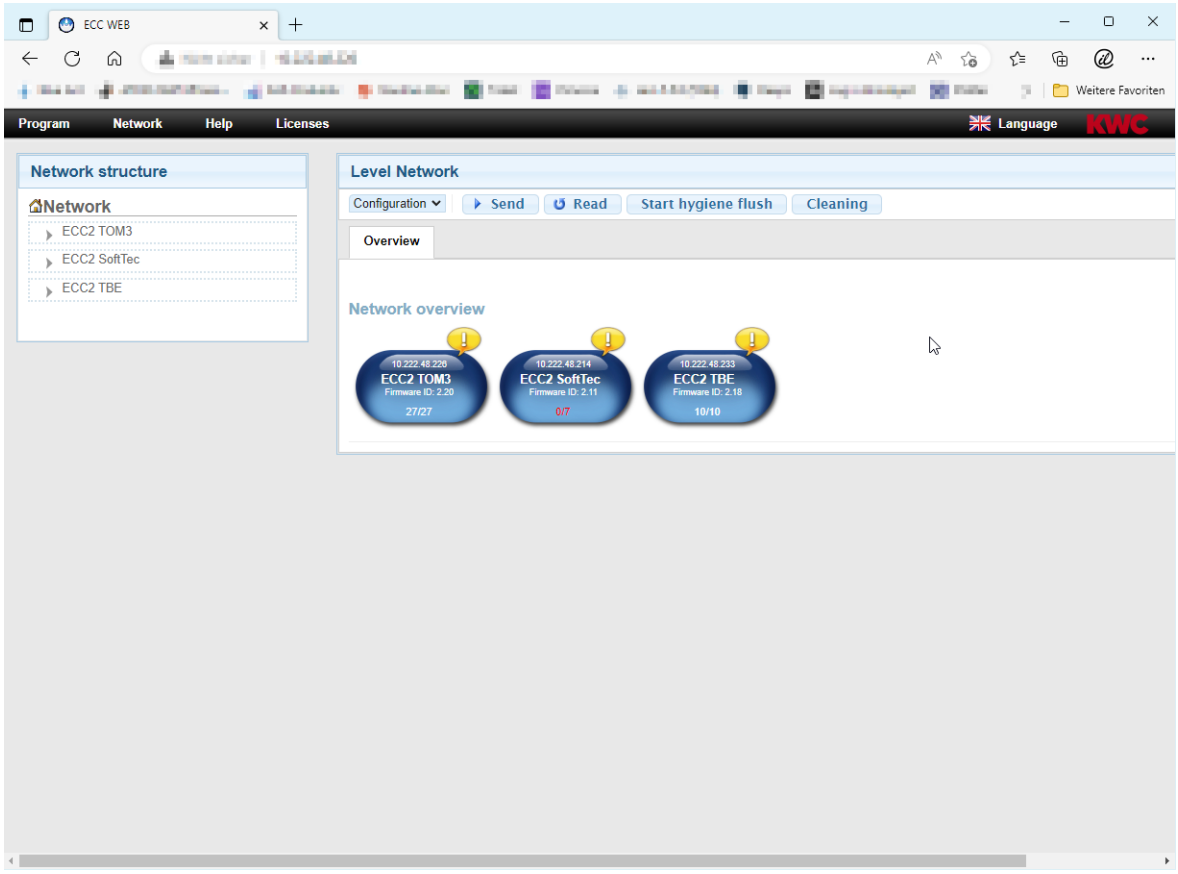
Montage- und Betriebsanleitung

ECC2 Function Controller Web Application



⚠ **Caution!**
KWC Aquarotter does not provide any guarantee or accept any liability for any type of damage that may result from using the Web Application (e.g. viruses, loss of data). Program users waiver all and any claims against KWC Aquarotter that may ensue from the process. By using the Web Application, users acknowledge their agreement to these conditions of use.

Inhaltsverzeichnis

Group/Functional unit

Fitting

Function modules

General Information

1. Key

⚠ **Warning!**
Failure to observe can result in injury or even death.

⚠ **Caution!**
Failure to observe can result in material damage.

☞ **Important!**
Failure to observe can cause the product to malfunction.

☞ Useful information for optimally handling the product.

2. Warranty

Liability is accepted according to the General Terms and Conditions of Business and Supply.
Use original replacement parts only!

3. System Requirements

Fittings:	A3000 open fittings with ECC2 function controller
PC:	LAN interface: Installed web browser
Web browser	Mozilla Firefox: version 24 Google Chrome: version 30 Windows Internet Explorer: version 8

4. Terminology

ECC2 function controller	Power supply for a max. of 32 A3000 open modules; controller for functions such as thermal disinfection, Set A/B switching and protocol saving, with 10/100 MBits/s Ethernet interface.
Isle network	ECC2 function controller, that is connected to a network of between 1 and 32 A3000 open modules via system cables.
Network	The totality of all isle networks, which are interconnected via LAN/ Ethernet and which can be controlled by the Web Application.
Project	The settings of the ECC2-function controller are stored in a so-called project. A project can be used as a backup or for quickly configuring a second ECC2-function controller with the same basic settings.
Functional group	A functional group comprises all fittings that will perform the same function, such as cleaning switch-off, hygiene flushing. Each functional group has 8 groups.
Group	A group comprises several fittings that will perform the corresponding function simultaneously. Whenever a module is first connected to the ECC2 function controller it is also assigned to a TD group. Subdividing the fittings into TD groups will, for example, avoid all fittings connected to a particular ECC2 function controller from being disinfected at the same time. The TD groups are disinfected one after the other. Fittings in TD group 9 do not get disinfected.
Modules	A module may consist of: – Electronic module (EM) of a fitting, – Sensor module (SM) of a fitting, – Display module (LED) or – Electronic systems module (function module)
AP Master	Module for paid water delivery using a multiple coin-activated switch
Fittings ID	File in which all configurations have been saved, for example settings for thermal disinfection or settings for hygiene flushing. This file can be sent to a module.
Remote service	The following conditions must be met when the ECC2 function controller is to be accessed via the Internet or when messages are to be sent by SMS: • GSM module • SIM card without PIN interrogation • Telemetry service contract • Phone number on the "Remote" side of the ECC

5. Introduction

The AQUA3000open provides tools and features for customising water supplies individually, intelligently and in keeping with current demand to suit the requirements of all kinds of buildings. It is thus possible to improve comfort, hygiene and safety for users of public and commercial sanitary facilities, while at the same time economic efficiency and greater environmental compatibility are achieved.

The Web Application provides the following functions for A3000 open fittings and/or systems:

- visualisation,
- monitoring and
- operation

.

The Web Application has three structural levels.

1. Level	**Network** Overview of all isle networks that are connected together into a network.
2. Level	**ECC (isle networks)** Overview of all modules that are connected together via an ECC2 function controller.
3. Level	**Modules** Overview of all data that can be read from a module.

6. Start Web Application

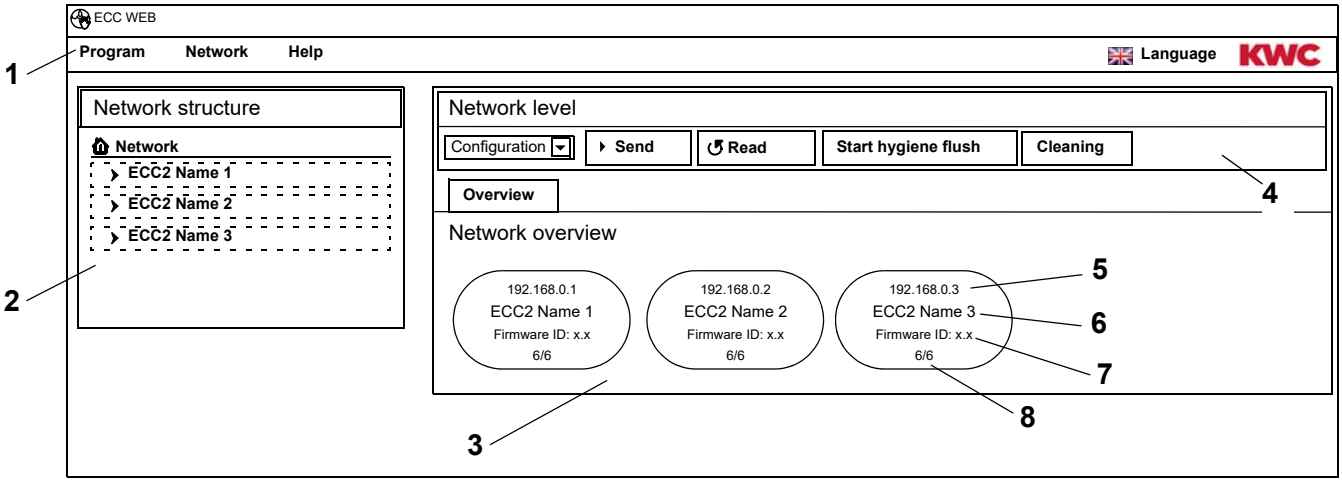
6.1 Start a PC in the network.

6.2 Choose a web browser.

6.3 Enter the IP of the ECC2 function controller in the address bar of the web browser.

6.4 Enter the User and Password.

6.5 Click the "Login" button.



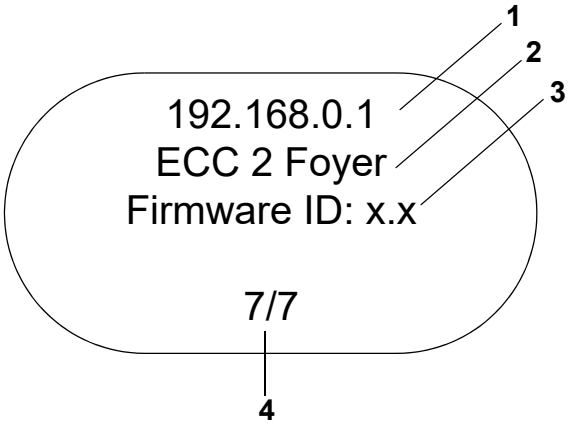
1 Menu bar
2 Overview of network structure
3 Information window
4 Toolbar
5 IP address of the ECC2 function controller
6 Name of the ECC2 function controller
7 Firmware version of the ECC2 function controller
8 x of x fittings are online

☞ ECC function controllers that are found in the network, but which are not compatible with the current version, are identified by an asterisk (*). These ECC function controllers cannot be configured or viewed.

7. User Information

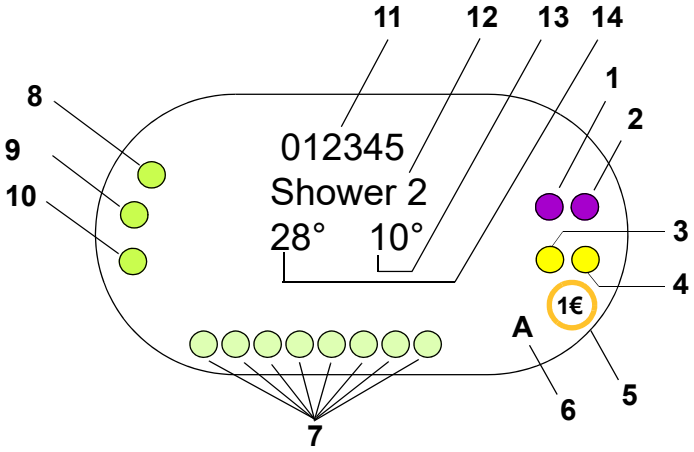
Symbol	Designation	Symbol	Designation
	Event, alarm (yellow)		Heating/cooling phase (orange) Condition blocked under follow-up control
	Normal operation (blue)		Thermal disinfection (red)
	Inactive (grey)		Fitting operating with changed ID (green)
	Washing		Opto-sensor
	Showering		Piezo-button
	Soap dispenser		Radar sensor
	Ventilator		Capacitive sensor Touch tile
	Urinal	Sensor	Sensor, e.g. temperature sensor, ring sensor, etc.
WC	WC		Door contact

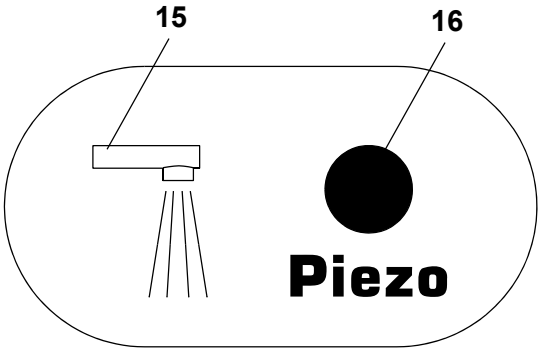
ECC2 display in the Information Window



1 IP address
2 Name of the ECC2 function controller
3 Firmware version
4 Number of fittings (active/total)

Fittings display in the information window





1 Actuator 1 or 1.1
2 Actuator 1.2
3 Actuator 2 or 2.1
4 Actuator 2.2
5 Paid media delivery (Aquapay)
6 Status of operating condition (A, B)
7 Sensor-bus participant
8 Sensor 1
9 Sensor 2
10 Sensor 3
11 Series ID (hexadecimal format)
12 Name of fitting
13 Current temperature of cold water
(if the corresponding sensor is active in the program ID)
14 Current temperature of hot water
(if the corresponding sensor is active in the program ID)
15 Display for fittings type
16 Display trigger
○ Sensor
□ Display

8. General Information on Communication with the ECC2 Function Controller

The ECC2 function controller incorporates the main control functions for the new AQUA 3000 open fittings generation.
There are ports for exchanging data via Ethernet and USB. To ensure the greatest possible neutrality and connectivity, the system incorporates a 10/100 Mbit/s Ethernet port and a USB 2.0 interface.
A USB stick can be used to download the statistical data and the event log, or updates can be uploaded to the ECC2 function controller.
The AQUA 3000 open network can be configured and controlled via the Web Application of the ECC2 function controller. The Web Application can be launched from a web browser. The ECC2 function controller must be accessible within the network. When the ECC2 function controller is equipped with an (optional) radio module, the ECC2 function controller can also be accessed via the Internet.
Many company networks are additionally equipped with routers, gateways or switches. Incorrectly set or enabled devices of this type can prevent proper communication. In these cases please contact the responsible network administrator.
If possible, AQUA 3000 open should be installed in its own network or subnet. In this case communication is not affected by any network load (e.g. due to excessive downloads).

☞ **Important!**

Before ECC2 function controllers and PCs are connected together in a network, the particular network configuration of the devices must be adapted so that all IP addresses are different, but in the same range of the subnet mask (see standard IEE 802.3).
If the network is a managed network, the responsible system administrator or network operator assigns the IP address and the subnet mask.

9. Configuring a LAN Network (Example)

Each ECC2 function controller is factory pre-configured with the following default settings:

Network:	Manual setting:
IP address:	192.168.0.1
Gateway:	192.168.0.1

Set up PC (recommended):

- Disable WLAN
- Disconnect network cable

Configure IP address (recommended):

☞ Where necessary, please contact the responsible network administrator.

	IP Address	IPv4 subnetting reference
1st PC	192.168.0.254	255.255.255.0
2nd PC	192.168.0.253	255.255.255.0
•	•	255.255.255.0
•	•	
•	•	
nth PC	192.168.0.[255-n]	255.255.255.0

☞ If a firewall is active, enable port 4440 for UDP.

☞ If necessary disable the configuration to the proxy server in the browser to access the Web Application.

Set up ECC2 function controller (recommended):
Set the IP addresses of the ECC2 function controller via the display (see Instructions for ECC2 Function Controller).

	IP Address	IPv4 subnetting reference
1st ECC2	192.168.0.1	255.255.255.0
2nd ECC2	192.168.0.2	255.255.255.0
•	•	255.255.255.0
•	•	
•	•	
nth ECC2	192.168.0.n	255.255.255.0

10. Connect ECC2 Function Controller and PC.

☞ The maximum cable length between an ECC2 function controller and a PC or switch is 100 m.

Use a conventional Ethernet crossover cable to connect one ECC2 function controller to one PC directly via the LAN interface.
When there are several ECC2 function controllers and PCs, connect these via switch using conventional Ethernet patch cables.

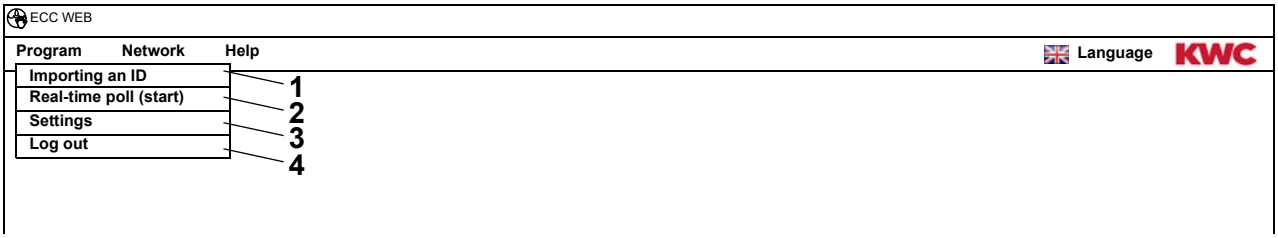
It takes some time for the devices to establish a connection with each other.
When a connection has been established

- the ECC2 function controller can communicate with the PC.
- it is possible to access the Web Application using a web browser.

☞ If a PC is in some way connected to another network, after communication between the PC and the ECC2 function controller has been completed, the PC's original configuration must be re-established (e.g. "Get IP address automatically", Enable proxy).

11. The "Program" Menu

☞ **Important!**
All settings in the "Program" menu apply only to the ECC2 function controller on which the Web Application was started.



Import ID (1)

If an ID is to be assigned to a module, this ID must be stored locally on the ECC2 function controller.

11.1 In the menu bar, select "Program > Import ID".

- The file selector opens up.

11.2 Select the location where the imported IDs are to be saved.

☞ IDs can only be imported individually.

11.3 Select the IDs that are to be imported.

11.4 Click the "Upload File to Server" button.

- The selected ID is imported.

11.5 Click the "Scan" button.

- All IDs stored on the ECC2 function controller are displayed.

Real-time poll (start) (2)

The Web Application has no permanent connection to ECC2 function controller. Changes in the status display of the modules are not updated.
The real-time poll must be started whenever it is required to have a continuous update of the display for the phases, temperatures etc.

11.6 In the menu bar, select "Program > Real-time poll (start)".

- The display for the network will be continuously updated.

☞ The continuous queries for the status displays of all modules in the network can slow down the network because of the resulting high volume of data.

☞ When the ECC2 function controller is changed in the overview of the network structure, the real-time poll must be restarted.

Real-time poll (stop) (2)

When the real-time poll is started, the display in the menu changes.

11.7 In the menu bar, select "Program > Real-time poll (stop)".

- The display for the network does not get updated.
- The displays of all modules show the status that existed when the real-time poll was stopped.

Settings (3)

11.8 In the menu bar, select "Program > Settings".

11.9 Select the date format.

11.10 Confirm the entry.

Logging out (4)

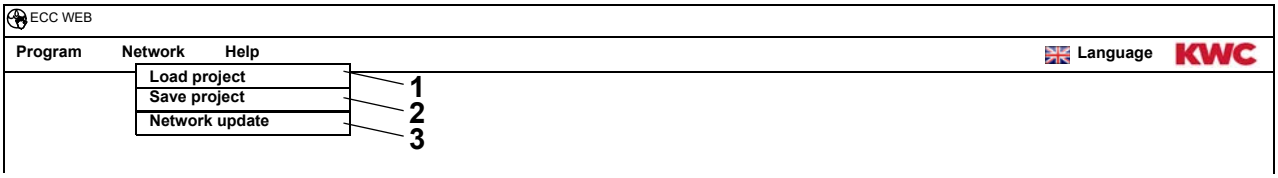
11.11 In the menu bar, select "Program > Logout".

- The Web Application is closed.

☞ If no activity occurs in the Web Application for 5 minutes, the Web Application logs itself out (auto-logout).

12. The "Network" Menu

Important!
All settings in the "Network" menu apply only to the ECC2 function controller on which the Web Application was started.



Load project (1)

12.1 In the menu bar, select "Network > Load project".

- The file selector opens up.

12.2 Select the location where the imported project is to be saved.

12.3 Select the project file that are to be imported.

12.4 Click the "Upload file to server" button.

- The selected project file is imported.
- The following information is loaded from the project file and displayed:
  - If option "Load IP settings" is enabled: the IP settings of the ECC2-function controller;
  - If option "Load netwide TD settings" is enabled: all "Netwide TD" groups;
  - Time scheduler functions;
  - Statistics settings;
  - I/O settings.

The option "Load IP settings" should only be activated if an ECC2-function controller must be replaced or a backup is to be restored.

In any network, netwide thermal disinfection should be configured only on one ECC2-function controller.

Save project (2)

12.5 Select "Network > Save project" in the menu bar.

12.6 Confirm the enquiry.

- The file selector opens up.

