installation and setup manual

FOR THE QUALIFIED PROFESSIONAL

WEB SERVER MODULE
OCI670

FOR NESTA, COILMASTER AND TEXAS RANGES,
AND FOR TMU

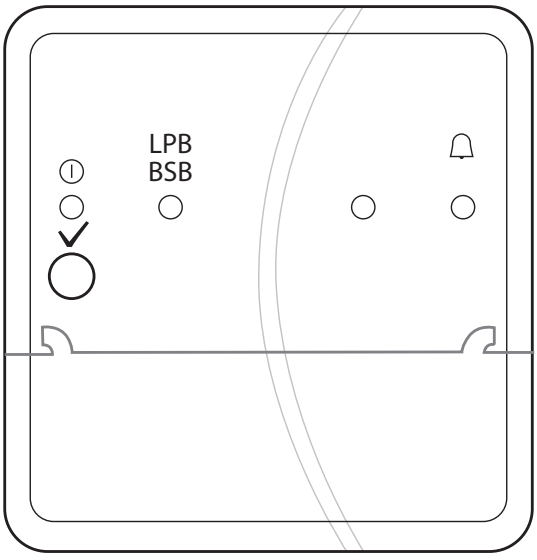

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Table of Contents

INDEX OF ILLUSTRATIONS

Symbols

Indicates an essential instruction which, if not followed, can result in a hazardous situation that can cause serious damage to equipment and/or injuries or death.

Indicates an essential instruction in relation with the presence of electrical power and a danger of electrical shock.

Indicates an important instruction which, if not followed, could result in a hazardous situation that could cause damage to equipment and/or injuries.

Indicates an important piece of information.

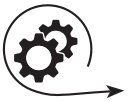
High Voltage - danger of electric shock.

Ground / Earth.

Do !

Don't !

... to electrical connection information.



.... to controller setup information.

Read additional information in another location or manual

Safety Requirements

- All tasks related to the installation, connection and setup of this accessory must be carried out by a qualified professional in accordance with current standards and regulations in force.
- When connecting the accessory to an appliance, all the relevant safety instructions indicated in the appliance installation manual must be complied with.

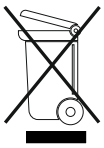
- Before making any wiring changes in the connection area, completely isolate the appliance from mains supply. Ensure that the appliance cannot be inadvertently switched on again and that no live current is present. Failure to comply can result in electric shock
- Do not touch the appliance with any wet body parts when it is supplied with electrical power.
- Ensure protection against electric shock by providing adequate protection for the connection terminals

- Do not to open, interfere with or modify the module!
- Make sure to carry out connections to the correct terminals, as indicated on the wiring diagram. If high voltage cables are installed on a low-voltage terminal, the electronic board will be damaged.

- When connecting wires to the terminals, check that the connection is secure and that all the wire strands are tightly held.
- Fall or shock can adversely affect the safety functions. If the accessory falls or is subjected to a shock, do not put it into operation, even if no damage is visible.
- Different mains phase connections to relay terminals are not permitted. If not observed, there is a risk of fire.
- Fusing of the load circuit must be ensured via the LMS... (AUX) (if installed) or by a suitable external fuse. If not observed, there is a risk of fire
- Condensation, formation of ice and ingress of water are not permitted.

End of Service Life and Disposal

The product is maintenance-free, but cannot be repaired in case of problem. Please contact your AIC representative for more information.



At the end of service life, the product should not be disposed of as solid urban waste. It should be handed over to a differentiated waste collection centre as electrical and electronic equipment, in accordance with all applicable local regulations.

OCI670 Web Server - Principles of Operation

This Web server module enables remote control and monitoring of heating system devices through the Internet using a web browser or phone app. Up to 16 LPB devices (in a cascade) can be connected for communication via the Internet, through an Ethernet connection.

The module does not support direct WiFi connection, and can only be connected to the Internet through an Ethernet cable. However, additional equipment are available to provide WiFi. If no Internet connection is available on the plant site, LTE modems can also be used. Please ask your AIC representative for an adapted solution.

The module is either directly connected to the BSB bus of the appliance (BMS), or, in the case of a cascade, to the DB/MB connection of the cascade module (OCI345) of one of the appliances. For more information on cascade module installation, refer to the Cascade manual series.

The Web server module is designed for remote access via a cloud interface (Climatix IC). All settings are available via Climatix IC, which is used to monitor, control and adjust the parameters of the device(s), up to the engineer level. It is called and is accessed to either through a web browser or an application (Android, iOS) after product activation using the provided activation code. Refer to ***"Climatix IC Interface - Description" on page 5*** for more information.

All the web server modules provided by AIC are already preregistered to allow fast connection and operation of your system.

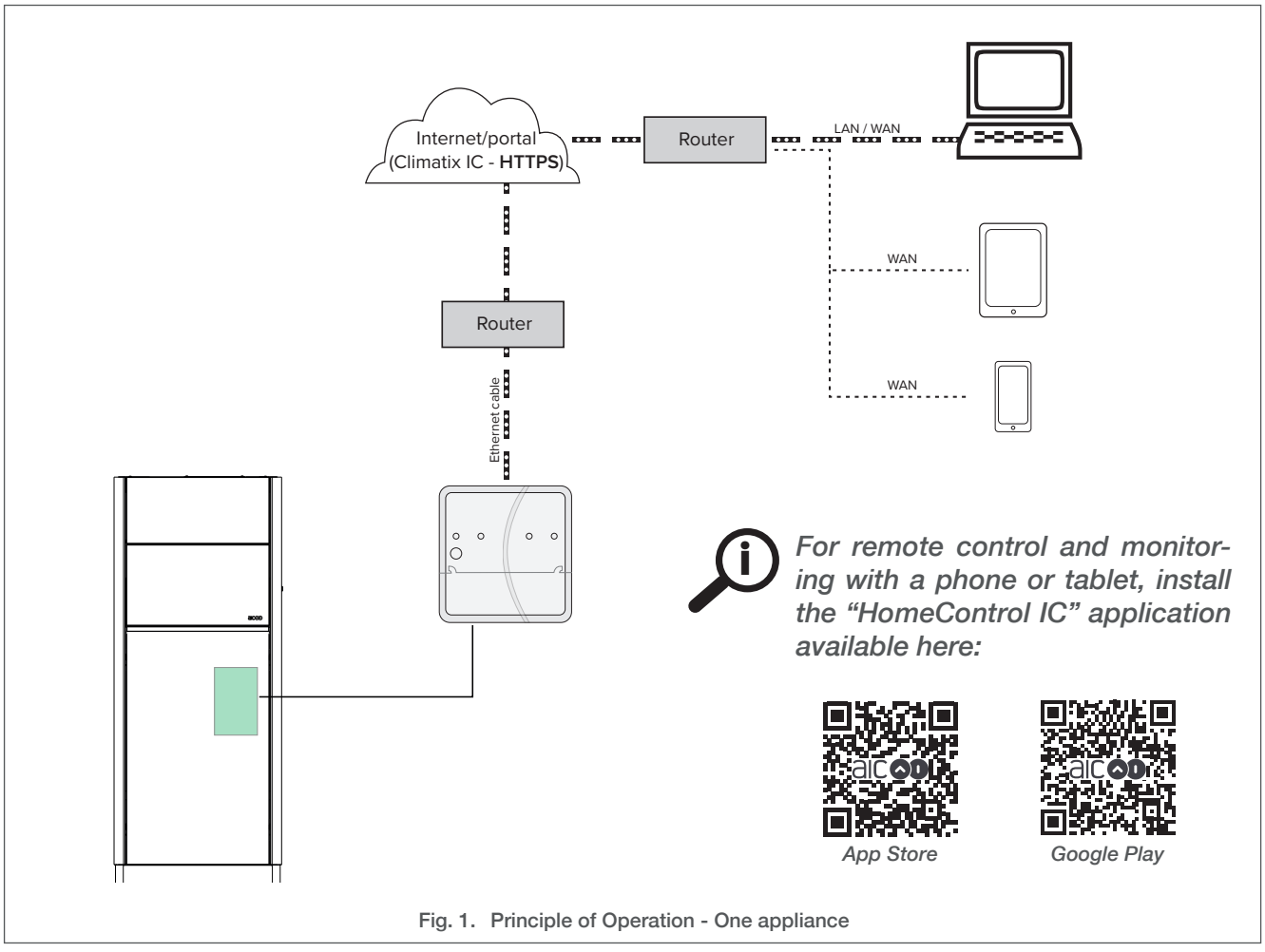


Fig. 1. Principle of Operation - One appliance

Climatix IC Interface - Description

The Climatix IC interface provides :

- Internet portal with simple and secure access to the Gateway
- access with no fixed IP address, nor forwarding of a dynamic IP address, nor port forwarding (NAT/PAT) required
- the following functions:
  - multiple plant management
  - central user management
  - plant overview with Energy indicator, connection and alarm state

The energy symbol (/ /) indicates the level of energy used by the plant, compare with the parameters defined for energy consumption.

  - set up customized plant web pages, e.g. with a picture, a plant visualization (created through the ACS tool), a list of specific parameters, etc. Refer to ***"Home Page Customization" on page 18***
  - remote operation and monitoring of plants and devices on one LPB/BSB network with web browser on PC/laptop and smartphone
  - simultaneous support of multiple users
  - setting of plant functional scope for various plant roles
    - logging fault messages as common faults
    - send alarm notifications per e-mail
    - secured communications through encryption (https)

Refer to ***"Module Activation" on page 10*** for more information on its use and operation.

Several types of users are available, with vaious levels of privileges: End-user, Technical Service and Administrator. See ***"User Levels and Privileges" on page 14*** for a detail of the privileges.

For additional information on the symbols, functions and possibilities provided by Climatix IC, please refer to your AIC representative.

