

FMS USER GUIDE



Floor Management System

67555 10-15 (MZ)



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1. SHORT DESCRIPTION

- **full compatibility** with WLM2-xFS/B (working on ModBus RTU protocol)
- communication via **Bluetooth** with computers in LAN network
- communication via **Internet** with computers and **mobile devices**
- **automatic** software **updates**
- user settings **backup** on **SD card**
- maintaining the **time, date** and control heating strategies
- **easy** to install
- **small size** (8 cm x 8 cm)

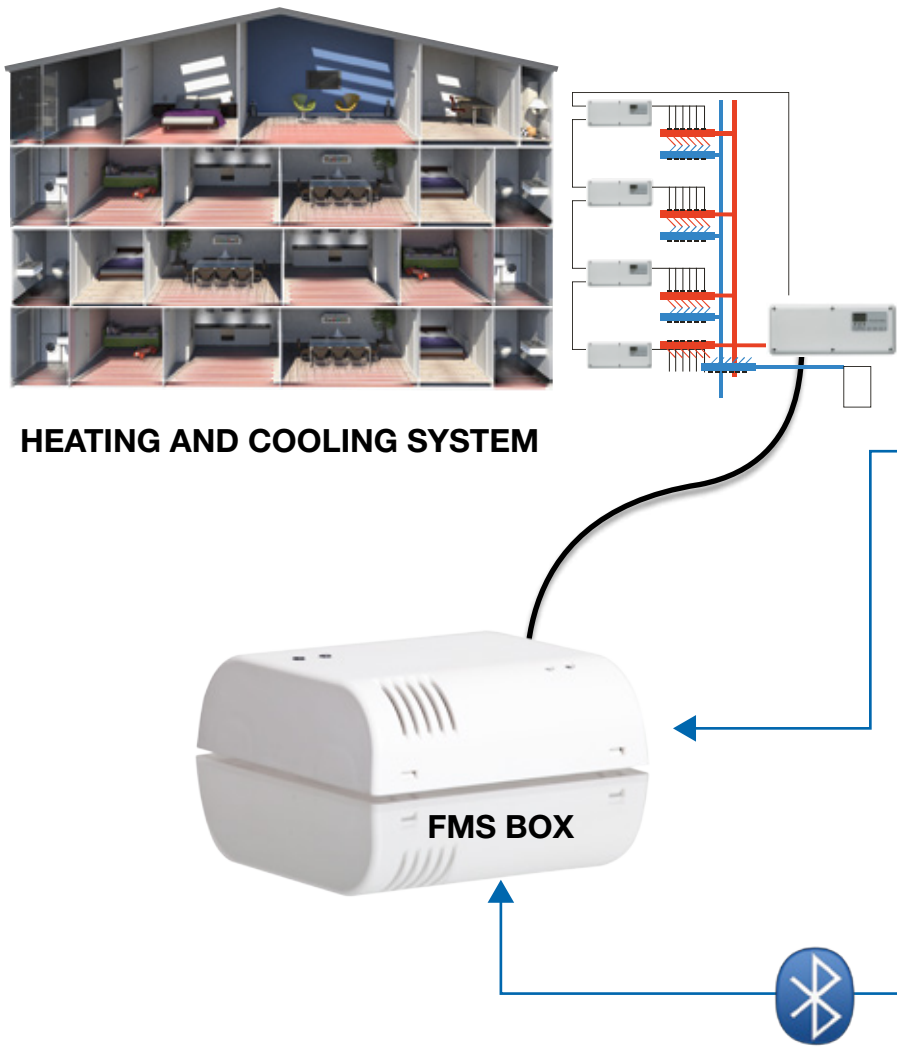
2. SYSTEM CAPABILITIES

- **savings** in heating costs
- **facilitated process of automation and management** of heating and cooling system
- **user-friendly** interface
- high **usability**
- **Internet administration** (PC, laptop and **mobile devices**)
- **online** system **monitoring**
- possibility of **integration** with other systems

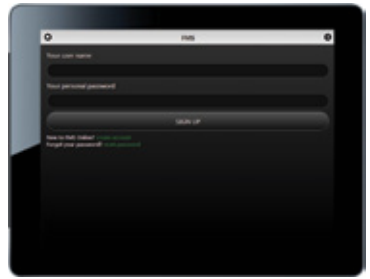
3. SOFTWARE FUNCTIONALITY

- individual **temperature management** in specific areas
- connecting rooms in the groups and possibility of **determining the time-temperature changes** for the rooms in a **group**
- **control, monitoring** and **maintenance** of the system via the **Internet**
- **heating strategy settings** (programming time) up to 4 temperature changes during the day for the entire system / specific room / group
- heating and cooling **statistics**

4. SYSTEM ARCHITECTURE



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FMS MOBILE



iOS

Windows phone



BlackBerry symbian



FMS ONLINE (INTERNET)



FMS DESKTOP

5. SYSTEM COMPONENTS

- **FMS BOX** - hardware component.
- **FMS Desktop** - desktop application which can be used on the PC, laptop, compact embedded or panel computer. Communication via Bluetooth with FMS BOX or via Internet with FMS Online service.
- **FMS Online** - web service enabling heating or cooling system management via the Internet.
- **FMS Mobile** - dedicated mobile web application available for smartphones and tablets (for example: iPad, iPhone, BlackBerry, etc.).