12.7 Select the name of the project and the place where it is to be saved.

12.8 Confirm the entry.

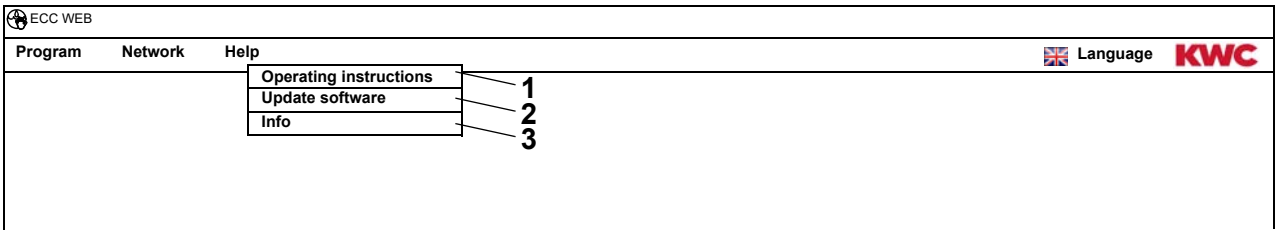
- A file with the extension ".zip" is saved.
- The following information is saved in the project file:
  - The IP settings of the ECC2 function controller;
  - All "Network-wide TD" groups;
  - Time scheduler functions;
  - Statistics settings;
  - I/O settings;
  - Remote settings.

Update network (3)

12.9 In the menu bar, select "Update network".

- The entire network is read back in again.
- Inactive ECC function controllers and modules are removed from the display.
- ECC function controllers that are found in the network, but which are not compatible with the current version, are identified by an asterisk (*). These ECC function controllers cannot be configured or viewed.

13. The "Help" Menu



Operating instructions (1)

13.1 Select "Help > Operating instructions" in the menu bar.

- The instructions for the Web Application are stored as a PDF file. This file can be opened or saved.

Update software (2)

13.2 Select "Help > Update software" in the menu bar.

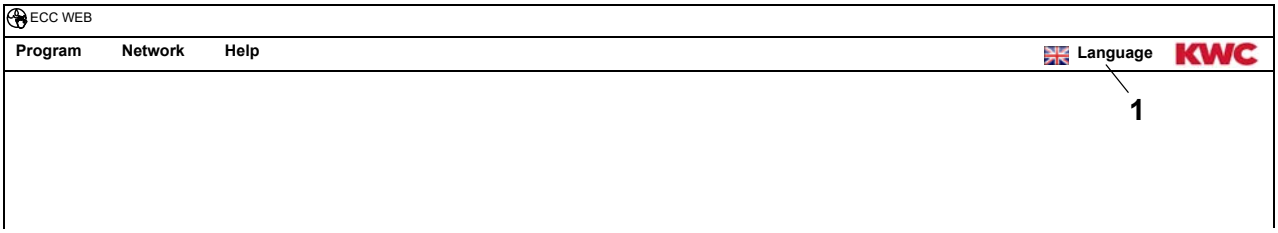
- The software is updated.

Info (3)

13.3 Select "Help > Info" in the menu bar.

- The address and a link to the website of KWC Aquarotter GmbH are displayed.

14. The "Language" Menu



Change language (1)

14.1 Select "Language" in the menu bar.

- All available languages are displayed.

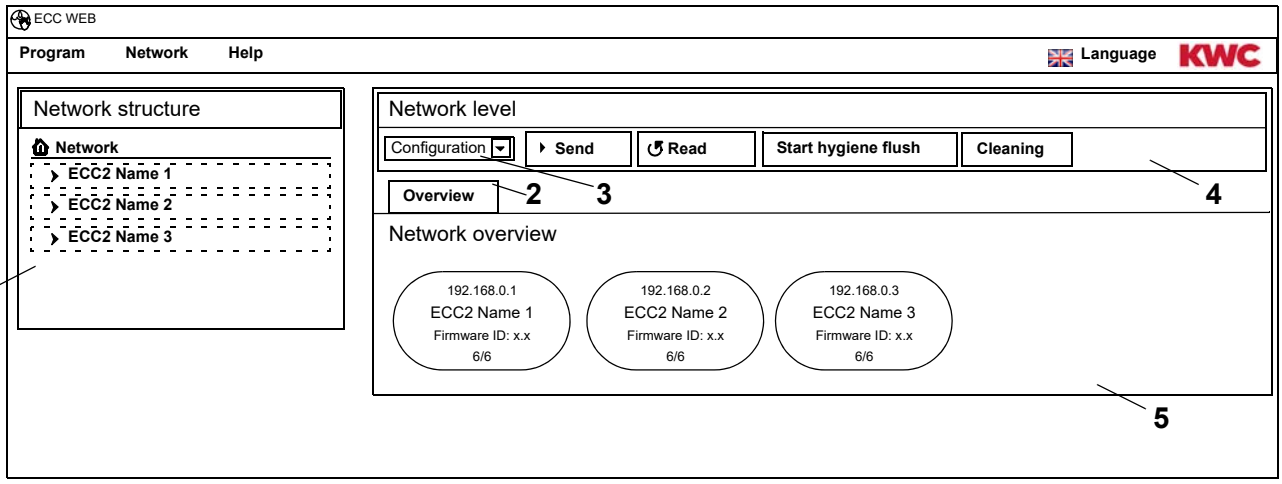
14.2 Select the desired language.

- The user interface of the Web Application is displayed in the selected language.

15. Network Level

15.1 Mark the network in the network structure overview.

- The network is displayed



Overview of the network structure (1)
The overview of the network structure shows all active ECC function controllers and modules. ECC function controllers that are found in the network, but which are not compatible with the current version, are identified by an asterisk (*). These ECC function controllers cannot be configured or viewed.

Toolbar (4)
A toolbar contains buttons and drop-down boxes in which settings can be changed.

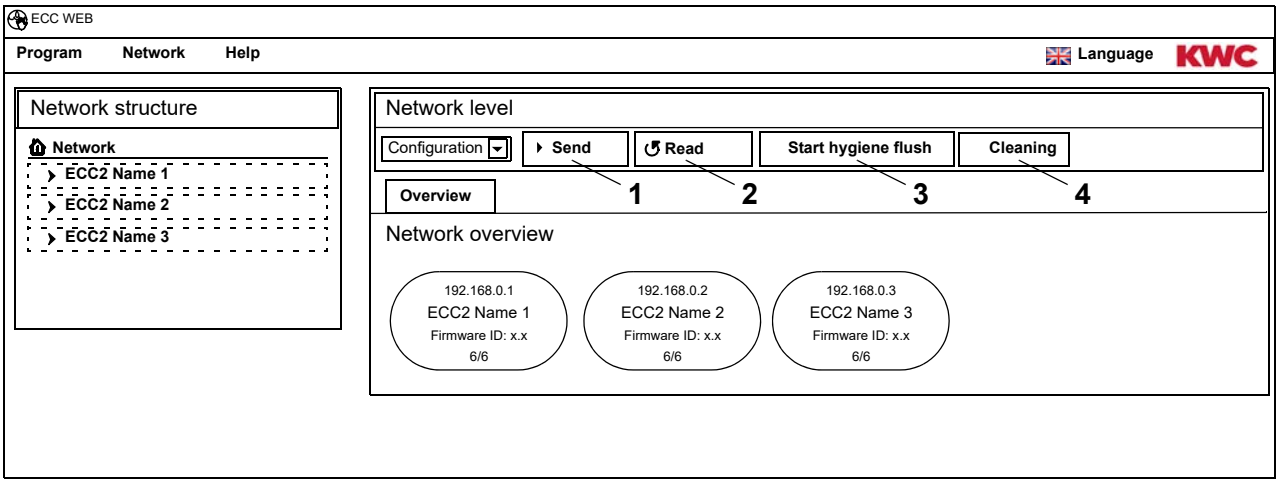
Choose toolbar (3)
This drop-down box can be used to switch between different toolbars. Which toolbars are available depends on the level.

Tab (2)
The tabs can be used to display various information windows (5). Which tabs or which information windows are available depends on the level.

16. Configuration Toolbar (Network Level)

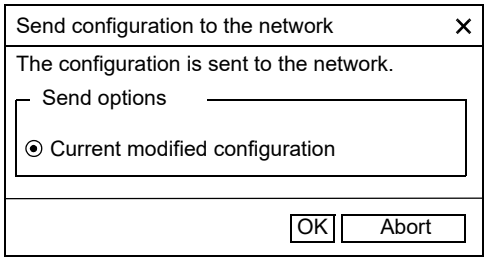
16.1 Mark the network in the network structure overview.

- The network is displayed.



Send (1)

☞ Changes made to a module configuration are only applied when they are actually sent to this module.



16.2 Select "Send" in the toolbar.

16.3 Press the "OK" button.

- The current modified configuration is sent to all the modules in the network.

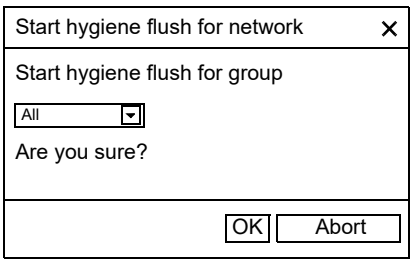
Read (2)

☞ Depending on the data line and the size of the network, reading may take a few minutes.

16.4 Select "Read" in the toolbar.

- The current configuration of all modules in the network is read and displayed.

Start hygiene flush (3)

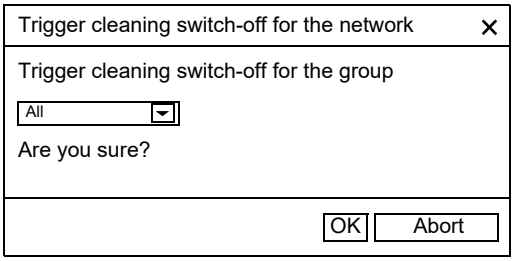


16.5 Select "Start hygiene flush" in the toolbox.

16.6 Select the group(s) for which hygiene flushing is to be started

- Hygiene flushing is started for all modules that are assigned to the selected Hygiene Flush group.

Cleaning (4)



16.7 Select "Cleaning" in the toolbar.

16.8 Select the group(s) for which cleaning switch-off is to be started

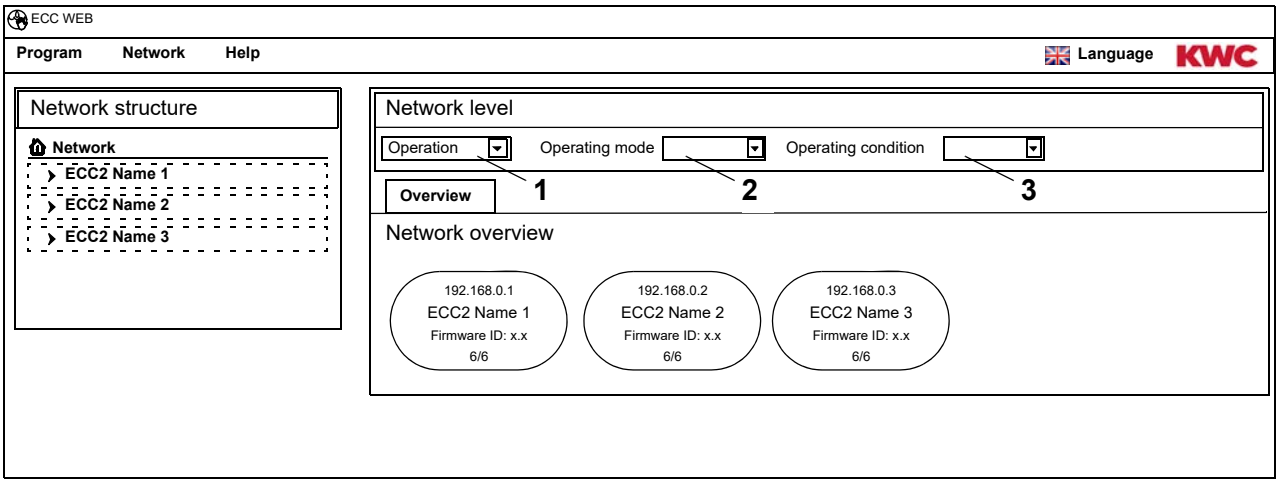
- Cleaning switch-off is started for all modules that are assigned to the selected Cleaning Switch-off group.

17. Operation Toolbar (Network Level)

17.1 Mark the network in the network structure overview.

- The network is displayed.

17.2 In the drop-down box, select the Operation toolbar (1).



☞ Changes to the Operation mode and the Operating condition will be accepted only 4 minutes after a module is powered on (restart).

17.3 Select Operation mode and Operating condition.

- All modules in the network switch to the selected Operation mode and/or the selected Operating condition.

Operation mode (2)

On:	Normal operation
Off:	All programs inactive
Standby:	Only service programs active (for example hygiene flushing)
Cleaning:	Function program is inactive during cleaning when switched on via an ECC2 digital input (default IN3), sensor signal or scheduler

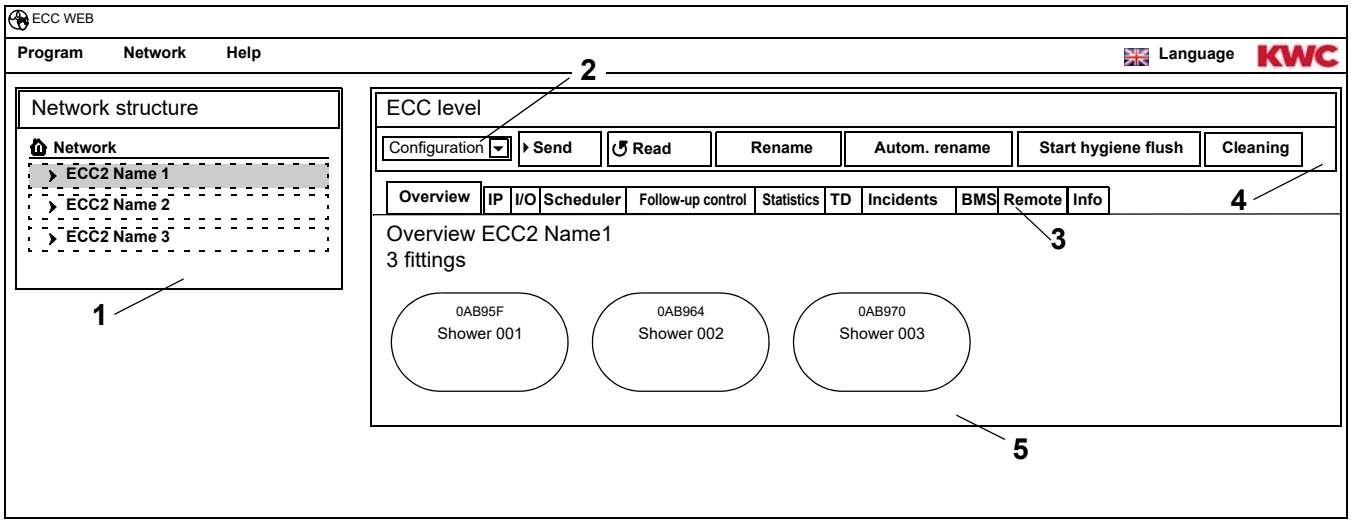
Operating condition (3)

2 operating conditions Set A/Set B can be defined, for example Day/Night or Normal Operation/ Holidays. An own fittings configuration can be configured for operating conditions A and B respectively. The current operating condition of the module can be specified. The operating condition can also be switched over on the ECC2 function controller by contact on a digital input (default IN4).

18. ECC Level

18.1 Mark the ECC2 function controller in the network structure overview.

- The ECC2 function controller is displayed



Overview of the network structure (1)
The overview of the network structure shows all active ECC function controllers and modules. ECC function controllers that are found in the network, but which are not compatible with the current version, are identified by an asterisk (*). These ECC function controllers cannot be configured or viewed.

Toolbar (4)
A toolbar contains buttons and drop-down boxes in which settings can be changed.

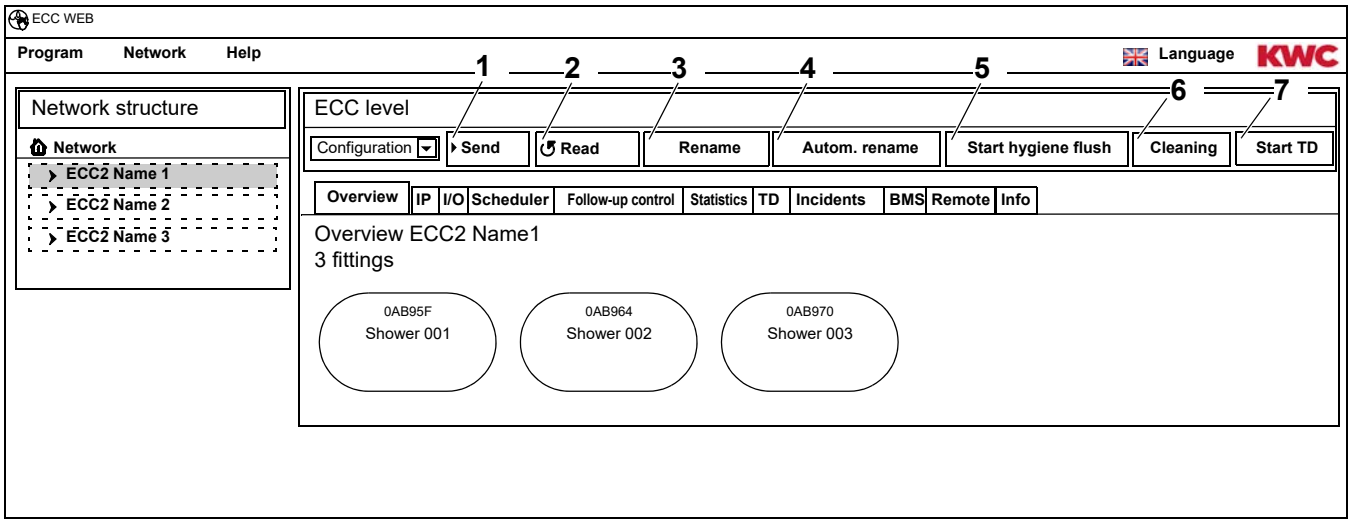
Choose toolbar (2)
This drop-down box can be used to switch between different toolbars. Which toolbars are available depends on the level.

Tab (3)
The tabs can be used to display various information windows (5). Which tabs or which information windows are available depends on the level.
If no real-time polling was started, the page will be updated when you click on the "Overview" tab.

19. Configuration Toolbar (ECC Level)

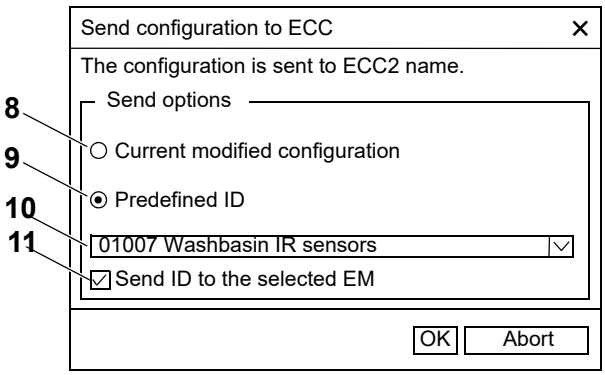
19.1 Mark the ECC2 function controller in the network structure overview.

- The ECC2 function controller is displayed.



Send (1)

☞ Changes made to a module configuration are only applied when they are actually sent to this module.



19.2 Select "Send" in the toolbar.

19.3 Select a Send option

8 The current modified configuration is sent to all the modules connected to this ECC2 function controller.

9 The selected, predefined ID is sent to all selected modules. All imported IDs are displayed in the list (10).

19.4 If the configuration is to be sent to multiple modules click option (11).

19.5 Select the modules to which the ID is to be sent.

19.6 Confirm the entry.

- The newly selected configuration is loaded into the selected modules.

Read (2)

☞ Depending on the data line and the size of the network, reading may take a few minutes.

19.7 Select "Read" in the toolbar.

- The current configuration of all devices connected to the ECC2 function controller modules is read and displayed.

Rename (3)

The ECC2 function controller can be assigned an individual name (max. 32characters), which can then be seen in the information window of the ECC2 display as well as in the network structure. The name is stored in the ECC2 function controller and is preserved there after the software is ended.

19.8 Select "Rename" in the toolbar.

19.9 Enter the new name for the ECC2 function controller.

19.10 Confirm the entry.

- The name of the ECC2 function controller is then displayed in the network structure overview.

Autom. rename (4)

Sensor activation can be used to assign a common naming scheme with ascending numbers to the modules of the ECC2 function controller.

19.11 Select "Autom. rename" in the toolbar.

19.12 Enter the name template
for number: *, e.g. Foyer Module*
for start value: #xxx#, e.g. Foyer Module #91#

19.13 Press the "Start" button.

- As soon as a module of the ECC function controller has been identified (trigger sensor), it is assigned a name that complies with the naming scheme.
for number: e.g. Foyer Module 001, Foyer module 002 ... Foyer Module 032
for start value: for example, Foyer Module 091, Foyer Module 092 ... Foyer Module 122

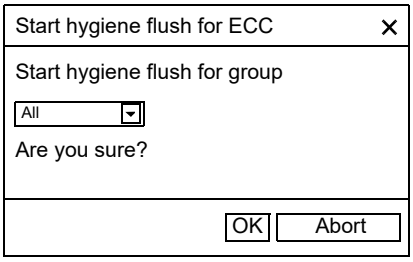
19.14 When all modules have been identified, press the "Done" button.