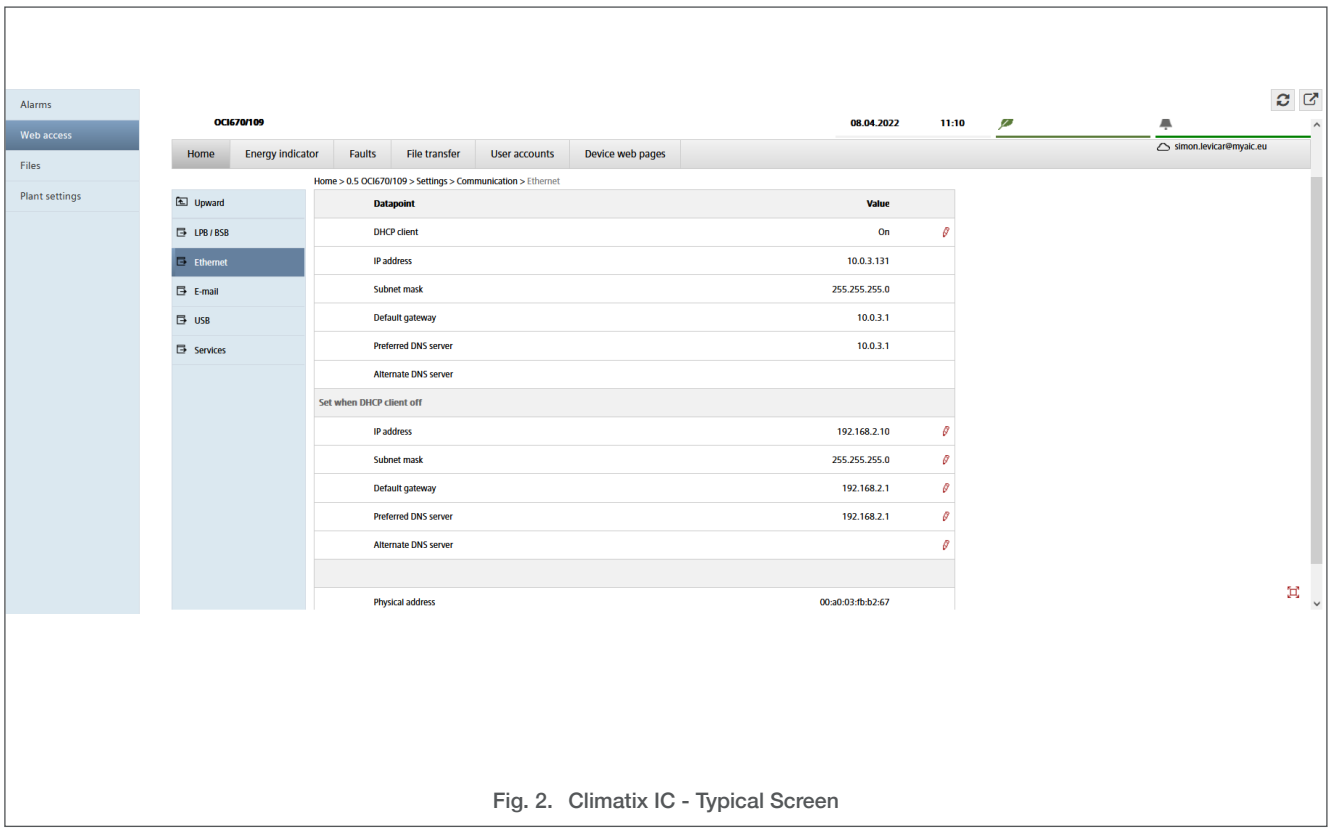


Fig. 2. Climatix IC - Typical Screen

Module Description

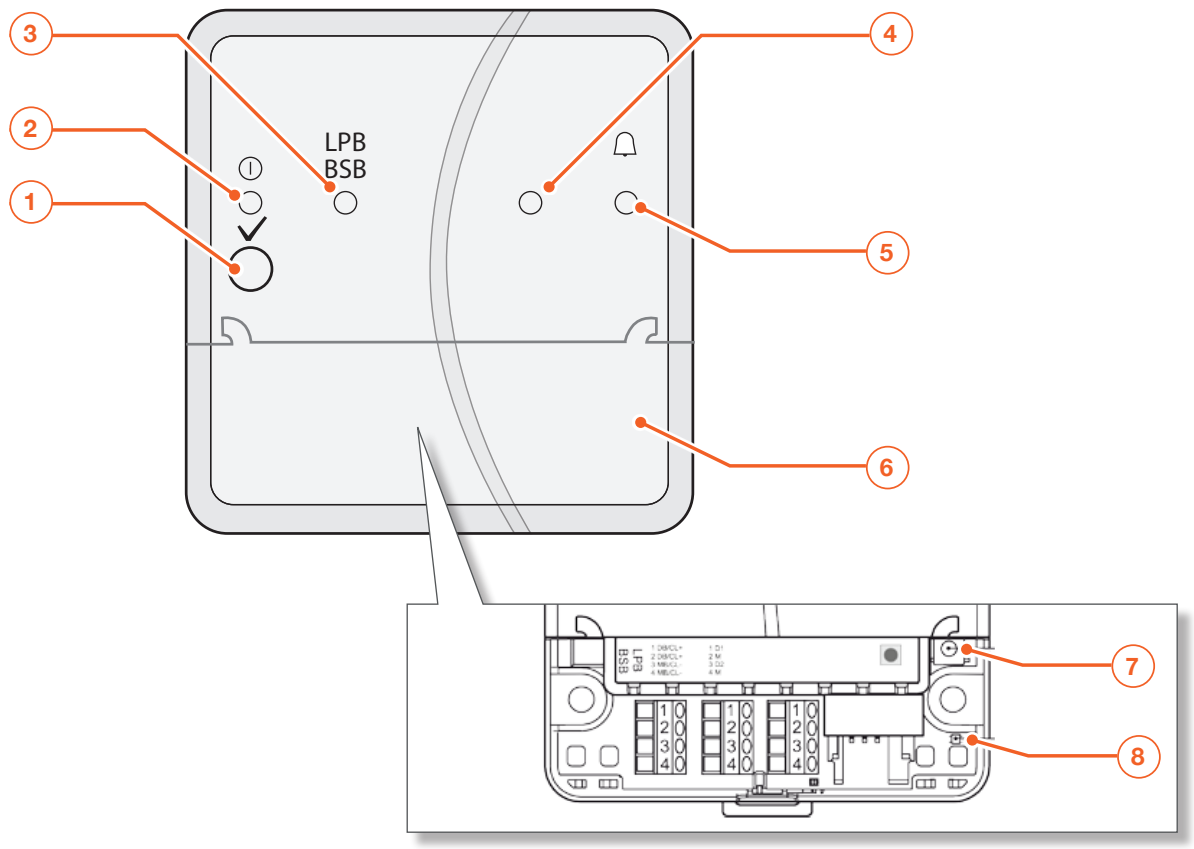
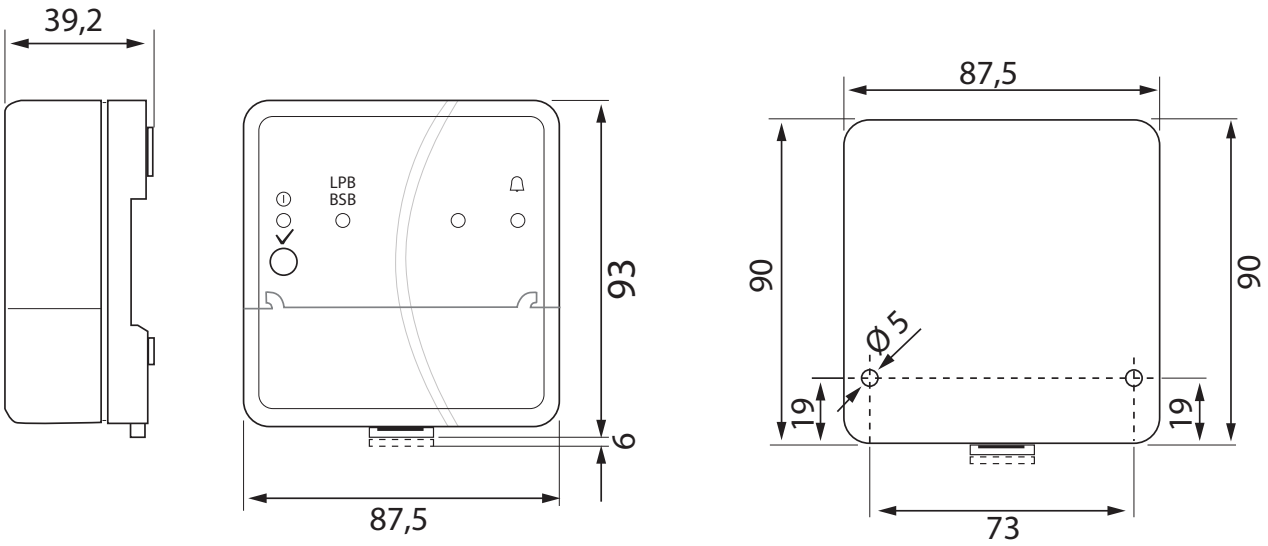


Fig. 3. Module Description

1. **Remote button** - Depress for more than 6s to send a system report to designated recipients. Used in combination with Service button, it allows to restore factory settings. See point 7 for more information.
2. **Status LED** - The LED colour indicates the operation status of the web server, as follows:
   - **Off** : No power
   - **Red**: operating system of web server is starting
   - **Flashing red**: Application of web server is starting
   - **Green**: Web server operating (green level of energy)
   - **Orange**: Web server operating (orange level of energy)
   - **Flashing green/orange**: Web server operating and connected to the portal
3. **LPB/BSB green LED** - Indicates the communication status:
   - **Off** : No bus power
   - **On**: LPB/BSB bus operational
   - **Blinking**: Communication on LPB/BSB
4. Not used
5. **Faults red LED** - To indicate if there is a fault in the system:
   - **Off** : No fault (normal operation)
   - **On**: Fault
6. **Removable cover** - Slide down to access the connection terminal and references 7 and 8 below.
7. **Service button** - Depress :
   - in combination with Remote button (**1**) for more than 6s to restore factory settings.

