 'Dashboard Properties', enter a data point from SCOPE in field 'Hide Cloud Item' that does not exist on this type of plant. The dashboard is hidden for the corresponding plant during operation.

Dashb	oard Properties	×
Title:		•
en-US	Übersicht	
	English (Ur 🗸 🕒	
Hide Cl	oud Item:	
		•

•	
1	

The SCOPE engineering section as well as the description for KPI in this documentation are helpful on working with SCOPE.

### **Test User Dashboards**

Select a plant and test the complete dashboard as Plant Dashboard or User Dashboard.

- 1. In the 'Dashboards' menu, select a User Dashboard.
- **2.** Select 'Tests' in the menu using the 'Magnifying glass' and the Plant ID from the drop-down menu.
- 3. Click the command line 'Test as Plant Dashboard'.
  - ⇒ The User Dashboard is tested as a Plant Dashboard.
  - ➡ The command line changes to 'Test as User Dashboard'.
- 4. Click the command line 'Test as User Dashboard'.
  - ⇒ The User Dashboard is tested as a User Dashboard.

# Set User Dashboards for various display sizes

# Set the dashboard view to display on devices at different screen sizes:

The User Dashboard always displays at the same width by default. The dashboard does not change when altering the size of browser, rather it stays the same size but with scroll bars. The fixed layout can, however, be changed to a responsive layout by adapting the dashboard size to the browser window:

- 1. In the 'Dashboards' menu, select a User Dashboard.
- 2. In 'Dashboard properties' (1), select 'Dashboard layout' (2).
  - Select 'Responsive layout' (3) from the drop-down menu.
  - Or: Select 'Fixed layout' (4).

Apps

- ⇒ An entry field displays over the dashboard to enter 'Grid columns' (5).
- ⇒ A 'Grid column' refers to the width of the narrowest available tile type.
- 3. Enter the number of columns under 'Grid columns' (5).
  - Within the set column grid, drag a tile to a specific position.
  - ➡ The newly positioned tile is displayed at the same preset position on the User Dashboard each time the desired number of columns is queried. It remains there regardless of screen size of the User Dashboard.
  - Conversely, the tile is displayed in a different position when querying other column numbers. To display a preset dashboard layout at another number of columns: see "Copy dashboard layout".
- 4. Use 'Responsive layout' (3) to display the dashboard at a flexible width.
  - ➡ The User Dashboard adapts to the width of the browser window. The fixed layout is switched off.
- 5. Use 'Fixed columns' (4) to display the dashboard at a constant width.
  - The User Dashboard is displayed in its full width regardless of the width of the browser window. You have to scroll to the hidden areas of the dashboard if the browser window is narrower than the dashboard. The responsive layout is switched off.

Plant Dashboard	Í.	File Tiles Tools Wind	dows	5	Grid-Columns: 7	B	0 ¢
System Dashboard	1	Dashboard Properties	×			Tile properties	×
Benchmark Dashboard			1	151 devices online 4 devices offline	Manage your application sets	No tile selected	
Graphic Configurator	2	Dashboard layout Responsive layout	Ĵ	6 devices with alarms			
Scripting editor	3	D fault Responsive layout	-				
Alarm Dashboard	4	Fixed layout	-				
Rule Editor			-				
Report		Dashboards	×				
Developer API		Overview	•	Plants	Plant application set		
				166 devices assigned 12 devices unassigned			
		History	×			Favourites	×
		Initial					C 口 0
		Test	×	Administration Administration Starget Target - Item Updates Total 51770	Administration	Textlext	Berlin Plant Dashbo

Dashboard Operating Application set Administration

### Copy dashboard layout

'Copy dashboard layout' copies a layout at a specific dashboard width. The copied layout is transferred to a new target width. The dashboard has the same layout in both views, regardless of the display width as displayed in the browser window.

- Note: Use copy at any time individual tiles are fixed to a specific position.
- ▷ A dashboard layout was set up (see "Set the dashboard view to display on devices at different screen sizes").

#### 1. Go to "Tools".

Dashboard	Operating	Application set	Administration	n Apps
Apps 🕨 Plant Da	shboard			
Plant Dashboa	rd	File Tiles Tools	Windows	
System Dashbo	bard	Dashboard I Copy gri	id column layout	vices online
Benchmark Da	shboard		4 devic	ces offline ces offline
Graphic Config	gurator	Dashboard layout Responsive layout	v levic	es with alarn
Scripting edito	r	Tile order algorithm:		
Alarm Dashboa ⇔ The "Co		Default layout" windows ope	ens.	
	olumn Layou			
Copy current layou	it to columns.			
From column:	To col	umn:		
7	8			
	Cancel	Сору		

- 2. The dashboard start width (in columns) is indicated in the 'From column' field.
- **3.** The dashboard target width (in columns) is indicated in the 'To column' field.
- 4. Click 'Copy'.
- ⇒ The layout of the dashboard display in the original width is transferred to the dashboard display at the new width.

### Hide white spaces on user dashboards

The positioning of tiles on the user dashboard may result in white space between the tiles. The 'Tile Order Algorithm' automatically organizes the tiles on the user dashboard without the spaces.

- **1.** In the 'Dashboards' menu, select a user dashboard.
- **2.** There are two possible choices in 'Dashboard Properties' under 'Tile order algorithm':
- ⇒ 'Default': The tiles are positioned on the user dashboard as specified by the user.
- ⇒ 'Fill gaps': Tiles are automatically organized in the depiction in the Dashboard menu without gaps.

Dashb	oard Properties	×
Title:		
en-US	Overview	
	English (United Kingdo 🗸	0
	oud Item:	
Tile Ord	ler Algorithm:	
Tile Oro defau	der Algorithm: It	~
Tile Ord	ler Algorithm: It It	~

# 13.1.1.3 Available tile types

For basic information on creating and operating tiles such as integrating data points, scaling, positioning, saving, and deleting: See section 'Create and edit User Dashboards [ $\rightarrow$  229]'.

### **Text Tiles**

- Depicts own texts.
- Using markdown syntax to edit.
- Existing tiles cannot be edited; they must be reimported.

# **Datapoint Tiles**

- Depicts individual data points.
- Select specific data points directly or use the search function.
- 1. Go to 'Tile properties > Data point' and select
- 2. Select the data point directly from the drop-down list (sorted alphabetically).

Q

Tile prop	erties		×	
Default	Datapoint			
			Q	
Choose	Datapoint			
Filter				
🖯 AHU	J 4.10 test RU			
🕒 Ber	lin-AHU			
🕒 Ber	lin-Chiller			
🕒 Ber	lin-HeatPump			
E5E QVG54	AFI-EUKCL-E3	DJY-C27Y7-		
1 2 3	« 3 4 5 6 7 > 3	< 8 9 10 1 »	1 12	
		5 H		
<b>6.</b> OR c	lick the text	field next to	Q	and enter the name of
Tile prop	erties		×	
Default	Datapoint			
			Q	
Choose	Datapoint			
Ber				
🖬 Ber	lin-AHU			
🕒 Ber	lin-Chiller			
🕒 Ber	lin-HeatPump			

⇒ Available plants are displayed when entering the data and can be selected.

the desired plant.

- Click '+' to open the plant.
- Select the desired data point.
- ➡ The list reopens at the same location of the last data point the next time you search for a data point.

### Webpicture tiles

- Integrates web graphics.
- $\triangleright$  The graphic must be available as a .svg file.
- 1. Click 'Embedded web picture'.
- 2. Go to your file storage and highlight and open the file for integration.
  - $\Rightarrow$  The web graphic is now integrated in the webpicture tile.
- **3.** In 'Tile properties > Web graphic', select the associated plant via



- **4.** OR load the dashboard to a plant.
  - ⇒ The ID of the current plant replaces the old plant ID.
- ➡ The web graphic of the selected plant is integrated in the dashboard and plant data is displayed in the web graphic.
- ⇒ The web graphic can be viewed on the dashboard and in the plant's web graphic menu. The SVG graphic is also assigned to the application set.
- OR pin the web graphic to Favorites (plants only).
  - $\Rightarrow$  The web graphic is saved to the clip board in Favorites.
  - Drag the web graphic from Favorites to your dashboard.
- ➡ The web graphic can be viewed on the dashboard and in the plant's web graphic menu. The SVG graphic is also assigned to the application set.

# Bar gauge tile

- Depicts multiple data points as a bar gauge.
- ♦ Set the display of the bar gauge in tile properties:
  - Data points for display
  - Minimum and maximum display values
  - Color scaling of the rings according to the value specification (functional description: See chapter 'Create and edit User Dashboards [→ 229] ')

# **Circular Gauge Tile**

- Displays multiple data points as a circular gauge.
- Set the display of the tacho diagram in tile properties:
  - Data points for display
  - Minimum and maximum display values

# Bar tile

- Display multiple data points as a bar tile.
- 1. Set the position of the bar tile in Tile properties:
  - Data points for display
  - Labeling and positioning of the axes and setting the units on the axes
  - Labeling and positioning of the diagram key
- **2.** Set the color of the displayed values of individual data points in the Tile properties under 'Data points':
  - Click the color field next to the data point.
  - ⇒ This opens a select window for colors.
  - Select the desired color for your data point.
  - ⇒ The bar graph for your data point changes to that color.

File Tiles Windows 8 0 Berli **Dashboard Properties** × Tile properties Default Data points 200000000 2000000 Title Target Target - Item Updates Total Axis Legend Configuration Target Target - Traffic Outbound Total en-US Berlin-Chiller - Target 📮 1500000 150000000 Target - Item Updates Total de-DE Konfiguration %t %T - %N Dashboards × 1000000 100000000 • Berlin-Chiller - Target 500000 0000000 Overview . Target - Traffic Outbound Total Configuration D 1 %t %T - %N 0 Ŧ . Zua En History × . 18. Move Tile 19. Move Tile 20. Move Tile 21. Move Tile 0 Test × R: 135 Q G 150 Plant ID (test as plant dashboard) В 40 879628 hts Reserved OK Cancel Support INEW | OSS | Corporate Information | Privac kie Notio

### Hide Y axis in a bar chart tile

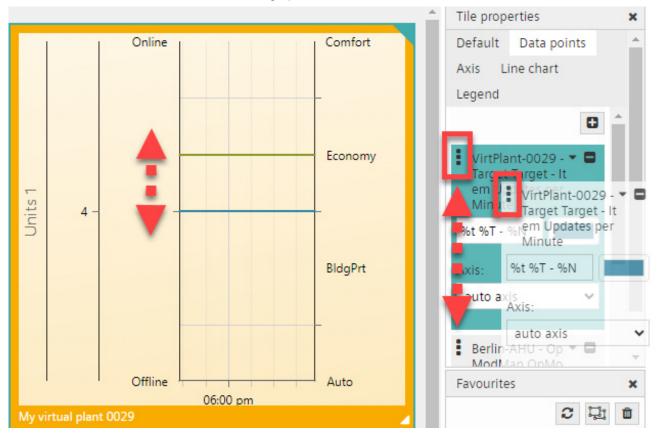
All Y axes can be hidden in the bar chart tile to save space. See section 'Hide Y axis in a chart tile [ $\rightarrow$  247]'.

### Line tiles

- Displays multiple line data points as a line tile with adjustable update intervals.
- 1. Set the position of the line tile in Tile properties:
  - Data points for display
  - Labeling and positioning of the axes and setting the units on the axes
  - Update interval and displayed timeframe
  - Labeling and positioning of the diagram key
- **2.** Set the color of the displayed values of individual data points under 'Data points':
  - The same as described in 'Bar tiles'.

# **Changing the sequence of displayed data points after the fact** The sequence of the displayed data points in line tiles can be resorted after the fact.

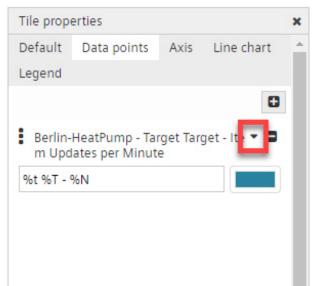
- 1. In the line tile diagram, go to Tile properties.
- 2. In the 'Data points' tab, drag individual data points to the desired sequence.
  - Select next to the data point designation and hold the left mouse button and drag up or down as needed.



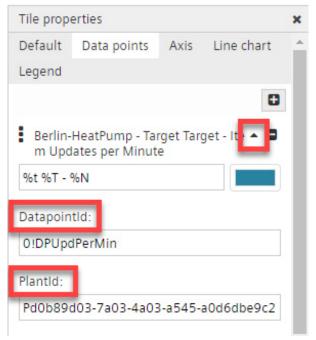
### **Display additional Information on data points**

Additional information can be displayed and edited to improve the overview:

- 'DatapointId': The ID number of the data point.
- 'PlantId': The ID number of the plant to which the data point is assigned.
- 1. In the line tile diagram, go to Tile properties.
- 2. In the 'Data points' tab, click the ▼ icon.
  - Additional information opens.



- **3.** In the 'Data points' tab, click the  $\blacktriangle$  icon.
  - Additional information closes.



### Hide Y axis in a line chart tile

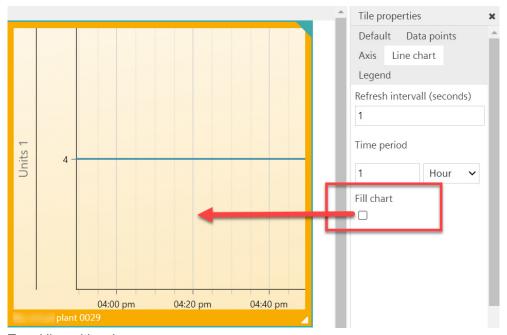
All Y axes can be hidden in the line chart time to save space. See section 'Hide Y axis in a chart tile [ $\rightarrow$  247]'.

### File out the trend lines in the line chart

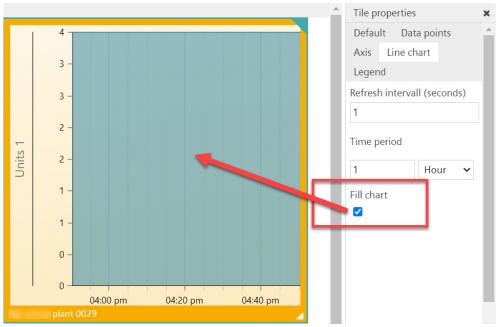
The area below the diagram line can be highlighted in color within the line chart.

- **1.** In the line tile diagram, go to Tile properties.
- 2. In the 'Line chart', select 'Fill chart'.
- ⇒ The area below the trend line can be highlighted in color.

Trend line without color:



Trend line with color:



### **Multichart tiles**

• See section 'Setup and operate a multichart tile [ $\rightarrow$  249]'.

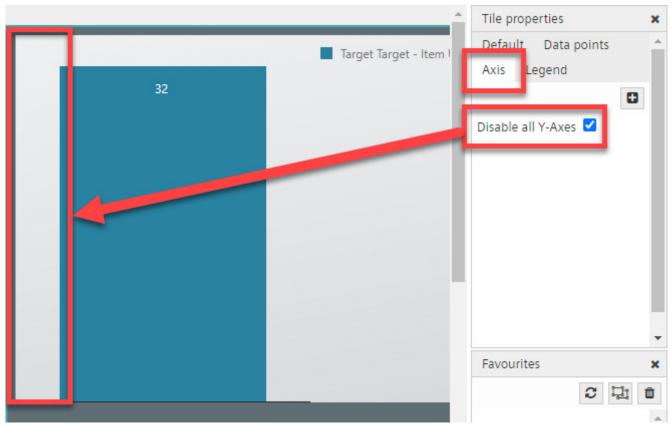
### **IFrame tiles**

- Integrates external web pages
- > The web page for integration must permit iFrame integration.
- In 'Tile properties', in field 'Source', enter the https://address of the web page to be integrated.
- $\Rightarrow$  The integration web page is displayed in the IFrame tiles.

### Hide Y axis in a chart tile

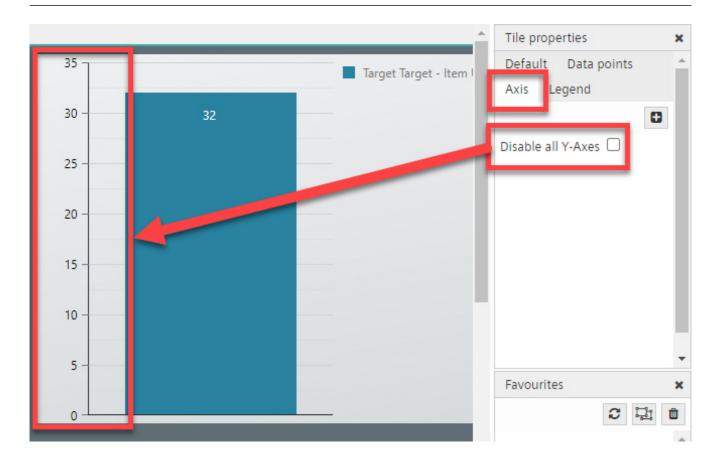
All Y axes can be hidden in the chart tile to save space.

- $\triangleright$  A bar chart tile or line chart tile is setup.
- 1. Go to '[Desired tile] > Tile properties > Axis'.
- 2. Select 'Hide all Y-axes'.
  - $\Rightarrow$  The Y axes are hidden in the tile.



3. Clear 'Hide all Y-axes'.

 $\Rightarrow$  The Y axes are shown in the tile.



## 13.1.1.4 Setup and operate a multichart tile



"Create and edit User Dashboards [ $\Rightarrow$  229]" describes how to create charts on the dashboard.

A multichart tile is a tile that includes multiple line charts. Readability and client performance are the only limits to the number of charts.

The Trend Viewer for the 'multichart tiles' displays a stacked view of the integrated line charts. This has the following benefits:

- Common settings for the monitoring period.
- Common data export.
- In the stacked view, interactions and differences in data are easier to identify than on individual charts.

Proceed as follows to create a multichart tile:

- > At least 2 line chart tiles, each with data points, are created on the dashboard.
- **1.** Go to the Dashboard Editor.
- 2. In the workspace, left-click and select 'Add Tile'.
- 3. Select 'Multichart Tile'.
- 4. Design the 'multichart tile' to meet your needs (title, legend, orientation, etc.).
- 5. Drag both diagrams to the 'multichart tile'.
  - Select a data point tile.
  - Drag the tile per drag-and-drop [→ 228] to the 'Multichart tile'.
- **6.** Highlight the multichart tile and check with "Edit Tile" if both charts were actually set up.
- 7. You can change the sequence of the charts here.
- 8. Save and export your dashboard.
- 9. Return to the dashboard view.
- **10.** Right-click 'Multichart Tile' > Trend Viewer (recommended: in a new tab) to start Trend Viewer.
- ⇒ The view is similar to the figure on the next page.

Make sure that only one tile is highlighted to edit it.

Hint



# 13.1.1.5 Create dashboards specific to applications for individual roles

- "For specific applications" means that controllers from different application sets cannot be mixed--in contrast to the "Overview" dashboard.
- Log in using the role that is also intended for the new dashboard to further tailor it to individual roles. This ensures that only visible menus and data points are integrated.

### **Recommended procedure for creating Plant Dashboard**

- You have the portal role of Tenant Administrator to plan and organize Plant Dashboards.
- > You have access to a controller with a typical or exemplary application set.
- 1. Click "Add user" in "Administration > Plants > [exemplary plant]" to accept the individual role.
- 2. Enter an e-mail test account and assign a role for the e-mail account.
- 3. Close the process with "Save".
- **4.** Log in with each of the e-mail test accounts in Climatix IC and create a dashboard with "Add dashboard" for this role.
- 5. Use only data points from the exemplary plant when integrating the data points.
- **6.** For each procedure, save the created dashboard (or multiple dashboards) with "Download dashboard".
- 7. Ensure that you assign a self-explanatory file name to the saved dashboards.
- 8. Log in again as Tenant Administrator to access the application set menu.
- Load the dashboard file for the specific application under "Application sets > 'corresponding application set' > Application > Area: Cloud files" to the application set (additional details available in the appropriate menu description).
- Assign the dashboard file to your role under "Application sets > 'corresponding application set' > Administration > Area: User access configuration" (additional details available in the appropriate menu description).
- ➡ New users find (on all controllers using the corresponding application set) that the Plant Dashboard is customized to its role.

**Additional information** Dashboards specific to an application for individual roles or "Plant Dashboards", are the topic of the following sections:

- "Plant Dashboard [→ 84]"
- "Plant files [→ 132]", sub-section "Cloud files".
- "Settings [→ 114]v, sub-section "User access configuration".
- For information on importing an application set, see:
- "Application sets menu [→ 113]"

# 13.1.1.6 Combine dashboards

### Import dashboards:

- 1. Go to 'File > Import'.
- 2. Open a dashboard configuration saved as a .json file.
- 3. Select or clears dashboards for import by click up or down.
- 4. Highlight 'Select All' to import all User Dashboards.
- ⇒ All User Dashboards are selected for import by default:

Import user	dashboards	×
Select all:		
Übersicht		
Altes Testdashbo	bard	
TestDashboard E	'n	
Cancel	Import selected dashboards	Import selected dashboards into current dashboard

- 1. Select 'Import selected dashboards' to overwrite the existing dashboard.
- **2.** Select 'Import selected dashboards into current dashboard' to add the new dashboard to an existing one.

### Import multiple User Dashboards:

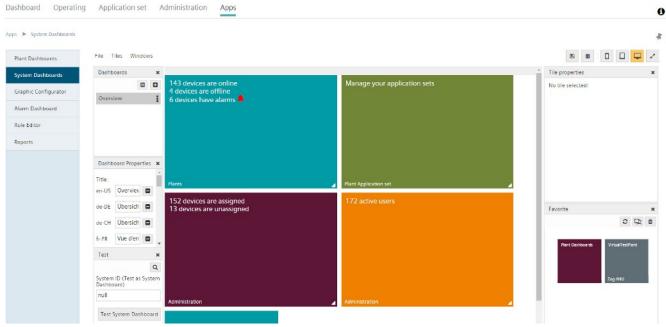
This process is similar to the process described in the previous section.

- 1. Go to 'File > Import User Dashboard'.
- 2. Select or clears dashboards for import by click up or down.
- 3. Continue as described in 'Import dashboards'.

### Export User Dashboards:

- **1.** Go to 'File > Export'.
- 2. Select or clear the dashboards for export.
- ⇒ All User Dashboards are selected for export by default:

Save user dashboards				
Select all:				
Overview				
Configuratio	n D			
	Cancel	Export selected dashboards		



## 13.1.2 System Dashboards

You need system dashboards to display "Systems [ $\rightarrow$  140]".

You can generate a System Dashboard for your own system in the System Dashboard Editor. The editor for system dashboards largely matches the goals, functionality, and handling of the editor for "Plant Dashboards [ $\rightarrow$  224]".

In contrast to Plant Dashboards, System Dashboard may only:

- Integrate data points that exist in systems.
- Import system dashboards.
- Under 'Favorites', deposit only link tiles from systems.

The system dashboards also have new tokens specific to the system that can be integrated in tiles:

- [SystemName]
- [SystemAddress]
- [SystemZipCode]
- [SystemCity]
- [SystemCountry]

The System Dashboard Editor displays only tenants with the appropriate system rights.

For more information, see "System settings [ $\rightarrow$  205]", "Plant settings [ $\rightarrow$  212]". For more information on systems, see "Systems: Overview [ $\rightarrow$  141]".

## 13.2 Energy dashboard

The 'Energy Dashboard' can create an additional dashboard that is tailored to the presentation of individual data points on energy consumption values in chart form. It serves as an alternative to exporting data to an Excel spreadsheet outside the Climatix IC environment.

#### Target group and use

The 'Energy Dashboard' function is intended for use by different user roles. The function is always activated in the tenant by default and can be activated there for the individual, available system roles in the tenant.

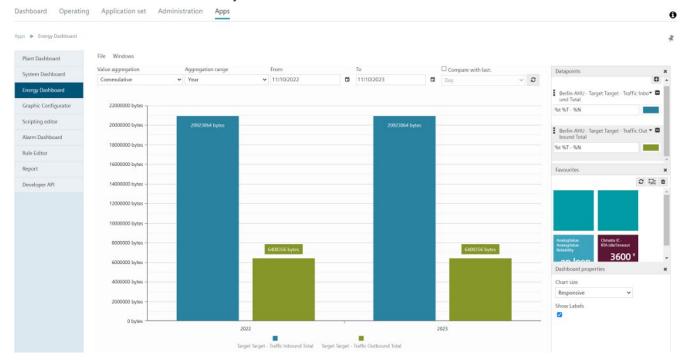
The Energy Dashboard creates comparative views between:

- Different time periods of a data point.
- Various data points.

One or more data points with energy consumption values can therefore be selected, which are then displayed with their value characteristics in a bar chart for comparison over defined periods of time. The comparison function is primarily intended for comparing energy consumption data.

#### Limitations

- A maximum of 600 COV updates or cloud item updates can be displayed in the Energy Dashboard within a selected time period.
- Data points that do not contain energy consumption data can also be integrated on the Energy Dashboard. However, the Energy Dashboard is not designed for this and does not display a bar chart that can be meaningfully analyzed in this case.



## 13.2.1 Activate the Energy Dashboard for a role

- 1. Go to the menu "Administration > Roles > 'Desired role' > Privileges".
- 2. Select the 'Energy Dashboard' box.
- ⇒ The selected user role can access the 'Energy Dashboard' function in the Apps menu.

Systems			Save Delete
Plants	Basic Data		
Upgrade	♥ Privileges		
Users	Plant / Data Point Access	8	
Tenants	Plant / Single-Upgrade		
	Plant / Manage Users		
Roles	Plant / Manage Settings		
Pre-register	Plant / WebHMI Access		
	Others / Remote-Tool-Adapter	0	
Digital wallet	Others / CloudAPI Plant Access	0	
M2M router	Plant / Files		
Third-Party Apps	Plant / File Access		
minorranty Apps	Plant / Report notifications		
	Plant / Alarm Access		
	Plant / Alarm Notifications	0	
	Plant / Dashboard		
	Plant / Scheduler		
	Plant / Web-Graphic		
	Plant / Billing Service+		
	Plant / ICCID-Customer-Settings		
	Plant / Customer-Plant-ID	0	
	Plant / Data Points View		
	Apps / Plant Dashboards		
	Plant / Expert mode upgrade		
	Plant / Manage subscriptions		
	Tenant / API documentation		

## 13.2.2 Setting up the desktop

With the Energy Dashboard, the individual menu windows can be selected, deselected or moved, as with plant dashboards. See chapter 'Setting up the desktop [ $\rightarrow$  224]', paragraph 'Menu window handling'.

Prerequisite: The Energy Dashboard has been activated for the user role. See Activate the Energy Dashboard for a role [ $\Rightarrow$  255]'.

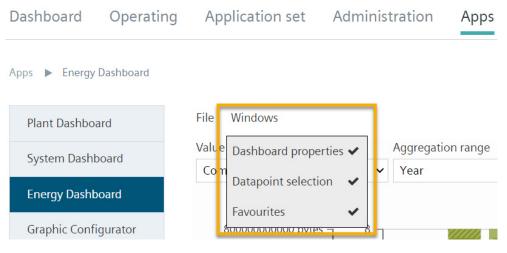
#### Select or clear window

Select:

- 1. Go to 'Window'.
- 2. Select the desired window from the drop-down menu.
- $\Rightarrow$  The window is selected from the drop-down menu.
- ⇒ The desired window appears in the the 'Dock'.

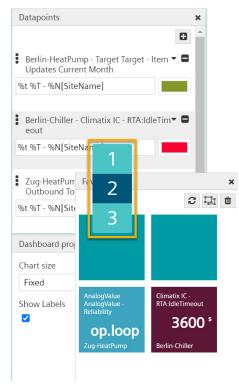
Clear:

- Close the window to be cleared in the 'Dock' via 'x'.
- $\Rightarrow$  The window no longer is selected in the drop-down menu.
- ⇒ The cleared window is checked in the drop-down menu.



#### Move window

- ♦ Hold down the left mouse button and drag the window.
- ⇒ Windows can be sorted back in the 'Dock' using the number bar.
- $\Rightarrow$  Or windows can be positioned to float freely.



#### **Energy Dashboard layout**

The Energy Dashboard allows the display type on selected data points: The data poonts are display in a bar chart. Various legend elements can be displayed, as described in chapter 'Selecting and formatting data points [ $\Rightarrow$  258]'.

## 13.2.3 Selecting and formatting data points

#### Select data points for display

Data points can be selected via the 'Data points' menu window. The procedure here is the same as for selecting data points as for 'Datapoint Tiles [ $\rightarrow$  240]':

- 1. Go to the 'Data points' menu window.
- 2. Click the "+" icon.
- 3. Use the filter function or list selection to select the desired plant.
- 4. Click "+" again to display the data points of the selected plant.
- 5. Select the desired data point..
- ➡ The selected data point appears in the graphic display of the Energy Dashboard.

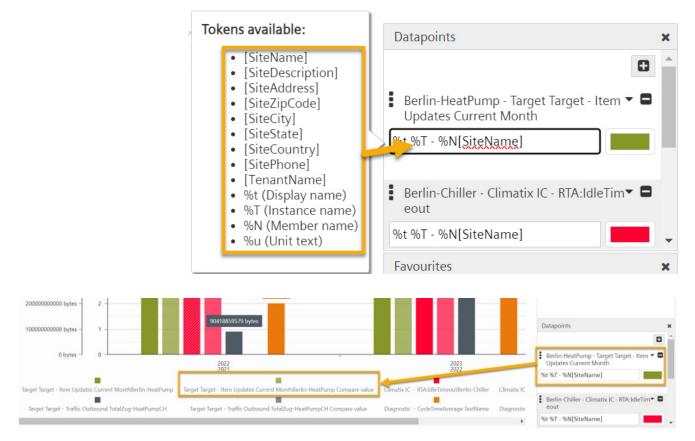


#### Formatting the data point display

The data points displayed in the bar chart can be customized. You can set a key and color for the selected values.

The legend in the bar chart is set in the same way as for the 'Line tiles [ $\Rightarrow$  244]':

- 1. Go to the 'Data points' menu window.
- 2. Select a data point
  - ➡ By default, the selected data point is displayed in the bar chart with the preset proper name in the legend.
- 3. Click in the text field next to the data point.
- 4. Select one of the tokens offered to add the token content to the legend label.
- 5. Alternatively: Enter your own free text in the text field.
- 6. Delete token or free text from the text field to remove content from the legend.
- ⇒ The bar chart is automatically refreshed after entry and the legend is updated.