- The search mode is terminated.
- All modules were renamed.

19.15 If you want to terminate the search mode manually, press the "Cancel" button.

- All modules not previously identified are not renamed.

Start hygiene flush (5)

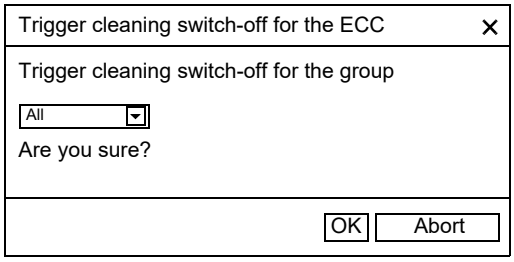


19.16 Select "Start hygiene flush" in the toolbox.

19.17 Select the group(s) for which hygiene flushing is to be started

- Hygiene flushing is started for all modules that are assigned to the selected Hygiene Flush group.

Cleaning (6)

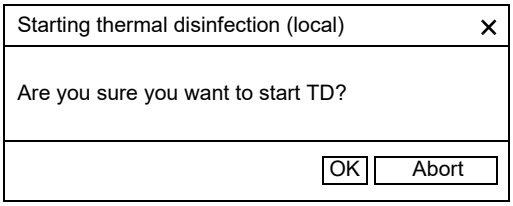


19.18 Select "Cleaning" in the toolbar.

19.19 Select the group(s) for which cleaning switch-off is to be started.

- Cleaning switch-off is started for all modules that are assigned to the selected Cleaning Switch-off group.

Start TD (7)



19.20 Select "Start TD" in the toolbar.

19.21 Confirm the safety enquiry.

- Local thermal disinfection is started. All modules that are connected to the ECC2 function controller and are assigned to the TD function group get thermally disinfected.
- The thermal disinfection process is monitored by the ECC2 function controller.
- The "Start TD" button changes to "Stop TD".

Stop TD (7)

☞ The "Stop TD" button appears only when thermal disinfection has been started and the Web Application has been updated.

19.22 Select "Stop TD" in the toolbar.

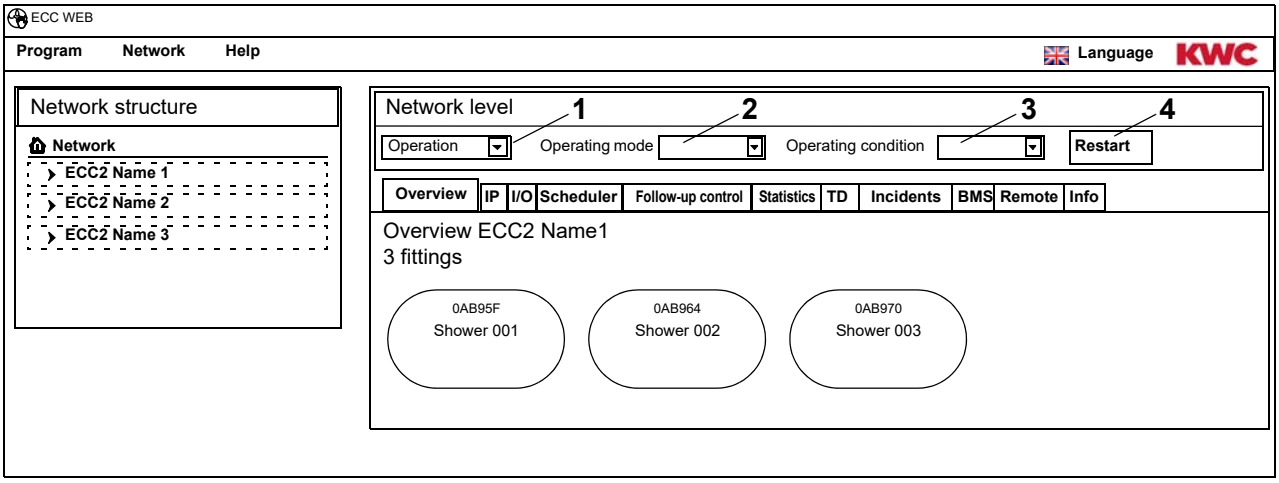
- Thermal disinfection is stopped.
- The hot water is flushed out of the fittings.

20. Operation Toolbar (ECC Level)

20.1 Mark the ECC2 function controller in the network structure overview.

- The ECC2 function controller is displayed.

20.2 In the drop-down box, select the Operation toolbar (1).



☞ Changes to the Operation mode and the Operating condition will be accepted only 4 minutes after a module is powered on.

20.3 Select Operation mode and Operating condition.

- All modules connected to the ECC2 function controller switch to the selected Operation mode and/or the selected Operating condition.

Operation mode (2) and Operating condition (3) correspond to the Operation toolbar at the network level (see Kapitel 17.), but are restricted to the modules that are connected to the selected ECC2 function controller.

Restart (4)

☞ An ECC2 function controller should only be restarted if this does not disturb any operationally relevant processes.

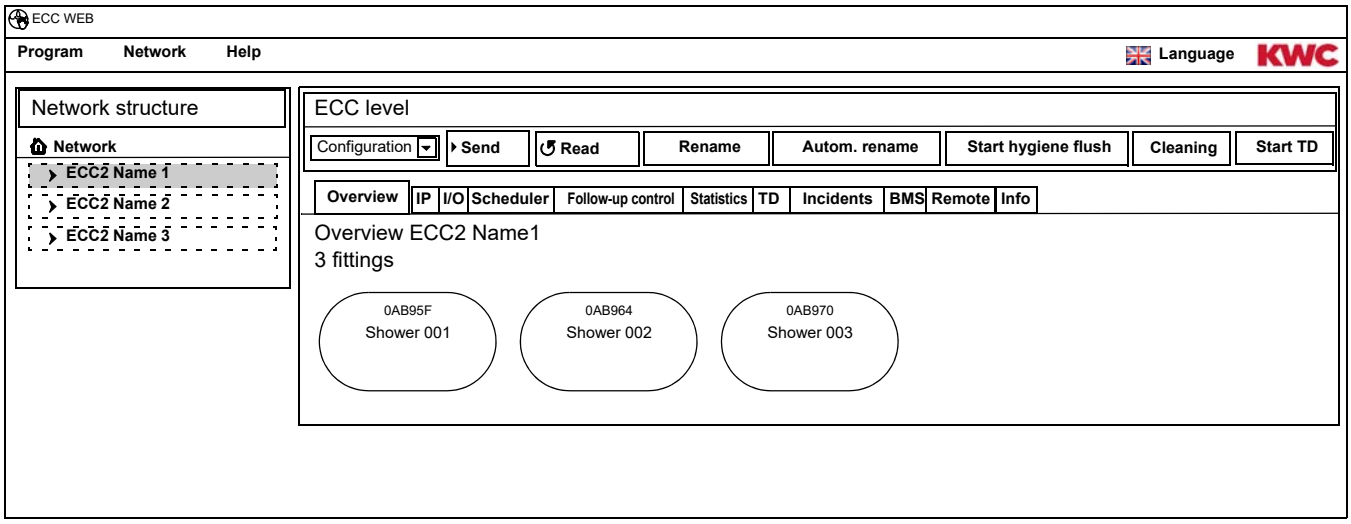
20.4 Select "Restart" in the toolbar.

- The ECC2 function controller is restarted. This process may take a few minutes.

21. Overview Tab (ECC Level)

21.1 Mark the ECC2 function controller in the network structure overview.

- The ECC2 function controller is displayed.
- All modules connected to the ECC2 function controller are displayed together with their address (if assigned), name and their operating condition. Clicking displays the underlying Fitting level.



Aquapay

When a module is configured for paid media delivery, the fittings display shows the status.

1€ Fitting is ready for paid media delivery

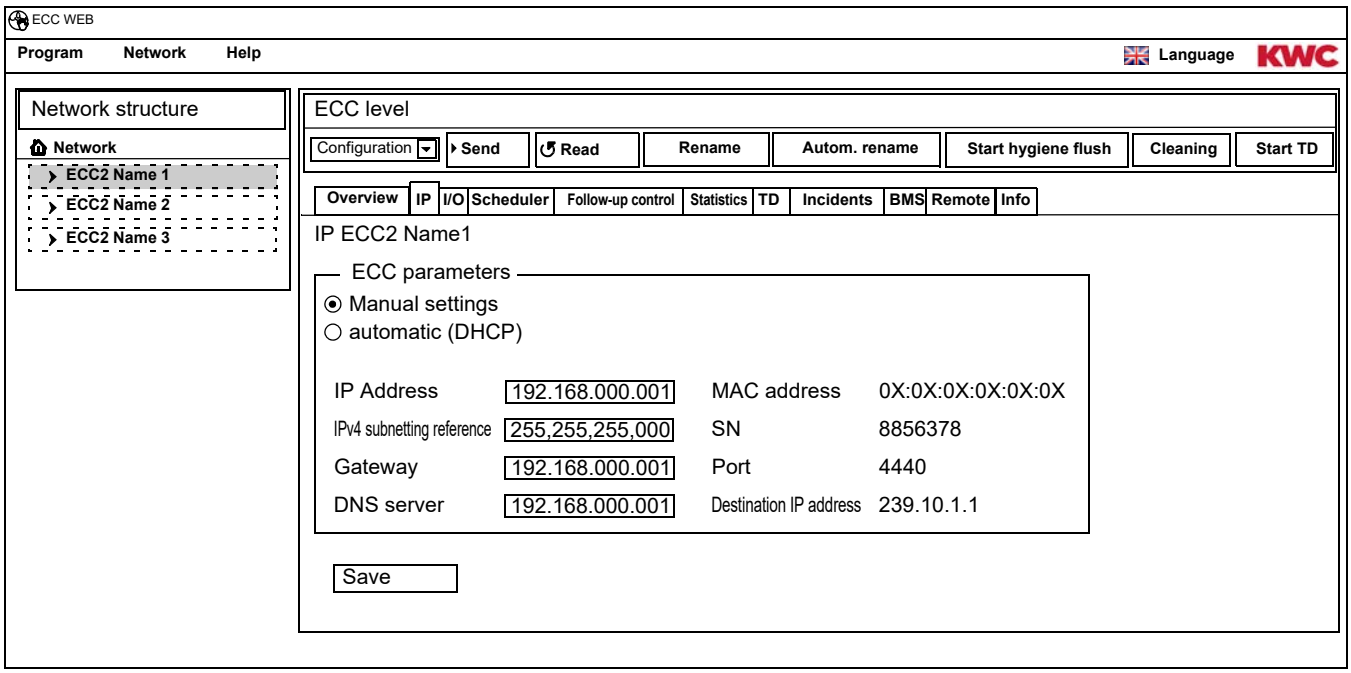
1€ Fitting is occupied or blocked

22. IP Tab (ECC Level)

22.1 Mark the ECC2 function controller in the network structure overview.

- The ECC2 function controller is displayed.

22.2 Select the IP tab.



The MAC address is the globally unique hardware address of the ECC2 function controller and can not be changed.

The IP address serves to ensure unambiguous addressing of the ECC2 function controller within a network. The parameters of the ECC2 function controller can be customized.

22.3 Save the changes made.

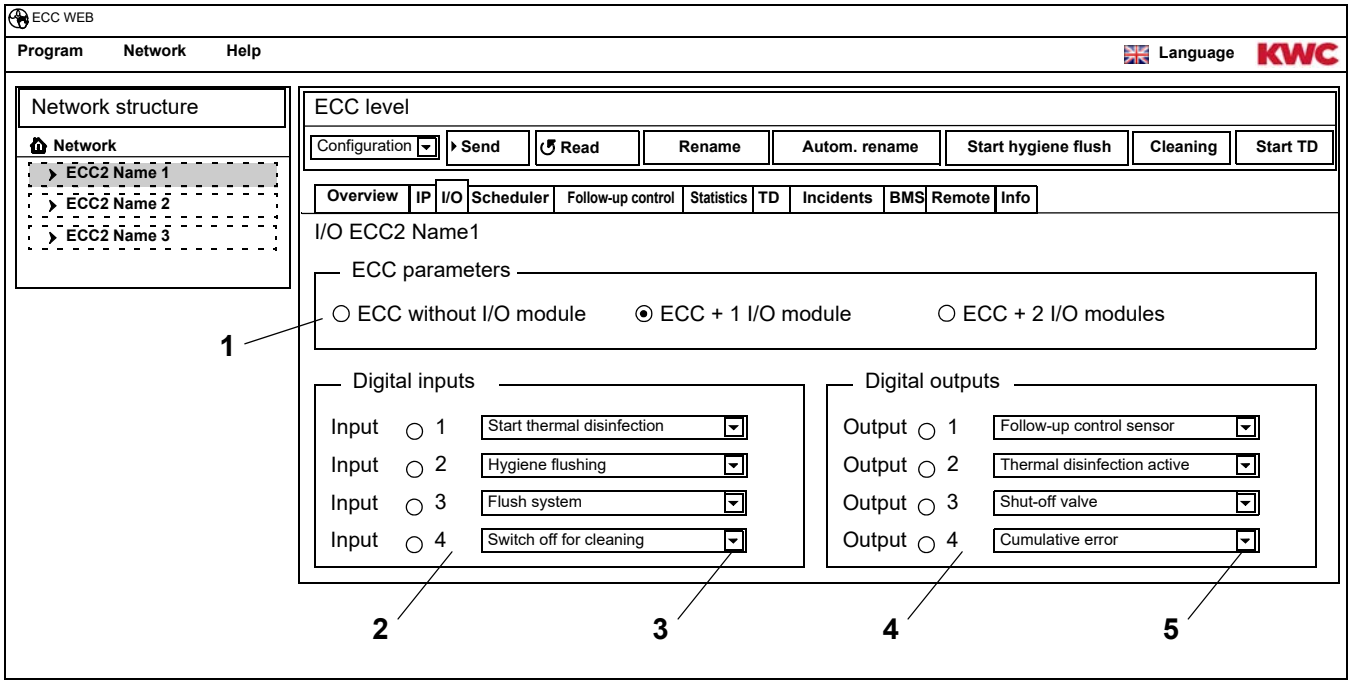
23. I/O Tab (ECC Level)

An ECC2 function controller has 4 digital inputs and outputs. If more digital inputs and outputs are required, it is possible to connect up to 2 additional I/O modules to an ECC2 function controller. Each additional I/O module provides 8 additional digital inputs and outputs.

23.1 Mark the ECC2 function controller in the network structure overview.

- The ECC2 function controller is displayed.

23.2 Select the I/O tab.



23.3 In the "ECC parameters" box (1), specify how many I/O modules you want to configure.

- If additional I/O modules are specified, an additional "I/O modules" tab appears.

23.4 In the "Digital inputs" box (2) you can assign functions to the inputs (see Kapitel 52.).

☞ The arrow (3) is used to list the available functions.

23.5 In the "Digital outputs" box (4) you can assign functions to the outputs (see Kapitel 53.).

☞ The arrow (5) is used to list the available functions.

23.6 If additional I/O modules are connected, these can be configured via the "I/O modules" tab.

24. Scheduler Tab (ECC Level)

The scheduler facilitates

- changing the Operation mode on a certain date.
  Example:
  - Operation mode: On / Off
  - Operating condition: Set A, Set B
- start an action on a certain date.
  Example:
  - Hygiene flushing
  - Shut-off for cleaning

Orders

- An order is used to specify when the modules of the ECC2 function controller are to perform which action.
- Several orders can be scheduled for the same time.
- When several orders have been scheduled for the same time, the sequence for processing these orders is not defined.
- When several orders have been scheduled in a staggered mode, the sequence for processing these orders is defined.
- The time basis is the current date and time of the ECC2 function controller on which the Web Application was started. Orders are executed with a delay of max. +15 seconds.

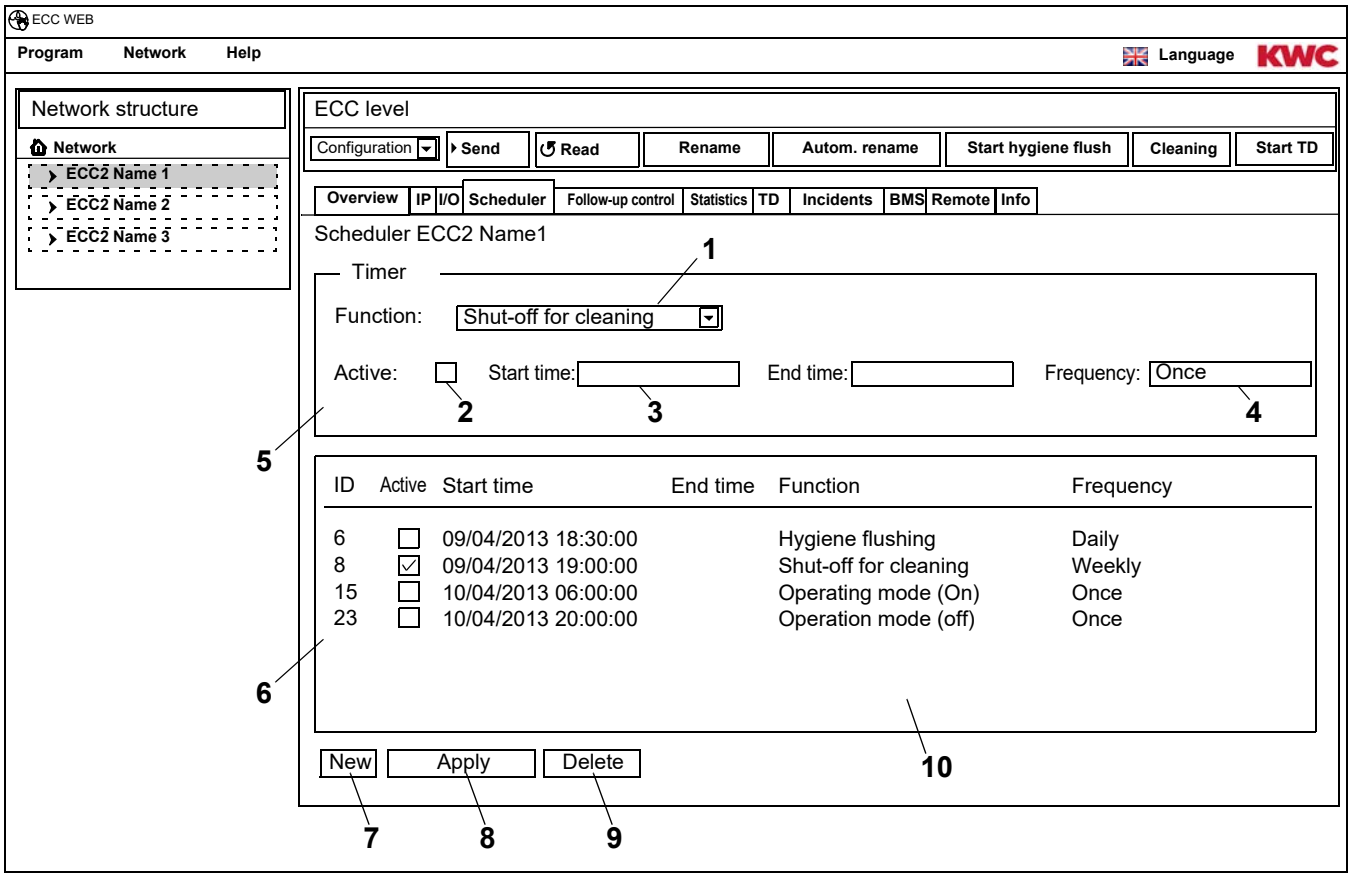
Executing orders

- An order is executed when
  - the status of the order is "Active",
  - the appointed time for executing the order has been reached, and
- When an order has been processed, the order is deleted.

24.1 Mark the ECC2 function controller in the network structure overview.

- The ECC2 function controller is displayed.

24.2 Select the Scheduler tab.



☞ Kapitel 51 contains a brief description of the functions.

Create new order

24.3 Press the "New" button (7).

24.4 In the "Timer" window (5):

- select function (1);
- activate function (2);
- enter the start time (3);
- enter the frequency (4).

24.5 Click the "Apply" button (8).

- The new order appears in the display window (10).

Change order

24.6 Mark an order in the display window (10).

24.7 Enter the required change in the "Timer" window (5).

24.8 Click the "Apply" button (8).

- The order is updated in the display window (10).

Delete order

24.9 Mark an order in the display window (10).

24.10 Click the "Delete" button (9).

- The order is removed from the display window (10).

25. Follow-up Control Tab (ECC Level)

Follow-up control provides a facility with which it is possible to intervene in the runoff of the function programs to control them. When a sensor or the actuator of a module are activated, this can have an effect on the module's own function program as well as that of another module. The source module and the target module can thus be one and the same module or two different modules.

In order to be able to use follow-up control, the respective fitting ID must be adapted by customer service.