   All configuration data and settings are reset. The device list, uploaded files, and all unsent messages are deleted. History data is not deleted.
8. **LED** - Not used (any activity of the LED is irrelevant to the correct operation of you web server module)

Dimensions*



* Expressed in mm

Technical Characteristics

Power cable	
Operating voltage Rated voltage "Euro plug"	AC 230 V 15 % AC 230 V EN 50075 and VDE 0620-1
Frequency	50/60 Hz
Power consumption (including web server Gateway OCI670)	3 VA typical
Protection class	II.
Output voltage	SELV 24 VDC
Supply line fusing	Max. 16 A
Cable length (distance from AC 230 V plug to Gateway)	Max. 1,6 m
LPB/BSB bus	
Interface type	2-wire connection
2-wire bus	DB/CL+, MB/CL– (non-exchangeable)
Bus load	E 5
Ethernet	
Interface type	100BaseTX, IEEE 802.3 compatible
Bit rate	Max. 100 Mbps
Protocol	TCP/IP
Identification	Auto MDI-X
Default IP address	192.268.2.10
Ambient Conditions	
Operation	IEC 60721-3-3
Climatic conditions	Class 3K5
Temperature (housing and electronics)	0...50 C
Humidity	5...95 % r. h. (non-condensing)
Mechanical conditions	Class 3M2

Module Installation

Kit Description

- One OCI670 module
- 1m Ethernet cable
- 12V power supply
- 2 plastic ties
- One installation instruction

Installation requirements:

- Internet connection (boiler room or other room) - with Ethernet cable
- Close to a power supply source (cable length : max 1,5 m).
- Protected from water projections
- Ambient temperature between 0 and 45°C.

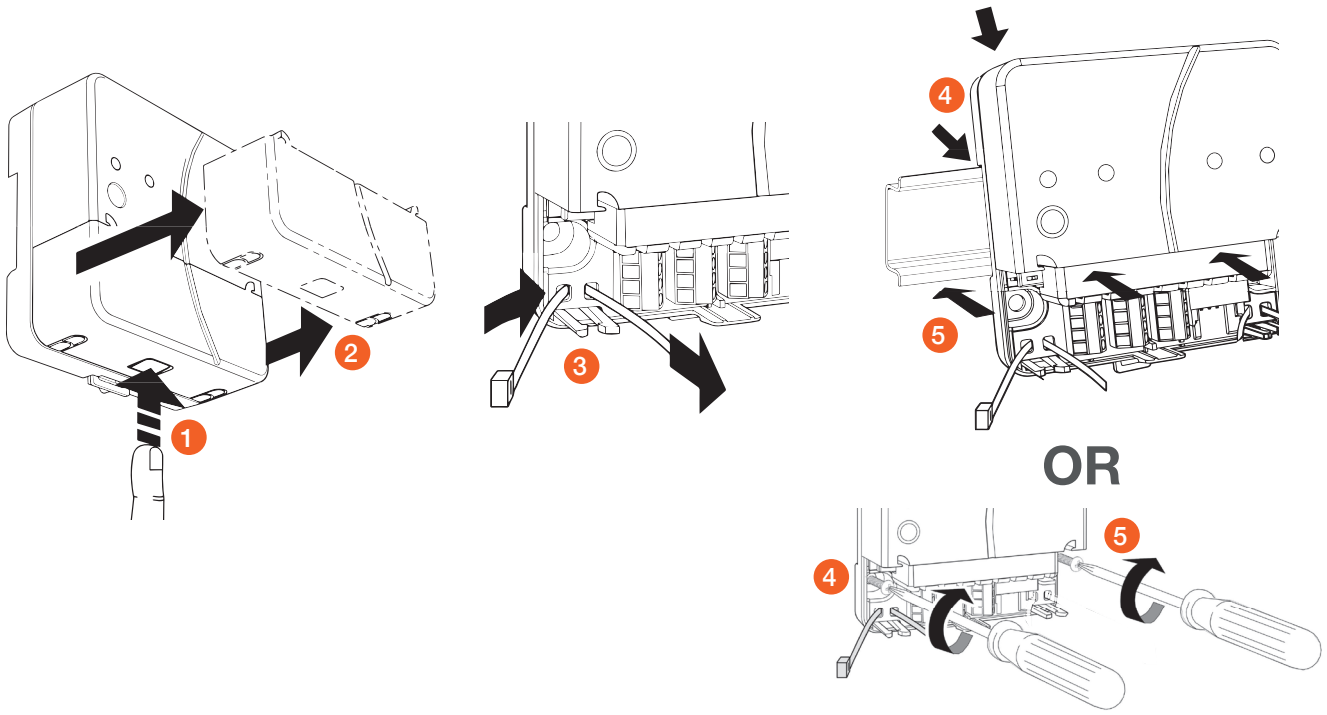
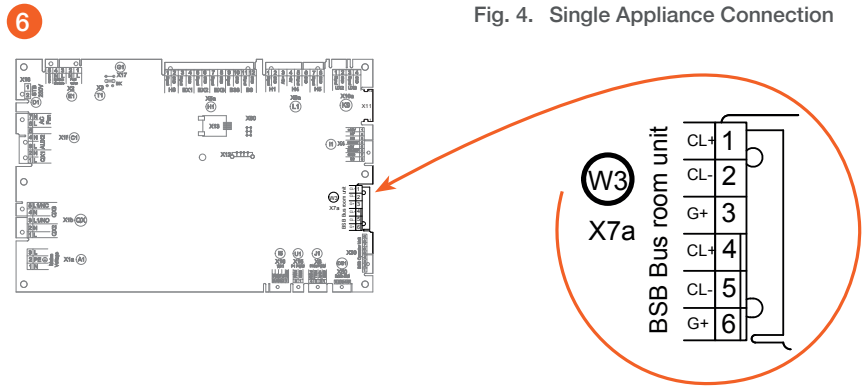
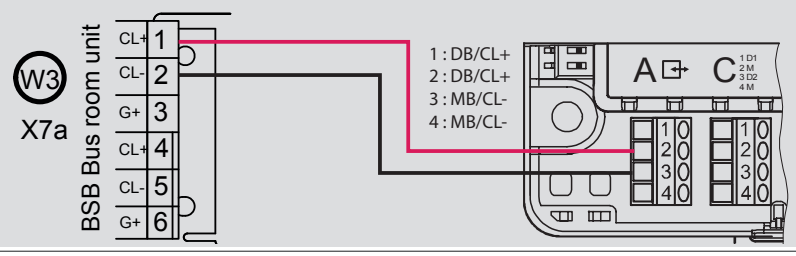


Fig. 4. Single Appliance Connection



	≥	≤
	1 x 0.25 mm²	1 x 1.5 mm²
	1 x 0.25 mm²	1 x 1.0 mm²
	1 x 0.25 mm²	1 x 0.5 mm²

Texas, CoilMaster and all Nesta ranges:



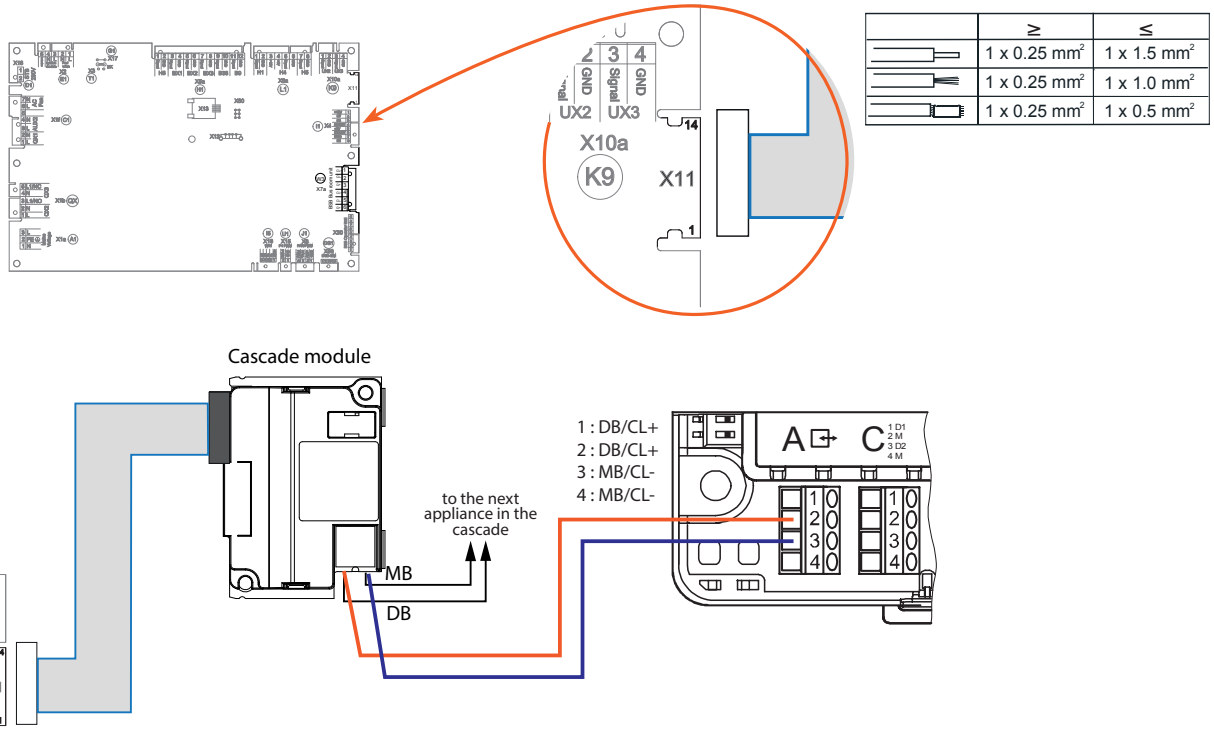
TMU

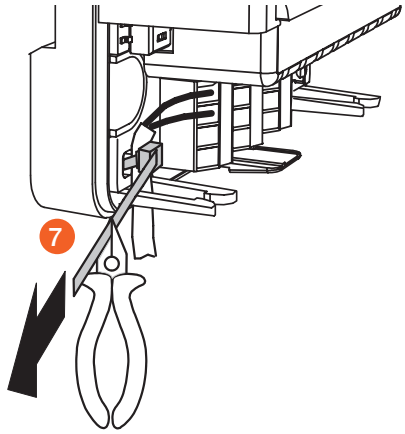
Connect to front panel terminals :

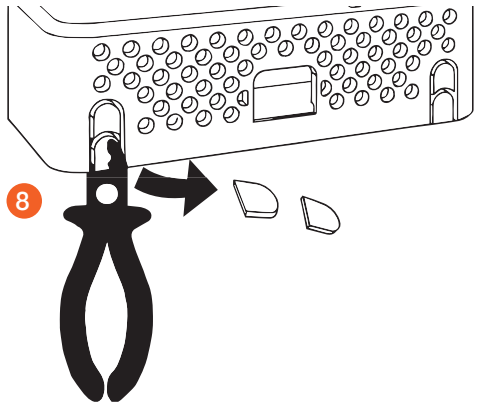
OCI 670 terminals	TMU terminals
2	21
3	20