The color selection for the displayed data point is the same as for the 'Bar tile  $[\rightarrow 243]$ ':

- **1.** Go to the 'Data points' menu window.
- 2. Select a data point

5.

- 3. Select the color selection field.
- 4. Set the desired color and click OK.

C



⇒ The display of the data point in the bar chart is assigned the set color.

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#### Delete data point from diagram

- 1. Go to the 'Data points' menu window.
- 2. Select the data point to be deleted.
- 3. Click the "-" icon.





 $\Rightarrow$  The data point is deleted from the diagram.

## 13.2.4 Display and compare data point values

The values of a selected data point can be displayed in the Energy Dashboard in various ways:

- The values of the data point can be displayed as:
  - Sum of all values,
  - Average of all values,
  - Maximum value,
  - Minimum value.

At the same time, the values shown can be summarized over certain periods of time:

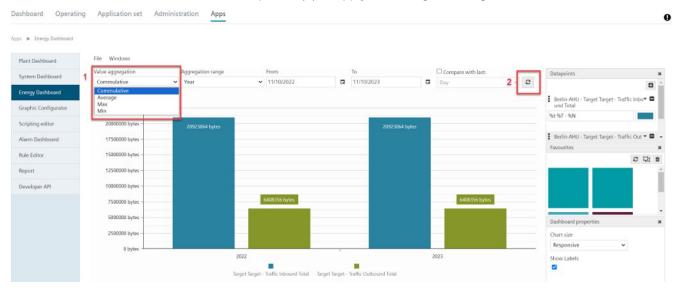
- The display period of a data point can be selected as:
  - Day,
  - Week,
  - Month,
  - Year.
- In addition, the period to be displayed can be defined using a calendar start and end date.

The selected time periods and data point values can also be compared with a previous periods:

- The prior period of a data point can be selected as:
  - Day,
  - Week,
  - Month,
  - Year.

### 13.2.4.1 Select data point values

- **1.** Go to "Value aggregation" (1).
- **2.** In the drop-down menu, select the desired aggregation type for displaying the collected data point values.
- 3. Select "Update" (2) to apply the changed settings in the bar chart.



## 13.2.4.2 Select data point display period

Aggregation period:

- **1.** Go to "Aggregation area".
- **2.** In the drop-down menu (1), select the desired period for displaying the collected data point values.
- 3. Select "Update" (2) to apply the changed settings in the bar chart.
- $\Rightarrow$  The display period in the diagram displays accordingly (3).



Manually set the period:

- 1. Manually enter the start time of the value series in the "From" date field (1).
- 2. Manually enter the end time of the value series in the "To" date field (2).
- **3.** *Alternatively*: Select the start and end time with date under in the dropdown menu (3).
- 4. Select "Update" to apply the changed settings in the bar chart (4).

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stem Dashboard	Value aggregation	Aggregation range	From					1	>				Compare with last:		Datapoints	
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						_			_			_				~

## 13.2.4.3 Compare defined period against a previous period

- 1. Select "Compare with the latter:" (1).
  - ⇒ The underlying drop-down menu is activated.
- 2. Select the previous period from the drop-down menu.
- 3. Select "Update" (2) to apply the changed settings in the bar chart.
- ⇒ The values of the selected previous comparison period are displayed in the diagram (3).

<ul> <li>Energy Dashboard</li> </ul>								
Plant Dashboard	File Windows							
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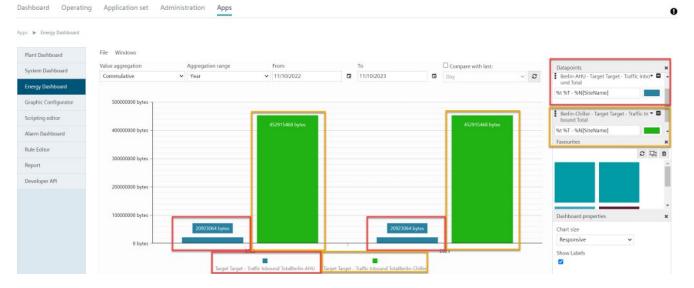
## 13.2.5 Compare different data points

Several data points can be selected at the same time in the "Data points" menu window. The aim of this function is to display data from different data points in a comparative view in the bar chart to enable a comparative analysis.

- 1. Follow the steps in 'Selecting and formatting data points [ $\rightarrow$  258]'.
- 2. Perform these steps for all data points for display.
- ⇒ Several data points are displayed in parallel in the bar chart.

Use:

- The bar chart is only designed to display energy values. Therefore, select data points that display energy consumption values.
  - See also section 'Restrictions' in section 'Energy dashboard [→ 254]'.
- The data points to be displayed in the bar chart can either all belong to one plant or to different plants to be compared.
  - Display several data points of a plant in a comparative view in order to compare different parameters within the plant.
    - Display data points from different plants in a comparative view to compare the same parameters between the plants.



## 13.2.6 Exporting or importing the Energy Dashboard as a file

#### Save the Energy Dashboard

There is no save function for the Energy Dashboard within Climatix IC. Instead, once an Energy Dashboard has been set up and configured in Climatix IC, it is simply retained in the web browser cache even if the user logs out of the system. The next time you log in, you can access the previously created Energy Dashboard and continue to use and edit it.

#### Create multiple energy dashboards

Several different energy dashboards with different integrated data points can be created and used. An energy dashboard can be created for this purpose and then exported to an external file. After exporting the Energy Dashboard, further Energy Dashboards can be created and exported. The original dashboard is then re-imported from the exported file for re-use.

Export procedure:

- 1. Create an Energy Dashboard with the desired data points and the desired properties.
- 2. Export the Energy Dashboard via "File (1) > Export (3)".
  - ⇒ A .json file is created and automatically named by date and time.
  - ➡ The .json file with the Energy Dashboard is automatically saved to the computer's default download location.
- 3. If necessary, rename the .json file with the Energy Dashboard as needed.
- ⇒ The Energy Dashboard has been exported and can be imported again at a later date if required and reused in the user interface.

Import procedure:

- ▷ A .json file with an Energy Dashboard is stored on the computer.
- 1. Go to "File (1) > Import (2)".
- 2. Select the storage location and the desired file and click "Open".
- ➡ The selected .json file is imported in the user interface and is available there for viewing and further editing.

Apps

Apps 🕨 Energy Dashboard

Dashboard Operating Application set Administration

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Energy Dashboard	Section				
raphic Configurator	500000000 bytes	1			
cripting editor					45
larm Dashboard	400000000 bytes	-			
Alarm Dashboard Rule Editor Report	400000000 bytes 300000000 bytes				

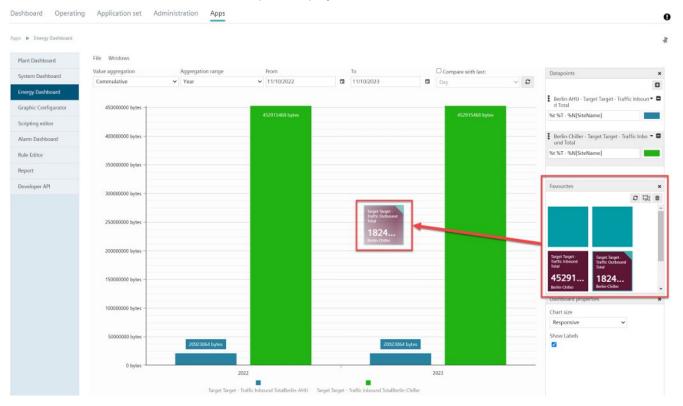
## 13.2.7 Data points in the 'Favorites' menu window

The Energy Dashboard has a 'Favorites' menu window to temporarily store data points for quick access. The handling is the same as for the 'Favorites' menu windows in chapter 'Plant Dashboards [ $\Rightarrow$  224]'.

- In Climatix IC, set a green check on the symbol on a plant data point.
   ⇒ The data point displays as a data point tile in the 'Favorites' menu window.
- 2. Or: Select a data point in the 'Data points' menu window and drag [→ 228] it to the 'Favorites' menu window.

➡ The data point displays as a data point tile in the 'Favorites' menu window.
Data points can be used in the Energy Dashboard from the 'Favorites' menu window.

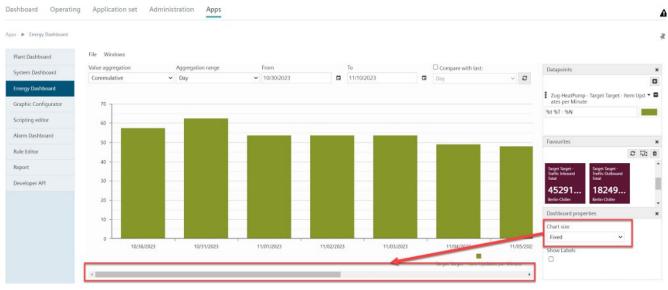
- 1. Drag and drop the data point tile to the bar chart.
- 2. Or: Drag the data point tile to the 'Favorites' menu window.
- ⇒ The data point displays in the bar chart.



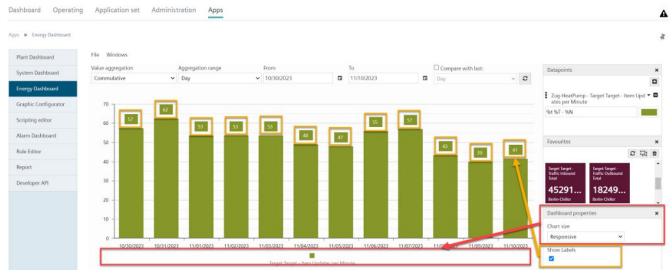
## 13.2.8 Edit dashboard properties

The 'Chart size' function in the 'Dashboard properties' menu window adapts the chart on the dashboard to the browser window:

- Select 'Fixed' from the drop-down menu under 'Diagram size'.
- ➡ The diagram retains its size in the dashboard regardless of the size of the browser window.
- ⇒ All results are displayed in a fixed standard width.
- ➡ For wide diagrams, a scrollbar appears at the bottom of the table to scroll the entire width of the diagram.



- Select 'Responsive' from the drop-down menu under 'Diagram size'.
- $\Rightarrow$  The diagram in the dashboard adapts to the width of the browser window.
- ⇒ The diagram is displayed with its results adapted to the width of the browser window.
- ⇒ The complete diagram can be viewed at a glance.
- 1. In the 'Dashboard properties' menu window, select 'Show labels'.
  - ⇒ The values of the data points are displayed as text in the diagram.
- 2. In the 'Dashboard properties' menu window, clear 'Show labels'.
  - ➡ The values of the data points are hidden from the diagram and can only be read from the legend at the edge of the table.



## **13.3 Graphic configurator**

#### Target group and use

The graphic configurator application is available in the Apps menu $\uparrow$  for Application Administrators.

The tool does not replace a SVG graphics program but permits modifications to an existing SVG drawing and adding text.

The tools is primarily used to render graphics dynamic by mapping to controller data points.

```
Apps 🕨 Cloud graphic configurator
```

Cloud graphic config	File Window	/5			× C D 🖺 🖌
	Tools				Mapping properties 🗙
	\$				Text Visibility Color
		Enur	n.text		JSON mapping:
	•				I-AV001
	121	XX0.	0 C		BASE64 Id:
	Α				AyKxfqtIAAE=
				#####	Cloud mapping:
		$\langle \rangle$		<del></del>	0
				##.##	show raw value
		Enum.text		##.00 %%%	i writeable
		XX0 %		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
		6		*****	
		⑦ 【 XX0.0 C	Mein Text		

NOTICE				
	Hints			
i	<ul> <li>Additional information on SVG graphics and data point mapping is available in the manual "HMI4Web and dynamic web graphics" (A6V101099045). The work steps are dealt with in detail within SCOPE (e.g. mapping and loader).</li> <li>The graphic configurator supports drag-and-drop of SCOPE data in all three target fields for mapping to texts "JSON mapping:", "Base64 Id:" and "Cloud-Mapping".</li> </ul>			

#

## **13.3.1 Setting up the desktop**

#### Handling the menu window

When navigating in the Apps menu<sup>↑</sup> to the cloud graphic configurator, a desktop

opens that you can display in full-screen mode with

You can clear individual menus that are not needed at that time (e.g. tester) via "Window" to improve usability.

You can use the remaining menus as freely positioned windows or return to the dock.

	1
Element properties	2
Size	N
Height:	
313	рх
Width:	
486	рх

#### Import function and switching between graphics

Load the SVG graphic to the workspace by selecting "File > Import image from disk".

You can also work with multiple graphics. Switch between graphics with "File > Open the last opened image" > [Selection].

#### Move, zoom, and selection

Drag the entire graphic with <sup>22</sup> and individual graphic elements with <sup>25</sup>



- selects object groups.
- In menu Windows > Options has a zoom slider to zoom out the graphic or from the graphic. You can use the scroll wheel on the mouse if zoom is active.
- Also set in "Options":
  - Highlight color, i.e., when moving the cursor over an item
  - Selection color, i.e., when clicking an element

#### Undo, restore, and save

You can undo steps with

or restore them with

- Menu "Windows > History" lists the last work steps. You can undo and restore history steps.
- Save your work with "File > Save (in Browser)".

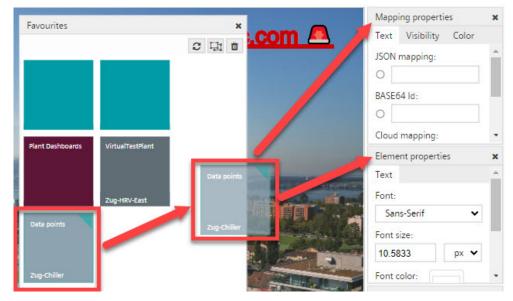
#### 'Favorites' menu

•

The 'Favorites' menu works in the same way as the Dashboard Editor in the Graphic Configurator. For a description of how the 'Favorites' menu works, see sections 'Setting up the desktop [ $\rightarrow$  224]' and 'Create and edit User Dashboards [ $\rightarrow$  229]', section 'Placing menus and data points on a dashboard'.

The 'Favorites' menu window is the interface for moving and saving data points and tiles between the plant lists, the workspace, and various dashboards. Here:

- Drop data points from the list of plants to the Favorites menu.
- Drop created tiles to the workspace for subsequent reuse.
- For 'cloud mapping': Drag tiles for use in different graphics
  - in mapping properties and
  - in the element properties.



#### Search function for data points in 'Cloud Mapping'

As in the Dashboard Editor, you can search for asset data points in 'Cloud Mapping'.

**1.** In the data point selection, go to the icon



- **2.** Select the desired language.
- 3. Select the required endpoint of the selected plant.
- **4.** Or, in the search field, type a portion of the attachment name.
- 5. Alternatively, drag an existing data point into the search field.
  - For example, drag a tile from Favorites to the search.
- $\Rightarrow$  The desired data point is selected and can be used.

See Available tile types [ $\rightarrow$  240], section 'Data point tile'.

## 13.3.2 Working with texts

#### Set text properties and set up links

Add free text with

Font, size, etc., can be set in the menu "Windows > Element properties". Do not forget to "Save (in Browser)" after making a number of changes; you can also use the diskette icon in the upper right-hand corner.

Text can be defined via element properties, but also internally or using hyperlinks to the web or even as download links. The procedure is explained below.

#### Create internal or external hyperlinks

#### Internal hyperlinks (web graphics):

You can implement practical navigation between web graphics using hyperlinks; you can also use hyperlinks to set up a GoTo cloud menus that are commonly required and that can be opened quickly. You retrieve the links directly from the address line of your web browser when opening the desired target. If the links apply to all instances of an application set, you must neutralize certain elements of the URL with tokens.

- 1. Go to Menu "Windows > Element properties" and open the "Link" tab.
- **2.** Highlight the text element in the SVG graphic to be used as an internal hyperlink.
- 3. Design the text so that it can be identified at any time during engineering.
- 4. Copy the URL of the GoTo target.
- **5.** Add the URL of the GoTo target in the Href field and neutralize the URL where applicable per the following illustrated description (neutralize a URL neutral).
- **6.** Select in the "Open in:" field, whether the GoTo target of the link is opened in the same or a separate browser tab.

#### Additional level of abstraction for systems

The following illustrates how URLs pointing to concrete web elements are neutralized so that the elements apply to all plant functions used by the application set and not just the current one.

System tokens offer even more possibilities. For example, you can set the GoTo target so that the link always displays the plant systems for the third system plant (Index = 3). When using this type of system web graphic, it is important to ensure that the GoTo target is available in the corresponding menu; that systems are setup the same in this regard.

What is not doable, for example, is to GoTo the second Plant Dashboard for a system plant since plant dashboards include IDs that cannot be neutralized. We recommend keeping the link to the Plant Dashboards menu generic and let the user take care of any additional operations.

#### Neutralizing a URL:

	NOTICE				
	Differences between URLs from plants and system elements				
i	<ul> <li>URLs from menu elements assigned to a plant include "/Plants/".</li> <li>URLs from menu elements referring to the system, include "/Systems/".</li> <li>When you click a system plant, the URL "/Plants/", i.e. the URL does not know that the plant is actually a system plant. The proper syntax to neutralize its use in various systems is "/Plants/[SystemPlantX]/".</li> </ul>				

#### 1. Copy a URL for a web graphic (plant) and add to Href:

$\leftrightarrow$ $\rightarrow$ C $\triangle$ $$ climat	ixic.com/#/Operating/Plants/b2c68811-26c4-496	53-935a-bf677d2dc1df/WebPicture	e/33d358af-112b-4870-82e0-e1f1048330f6/View
Climatix IC			
Dashboard Operating	Application set Administration Apps		
Operating > Plants > 02 Demo air h	andling unit (Panoramastraße 🕨 Web graphic 🔌 Plant	view	
Data points 🛜 Alarms	SIEMENS	Climatix IC	
Web access Web graphic	Ingenuity for Life	Digital AHU	
Plant view			

#### 2. Neutralize host: Highlight as in the following graphic and click [Host].

	Element properties	×
Available Tokens:	Text Link	
[Host] - the current Host [System] he current System [SystemPlantX] - a System Plant, where X is the order number of the plant [Plant] - the current Plant	Href: https://www.climatixic.com/#/Operating/Plants/b0322 Generate Downloadlink	293c-bca'
[Tenant] - the current Tenant	Documentation file	~
	1	Add Link

#### 3. Neutralize plant: Highlight as in the following graphic and click [Plant].

	Element properties	×
Available Tokens: [Host] - the current Host [System] - the current System [SystemPlantx] - a System Plant, where X is the order number of the plant [Plant] - the current Plant [Tenant] - the Current Tenant	Text Link Href: [Host]/#/Operating/Plants/b032293c-bca9-4e90-ad9b-5f846d39a563/WebPi Generate Downloadlink	ctureld69455bf-8bcd
	Documentation file	► Add Link

4. Final, neutralized internal hyperlink:

Element properties			×
Text	Link		
Href:			
[Host	/#/Operating/Pla	nts/[Plant]/WebPicture/33d358af-112b-4870-82e0-e1f1048330f6/View	



For optimized operation, do not forget to add a return to the original graphic!

#### Internal hyperlinks (menus):

Procedure is similar to the GoTo menus. Example:

- https://www.climatixic.com/#/Administration/Plants/4d474b62-410a-4627b67d-0c0e4c3383ea/Settings
- becomes: [Host]/#/Administration/Plants/[Plant]/Settings

#### External web hyperlink:

- 1. Go to Menu "Windows > Element properties" and open the "Link" tab.
- 2. Highlight the text element in the SVG graphic to be used as a web hyperlink.
- 3. Design the text so that it can be identified at any time during engineering.
- 4. In the Href field, enter the complete URL of the GoTo target, for example, <u>https://www.status.climatixic.com/</u>
- **5.** Select in the "Open in:" field, whether the GoTo target of the link is opened in the same or a separate browser tab.
- ➡ The text now has an active link. The selection "Generate download link" is not relevant here.

#### Create download links

- 1. Go to Menu "Windows > Element properties" and open the "Link" tab.
- 2. Highlight the text element in the SVG graphic to be used as a download link.
- **3.** In the "Generate Downloadlink" field, open the small down arrow, for the list of loadable plant files (see listing below) that are later loaded via the link.

Eleme	nt properties	×
Text	Link	
Href:		
[Hos	]/clx/plants/[Plant]/download/4?tenantid=[Tenant]	
Gene	ate Downloadlink	
Syst	m Documentation file	
Doc	mentation file	٦
Syst	em Documentation file	
Para	meter file	
BAC	net file	
Trac	file	
	matic created parameter file	
	matic created parameter file persistent	
	report file type 1	
	report file type 2	
	report file type 3	
	report file type 4	
	report file type 5	
	report file type 6	
	report file type 7	
	report file type 8	
	report file type 9	
Plan	report file type 10	

- 4. Select the desired type.
- 5. Press the "Add Link" button.

Enum.text			
XX0.0 C		Element properties	×
Enum.text XX0 %	#### ##.00 %%% xxxxxxxxxxxxxxxxxxxxxxxx	Text Link Href: [Host]/clx/plants/[Plant]/download/3?tenantId=[Tenant Generate Downloadlink BACnet file Add Li	•

⇒ The corresponding link is created in Href. The links include an ID number (here for example, "3", used as a reference in the list).

The created download links always load the latest file for the selected file type.

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#### Plant files loadable via a link:

ID number	File name
0	Documentation file
0	System Documentation file
1	Parameter file
3	BACnet file
4	Trace file
15	Automatic created parameter file
16	Automatic created parameter file persistent
2	Plant report file type 1
6	Plant report file type 2
14	Plant report file type 10



More on the type and origin of these files is available in "Files". Files of type 'Plant report file type 1...10' can only be uploaded via Cloud API.

## 13.3.3 Rendering dynamic with mappings

# Rendering texts and elements dynamic through mapping Data access technologies

The graphic configurator (GC) has various data access technologies available in "Mapping properties". You can mix multiple data access technologies on one graphic. Access technologies include:

Mapping value or ID of the item in SCOPE	Entry "Mapping properties" in GC	Notes
JSON / Definable	JSON mapping:	The mapping file must be loaded to the controller accordingly
Base64-ID of the item	BASE64 ld:	Direct access to the Automation Object (OAs). No loaded mapping file is required. As of VVS11.
Cloud / Automatic or Definable	Cloud mapping:	The mapping file must be loaded to the controller accordingly

#### General differences between JSON mapping, BASE64-ID and cloud mapping:

- 1. JSON mapping and BASE64-ID are device API queries in which the values are queried directly from the POL controller via the device API. The response time can be different and depends on the controller cycle time and the local Ethernet in which the POL controller is located. These queries are not subject to a COV and return the current last value.
- 2. Cloud mapping queries are answered directly from the Climatix IC database. These queries are subject to the COV settings and independent updates from the controller to Climatix IC. The query returns the value of the last COV update.

#### Features

Three functions are available in the "Mapping properties" menu to render an item dynamic:

- Text function
- Visibility function
- Color function

#### Text function

Mapp	ing propertie	s	×
Text	Visibility	Color	
JSON	mapping:		
• 1	-AV001		
BASE6	64 ld:		
Cloud	mapping:		
🗌 sh	ow raw valu	e	
w 🗌	riteable		

To use the format 'String', 'Show raw value' must be activated.

i

#### Multiplier

Similar to User Dashboards, values can be scaled in the graphic configurator (see section 'Scaling data point values [ $\Rightarrow$  233]'). Text elements have a multiplier available in the graphic editor. It can display the real data as transmitted by the plant by a factor x in the dashboard.

The function can be used, for example, to:

- Convert a negative value to a positive value.
- Increase the display size of a very small value.
- Decrease the display size of a very large value.
- Convert a value to another unit, for example, Wh to kWh.
- **1.** Go to a text element that displays a data value.
- 2. Select 'Text'.
- 3. Enter the multiplier for the text element in the 'Multiplier' field.
- ➡ The data value in the text element is multiplied by the multiplier and displays on the dashboard.
- ⇒ The new data point is used for display on the dashboard and web graphic but has no effect on the original values.

Plant Dashboard	File Windows	Virtu	ualDPs (1).svg	× 3 C ¥
System Dashboard	Tools			Mapping properties 🗙 Text Visibility Color
Benchmark Dashboard	<u>گ</u>			JSON mapping:
Graphic Configurator	k			0
		alog 1- default 13 alog 1- multiplier 26		BASE64 Id: Cloud mapping: VirtAnalog1 Show raw value writeable Multiplier: 2



4

#### Side note: Wildcard syntax

The wildcard syntax defines how the value is displayed.



The syntax is available in the SCOPE help "Project tree > Watch pages > Settings" under "Default Format" with a table of permissible special characters and examples.

#### Compressed example:

Format string	Raw value	Unit	Result
"===0.0= %%%"	23.2	°C	" 23.2 °C"
"===0.0= %%%"	23,256	bar	" 23.26 bar"
"===0.0= +++"	23.2	°C	" 23.2 °C"
"===0.0= +++"	23,256	bar	" 23.26 bar"
"===0.0= +++"	-3.6	°C	" -3.6 °C"
"===0.00 +++"	-3.6	°C	" -3.60 °C"
"###0.0# %%%"	23,256	°C	"23.26 °C"
"###0.0# %%%"	-3.6	°C	"-3.6 °C"
"###0.0= %%%"	-3.6	°C	"-3.6 °C"
"0000.0# %%%"	23,256	°C	"0023.26 °C"

#### Text function, mapped controller value

- ▷ The SCOPE project opens with the corresponding application.
- $\triangleright$  The graphic configurator is open.
- **1.** Create a text wildcard with a defined syntax in the graphic configurator (see above).
- **2.** Highlight the text wildcard in the graphic configurator and select the "Text" tab in "Mapping properties".
- **3.** Open the properties in the SCOPE for the desired items and select the **"Mapping"** tab.

ame	Page	Root		Item Properties
%Root%>	Root	Name	Write Status Dimensio	or Settings Advanced Mapping 4 D
		TOa - PresentValue	writable °C	Mapping
				Automatic: 6WHH66JTPVAGF9
				Definable: 1-TOA
				JSON
				Cloud
				O Automatic
				COV: 0.35

- **4.** Copy the definable value from SCOPE to the "JSON Mapping:" field of the graphic configurator.
- 5. "JSON mapping:" must be selected.

#### Text function, unmapped controller value

Note: This method works as of VVS11. Mapping is not required. You must acquire the Base64 Id for the item.

- **1.** Steps 1 and 2 are the same.
- 2. Highlight the item in SCOPE in the Watch Page pane.
- 3. Right-click and select "Search in Browser".
  - ➡ The specific item member is now selected in the browser for the data points.
- 4. Right-click the item member and select "Copy > Copy Base64 Id".
- 5. Add the copied Base64 Id to "BASE64 Id:" of the graphic configurator.
- 6. "BASE64 Id:" must be selected.

#### Text function, access to cloud value

- 1. Steps 1 to 3 from 'Text function, mapped controller value' are the same.
- Copy the automatic strings if the cloud is set to automatic; or copy the definable string from SCOPE if the cloud is set to definable and add it to the "Cloud mapping:" of the cloud graphic configurator.
- 3. "Cloud mapping:" must be selected.
  - ⇒ The values are retrieved directly from the cloud where offline data is also included.

#### Visibility function

Mapping properties			×	
Text	Visibility	Color		
JSON mapping:				
BASE6	54 ld:			
AyKxfqtIAAE=				
Cloud	mapping:			
Levels:				
1,2,3				

Is often used to show and hide a group of graphic elements based on the value of another data point. "Levels" indicates the data point value at which the graphic element is visible. Multiple values can be comma separated (no space). Mapping the queried data point is similar to the methods documented above.

#### **Color function**

Mapping properties		х
Visibility Color		
JSON mapping:		
7-MV001		
Base64 Id:		
•		
Cloud mapping:		-
0		
✔ Line ✔ Fill Opacity: 100 %		
Value	Color	1
0		×
1		×

Permits color dynamics of graphic elements based on the value of another data point. A color is defined per value for the mapped data point; the graphic element is displayed in that color.

Mapping the queried data point is similar to the methods documented above.

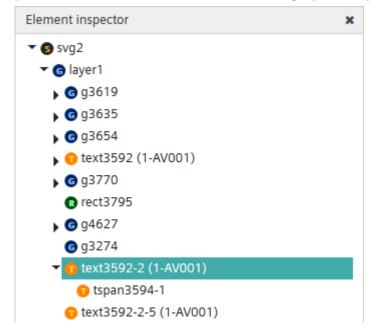
#### Check mapping and optimize visibility Mapping inspector

The "Mapping inspector" provides a very good overview; it lists all mapped elements in tables and can go to the elements.

Mapping inspector a					
Туре	Tag	Text	Visible	Color	
text	text5812-5-2-7	1-AV001			
rect	rect5084-9		7-MV001		
text	text5812-5-0-6	7-MV001			
rect	rect6380-8		1-AV001		
text	text5812-5-2-7	1-AV001			
text	text3592	1-AV001	AyKxfqtIAAE=		
circle	ellipse450-3		7-MV001		
circle	ellipse564-8				
text	text5812-5-2-7	7-MV001			
text	text5812-5-2-7	1-AV001			
rect	rect3795		7-MV001	7-MV001	
circle	path3799-7		1-AV001		
text	text3592-2	1-AV001			
text	text3592-2-5	1-AV001			
text	text3592-2-9	1-DIAGNOSTIC			

#### Element inspector

The "Element inspector" offers yet another access and optimization, organized by graphic groups. Once an element is mapped, the data point is included in parenthesis at the end of the element name, e.g. "(1-AV001).



NOTICE			
i	<ul> <li>Hint</li> <li>In the element inspector, you can double-click elements and groups to rename them. And set up a meaningful and systematic structure.</li> <li>Elements can now be grouped by dragging the elements to a group. This significantly simplifies control of visibility.</li> </ul>		

#### Test mapping

Prior to adding the dynamic graphic to the application set, you should conduct a function test on whether the programmed access works. You can do this with just a few clicks directly in the browser.

- ▷ You have rendered dynamic a SVG graphic with data points in the graphic configurator and saved it in the browser.
- ▷ The referenced data points are loaded to the controller and be queried or are available in the cloud.
- > You have privileges to the controller data points, i.e. controller data points are accessing in the menu "Operating".
- 1. Go to "Operating > 'my plant' > Data points".
  - A You can verify one more time that you have general access to the data points.
- **2.** You find the plant ID in the browser as a string between "Operating/" and "/ Data Points" (this is a string with the syntax uuu-vvv-www-xxx-yyy).
- 3. Copy the plant Id.
- 4. Return to the graphic configurator and open "Windows > Test".
- 5. Add the plant Id from the clipboard to the field "Plant Id".
- **6.** The number of parallel queries determines how many data points can be queried at the same time.
- 7. Press "Start test".
  - $\Rightarrow$  The polling times are listed as rows.
- 8. You can click a row during testing or a stopped test and research the data.