The following executions are possible:

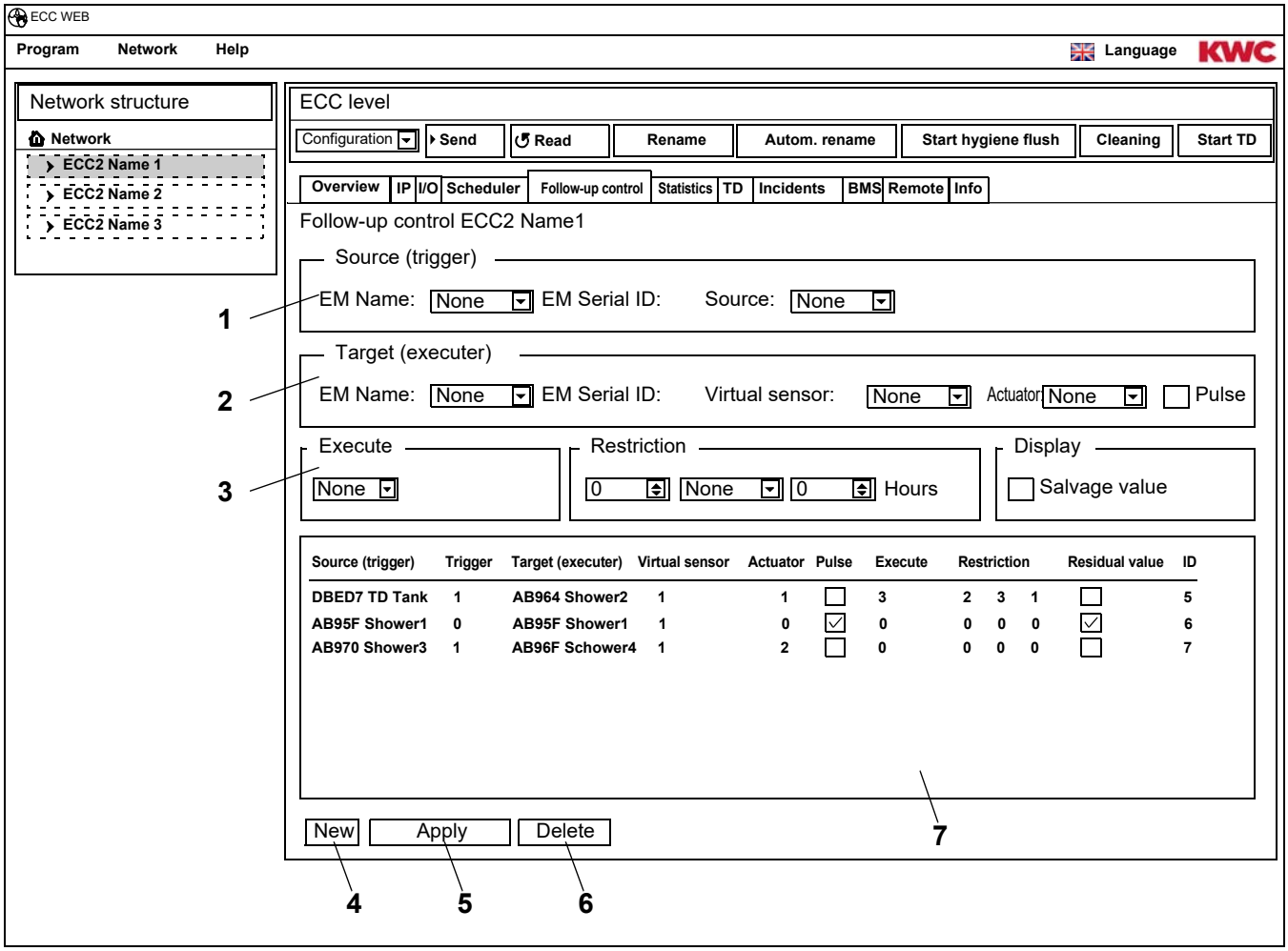
- Manual: Enabled by operator.
- Automatic: Directly dependent on the configuration.
- Limited: Enable is determined by limitations.

Each module may only be incorporated into one follow-up control, because per module only one appurtenant source module and one target module can be administered. Multiple incorporations can lead to unintentional actions.

25.1 Mark the ECC2 function controller in the network structure overview.

- The ECC2 function controller is displayed.

25.2 Select the Follow-up control tab.



☞ The ID of the target module must permit follow-up control.

Create new order

25.3 Press the "New" button (4).

25.4 Enter all settings in the "Source" (1), "Target" (2) and "Execute, Limitation, Display" (3) windows.

25.5 Click the "Apply" button (5).

- The new order appears in the display window (7).

Change order

25.6 Mark an order in the display window (7).

25.7 Enter all changes in the "Source" (1), "Target" (2) and "Execute, Limitation, Display" (3) windows.

25.8 Click the "Apply" button (5).

- The order is updated in the display window (7).

Delete job

25.9 Mark an order in the display window (7).

25.10 Click the "Delete" button (6).

- The order is removed from the display window (7).

Source module > Source
The selected source (sensor or actuator) is monitored, and its activation is transferred to the function program of the target module.

Target module > Virtual sensor
The selected virtual sensor is set when the source module is activated, and it thus affects the runoff of the target module's function program.
For this purpose the target module must be equipped with firmware version 4.3.5 or newer.

Target module > Actuator
In "Manual" execution, the status of the selected actuator affects the acceptance of an enable request.

- Active: An enable request is ignored.
- Inactive: An enable request is accepted and reported.
- No selection: An enable request is always accepted. An enable causes the status of the accessed actuator to be reversed (ON <-> OFF).

In "Limited" execution, the selected actuator is monitored with respect to the selected restrictions.

Target module > Pulse
The "Pulse" status determines the way in which the virtual sensor is controlled.

- Pulse = Yes
  The virtual sensor behaves like a Piezo-sensor (short pulse when the source is activated, for example like when pressing a Piezo-button)
- Pulse = No
  The virtual sensor behaves like an optical IR sensor (active as long as the source is active, for example like a reflection with an IR sensor)

Normally the pulse setting must be selected according to the sensor of the source module.

Execution > Manual
When the source module is activated, this is signalled at the target module by the incident symbol. This "Flush request" can be "enabled" by the user on the overview page of the target module. The target module has a fixed flow duration.
The Actuator selected under Target Module/Actuator influences the acceptance of the enable request.

Execution > Automatic
When the source module is activated, this has a direct affect on the function program of the target module. The target module reacts depending on the configuration and the ID.

Execution > Limited
When the source module is activated, a check is made to determine whether the restriction set for the actuator selected from Target Module/Actuator is being maintained. If this is the case, the target module is activated.
During activation, monitoring of the target module continues, and, if the restriction is no longer maintained, the target module is deactivated.
If the target module no longer maintains the restriction, the "used credit balance" is indicated by a yellow fitting display. This "credit" can be "recharged" fully on the overview page of the module at any time.
For systemic reasons, flow-duration recording may differ slightly from the module's real flow duration.

Limitations:

- x times per y hours
  The period (y hours) commences with the first activation. The fitting can be activated only x times within this period.
- x times per day
  The period commences at 00:00 hrs. and ends on 23:59 hrs. the same day. The fitting can be activated only x times within this period.
- x minutes per y hours
  The period (y hours) commences with the first activation. The fitting can be activated only x minutes within this period.
- x minutes per day
  The period commences at 00:00 hrs. and ends on 23:59 hrs. the same day.
- Blocked for x minutes
  The period commences when the target module is activated. Within this period the target module cannot be activated again.

Display > Remaining value
Instead of the current temperature, the fitting display can show the target module's remaining value (credit or block time), resulting from the restrictions for the selected actuator.

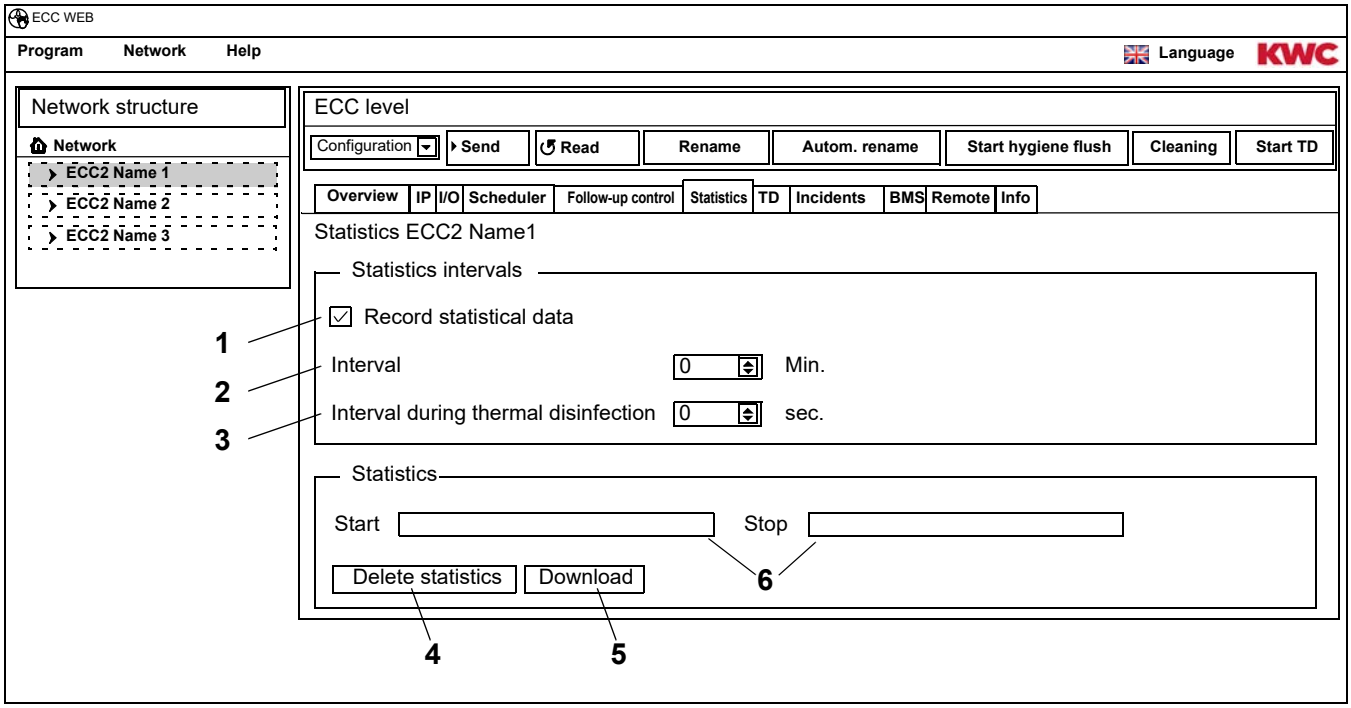
26. Statistics Tab (ECC Level)

Statistical data can be used to check and assess all modules. The temperature curves recorded during a thermal disinfection process can be used as a protocol.

26.1 Mark the ECC2 function controller in the network structure overview.

- The ECC2 function controller is displayed.

26.2 Select the Statistics tab.



Record statistics

☞ All settings are saved and accepted immediately in the ECC2 function controller.

26.3 Enter a checkmark in the "Record statistics" box (1).

- The data of all modules connected to the ECC2 function controller are saved at the specified intervals.
- The data are saved in the internal memory of the ECC2 function controller.

26.4 Specify the interval (2) for making the recordings.

- The interval is the time after which each module saves a data record.

26.5 Specify the interval (3) for making recordings during thermal disinfection.

- When thermal disinfection is being performed in a network, the recording interval can be shortened to 10 - 60 seconds.

The shorter the interval is set, the more memory the system needs for recording all the data, and the internal memory is full faster.
When 32 modules record data at an interval of 1 minute 24 hours per day, the internal memory will be full after about 3 months. When the memory is full, the oldest data record will be overwritten by the newest one.

Delete statistics

26.6 Press the "Delete statistics" button (4).

26.7 Confirm the safety enquiry.

- The internal memory of the ECC2 function controller is cleared.

Save statistics

☞ Saving the statistics may take a few minutes.

26.8 Select the period (6) for which the statistics are to be saved.

26.9 Click the "Download" Button (5).

26.10 Confirm the enquiry.

26.11 Click the "Save" button.

26.12 Select the location for saving.

- A compressed file (*.zip) containing the statistics data is saved as a csv file.

or

26.13 Insert a USB flash drive into the ECC2 function controller.

26.14 Follow the instructions on the display of the ECC2-function controller.

- The statistics are saved on the USB stick as a csv file.

27. The Process of Thermal Disinfection

The ECC2 function controller starts, controls and checks the process of thermal disinfection. Thermal disinfection takes place in 7 phases. Instead of the Serial ID, the ECC display and/or the fitting display shows the phase in which the fitting is currently in. Additionally, depending on the respective disinfection phase, the colour of the ECC display and/or fitting display changes. The display on the ECC2 function controller shows the respective phase of the overall system.

Phase	Program run	ECC or fittings display
1	Start signal via external input contact or Ethernet network	blue
2	Heat up hot water tank in conjunction with system electronic module drinking-water heater	orange
3	Enable hot water in conjunction with system electronic module for circulation line	orange
4	Thermal treatment of circulation line	red
5	Thermal treatment of fitting	red
6	Cooling down phase	orange
7	System reset to normal operation	blue

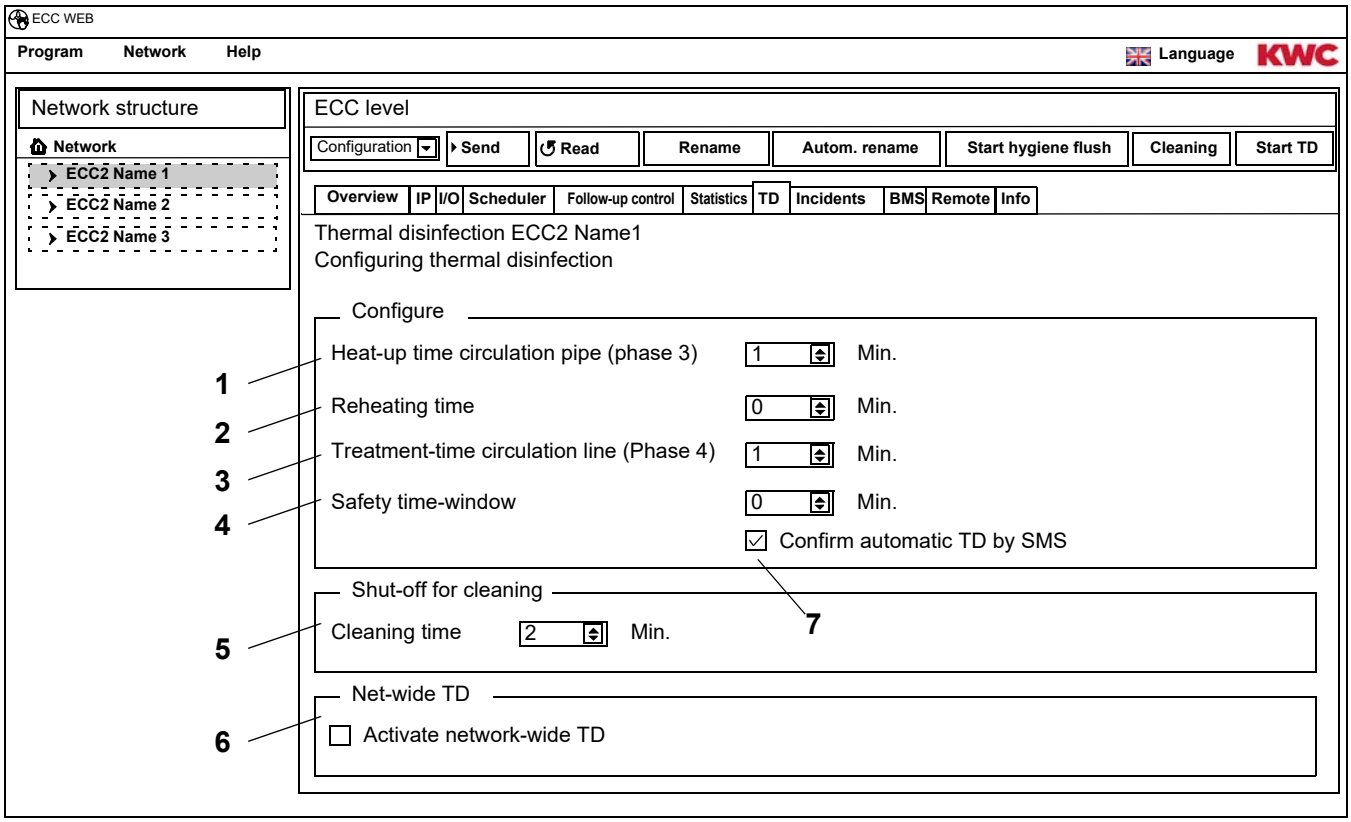
28. TD Tab (ECC Level)

Warning!
Protective measures for persons (scald-protection) must be provided during thermal disinfection, e.g. closing off sanitary rooms.
Failure to observe can cause bodily harm due to scalding.

28.1 Mark the ECC2 function controller in the network structure overview.

- The ECC2 function controller is displayed.

28.2 Select the TD tab.



Configuring thermal disinfection

28.3 Enter the parameters for thermal disinfection.

1 Heat-up time circulation pipe (phase 3)
When there is no module for circulation heating in the system, the circulation line is heated up for a fixed set time.

2 Reheating time
A so-called reheating time can be selected between the groups; this serves to give the system time for renewed heating.

3 Treatment-time circulation line (Phase 4)
When there is no module for treatment intervals in the system, the circulation line is disinfected for a fixed set time.

4 Safety time-window
During this time, the water in the circulation line is to cool down.

7 Confirm automatic TD by SMS
When this function is selected, any thermal disinfection must be confirmed via SMS.

Shut-off for cleaning

28.4 Enter the period during which the modules are disabled after starting cleaning switch-off. Only those modules that are assigned to the cleaning switch-off function group are deactivated.

Net-wide TD

☞ In any network, only one ECC2 function controller is allowed to control network-wide thermal disinfection.

28.5 Check the "Enable network-wide TD" box.

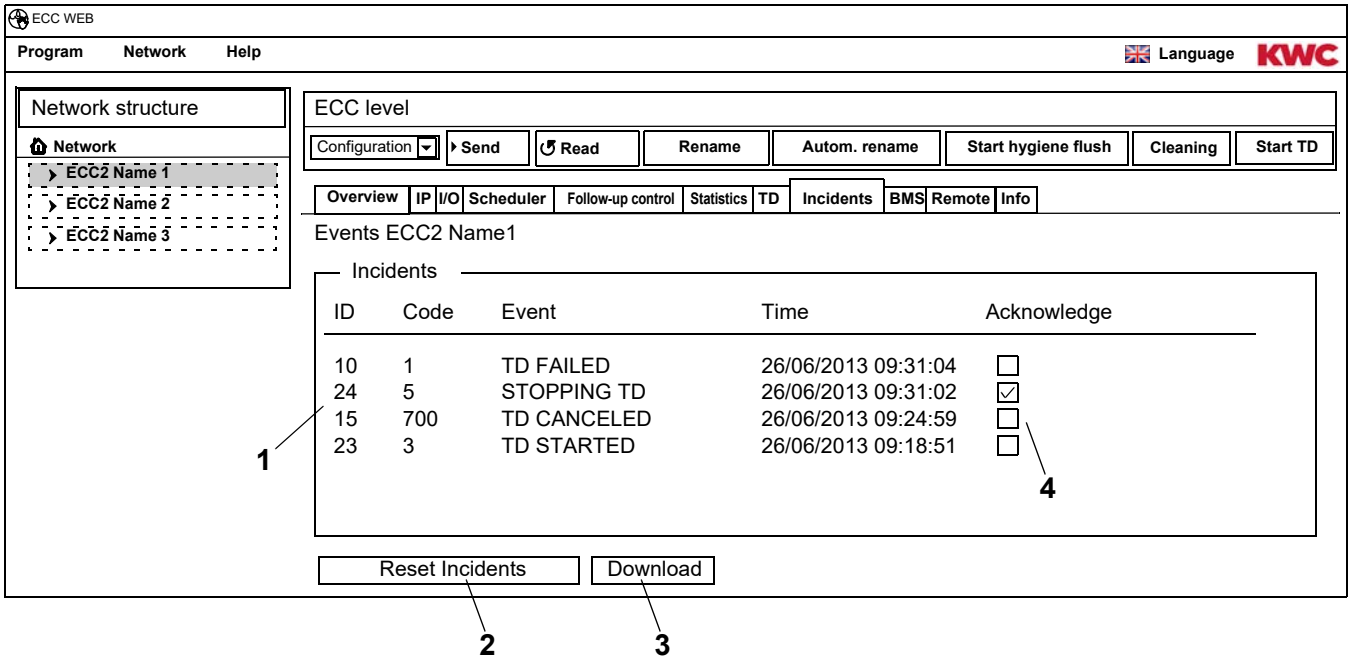
- The selected ECC2 function controller controls the network-wide thermal disinfection.
- Function groups "Network-wide TD 1-8" are added to the network structure.
- The modules of all connected ECC2 function controllers can be assigned to the "Network-wide TD 1-8" function groups.

29. Incidents Tab (ECC Level)

29.1 Mark the ECC2 function controller in the network structure overview.

- The ECC2 function controller is displayed.