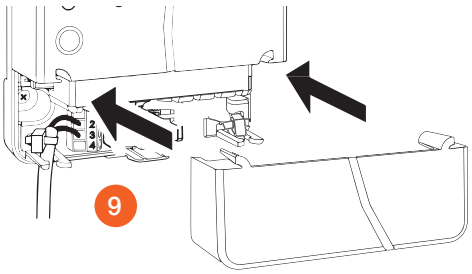
6

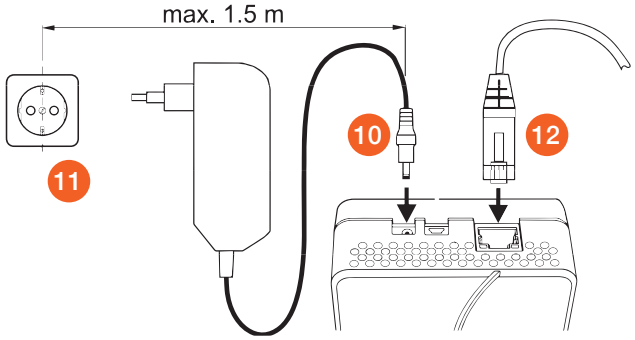
Fig. 5. Connection to a Cascade

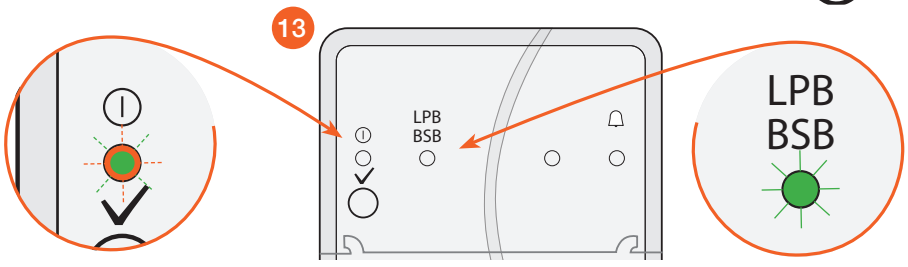












Module Start-up

Conditions:

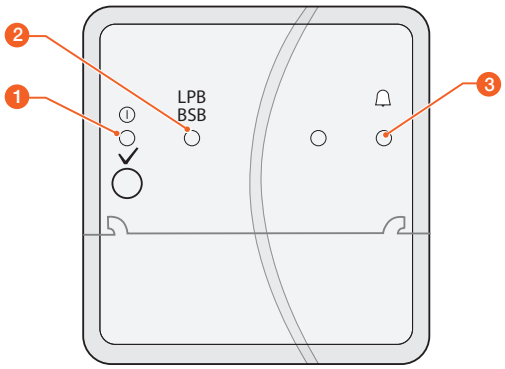
- Module Connected to the plant, see ***"Module Installation" on page 8***

Tools and material:

- Computer with Internet access

Procedure:

1. Connect the power adapter to the module.
2. Connect the module to the network using the provided Ethernet cable:
3. Connect the power adapter to the mains.
4. Check that:
   - The green LED (**1**) is lit.
   - the LPB/BSB green LED (**2**) is lit.
   - The Fault LED (**3**) remains dark if no fault is pending.
     - *The module recognizes whether LPB or BSB devices are connected to the bus*



Follow-on Tasks:

Activate the module. See the procedure opposite.

Module Activation

Conditions:

- Module connected to the plant and powered on see on the left.

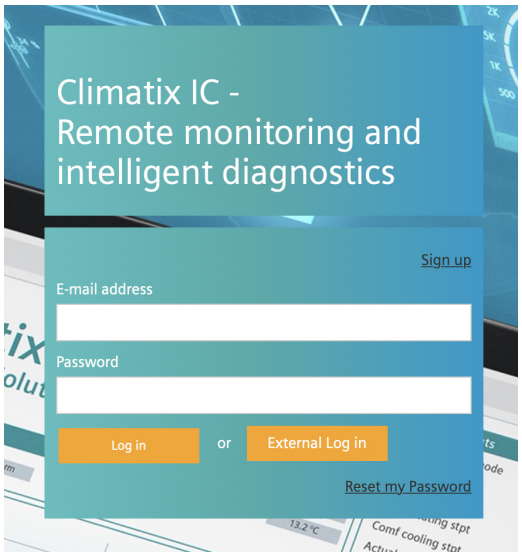
Tools and material:

- Computer with Internet access
- Activation key (see QR code on module packaging or on removable cover of the module)
- Password sent to your email address

Procedure:

All AIC web servers are preregistered in order to make activation faster.

1. Login to Climatix IC (https://www.climatixic.com).



2. Enter your e-mail address and the password received on that address.
3. Change password (first login only).

The new password must be comprised of minimum 8 characters with at least one Latin capital letter (A to Z), one Latin low-case letter (a to z), one Digit (0 to 9) and one non alphabetic character.

4. The activation screen opens
5. Go to
   - Administration (**1**)
   - Plants (**2**)
   - Activate Plant (**3**)

6. Fill in the activation key field (4)
7. Fill in the address field, using the address finder (5). Once it is found, apply the address. This will fill some of the fields automatically.
8. Click on “activate” (6)
9. The activation screen displays “*The plant was successfully activated*”.

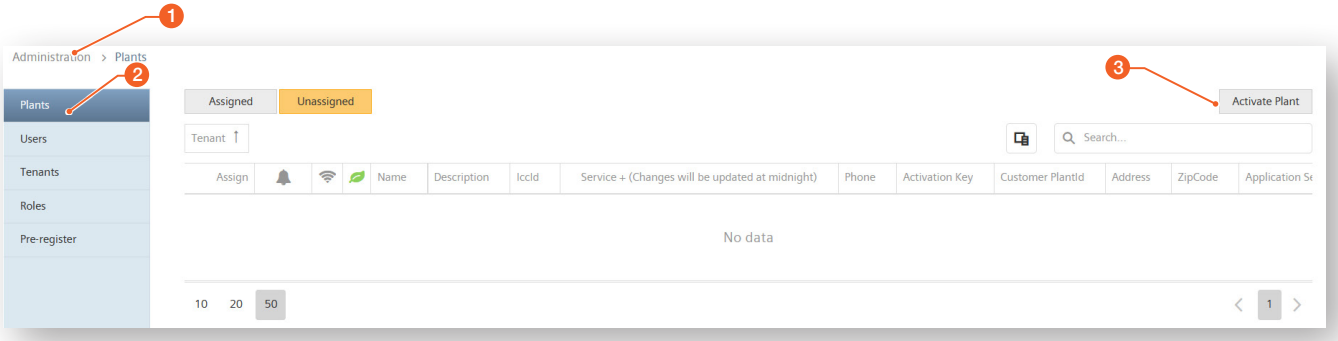
The Web server module automatically receives its IP address from the router when the DHCP client is switched on.

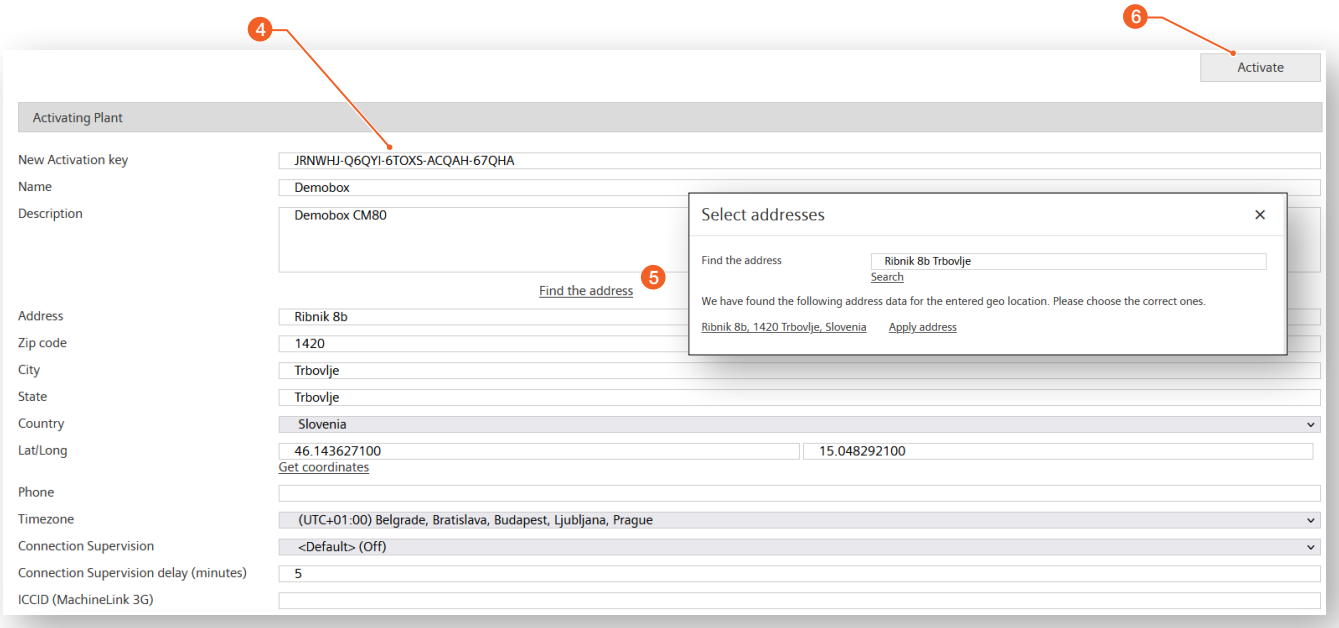
10. Symbol (7) indicates a correct connection
11. Click on the “planet” symbol (8) to access the web access page.

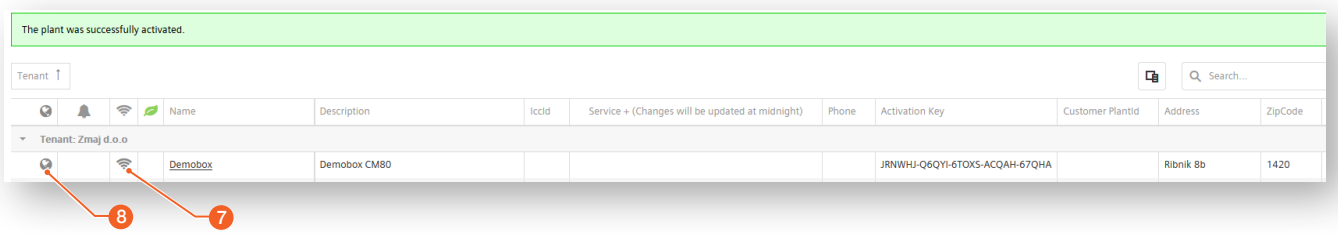
Only connect a SmartPhone App after full commissioning of the module.