 Testing

 Test
 Parallel requests
 Plant-id:

 10
 8c04dd42-d045-46fe-9371-cbb043f60f2f

mapping AyKxfqtIAAE= adress 1-AV001, 7-MV001, 7-MV001, 1-AV001, 1-AV001, 1-AV001, 7-MV001, 7-MV001, 1-AV001, 7-MV001, 1-AV001, 1-AV001, 1-AV001, 1-DIAGNOSTIC

Testin	ng	
Test	Request details	5
Requ	est type: adress	
Requ	est state: Succes	s
Requ	est method: ajax	
Relate	ed ids:	
1-AV0	001 7-MV001 7-M	V001 1-AV001 1-AV001 1-AV001 7-MV001 7-MV001 1-AV001
Value	5:	
		1
	1	"id": "1-AV001",
		"state": 0,
		"value": 30.5,
		"type": 8,
		"rep": 1,
		"descr": "°C", "low": -64,
		"low": -64, "high": 1000
	},	nigh . 1000
	{	
		"id": "7-MV001",
		"state": 0,
		"value": 4,

#### Export dynamic, edited graphic

The last step is to export the dynamic and test graphics as SVG file or ZIP file. The export as ZIP file is provided for use in SCOPE.

Export as SVG file:

- ♦ Select File > Export.
- ⇒ The graphic is exported as SVG file to your default storage folder.

Export as SVG file:

- 1. Select "File > Export for Scope".
  - ⇒ The graphic is exported as ZIP file to your default storage folder (for example: C:\Downloads\scope.zip).
- 2. Unzip the file to your project folder.
- 3. Regenerate the HMI4WEB and load it to the controller.
  - The SCOPE folder is C:\CLIMATIX\Projects\TEST\Input\Web

Dashboard	Operating	Application set	Administration	Apps

Apps 🕨 Graphic Configurator

Plant Dashboards	File Windows
System Dashboards	Import image from disk
Graphic Configurator	Open last opened image 🕨
	Save (in Browser)
	Export
	Export for Scope

## 13.3.4 Hiding

#### Provide hiding to a SVG graphic

Application Administrators design dynamic SVG graphics that can be provided to dedicated plants and operators as plant diagrams (web graphics).

Application sets distribute these application-specific dashboards. Application engineers create the application sets at considerable expense; the sets must operate in the field for different plant variants.

For example, some of the plants may have 2 heat generators, but variants may have 3 heat generators. Web graphics referring to the 3rd heat generator should be hidden on plants that have no data points for the 3rd generator. This can be provided with the web graphic.

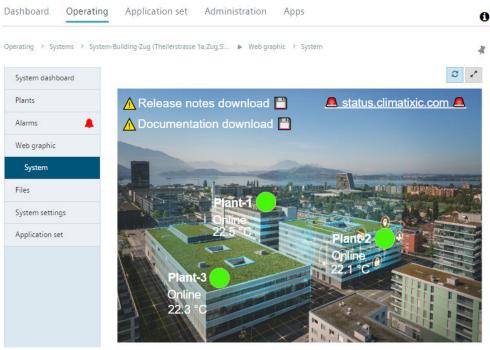
- 1. In the graphic configurator, select "Windows > Options" and go to the "Visibility" tab.
- In the field "Cloud element", enter a data point from SCOPE that does not exist on this type of plant, where the web graphic is hidden; but exists on plants where the web graphic is displayed.

The SCOPE engineering section as well as the description for KPI in this Climatix  $IC\uparrow$  documentation are helpful on working with SCOPE.

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## 13.3.5 System graphics

Web graphics can also be created for systems (the same as for plants). System web graphics provide a synoptic overview of the most important information on system plants.



System web graphics are created in the same manner as plant web graphics. Compare the previous chapters "Setting up the desktop [ $\rightarrow$  269]", "Working with texts [ $\rightarrow$  272]", "Rendering dynamic with mappings [ $\rightarrow$  277]", "Hiding [ $\rightarrow$  285]").

#### Rendering dynamic with mappings

Only system plant controllers are integrated in a system web graphic. References to plant data points are hidden.

A system may occur from multiple system plants with the same data point designations. A simple query of the data point designation may be non-unique. As a consequence, the system token [SystemPlant{x}] is prefaces to the data point designation. {x} is the index of the system plant in the system.

#### Mapping to system data points

- ▷ You selected a system for your system web graphic. The mapping refers to the plants for this system.
- ▷ The index of system plants can be viewed at "Administration > Systems > [my system] > System plants > Column: Index".
- Map the system data points as per "Rendering dynamic with mappings [→ 277]".
- **2.** Add the prefix to the data point designation [SystemPlant{x}], where {x} is the index of the desired system plant.
- 3. In the image below, the system plant references Index 2.

	Mapping properties	×
	Visibility	
	JSON mapping:	
	0	
	BASE64 Id:	
	0	
Available Tokens: [SystemPlantX] - Token can be used, where X is th order index of the plant	loud mapping: e [SystemPlant2]virtAnalog1	] _

For more information on systems, see "Systems: Overview [ $\rightarrow$  141]".

## 13.4 Scripting editor

The Scripting Editor creates files with rules for individual plants or application sets. It has the following properties:

- Integrated script runtime for individual plants and connection to application sets.
- The scripts are loaded to the individual plants, systems, or alarms.
- It is based on the script engine of the 'Lua' programming language: <u>https://www.lua.org/</u>.
- Preset programming blocks ("snippets") and sample scripts use their own scripts.
- Climatix IC-specific snippets with stored user guides and integration of Cloud API values.
- Test scripts in an isolated test environment.
- Highlighting LUA code syntax.

An application example:

- A sensor displays a value outside the desired parameters.
- A predefined script triggers a reaction from the plant, for example:
  - An alarm is triggered.
  - A maintenance notification is sent.
  - A setpoint is recalculated.

Dashboard Operating Application set Administration Apps Alarm Dashboard Rule Editor

Apps  Scripting Editor							
Plant Dashboard			Lua help	Show globals	Download UCF file	Run code	C
System Dashboard	Plant						~
Energy Dashboard	21c6d00be	407b440a2fa					
Graphic Configurator	1			Snippet	s		
Scripting Editor				main()		alue() write-valu	e()
Container Editor				data-p	oint-id call-cloud-api		
Developer API				for		e-object while	
				until	if-else if-else-if	show() show-for	matted
				Example Examples replacem	will replace the editors conter	t. You can use Ctrl-Z to	undo the
				read/w	read/write data points (classic)		
					read/write data points (object oriented)		
					equivalent read/write variants		
					read/write data points of systemplants process alarm scripts cloud api (dp history)		
					function misc functio		
				Advance	ed options		
					e API calls		
					comments		
				🗆 Defa	ult OOP mode		

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# 13.4.1 Activate the Scripting Editor for a role

- 1. Go to menu "Administration > Users > 'My user' > Roles".
- 2. Select 'ScriptingRuntimeUser'.
- ⇒ The selected user role can access the 'Scripting Editor' function in the Apps menu.

Same service       Basic data         Intrast       Basic data         Intrast       Roles         Intrast       Main administrator roles         renants       TenantAdministrator         Interregister       Operations         Rightal wallet       TenantUser (Service-Operation)         Interregister       TenantSi (Service-Operation)         Allows access to all tenant's plants using privileges from a configured plant role.         TenantSiteViewer       This admin role allows the user to pre-register and activate plants for the allocated Main-/Sub-Tenant, without plant access.	ystems		
Basic data         pgrade         Roles         search         mants         ples         register         igital wallet         Expands         Explore         Big Control         Big Control         Big Control         Control         Big Control         Control         Big Control         Big Control         Control         Big Control			Save Unlink external accounts Delet
ers       Main administrator roles         nants       TenantAdministrator       This adminiscle allows the user to pre-register, activate and manage plants and users for the allocated Main-/Sub-Tenant, with access level as Administrator (OZW) or Security-0 (POL).         operations       This intended for a user that has a support role. This user is allowed to activate plants, check users for the allocated Main-/Sub-Tenant, with access level as Administrator (OZW) or Security-0 (POL).         operations       This intended for a user that has a support role. This user is allowed to activate plants, check users for the allocated Main-/Sub-Tenant, with access. The has access rights to search plants and the status on an admin level, read application sets and has read plant access. He has access rights to search plants and the status on an admin level, read application sets and has read plant role.         2M router       TenantUser (Service-Operation)       Allows access to all tenant's plants using privileges from a configured plant role.         TenantSiteViewer       This administrative role can access the "Developer API" section under Apps and use Try-it there.         ScriptingRuntimeUser       This administrative role can access the "Scripting Editor" section under Apps and use Try-it there.         ScriptingRuntimeUser       This administrative role can access the "Scripting Editor" section under Apps         ApplicationAdministrator       This administrative role can access the "Scripting Editor" section under Apps         ApplicationAdministrator       This administrative role can access the "Scripting Editor" section under Apps	ants	Basic data	
mants       Main administrator roles         des       TenantAdministrator       This adminine allows the user to pre-register, activate and manage plants and users for the allocated Main/Sub-Tenant, with a cess level as Administrator (OZW) or Security-0 (POL).         gital wallet       Operations       This adminine level, read application sets and has read plant access. He has access rights to search plants and the status on an admin level, read application sets and has read plant access. He has access rights to search plants and the status on an admin level.         ZM router       TenantUser (Service-Operation)       Allows access to all tenant's plants using privileges from a configured plant role.         ZM router       Secondary administrator roles         ApiTechnicalUser       This adminine allows the user to pre-register and exit the Application sets for the assigned Tenant.         ScriptingRuntimeUser       This adminine allows the user to ine access the "Developer API" section under Apps and use Try-it there.         ScriptingRuntimeUser       This adminine allows the user to relean access the "Scripting Editor" section under Apps and use Try-it there.         ApplicationAdministrator       This adminine allows the user to read the billing status and history for the assigned Tenant.         IccenseManager       Allows the user to access all plants via Remote tool access.         RemoteToolAccess       Allows the user to view digital wallet for the assigned Tenant.         TenantBillingViewer       This admin nole allows the user to view digital wallet f	pgrade	Roles	
nants       TenantAdministrator <ul> <li>This admin role allows the user to pre-register, activate and manage plants and users for the allocated Main-/Sub-Tenant, with access level as Administrator (OZW) or Security-0 (POL).</li> <li>Operations</li> <li>Tis admin role is intended for a user that has a support role. This user is allowed to activate plants, check users for the allocated Main-/Sub-Tenant, with access level as Administrator (OZW) or Security-0 (POL).</li> </ul> gital wallet         TenantUser (Service-Operation)         Allows access to all tenant's plants using privileges from a configured plant role.           ZM router         TenantSiteViewer         This admin role allows the user to pre-register and activate plants for the allocated Main-/Sub-Tenant, without plant access.           Secondary administrator roles         ApiTechnicalUser         This admin role allows the user to relean access the "Developer API" section under Apps and use Try-it there.           ScriptingRuntimeUser         This admin role allows the user to relean access the "Developer API" section under Apps and use Try-it there.           ApiTechnicalUser         This admin role allows the user to relean access the "Developer API" section under Apps and use Try-it there.           ApplicationAdministrator         This admin role allows the user to relean access the "Developer API" section under Apps           ApplicationAdministrator         This admin role allows the user to relean access.           RemoteToolAccess         Allows the user to access all plants via Remote tool acceess.	ers		
Image: Control of Contreleter of Control of Control of Control of Co		Main administrator roles	
Operations       Operations         The register       Main Sub-Treant on an admin level, read application sets and has read plant access. He has access rights to search plants and the status on an admin level, read application sets and has read plant access. He has access rights to search plants and the status on an admin level.         Algo router       TenantUser (Service-Operation)       Allows access to all tenant's plants using privileges from a configured plant role.         Main Sub-Tenant on an admin level.       TenantSiteViewer       This admin role allows the user to pre-register and activate plants for the allocated Main-Sub-Tenant, without plant access.         ApplicationAdministrator roles       ApjitechnicalUser       This administrative role can access the "Developer API" section under Apps and use Try-it there.         ScriptingRuntimeUser       This administrative role can access the "Scripting Editor" section under Apps         ApplicationAdministrator       This administrative role can access the "Scripting Editor" section under Apps         ApplicationAdministrator       This admin role allows the user to view and edit the Application sets for the assigned Tenant.         LicenseManager       Allows the user to access all plants via Remote tool access.         RemoteToolAccess       Allows the user to view digital wallet for the assigned Tenant.         TenantBillingViewer       Allows the user to view digital wallet for the assigned tenant.		TenantAdministrator	This admin role allows the user to pre-register, activate and manage plants and users for the allocated Main-/Sub-Tenant, with plant access level as Administrator (OZW) or Security-0 (POL).
heregister       the status on an admin level.         bigital wallet       TenantUser (Service-Operation)       Allows access to all tenant's plants using privileges from a configured plant role.         AZM router       TenantSiteViewer       This admin role allows the user to pre-register and activate plants for the allocated Main-/Sub-Tenant, without plant access.         Secondary administrator roles       ApiTechnicalUser       This administrative role can access the "Developer API" section under Apps and use Try-it there.         ScriptingRuntimeUser       This administrative role can access the "Scripting Editor" section under Apps         ApplicationAdministrator       This administrative role can access the "Scripting Editor" section under Apps         ApplicationAdministrator       This administrative role can access all plants via Remote tool access.         RemoteToolAccess       Allows the user to access all plants via Remote tool access.         TenantBillingViewer       This administrator         This administrator       This administrator         TenantBillingViewer       Allows the user to view digital wallet for the assigned Tenant.	toles	Operations	This admin role is intended for a user that has a support role. This user is allowed to activate plants, check users for the allocated
Agylation       TenantSiteViewer       This admin role allows the user to pre-register and activate plants for the allocated Main-/Sub-Tenant, without plant access.         Azwrauter       Secondary administrator roles         ApiTechnicalUser       This administrative role can access the "Developer AP" section under Apps and use Try-it there.         ScriptingRuntimeUser       This administrative role can access the "Scripting Editor" section under Apps         ApplicationAdministrator       This administrative role can access the "Scripting Editor" section under Apps         ApplicationAdministrator       This admin role allows the user to view and edit the Application sets for the assigned Tenant         LicenseManager       Allows the user to access all plants via Remote tool access.         TenantBillingAdministrator       This admin role allows the user to read the billing status and history for the assigned Tenant.         TenantBillingViewer       Allows the user to view digital wallet for the assigned tenant.	re-register		
A2M router       Secondary administrator roles         ApiTechnicalUser       This administrative role can access the "Developer API" section under Apps and use Try-it there.         ScriptingRuntimeUser       This administrative role can access the "Scripting Editor" section under Apps         ApplicationAdministrator       This administrative role can access the "Scripting Editor" section under Apps         ApplicationAdministrator       This administrative role can access the "Scripting Editor" section under Apps         ApplicationAdministrator       Allows the user to view and edit the Application sets for the assigned Tenant         LicenseManager       Allows the user to access all plants via Remote tool access.         RemoteToolAccess       Allows the user to read the billing status and history for the assigned Tenant.         TenantBillingViewer       Allows the user to view digital wallet for the assigned tenant.	ligital wallet	TenantUser (Service-Operation)	Allows access to all tenant's plants using privileges from a configured plant role.
Inird-Party Apps       Secondary administrator roles         ApiTechnicalUser       This administrative role can access the "Developer API" section under Apps and use Try-it there.         ScriptingRuntimeUser       This administrative role can access the "Scripting Editor" section under Apps         ApplicationAdministrator       This administrative role can access the "Scripting Editor" section under Apps         ApplicationAdministrator       This administrative role can access the "Scripting Editor" section under Apps         ApplicationAdministrator       This admin role allows the user to view and edit the Application sets for the assigned Tenant         LicenseManager       Allows the user to access all plants via Remote tool access.         TenantBillingAdministrator       This admin role allows the user to read the billing status and history for the assigned Tenant.         TenantBillingViewer       Allows the user to view digital wallet for the assigned tenant.	40M resultor	TenantSiteViewer	This admin role allows the user to pre-register and activate plants for the allocated Main-ISub-Tenant, without plant access.
hird-Party Apps       ApiTechnicalUser       This administrative role can access the "Developer API" section under Apps and use Try-it there.         ScriptingRuntimeUser       This administrative role can access the "Scripting Editor" section under Apps         ApplicationAdministrator       This administrative role can access the "Scripting Editor" section under Apps         LicenseManager       Allows the user to manage device licenses.         RemoteToolAccess       Allows the user to access all plants via Remote tool access.         TenantBillingAdministrator       This admin role allows the user to read the billing status and history for the assigned Tenant.         TenantBillingViewer       Allows the user to view digital wallet for the assigned tenant.	wzw router	Consider a desiritation of the	
ScriptingRuntimeUser       It his administrative role can access the "Scripting Editor" section under Apps         ApplicationAdministrator       This admin role allows the user to view and edit the Application sets for the assigned Tenant         LicenseManager       Allows the user to manage device licenses.         RemoteToolAccess       Allows the user to access all plants via Remote tool access.         TenantBillingAdministrator       This admin role allows the user to read the billing status and history for the assigned Tenant.         TenantBillingViewer       Allows the user to view digital wallet for the assigned tenant.	hird-Party Apps		This shall be also and a second structure to the second structure to the second s
ApplicationAdministrator       It his admin role allows the user to view and edit the Application sets for the assigned Tenant         LicenseManager       Allows the user to manage device licenses.         RemoteToolAccess       Allows the user to access all plants via Remote tool access.         TenantBillingAdministrator       This admin role allows the user to read the billing status and history for the assigned Tenant.         TenantBillingViewer       Allows the user to view digital wallet for the assigned tenant.		particular second se	
LicenseManager       Allows the user to manage device licenses.         RemoteToolAccess       Allows the user to access all plants via Remote tool access.         TenantBillingAdministrator       This admin role allows the user to read the billing status and history for the assigned Tenant.         TenantBillingViewer       Allows the user to view digital wallet for the assigned tenant.			
RemoteToolAccess          Allows the user to access all plants via Remote tool access.          TenantBillingAdministrator          This admin role allows the user to read the billing status and history for the assigned Tenant.          TenantBillingViewer          Allows the user to view digital wallet for the assigned tenant.		ApplicationAdministrator	This admin role allows the user to view and edit the Application sets for the assigned Tenant
TenantBillingAdministrator       Inis admin role allows the user to read the billing status and history for the assigned Tenant.         TenantBillingViewer       Allows the user to view digital wallet for the assigned tenant.		LicenseManager	Allows the user to manage device licenses.
TenantBillingViewer 🗌 Allows the user to view digital wallet for the assigned tenant.		RemoteToolAccess	Allows the user to access all plants via Remote tool access.
		TenantBillingAdministrator	This admin role allows the user to read the billing status and history for the assigned Tenant.
Plant user roles		TenantBillingViewer	Allows the user to view digital wallet for the assigned tenant.
		Plant user roles	
User 🗌 This is a plant/system related role as "User", e.g. Owner, Service, Enduser,		User	□ This is a plant/system related role as "User", e.g. Owner, Service, Enduser.
		Systems	

# 13.4.2 Operating the user interface

# 13.4.2.1 Select the script target

Clicking the drop-down menu selects whether the script is created for a plant, a system, or a plant-specific alarm:

Dashboard	Operating	Application set	Administration	Apps	Alarm Dashb	oard <sup>**®</sup> Rule Edito	OTTEW			0
Apps 🕨 Scriptin	ng Editor									
Plant Dashbo	bard					Lua help	Show globals	Download UCF file	Run code	C
System Dash	iboard	Plant								~
Energy Dasht	board	Plant System								
Graphic Conf	figurator	Alarm								
Scripting Edit	tor		ample might not run tions on accessing (					main() act-on-plant	get-value() oint-id call-cloud	lani
Container Ed	litor	5 6 getting	plant as variable					Common snippets	omeiu canciouc	-api
Developer AP	PI	7 local p = 1 8 local v	getplant()					for iterate-array	iterate-object	

# 13.4.2.2 Select plant, system, or alarm ID

Click the entry field and select the plant, system, or alarm ID for execution:

- 1. Click the entry field.
  - ⇒ A drop-down menu opens.
- 2. In the free-text field above, enter or paste the plant, system, or alarm ID.
- 3. Or: Select the plant, system or alarm from the drop-down menu.
- 4. Or: Use the free text field 'Filter' to reduce the number of matches.
- 5. Click the plant, system, or alarm.
- ⇒ The alarm, system, or alarm is selected, and the ID is stored in the entry field.
- Scripts can be written and tested to match the integrated system. ⇔

Dashboard	Operating	Application set	Administration	Apps	Alarm Dashboa	rd <sup>we</sup> Rule Edito	DT YEW			0
Apps 🕨 Scriptin	ng Editor									
Plant Dashbo	bard					Lua help	Show globals	Download UCF file	Run code	C
System Dash	board	Plant								~
Energy Dashi	board	21c6d00b	e407b440a2fa							
Graphic Conf	figurator	Berlin								
Scripting Edit	tor	Berlin-AHU (Climatio								
Container Ed	litor	Berlin-HeatPump (.	Plant.Main - 1)							
Developer AF	9J	8 local v	D					for iterate-array	iterate-object	

# 13.4.2.3 User interface functions

- 1. Link to the Internet help page of <u>https://www.lua.org/</u>.
- 2. Available commands, functions, function modules, and global variants.
- 3. Saves the current script with the file name 'ScriptingRuntime.ucf' to the local computer.
- 4. The entered script is tested.
- 5. If active: The script result is automatically updated every 5 seconds.
- 6. Script entry field: Manually enter content or use the preset snippet.
- 7. Climatix IC-specific snippet. Available based on selection (Plant, system, alarm). Operation: See 'Using Climatix IC snippet [→ 293]'.
  - A script is always opened with an entry function ('Main', 'System Main', 'Alarm Main'). The presented 'Main' function is based on the script's target function: 'Plant', 'System', or 'Alarm'.
- 8. General Lua snippet.
- 9. Preprogrammed examples as visual aids and templates for creating own scripts.
  - CAUTION: Clicking an example script deletes and replaces all existing content in the entry field!
- 10. Switchable advanced options:
  - 'Trace API calls'.
  - 'Add comments'.
  - 'Default OOP mode'. (OOP = Object-Oriented Programming.

Dashboard Operating Application set Administration Apps Alarm Dashboard Rule Editor

			1	2	3	4	5
Plant Dashboard			Lua help	Show globals	Download UCF file	Run code	C
System Dashboard	PI	lant					
Energy Dashboard	21	c6d00b- e407b440a2fa					
Graphic Configurator	6 1	function main()		7	Snippets		
	2	this example might not run completely due to usage			main() act-on-pla	nt get-value()	
Scripting Editor	4	restrictions on accessing datapoints.					
0.11.00	5				write-value() dat	a-point-id call-clo	ud-api
Container Editor	6	getting plant as variable		8	Common snippets		
D	7	<pre>local p = getplant()</pre>					
Developer API	8	local v			for iterate-arr	ay iterate-object	
	9				while until	if-else if-else-if	show()
	10	the following dp-read examples are all equivalent					
	11	<pre>v = getvalue('11vNodeRED2PointStr')</pre>			show-formatted		
	12	<pre>v = p.getvalue('1!vNodeRED2PointStr')</pre>		9	Examples		
	13	<pre>v = p.Application.vNodeRED2PointStr</pre>		9			017.
	14	<pre>v = p.Application['vNodeRED2PointStr']</pre>			Examples will replace the undo the replacement.	editors content. You can	use Ctrl-2 to
	15 16	<pre>v = p.App.vNodeRED2PointStr v = p.A.vNodeRED2PointStr</pre>					
	15	V = p.A.VNODEKED2POINTSTr			read/write data poin	is (classic)	
	18	the following dp-write examples are all equivalent			read/write data point	s (object oriented)	
	19	<pre>setvalue('1!vNodeRED2PointStr', v)</pre>					
	20	p.setvalue('1!vNodeRED2PointStr', v)			equivalent read/write	e variants	
	21	p.Application.vNodeRED2PointStr = v			read/write data poin	c of oustomplants	
	22	p.Application['vNodeRED2PointStr'] = v			reau/write data poin	is of systemplants	
	23	p.App.vNodeRED2PointStr = v			process alarm scripts	cloud api (dp his	tory)
	24	p.A.vNodeRED2PointStr = v					
	25	,			custom function	nisc functions	
	26	datapoints containing special chars or starting with		10	Advanced options		
	27	a number can be only read this way(s)		10			
	28	<pre>v = getvalue('1!007vNodeRED2PointStr')</pre>			Trace API calls		
	29	<pre>v = p.getvalue('1007vNodeRED2PointStr')</pre>			Add comments		
	30	<pre>v = p.Application['007vNodeRED2PointStr']</pre>			- Aug comments		
	31	<pre>v = p.App['007vNodeRED2PointStr']</pre>			Default OOP mode		
	32	<pre>v = p.A['007vNodeRED2PointStr']</pre>					
	33						
	34	datapoints containing special chars or starting with					
	35	a number can be only written this way(s)					
	36	<pre>setvalue('1!007vNodeRED2PointStr', v)</pre>					
	37	<pre>p.setvalue('1!007vNodeRED2PointStr', v)</pre>					
	38	p.Application['007vNodeRED2PointStr'] = v					

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# 13.4.2.4 Test alarms

Alarm scripts can be tested:

- $\triangleright$  The Scripting Editor is set to 'Alarm' (1).
- $\triangleright$  A script was created for an alarm.
- 1. In the area 'Test alarms' (2), issue an Alarm ID (3) for a test alarm.
- **2.** Enter the date and time for the test alarm (4).
- 3. In the free-text field, enter a designation for the test alarm (5).
- 4. Indicate event state '0' or '1' (6).
- 5. Delete an unused test alarm (7).
- 6. Add a test alarm (8).

<ul> <li>Scripting Editor</li> </ul>										
ant Dashboard					Lua help	Show globals	Download UCF file	Run cod	le	
ant Dashboard										-
		Alarm								_
stem Dashboard 1	_	Alarm	10 0401 - 4071 440 DC				□ Default OOP mode	9		
rstem Dashboard 1			10401 4071 440 SC				U Default OOP mode			
	Tes	24 C 1201 7400 403		UTC Time		5 Text		6 Event state		
stem Dashboard 1	Tes	st Alarms		UTC Time		5 Text Alarm test 1			~	

# 13.4.2.5 Test field for the completed script

Below the entry field, a new field displays when clicking 'Run code' or select the icon 'Auto update'. The script is tested in this field and the results are displayed. See 'Test script [ $\Rightarrow$  298]'.

# 13.4.2.6 Using Climatix IC snippet

To support a user in creating scripts, you can search for Climatix IC-specific data points in some snippets using small selection masks and integrate them in the script:

- ♦ Click the desired Climatix IC snippet.
- ⇒ A selection or entry mask opens.

The following snippets can be set using the selection mask:

Select mask	Description
Climatix IC snippet	
	Free-text field
act-on-plant X	<b>1.</b> Add variable name.
Variable name plant Hinzufügen	<ul> <li>For a script for plants: Plant name.</li> <li>For a script for systems: System name.</li> <li>On a script for plant-specific alarms: Alarm name.</li> <li>Click 'Add'.</li> </ul>
	The variable name is added to the script.
Deed data project	Free-text field and data point selection
Read data point X	<b>1.</b> Add variable name.
Variable name (OOP)	<ul> <li>For a script for plants: Plant name.</li> <li>For a script for systems: System name.</li> <li>On a script for plant-specific alarms: Alarm name.</li> <li>Select 'Variable name' for OOP mode.</li> <li>Click '+' and select a data point.</li> <li>➡ The selected data point is added to</li> </ul>
Climatix IC - CERTCheck Climatix IC - Options Climatix IC - RTA:IdleTimeout Climatix IC - ActivationKey SystemClock System	the script with the entered variable name.

Γ

Select mask		Description
Write data point Variable name (OOP) plant CloudSettings Climatix IC - ServerIP Climatix IC - ComState Climatix IC - CSLState Climatix IC - MappingLanguage Climatix IC - EnableConnection Climatix IC - CERTCheck Climatix IC - Options Climatix IC - RTA:IdleTimeout Climatix IC - ActivationKey SystemClock	×	<ul> <li>Free-text field and data point selection</li> <li>Add variable name. <ul> <li>For a script for plants: Plant name.</li> <li>For a script for systems: System name.</li> <li>On a script for plant-specific alarms: Alarm name.</li> <li>Select 'Variable name' for OOP mode.</li> </ul> </li> <li>Click '+' and select a data point.</li> <li>The selected data point is added to the script with the entered variable name.</li> </ul>
<ul> <li>System</li> <li>Select data point</li> <li>Choose data point</li> <li>Variable name (OOP) </li> <li>plant</li> <li>CloudSettings Climatix IC - ServerIP</li> </ul>	×	<ul> <li>Free-text field and data point selection</li> <li>Add variable name. <ul> <li>For a script for plants: Plant name.</li> <li>For a script for systems: System name.</li> <li>On a script for plant-specific alarms: Alarm name.</li> <li>Select 'Variable name' for OOP</li> </ul> </li> </ul>
Climatix IC - ComState Climatix IC - CSLState Climatix IC - MappingLanguage Climatix IC - EnableConnection Climatix IC - CERTCheck Climatix IC - Options Climatix IC - Options Climatix IC - RTA:IdleTimeout Climatix IC - ActivationKey SystemClock		<ul> <li>click '+' and select a data point.</li> <li>⇒ The selected data point is added to the script with the entered variable name.</li> </ul>

elect mask		Description
Call Cloud-API	×	Select the parameter for 'Reset Type' and end the script.
		1. Select 'Reset Type'.
GET	~	
stop script when HTTP response code is unequal to (c		<ol> <li>Optional: Select condition for endir the script.</li> </ol>
<no condition="" stop=""></no>	v	3. Click 'Add'.
Add	d	
Au	u	➡ The selected parameters are adde to the script.
Process alarms	×	Free-text field
Variable name		<b>1.</b> Add variable name for the alarm designation.
alarm		2. Click 'Add'.
Ad	d	➡ The variable is added to the script with the alarm name.
Select alarm type	×	Free-text field and alarm type selection
		<b>1.</b> Add variable name for the alarm
Variable name		designation.
alarm		➡ The variable is added to the script with the alarm name.
Alarm Type Frost thermostat heating coil (1234567890)	~	
Ad	d	2. Select alarm type.
Au	u	3. Click 'Add'.
		<ul> <li>⇒ The variable is added to the script with the alarm name.</li> <li>⇒ The alarm is stored with an alarm type.</li> </ul>
Select root causes	×	Free-text and selection of root cause, priority, and type of reset
Variable name		1. Add variable name for the alarm designation.
alarm Root Causes		➡ The variable is added to the
Frost alarm HV SensorFaultAlarm High		script with the alarm name.
Priority		2. Select the root cause of the alarm.
High	~	<ul> <li>If wanted: Select multiple root</li> </ul>
Reset Type		causes in sequence.
Manual or Auto	~	➡ The selected root causes are displayed side-by-side.
Ad	d	
		<b>4.</b> Set the alarm reset type.
		5. Click 'Add'.
		⇒ The variable is added to the script
		<ul> <li>with the alarm name.</li> <li>➡ The root causes, priority, and rese type for the alarm are stored.</li> </ul>

Select mask		Description
Iterate array add example-array and -access Variable name array Loop item name item Index name (leave as '_' if not needed) _ Add	×	<ul> <li>Free text fields for renaming:</li> <li>Variable name.</li> <li>Loop item name.</li> <li>Index name.</li> <li>Select 'add example-object and -access'.</li> <li>An example programming is played and can be used as a template.</li> </ul>
Interate object  add example-object and -access Variable name object Key variable key value variable value Add	×	<ul> <li>Free text fields for renaming:</li> <li>Variable name.</li> <li>Key variable.</li> <li>Value variable.</li> <li>Select 'add example-array and -access'.</li> <li>An example programming is played and can be used as a template.</li> </ul>

# 13.4.3 Set up, test, and save script

# 13.4.3.1 Create script

From snippets (1):

- 1. Copy snippets from the template to the edit field by clicking them.
- 2. Assemble the snippets into meaningful command chains according to the specifications of the Lua programming language until the desired function is defined.