29.2 Select the Incidents tab.



Delete single incident

29.3 In the "Incidents" window (1) click the required incident in the Acknowledge" column (4).

- The incident is deleted.

Save incidents

☞ Saving incidents may take a few minutes.

29.4 Click the "Download" Button (3).

29.5 Confirm the enquiry.

29.6 Click the "Save" button.

29.7 Select the location for saving.

- A compressed file (*.zip) containing the incidents data is saved as a csv file.

or

29.8 Insert a USB flash drive into the ECC2 function controller.

29.9 Follow the instructions on the display of the ECC2-function controller.

- The incidents are saved on the USB stick as a csv file.

Delete all incidents

29.10 Click the "Reset incidents" button (2).

- All incidents are deleted.

30. BMS Tab (ECC Level)

The ECC2 function controller can be integrated into an existing building management system. Depending on the protocol used for data transfer, various settings can be made in the BMS tab. Changes in the BMS tab may be made by qualified personnel only.

31. RemoteTab (ECC Level)

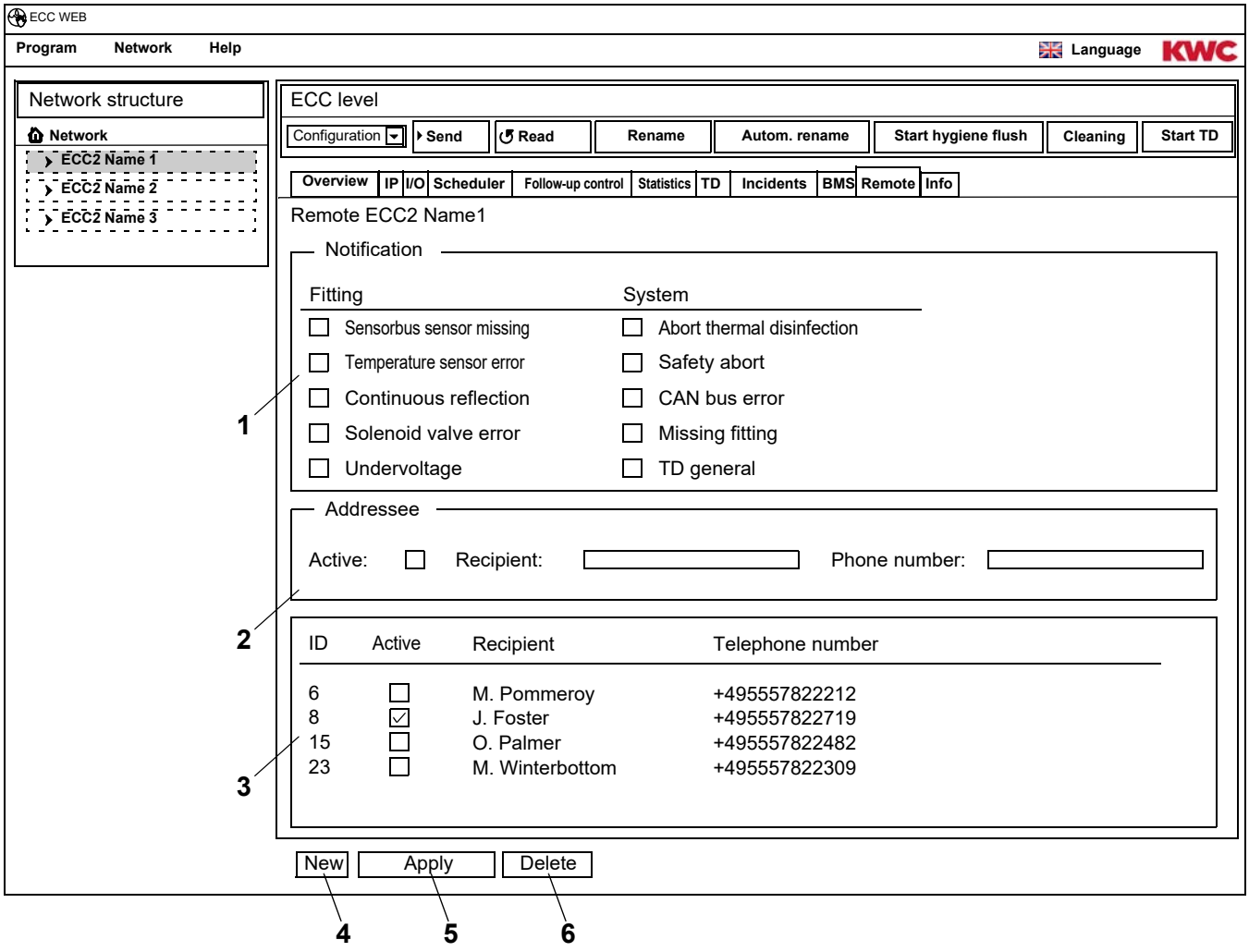
The ECC2 function controller has features with which it is possible to notify various recipients via SMS when certain incidents occur.

☞ A notification is sent only if there is a check mark under Active in the display window (3).

31.1 Mark the ECC2 function controller in the network structure overview.

- The ECC2 function controller is displayed.

31.2 Select the Remote tab.



Creating new notification

31.3 Click the "New" button (4).

31.4 Select the desired notification in the "Notification" window (1).

31.5 Specify the intended recipient in the "Addressee" (2) window.

31.6 Click the "Apply" button (5).

- The new order appears in the display window (3).

Change notification

31.7 Mark a notification in the display window (3).

31.8 Make the desired changes in the "Notification" window (1).

31.9 Click the "Apply" button (5).

- The notification is updated in the display window (3).

Delete notification

31.10 Mark a notification in the display window (3).

31.11 Click the "Delete" button (6).

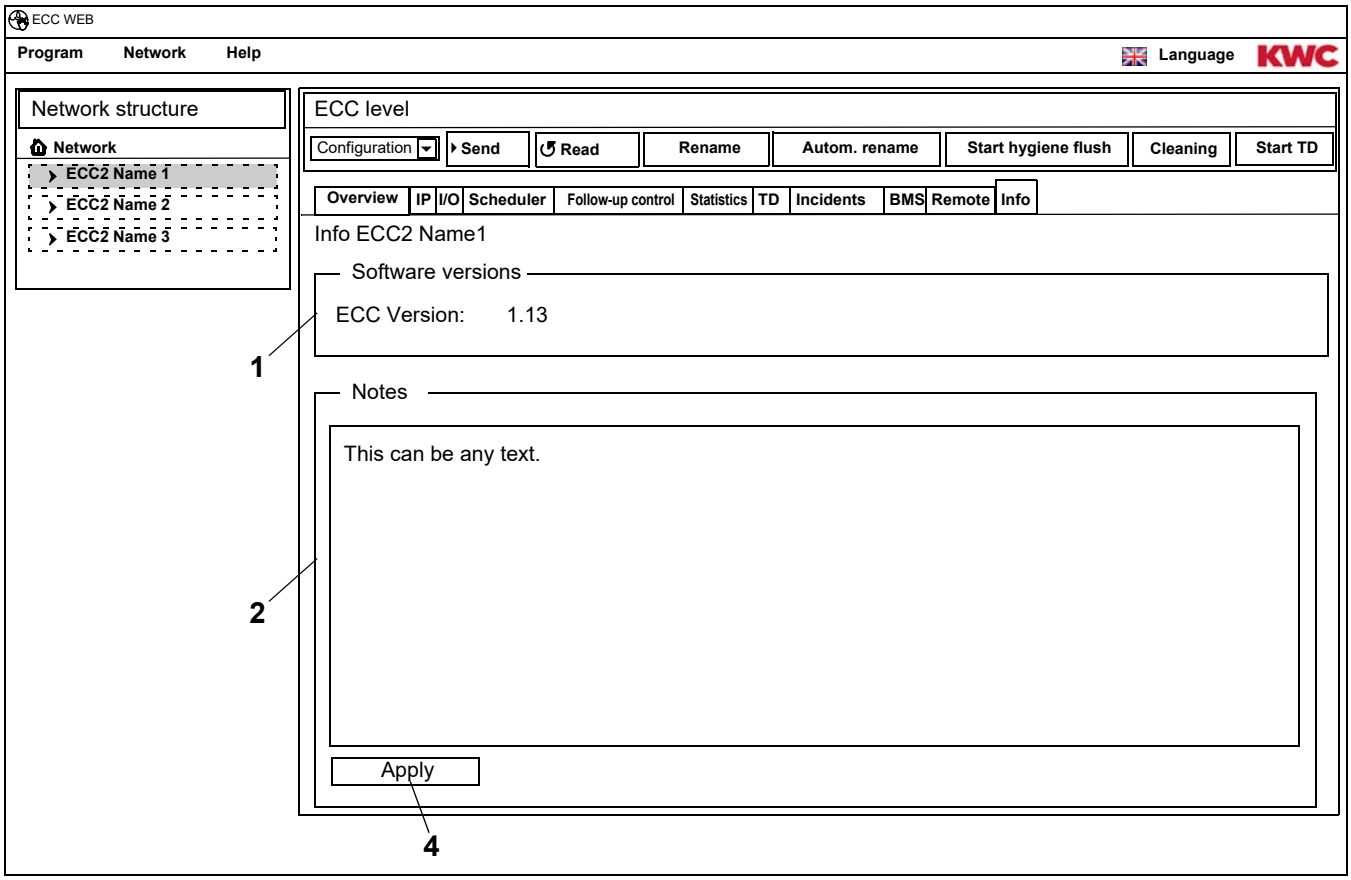
- The notification is removed from the display window (3).

32. Info Tab (ECC Level)

32.1 Mark the ECC2 function controller in the network structure overview.

- The ECC2 function controller is displayed.

32.2 Select the Info tab.



Software versions (1)
The software version currently installed on the ECC2 function controller is displayed. Additional information about the version will be shown on the display of the ECC2 function controller.

Notes (2)
Information can be entered and stored.

☞ All notes are saved in the internal memory of the ECC2 function controller.

32.3 Click in the "Notes" window (2).

32.4 Write the information that is to be saved.

32.5 Click the "Apply" button (4).

33. Function Group Overview

A functional group comprises all fittings that will perform the same function. Each module can be associated with one or more functional groups.
Each functional group is divided further into 8 groups.

A module can be assigned to the following functional groups:

- Cleaning switch-off
- Hygiene flushing
- Concurrency
- Set switching
- Follow-up control sensor
- Follow-up control actuator
- Reduction in flow-duration
- TD
- Network-wide TD 1-8 (only if a network-wide TD is active)

☞ Kapitel 51 contains a brief description of the functions.

All functions can be started

- via a digital input,
  or
- with the timer in the ECC2 function controller,
  or
- with the Web Application.

Function	Digital input	Timer	Web Application
Shut-off for cleaning	✓	✓	✓
Hygiene flushing	✓	✓	✓
Concurrency	✓	✓	—
Set switching	✓	✓	✓
Follow-up control sensor	—	✓	—
Follow-up control actuator	—	✓	—
Reduction in flow duration	✓	✓	—
TD	✓	✓	✓
Network-wide TD 1-8	✓	—	—

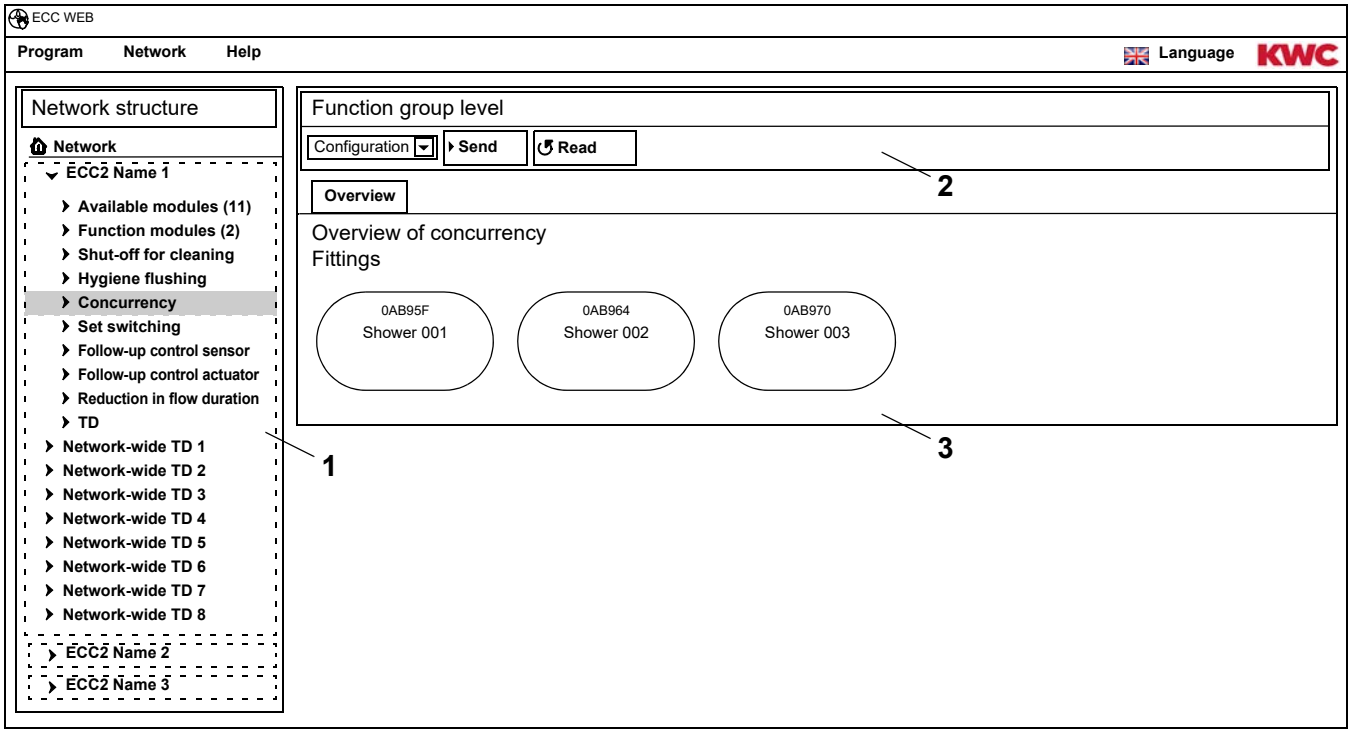
34. Display Function Group

34.1 Fold down the ECC2 function controller in the network structure overview.

- The function groups are displayed (1).

34.2 Select a function group.

- The information window (3) displays all modules assigned to this function group.



Toolbar (2)
The functions in the Configuration toolbar correspond to those available in the Configuration toolbar at the ECC level (see Kapitel 19.), but they are limited to the modules assigned to this function group.
The functions in the Operation toolbar correspond to those available in the Operations toolbar at the network level (see Kapitel 17.), but they are limited to the modules assigned to this function group.

35. Fittings Level

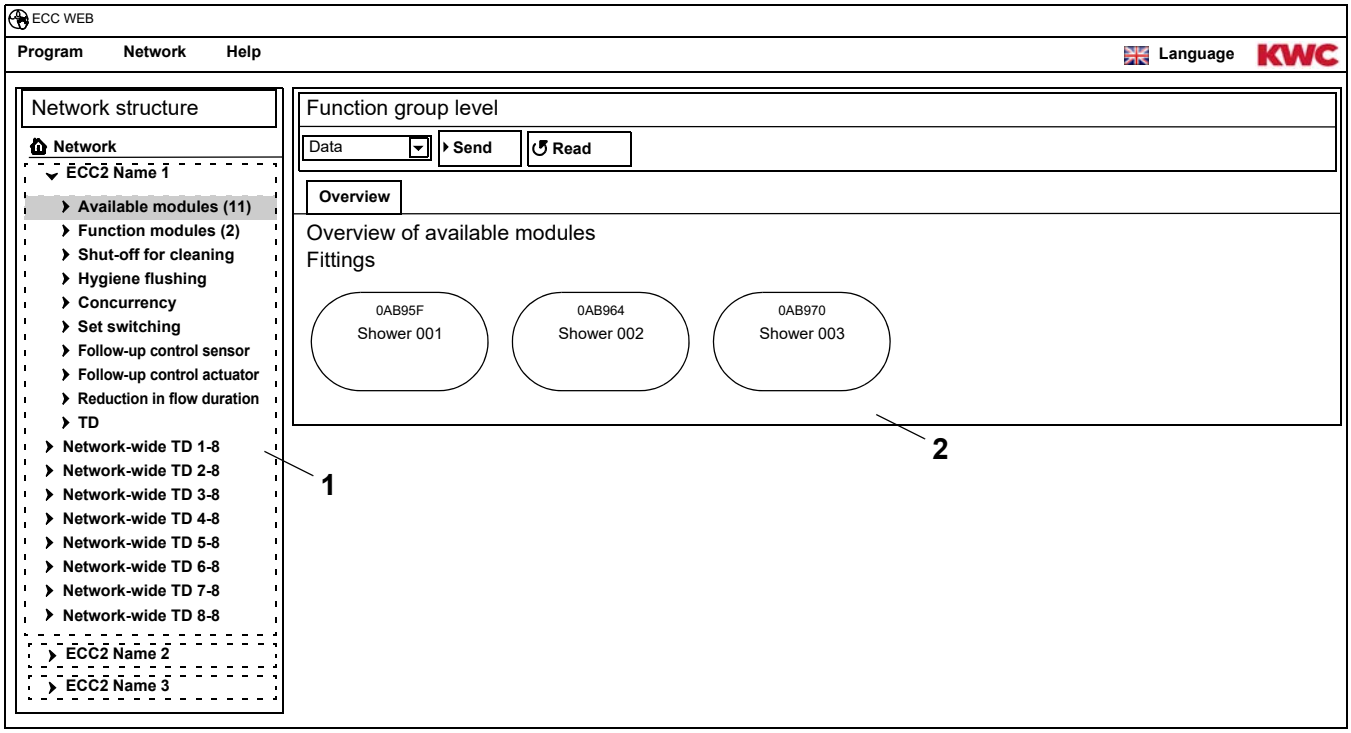
An overview is generated for each fitting; this overview displays all parameters that are necessary for operation. Besides displaying the parameters for the respective fitting, the display shows the status of the fitting functions such as hygiene flushing, thermal disinfection, peak load program and shut-down for cleaning.

35.1 Fold down the ECC2 function controller in the network structure overview (1).

- The function groups are displayed.

35.2 Select the Available modules folder.

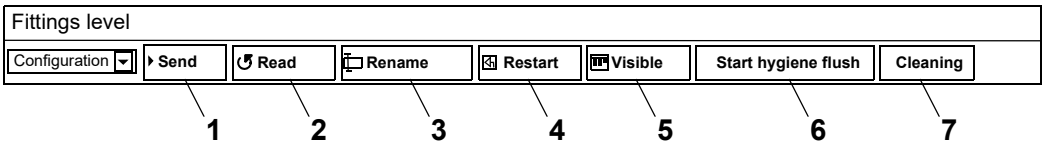
- The information window (2) displays all available modules.



36. Configuration Toolbar (Fittings Level)

36.1 Mark a module in the network structure overview.

- The module will be displayed.



Functions **Send (1)** and **Read (2)** in the Configuration toolbar correspond to those in the Configuration toolbar at the ECC level (see Kapitel 19.), but they are limited to the selected module.

Rename (3)
The module can be assigned an individual name; this name is stored in the module.

36.2 Select "Rename" in the toolbar.

36.3 Enter the new name (max. 32 characters).

36.4 Confirm the entry.

Restart (4)

☞ Some changes made to a module configuration are only applied when they are actually sent to this module and the module is restarted.

36.5 Select "Restart" in the toolbar.

- The module is initialised.
- The configuration and the statistics are read again.

Visible / Hidden (5)

This button indicates whether the module in the overview is hidden or visible at the ECC level, Function group level and Group level. By default, all modules are visible at the levels in the overview.
When this function is deactivated, the fitting is no longer displayed in the level overview. The module can only be found via the network structure.

36.6 Select "Visible" in the toolbar.

- The fitting is not displayed at the fitting level.
- The button changes from Visible to Hidden.

Start hygiene flush (6)

36.7 Select "Start hygiene flush" in the toolbox.

- The hygiene flush is started on this module.

Cleaning (6)

36.8 Select "Cleaning" in the toolbar.

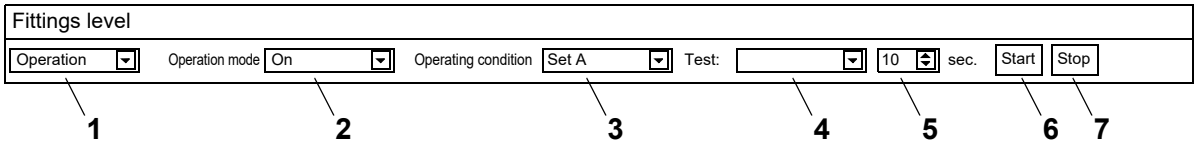
- The selected module is disabled during the set cleaning time.
- All modules that are in the same Cleaning function group as the selected module are also disabled for the set cleaning time.

37. Operation Toolbar (Fittings Level)

37.1 Mark a module in the network structure overview.

- The module will be displayed.