Follow-on Tasks:

1. Perform System configuration. See ***“System Configuration” on page 12***







System Configuration

Conditions:

- Module activated, see ***"Module Activation" on page 10***

Tools and material:

- Computer with Internet access

Definition of Device/Plant

Once that the Module is activated, the configuration of the related device/plant can take place:

1. Select "***Device Web Pages***" (**1**)
2. Choose "***Add***" (**2**)
3. Enter the device number (**3**) :
   - "***1***" for a stand-alone boiler or a Principal boiler in a cascade
   - "***2***" to "***16***" for subsequent boilers in a cascade
4. Click on OK (**4**) to record the device.
5. Check the box (**5**) next to the LMS identification.

The name can be edited by clicking on the red pencil next to the name

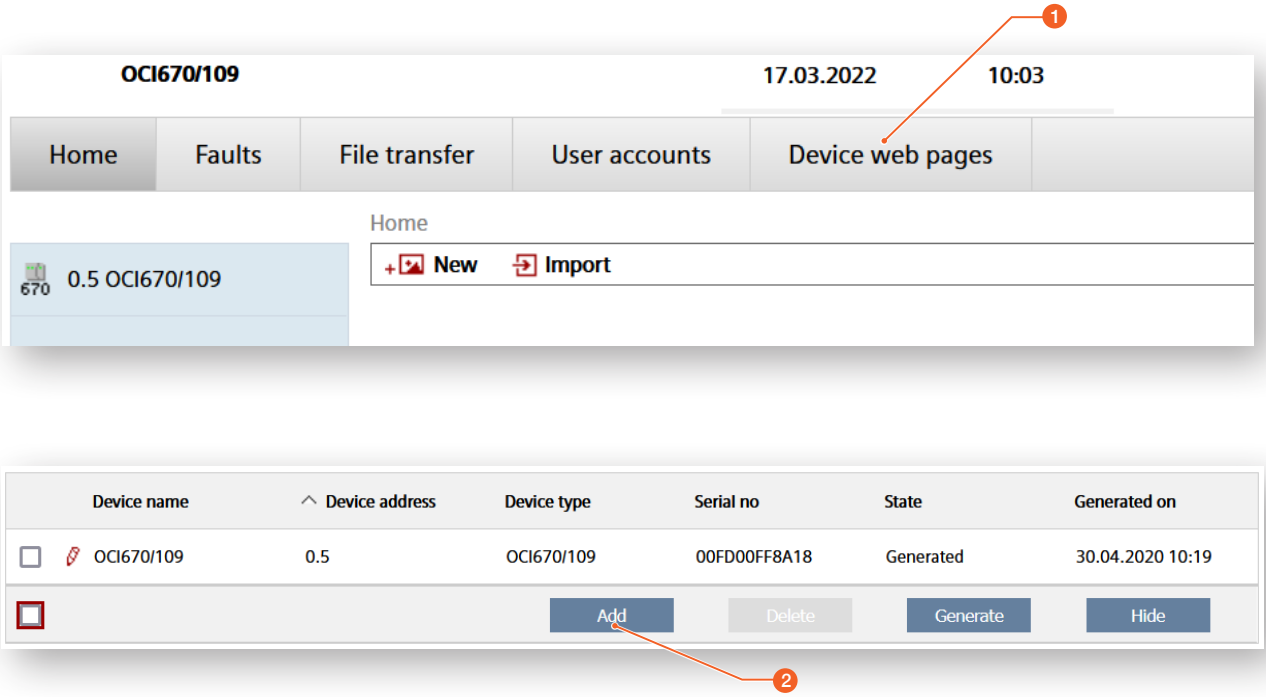
6. If needed, modify the name by clicking on the red pencil icon (**6**). Then confirm by clicking on "***OK***".
7. Repeat step 3 and the following if necessary, until all the devices are defined.
8. Select all the created devices by checking their boxes (**5**), then click on "***Generate***" (**7**) to process the information.

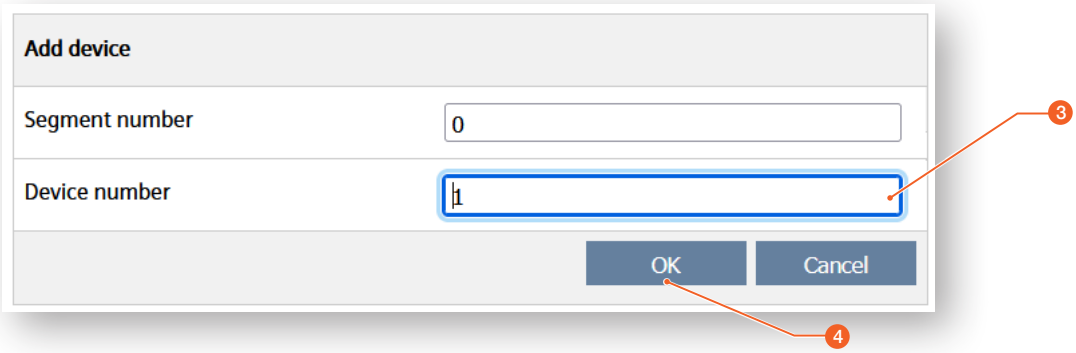
This process can take a few minutes. Do not press any key during that time.

9. The devices will be indicated as "generated", with the date of generation (**8**).

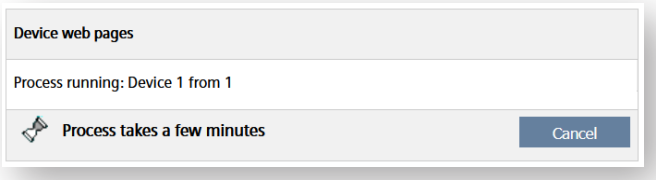
Follow-on tasks

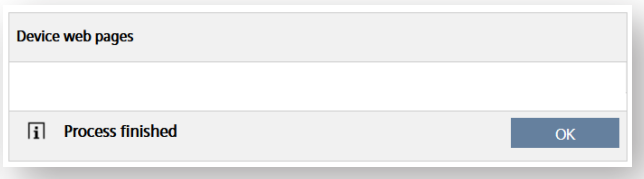
Customize the parameters and notifications, Refer to ***"Parameter and Notification Settings" on page 16.***

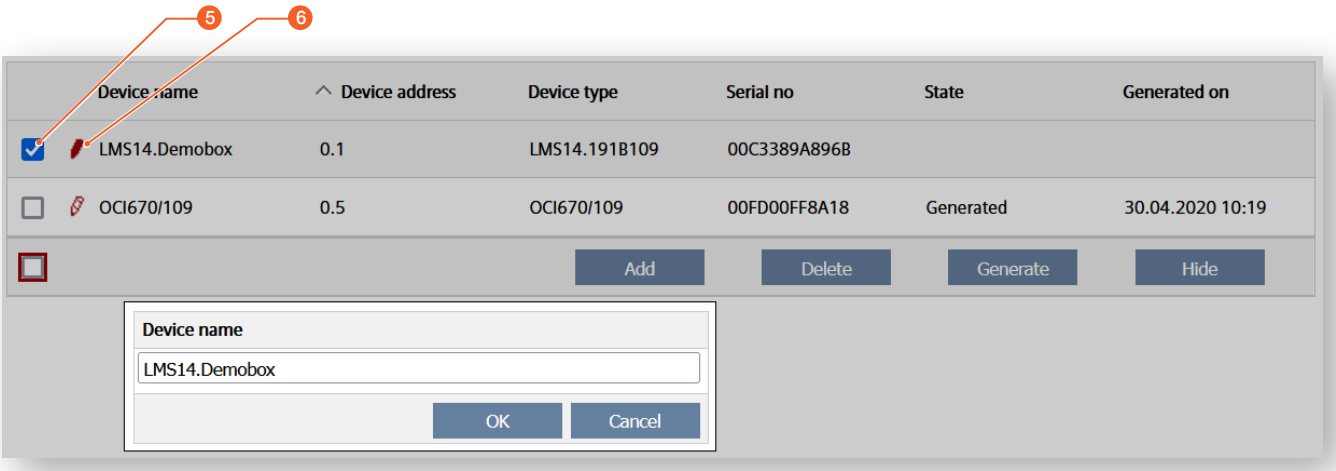


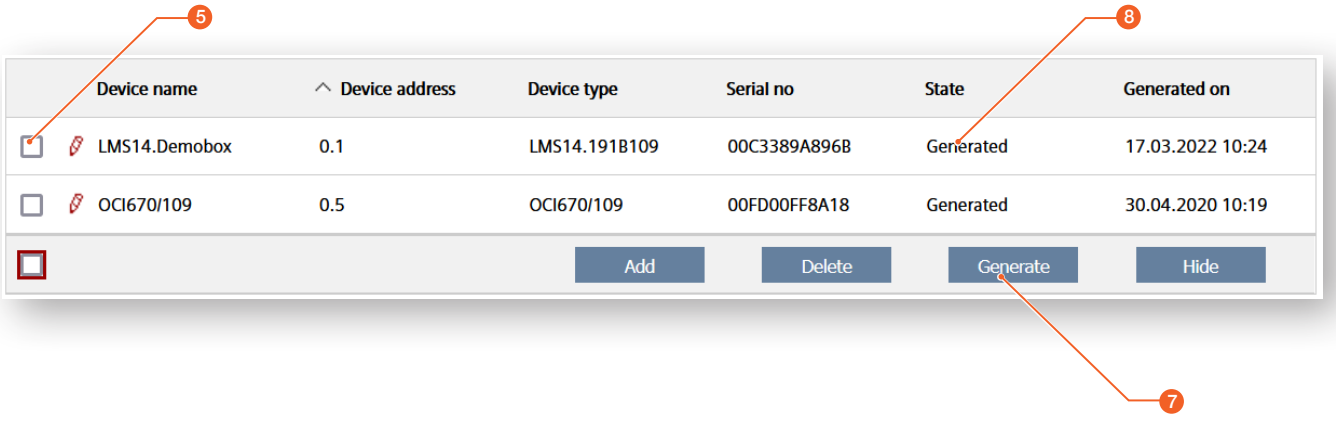


- *In case of an LPB connection (cascade), the segment window is displayed.*
- *In case of a BSB connection (single device), the segment window will not be displayed.*









User Levels and Privileges

Administrator

- Edit device list.
- Create device web pages.
- Create, copy, change, and delete plant diagrams.
- Select "Energy indicator" data points and change the default values of the data points and/or "Green limits" as needed.
- Administer all user accounts.