From examples (2):

- 1. Copy preset example from the template to the edit field by clicking the edit field.
  - A complete command chain displays in the edit field for edit.
- **2.** Supplement the template using the appropriate snippets until the desired function is created.

Jashboard Operatir	ng Application set Admin	stration Apps	
Apps 🕨 Scripting editor			
Plant Dashboard		Lua help Show globals Download UCF file Execute code	C
System Dashboard	Plant ID	d856bd72	
Energy Dashboard	Script	1 function main() 1 Snippets	٦
Graphic Configurator		3 get value of int datapoint 4 local int_value = getvalue("1!vLuaPointInt") 5 if else if else if getvalue()	I
Scripting editor		6 calc the result 7 local res = 2 + 3 * int_value writevalue() DatapointId	I
Alarm Dashboard		9 set value of double datapoint by the trifold of int_value plus 2 10 setvalue("1!vLuaPointDbl", res)	
Rule Editor		11 12 set a value to the string datapoint 13 setvalue("1!vluaPointStr", "Calc: 2 + 3 * " int value" = Read and Write Datapoint Examples Read and Write Datapoint Examples	1
Report		14 15 output seperator	e
Developer API		16 show("####################################	
		19 20 <	

# 13.4.3.2 Test script

The scripts can be tested in a sandbox (protected) using the following steps:

- ▷ A script was created in the edit field as per Lua requirements.
- 1. Click 'Run code' (1).
- 2. Alternative: Enable 'Auto update' (2).
- ⇒ The entered script is tested.
- $\Rightarrow$  An error report displays if a script does not work (3).
- ➡ The script can be revised and tested as much as you want until the desired result displays.

<ul> <li>Scripting editor</li> </ul>			1
lant Dashboard		Lua help Show globals Downlo	ad UCF file Execute code
iystem Da <mark>shb</mark> oard	Plant ID	d856bd720f5064d6647b	
inergy Dashboard iraphic Configurator	Script	<pre>1 function main() 2 3 get value of int datapoint 4 local int_value = getvalue("livLuaPointInt")</pre>	Snippets main() for while
cripting editor		<pre>5 5 6 calc the result 7 local res = 2 + 3 * int_value</pre>	if else if else-if getvalue() writevalue() DatapointId
larm Dashboard ule Editor		<ul> <li>set value of double datapoint by the trifold of int_value plus :</li> <li>setvalue("1!vLuaPointDb1", res)</li> <li> set a value to the string datapoint</li> </ul>	2 show() Examples
sport		<pre>13 setvalue("1!vLuaPointStr", "Calc: 2 + 3 * " int_value " = " 14 15 output seperator</pre>	· · Read and Write Datapoint Exampl
eveloper API		16 show("####################################	
	3	19 20 4	4

# 13.4.3.3 Save script

- 1. Select 'Download UCF file'.
  - ⇒ The current script 'ScriptingRuntime.ucf' is saved to the local computer.
- 2. Rename 'ScriptingRuntime.ucf' as needed.
  - ➡ The file can then not be accidentally overwritten the next time it is saved from the Scripting Editor.
  - ⇒ Multiple scripts can be saved side-by-side (in different named files).
- ⇒ The script can be loaded from the local computer to the various plants or application sets.

ant Dashboard		Lua help Show globals Download UCF file Execute code
ystem Dashboard	Plant ID	d856bd72 0f5064d6647b
nergy Dashboard	Script	1 function main() Snippets
raphic Configurator		3 get value of int datapoint 4 local int_value = getvalue("1!vLuaPointInt") main() for while
ripting editor		5 6 calc the result 7 local res = 2 + 3 * int_value writevalue() Datapointid
arm Dashboard		8 9 set value of double datapoint by the trifold of int_value plus 2 10 setvalue("11vLuaPointbbl", res)
ile Editor		11 12 set a value to the string datapoint Examples
port		<pre>13 setvalue("1!vLuaPointStr", "Calc: 2 + 3 * " int_value " = " 14 15 output seperator</pre>
		16 show("####################################

# 13.4.4 Load scripts to plants or application sets

# 13.4.4.1 Load script to plant

- ▷ An error-free script is created, and the Scripting Editor is successfully tested. See 'Set up, test, and save script [ $\rightarrow$  297]'.
- ▷ The script is available on the local computer as a .ucf file. See 'Operating the user interface [→ 290]', 'Buttons'.
- 1. Go to menu "Operation > Plants > 'Desired plant' > Files > 'Upload plant file' ".

ng Application set	t Administration Ap	ps			
S400 (Siemens 1,Plant 1	Name) 🕨 Files				4
Show parameter f	iles			U	pload parameter file Upload plant file
Source 1				Ce Q Se	arch
Name	Description	Created	Modified	Version	Download
			No data		
10 20 50					< 1 >
	S400 (Siemens 1,Plant 1 Show parameter 1 Source 1 Name	S400 (Siemens:     1,Plant Name)     ► Files       Show parameter files       Source:     1       Name     Description	S400 (Siemens: 1,Plant Name) ► Files       Show parameter files       Source ↑       Name     Description   Created	S400 (Siemens 1,Plant Name) ► Files         Show parameter files         Source 1         Name       Description         Created       Modified         No data	S400 (Siemens 1,Plant Name) ► Files

- 2. Drag your ucf file to the 'File Url' field (A).
  - ⇒ The text field 'File name' is automatically files with the name of the .ucf file (2).
- 3. Complete the remaining fields.
  - For additional note on filling out the fields: See section 'Files in systems
     [→ 111]'.
- 4. Click 'Save'(3).
- ⇒ The .ucf file with the script is loaded to the plant and can be used there.

Dashboard Operat	ting Application set Admini	istration Apps				
Operating > Plants >	5400 (Siemens 1, Plant Name) 🕨 File	s > Add file				
Plant dashboard						3 Save
Data points	File name	2	ScriptingRuntime.ucf			-
Alarms	Description		Script for plant			
Web access	File Url	1	ScriptingRuntime.ucf			
Upgrade						
History		L				582Byte
Scheduler	File version Available for		V1 Select all			
Tasks			Owner			
Files		l	nherited roles from Main-Te	enant		
Plant settings			Select all			
Application set			🗹 User	Service	Owner	Z Enduser
			Service-Operation	🗹 System User Role		

# 13.4.4.2 Load script to an application set

- ▷ An error-free script is created, and the Scripting Editor is successfully tested. See 'Set up, test, and save script [→ 297]'.
- ▷ The script is available on the local computer as a .ucf file. See 'Operating the user interface [→ 290]', 'Buttons'.
- 1. Go to menu "Application set > Plant > 'Desired plant' > Application > 'Upload new cloud file'".

1			Create cloud item filter file Upload new Cloud file	Upload new Specific file	Upload new UCF file
Settings	<ul> <li>Application files</li> </ul>				
Application	► BSP files				
Documentation					
3-green	File type	File name	Description	Version	
4-red	Scripting runtime	ScriptingRuntime.ucf	LUA Script	0.1	
5-yellow	Web.graphic	AHU_V3.2_008_EndUser(1).:	AHU EndUser	1	
	Dashboard config	DashboardConfiguration 202	Virtual Plant	2023 08 03 1353	
	re « Page 1 of 1 »> »r				
	<b>2.</b> Se	elect 'Scripting runt	ime' from the 'Data type' drop-d	own menu (1).	
	<b>3</b> . Go (2)	•	d select the .ucf file on the loca	l computer and	upload it

- ⇒ The text field 'File name' is automatically filled with the name of the .ucf file (3).
- 4. Fili out the other files as needed (4).
- **5.** Click 'Save'(5).
- $\Rightarrow$  The .ucf file with the script is loaded to the application and can be used there.

ashboard	Operating	Application set	Administration	Apps	
oplication set >	Plant application	set > Plant.M	ain 🕨 1 > Application	Cloud file	4
1					5 Save
Settings		Cloud file			
Application	n	File type		1 Scripting runtime	~
Document	a di orni	File name		3 ScriptingRuntime.ucf	
3-green		Description File URL		4 LUA script file ScriptingRuntime.ucf *	2 Upload file
4 red		File version		4 V1	2 Opioad me
5-yellow					

# 13.5 Developer API

#### Reasons

The "Developer API" access portal contains all the API documentation for software developers for Climatix IC Cloud API.

#### Requirements

- 1. The tenant must have one active Climatix IC subscription IC30, IC35, or IC42.
- 2. The user must have the secondary administrator role of "ApiTechnicalUser".
- 3. It does not support login via social media service for API authentication.

For additional information, see API accounts [ $\rightarrow$  160].

# 13.5.1 Introduction

Go to "Apps > Developer API > Introduction".

'Introduction' contains the same information on API portal as the current platform. The content is available in English only.

# 13.5.2 Release notes

Go to "Apps > Developer API > Release notes".

'Release notes' on the current deployment for the API portals. The content is available in English only.

# 13.5.3 Documentation

Go to "Apps > Developer API > Documentation".

'Documentation' has all available APIs. The content is available in English only.

A developer API is required to develop APIs. The key is already stored in the API portal and is automatically applied in 'Try it out' mode. For external tools, the key must be copied from Climatix IC and added to the tool. As follows:

- 1. Click 'Copy primary API key'.
- 2. Or click 'Copy secondary API key'.
- ➡ The primary or secondary developer API key was copied to the clipboard and can be added to the external tool.

5 Developer API > Do	cumentation		
Plant Dashboard		연 Copy primary API key 연 Copy secondary API key	📩 API definition
System Dashboard	Authentication Defines actions for authenticating a user with the API.		$\sim$
Graphic Configurator			
Alarm Dashboard	Account Defines actions dealing with accounts.		$\sim$
tule Editor			
leport	AlarmNotifications Define actions for accessing alarm notification templates for a plant.		$\sim$

On how to create and regenerate API keys: See 'Developer API [ $\Rightarrow$  302]' and 'API Key [ $\Rightarrow$  160]'.

1. Click an API (1).

⇒ A drop-down menu with available 'API endpoints' opens.

- 2. Click one of the available actions (2).
  - ⇒ The entry masks with fields to enter programming texts opens as well as examples for programming code.

i

#### 3 Apps menu Developer API

Dashboard Operating	g	Application set Administration Apps	G
Apps > Developer API > Doc	cumer	lation	4
Plant Dashboard			🕹 API definition
System Dashboard	4		
Graphic Configurator	1	Authentication Defines actions for authenticating a user with the API.	~
Alarm Dashboard		Account Defines actions dealing with accounts.	~
Rule Editor			
Report		AlarmNotifications Define actions for accessing alarm notification templates for a plant.	$\sim$
Developer API			
Introduction		Analytics Defines actions for analytics.	^
Release notes	2	GET /Analytics/PlantMetadata/{id} Get definition for the plant metadata info.	~
		POST /Analytics/PlantMetadata Add definition for the plant metadata info.	~
		POST       /Analytics/PlantMetadata       Add definition for the plant metadata info.         DELETE       /Analytics/PlantMetadata       Delete definition for the plant metadata info.	\[         \]     \[
		DELETE /Analytics/PlantMetadata Delete definition for the plant metadata info.	~
		DELETE       /Analytics/PlantMetadata       Delete definition for the plant metadata info.         GET       /Analytics/Plants       Gets all plants for analytic	~
		DELETE       /Analytics/PlantMetadata       Delete definition for the plant metadata info.         GET       /Analytics/Plants       Gets all plants for analytic         Gets a list of plants available for the user. Only activated plants will be included in the response.	~ ^

- 3. Enter the mandatory or optional parameters.
- 4. Click 'Execute' (3).

GET	/Users/{id} Get a user
Gets a user.	
Parameters	Cancel
Name	Description
id * required string (path)	The id of the user to fetch. Examples: deadbeef-dead-beefdeadbeef or me me
	3 Execute
	⇒ 'Execute' changes to 'Execute' and 'Clear' (4).

- $\Rightarrow$  The action is performed.
- $\Rightarrow$  'Responses' documents the results of the action (5).
- $\Rightarrow$  An error message appears in the case of bad entries.

	Execute	Cle	ear
	4	4	
Respons	ses <mark>5</mark>	Response content type	application/json ~
'http: -H 'ad -H 'Ad -H 'Od ≺ Request U	'GET' \ s://api.climatixic.com/Staging/Users/me' \ ccept: application/json' \ uthorization: bearer VLF5fX5vczzsr5o4XDIoL5nXhT6-qexfY4AKHP1( cp-Apim-Subscription-Key: 095ea83063bb4b2390a7001427a33eae' URL URL	DdaOiU9hvhnxy-LdL7bOMcngb706E9LEV6	1PUQg51Yf5WJVc1wZObdkh1uU3V02BsSY54
Server res	sponse		
Code	Details		
200	Response body		
	<pre>{     "id": "c75406ee-db6e-4bc9-a4c8-bf88520624bd",     "assignedResources": [],     "plantPrivileges": {},     "userName": "dominik.schenkel.ext@siemens.com",     "phone": "",     "roleIds": null,     "contactName": "",     "preferredTenantId": "T639f7eb5-b863-47ec-bb88-b358e5ff }</pre>	F338fd"	Download
	Response headers		
	cache-control: no-cache		

- 1. Select 'Execute' again to repeat your action.
- 2. Use 'Clear' to delete your entries.

The developer API is located by default in active 'Try out' mode. Click 'Cancel' (6) to stop the 'Try out' mode. Click 'Try it out' (7) restart the 'Try out' mode:

1. Click 'Cancel' (6)

GET /Users/{id}	Get a user		^
Gets a user.			
Parameters		6 Cancel	
		<ul> <li>⇒ 'Try out' mode stops.</li> <li>⇒ The 'Cancel' button is replaced with the 'Try it out' (7) button.</li> </ul>	
	2.	Click 'Try it out'.	
GET /Users/{id}	Get a user		^
Gets a user.			
Parameters		7 Try it out	
	₽	'Try out' mode restarts	

⇒ 'Cancel' button displays again.

# 13.5.3.1 Download Swagger documentation

- Click 'Open API definition'.
- ⇒ The 'swagger.json' document is downloaded.
- ⇒ You can use the Swagger file for your local developer environment.

Administration Apps Dashboard Operating Application set Ð Apps Developer API > Documentation 4 API definition Plant Dashboard System Dashboard Authentication Defines actions for authenticating a user with the API. V Graphic Configurator Alarm Dashboard Account Defines actions dealing with accounts. V Rule Editor Report AlarmNotifications Define actions for accessing alarm notification templates for a plant. Developer API Analytics Defines actions for analytics. Introduction Release notes ApplicationSets Defines actions for accessing application sets. Documentation

# 13.5.4 FAQ

FAQ (Frequently Asked Questions) has information on common questions and problems. It is the same content as provided in the previously used API portal from Microsoft. The content is available in English only.

Dashboard Operating	g Appl	I4 AId			hboard <sup>way</sup> Rule I				0
	«	(4) Active alarms	(1) High-Plant trip	(1) Med-Partial trip	(2) Low-Event	(2) Manual reset requ	lest		CSV
<ul> <li>Alarms</li> <li>Active alarms</li> </ul>	^	Q Filter by				)7.17 - 2024.11.2		alarm types	C) Refresh
Plants		Priority	Raised ↓=	Label	Event state	Plant name	Address		
<mark>.  </mark> KPIs	~	🛦 Med-Partial t	<b>2024.10.31</b> 08:33:45	HighLimit	High limit	Zug-HeatPump	<b>Zug, Zug, CH</b> Zählerweg 9, 6300		(II)
🛱 Configuration	~	High-Plant trip	<b>2024.07.17</b> 03:57:30	Frost alarm	Fault	NEW AD AHU	Singapore, Singapore 25 Road, 123456	<b>役</b> 1 厚0 "∐	¢ (
		🔶 Low-Event	<b>2024.07.17</b> 03:56:52	Supply filter dirty	Fault	NEW AD AHU	Singapore, Singapore 25 Road, 123456	<b>{}</b> 1 ⊨0   <u>  </u>	(II) Ļ
		🔶 Low-Event	<b>2024.07.17</b> 03:56:45	Exhaust filter d	Fault	NEW AD AHU	Singapore, Singapore 25 Road, 123456	<b>1</b> □0 📗	(II) <del>(</del>

#### **Alarm Dashboard functions**

14 Alarm Dashboard monu

The Alarm Dashboard simplifies working with alarms. It offers:

- Fast and comprehensive overviews of current and old alarms within a tenant.
- Clearly recognizable graphic depictions of alarm priorities using color codes and integrated on maps.
- Fast access to alarm messages and impacted plants.
- Simple and fast alarm handling.
- Comprehensive analysis functionality.
- Commenting on alarms.
- Ranking root causes and recommendations by users and Tenant Administrators.

In the Alarm Dashboard, alarms are used that are triggered based on established rules. The rules are programmed in the Rule Editor. For additional information on the Rule Editor: See 'Additional information [ $\rightarrow$  14]'.

- All alarm events are displayed on the Alarm Dashboard (including the Alarm ID).
- An Alarm ID linked to a rule via the Rule Editor to diagnose alarms displays a root cause for the alarm as well as a recommendation for handling the alarm.

#### Target groups

The target groups for this section correspond to the following user roles in the tool:

Role description Rule Editor and IAA	Profile
Alarm & Rule & Reports Administrator (MANAGE)	Read and configure menus
Alarm & Rule Administrator (MANAGE)	Read and configure menus
Alarm & Rule Operator & Reports Viewer (READ)	Read menus

# 14.1 Concepts, terms, and definitions

## Terms and abbreviations

IAA	Intelligent Alarm Application The combination of Alarm Dashboard and Rule Editor is referred to as IAA.
Rule Editor	The Rule Editor is a graphics programming tool based on the IBM Node-RED Tool. It connects nodes to a program (flow). For Climatix IC, intelligent preset Siemens function blocks are supplied with the Alarm Dashboard for intelligent alarm handling.
[•] Active alarms	Dashboard for active alarms: Overview of all active alarms at the tenant level, without the need to navigate through non-hierarchical plant lists.
	Focus and prioritize!
	• Filter by date (current week by default).
	• Sort by attribute and filter, e.g. Alarm priority.
	• Filter by alarm types to filter out unimportant alarms and concentrate on alarm types.
	• Select any entry to go to the overview on the plant level.
	• Note: Identical alarms are caused by repetitive occurrence and disappearance of the error state.
• Plants	Dashboard for plant history: Overview on the plant level of all open and closed alarms, with alarm events groups by type.
	Organize measures and research!
	• Each entry displays a plant with an active or closed alarms.
	• Select an entry to go to the plant view the overview of active or closed alarms and any context, root causes, and comments.
Tenant-wide overview of alarms	Errors and alarms are generally handled on the plant level, but an alarm overview of the entire fleet of controls is essential for reasonable analysis, diagnostics, and benchmarking. IAA offers this view.
Comments to add to the knowledge base	Whereas routines for reactions to specific faults are predefined by specialists, the inputs from users on site is essential to improving the routines or developing new ones.
Alarm fatigue	This is a widespread phenomenon. Personnel become desensitized when there are a lot of alarms and eventually no longer react is a proper manner to the alarms. IAA provides powerful filters and a priority tool to counter the fatigue.

#### Alarm Dashboard terms

Plants	IAA collects all alarms occurring on a plant. All current and historical (i.e. closed alarms) are listed and logged under the displayed plant. Logged the first time an alarm occurs. Later plant evens (e.g. Alarm acknowledgment or troubleshooting the alarm root cause) are logged in the existing alarm entries and do not trigger a new alarm entry. INFO: Alarms must be closed on the plant. They cannot be closed via Climatix IC.				
Root cause- related measures/ recommendatio ns	Predefined routines/actions that prove to be useful in reacting to specific error. By defining root causes, IAA offers a mechanism to issue root causes and recommendations as If-then rules.				
Alarm type	Alarm type is a ID regenerating from Alarm ID generated from SAPRO. The alarm type is unique to each application. IAA uses the alarm type as a trigger for diagnostic rules. *				
* <b>Background</b> The Climatix data architecture ensures that alarms of the same type (with the same					

\* **Background**: The Climatix data architecture ensures that alarms of the same type (with the same root cause) is reported using the same Alarm ID. This ensures that Alarm IDs from a plant that are derived by an application have the same source when the application is published by the 'Application Set Synchronization' in the IAA /Rule Editor.

#### **Rule Editor terms**

Node	Predefined functions blocks selected from one or more libraries.
Customized Siemens nodes	The library is constantly expanding for IAA application preprogrammed nodes.
Flow rate	Link of multiple nodes to become a program function. A simple flow forwards, for example, information from input 1 to output 1. A programming function can be extended to any level of complexity.

### **Climatix Alarm IDs**

Alarm ID	• The Alarm ID generated within the controller application and has no direct correlation to a cloud element, e.g. the application set.
	• The relationship is established (indirectly) through the connections to a SAPRO application using the Cloud application set.
	<ul> <li>The Alarm ID is generated from the SAPRO object type, Object ID, and Member ID.</li> </ul>
Alarm_ID properties	• The Alarm ID is unique within a controller and an application version or application type.
	• The Alarm ID per object can differ on controllers with various applications.
	• The Alarm ID can be the same in various applications if they use the same object type and object ID.
Tips on engineering root causes	• Note that a a member can have various states and since the Alarm ID relates to the member, this can result in different causes (e.g. Analog value: "Below range" or "no sensor").
	<ul> <li>Check whether identical Alarm IDs can exist in different applications (sets) if Application set = "Any" is used in the Rule Editor.</li> </ul>

#### Icons

	In plants: At least one alarm is active.
	<ul> <li>In systems: At least one assigned plant is in alarm state.</li> </ul>
Active alarm	
Ş	• A past and closed alarm that is registered in the plant statistics.
Alarm already closed	
<b>Č</b>	• An old alarm event is registered in the plant statistics.
Alarm closed	
0	• Display a high-priority alarm.
High-Plant-Trip	
A	Displays a medium-priority alarm.
Med-Partial Trip	
•	Displays a low-priority alarm.
Low-Event	
Ċ	Displays an alarm that requires a manual reset.
Manual reset request	

# 14.2 Requirements for the Alarm Dashboard and Rule Editor

# 14.2.1 Access to Alarm Dashboard

Your user role includes the secondary administrator role
 'IntelligentAlarmDashboardUser' (and 'NodeREDUser' for the Rule Editor app):

inistration → Users →	Øsiemens.com						
stems		Save Delete					
ants	Basic data						
ograde	Roles						
sers							
nants	Main administrator roles						
	TenantAdministrator	It is admin role allows the user to pre-register, activate and manage plants and users for the allocated Main-/Sub-Tenant, with plant access level as Administrator (OZW) or Security-0 (POL).					
e register	Operations	This admin role is intended for a user that has a support role. This user is allowed to activate plants, check users for the allocated Main-/Sub-Tenant on an admin level, read application sets and has read plant access. He has access rights to search plants and check the status on an admin level.					
gital wallet	TenantUser (Service-Operation)	Allows access to all tenant's plants using privileges from a configured plant role.					
gital wallet	TenantSiteViewer	This admin role allows the user to pre-register and activate plants for the allocated Main-/Sub-Tenant, without plant access.					
2M router							
ird-Party Apps	Secondary administrator roles						
2.11	ApiTechnicalUser	This administrative role can access the "Developer API" section under Apps and use Try it there.					
	ScriptingRuntimeUser	This administrative role can access the "Scripting Editor" section under Apps					
	IntelligentAlarmDashboardUser	This administrative role can access the "Alarm Dashboard" app.					
	ApplicationAdministrator	This admin role allows the user to view and edit the Application sets for the assigned Tenant					
	LicenseManager	Allows the user to manage device licenses.					
	RemoteToolAccess	RemoteToolAccess  Allows the user to access all plants via Remote tool access.					
	TenantBillingAdministrator	TenantBillingAdministrator II his admin role allows the user to read the billing status and history for the assigned Tenant.					
	TenantBillingViewer	Allows the user to view digital wallet for the assigned tenant.					
	NodeREDUser	This administrative role can access the "Rule Editor" app.					
	Plant user roles						
	User	□ This is a plant/system related role as "User", e.g. Owner, Service, Enduser.					
	Systems						
	Plants						

- 1. Log in to Climatix IC.
- 2. Go to page "Alarm Dashboard" via "Climatix IC > Alarm Dashboard":

Climatix IC						
Dashboard	Operating	Application set	Administration	Apps	م <sup>אر</sup> دی Alarm Dashboard	PREV. Rule Editor
ĺ	i		sing the Chrome bro pard can respond di		operate Alarm Dashbo on other browsers.	ards.

# 14.3 Intelligent Alarm Application (IAA) user interface

Dashboard Operating Application set Administration Apps Alarm Dashboard Rule Editor

<ul> <li>Alarms</li> <li>Active alarms</li> </ul>	«	5 6	<ul> <li>(8) Active alarms</li> <li>Filter by</li> </ul>	) (3) High-Plant trip	▲ <sup>(2)</sup> Med-Partial trip		(2) Manual reset reques 17.04 - 2024.11.2	t 15 🛱 🗙 9 マ Favorite	1( alarm types		CSV
2 (Plants		7	Priority	Raised ↓=	Label	Event state	Plant name	Address			12 III
III KPIs 3	^		🛕 Med-Partial trip	<b>2024.10.31</b> 08:33:45	HighLimit	High limit	<u>Zug-HeatPump</u>	<b>Zug, Zug, CH</b> Zählerweg 9, 6300			Ļ
<ul> <li>KPI dashboard</li> <li>Plant's alarm ranking</li> </ul>			() High-Plant trip	<b>2024.07.17</b> 03:57:30	Frost alarm	Fault	NEW AD AHU A	Singapore, Singapore, 25 Road, 123456	13 14 15	16 መ	1/ ¢
→ Frequent alarm types →			🔶 Low-Event	<b>2024.07.17</b> 03:56:52	Supply filter dirty	Fault	NEW AD AHU A	Singapore, Singapore, 25 Road, 123456	<b>1</b> ■0 📊		Ç
<ul> <li>Alarms over time</li> <li>Configuration 4</li> </ul>	^		🔶 Low-Event	<b>2024.07.17</b> 03:56:45	Exhaust filter di	Fault	NEW AD AHU A	Singapore, Singapore, 25 Road, 123456	<b>●</b> 1 🗖 0 📊		Ĉ
<ul> <li>Root causes</li> <li>⇒ Alarm types</li> </ul>			\rm High-Plant trip	<b>2024.07.15</b> 07:26:44	Frost alarm	Fault	AD AHU Alarm	Kastrup, Kastrup, DK , 2770	∿∘ ⊫∘ իլ		Ç

Num ber	Property	Description			
1	Alarms - Active alarms	Active alarm on the tenant level (concentrate and prioritize, operational).			
2	Alarms - Plant alarm history	Active and historical alarms on the plant level (operational organization of measures).			
3	KPIs	Access to KPIs (statistical overview):			
		KPI dashboard (graphical overview).			
		Ranking by alarms (dough nut chart).			
		Frequent alarm types (dough nut chart).			
		Alarms on a time axis (line chart).			
4	Configuration	Access to configuration (Engineering):			
		Root causes (configuring the basic root causes).			
		Alarm types (configuring alarm types).			
5	Active alarms	Counter of present states.			
6	Filter by	Filter the alarm list by select, predefined properties such as priority, location, name, tenant, etc.			

0

7	Active alarms list	Priority				
ľ	Active alarms list	Displays the alarm priority.				
		Reset type				
		Displays the type of possible alarm resets.				
		Triggered.				
		Displays the date/time the alarm was registered in Climatix IC. The browser time applies.				
		Trigger in the plant				
		Displays date/time the alarm was triggered within the plant.				
		Designation				
		Indicates the naming of the displayed alarm.				
		Event state				
		Indicates the reason the displayed alarm was triggered.				
		Plant name				
		Device name that triggered the alarm.				
		Address				
		Displays the site address.				
8	Timeframe	Displays alarms triggered within a specific period.				
9	Alarm types (favorites)	Filter for alarm types highlighted as favorites.				
10	CSV export	Export CSV files.				
11	ੇ Refresh	Refreshes displayed alarms.				
12	Customize columns	Enable or disable columns for display in the ticket overview.				
13	Number of root causes	Access to menu "Root causes" with a counter for the number of root causes.				
		Darkened icon: Root causes available.				
		• Light icon: No root causes.				
14	Number of comments	Access to menu "Comments" with a counter for the number of comments.				
		Dark icon: Comments available.				
		Light icon: No comments.				
15	Time series diagram	Access to the menu "Diagram".				
16	Plant details	Overview of plant details.				
17	Alarm history	Overview of plant alarms triggered to date.				

# 14.3.1 Active alarms view

The Alarm Dashboard displays all recognized alarms that are active in the "Active alarms" view. Each alarm is displayed on a separate row. Alarms can be sorted and filtered. You can filter alarm types that are considered critical/relevant.

The "Alarm type" filter applied to this view and can display all available alarm types and select the type considered critical for display in the "Active critical alarm type" view.