37.2 Select the drop-down box in the Operation toolbar (1).



Operation mode (2) and **Operating condition (3)** correspond to those of the Operation toolbar at the network level (see Kapitel 17.), but they are limited to the selected module.

Test (4)

An actuator is controlled during a test. The actuators are described in the functional description (see Kapitel 35., button "?").

Start (6)

The test for the selected actuator is started.
The test stops automatically after the set time (5).

Stop (7)

The test for the selected actuator is stopped.

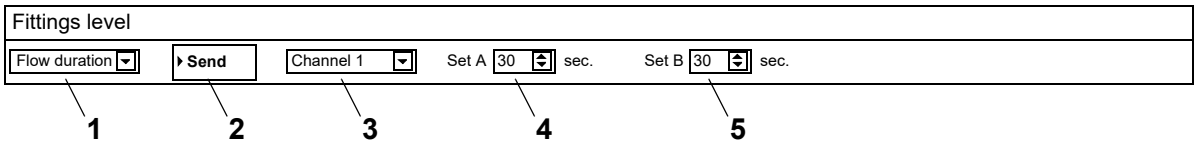
38. Flow Duration Toolbar (Fittings Level)

☞ If the parameters for Flow duration are not adjustable, Flow duration has not been configured in the ID. The ID is described in the functional description (see Kapitel 35., button "?").

38.1 Mark a module in the network structure overview.

- The module will be displayed.

38.2 In the drop-down box, select the Flow duration toolbar (1).



38.3 Select the channel (3).

38.4 Enter the Flow duration for Set A (4).

38.5 Enter the Flow duration for Set B (5).

38.6 Send the changes to the module (2).

38.7 Where necessary, restart the module so that the module accepts the changes.

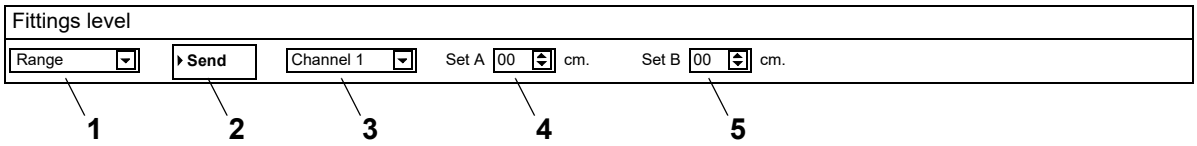
39. Range Toolbar (Fittings Level)

☞ If the parameters for Range are not adjustable, Range has not been configured in the ID. The ID is described in the functional description (see Kapitel 35., button "?").

39.1 Mark a module in the network structure overview.

- The module will be displayed.

39.2 In the drop-down box, select the Range toolbar (1).



39.3 Select the channel (3).

39.4 Enter the Range for Set A (4).

39.5 Enter the Range for Set B (5).

39.6 Send the changes to the module (2).

39.7 Where necessary, restart the module so that the module accepts the changes.

40. Temp. Sensors Toolbar (Fitting Level)

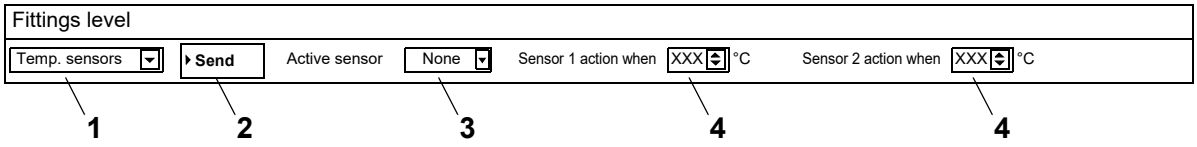
The sensor can be enabled and disabled. If an action has been entered in the fittings ID, it is possible to change the value that triggers this action. The entered actions are defined in the function description (see Kapitel 35., button "?").

☞ If the parameters for Temp. sensors are not adjustable, the Temp. sensors have not been configured in the ID.

40.1 Mark a module in the network structure overview.

- The module will be displayed.

40.2 In the drop-down box, select the Temp. sensors toolbar (1)



40.3 Select the sensor (3).

40.4 Enter the temperature (4) at which the action is to take place.

40.5 Send the changes to the module (2).

40.6 Where necessary, restart the module so that the module accepts the changes.

41. Overview Tab (Fittings Level)

41.1 Fold down the ECC2 function controller in the network structure overview (1).

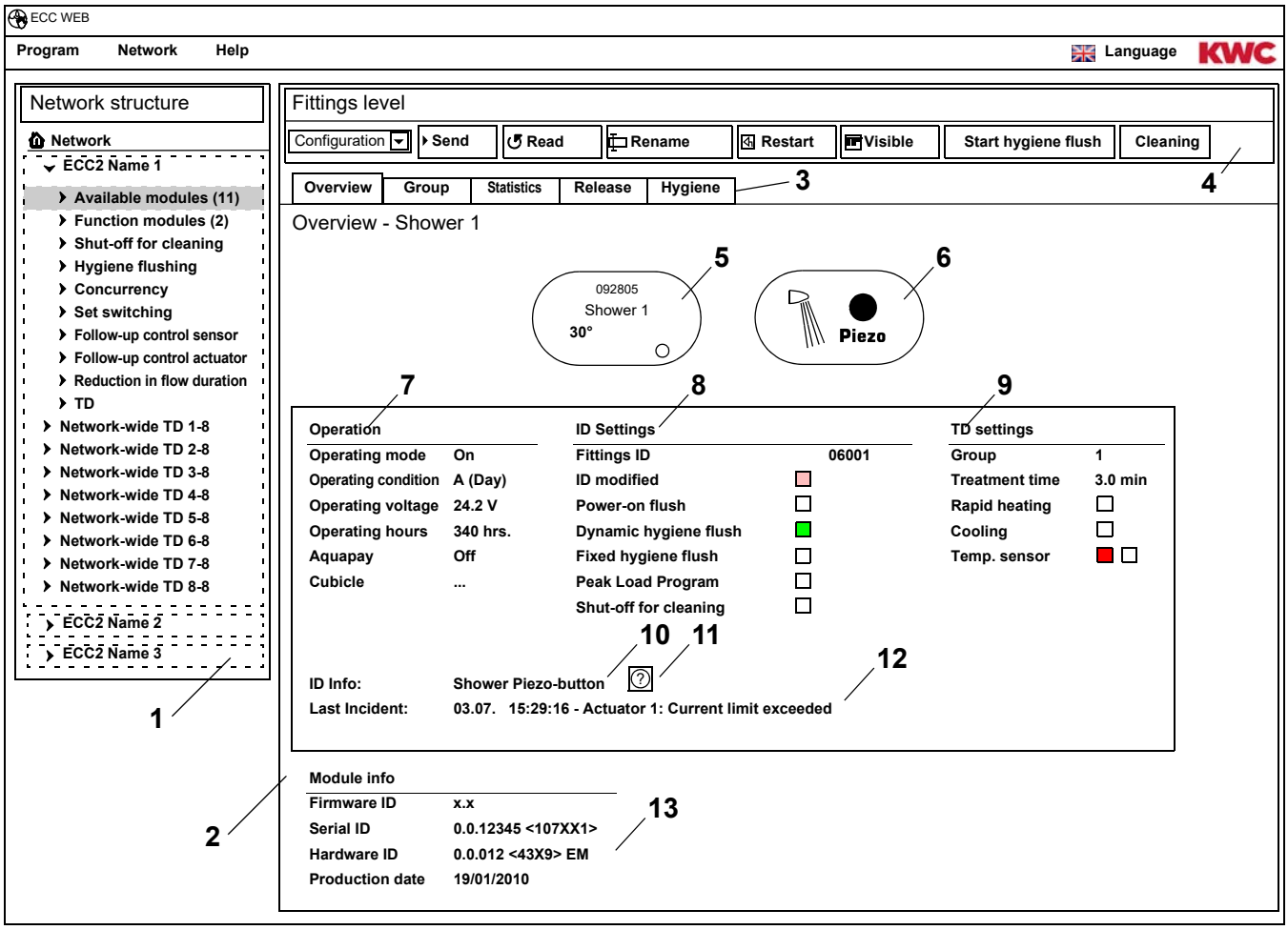
- The available modules and the functional groups are displayed.

41.2 Select the available modules folder.

- The information window displays all available modules.

41.3 Select a module.

- The information window (2) displays all information about this module.



1 Overview of network structure
2 Information window
3 Tab
4 Toolbar
5 Fitting display with display for Serial ID, fitting name, current temperatures and operating condition
6 Fitting display with display for fitting type and trigger
blue ... Fitting is working with original ID
green ... Fitting is working with changed ID
7 Display of operating data
8 Display of ID settings
9 Display of settings for thermal disinfection
10 Display of the short description stored in the ID
11 Button "?" opens a window in which all information and settings of the ID are displayed (functional description)
12 Display for the last, not yet confirmed events and alarm messages
13 Display for the IDs and the production date of the module

Colour code in the information window and on tabs:

□	grey	…	this option is not configured
□	bright red	…	the standard settings were changed
■	green	…	this option is configured
■	red	…	the temperature sensor for hot water is active
■	blue	…	the temperature sensor for cold water is active

Aquapay
The display for operating data (7) shows the status of paid media deliveries

- On: The module is configured for paid media delivery and is active.
- Off: The module is not configured for paid media delivery.
- Cubicle: The cubicle number is displayed when the module is working with "Master Mode" enabled.

42. Group Tab (Fittings Level)

Function groups
A module can be assigned to any number of subgroups of the individual function groups.
When a check mark is set, this assignment is immediately saved in the ECC2 function controller and the overview of the network structure is updated.

☞ Kapitel 51 contains a brief description of the functions.

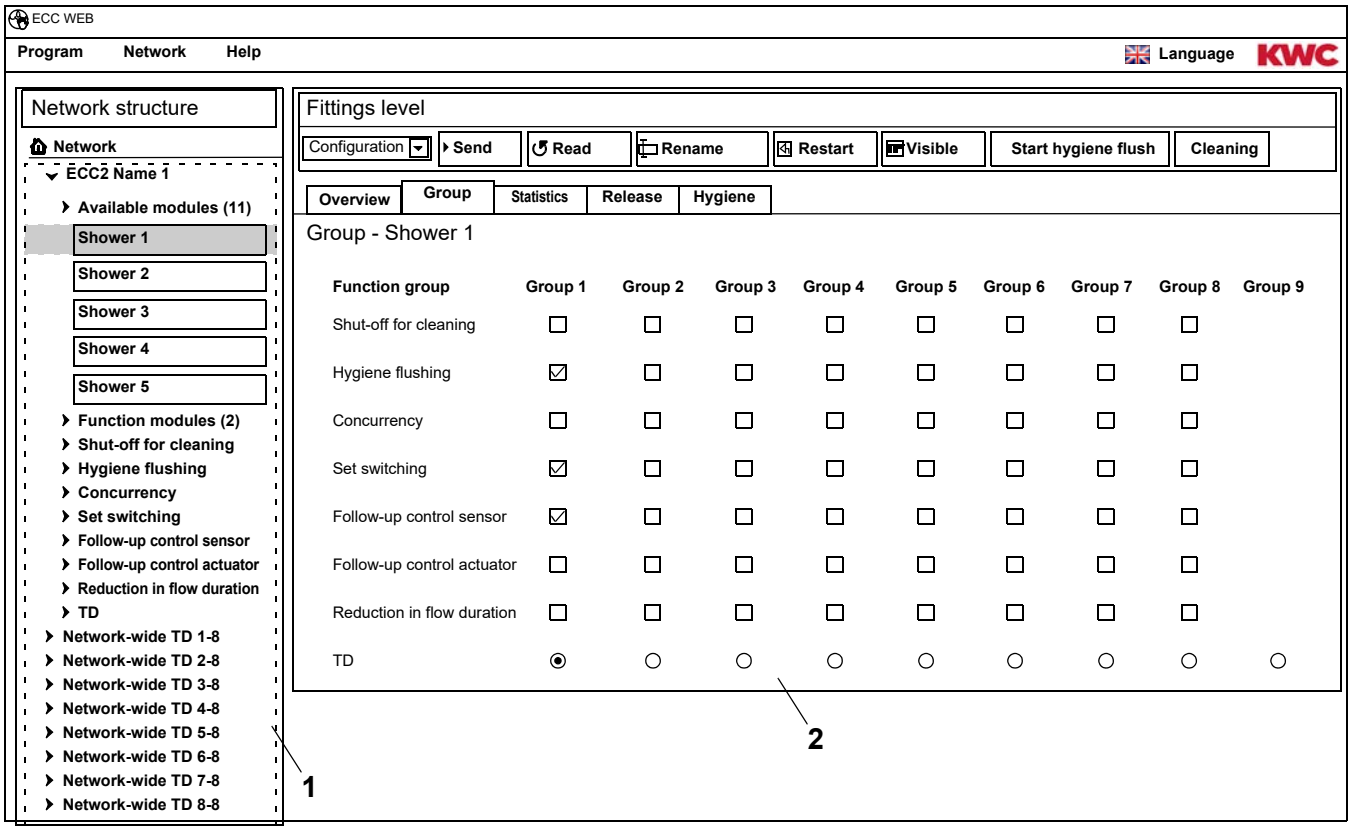
Thermal disinfection
Whenever a module is first connected to the ECC2 function controller it is also automatically assigned to a TD group. Subdividing the modules into TD groups prevents all of the modules connected to this ECC2-function controller from being disinfected simultaneously. On the other hand, the TD groups are disinfected one after the other. In the TD function group, a module can only be assigned to one group.

1-8: Within this group, all modules of a TD isle are entered which have no special function for the thermal disinfection process and which are to be thermally disinfected.
9: The modules of this group do not take part in the thermal disinfection process.

42.1 Mark the module in the network structure overview (1).

- The module will be displayed.

42.2 Select the Group tab.



42.3 In the Information window (2), specify the group of a function group to which the module is to be assigned.

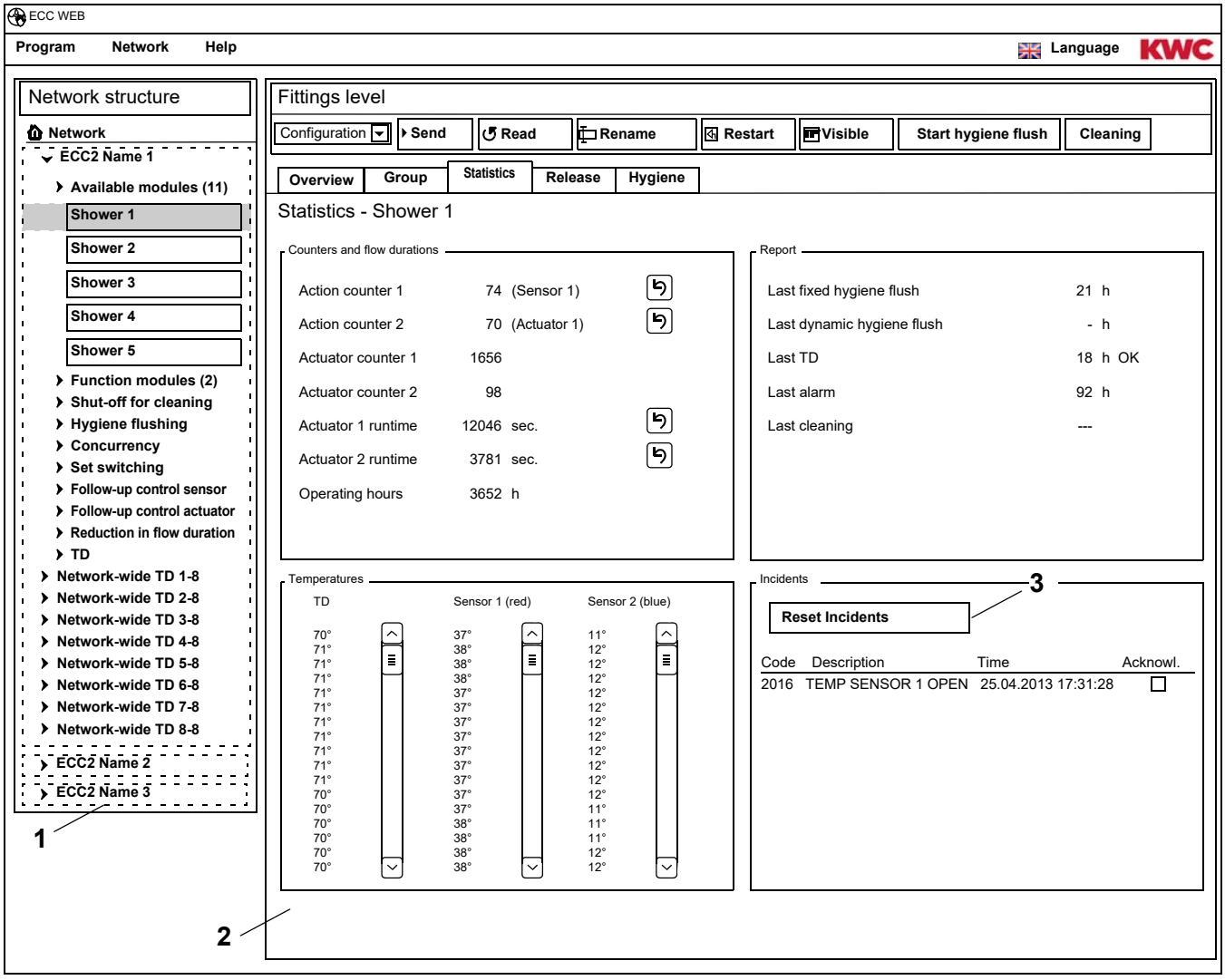
43. Statistics Tab (Fittings Level)

43.1 Mark the module in the network structure overview (1).

- The module will be displayed.

43.2 Select the Statistics tab.

- Statistical data are displayed in the information window.



Display (2)

Action counter 1, 2:
Counts the incidents corresponding to the action-counter settings in the basic settings.
By default, Action Counter 1 counts the number of times Sensor1 is triggered (Sensor2 on motorway parking lot with WC facilities), and Action Counter2 counts the number of times that Actuator1 is triggered.
The basic setting can only be altered by customer service.

Actuator counter 1, 2:
Counts the number of times that the Actuator is triggered. (not resettable).

Actuator duration 1, 2:
Counts the number of seconds that the Actuator is active. (resettable).

Operating hours:
Counts the number of hours operated on the network. (not resettable).

Last fixed hygiene flush:
Number of hours after the last fixed hygiene flush.

Last dynamic hygiene flush:
Number of hours after the last dynamic hygiene flush.

Last TD
Number of hours after the last thermal disinfection, and display showing whether the thermal disinfection was successful or failed.

Last alarm:
Number of hours after the last alarm.

Last cleaning
Date and time when the module was in "Cleaning" Mode the last time.

TD Temp.
Temperatures that were measured during the last thermal disinfection (120 values in 10s steps).

Temp. 1 (red)
Temperatures that were measured by the hot water temperature sensor during normal operation. 96 values in 1 min steps, the most up-to-date value is at the bottom.

Temp. 2 (blue)
Temperatures that were measured by the cold water temperature sensor during normal operation. 96 values in 1 min steps, the most up-to-date value is at the bottom.

Incidents
Displays the messages and warnings occurring for the fitting. (resettable).

Reset incidents

☞ Only visible incidents can be marked individually.

43.3 Tick-mark those events that are to be deleted.

or

43.4 Mark the tick under Acknowledge.

- All incidents are marked.

43.5 Click the "Reset incidents" button (3).

- All marked incidents are deleted.
- When all the incidents have been deleted, the Incident icon in the ECC and fittings display is deleted.