Technical Service

- Access service data.
- Create, download, and manage trend data
- Download consumption data and message history.
- Upload customized logos and documents.
- System definitions update.
- Firmware update
- Update device web pages.

End-User

- Access to end-user data and fault overview.
- Operate and monitor via menu tree and plant diagrams.
- Administer own user accounts

Trend Definition and Display

Conditions:

- System configured, see ***"System Configuration" on page 12***

Tools and material:

- Computer with Internet access

Trend Setting and Reading

Each device in the system can display its history in the form of a graph, in order to get a visual feedback of the device behaviour over time.

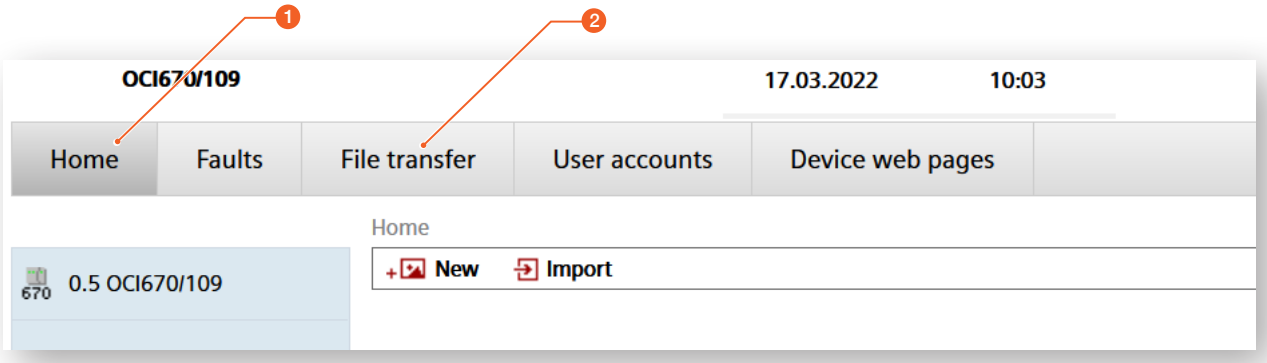
1. Click on the "***Home***"menu (**1**), the device is displayed
2. Select "***File Transfer Menu***" (**2**). The Trend page opens automatically.

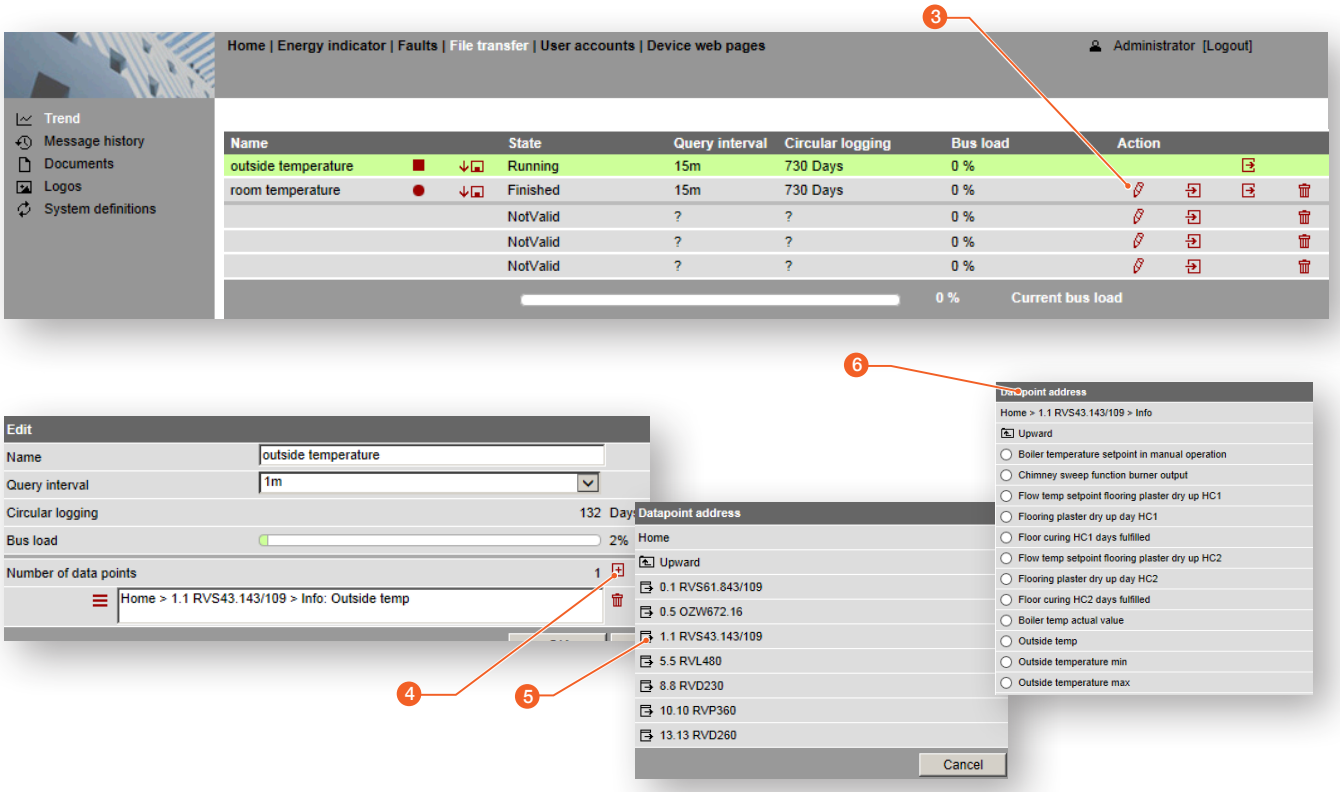
When no trend has been created, "Not valid" is displayed.

3. Click on the red pencil (**3**) to edit/create a trend.
4. Indicate its name and the interval at which the data need to be collected.
5. Add any device you require by clicking on the "+" sign (**4**), then the name of the device (**5**).
6. The Data point address window (**6**) opens and allows you to select the data points (up to 100) you want to follow in the trend. Then click on "***OK***" to confirm
7. The device line is highlighted, indicating that a trend has been set.

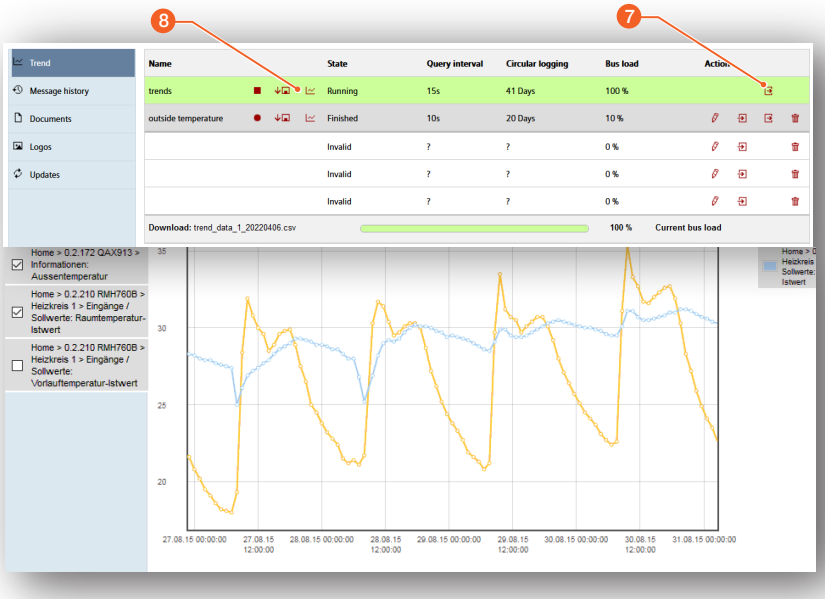
The Bus load is restricted by 1 data point query per second (=100% of the load). The indication "100%" for the bus load means that no additional data point query can be added.

8. Click on the export symbol (**7**) to export the data to a ".csv" file for analysis and monitoring.
9. Click on the graph symbol (**8**) to display the trend graph.


1
2
OCI670/109
17.03.2022
10:03
Home
Faults
File transfer
User accounts
Device web pages
Home
0.5 OCI670/109
New
Import


3
Home | Energy indicator | Faults | File transfer | User accounts | Device web pages
Administrator [Logout]
Trend
Message history
Documents
Logos
System definitions
Name
State
Query interval
Circular logging
Bus load
Action
outside temperature
Running
15m
730 Days
0 %
room temperature
Finished
15m
730 Days
0 %
NotValid
?
?
0 %
NotValid
?
?
0 %
NotValid
?
?
0 %
0 %
Current bus load

6
Edit
Name
outside temperature
Query interval
1m
Circular logging
132 Days
Bus load
2%
Number of data points
1
Home > 1.1 RVS43.143/109 > Info: Outside temp
4
5
Datapoint address
Home
Upward
0.1 RVS61.843/109
0.5 OZW672.16
1.1 RVS43.143/109
5.5 RVL480
8.8 RVD230
10.10 RVP360
13.13 RVD260
Cancel
Datapoint address
Home > 1.1 RVS43.143/109 > Info
Upward
Boiler temperature setpoint in manual operation
Chimney sweep function burner output
Flow temp setpoint flooring plaster dry up HC1
Flooring plaster dry up day HC1
Floor curing HC1 days fulfilled
Flow temp setpoint flooring plaster dry up HC2
Flooring plaster dry up day HC2
Floor curing HC2 days fulfilled
Boiler temp actual value
Outside temp
Outside temperature min
Outside temperature max