Dashboard Operating	Appl	ication set Administ	tration Apps	Alarm Dashboard	Rule Editor				0
	«	(1) (0) (1) (1) (1) (1) (2) (1) (2) (1) (2) (1) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2						⊠ csv	
<ul> <li>Alarms</li> <li>Active alarms</li> </ul>	•	Q Filter by			P Apply	2024.07.30 - 2024	11.25 🛱 X 🟹 F	avorite alarm types	C Refresh
🕒 Plants		Priority	Reset type	Raised ↓=	Label	Event state	Plant name		III
III KPIs	~	🛦 Med-Partial trip	MANUAL	<b>2024.10.31</b> 08:33:45	HighLimit	High limit	Zug-HeatPump	2 🗖 1 📊	(II) ¢
Configuration	~								

Property	Description
Filter by	Filters the alarm list by select predefined properties.
	▼ Apply: The selected filters are applied and list of alarms is reduced accordingly.         The "Refresh" button updates the list.
Active alarms list	All active alarms for plants registered at the tenant. A quick overview, filtered by multiple criteria to limit the number of alarms.
	For an overview of available filters: See 'Intelligent Alarm Application (IAA) user interface [→ 312]', item 7.

×

List of filter types for alarms:

#### Customize columns

Select t	o customize view		
=	Priority		Visible 💽
=	Reset type		Visible 🔵
=	Raised		Visible
=	Raised at plant		Hidden 🔵
=	Label		Visible 🚺
=	Event state		Visible 💽
=	Plant name		Visible 🚺
=	Address		Hidden 🕚
Rese	et to default	Cancel	Apply

# 14.3.1.1 Alarm type filter list

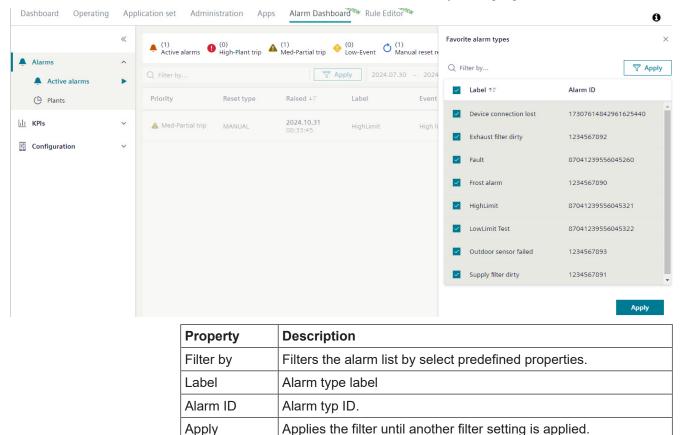
Apply

Move the slider for 'Alarm type favorites' 1.



to the right.

- ⇒ The 'Alarm type favorites' is highlighted in color.
- ⇒ The 'Alarm type favorites' is enabled.
- 2. Click the active field 'Alarm type favorites'.
  - ⇒ The 'Alarm type favorites' dialog opens.
- 3. Highlight individual alarm types as favorites.
- 4. The 'Alarm type favorites' dialog closes.
- ⇒ The entire alarm list can now be filtered by the highlighted favorites.



# 14.3.1.2 Alarm history

Displays the alarm history for a plant.

♦ Click

#### ⇒ A new 'Alarm history' window opens.

Dashboard Operating Application set Administration Apps Alarm Dashboard Rule Editor

	«									
		Alarm event history		×					0	₫ csv
Alarms	^	Plant name:			te a	larm ty	pes(0)	•		🖒 Refresh
Active alarms	•	Zug-HeatPump							-	
() Plants		Tenant: CLX								
Li KPIs	~	Description: AnalogValue-HighLimit				<b>@</b> 2	1	<u></u>	œ	Ģ.
E Configuration	~	Event state	Raised ↓=	Alarm string	<u>a</u>	1	<b>D</b> 0	<u></u>	cÆb	Ģ
		🐥 High limit	<b>2024.10.31</b> 08:33:45	+ <b>31</b> .10.2024 <b>08</b> :33: <b>45</b> AnalogV	a		E 0		(RD	Ģ
		🌲 Normal	<b>2024.10.29</b> 14:33:11	- 29.10.2024 14:33:11 AnalogVa	<u>a</u>	<b>1</b>			æ	Ą
		🂐 High limit	<b>2024.10.29</b> 13:10:13	+ 29.10.2024 13:10:13 AnalogV	<u>I</u>	-\r- 0		<u>lılı</u>	æ	Ą
		🌲 Normal	<b>2024.10.29</b> 10:05:54	- <b>29</b> .10.2024 <b>10:05:54</b> AnalogVa	<u>.</u>	<b>1</b>	<b>P</b> 1	<u>lılı</u>	æ	Ą.
		🔿 - 1 stada Baasis	2024.10.28	• 10.10.10.17.00.07.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.	ıt:	20	~	14	1	> н
		Total: 11		Row count: 20 🗸 H K 1 > H						

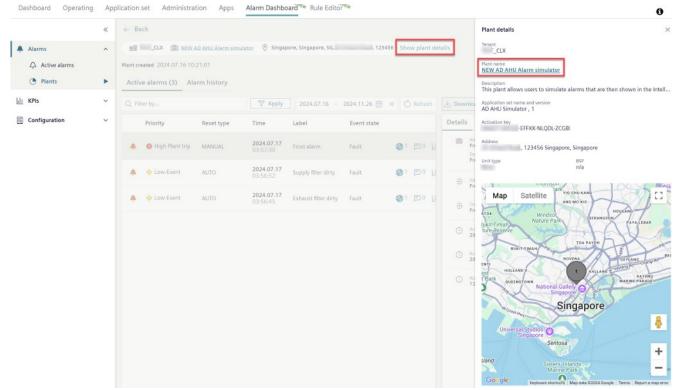
Property	Description
Plant name	The facility or plant name linked to the alarm type.
Tenant name	Tenant assigned to the alarm type.
Description	Alarm type description.
Event status	The present alarm state: Active, inactive, or confirmed.
Triggered.	The last alarm update. Indicates the year, month, date, and time.
Alarm series	A short designation of the alarm type.

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# 14.3.1.3 Plant details

Tab "Plant details" displays the details on a plant with an active alarm. It provides an overview of plant functions and location.

- 1. To to "Active alarms".
- 2. Click the alarm belonging to the plant to be checked.
  - ⇒ Displays various plant alarms.
- 3. Click "Show plant details".
  - ⇒ The "Plant details" window opens.
- 4. Review the preset plant parameters.
- 5. Click the plant name to switch to the "Plant Dashboard" for the plant.
  - ➡ The "Operating" menu open in a new window and displays the "Plant Dashboard" for the plant.



	«	🗊 (3) Plants 🐥	(8) Active alarms	(3) High-F	ant trip 🔺 (	(2) Med-Partial t	rip 🔶 (3) Low-Event 🖒	(2) Manual reset rec	quest		⊡ csv
Alarms Active alarms	^	Q Filter by						V Apply	2024.07.01	- 2024.11.26 🛱 🗙	🖒 Refres
<ul> <li>Active alarms</li> <li>Plants</li> </ul>		Active alarm	Reset type		🐥 Upda	ated ↓=	Plant name	Address		Application set	1
<u>li</u> KPIs	~	🛦 Med-Par	MANUAL		1 <b>2024</b> . 06:43	.08.21 8:04	Zug-HeatPump	Zug, Zug, CH Zählerweg 9, 6	300	Zug-HeatPump	(A)
Configuration	~	None	None		0 <b>2024</b> . 13:21	.08.12 1:02	UG-HRV-North	Sunnyvale, Tex	<b>(as, US</b> Road, 75182		ŒD
		🕕 High Pla	Undefined		4 <b>2024</b> . 08:13	.07.11 841	AD AHU Alarm simula	Kastrup, Kastr , 277		AD AHU Simulator	c RD
۲ Alarms م ب Active alarms	2 Plant create		Alarm simulator	Alarm Dashbo	ard 🐄 Rule Edi	itor	of active alarn	ns for the	e plant:		
<ul> <li>Alarms</li> <li>Active alarms</li> <li>Plants</li> <li>KPIs</li> </ul>	<ul> <li>← Back</li> <li>1 mil</li> <li>2 Plant create</li> <li>3 Active a</li> <li>5 Q. Filter I</li> </ul>	LCLX () AD AHU. LCLX () AD AHU. ed 2024.07.11 08:13 alarms (4) 4 Alarm	Alarm simulator 8:41 m history	Alarm Dashbo	ard <sup>®</sup> * Rule Edi strup, DK.	5how	plant details .11.26 🗃 🗙 8 🖒 Refresh	9 순 Download re	sport 10 ⊡ CSV	comments 0 15 Chart	
<ul> <li>≪</li> <li>Alarms</li> <li>Active alarms</li> <li>● Plants</li> <li>►</li> <li>KPIs</li> </ul>	<ul> <li>← Back</li> <li>1 mB</li> <li>2 Plant create</li> <li>3 Active a</li> <li>5 Q. Filter I</li> <li>11 Pr</li> </ul>	LCLX (III) AD ANU. CLX (III) AD ANU. ad 2024.07.11 08:13 alarms (4) <u>4</u> Alarm by tiority	Alarm simulator	Alarm Dashbo	ard ** Rule Edi	itor <sup>74</sup>	plant details .11.26 🗃 🗙 8 🖒 Refresh	9 📩 Download r 12 Details 13 Ro Front I Descript	rport 10 CSV ot causes 0 14 C	Comments 0 15 Chart	
<ul> <li>≪</li> <li>Alarms</li> <li>Active alarms</li> <li>● Plants</li> <li>►</li> <li>KPIs</li> </ul>	← Back 1 mB 2 Plant create 3 Active a 5 Q Filter I 11 Pr ▲ €	La Administratio	Alarm simulator 8:41 m history Reset type	Alarm Dashbo Kestrup, Ker G	ard® Rule Edi strup, DK. pply 7 2024.07 Label	itor <sup>™</sup> Show 7.11 - 2024 Event st	plant details .11.26 🔠 × 8 🔿 Refresh ate	9 🛃 Download re 12 Details 13 Ro Forst 1 Decopy Forst 1 Decopy	port 10 CSV ot causes 0 14 C memostat		
<ul> <li>Alarms</li> <li>Active alarms</li> <li>Plants</li> <li>KPIs</li> </ul>	← Back 1 mB 2 Plant create 3 Active a 5 Q Filter 1 11 Pr ▲ 0 ▲ 0	La Administratio	Alarm simulator Alarm simulator Alarm simulator Alarm simulator Undefined	Alarm Dashbo Kastrup, Kas 6 V Al Time 2024.07.15 07:26:44 2024.07.15	ard <sup>®</sup> Rule Edi strup, DK. pply 7 2024.07 Label Frost alerm	Show 7.11 - 2024 Event st Fault	plant details .11.26 🔠 × 8 🔿 Refresh ate	9 Download re 12 Details 13 Rov Rim Alarn of Prost of Undefi Descript Ovalue do Undefi Descript Descript Prost of Descript D	rport 10 CSV ot causes 0 14 C ing mermostat eermostat heating coll		
<ul> <li>Alarms</li> <li>Active alarms</li> <li>Plants</li> </ul>	← Back 1 mB 2 Plant create 3 Active a 5 Q Filter I 11 Pr ▲ 0 ▲ 0	LCLX (I) AD AHU. CLX (I) AD AHU. ad 2024.07.11 08:13 alarms (4) A Alarm by high-Plant trip high-Plant trip high-Plant trip	Alarm simulator Alarm simulator Alarm simulator Alarm simulator Undefined Undefined	Alarm Dashbo () Kastrup, Kat () Kastrup, Kastrup	ard <sup>®</sup> Rule Edi strup, DK. pply 7 2024.07 Label Frost alarm Frost alarm	7.11 - 2024 Event st Fault Normal	plant details .11.26 🔠 × 8 🔿 Refresh ate	9 Download re 12 Details 13 Ro 12 Details 13 Ro Alarn of Prost ti Uske di Uske di Uske di Disper- Prost ti O Vake di O Va	rport 10 CSV ot causes 0 14 C ining mermostat ion mermostat heating coll stappint med: Underlined basapoint refarm	efined	
<ul> <li>Alarms</li> <li>Active alarms</li> <li>Plants</li> <li>KPIs</li> </ul>	<ul> <li>Back</li> <li>Back</li> <li>Back</li> <li>Plant create</li> <li>Active a</li> <li>Active a</li> <li>Active a</li> <li>Filter I</li> <li>Plant create</li> <li>Active a</li> <li>Constant</li> <li>Constan</li></ul>	LCX III ADAHU. CX III ADAHU. ed 2024.07.11 08:13 alarms (4) Alarm by High-Plant trip High-Plant trip High-Plant trip High-Plant trip	Apps Alarm simulator Alarm simulator Alarm simulator Alarm simulator Undefined Undefined Undefined	Alarm Dashbo	ard <sup>®</sup> Rule Edi trup, DK. pply 7 2024.07 Label Frost alarm Frost alarm	7.11 - 2024 Event st Feult Fault	plant details .11.26 🔠 × 8 🔿 Refresh ate	9	port 10 CCV ot causes 0 14 C remostat memostat med: Undefined box polet rermostat status: Undefined	efined	

	Function	Description
1	Plant	Display the plant that triggered the alarm as well as additional information on the plant, including tenant and location.
		<ul> <li>Click the plant name  to switch to the "Plant Dashboard".</li> </ul>
		⇒ The "Operating" menu open in a new window and displays the "Plant Dashboard" for the plant.
		Plant details: See 'Plant details' below
2	Create plant	Displays the Climatix IC time of the first plant alarm.
3	Active alarms	Chronological list of active alarms or all types for a plant.
4	Alarm history	Chronological list of open and closed alarm events for the plant.
5	Filter by	Filters the alarm list by predefined properties property, reset type, designation, event state, root causes, comments. Multiple filters are possible.
6	Apply	'Filter by' applies the selected filter.
7	Timeframe	Displays alarms triggered within a specific period.
8	ੈ Refresh	Refreshes displayed alarms.
9	Download report	Generates a report with all alarms for this plan in as .odt text file (.odt = <b>O</b> pen <b>D</b> ocument- <b>T</b> ext).

#### 318 | 392

10	CSV	Generates a report with all alarms for this plant as a CSV file download.
11	Alarm list	Select the table header to sort alarms:
		Status
		Displays the state of the alarm:
		• 🐥 Active alarm
		• Alarm already closed
		• 🐥 Alarm closed
		Priority
		Displays the alarm priority. Details: See 'Alarm list priorities'.
		Reset type
		Displays the type of possible alarm resets.
		<b>time</b> Displays the date/time the alarm was registered in Climatix IC.
		<b>Designation</b> Indicates the naming of the displayed alarm. See 'Alarm type'.
		Event state
		Indicates the reason the displayed alarm was triggered.
12	Details	Displays all details on an alarm.
		Note:
		<ul> <li>The label Alarm description is displayed if the alarm has a description.</li> </ul>
		• The label Alarm ID is displayed if the alarm does not have a description.
13	Causes -⁄ <sub>2</sub> 0	Displays the number of recommendations that are defined for an alarm. The display is based on the selected alarm from the alarm list.
14	Comment	Displays the number of comments that are defined for an alarm. The display is based on the selected alarm from the alarm list.
15	Chart 🛄	Display the curve "Event state" and the curve "Data point values" as diagram over a specific period. Offers various views and options to export displayed data.

# 14.3.2.1 Priorities in the alarm list



The alarm priorities are defined in two locations:

- 1. The alarm type priority is set by the user when configuring the alarm.
- 2. In the event that another priority for the alarm type is stored in the Rule Editor, this priority automatically overwrites the priority that is manually assigned to the alarm type (See 'Menu Rule Editor [→ 344]').

The following priority states are possible:

- High-Plant trip (high priority).
- Med-Partial trip (medium priority).
- Low-Event (Low priority).
- Manual reset request (Alarm must be manually reset).

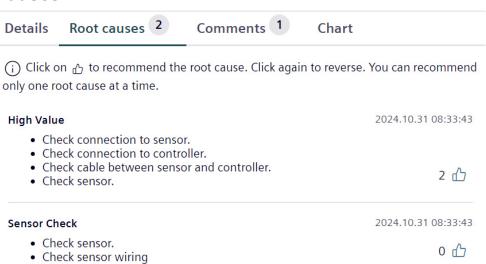
See 'Concepts, terms, and definitions [ $\rightarrow$  308]'.

**INFO:** The priority must be defined in the AlarmOutput node to sort by priority.

Details	Roo	t causes 0	Comments 0		Chart		
	Alarm stri Frost the	<sup>ng</sup> ermostat					
	Description Frost the	ermostat heating	coil				
€	Value dat Undefin	a point ed: Undefined					
Ð	Trigger da Frost the	ata point ermostat status: L	Indefined				
٩	Active in 2024.07	plant .15 07:26:44	Closed in pl Not yet cl				
٩		browser time .15 07:26:44	Closed at be Not yet cl		time		
()	Alarm ID 1234567	7890					
Function		Description					
Alarm text	I		rm text. It can look cture at the custom		ent depending on the		
Descriptio	n		ification text. It car structure at the cus		different depending on		
Data point	t value	Displays the val	ue reported from tl	he dat	a point.		
Data point	t trigger	Displays the thre	eshold at the data	point f	or reporting an alarm.		
Active in t plant	he	Displays the loc	al plant time the al	arm o	ccurred.		
Closed in the plant		Displays the local plant time the alarm is closed. The alarm displays 'Still open'.					
Active dur browser ti		Displays the time the alarm was registered in the cloud (open)					
Closed du browser ti		Displays the time the alarm was registered in the cloud (closed). The alarm displays 'Still open'.					
Alarm ID		Displays the Alarm ID in Climatix IC.					

# 14.3.2.2 Details

# 14.3.2.3 Causes



The root causes for an alarm in a plant is displayed In tab 'Root causes'. The root causes are set in the Rule editor or Scripting editor. Multiple root causes can be

displayed. The user can 'Like' (ம) a root cause to assigned higher weighting to it. Root causes with the most 'Likes' are displayed at the top of the root causes list.

- **1.** Select the Root causes tab.
  - ⇒ Displays one or more recommendations for handling the alarm.
- 2. Click i on the most reasonable recommendation or the one most suited for the alarm in question.
  - A recommendation with 'Like' has a higher weighting than a recommendation without 'Likes'.
  - A recommendation with 'Like' is displayed higher on the hit list of alarm root causes.
  - ⇒ The 'Likes' for root causes are added up and the alarm root cause with the most 'Likes' is displayed at the top of the list.
  - ⇒ Note: Only one 'Like' can be issued per plant alarm.
- ⇒ The alarm root causes with the most appropriate recommendation for the alarm display at the first visible position and are the ones most likely to be considered when handling an alarm.

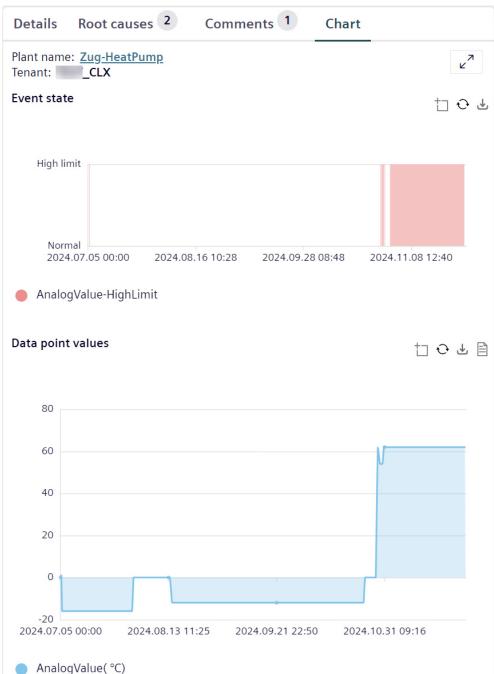
#### 14.3.2.4 Comments

Details	Root causes 1	Comments 1	Chart	
Replace su	apply filter @siemens.com			2024.11.29 11:55:55 ພົ
Add com	nment here			
				1,
				Add comment

The 'Root causes' tab displays one or more comments on a plant alarm. For example, including troubleshooting, possible solutions, information on the impact or similar. The user can enter the comments as free text.

- 1. Select the 'Comments' tab.
- 2. Enter the comment in the text field
- 3. Select 'Add comment'.
  - $\Rightarrow$  The comment text is saved.
  - A time stamp and e-mail address of the author is appended to the comment.
- **4.** Add additional comments as needed.
- 5. Delete ' 🛄 ' unnecessary comments.
  - ➡ Note: Comments cannot be restored once deleted. You must rewrite and add them again.

# 14.3.2.5 Chart



The 'Root causes' tab displays one or more diagrams on a plant alarm. Provide an overview of plant performance over a time axis. Performance data that deviates from the specifications can be quickly recognized in a chart and limited in time. The view functions can be zoomed in on diagrams for legibility. Export functions can be externally store data from the diagrams to file formats. See the list with function icons below.

- 1. Select the "Chart" tab.
  - ⇒ The alarm curve displays in diagrams.
- 2. Click 'Plant name'.
  - ⇒ The specified plant open in a new browser in the menu 'Plant Dashboard [→ 84]'.

lcon	Function
× <sup>۲</sup>	Full screen mode: Expands the diagram.
to	Zoom: Increases the size of the diagram.
к Ц	Reset zoom: Returns the value to the original size on the map.
Ċ	Refresh: Refreshes the display.
$\underline{\vee}$	Export to PNG: Exports the diagram as a PNG file.
	Export to CSV: Exports a CSV file with the latest data.

# 14.3.2.6 Download report

- $\triangleright$  Select a plant (See View of plants with an alarm [ $\Rightarrow$  318]').
- 1. Click 'Download report'
  - ⇒ Generates an alarm report on the plant in .odt:
    - Zug-HeatPump\_2024-12-13T15\_19\_12\_AlarmReport.odt
  - ⇒ The generated alarm report is automatically saved to the download location stored in the browser.
- 2. The .odt document opens in a word processing program:



# 14.4 KPIs

Key Performance Indicators (= KPIs) permits plant monitoring and frequency of alarms.

Climatix IC offers various visual and statistical overviews of alarms.

i

Please note: Only alarms set to low, medium, or high are monitored. Alarms without priorities are not evaluated.

General functions

lcon	Function
to	Zoom: Increases the size of the diagram.
	Reset zoom: Set the zoom to the default value.
$\underline{\vee}$	Export to PNG: Exports the diagram as a PNG file.
Õ	Refresh: Refreshes the display.

#### Additional information

You can learn how to create a KPI with just a few click in "Key performance indicators (KPIs) [ $\rightarrow$  168]".

# 14.4.1 KPI dashboard

The KPI dashboard has various visual overviews of alarms:

- Filter by alarms.
- Filter by alarms and tenant.
- Number and alarm states.
- Geographical location of alarms on a map.
- Direct access to plant with an alarm from the dashboard.

- 1. Go to menu "Alarm Dashboard > KPIs > KPI dashboard".
- 2. Select one or more plants using the filter function (1).
  - 'Apply' (2) the filter.

Dashboard Operating Application set Administration Apps Alarm Dashboard Rule Editor 0 KPI dashboard 1 Q **▽ Apply** 3 2022.01.01 - 2024.12.04 🛱 × 🖒 Refresh 2 △ Alarms Priorities KPIs against plant selection 🗘 Active alarms :3 Alarm type p Active Total 4 Plant names Mean Time Between Failures (MTBF) 7 26 Low-Event 5 ( Plants -2645h (i) Alarm types × 💧 Med-Partial trip 15 Mean Time To Repair (MTTR) 2 3203h (j Application sets KPIs High-Plant trip 47 З 5 3 (50%) (j nhPriv 107051-POL687 Plants in alarm Unit types KPI dashboard Plants without alarms 3 (50%) 🛈 0 🔶 14 0 🔒 Total 10 88 Undefined Low-Event Med-Partial t High-Plant trip Plant's alarm ranking Plants off due to alarms 2 (33%) (i) Bi 1219-POL638--MachineLink3G Plants available to run 4 (67%) (i) Rack Office - Vodafone - rechter con FJAFC-2JOFP- MachineLink 3G 11.46 Activation ke Plant availability 15% () 00 0 🛕 Med-Pa 0 🔒 Plant reliability 55767h (i) ( Alarms over time 1 0 Low-Event 8 53785-POL638 -Teltonika E Configuration Slovak Munich Vienn 3 4 +Budape Austria Lyon France S Slovenia Jul MAILO

- **3.** Indicate the time frame (3) for displaying the alarm types.
  - ➡ The longer the time frame, the higher the probability of finding alarm types with alarms.
  - ⇒ The filtered plants are identified in Google Maps.
  - ⇒ The plants are displayed on the map in a circle diagram (4). Multiple plants at one location are grouped.
  - The color distribution represents the number of alarms for a priority, the total number of alarms at a location.
     Move the cursor to view the number to alarm types at the individual priorities.
- 4. Click the circle diagram.
  - A popup window (5) opens on the map with details on the plant, displayed in a circle diagram.
  - ⇒ The pop-up window displays the plant name, plant description, and number of alarms by alarm priority of plants stored in the circle diagram.
- 5. Click the plant name in the pop-up window to switch to the Plant Dashboard for that plant.
  - ⇒ The "Operating" menu open in a new window and displays the "Plant Dashboard" for the plant.
- A summary of displays for all alarm types found using filters and time functions with a key by priority and state (6).
- ⇒ A statistical evaluation of the selected alarms are displayed as KPIs (7).

#### KPIs versus plant selection

KPIs against plant selection	()
Mean Time Between Failures (MTBF)	-2645h (j)
Mean Time To Repair (MTTR)	3203h (j)
Plants in alarm	3 (50%) 👔
Plants witho <u>ut alarms</u>	3 (50%) (i)
(Hours without Plants off due to trip alarms DIV Plants available to rol of hours)	IDED by No.
Plant availability	15% ()
Plant reliability	55767% (i)

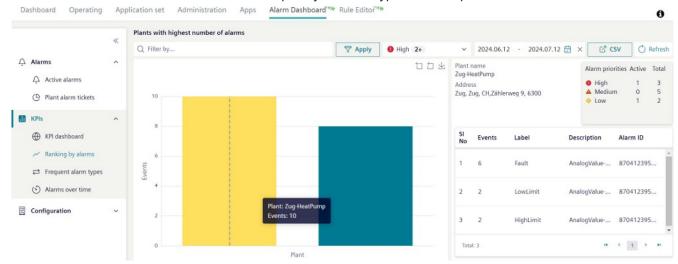
The 'KPIs versus plant selection' display general KPIs for each plant. The displayed KPIs always refer to the plants filtered by the user. In other words, they show a statistical evaluation of specific parameters for the selected plants. For information on displayed KPIs:

- $\diamond$  Cursor to the Info icon <sup>(i)</sup> for a KPI.
- ⇒ A pop-up window displays information on the KPI.

## 14.4.2 Plant ranking with the greatest number of alarms

"Ranking by alarms" can:

- Sort the plants by the amount of incoming alarms.
- Count the number of indicents per plant.
  - Rank the frequency of alarm types within a plant.



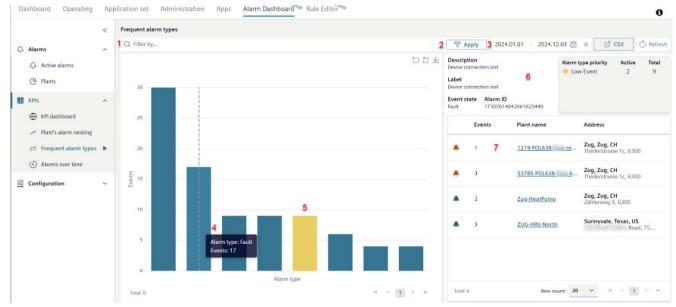
- 1. Go to menu "Alarm Dashboard > KPIs > Plant ranking with the greatest number of alarms".
- **2.** Select one or more plants using the filter function (1).
  - 'Apply' (2) the filter.
  - $\Rightarrow$  The filtered plants are displayed as a diagram.
  - ⇒ Each bar in the diagram represent one plant with alarms.
  - ⇒ The size of the bar represents the number of plant alarms over the selected period.
  - ⇒ The number of filtered plants is based on the selected period. Only plants with alarms over the selected period can be selected and displayed using the filter function.
- 3. Enter the time frame (3) for displaying plants with alarms.
  - ➡ The longer the period the greater the likelihood of finding plants with alarms.
- 4. Move the cursor to the individual diagram bars.
  - ➡ The plant names and frequency of alarms occurring on the plant are displayed (4).
- 5. Click to select individual diagram bars.
  - $\Rightarrow$  The selected diagram bars is highlighted in color (5).
  - ⇒ The default view selects the bar for the plant with the largest number of alarms.
  - $\Rightarrow$  Displays the details of the highlighted plant (5).
  - ⇒ The alarm priorities of the plants highlighted in the diagram are depicted as a list (6).
    - It displays the total number of alarms, number of active alarms and priority of reported alarms.
  - Displays a list of alarms for the plants highlighted in the diagram (8). It offers an overview by name, description, and number of individual alarm types for the plant.
- 6. Click "History" (7).
  - A new window opens with a 'Active alarms view [→ 314]' for the plant (highlighted in the bar chart).

- 7. Select 'Event', 'Designation', or 'Description'.
  - ⇒ The plants are sorted by their characteristic values.
- 8. Click the plant name to switch to the "Plant Dashboard" for the plant.
  - ➡ The "Operating" menu open in a new window and displays the "Plant Dashboard" for the plant.

## 14.4.3 Common alarm types

The function "Frequent alarm types":

- Sorts alarm types by the number of incoming alarms.
- Counts the number of incidents per alarm type.
- Rank the frequency of alarm types.

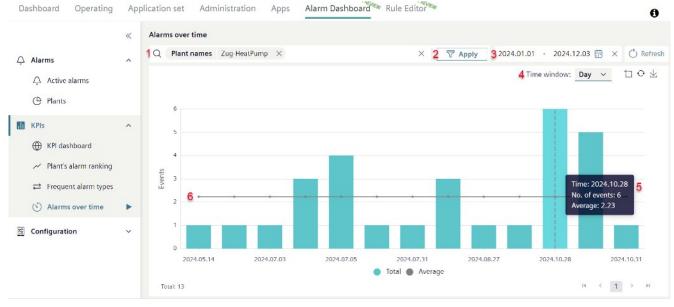


- 1. Go to menu "Alarm Dashboard > KPIs > Frequent alarm types".
- 2. Select one or multiple desired alarm types using the filter function (1).
  - 'Apply' (2) the filter.
  - ⇒ The filtered alarm types are displayed in a diagram.
  - $\Rightarrow$  Each bar in the chart represents an alarm type.
  - ⇒ The size of the bar represents the frequency of triggering the alarm type during the period.
  - ⇒ The number of alarm types to filter depending on the select period. Only alarm types with an alarm during the selected period can be selected and depicted using the filter function.
- **3.** Indicate the time frame (3) for displaying the alarm types.
  - ⇒ The longer the time frame, the higher the probability of finding alarm types with alarms.
- 4. Move the cursor to the individual diagram bars.
  - ⇒ The name and frequency of the stored alarm type is displayed (4).