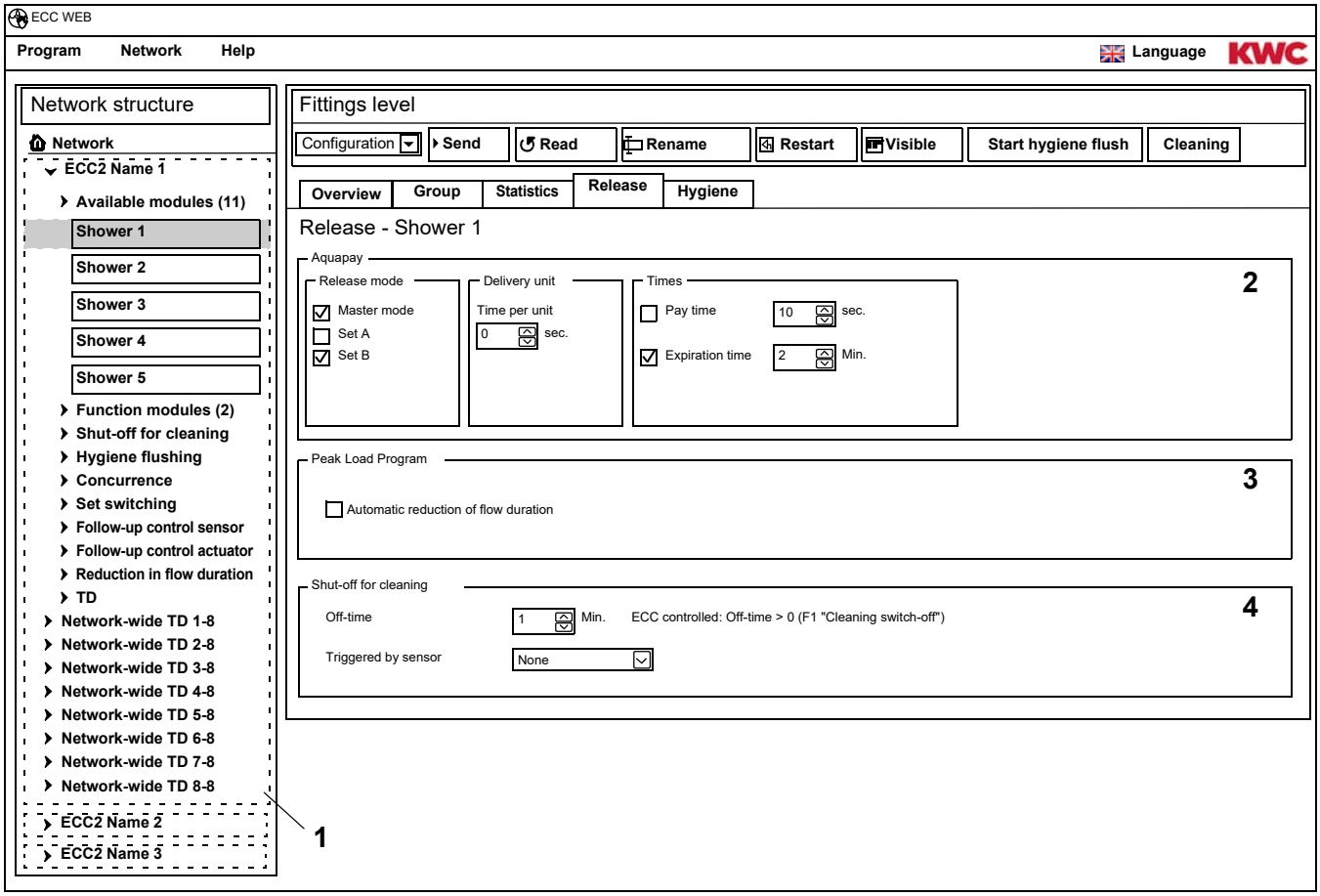
44. Release Tab (Fittings Level)

44.1 Mark the module in the network structure overview (1).

- The module will be displayed.

44.2 Select the Release tab

- The settings are displayed in the information window.



44.3 Change the settings.

44.4 Send the altered configuration to the module.

44.5 Where necessary, restart the module so that the module accepts the changes.

Aquapay (2)
A module can be configured for paid media delivery.

Enable mode
Module control via an AP master (Master mode) or as an individual fitting.

Delivery unit
Duration of media delivery per paid unit, e.g. per 50 Cent coin.
This function is not active when the fitting is working in Master mode.
The delivery unit is set in the AP master function module (see Kapitel 48.).

Times
Time for payment and use of credit.
Payment time: Time during which the coins or chips must be inserted into the counter. This function is not active when the fitting is working in Master mode.
Expiration time: Time after the last usage that the credit expires.

Peak Load Program (3)

Automatic reduction of flow duration

When there is heavy module usage, the flow duration is automatically reduced.

Description	Values
Monitoring period (MP)	5 min
Reduction stage 1	4-7 activations /MP
	80% flow duration
Reduction stage 2	8-12 activations /MP
	50% flow duration
Reduction stage 3	13-17 activations /MP
	20% flow duration
Reduction stage 4	18 activations /MP
	0% flow duration

Cleaning switch-off (4)

Cleaning switch-off:

Time during which the fitting is deactivated, e.g. for cleaning it.

Cleaning switch-off can be activated via a contact input on the ECC2 function controller, the Web Application or via a sensor on the fitting.

When Cleaning switch-off is triggered via an ECC2 function controller, the following must be observed:

A fitting will participate in the cleaning process if

– a cleaning period has been set for the ECC2 function controller and
– more than 0 minutes has been specified in the box for Cleaning switch-off.

A fitting will not participate in the cleaning process if

– a cleaning period has been set for the ECC2 function controller and
– 0 minutes has been specified in the box for Cleaning switch-off.

Triggered by sensor on the fitting

Information about which sensor activates Cleaning switch-off.

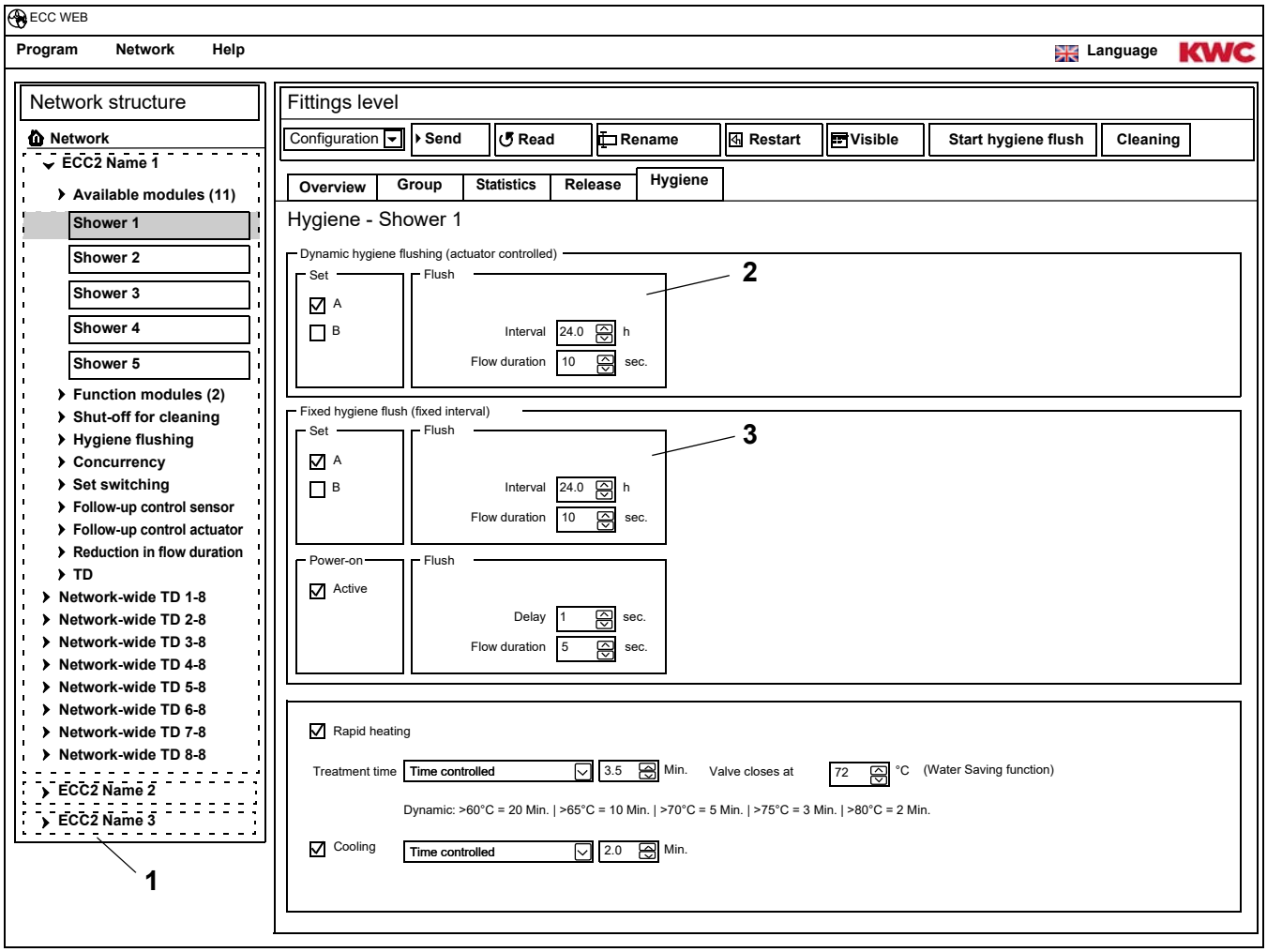
45. Hygiene Tab (Fittings Level)

45.1 Mark the module in the network structure overview (1).

- The module will be displayed.

45.2 Select the Hygiene tab

- The settings are displayed in the information window.



45.3 Change the settings.

45.4 Send the altered configuration to the module.

45.5 Where necessary, restart the module so that the module accepts the changes.

Important!
The actuators are configured via the ID.

Hygiene flushing can be controlled via the fitting or from the ECC2 function controller. To control hygiene flushing from the ECC2 controller, the module must be assigned to a sub-group of the Hygiene Flushing function group.
To control hygiene from the fitting, the interval must be greater than 0.

Dynamic hygiene flushing (actuator controlled) (2)
Hygiene flushing is performed at a fixed interval, after the last flushing.

☞ Necessary settings:

Set: Activate desired set
Interval > 0 (with 0, flushes are continually repeated)
Flow duration > 0

Active for set A, B:
Specifies the operating condition at which a dynamic hygiene flush is to take place.

Interval:
Time after the last flushing that a hygiene flush is to take place.

Flow duration:
Time, how long the hygiene flush is to be performed.

Fixed hygiene flushing (fixed interval) (3)
Hygiene flushing is performed at a fixed interval, independent of previously performed flushings.

☞ Necessary settings:

Set: Activate desired set
Interval > 0
If hygiene flushing is to be controlled only by the ECC2 function controller, the fitting must be assigned to a Hygiene Flushing group and interval = 0 must be set.
Flow duration > 0

Active in set A, B:
Specifies the operating condition at which a fixed hygiene flush is to take place.

Interval:
Time after which a hygiene flush is to be performed.

Flow duration:
Time, how long the hygiene flush is to be performed.

46. Power-on Flush

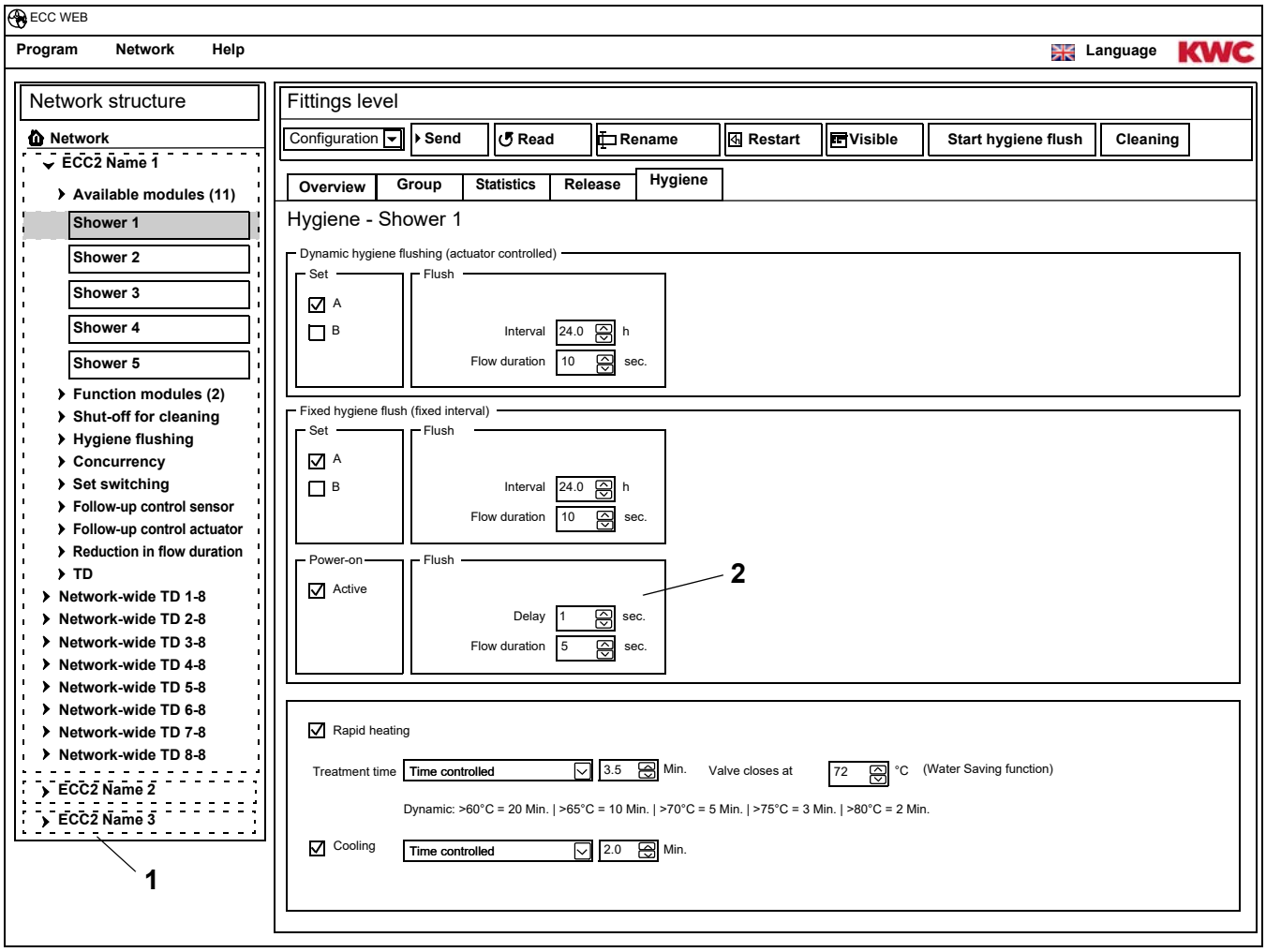
When power-on flushing is active, the fitting is flushed for a certain length of time when powered via the operating voltage (initialisation of the electronic module).

46.1 Mark the module in the network structure overview (1).

- The module will be displayed.

46.2 Select the Hygiene tab

- The settings are displayed in the information window.



Important!
The power-on flush is configured by the ID.

Necessary settings (2):

Function = active
Flow duration > 0

Flow duration:
Time, how long the power-on flush is to be performed.

Delay:
The power-on flush can be delayed for an adjustable time in order to prevent multiple simultaneous flushings.
When hygiene flushing is active, this delay is also effective for fixed hygiene flushing.

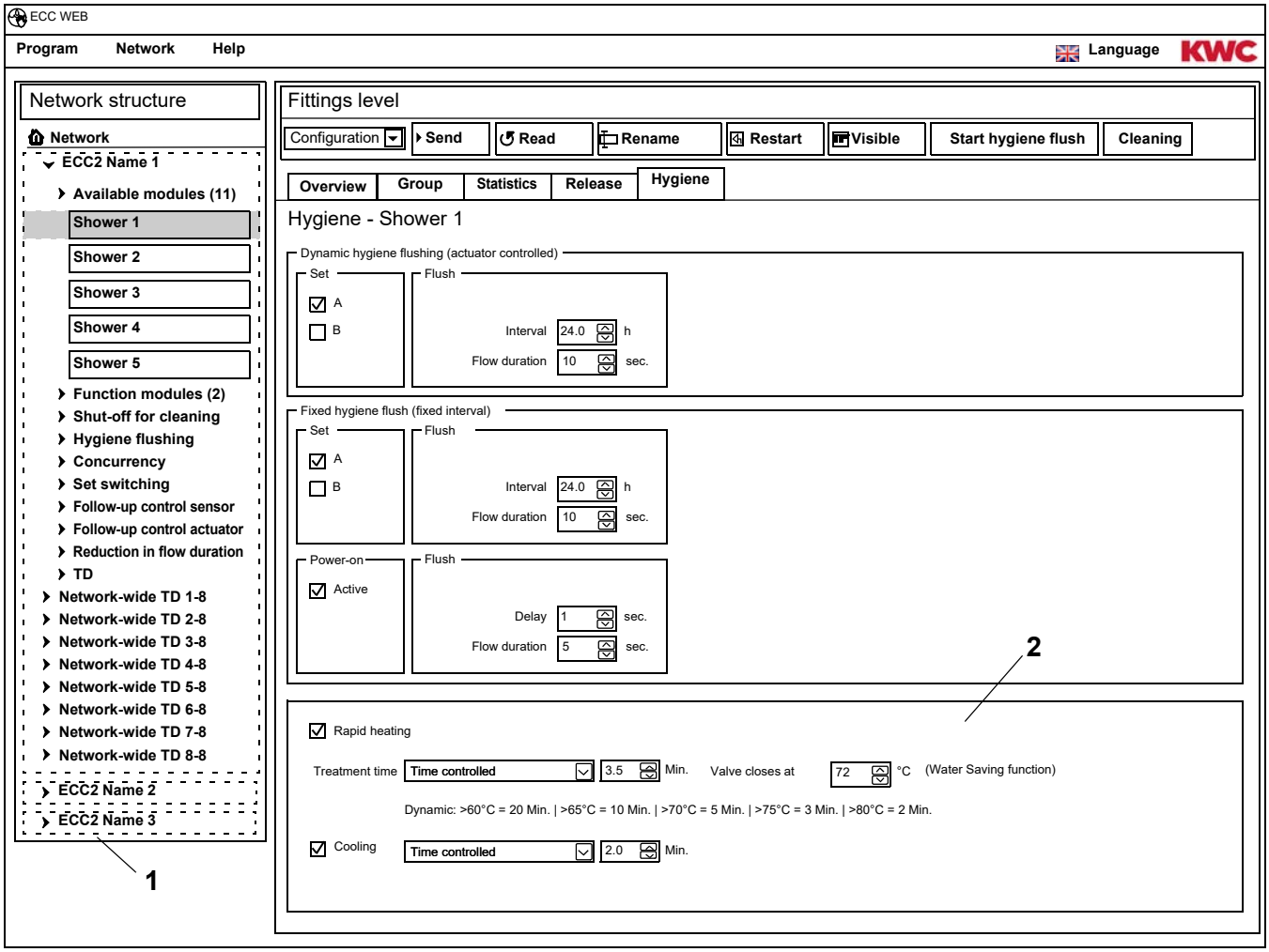
47. Thermal Disinfection

47.1 Mark the module in the network structure overview (1).

- The module will be displayed.

47.2 Select the Hygiene tab

- The settings are displayed in the information window.



47.3 Change the settings.

47.4 Send the altered configuration to the module.

47.5 Where necessary, restart the module so that the module accepts the changes.

☞ Necessary settings (2):
TD group = 1-8
Treatment time > 0 time-controlled

TD Flow

Rapid heating:

The fitting opens the solenoid valve. Hot water flows out of the circulation pipe. More hot water tops up the circulation pipe.

Influence time:

Time controlled	During thermal disinfection the solenoid valve opens up for the set duration.
Temperature controlled	During thermal disinfection the solenoid valve opens up in a temperature-controlled manner and in compliance with a specified temperature/time table.

Temperature	Time
> 80° C	2 Min.
>75° C ≤ 80° C	3 Min.
>70° C ≤ 75° C	5 Min.
>65° C ≤ 70° C	10 Min.
>60° C ≤ 65° C	20 Min.

Cooling:

Time controlled	To cool down, the fitting opens up for the set time.
Temperature controlled	To cool down, the fitting opens up until the set temperature is reached.

Water saving function

The valve responsible for thermal disinfection closes automatically when

- the influence time has been set in the TD process, and
- the set temperature is reached.

The ID configures which valve is responsible for thermal disinfection.

48. Electronic Module – A3000 open for Paid Media Delivery (AP Master)

48.1 Fold down the ECC2 function controller in the network structure overview (1).

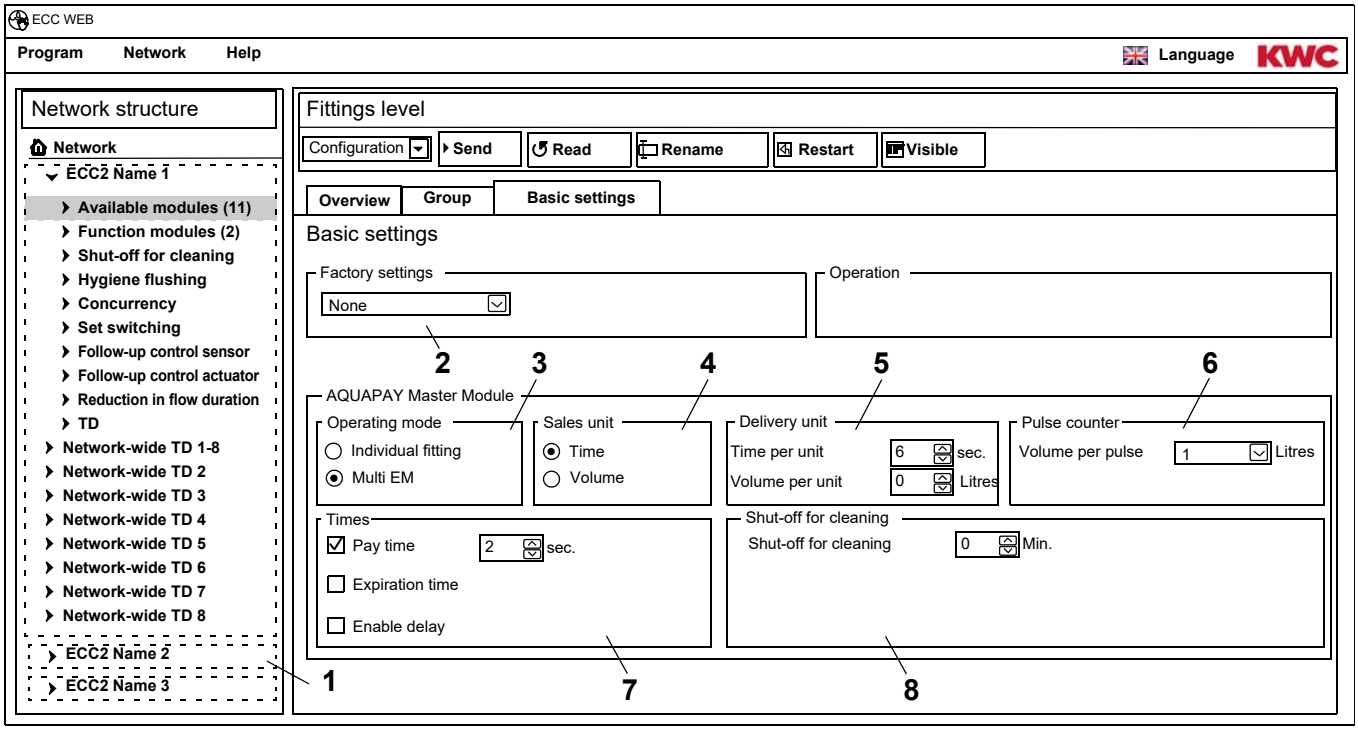
48.2 Select the function modules folder.