8
7
Trend
Message history
Documents
Logos
Updates
Name
State
Query interval
Circular logging
Bus load
Action
trends
Running
15s
41 Days
100 %
outside temperature
Finished
10s
20 Days
10 %
Invalid
?
?
0 %
Invalid
?
?
0 %
Invalid
?
?
0 %
Download: trend_data_1_20220406.csv
100 %
Current bus load
Home > 0.2.172 QAX913 > Informationen: Aussentemperatur
Home > 0.2.210 RMH760B > Heizkreis 1 > Eingänge / Sollwerte: Raumtemperatur-Istwert
Home > 0.2.210 RMH760B > Heizkreis 1 > Eingänge / Sollwerte: Vorlauftemperatur-Istwert
35
30
25
20
27.08.15 00:00:00
27.08.15 12:00:00
28.08.15 00:00:00
28.08.15 12:00:00
29.08.15 00:00:00
29.08.15 12:00:00
30.08.15 00:00:00
30.08.15 12:00:00
31.08.15 00:00:00

Parameter and Notification Settings

Conditions:

- System configured, see ***"System Configuration" on page 12***

Tools and material:

- Computer with Internet access

Parameter Reading and Setting

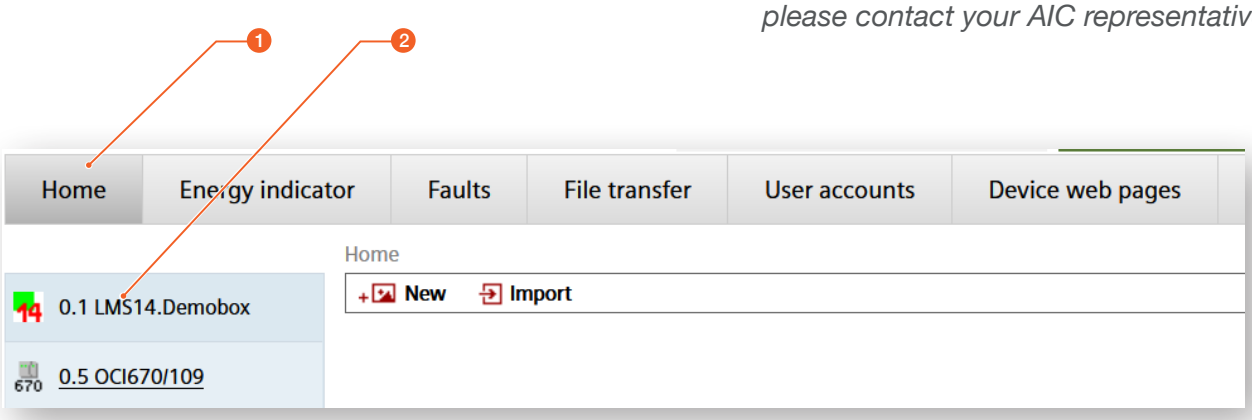
1. Click on the "***Home***"menu (**1**), the device is displayed
2. Clicking on the device name (**2**) opens the page of parameters.

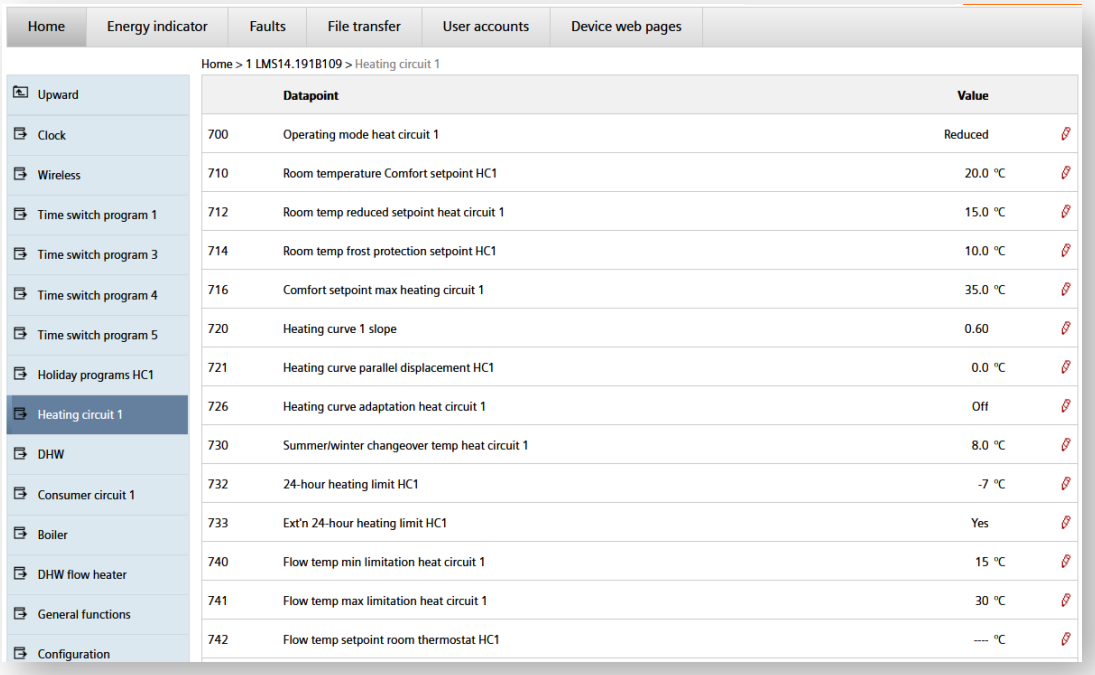
Each available parameter is displayed. The parameters marked with a red pencil can be changed.

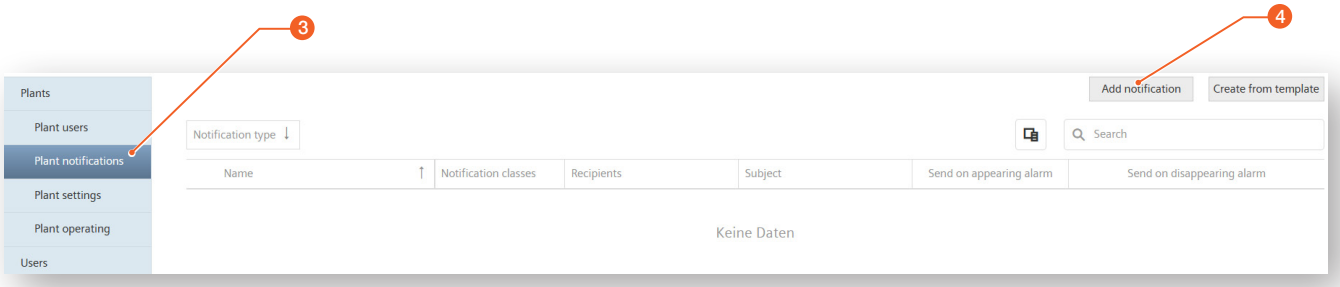
Notification setting

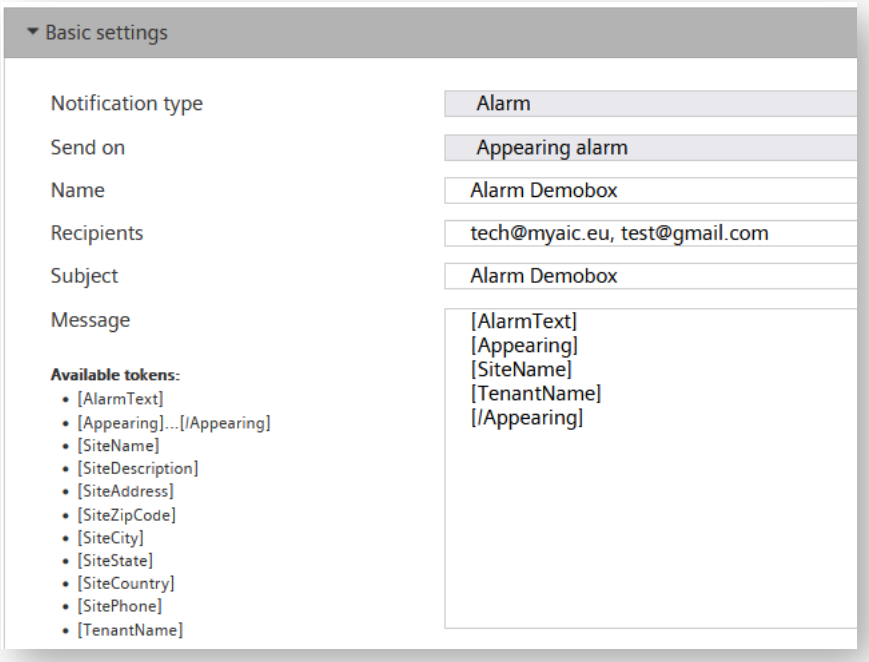
3. In the left pane, select "***Plant notifications***" (**3**), then "***Add notification***" (**4**).
4. The basic settings screen for notifications opens. It allows you to :
   - define the type of notification, to whom it is sent, the cases when a notification is generated, the text message, etc.
   - define a calendar of when notifications can be sent (time of day, periods of exclusion, etc.)

For more information on the use of the Climatix IC interface and the functions provided by the Web server module, please contact your AIC representative.