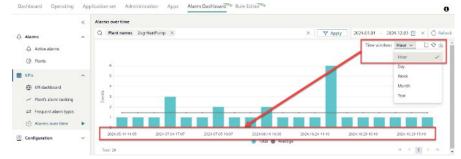
- 5. Click to select individual diagram bars.
  - $\Rightarrow$  The selected diagram bars is highlighted in color (5).
  - ⇒ The bar with the most frequent alarm types is always selected in the default view.
  - $\Rightarrow$  Displays details of the alarm type highlighted in the chart (6).
  - The plants reporting an alarm for the highlighted alarm type (in the chart) are depicted in a list (7). Whereby:
     The number and priority of the reported alarms for the highlighted alarm type is displayed.
     The name and address of the impacted plant is displayed.
- 6. Select 'Event', 'Designation', or 'Description'.
  - ⇒ The plants are sorted by their characteristic values.
- 7. Click the plant name to switch to the "Plant Dashboard" for the plant.
  - ➡ The "Operating" menu open in a new window and displays the "Plant Dashboard" for the plant.

## 14.4.4 Alarms on a time axis

The view "Alarms over time" displays a bar chart for the number of incoming alarms per selected plant and per selected time unit:



- 1. Go to menu "Alarm Dashboard > KPIs > Alarms over time".
- 2. Select one or more plants using the filter function (1).
  - 'Apply' (2) the filter.
  - ⇒ Alarms for the desired plant are displayed in a chart.
  - ⇒ The number of filtered plants is based on the selected period. Only plants with alarms over the selected period can be selected and displayed using the filter function.
- **3.** Enter the period (3) to display the plant alarms.
  - ➡ The longer the period the greater the likelihood of finding plants with alarms.
- 4. Select the time window (4) from the drop-menu to display alarms.
  - ⇒ The alarms displayed in the chart are groups based on the selected period:



- **5.** Cursor over individual bars in the chart to view details on the applicable entries (5).
- ⇒ The average number of alarms on the selected plants in selected time frame is displayed as a line (6).

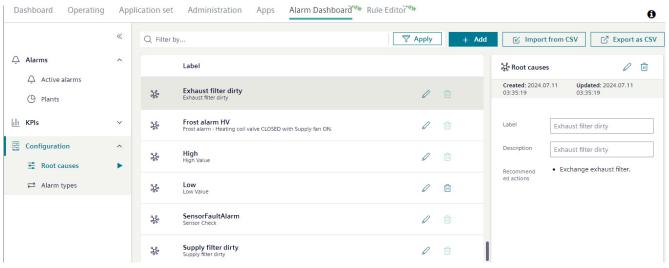
# 14.5 Configuration

## 14.5.1 Causes

You can manage alarm recommendations as follows in the Root causes view of the Alarm Dashboard:

- Create an alarm action
- Edit an existing alarm action.
- Filter the list of available alarm actions.
- Delete an alarm action.
- In the main navigation, select tab "Configuration > Root causes".

Perform the following procedures as needed:



### 14.5.1.1 Create root causes recommendations

		+ Add 🗹 Impor	t from CSV	🖸 Ехро	ort as CSV
Ro	ot cause and recomme	nded actions	Cancel	<mark>8</mark> S	ave
<b>2</b> La	abel *	Exhaust filter			
<b>3</b> D	escription *	Exhaust filter dirty			
<b>4</b> R	ecommended actions *	Replace exhaust filter			7 🔟
	Add action				5 +

- **1.** Select **幸** 'Root causes'.
  - ⇒ Display the "Root causes" view.
- 2. Select '+ Add' (1).
  - ⇒ The 'Basic root causes and recommended actions' dialog opens.
- **3.** Enter a descriptive text in the 'Label' (2) field.

The name is used in the Rule Editor as the root cause for the root cause property (see 'Menu Rule Editor [ $\rightarrow$  344]').

					- Depi	ny 💌
litter nodes	Flow 1		+ =	i info	i # 4	0 8
Alarm	•		×		Q, Search Ro	
Alaminout	An elem triggers the flow	We evaluated the collected data		<ul> <li>Flows</li> <li>→ E Flows</li> </ul>	w 1	
AlemOutput S	Damper status S		We set a root cause conclus	> Subflows > Global Co	ofiguration Nodes	
18	Frost alarm	Evaluate date	Set alarm ticket root caus			
DP Request S D	corrected     Could be the termination	st St		_		
		st St	Canzel Done	_	larm ticket root c	ause /
		Edit AlemiOutput node Dente	Cancel Done	Node	*9a/9d780.8e5	
function		S Balt AlarmOutput node		_		108*
function		Edit AlemiOutput node Dente	Canzel Dore	Node	*9a/9d780.8e5	
function		S Ext Asmobulgat note Deter Departure Departur	Canzel Dore	Node	*9a/9d780.8e5	108*
function f function () C switch ()		S S Est Alembutput note Once Once Once Once Once Once Once Onc	Canzel Dore	Node Type	19af9d780.8e5 AlarmOutput	lc.6" show mor
function f function c setter X change d		S Ext Asmobulgat note Deter Departure Departur	Canzel Dore	Node Type Move the	*9x89d780.8e5 AlarmOutput	show more a constraint of the
function f Lection c settch X change (j range		S S Est Alembutput note Once Once Once Once Once Once Once Onc	Canzel Dore	Node Type Move the	Selected nodes	show more a constraint of the

**INFO:** Correctly define the priority and acknowledge type for each AlarmOutput node in Rule Editor.

- 4. Enter a root cause in the 'Description' (3) field.
- 5. Enter the first instruction in the 'Recommended actions' field (4).
- 6. Select + (5).
- 7. Enter an additional instruction in the Recommended actions field.
- 8. + (5) repeat the selection and process as often as needed.
   INFO: The cause can only be saved when completed with + (empty entry).
- **9.** Move = ' to sort the sequence of the actions (6).
- 10. Delete ' 🛄 ' unnecessary actions with (7).
- **11.** Select Save (8).
- ⇒ Root cause version 1 is saved and can be used in Rule Editor.

### 14.5.1.2 Edit root cause recommendations

- $\triangleright$  A root cause is available,
- 1. Select 幸 'Root causes'.
- 2. Select existing root cause.
  - ⇒ The 'Root causes' dialog displays the properties of the selected root cause.

쁐 Root causes		Cancel	Save		
Created: 2024.07.11 03:35:1	19	Updated: 2024	4.07.11 03:35:1	9	
Label *	Frost alarm HV				
Description *	Frost alarm - Heating coil val	ve CLOSED with S	Supply fai		
Recommended actions * $\equiv$	Check that manual override is set to AUTO.				
$\equiv$	Check controls signal and po	wer to actuator.		回	
=	Check that the actuator and	valve body works	mechanical	创	
≡	Reset Frost thermostat when	done.		Ū	
Add action				+	

- 3. Select 'Edit'.
- 4. Edit the root causes as per the specifications in 'Create root causes recommendations [ $\rightarrow$  334]'.
- 5. Move with ' $\equiv$ ' to sort the sequence of actions.
- 6. Select 'Save'.
- ⇒ Save the recommendations for root causes.

### 14.5.1.3 Filter recommendations for root causes

- 1. Select 'Root causes' ₹.
  - ⇒ Display the "Root causes" view.
- 2. Select 'Filter by'.
- 3. Select a column title and enter a condition, e.g. Frost.
- 4. Press ENTER.
- ⇒ The Root causes list is filtered.

### **14.5.1.4** Delete recommendations for root causes

- $\triangleright$  A root cause is available
- **1.** Select **幸** 'Root causes'.
  - ⇒ Display the "Root causes" view.
- 2. Select existing root cause.
- 3. Delect 'Delete'.
   ⇒ Confirmation is displayed.
- 4. Select 'Delete'.
- ⇒ The root cause is deleted.

Note: A root cause cannot be restored once deleted. It be set up again.

## 14.5.2 Alarm types

Proceed as follows to manage alarm types:

- Creating and editing alarm types
- Edit automatically generated alarm type
- Delete alarm type

In the main navigation, select tab "Configuration > Alarm types". Perform the following procedures as needed:

### 14.5.2.1 Display alarm types

- $\triangleright$  Select the "Configuration" tab.
- ♦ Select C Alarm types.
- ⇒ The Alarm type view opens.

Dashboard Operating	Appli	ication set	Administration	Apps Alarm Da	ashboard Rule Editor	EW							0
	«	Q Filter by						T Apply	+ Add	🕑 Impo	rt from CSV	🖓 Ехро	ort as CSV
🗘 Alarms	^		Priority	Alarm ID	Description			🗘 Alarm type				6	2 🗇
<ul> <li>Active alarms</li> <li>Plants</li> </ul>		Ŷ	🔶 Low-Event	17307614842961 Device connection lost	Device connection lost	0		Created: 2024.04.05 15:35:16	Created by: 202 System 06:	dated: 24.08.02 11:38	Updated by:	(@sieme	ens.com
li KPIs	~	Ċ	🔶 Low-Event	1234567892 Exhaust filter dirty	Exhaust filter pressure s	0	Ū	Alarm ID *	173076148	429616254	40		
Configuration	^	Ģ	🔺 Med-Partial trip	87041239556045 Fault	AnalogValue-Fault	0	Ē	Label* Description *	Device conr				
	•	Ģ	() High-Plant trip	1234567890 Frost alarm	Frost thermostat heatin	0	Ē	Priority *	Device conr			~	
		Ģ	() High-Plant trip	87041239556045 HighLimit	AnalogValue-HighLimit	0	Û	Reset type	Undefined			~	
		Ģ	🔶 Low-Event	87041239556045 LowLimit Test	AnalogValue-LowLimit T	0	Ē	Sample device				~ >	
		Ċ	() High-Plant trip	1234567893 Outdoor sensor failed	Outdoor sensor failed	0	Ē					~ >	
		Ģ	🔶 Low-Event	1234567891 Supply filter dirty	Supply filter pressure sw	0	<u>ت</u>						



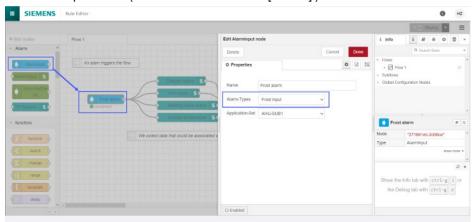
A new alarm type is created the first time an alarm is triggered; Climatix IC fills out the type using available information. Automatically generated alarm types can be modified  $[\Rightarrow 341]$  as needed.

# 14.5.2.2 Create alarm type

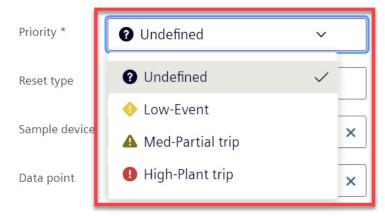
<b>1</b> + Add	☑ Import from CSV
New alarm typ	e Cancel <mark>9</mark> Save
2 Alarm ID *	12345
<b>3</b> Description *	Frost alarm
4 Label*	Frost thermostat heating coil
5 Priority *	◆ Low-Event ~
6 Reset type	Undefined ~
<b>7</b> Sample device	Zug-HeatPump ~ X
8 Data point	~ ×
	Q Search
	AnalogValue - Fault
	AnalogValue - HighLimit
	AnalogValue - HighLimitActive
	AnalogValue - inAlarm
	AnalogValue - LowLimit
	AnalogValue - LowLimitActive

- Create a text concept (or syntax) for alarm types to simplify assignments in the Rule Editor.
- $\triangleright$  The 'Alarm type' view is open.
- 1. Select '+ Add' (1).
  - $\Rightarrow$  The 'Alarm type' dialog box opens.

- 2. In the Alarm ID field, enter the ID number of the corresponding alarm (2).
  - A corresponding alarm must be triggered on the device (e.g. supply air fan fault) in order to enter Alarm ID.
     **INFO**: A new alarm type is created the first time an alarm is triggered; Climatix IC fills out the type using available information. Automatically generated alarm types must be modified [→ 342].
  - Alarm ID is always the same within an application type (e.g.: AHU1) and does not need to be regenerated each time.
     **INFO**: Another Alarm ID is, however, generated on the same functions (e.g. supply air fan fault), but for a different application type (e.g. AHU2).
- **3.** Enter a description of the alarm in the 'Description' (3) field. This description is issued as the alarm text.
- 4. Enter a label for the alarm in the 'Label' (4) field. Use the designation name in from the Rule Editor, entered while configuring the property "Alarm types" for the alarm input node (see 'Menu Rule Editor [→ 344]').



- 5. Set the alarm priority in the 'Priority' field (5).
  - Select the priority level from the drop-down menu:



6. Set the type of reset for the alarm in the 'Reset type' (6) field.

- Select the reset type from the drop-down menu:

Reset type	Undefined	~	
Sample device	Undefined	$\checkmark$	×
	MANUAL		
Data point	AUTO		×
	MANUAL OR AUTO		

- **7.** Select the plant in 'Sample device' (7) that serves as the example for the new alarm type.
- **8.** Select the previously selected plant in the 'Data points' field (8) as the template for the new alarm type.
  - Click multiple data points as needed.
  - $\Rightarrow$  Max. 6 data points can be selected at the same time.
- 9. Select Save (9).
- ⇒ The alarm type is saved and can be used in Rule Editor.

### 14.5.2.3 Edit alarm type

- $\triangleright$  The 'Alarm type' view is open.
- $\triangleright$  An alarm type is available.
- **1.** Select existing alarm type.
  - ⇒ The 'Alarm type' dialog displays the properties of the selected alarm types.

🗘 Alarm ty	pe			6	<b>1</b>
Created: 2024.07.05 08:54:44	Created by: System	<b>Updated:</b> 2024.10.28 17:06:20	Updated by	r: @sieme	ns.com
Alarm ID *	8704	1239556045	321		
Label*	HighL	imit			
Description *	Analo	gValue-Highl	imit		
Priority *	<b>9</b> H	igh-Plant trip		$\sim$	
Reset type	MAN	JAL		$\sim$	
Sample device				~	×
Data point				~	×

- 2. Select 'Edit'.
- Edit the alarm type priorities as the specifications in 'Create alarm type
   [→ 338]'.
  - ⇒ 'Alarm ID' is the only property that cannot be edited.
- 4. Select 'Save'.
- $\Rightarrow$  The edited alarm type is saved.

## 14.5.2.4 Edit automatically generated alarm type

The alarm description for an automatically generated alarm type must always be modified. This type of alarm description always starts with the text 'Define descriptive text for Alarm ID: 8704'. The customer does not understand this text. As must therefor be revised and replace by a easy-to-understand alarm description.

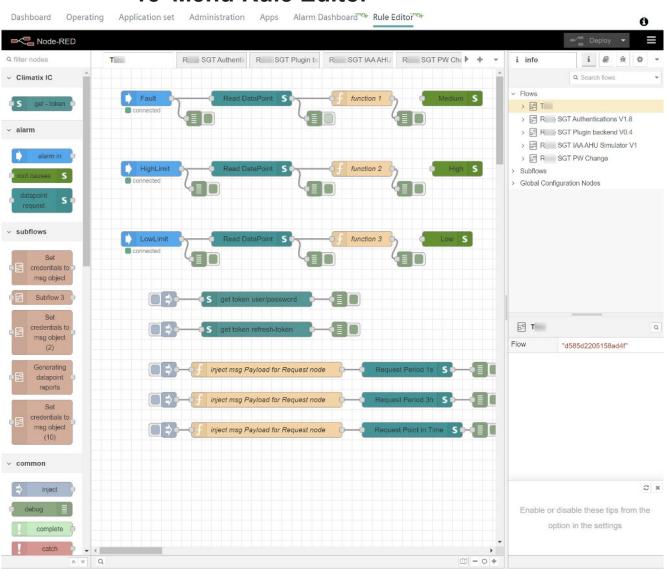
Dashboard	Operating	Appl	ication set	Administration	Apps Alarm D	ashboard 🕬 Rule Editor	ΨW					(
		«	Q Filter by.						T Apply	+ Add	⊴ Import from CSV	☑ Export as CS
🗘 Alarms		^		Priority	Alarm ID	Description			🗘 Alarm type			0 🗊
Active	alarms		Ģ	🚸 Low-Event	17307614842961 Device connection lost	Device connection lost	0		Created: 2024.04.05 15:35:16	Created by: System Updated 2024.08 06:11:38	02 Updated by:	@siemens.com
III KPIs		~	Ŷ	🚸 Low-Event	1234567892 Exhaust filter dirty	Exhaust filter pressure s	0	۵	Alarm ID *	173076148429	51625440	
E Configurat		^	Ŷ	🔺 Med-Partial trip	87041239556045 Fault	AnalogValue-Fault	0	Ō	Label*	Device connection		
⇔ Alarm	types	•	Ŷ	\rm High-Plant trip	1234567890 Frost alarm	Frost thermostat heatin	0	۵	Description * Priority *	Device connection	on lost	~
			Ŷ	\rm High-Plant trip	87041239556045 HighLimit	AnalogValue-HighLimit	0	۵	Reset type	Undefined		~
			Ċ	🚸 Low-Event	87041239556045 LowLimit Test	AnalogValue-LowLimit T	0	Ū	Sample device			~ x
			Ċ	() High-Plant trip	1234567893 Outdoor sensor failed	Outdoor sensor failed	0	Ū	Data point			~ ×
			Ċ	🔶 Low-Event	1234567891 Supply filter dirty	Supply filter pressure sw	0	۵				

- $\triangleright$  The 'Alarm type' view is open.
- ▷ The procedure shows an example (predefined texts). Adapt the example to your default text situation.
- 1. Select 'Filter by'.
- **2.** Select column title 'Alarm description' enter the automatically generated text 'Define descriptive text'.
- 3. Press ENTER.
  - ⇒ The Alarm type list is filtered.
- 4. Select an automatically generated alarm type, if available.
- 5. Select 'Edit'.
  - ⇒ The 'Alarm type' dialog displays the properties of the selected alarm types.
- Edit the alarm type priorities as the specifications in 'Create alarm type
   [→ 338]'.
  - ⇒ 'Alarm ID' is the only property that cannot be edited.
- 7. Select 'Save'.
- $\Rightarrow$  The edited alarm type is saved.

## 14.5.2.5 Delete alarm type

- $\triangleright$  The 'Alarm type' view is open.
- $\triangleright$  An alarm type is available.
- **1.** Select existing alarm type.
- Elect 'Delete'.
   ⇒ Confirmation is displayed.
- 3. Select 'Delete'.
- $\Rightarrow$  The alarm type is deleted.

Note: Once deleted, an alarm type cannot be restored. It be set up again.



# **15 Menu Rule Editor**

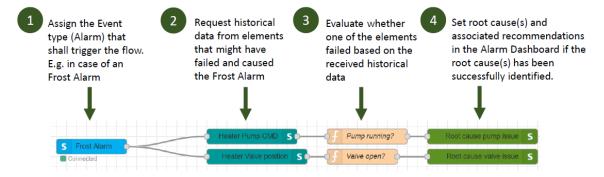
### Configuration workflow at a glance

The Alarm Dashboard (see 'Alarm Dashboard menu [ $\rightarrow$  307]') and Rule Editor work together to perform the workflow.

The following conditions must be met:

- An alarm type is defined;
- a root cause is defined;
- the rule is defined.

The following image show the workflow at a glance:



#### The internal attribute links as follows:

#### Overview and interconnections of attributes accross the various menus/tools

ClimatixIC	Alarm string	Alarm ID				
Example	Supply filter	1234567891				
AlarmType		Alarm ID	Description	Labol	1	
Example/Remark		1234567891	free text	(free text) Supply filter dirty		
Root Cause					Description of root cause	Root cause label
Example/Remark					free text	(free text) Supply filter dirty xyz
				Supply filter dirty		- Supply filter dirty S
Rule Editor		Name		Alarm type	Name	Root causes
Example/Remark		free text		(Selection) Supply filter dirty	free text	(Multiselect) Supply filter dirty xyz (v-1)



For detailed information on Rule Editor: See document A6V12441321, in 'Additional information [ $\rightarrow$  14]'.

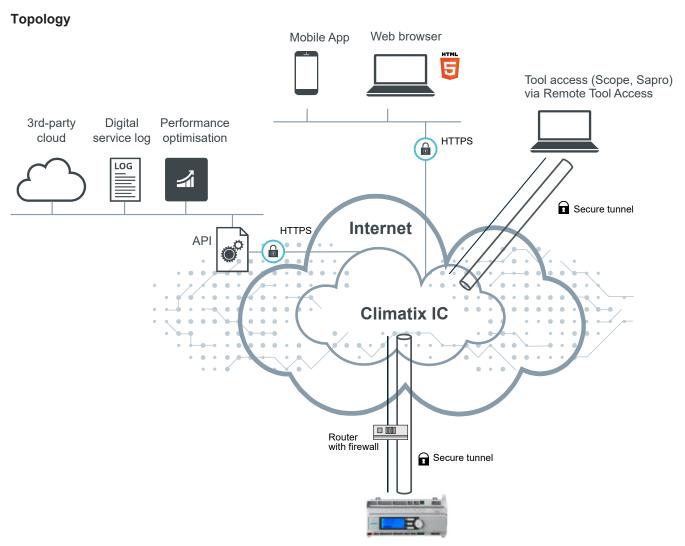
# **16 Remote Tool Access**

# 16.1 Introduction and overview

i	The "Remote Tool Access" is available as an extension to your service product. Additional information is available in data sheet A6V10449189. A dedicated portal role Remote Tool Access Administrator was set up as part of deployment D16.
Target audience	For users with the privilege "Remote Tool Access", typically the roles service and owner, Siemens provides a simple and secure access to the POL controller↑. Portal administrators are excluded from this solution; the access is only available for developers and service technicians.
Application	Some examples of possible uses:
examples	• Access (for a developer) with engineering tools (SAPRO, SCOPE) to the plant
	<ul> <li>Commissioning support by technicians without the need to be on site</li> </ul>
	Simple remote modifications to the configuration
	NOTICE
i	Actions requiring the buttons be pressed on the devices cannot be performed remotely or requiring connections in excess of 24 hours (e.g. long-term computer trends) are not possible.
Functioning	Remote Tool Access establishes a secure tunnel connection to the POL controller via Climatix IC. The connection is used for tool access. For example:

- SCOPE tool
- SAPRO tool

2



#### **Benefits**

Climatix controller

- Central management and configuration of the remote tool user access
  Simple and fast set up of Internet access no fixed IP address, forwarding over a dynamic IP address, or port forwarding (NAT/PAT) required
- The same view and operations as direct on-site access
- Encrypted connection
- No open ports on the router
- No need to open the firewall
- Access is to POL controller only and not the entire LAN

# **16.2 Required software versions**

### Valid Version Set

You receive as of "Release of the Climatix VVS11.68 package" both the required versions for the SCOPE tool as well as the required controller BSP. The VVS11 downloads are available at SIOS-URL:

https://support.industry.siemens.com/cs/ww/en/view/109747351

#### **Climatix controller BSP**

You can find the BSP version for the controller, for example in Climatix IC, in the "Upgrade" menu. Your controller should have the following BSP versions as a minimum:

- POL6x8: V11.66
- POL63x: V11.66
- POL687: V11.66
- C400: V11.66
- C500: V11.66
- C600: V11.66

	NOTICE
	Outdated controller BSP state The controlled is logged off the Cloud service.
!	<ul> <li>Check local network for access to the Internet.</li> <li>Upate controller to VVS11.66.</li> <li>For VVS10 controllers: Update first to VVS11.64 and then to VVS11.66.</li> </ul>
	➡ The controller changes automatically to the new Internet address as part of the update: <u>https://clx.ccl.climatixic.com</u>



The Remote Tool Access function for the listed BSP versions is undergoing field testing as of the publication date of the document or is available as a preview.

SCOPE tool

Install the SCOPE tool version from VVS11.68, i.e. at a minimum V11.54.

#### **Remote Tool Access**

You can download Remote Tool Access at:

https://support.industry.siemens.com/cs/ww/en/view/109760500

<ul> <li>Access speed</li> <li>Reading out members/data points is considerable slower for security reasons as it is for direct access. Plan sufficient time.</li> <li>Tip: Use the SCOPE offline project created during commissioning. The data point browser structure needs to be created over the LAN and saved.</li> <li>Check that you are actually using VVS11 connectivity. The member</li> </ul>		NOTICE
"SystemObjects > CSL-Config > ServerIP" must have the following entry: https://clx.connectivity.ccl-siemens.com.	i	<ul> <li>Reading out members/data points is considerable slower for security reasons as it is for direct access. Plan sufficient time.</li> <li>Tip: Use the SCOPE offline project created during commissioning. The data point browser structure needs to be created over the LAN and saved.</li> <li>Check that you are actually using VVS11 connectivity. The member "SystemObjects &gt; CSL-Config &gt; ServerIP" must have the following entry:</li> </ul>

# 16.3 Connection steps

#### In advance over a normal LAN

Change Bit Field	
Options	
RTA NA	ОК
	Cancel

• Select "RTA" in member "CSL-Config > 0x000E Options". The setting must be set **prior** to contact with the Remote Tool Access.

This switch prevents connecting via the Remote Tool Access.

#### In Climatix IC

- The user must have an account in Climatix IC to connect via Remote Access. Portal administrators cannot directly use the solution; only users assigned to a plant can use the Remote Tool Access to these plants. It is a solution for developers and service personnel.
- The role includes the privilege "Remote Tool Access" (typically the roles service and owner)
- The controller is connected to Climatix IC.



### **Connect with Remote Tool Access**

The user logs in to the Remote Tool Access using the same Climatix IC user name and password.



All the user's plants are listed on the overview page. The line displayed for the plants are

- grayed out, i.e. the plants cannot be accessed:
  - Roles do not include privilege "Remote Tool Access" (e.g. at the end user)
  - The plant is offline
  - BSP for the Climatix controller is not sufficient
  - Member "CSL-Config > 0x000E Options" is not selected for "RTA"
- displayed in black, i.e. the plants can be accessed

Remote Tool Access				- 🗆	×
Actions Help					
Name	Description	Device type	Serial number	Local address	
POL687 Martin Cloud Test		POL687	93545		
Controller with RTA client		POL69U	475		

#### Procedure

- **1.** Select the line of the plant for connecting.
- 2. Connect with "Connect".
- ⇒ The software searches for an available local IP address between 127.0.0.1 and 127.0.0.255 connects to the selected POL controller via Climatix IC using this address.
- $\Rightarrow$  The line for the plant is in bold face.
- ⇒ It can be used with SCOPE or SAPRO as soon as it is connected.

### **Example SCOPE**

- **1.** Open the SCOPE tool.
- 2. Select "Settings" in the project structure.
- 3. Set the target (controller type) and interface (TCP/IP).
- 4. Enter in host address from the Remote Tool Access in the TCP/IP pane.
- 5. Do not change port setting 4242.
- 6. Enter the Climatix controller password in the "Auth" field.
- 7. Back up the settings (diskette icon).
- 8. Connect with the "Connect" button to the target controller.

Communicat	ion	Current Language
Target:	POL687 ~	English ~
Interface:	TCP/IP ~	Engineering Unit Support
TCP/IP-		enable ~
Host: 12	7002	Security Level
Port: 42		Factory ~
Auth: ••	•••••	
Auth: ••	•••••	

Virus scan during

# 17 Climatix IC portal security

# 17.1 Climatix IC

•

The portal provides thorough security, e.g. data security, security data storage, and reliable data transportation.

- All connections are encrypted (HTTPS) to prevent tapping into the line and man-in-the-middle attacks.
- Data security as per EU Data Privacy Chapter 5
  - Geo-redundant data storage from northern Europe (primary) to western Europe (secondary).

Uploaded files are scanned for viruses.

upload			
•			×
	Upload is refused! The risk (e.g contains a viru New file		esent a security selected.
		Upload file	Cancel
Virus scan during download		e portal of loading and saving i virus scan during upload files.	
		JTION	
	Damage to the client caus	ed by downloading infected	files

# **17.2 Climatix controller**

infections to the clients from the files.

The Climatix controller is not suitable for connecting directly to the Internet; it must be connected via a firewall<sup>↑</sup>. This type of router typically has a firewall<sup>↑</sup>. The firewall<sup>↑</sup> must be configured to permit only outgoing connections. Incoming connections must be suppressed.

Perform a virus scan of the files downloaded from the system to prevent

352 | 392

# **18 Support**

### Extranet registration

Register for the OEM extranet and access exclusive information and resources: <u>http://www.siemens.com/buildingtechnologies-oem</u>.

### Support on technical problems

Please adhere to the following sequence on support issues:

- 1. Contact the supplier of the device or plant.
- 2. If unknown, Siemens provides the following tools:
- Research info via Smart Information Delivery Portal (SID): <u>https://sid.siemens.com</u>.
- Research information via the Service and Support Portal: <u>https://support.industry.siemens.com</u>.
- Submit a support request: <u>https://support.industry.siemens.com/cs/ww/en/my</u>.

### Climatix IC status page

Neutral and objectively reported online state of Climatix IC: <u>https://status.climatixic.com</u>.

# **19 Appendix: Detail information**

# **19.1 SCOPE application: Watch pages (VVS10)**

The content displayed in Climatix IC supplies watch pages (with the Cloud Service Layer) that can be loaded to the controllers with the SCOPE tool (as of VVS10).

## 19.1.1 Create watch pages and generate mapping

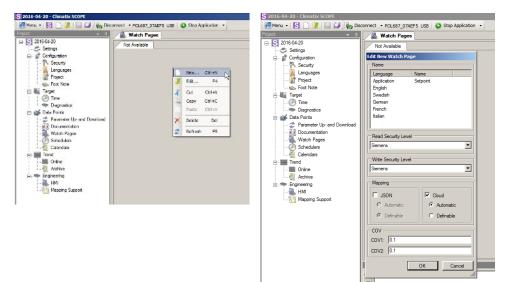
Applications loaded on Climatix include watch pages that provide setpoints, present values, and other data.