48.3 Select the PAY Master module.

- The information window displays all information about this module.

48.4 Select the "Basic settings" tab.

- The settings are displayed in the information window.



48.5 Change the settings.

48.6 Send the altered configuration to the module.

- After the configuration has been sent, the module is reset.

2 Factory settings
The default factory settings make it easier to configure the system with standard parameters. Factory settings are: Master (several EMs), Individual fitting time, Individual fitting volume

3 Operating mode
The AP Master module can be operated as an individual module or can manage several fittings. Volume delivery is only possible when the AP-Master module is working in the Individual Fitting mode of operation.

4 Pay unit
Paid media delivery can be charged based on time or volume.

5 Supply unit
Duration or volume of media supplied per paid unit.

6 Impulse counter
The AP-Master module is adapted to the hardware used by the volume counter (e.g. contact water counter).

7 Times
Time for payment and use of credit. Expiry time and Release delay can only be activated when the AP-Master module is working in the Individual Fitting mode of operation.

8 Cleaning switch-off
Time during which the fitting is deactivated, e.g. for cleaning it.

49. Electronic Module – A3000 open for Circulation Pipe

49.1 Fold down the ECC2 function controller in the network structure overview (1).

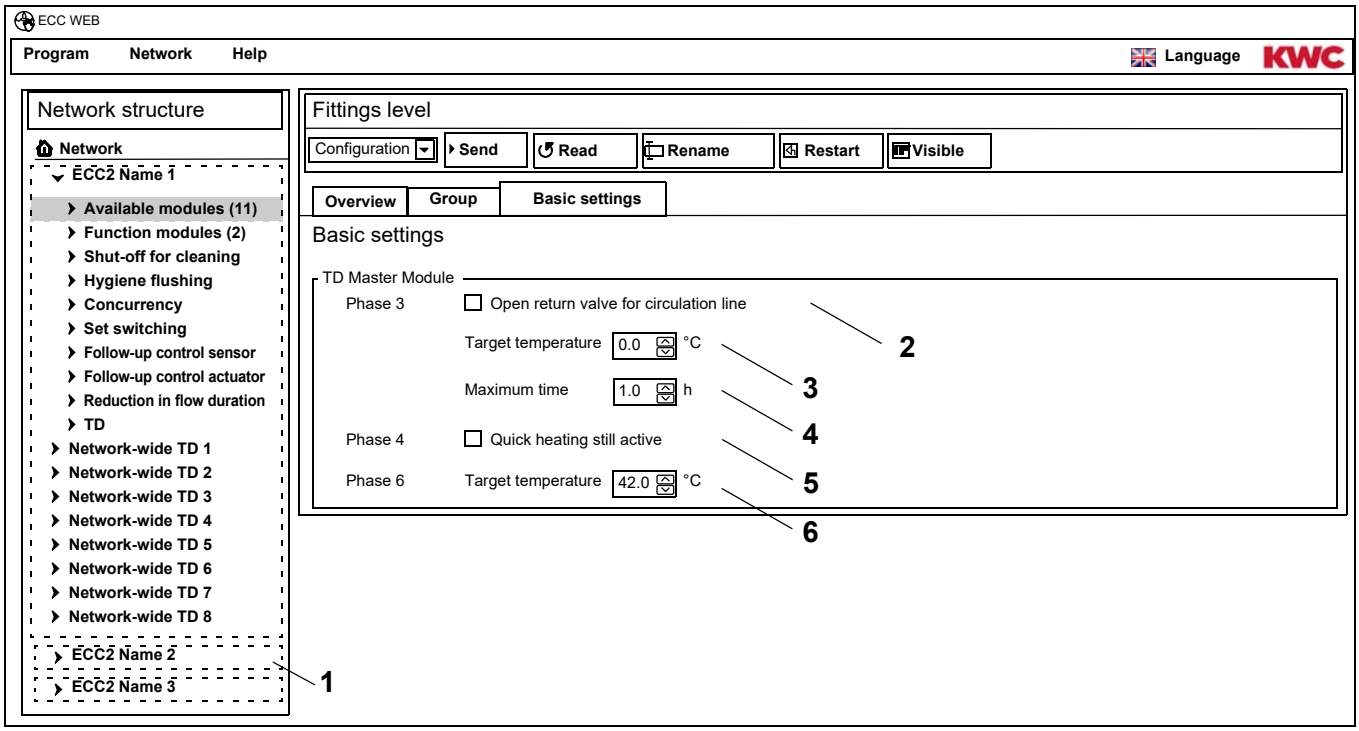
49.2 Select the function modules folder.

49.3 Select the TD master module.

- The information window displays all information about this module.

49.4 Select the "Basic settings" tab.

- The settings are displayed in the information window.



49.5 Change the settings.

49.6 Send the altered configuration to the module.

- After the configuration has been sent, the module is reset.

2 When the checkbox is active, the return valve in the circulation line opens up during the heating phase (Phase 3) of the thermal disinfection process.

3 Thermal treatment starts from the set target temperature (min. 60°C). The return valve closes when the temperature specified here for the circulation line has been reached or exceeded.

4 If the target temperature (3) is not reached within the time specified here, the return valve is closed and thermal disinfection is aborted.

5 When the box is activated, the valves of those fittings for which rapid heating has been activated open during TD phase 4.

6 The cooling phase of the fittings starts from the set target temperature. During the cooling phase, the return valve closes when the temperature in the circulation line drops to or falls below the temperature specified here.

50. Electronic Module – A3000 open for Drinking Water Heater

50.1 Fold down the ECC2 function controller in the network structure overview (1).

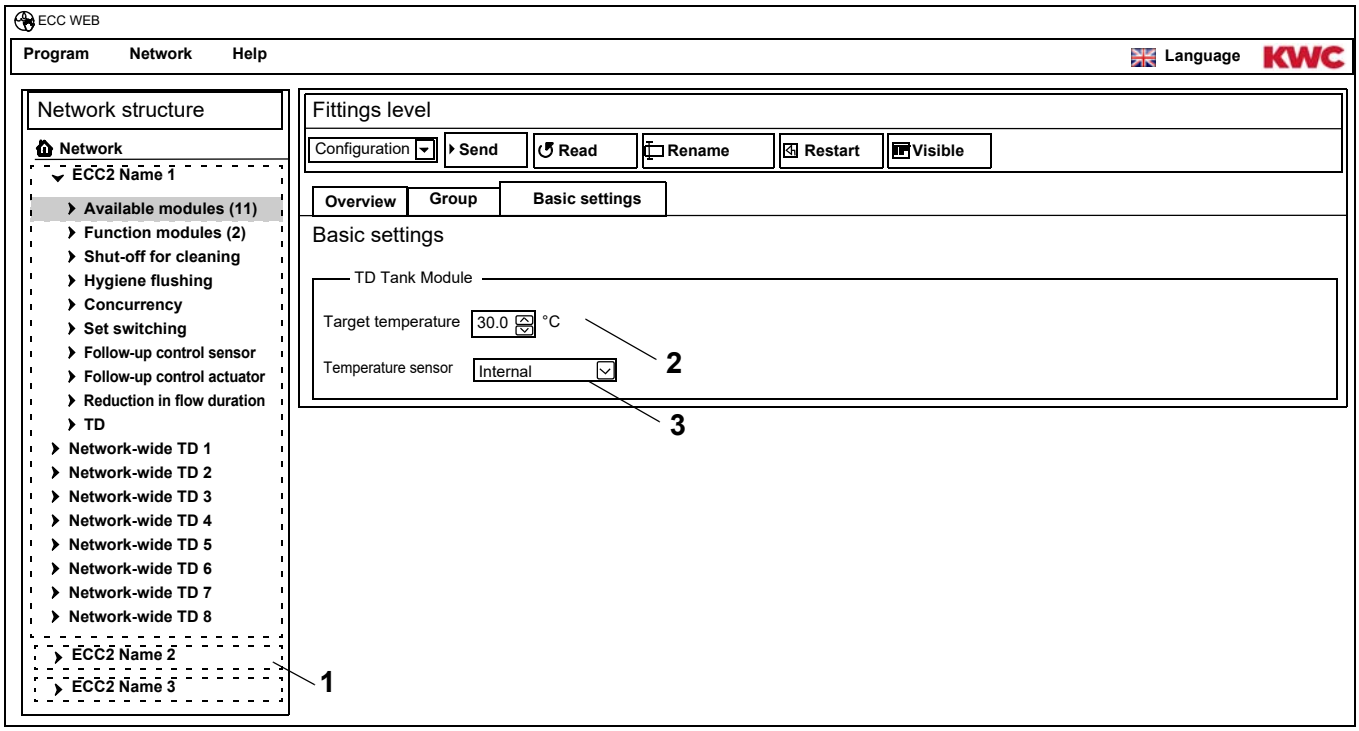
50.2 Select the function modules folder.

50.3 Select the TD Tank module.

- The information window displays all information about this module.

50.4 Select the "Basic settings" tab.

- The settings are displayed in the information window.



50.5 Change the settings.

50.6 Send the altered configuration to the module.

- After the configuration has been sent, the module is reset.

2 Temperature to which the water in the drinking water heater is to be heated.

3 Option, whether the temperature in the drinking water heater is to be monitored by an internal or an external temperature sensor.

51. Functions

Function	Description
Shut-off for cleaning	A fitting can be deactivated to allow cleaning and maintenance work. The Cleaning duration is the time during which the sensors of the fitting do not respond after the fitting has been deactivated.
Hygiene flushing	The fitting is flushed for the set time to avoid water stagnation and bacterial contamination.
Concurrency	When the modules of a group within the Concurrency function group are used simultaneously, the modules are opened one after the other. When the module of a group triggers, all other modules in this group are disabled.
Concurrency suppression	Prevents modules assigned to a Concurrency function group from triggering simultaneously. ☞ A module can only participate in a Concurrency suppression if – Concurrency suppression has been configured into the module's ID and – the module has been assigned to a subgroup of the Concurrency function group. 2 operating conditions Set A/Set B can be defined, for example Day/Night or Normal operation/Holidays. An individual fitting configuration can be used for an operating condition.
Set A switching	The module is switched to operating mode Set A.
Set B switching	The module is switched to operating mode Set B.
Follow-up control sensor	Activating the sensor starts a defined function. When the sensor of the module is activated, the configured output on the ECC2 function controller switches on for the duration of the activation.
Follow-up control actuator	Activating the actuator starts a defined function. When the actuator of the module is activated, the configured output on the ECC2 function controller switches on for the duration of the activation.
Reduction in flow duration	When there is heavy module usage, the flow duration is automatically reduced (see Kapitel 44.).
TD	Thermal disinfection (see Kapitel 27.)
Operating mode (On)	The module is activated.
Operating mode (Off)	The module is deactivated.

52. Digital Inputs

Function	Description
Start thermal disinfection	Starts local thermal disinfection
Abort thermal disinfection	Cancels local and network-wide thermal disinfection and immediately initiates the cooling phase.
Thermal disinfection performed	Thermal disinfection is acknowledged
Acknowledge outputs	Acknowledges the outputs, resets the cumulative error
Hygiene flushing	Starts hygiene flushing for all modules that are assigned to the Hygiene flushing function group.
Flush system	Flushes all fittings of the network
Shut-off for cleaning	Starts cleaning switch-off for all modules that are assigned to the Cleaning switch-off function group.
Set A/B switching	Changes the operating conditions of all modules
Set A/B switching Group 1 to 8	Changes the operating condition of all modules assigned to this group
Operating mode On/Off	Changes the operating mode of all modules
Start cooling phase	Starts the cooling phase
Concurrency	Starts concurrency for all modules that are associated with the Concurrency function group.
Reduction in flow duration	Starts reduction in flow duration for all modules that are assigned to the Reduction in flow duration function group.
Starts network-wide thermal disinfection 1 to 8	Starts thermal disinfection of all modules that are assigned to this group
Flow monitor	The flow monitor (leakage detector) works on the digital output shut-off valve.

53. Digital Outputs

Function	Description
Thermal disinfection active	The system is thermally disinfected
Thermal disinfection cancellation	Thermal disinfection was manually cancelled
Thermal disinfection safety abort	Thermal disinfection was aborted by the system
Thermal disinfection phase 5	Phase 5 of thermal disinfection is completed.
Cumulative error	A cumulative error is displayed
Follow-up control Sensor Group 1 to 8	The output is activated when the sensor of one of the modules assigned to this group is active.
Follow-up control Actuator Group 1 to 8	The output is activated when the actuator of one of the modules assigned to this group is active.
3-way valve	Controls the 3-way valve
Shut-off valve	Controls the shut-off valve

54. Error Code Incidents

Code	Meaning
1	System was started
2	System is being shut down.
3	Start TD
4	TD completed successfully
5	TD was terminated after an error
100	Start TD Phase 1
110	TD Phase 1 not confirmed by all modules
200	Start TD Phase 2
210	TD Phase 2 not confirmed by all tank modules
211	TD Phase 2 aborted after timeout
300	Start TD Phase 3
310	Rapid heating not confirmed by all EMs
311	TD Phase 3 aborted after timeout
312	TD Phase 3 not confirmed by all masters
313	Rapid heating could not be stopped
400	Start TD Phase 4
410	TD Phase 4 not confirmed by all master modules
411	Master reports safety switch-off
450	Master reports completion (log with temperature)
451	EM reports quick heating terminated
500	Start TD Phase 5 (however only group starts are logged)
501	TD Phase 5 Group 1 started
502	TD Phase 5 Group 2 started
503	TD Phase 5 Group 3 started
504	TD Phase 5 Group 4 started
505	TD Phase 5 Group 5 started
506	TD Phase 5 Group 6 started
507	TD Phase 5 Group 7 started
508	TD Phase 5 Group 8 started
509	TD Phase 5 Reheating time

510	TD Phase 5 not confirmed by all EMs of the group
511	TD Phase 5 aborted after timeout in the group
512	TD Phase 5 tank stop not confirmed
550	TD Phase 5 tank stop started
600	Start TD Phase 6
601	TD Phase 6 Group 1 started
602	TD Phase 6 Group 2 started
603	TD Phase 6 Group 3 started
604	TD Phase 6 Group 4 started
605	TD Phase 6 Group 5 started
606	TD Phase 6 Group 6 started

Code	**Meaning**
607	TD Phase 6 Group 7 started
608	TD Phase 6 Group 8 started
610	Master has not confirmed Phase 6
611	EMs in current group have not been confirmed Phase 6
620	TD Phase 6 started because of abort
650	TD Phase 6 Cooling of the TD master modules confirmed
651	TD Phase 6 Cooling terminated after safety window
700	TD Phase 7 started (return to normal operation)
710	TD Phase 7 Normal operation not confirmed by all modules
1000	CAN bus error
1001	CAN bus OK
1002	Leakage detected
2036	CAN bus error
2037	Opto-sensor missing
2041	Solenoid valve 1 cable broken
2042	Solenoid valve 1 short circuit
2044	Solenoid valve 2 cable broken
2045	Solenoid valve 2 short circuit
2047	Undervoltage

2061	Temperature sensor 1 cable broken
2062	Temperature sensor 2 cable broken
2068	Opto-sensor missing
2069	Temperature sensor 1 short circuit
2070	Temperature sensor 2 short circuit
2073	Opto-sensor missing
4000	EM not sending data
4001	EM has commenced sending data again

55. Cumulative Error Messages

Fitting

- Sensorbus sensor missing
- Temperature sensor error
- Continuous reflection
- Solenoid valve error
- Undervoltage

System

- Abort thermal disinfection
- Safety abort
- CAN bus error
- Missing fitting
- TD general

56. Parameter Overview

step … Step size, in which the value can be changed
def … Software preset for the value, which are stored in the ID.

Menu	Parameter	Adjustment range
ECC Level > Statistics	Main interval	1 - 1440 [step 1] [def 10] minutes
	TD interval	10 - 60 [step 1] [def 20] seconds
ECC Level > Rename		max. 32 alphanumerics
ECC Level > Start sensor addressing	Naming scheme for fittings	* for number [automatic 1 to 32]; e.g. Shower * Gents --> "Shower 001 Gents" … "Shower 032 Gents" #xxx# for start number [automatic xxx to xxx+31]; e.g. Shower #100# Gents --> "Shower 100 Gents" … "Shower 131 Gents"
ECC Level > IP	MAC address	Firm
	IP Address	Individually adjustable. Segment range: 0 - 255 Reserved: 0 and 255 Standard: 192.168.0.1
	Cleaning time	0 - 255 [step 1] [def 255] minutes
ECC Level > TD	Heat-up time circulation pipe (phase 3)	1 - 240 [step 1] [def 1] minutes
	Reheating time	0 - 240 [step 1] [def 0] minutes
	Treatment-time circulation line (Phase 4)	1 - 240 [step 1] [def 1] minutes
	Safety time-window	0 - 360 [step 1] [def 0] minutes
Fitting Level > Rename		max. 32 alphanumerics
Fitting Level > Hygiene > Dynamic hygiene flushing	Active for Set	A, B: NO / YES [def A,B]
	Interval	0 - 120 [step 0.5] [def 24] Hours
	Flow duration	0 - 255 [step 1] [def 10] seconds
Fitting Level > Hygiene > Fixed hygiene flushing	Active for Set	A, B: NO / YES [def A,B]
	Interval	0 - 120 [step 0.5] [def 0] Hours
	Flow duration	0 - 255 [step 1] [def 10] seconds

Menu	Parameter	Adjustment range
Fitting Level > Hygiene > Power-on flushing	Power-on flushing	NO / YES [def YES]
	Flow duration	0 - 255 [step 1] [def 5] seconds
	Trigger delay	0 - 255 [step 1] [def 0] seconds
Fitting Level > Hygiene > Thermal disinfection	Rapid heating	NO / YES [def NO]
	Treatment time > Time-controlled	0.5 - 20.0 [step 0.5] [def 3.5] minutes
	Cooling	NO / YES [def YES]
	Cooling > Time controlled	0.5 - 20.0 [step 0.5] [def 2.0] minutes
	Cooling > Temperature controlled	30 - 45 [step 1] [def 45] °C
	Water saving function > Valve closes at	62 - 80 [step 1] [def 72] °C
Fitting Level > Release > Peak load program	Suppression of simultaneous function within the group	NO / YES [def NO]
	Flush delay	0.0 - 25.5 [step 0.5] [def 0.0] seconds
	Automatic reduction of flow duration in the isle network	NO / YES [def NO]
Fitting Level > Release > Cleaning switch-off	Shut-off for cleaning	0 - 255 [step 1] [def 1] minutes
	Triggered by sensor	List [def none]
Fitting Level > Release > Aquapay	Enable mode	Master, A, B [def NO]
	Delivery unit – time	0 - 511 [step 1] [def 180] seconds
	Delivery unit – volume	0 - 500 [step 1] [def 20] Litres
	Pay time	NO / YES [def NO] 0 - 30 [step 1] [def 10] seconds
	Expiration time	NO / YES [def NO] 0 - 30 [step 1] [def 5] minutes

57. Fault Correction

Fault	Cause	Remedy
ECC function controller and fittings are not being displayed	– Connecting cable is not CAT5 or higher	➔ Replace cable
	– Connecting cable for direct connection of PC-ECC, no crossover cable	➔ Replace cable
	– Network adapter is deactivated	➔ Activate it
	– Safety software (anti-virus program) is preventing communication	➔ Check, if necessary adjust and send
ECC function controller is being shown, but the fittings are not being shown on the fitting level	– System line is not properly connected to the ECC function controller	➔ Check it
	– No terminating resistors	➔ Check it
	– Electric T-junction is not properly connected or the screw connections have not been tightened	➔ Check it

If you are unable to correct a fault or if the fault is not described in the fault correction section, please inform our customer service department!

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