3
4
Plants
Plant users
Plant notifications
Plant settings
Plant operating
Users
Add notification
Create from template
Notification type
Search
Name
Notification classes
Recipients
Subject
Send on appearing alarm
Send on disappearing alarm
Keine Daten


Basic settings
Notification type
Alarm
Send on
Appearing alarm
Name
Alarm Demobox
Recipients
tech@myaic.eu, test@gmail.com
Subject
Alarm Demobox
Message
[AlarmText]
[Appearing]
[SiteName]
[TenantName]
[/Appearing]
Available tokens:
• [AlarmText]
• [Appearing]...[/Appearing]
• [SiteName]
• [SiteDescription]
• [SiteAddress]
• [SiteZipCode]
• [SiteCity]
• [SiteState]
• [SiteCountry]
• [SitePhone]
• [TenantName]

Home Page Customization

Conditions:

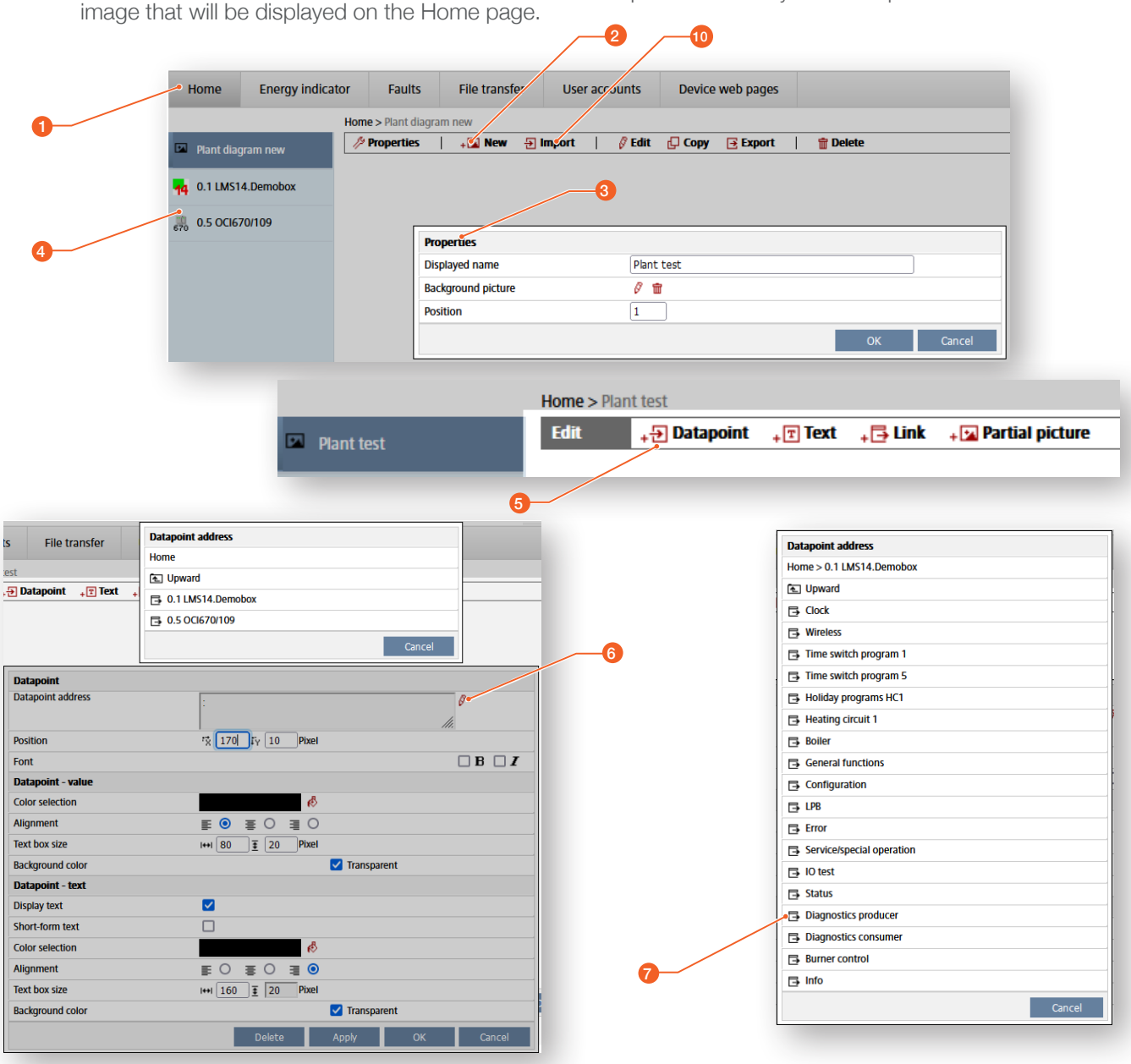
- System configured, see ***"System Configuration" on page 12***

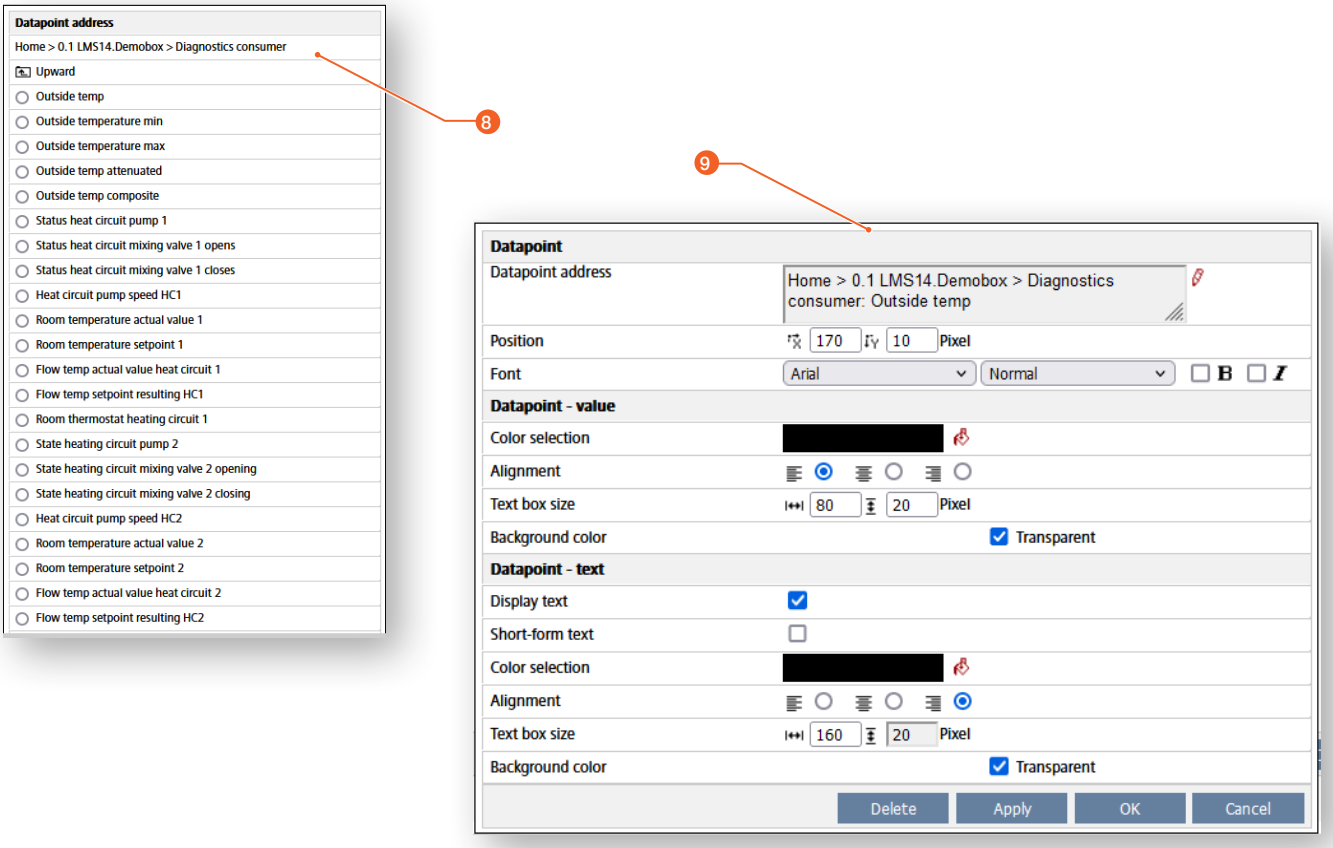
Tools and material:

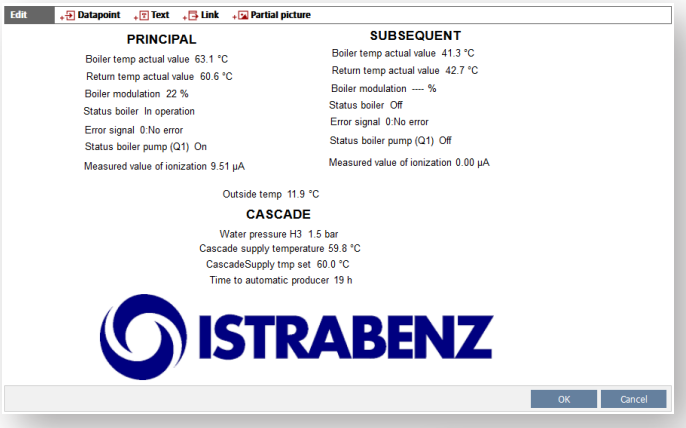
- Computer with Internet access

Parameter Reading and Setting

1. Click on the "***Home***"menu (**1**), the device is displayed
2. Click on "***New***" icon (**2**) if there is no plant diagram yet or to create more diagrams.
3. In the ***properties*** window (**3**),
   - change the name in "***Displayed name***" if necessary.
   - clicking on the red pencil to load a background image that will be displayed on the Home page.
   - define the position if there are several plant diagrams.
4. Confirm with ***OK***
5. Select the desired plant in the left pane (**4**)and then in Edit, select Datapoint (**5**), (or Text, Link or Picture) that you want displayed.
6. Click on the red pencil (**6**) to open the list of Data point addresses. Choose the one you wish. This opens the Datapoint address window (**7**).
7. Select the desired field (**7**), then the desired parameter(s) (**8**) that you wish to see displayed on the Home screen.
8. Also define the layout in which you want it to be displayed (**9**)
9. Confirm with ***Apply***, then ***OK.***
10. Plant diagram(s) can be also imported from ACS790 using the import function (**10**). For further details, please contact your AIC representative







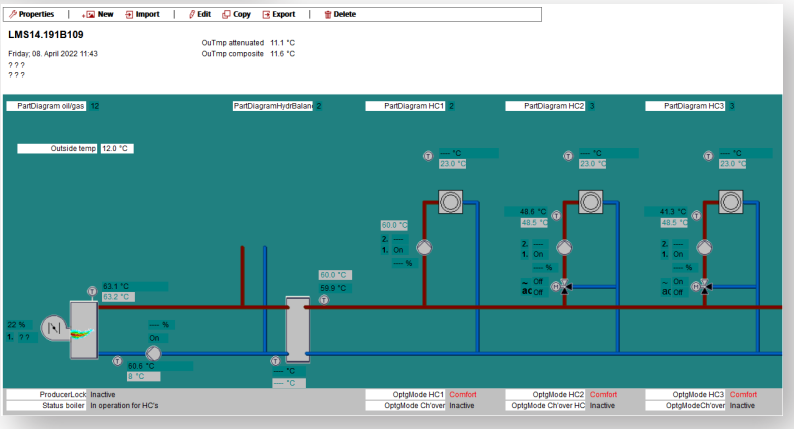


Fig. 6. Examples of Customized Home Page

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