Application engineers use the SCOPE tool to create the watch pages and download the generated file (OBHcomp.ucf) to the controller.

As soon as the Climatix controller is connected to Climatix IC, the controller provides the defined information, derived from the watch pages, among others. The example below demonstrates how to create a watch page in the SCOPE tool, add values to it and, finally, download it to the controller.

In the field, existing plants often already have a watch page with cloud-capable data.

### Create watch pages



- $\triangleright$  SCOPE tool is open and connected to the controller.
- 1. In the project tree, go to Data Points > Watch Pages.
- 2. Right-click the bar below the Watch Pages tab and select "New...".
  - ➡ The "Edit New Watch Page" dialog box opens with the standard selection application and page.
- **3.** Change the name page to a name of your choosing by right-clicking around the page and selecting Edit.
- **4.** Select the desired security level for the connected client. In other words, the Cloud application required certain access rights.

- In the Mapping dialog pane, JSON is possible in addition to the selection "Cloud" (mandatory for the task described here). JSON is required for the 'Device REST API'.
- **6.** You can also select in the dialog pane, whether to automatically generate names or define them yourself. We recommend "Automatic".

#### Add values to a watch page

Name	Value Read	Value Write	Dimension	Comment
	Edit New Watch Item			
	Object			
	0x230B 0xD2E5A7D1			
	Name			
	21 - 2N			
	Mapping			
	Automatic: 6WHH7EP26	V1WKB		
	Definable: 1-OPM			
	IN JSON	Cloud		
	C Automatic	Automatic		
	C Definable	C Definable		
	COV			
	0	0		
	Read Member and Security	Level		
	0x0100 <emp< td=""><td>ty Security Level&gt;</td><td>•</td><td></td></emp<>	ty Security Level>	•	
	Write Member and Security	Level		
		ty Security Level>	-	
	Lave too	y becany cever		
wserfor Data Points	Comment			
AutoStn - (aoDev     E- EnableObjec			he	Value 148
SystemObiec			Size amicSize	148
E ComExtensio			1 playName	OpM
E EnableObjec SystemObjec ComExtensio Diagnostic - E Cmn - (aoUni E) ff - (aoUni)	(a	OK Cancel	anceName	
🕒 Cmn - (aoUni	it)	0x110		Null*Off*Clg*Htg*D
🖭 Itf - (ao Unit)		0x0135		
🕀 Dsp - (ao Unit	t)	→ 0x0100		es 4 Off (1)
😑 Pdc2 - (aoUr		→ 0x0100		Passive (0)
⊞ Dsp - (aoUnit ⊟ Pdc2 - (aoUr ⊟ RfCt - (a				
- Op M	- (ao Display Multistate)	→ 0x5000	Communicatio	nInfo 0
	(aoDisplayMultistate)			

- $\triangleright$  A watch page is setup.
- ▷ In the SCOPE tool, the "Browser for Data Points" is open and shows plant data points.
- **1.** Select the desired member (e.g. the PresentValue) for a data point and drag the member to the watch page workspace.
  - ⇒ The "Edit New Watch Item" dialog box opens.
- **2.** In the "Edit New Watch Item" dialog box, you can assign access rights that differ from the watch page (only recommended as an exception).
- **3.** The settings are inherited from the watch page settings if neither JSON nor Cloud is selected.
- 4. Complete the settings with OK.
- **5.** You can now set up additional watch pages with data points that you would like to view on Climatix IC at a later date.
- **6.** Save the changes to the watch pages with a save button ("Save current tab" for the current watch page or "Save all tabs" for all changes to all watch pages).

The following illustration is an example:

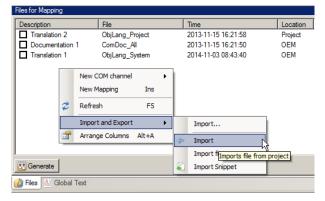


#### Generate cloud mapping

The next step is to generate the final mapping files (OBHcomp.ucf) from the watch pages with their data points and then download them to the controller.

roject 👻 V	Match Pages	Support			
Status Confusion Confusio	Mageng Sepont				
E- Brownie III and Developed	Files for Mapping				_
E- ∰ Colla Ports   - ∯ Parantor Up and Download   - ∰ Wath Pages   - ∰ Wath Pages   - ∰ Standars   - ∰ Colonders F- ∰ Trand   - ∰ Antrees   - ∰ Tomeseng	Fice for Mapping	Rie DigLang_Project ComDec_Al DigLang_System	Time 2013 11-15 16 21-35 2013 11-15 16 21-50 2014 11-03 06 43:40	Location Project OEM DEM	Type Config Config Config

- 1. In the SCOPE tool, go to the project tree "Engineering > Mapping Support".
- 2. Right-click below the available lines in the Mapping Support workspace.



- 3. Select "Import and Export > ← Import"
  - ⇒ Another line "Mapping x" is created.

**4.** In the File column, select "GenericCloud" from the list box and click outside it so that the line is fully created.

Description	File	Time	Location	Туре
Translation 2	ObjLang_Project	2013-11-15 16:21:58	Project	Config
Documentation 1	ComDoc_All	2013-11-15 16:21:50	OEM	Config
Translation 1	ObjLang_System	2014-11-03 08:43:40	OEM	Config
✓ Mapping 3	GenericCloud	2016-04-20 15:23:03	Project	Config

5. Repeat the last step, but this time select "GenericLang".

Description	File	Time	Location	Туре
Translation 2	ObjLang_Project	2013-11-15 16:21:58	Project	Config
Documentation 1	ComDoc_All	2013-11-15 16:21:50	OEM	Config
Translation 1	ObjLang_System	2014-11-03 08:43:40	OEM	Config
Mapping 3	GenericCloud	2016-04-20 15:23:03	Project	Config
Mapping 4	GenericLang		Project	None

**6.** Double-click "GenericCloud" to display and review mapping of the watch pages and associated data points.

	Mapping	3:GenericCloud					
ľ		Object Id	Member Id	Application	Communication 1	Communication 2	English
Þ	0000	0xF040 0x02	0x0000	Setpoint	0		Setpoint
	0001	0xF040 0x02	0x0001	Clock	• Watch pag	e names	Clock
Г	0002	0xF040 0x02	0x0002	CSL	0		CSL
	0003	0x230B 0xD2E5A7D1	0x8140	6WHH7EP26V1WKB (1-OPM)	<256,256,'6WHH7EP26V1WKB',0-0,,>		
	0004	0x0032 0x00000001	0x8140	17F- (1-CSL-CONFIG)	<0,0,'17F-',2-0,,>	Mapped	
	0005	0x2209 0x028C31BD	0x8140	OICF35 (Calendar)	<256,256,'OICF35',,,>	to Cloud	
Γ	0006	0x220B 0x028CB3E0	0x8140	OJ1-7KN9 (Scheduler)	<256,256,'0J1-7KN9',,,>	(0x8140)	
	0007	0x2302 0x028CAF32	0x8140	OJ0-KRJ4 (Command)	<256,256,'0J0-KRJ4',,,>	(0,0110)	
	0008						

NOTICE		
	No changes in mapping support	
!	Changes and translations are made exclusively in the actual watch pages. The table view for mapping support is for viewing and review only. You must refresh the table view (F5) before saving the mapping if the mapping support table view is open while changes are still being made to the watch pages.	

- 7. Click the diskette symbol on the tool to save changes made to mapping.
- ⇒ Saving generates the mapping file OBHcomp.ucf in the background.

## 19.1.2 Translate watch pages and items

### Define the base language set

Language	Global	
Application		
🗹 English	English	
Swedish	Swedish	
🗹 German	Geman	
French	French	
🗹 Italian	Italian	
Com 1 (0x4000)	English	
Com 2 (0x4001)	English	

- **1.** Go to "Configuration > Languages".
  - ⇒ You can see the current languages in the workspace.
- 2. You can clear a selected (checked) language.
- **3.** You can also set up a new language (checked): Right-click below the available lines and select "New".
- **4.** The new language scope takes effect once saved (diskette symbol on the menu bar).

#### Translate watch pages

Edit Watch Page				
Name				
Language	Name			
Application	Setpoint			
English	EN - Unit1 - SP			
Swedish	edish SV - Unit 1 - SP			
German	DE - Unit1 - SP			
French				
Italian				
Read Security Level				
Enduser	<u> </u>			
Write Security Level				
-				
Enduser	<u> </u>			
Mapping				
mapping				
JSON	Cloud			
C Automatic	Automatic			
Definable	O Definable			
COV				
COV1: 0.1				
COV2: 0.1				
OK Cancel				
	//			

- **1.** Go to Data Points > Watch Pages.
- 2. Right-click the Watch page tab and select "Edit...".
  - ➡ The "Edit Watch Page" dialog box is displayed. In the Name dialog pane, the Name column is empty on languages that are not translated.

- 3. Right-click the lines for translation and enter the translated term.
- 4. Close and save the translation with OK.
- 5. Save the changes to the watch pages using the "Save" buttons.
- ⇒ The language of the watch page title can now be changed in the Cloud.

#### Translate watch page items

- Item texts are already translated for standard applications (DH, AHU).
- The items must be translated in the target languages on completely new customer projects. The SCOPE online help offers help here:
  - Search for "Configure languages" or "Edit mapping" and select this topic from the topic list.

### **19.1.3** Download mapping file to the controller

The OBHcomp.ucf file, generated in the previous step, is not downloaded to the controller.

2016-04-20 - Climatix SCOPE						
🎢 Menu 👻 🛐 🗋 🎉 🔚 🚚 ស Dis	connect 🝷 POL687_07AEF5 USB 🛛 🚺 Start Appli	ication 👻				
Project 🗸 🗸	Loader Control					
E-S 2016-04-20	Files Erase BSP BIN-Files					
- 🥏 Settings	Files Dase Dor Dily-Files					
🚊 🖉 Configuration	Type File	Time				
📉 Security	Application MBRTCode.ucf					
💫 Languages	HMI-Cnf-Comp HMIcomp.ucf	-				
📝 Project	Mapping-Comp OBHcomp.ucf	2016-04-20 15:43:05				
	HMI4Web HMI4Web.ucf					
📄 🛍 Target	BACnet Client BACnet.csv					
···· 🕐 Time	Light-Version-Config ScopeConfig.ucf					
Diagnostics						
🗄 🚓 Data Points						
🤣 Parameter Up- and Download						
Watch Pages						
Schedulers	Load Cancel					
E Trend	🔟 Loader 🧭 Web   🚹 Alarm   🕵 Browser					
Online						

- 1. In the SCOPE tool, select "Menu > View > Loader".
- 2. In the menu line, confirm with "Stop Application".
- **3.** The "Load" button is enabled once the application is stopped (BSP LED orange).
- **4.** In the loader, highlight the Mapping-Comp (OBHcomp.ucf) line and click "Load".
- 5. In the menu line, click "Start Application".
- ⇒ The application is running once the BSP-LED is green.
- ⇒ The controller is now prepared to send defined data to Climatix IC.

# **19.2 Prepare and load current BSP**

- You can register for the Siemens OEM Extranet as a Climatix IC customer and user.
- The entry point is here <u>http://www.siemens.com/buildingtechnologies-oem</u>. The page includes an area for registering on the OEM extranet.
- On extranet, you have access to the article "Climatix Target Download VVS10" at the following link: <u>https://support.industry.siemens.com/cs/ww/en/view/86192510</u>.
- The BSPs for POL63x and POL68x for the solution described in this documentation are available there. The BSPs can be saved locally to be able to perform the described update.

The following does not illustrate the standard method using the SD card, but rather how to prepare the BSP in the application set within Climatix IC. This solution has the benefit of making it possible to upgrade remotely (SD card no longer required). The procedure described here is understood as an example and works in the same manner for other application set files.

### Check the starting point

The currently loaded BSP version for the controller can be found at "Operating > 'my controller' > Upgrade".

Application set: myApp	licationSet Version: 1.0			
▼ Files				
	Appli	cation Set files		
Туре	Device	Local Loaded	Application set	Actions
Controller BSP	V 10.34	Not stored	No file available	
	51706035-45ea-4200-92e0-891e67270808			

### Load BSP file to the application set

Now load, for example, for your POL687, the BSP file (.UCF) saved locally to the corresponding application set.

Dashboards	Operating	Application sets	Administration			
Application sets	s > myApplica	tionSet 🕨 Plant File	s			
Administration				Upload new Cloud file	Upload new Specific file	Upload new UCF file
Plant Files						
Miscellaneous I	Files	File type	File name	Description	Version	
		ra <a 1<="" page="" td=""><td></td><td></td><td></td><td></td></a>				
		<ul> <li>BSP files</li> </ul>				
		<ul> <li>Cloud files</li> </ul>				

- 1. Go to "Application sets > Plant files > Area: BSP files".
- 2. Click "Upload new UCF file".
  - ⇒ The upload dialog box opens.

New file	Durchsuchen POL6	87_BSP_V1036.UCF
	Upload file	Cancel

- 3. Simply drag to move the locally saved BSP file directly to the "Browse" button.
- 4. Select "Upload file".
- ⇒ The following situation exists when returning to "Operating > 'my controller' > Upgrade".

plication set: myAp	oplicationSet Version: 1.0			
Files				
	Aŗ	plication Set file	15	
Туре	Device	Local Loaded	Application set	Actions
Controller BSP	V 10.34	Not stored	V V10.36 2016-04-27	

## Permit controller upgrade

1. Go to "Operating > 'my controller' > Data points > Data point: UpgradeAllowed".

CSL-Config CSL-Config - UpgradeAllowed			v	Vait	~	*
				Yes	•	
		Anwenden	Abbre	chen		
Change the setting f	rom "Wait" to "Yes"					

2. Change the setting from "Wait" to "Yes".

CSL-Config CSL-Config - UpgradeAllowed			Yes 🛛 🐱 ★
			Yes 💌
	ок 🗸	Apply	Cancel

3. Return to "Upgrade" and initiate the upgrade process by going to the "Files" submenu and executing a scheduled upgrade using the button "Start upgrade process" or, in the "Online actions" submenu, executing the upgrade directly with the "Start upgrade process" button.

Prepare and load current BSP

Configure upgrade		Application set: myApplicationSet Version: 1.0	3
Schedule		Files     Online actions	
04/27/2016 03:27:51 pm		• Onnie actions	
Download timeout		Command progress	Command
10			Reset controller
Application shutdown timeout			Stop application
5			Start upgrade process
Retries			
3			Start application
Notify			
@siemens.com			
Parameter			
<use current=""></use>	•		
BACnet			
<use current=""></use>	•		
Comment			
	.:		
	Ok Cancel		

## ♦ You can watch the progress of the upgrade under "Tasks".

Dashboards	Operating	Applicat	ion sets	Administration						
Operating > 4	4335-POL68	37 (Gubelstras	se 22, Zug,	Test controller doc	1) 🕨	Tasks				*
Plant Dashboar	d									Ċ
Data points	М.	▼ Active	tasks							
Alarms	*	Star	t≑	Progress				Comment		
Web access			7/2016 3:28	-	ing for	r file upload to complet	e.		8	
Upgrade			Page 1	of 1 🕨 🕬						
History		<ul> <li>Task hi</li> </ul>	story							
Schedulers										
Tasks	•									
Documentation	I.									
Plant settings										

#### $\Rightarrow$ The result in the example is a controlled upgraded to V10.36.

Files					
		Application Set files			
Туре	Device	Local Loaded	Application set	Actions	
Controller BSP	V 10.36	V	V V10.36 2016-04-27	• •	
	eb0e863c- b9e3-4b40-8759-081142260af0	eb0e863c- b9e3-4b40-8759-081142260af0	eb0e863c- b9e3-4b40-8759-081142260af0		

## 19.3 Optimize data traffic with COV modification

Introduction

Climatix IC writes a value to the cloud, if the configured COV (Change of Value) for a value is exceeded. The new value is then logged and rechecked during the next controller cycle as to whether the COV is exceeded, etc.



System data points are not monitored for COV.

Conclusion

Fast changing values (typically analog values) can result in increased data traffic/ data volume and may result in higher mobile data network costs.

	NOTICE
i	<ul> <li>The following principle applies to modifying the COV to optimize data traffic:</li> <li>Your controller is highly accurate, regardless of the settings for Climatix IC.</li> <li>In other words, COV optimization deals with changes in the areas of operating and monitoring. You can lessen the accuracy of monitoring somewhat to save on data volume.</li> </ul>
Where can you intervene?	<ul> <li>In general, the SCOPE tool calculates a reasonable COV for individual values. The privilege is based on the engineering limits set by the developer in the SAPRO tool (see SAPRO help). The formulas are repeated here to simplify the explanation:</li> <li>For EngUnitHigh &lt; 90, the COV= 5% per the formula ((engUnitHigh+10)/ 10)*0.05</li> <li>For EngUnitHigh &lt; 1000), the COV= 25% per the formula ((engUnitHigh+50)/ 50)*0.25</li> <li>For EngUnitHigh &gt;= 1000), COV= 15% as per the formula ((engUnitHigh+100)/ 100)*0.15</li> <li>You conduct the COV analysis with the SCOPE function "COV measurement": Right-click multiple selections of watch items.</li> <li>You can change the COV of a data point if you identify one that supplies data intensive values due to "too accurate" monitoring.</li> <li>You overwrite the COV per item.</li> </ul>
Procedure	<ul> <li>▷ The Scope project is open. In the Watch Pages tab is the data point/item you want to modify (COV).</li> <li>1. Right-click the item.</li> <li>2. Select "Edit Item"</li> <li>⇒ The "Edit Watch Item" dialog box opens. The unchanged COV is displayed in a white field.</li> <li>3. Modify the COV accordingly. You enter a higher value to write fewer values to the cloud.</li> <li>⇒ The modified COV is displayed in a yellow field.</li> <li>4. Conclude the modifications by saving the watch pages.</li> </ul>

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## 19.3.1 COV files

The following section is an extract from the SAPRO help. It describes the function and configuration of COV files:

## 19.3.1.1 COV (Change of Value)

## **General information**

The Climatix system supports the Change of Value (COV) concept. This means, a new value will only be sent to a client if the value exceeds a configured COV threshold. The COV mechanism avoids a polling of the value, the controller itself will notify the client automatically if the value has changed.

#### **COV Clients**

Inside the Climatix system, each client can have its individual COV threshold. For example, SCOPE can have a lower COV threshold for a temperature while the COV threshold for the communication is a higher one in order to avoid too much traffic.

This means, the client itself is responsible for storing the COV threshold; it can NOT be stored inside the automation object. Every automation object instance supports up to two COV thresholds that must be defined at COV registration time.

If a client registers to an automation object, the client will receive the current value at this time that is not marked with COV\_NO and has a value that is not 0.

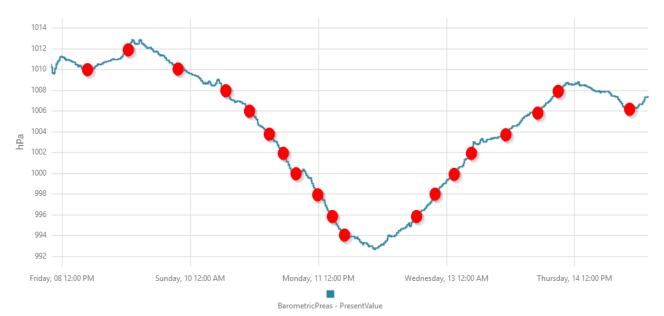
Members with the value 0 are not sent to the client. The client has to initiate its state with 0 and then the automation object can be registered for COV service.

#### COV base methods

The automation objects support the following COV methods, which are individual for each automation object member:

Method	Abbreviation	Description
No COV supported	COV_NO	A change of this value is never reported to the client. The client has to poll this member to get an updated value. This is mainly used for static members that cannot be changed after startup.
COV without threshold	COV_FORCE	Every change is reported to the client, without using the COV threshold.
		actValue - oldValue   > 0
COV with threshold value 1	COV_VALUE1	If the difference of the actual value and the last sent value is greater than or equal to the COV threshold 1, the client is notified.
		actValue - oldValue   >= COV1
COV with threshold value 2	COV_VALUE2	If the difference of the actual value and the last send value is greater than or equal to the COV threshold 2, the client is notified.
		actValue - oldValue   >= COV2

The following graph shows where a new value is sent to the client (COV threshold is 2,0):



## **COV** enhanced

This functionality is available since **VVS11.42**.

The new firmware supports enhanced COV methods that are not automatically supported by all COV clients. If the enhanced COV method is supported, the client description contains a link to this chapter (like the cloud mapping),

In addition to the absolute COV threshold, the enhanced COV supports the following new methods:

- Time-based COV
- COV threshold in percentage
- Group definitions for enabling/disabling COV on demand

#### Time based COV

The time-based COV is available in addition to the COV threshold event. If no event is sent at a defined time, the value is sent to the client and the old value is set to the actual value and the time restarts.

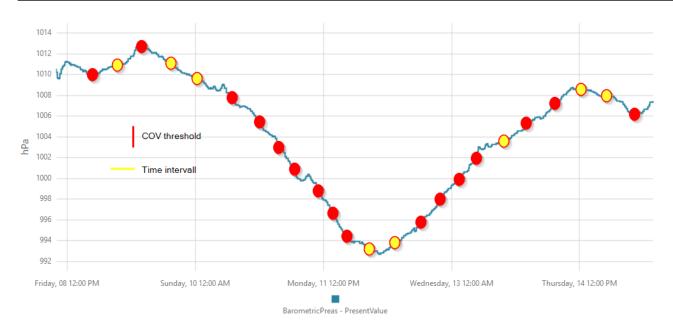
A red circle indicates that the value is sent due because the COV threshold was exceeded and the yellow circle indicates that the time interval has expired.



Due to memory limitations, a maximum of 10 members per object instance can be used for the time-based service.



used for the time-based service.



#### COV threshold in percent

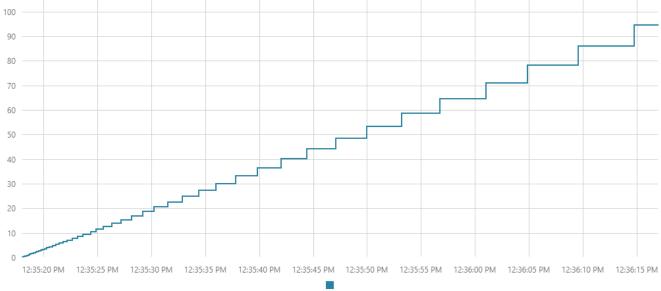
In addition to the absolute COV threshold, a percentage can be configured. This means, the COV client will receive a new value if the delta of the actual value minus the current value is greater than the defined percentage.

| actValue - oldValue | >= (COV[%] \* oldValue)

If that oldValue is close to zero, too frequent notifications of the client can occur. Therefore, a minimal value must be also configured (for sure as absolute value). | actValue - oldValue | >= max ((COV[%] \* oldValue), minThrehold)

Every edge inside the following picture represents a COV event. With smaller

values, there are more events than for bigger values:





#### **COV** group definitions

A group definition consists of a group number and an object and member ID. The group is enabled if the member value is unequal to zero, and it is disabled if the member value is zero. The groups can be defined via the mapping or via the COV configuration file [ $\rightarrow$  368].

In the COV configuration for an object instance, the mapping can be assigned to a group definition. The number of groups depends on the capabilities of the device and can be found inside the limit document.

#### Syntax inside the mapping file

The COV group will be defined via the virtual object that depends on the COV client. Currently, the following clients are supported:

Client	Virtual Object ID
Cloud	0xF040 0x0003

The member ID can be from 0 to the device limit number and must be a whole number.

The syntax is as follows:

<Group,EnableObjID>

Item	Description
Group	The group number.
EnableObjID	The raw coded member and object ID for the object which will enable COV for this group. If the referenced object or member does not exist, the group is per default disabled.

## Sample

Three COV groups are defined in this configuration.

1	Mapping	Support*				
Мар	ping Support					
9	<b>/</b>	ranslation 1:ObjLang_System	Cloud:OwnN	lapping*		
Read		Object Id	Member Id	Application	Communication 1	Communicati
<u> </u>	0000	Grouip definition				
	0001	0xF040 0x03	0x0000	Group 3	<3,0x2302 0x031A0C6F 0x0100>	
	0002	0xF040 0x03	0x0001	Group 16	<16, 0x2302 0x031A3C0C 0x0100>	
	0003	0xF040 0x03	0x002	Group 8	<8, 0x2309 0x031D031A 0x5000>	
	0004	Calendar				
		77 1.				

#### COV enhanced mapping

To use the new feature, the COV mapping needs to be enhanced. The general COV configuration is the same as before but can be enhanced with the following features. The order of the optional items is free and not fixed.

Item	Mandatory/Optional	Description
COV1	Mandatory	The first COV threshold (can be absolute or percent value).
COV2	Mandatory	The second COV threshold (can be absolute or percent value).
P <value></value>	Optional	COV1, COV2 are interpreted as percentage value, <value> indicates the minimum absolute threshold that the value will not fall below.</value>
Z <value></value>	Optional	Defines the maximum send time in seconds. This means that even if the value is not changing, it will be sent latest after <value> seconds.</value>
G <value></value>	Optional	Assigned to COV group <value>.</value>

[COV1, COV2,P<value>,Z<value>]

Sample

· · · · · ·	d:OwnMapping*				
	Object Id	Member Id	Application	Communication 1	Communi
0005	Data points				
0006	0x2300 'Unitl\RampSpeed'	0x8140	6WHH6046_1T088 (RAMPSPEED)	[0.1,0.10] 256,256,'6WHH6046_1T088',0-1,253,253>	
0007	0x2302 'Unitl\EnableRampe'	0x8140	6WHH60480RDJ4M (ENABLERAMPE)	<256,256,'6WHH60480RDJ4M',0-0,253,253>	
0008	0x230A 'Unitl\Perc'	0x8140	6WHH6047V90AOY (PERC)	[10,2,P0.2,G16]<256,256,'6WHH6047V90AOY',1-2,253,253>	
0009	0x230A 'Unitl\PercTime'	0x8140	6WHH6047YBWW94 (PERCTIME)	[2,2,P1.0,Z11,G16]<256,256,'6WHH6047YBWW94',1-3,253,253>	
0010	0x230A 'Unitl\Abs'	0x8140	6WHH604800VI5S (ABS)	[0.5,0.1,G3]<256,256,'6WHH604800VI5S',1-0,253,253>	
0011	0x230A 'Unitl\AbsTime'	0x8140	6WHH60485G9QTS (ABSTIME)	[10.0,0.10,Z10,G3]<256,256,'6WHH60485G9QTS',1-1,253,253>	
0012	Grouip definition				
0013	0xF040 0x03	0x002	Group 64 (Error)	<64, 0x2309 0x031D031A 0x5000>	
0014	0xF040 0x03	0x0001	Group 16	<16, 0x2302 0x031A3C0C 0x0100>	
0015	0xF040 0x03	0x000x0	Group 3	<3,0x2302 0x031A0C6F 0x0100>	
0016	Calendar				
0017	Week				

#### **COV** configuration file

With this file, the COV configuration can be modified during runtime. It lets the user:

- Change the individual COV configuration of an object instance (object must be already configured). It is not possible to add an unregistered object instance with this file.
- Create and modify COV groups.
- Currently, this file is only supported by cloud connectivity.

#### **COV** file location

When the controller starts, it checks the following file locations and uses the file that is found first:

- 1. SD card cloud upgrade folder (\CSL\COV\*.UCF)
- 2. SD card root folder (\COV\*.UCF)
- 3. Ram/Flash file system

The file must start with COV and end with .ucf, such as "COVCloud.ucf".

When the file is loaded via the cloud, it immediately becomes active. If an SD card is inside the controller, the file will be stored there. If no SD card is available, the file is stored inside the RAM file system and goes lost after a controller restart.

# The new file format is also supported by the normal controller upgrade procedure. **COV file format**

The file is a text-based file with the following UCF header:

```
::UCFFile::
DeviceID=0
TYPE=16
FileName=COVCloud.ucf
UUID=B2CF35DC-05A5-41FD-BDFC-4AF582F43A17
END
```

The UUD can be changed with every new version. The TYPE must be 16 and the FileName can be any name with the syntax: COV\*.ucf.

After the header, the group definition and the COV definition can follow in any order.

#### Syntax for the COV group definition:

G;<Group;EnableObjID>

Item	Description
Group	The group number.
EnableObjID	The raw coded member and object ID for the object that will enable COV for this group. If the referenced object or member does not exist, the group is disabled per default.

#### Syntax for COV definition:

C;ObjID;COVdef

Item	Description
ObjID	The raw coded object ID for the object that will get the changed COV definition.
COVdef	The new object COV definition. The syntax is identical to the enhanced COV mapping [→ 367]. For example: [10,2,P0.2,G16]

#### Sample file

::UCFFile:: DeviceID=0 TYPE=16 FileName=COVCloud.ucf UUID=B2CF35DC-05A5-41FD-BDFC-4AF582F43A17 END G;<3,0x2302 0x031A0C6F 0x0100> C;0x230A 0x031A9F43;[10,2,P0.2,G16] C;0x230A 0x031A9F42;[5,3,P0.2,G16,Z20] C;0xA018 0x9663334E;[2,2,G16] G;<16, 0x0020 0x0000001 0x001B> G;<10, 0x0020 0x00000032 0x001B> C;0x230A 0x031AD8D6;[1.0,0.10,Z10,G3] **Plants** 

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## 19.4 Search, sort, group

#### Search

Plant and user lists can quickly become confusing. Use the search function to search displayed as well as hidden columns. Delete the search term from the search field to once again view the entire list.

- 1. Enter a key term with a plant characteristic in the search field (1), for example, a plant name or address, etc.
  - ⇒ The number of displayed plants is reduced to the number that have the entered features.
- 2. Enter the 'Application set name' (2) of the plants for search.
  - ⇒ The number of displayed plants is reduced to the number that have the entered application set name.
- 3. Enter the 'Application set version' (3) of the plant for search.
  - ⇒ The number of displayed plants is reduced to the number that have the entered application set version.
- 4. Enter the 'BSP version' or firmware (4) for the plant search.
  - ⇒ The number of displayed plants is reduced to the number that have the entered 'BSP version'.
- 5. Enter the 'ASN version' or controller type (5) for the plant search.
  - ⇒ The number of displayed plants is reduced to the number that have the entered 'ASN version'.

hboard	Opera	~	A	oplication set	Administ	ration	Apps A	Alarm D	ashboard <sup>way</sup> Ru	lle Editor						(
Syste	ms	Plants														
Tenant †												G 1	Q Zug			0
0		¢	►	Name	1	Index	System	0	Description	Application set	name	Application set version	BSP version		ASN	IC
									2	Q, Zug	3	Q 2.0 4	Q 11.28	5	Q POL687	
- Tenar	nt: TEST_C	LX														

A6V10450042 en-- ae

< 1 >

User	The search by user is now improved.		
Administration 🕨 Plant users			
Plants	By Tenant By Tenant and role		
Users	Tenant 1		
Tenants	E-mail address	Plant Roles	Contact name
Plant roles	Q	Q Operations	
Pre-register	Siemens ACS <main-tenant></main-tenant>		
	@siemens.com	Operations	Siemens IC Operations
	<u>@siemens.com</u>	Operations	
Administration <a>Plant us</a> Plants   Users   Tenants	By Tenant By Tenant and r Tenant 1	role	
	E-mail address	↑ Plant	Roles
Plant roles	ရက် Clau	Q	
Pre-register	Contains	nant>	
	Does not contain	<u>com</u> User	
	Starts with	.com Applic	ationAdminist
	Ends with	User	
	$\neq$ Does not equal		
	10 Q Reset		

## **Column selection and sort**

Optimize your overviews by showing and hiding columns as needed. Enable by

selecting the column and drag the columns from the table to the box and vice versa. These selections are saved to your user profile. Of course, lists can also be sorted. If the sort arrow is not displayed, simply click the corresponding header line.

						Г	Q Search
	Name	<b></b>	٣	Description	Application Set	ASN	Column Chooser 🛛 🗙
***	FS AHU 3.3 Dev	Ļ		FS AHU 3.3 TEST R	Climatix AHU	POL63	Task status
۲	<u>myTestplant</u>	*	"⊍	myTestplant_Descrip	myApplicationSet	POL68	Country
:::	GTE Tino Dev	*		54807-POL687	Climatix AHU	POL68	
۲	DH Tino Dev			FS 62254-POL638	POL638	POL63	Phone
***	GTE-VVS11	*		POL687	GTE-POL687-VV	POL68	Zip code
10	20 50						< 1 >

#### Group

Create groups to get an even better overview. Drag a column header to the white space above the table to group. Grouping cascades are also possible for up to 4 levels.

To reset grouping, drag the grouping criterion (in the following graphic "Application set") to the table where it once again reverts to the column heading.

Арр	olicati	on Set ↑			E	Q Search		
		Name 1	Description	ASN	Address	City	¢	رور.
•	Арр	lication Set: Clima	tix AHU					
	***	FS AHU 3.3 Dev	FS AHU 3.3 TEST R	POL638	Zählerweg 5	Zug	*	٣
	***	GTE Tino Dev	54807-POL687	POL687	1000 Deerfi	Buffalo Grove		
•	Арр	lication Set: POL63	38					
		DH Tino Dev	FS 62254-POL638	POL638	Fengzhi Eas	BELING		٣
•	Арр	lication Set: POL68	37					
	***	44335-POL687	Test controller docu	POL687	Gubelstrass	Zug	*	
10	20	50				<	1	>

## 19.5 Initial connection of plant and user

Users with a role (e.g. owner) work on the actual plants. The portal role for this user is "User".

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**In general, for Climatix IC:** "User" (with a role) requires at least one assigned plant. In other words, a plant is required to initialize a user.

The following workflows illustrate the various way to initialize a tenant admin user or for users to do it themselves.

Please note that in the workflow illustrations, Climatic IC has two commands available to activate plants:

- Normal users have the

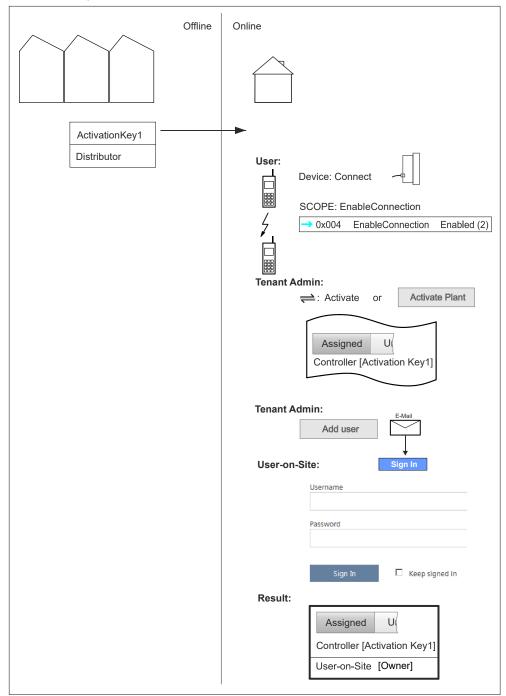
Activate Plant button available.

The menus and buttons mentioned in the workflows are explained in detail beginning from Section "Entering Climatix IC [ $\rightarrow$  47]".

## 19.5.1 Direct contact tenant admin and user

As depicted in the figure, the on-site user provides the activation key to the Tenant Administrator (by telephone or modern means, such as a smart phone app). The Tenant Administrator activates the new controller and connects the user to the controller using "Add user".

The Tenant Administrator assigns the user on site, for example, the role of owner (i.e. the privilege to "Administer plant settings) for the users to independently activate new plants in the future.

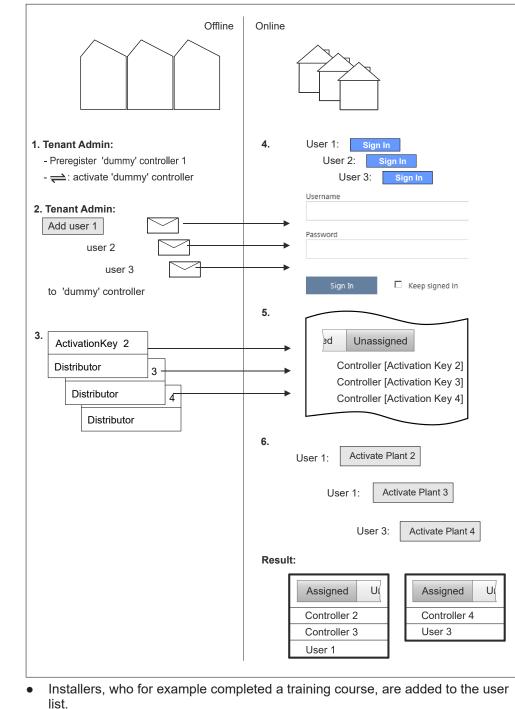


Short characteristics

- Central plant management
- Autonomous user on site

## 19.5.2 Cooperation between tenant admin and user (user list)

As indicted in the figure, the Tenant Administrator activates a dummy plant for the sole purpose of attaching the selected user (e.g. with the role of owner) to this plant. The user can then subsequently activate the plant.



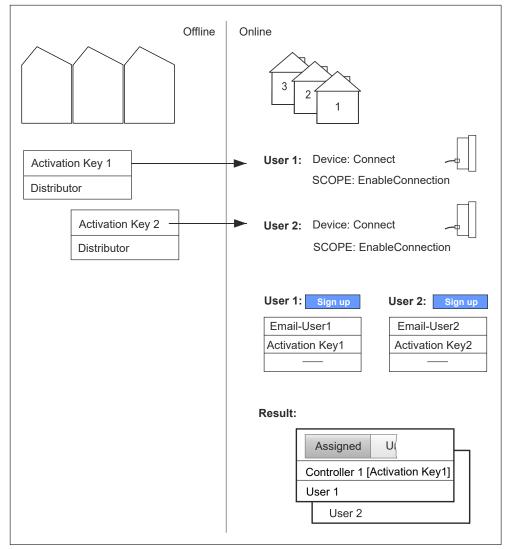
Short characteristics

## 19.5.3 Service by subcontractor

As depicted in the figure, the user can accomplish two things using the sign-up (registration) process:

- Log in the first time on Climatix IC
- Assign the role of owner to the currently connected controller

The installer can then activate other plants in this way or an alternative way.



Short characteristics

- The service business can be outsourced to a subcontractor who works autonomously.
- The plants are assigned to the subcontractor's area by either pre-registering the plants or via the tenant key (not depicted in the image).

# 19.6 Roles

# 19.6.1 Relationship between SCOPE security level, roles, and application security levels

The SCOPE security levels for a SCOPE project are the starting point for access rights of a role to data points in a plant application. The security level is located in the SCOPE tool under "Configuration > Security". Additional information on the topic of "Configure security" is available in the SCOPE online help.

SCOPE tool

Security Setting	gs
Level	Description
0	Full Access
2	Factory
4	Owner/Service
6	User
253	Enduser

Roles

Roles can be freely set up with the exception of the limits listed above. Pay attention at this stage to consistency to the role models in SCOPE.

Dashboards	Operating	Administration	
------------	-----------	----------------	--

Administration 🕨 Plant roles		*
Plants		Create new plant role
Users		Q. Search
Tenants	Role name	Description
Plant roles	Enduser	User operates plant with SCOPE security read level. User operates plant with Web-Graphic access.
Pre-register	Factory	User operates plant with SCOPE security level. User manages user accounts and plant settings. User operates plant with Web-G
	Owner	User operates plant with SCOPE security level. User manages user accounts, plant settings and plant upgrades. User operates pl
	Service	User operates plant with SCOPE security level. User manages plant upgrade. User operates plant with Web-Graphic access.
	<u>User</u>	User operates plant with SCOPE security level read/write. User operates plant with Web-Graphic access.
	10 20 50	< 1 >

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The figure illustrates the role designation in an example.

The higher access right (i.e. smaller number) wins for application access if the user has multiple roles.

# Application security levels

You define the security levels for the roles in the menu "Application sets > 'myApplication set' > Administration > Area: User access configuration". Pay attention here as well to consistency with SCOPE.

Miscellaneous files	Settings  Basic Data Alarm configure			Export template Copy	Save	Ą
Plant files Miscellaneous files				Export template Copy	<b>C</b>	
Viscellaneous files					Save	Delete
	<ul> <li>Marm conligue</li> </ul>	ation				
	Datapoint view	configuration				
	<ul> <li>User access cor</li> </ul>	figuration				
					1	
	Plant roles		Web graphic file	Dashboard file	Plant files	HMI-PIN
	TEST	255			[Show all]	0000
	User	6	SCADA.svg		[Show all]	
	Service	4	SCADA.svg	TEST_TREND.json	[Show all]	7659
	Owner	0	Air Handling Unit - 001 CAS Solution A SCADA.svg	previewAHUplant123.json	TEST END USER MANUAL.pdf FirstStepsClimatixIC.pdf	7659
	TEST2	255				0000
	Factory	2	Air Handling Unit - 001 CAS Solution A	DashboardConfiguration-2016-04-13	[Show all]	
	Enduser	255			TEST END USER MANUAL.pdf	

NOTICE				
•	Systematically design and edit roles			
	When creating your own roles, pay attention to the interactions depicted here. Work systematically:			

## 19.6.2 Roles and privileges

Privileges are available at "Administration > Plant roles > [Role] > Area: Privileges"

#	Privilege	Description
1	Plant / Access data point	Access to data points is possible in principle (Cloud Items). Allows "Kiosk Mode" without #23.
2	Plant / Single-Upgrade	Menu 'Plant > Upgrade' and 'Plant > Task' display. The user can update controllers and online actions.
3	Plant / Manage Users	The user can add or delete plant users.
4	Plant / Manage Settings	The user can edit plant settings.
5	Plant / WebHMI Access	Displays menu 'Plant > Web access'.
6	Various / Remote-Tool-Adapter	The user has access to the plant via the remote tool adapter.
7	Various / CloudAPI Plant Access	User has access to plant via Cloud API.
8	Plant / Files	Displays menu 'Plant > Files'. The user can upload and download files.
9	Plant / File Access	Displays menu 'Plant > Files'. The user can download files.
10	Plant / Report notifications	Reporting (requires subscription with API)
11	Plant / Alarm Access	Displays 'Plants > Alarms'.
12	Plant / Alarm Notifications	User can set up, configure, and delete e-mail alarm messages.
13	Alarm & Rule Administrator	The user has access to the alarm dashboard and rule editor. The user can edit configurations.
14	Alarm & Rule Operator	The user has write access to the alarm dashboard. The user can manage alarms.
15	Alarm & Rule & Reports Administrator	The user has access to the alarm dashboard, rule editor, and reports. The user can edit configurations.
16	Reports Viewer	The user can access reports. The user can download generated reports.
17	Plant / Dashboard	Displays menu 'Plant > Plant Dashboard'.
18	Plant / Schedule	Displays 'Plants > Scheduler'.
19	Plant / Web Graphic	Displays menu 'Plant > Web graphic'.
20	Plant / Billing Service+	The user can activate the Service+ Service in 'Plants > Plant Settings'.
21	Plant / M2M-ICCID	The user can assign a ICCID to the plant in 'Plant > Plant settings'.
22	Plant / User Plant ID	The user can edit the Customer Plant ID in 'Plants > Plant settings'.
23	Plant / View Data Points	Menu 'Plant > Upgrade' and 'Plant > Task' display.
24	Apps / Plant Dashboards	Access to App Dashboard Editor
25	Apps / Energy dashboards	Access to App Dashboard Editor
26	Plant / Export mode upgrade.	'Operation > Plants > [my plant] > Upgrade': 'Send to controller' action and 'Online actions drop-down are hidden.
27	Plant / Application set	Grant user access to plant settings 'Application set' and 'Variants' in 'Administration > Plants > "My plant" > Plant settings'.
		Without privileges, the user can only view, but not change, the application set settings.

NOTICE						
	Accessibility to unentitled menus					
	Menus not authorized for the user can still be accessible for the corresponding role for about 60 minutes after a privilege is changed.					
!	<ul> <li>In general: Determine the roles at an early stage and change only as an exception.</li> <li>In the event that a change in rights is necessary, ensure that the waiting</li> </ul>					
	<ul> <li>In the event that a change in fights is necessary, ensure that the waiting period of 60 minutes is maintained.</li> <li>Empty the browser cache on the target web browser.</li> </ul>					

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## **19.6.2.1 Example: Standard delivery**

## NOTICE

- The access rights outlined in the following are an example but do meet the default delivery.
- The rights matrix for your organization may vary since an administrator can change role designations and privileges.

#	Privilege	Factory	Service	User	Owner	End user
1	Plant / Access data point	Yes	Yes	Yes	Yes	Yes
2	Plant / Single-Upgrade	Yes	Yes	No	Yes	No
3	Plant / Manage Users	Yes	No	No	Yes	No
4	Plant / Manage Settings	Yes	No	No	Yes	No
5	Plant / WebHMI Access	Yes	Yes	Yes	Yes	Yes
6	Various / Remote-Tool-Adapter	Yes	Yes	No	Yes	No
7	Various / CloudAPI Plant Access	Yes	Yes	Yes	Yes	Yes
8	Plant / Files	Yes	No	No	Yes	No
9	Plant / File Access	Yes	Yes	No	Yes	No
10	Plant / Report notifications	Yes	No	No	Yes	No
11	Plant / Alarm Access	Yes	Yes	Yes	Yes	No
12	Plant / Alarm Notifications	Yes	Yes	No	Yes	No
13	Plant / Dashboard	Yes	Yes	Yes	Yes	Yes
14	Plant / Schedule	Yes	Yes	Yes	Yes	Yes
15	Plant / Web Graphic	Yes	Yes	Yes	Yes	Yes
16	Plant / Billing Service+	No	No	No	Yes	No
17	Plant / M2M-ICCID	No	No	No	Yes	No
18	Plant / User Plant ID	No	No	No	Yes	No
19	Plant / View Data Points	Yes	Yes	Yes	Yes	Yes
20	Apps / Plant Dashboards	Yes	Yes	Yes	Yes	Yes

## 19.6.3 Portal role of an application-related role



The cloud privileges for the portal roles are available in section "Using the optimum portal role [ $\rightarrow$  382]".

"User" is the portal role for users with a role. A new user added to a plant automatically receives the portal role "User" (not to be confused with the role "User").

Portal role Role*		Role*	Rights on the portal	Rights on plant data points	HMI-PIN
User **		Factory	Per role privileges	For example, SCOPE Level 2	6000
		Owner	Per role privileges	For example, SCOPE Level 4	2000
Service		Service	Per role privileges	For example, SCOPE Level 4	2000
User		User	Per role privileges	For example, SCOPE Level 6	1000
	End user Per role privileges		Per role privileges	For example, SCOPE Level 253	0000
*	Additional information on roles is available in "Roles and privileges [ $\rightarrow$ 379]".				
**	The configuration depicted here is an example using a standard AHU application				

NOTICE					
i	<ul> <li>Avoid an overlap of rights</li> <li>You avoid an overlap of rights and achieve higher transparency on rights as follows:</li> <li>Separate administrators and plant users by design.</li> <li>A user, working as an administrator, does not have a role for a specific plant at the same time.</li> </ul>				
	• A user, who has a role for a specific plant, is not simultaneously an administrator at the tenant.				

# 19.7 Using the optimum portal role

## **19.7.1** The fullness of rights for a Tenant-Admin

As illustrated in the rights matrix below, the portal role Tenant Administrator enjoys all the rights of the portal as well as unlimited access to the individual plants.

The scope of these rights may result in issues of responsibility in a business environment where duties and responsibilities are divided up. As a consequence, Climatix IC provides other portal roles.

The matrix of rights below classifies the portal roles by general/unspecified and those tailored to specific tasks.

## 19.7.2 Short characteristics of portal roles

## 19.7.2.1 General/unspecified portal roles

- The Tenant Administrators have full portal rights for their areas (tenant). They are, however, the last points of contact for all plants for the tenant area. A Tenant Administrator only makes full use of plant rights as an absolute exception.
- The 'Operations User' has a support function. This role provides broad insight (generally read-only) into the various areas of the portal for troubleshooting. Administration actions (time-limited) are added to the mix to perform changes to personnel data in a non-bureaucratic manner.
- The 'Tenant User (<Role>)' can access all plants within a tenant. The assigned role determines the rights for this administrator to the plants.

## 19.7.2.2 Portal roles for specific tasks

- The Tenant Site Viewer unburdens the Tenant Administrator from repetitive tasks that typically occur at the OEM factory. The function "Preregister" preregisters Climatix controllers, e.g. by scanning the activation key for your own area (tenant).
- The 'API Technical User' has access to the developer toolbox under 'Developer API'. This user can perform tests in a protected environment.
  - Only Main-Tenant Administrators can assign this portal role for security reasons on Sub-Tenants set up below the Main-Tenant. A Sub-Tenant Administrator cannot assign this role in this case.
  - Sub-Tenants, who are independent of a Main-Tenant (activated digital wallet) can assign the role 'Api Technical User'.
  - The structuring of the privileges permits the testing of developer tools at the Main-Tenant without impacting the customer at the Sub-Tenant.
- The Application Administrator unburdens the Tenant Administrator from the tasks of managing current documents and links on all plants within the tenant area. The role is required to work with the graphic configurator in the Apps menu.
- The portal role 'License Manager' was set up to create and manage controller licenses.
- The portal role 'Remote Tool Access' was set up to remotely access all tenant plants.
- The 'Tenant Billing Administrator' or read-only 'Tenant Billing Viewer' deals exclusively with the billing side and reads and evaluates billing reports.
  - Only Main-Tenant Administrators can assign this portal role for security reasons on Sub-Tenants set up below the Main-Tenant. A Sub-Tenant Administrator cannot assign this role in this case.

## **19.7.3 Rights matrix portal roles**

System function*	Tenant-Admin	Operations	TenantUser ( <role>**)</role>
Dashboards			
KPI	All KPIs	Online KPI	Yes
Summary	All tiles, except for appl.set	All tiles	Yes
Operation			
Plant overview	Yes	Yes	Yes
/Plant Dashboard	Level 0 / Admin rights	Tenant presetting possible	Yes – Level defined in Appl.Set
/Data points	Level 0 / Admin rights	Tenant setting	Defined in role
/Alarms	Yes	Yes	Defined in role
/Web access	Yes	Yes	Defined in role
/Web graphic	Level 0 / Admin rights	Tenant presetting possible	Defined in role
/Upgrade	Yes	Yes	Defined in role
/History	Yes	Yes	Defined in role
/Schedulers	Yes	Tenant presetting possible	Defined in role
/Tasks	Yes	Yes	Defined in role
/Documentation	Yes	Yes	Defined in role
Application sets	No	Read-only	No
Administration			
System	Yes	No	No
Activate plant	Yes	Yes	Yes
Plant overview	Yes	Yes	Yes
User	Yes	Read-only	Yes, Tenant User only
Tenants	Yes	No	No
Tenants, billing area	No	No	No
Roles	Yes	No	No
Pre-register	Yes	No	No
/Plant users	Yes	Existing read only; new create	Defined in role
/Plant notifications	Yes	Read-only	Defined in role
/Plant settings	Yes	Read-only; new active for 10 minutes	Defined in role
Remote Tool Access	No	No	Defined in role
License Manager	No	No	No
Apps			Defined in role
Plant Dashboard	Yes	Yes	Defined in role
System Dashboard	No	No	Defined in role
Graphic configurator	No	No	Defined in role
Alarm Dashboard	Yes (with Siemens ID)	Yes (with Siemens ID, no configuration)	Defined in role
Rule Editor	Yes (with Siemens ID)	No	Defined in role
Developer API	No	No	No
Third party	Yes	No	No

## 19.7.3.1 Generic primary administrator roles

Using the optimum portal role

Cloud-API access Full access Full access Defined in role
--

 $^{\ast}$  Your product may have limited functionality depending on the selected subscription

System function*	Tenant site viewer	Application admin	Tenant Billing Admin	Billing Reader Admin
Dashboards				
KPI	Online KPI	No KPI	No KPI	No KPI
Summary	Admin tile	Application tile	No tiles	No tiles
Operation	NO	NO	NO	NO
Plant overview	No	No	No	No
/Plant Dashboard	No	No	No	No
/Data points	No	No	No	No
/Alarms	No	No	No	No
/Web access	No	No	No	No
/Web graphic	No	No	No	No
/Upgrade	No	No	No	No
/History	No	No	No	No
/Schedulers	No	No	No	No
/Schedulers	No	No	No	No
/Documentation	No	No	No	No
	No	YES	No	No
Application sets Administration				
	No	No	No	No
System	Yes		No	No
Activate plant Plant overview	Yes	No	No	No
	1			
User	No	No	No	No
Tenants	No	No	No	No
Tenants, billing area	No	No	Yes	Read-only
Roles	No	No	No	No
Pre-register	Yes	No	No	No
/Plant users	No	No	No	No
/Plant notifications	No	No	No	No
/Plant settings	No	No	No	No
Remote Tool Access	No	No	No	No
License Manager	No	No	No	No
Apps				
Plant Dashboard	No	Yes	No	No
System Dashboard	No	Yes	No	No
Graphic configurator	No	Yes	No	No
Alarm Dashboard	No	Yes	No	No
Rule Editor	No	Yes	No	No
Report	No	Yes	No	No
Developer API	No	No	No	No
Third party	NO	NO	NO	NO
Cloud-API access	No	No	No	Yes

## 19.7.3.2 Specific administrator roles

\* Your product may have limited functionality depending on the selected subscription

## 9 Appendix: Detail information

Using the optimum portal role

System function*	Remote tool access admin	License Manager	API tech user	TenantAPIUser
Dashboards				
KPI	No KPI	No KPI	No KPI	No KPI
Summary	No tiles	No tiles	No tiles	No tiles
Operation	NO	NO	NO	NO
Plant overview	No	No	No	No
/Plant Dashboard	No	No	No	No
/Data points	No	No	No	No
/Alarms	No	No	No	No
/Web access	No	No	No	No
/Web graphic	No	No	No	No
/Upgrade	No	No	No	No
/History	No	No	No	No
/Schedulers	No	No	No	No
/Tasks	No	No	No	No
/Documentation	No	No	No	No
Application sets	NO	NO	NO	NO
Administration				
System	No	No	No	No
Activate plant	No	No	No	No
Plant overview	No	No	No	No
User	No	No	No	No
Tenants	No	No	No	No
Tenants, billing area	No	No	No	No
Roles	No	No	No	No
Pre-register	No	No	No	No
/Plant users	No	No	No	No
/Plant notifications	No	No	No	No
/Plant settings	No	No	No	No
Remote Tool Access	YES	No	No	No
License Manager	NO	YES	NO	NO
Apps				
Plant Dashboard	No	No	No	No
System Dashboard	No	No	No	No
Graphic configurator	No	No	No	No
Alarm Dashboard	No	No	No	No
Rule Editor	No	No	No	No
Report	No	No	No	No
Developer API	No	No	Yes	No
Third party	NO	NO	NO	NO
Cloud-API access	No	No	Yes	Read-only

\* Your product may have limited functionality depending on the selected subscription

For more information on systems, see "Systems: Overview [→ 141]".

## 19.7.4 Tips and notes

Hints

Notes

- You can also select the Applications Administrator to also assign documentation rights (Application) to the Tenant Administrator.
- It makes sense to combine the Tenant Administrator and Tenant Billing Administrator or Billing Reader Administrator.
- The roles Applications Administrator, Tenant°Billing°Administrator, and Remote Tool Access Administrator are also called secondary admin roles; the others are called primaries accordingly. A combination of roles **within** the groups is possible but does not make sense.
- You should generally avoid multiple selections of portal roles.
- Testing a user account in various portal roles may result in unintended displays, especially on the tiles. The display is not updated.

## 19.7.5 Role description Siemens Apps

Role name	Role description	Tenant	Monitor Alarm Dashboard	Configure Alarm Dashboard	Rule Editor	Reports
Tenant Administrator	Alarm & Rule & Reports Administrator (MANAGE)	Main-Tenant	YES	YES	YES	YES
Tenant Administrator	Alarm & Rule & Reports Administrator (MANAGE)	Sub-Tenant with inherited subscription	YES	NO	NO	YES
Application A dministrator	Alarm & Rule Administrator (MANAGE)	Main-Tenant	YES	YES	YES	NO
Application A dministrator	Alarm & Rule Administrator (MANAGE)	Sub-Tenant with inherited subscription	YES	NO	NO	NO
Operations	Alarm & Rule Operator & Reports Viewer (READ)	Main-Tenant	YES	NO	NO	Read only
Operations	Alarm & Rule Operator & Reports Viewer (READ)	Sub-Tenant with inherited subscription	YES	NO	NO	Read only

# Glossary

## Activate plant

The function "Activate plant" is available for offline and online plants. In the program, the plant is entered on the Assigned list with "Activate".

## Annual

An annual subscription operates under the prepaid principle and was previously referred to as the bundle offering. You receive a package with a defined amount of service for 1 year; the subscription cannot be prematurely canceled. The number of controllers, data points, and cloud event traffic are limited.

## Apps menu

The 'Apps' menu has tools including plant or system dashboards, graphic configurator or rule editor. Access to this menu or the individual tools is based on your rights.

## Assigned / unassigned

The command "Activate" assigns plants. A plant must be assigned to manage it (settings, assign users, etc.).

## **Climatix IC**

Climatix IC is a cloud-based application for remote service and efficient operation of Climatix controllers.

## Delete an account with no activity

A user account at a tenant is automatically deleted after a specified period of inactivity. The time to deletion is 3 years (1095 days) for a Siemens default tenant. The tenant administrator can change the time within its tenants. Note: A difference of at least 60 days must be specified between notification and deletion of a user account.

## Distributor

The entry Distributor (also referred to as Tenant-Key) ensures that a controller logs on at the desired tenant. There are two possible entries: 1. On the controller > CSL-Config > Distributor. 2. In Climatix IC, as part of registration.

## Firewall

A firewall protects networks against unauthorized access from the outside. Firewalls are hardware and/or software measures designed to control data exchanges between the private network to be protected and the unsecured network (e.g. the Internet).

## Main-Tenant, Sub-Tenant

Main-Tenant and Sub-Tenant have a 1 to n relationship. The Main-Tenant, for example, is an OEM, the Sub-Tenant could be a regional company..

## Member (on POL)

Data points consist of so-called members. The most important member of a data point is generally the present value.

#### MFA

MFA = Multi-factor authentication. Double protection in the Climatix IC registration procedure by including a second identification stage outside Climatix IC.

## Monthly

Monthly operates under a pay as you go principle and was previously called the credit offering. Only the actual service is charged. The number of controllers, data points, and cloud event traffic are unlimited. The number of credits must be ordered in advance, credits must be available in the digital wallet and are charged automatically for each month per plant.

## MTU

'MTU' denotes the 'Maximum Transmission Unit'.

## **Offline plants**

A tenant admin can already manage the plant offline and assign, for example, the plant to a Sub-Tenant. The tenant admin only needs the activation key.

## **Online plants**

Climatix IC connects as soon as a controller is connected to the Internet.

## Plant

In the basic structure for Climatix IC, one plant corresponds to one physical controller. And yet a Climatix IC plant is not the same as a controller: Not all data points are mapped to the cloud and, conversely, not all plant data is maintained in the cloud, i.e. above and beyond the controller data points. Virtual Cloud Items (VCIs) and Virtual Cloud Plants (VCPs) further extend the original concept (see description:'Virtual Cloud Items(VCIs) and Virtual Cloud Plants (VCPs).

## **POL controllers**

Climatix 600, C600 and C400 controllers are freely programmable and can be used in a broad range of applications. The controller can connect to Climatix IC. They are referred to here as POL controller for simplicity.

## Portal role

Portal roles define access to the system functions and menus in the portal.

## Role

A role (e.g. owner) is comprised of the Scope access level and granted privileges on the portal. In other words, it corresponds to a specific user role within the rights management for Climatix IC.

## Service+

"Service+" supports common installer-end customer applications and is visible in the Climatix IC user interface. An installer can (with the appropriate subscription) select between basic and advanced "Service+" functionality at the plant level (with expiration date, can be extended at any time). For example, "Service+" is activated on a concluded service agreement.

## Subscription

(en: subscription). There are 2 basic types of available subscriptions: The 'Annual' and the 'Monthly' subscription.

## System

A 'System' describes a grouping of multiple plants with common features that may be arranged hierarchically to one another. (See 'Plant')

## Tenant

Tenant is the same here as company or organization. An area can be set up for each company/organization that individualizes the cloud-based application for the customer and closes it off to the outside world.

## **Tenant Administrator**

The Tenant Administrator role is one of multiple portal roles. The Tenant Administrator manages plants and users within its tenant space.

## Tenant key

Tenant-Key is synonymous with distributor. As part of registration, the tenant-key is generally a Sub-Tenant-key, intended to move the plant to the desired Sub-Tenant.

## Token

A token (symbolic representative) permits simple access to internal program values. For example, the plant name can be displayed in the display field with the query [SiteName].

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