6. SYSTEM REQUIREMENTS

- **OJ Waterline 2** system equipped with **WLM2-xFS/B master**
 - **FMS Desktop** requirements:
 - **hardware:**
computer type:
 - desktop PC,
 - laptop,
 - panel,
 - compact embedded,with > **800MHz** Processor, **512 MB** RAM, **DirectX 9** capable **graphics adapter** and if You want manage Your heating and cooling system via **Bluetooth** You need **internal** or **external** Bluetooth adapter.
 - **software**
 - Microsoft Windows **XP with Service Pack 2 or higher**,
 - Microsoft Windows **Vista**,
 - Microsoft Windows **7**,
 - Microsoft Windows **8**.
- IMPORTANT NOTICE:** Microsoft Windows XP platform **is not supported** for FMS Desktop Bluetooth mode.
- cable connection between **WLM2-xFS/B and FMS BOX**
 - **Internet** access for **online management** via FMS Online service with FMS Desktop or FMS Mobile.

7. FMS BOX

FMS BOX is **compact** and **easy** to connect hardware component.

Connected to WLM2 via RJ14

Connected to Router via RJ45



8. FMS BOX STATUS DESCRIPTION

The LED states:

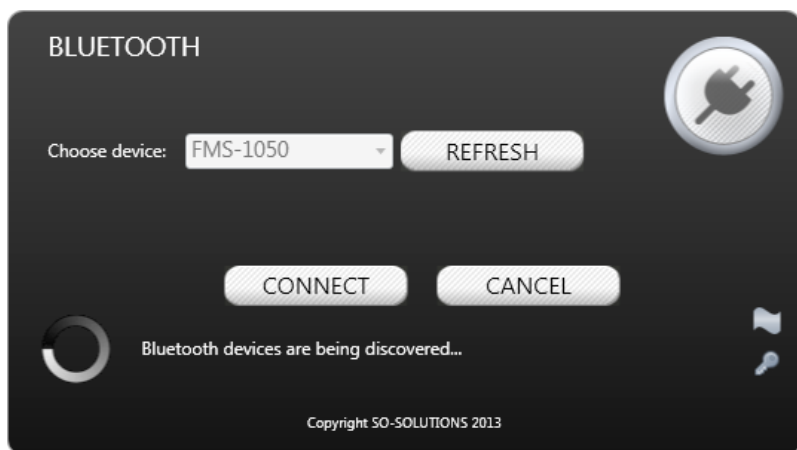
- **Continuous red:** no SD card or SD card failure;
- **Green flashes:** the “configuration wizard” has not been finished;
- **Green flashes in sequence short – short – long:** data is being synchronized via the Internet;
- **Red flashes in sequence short – short – long:** new software version is being downloaded;
- **Continuous blue:** active Bluetooth communication;
- **Continuous red and green flashes:** system has not been programmed;
- **Continuous green and red flashes:** system is being programmed;
- **Red and green flashes alternately:** Modbus communication error
- **Red and blue flashes alternately:** low battery

9. FMS DESKTOP

FMS Desktop is desktop application which can be used on the PC, laptop, compact embedded or panel computer equipped with Microsoft Windows platform. You can manage Your heating and cooling system via **Bluetooth** (Windows XP is not supported) with FMS BOX or via **Internet** with FMS Online service.

9.1. BLUETOOTH MODE

When You are working in the Bluetooth mode You need to choose the right FMS BOX device identifier. Each FMS BOX has got the **device name**, an unique **identity number** (FMS MAC ID) and **Bluetooth passkey**



9.2. ONLINE MODE

If You are working in FMS Desktop Online mode You need to sign in to Your personal account in FMS Online service.



The login panel has a dark grey background. At the top left is the title 'LOGIN PANEL'. On the right is a circular globe icon. Below the title are two input fields: 'Your user name' and 'Your personal password'. Below these are two buttons: 'SIGN IN' and 'CANCEL'. At the bottom left, there are two links: 'New to FMS Online? create account' and 'Forgot your password? reset password'. At the bottom right, there are two small icons: a person and a key. At the very bottom center, it says 'Copyright SO-SOLUTIONS 2013'.

LOGIN PANEL

Your user name

Your personal password

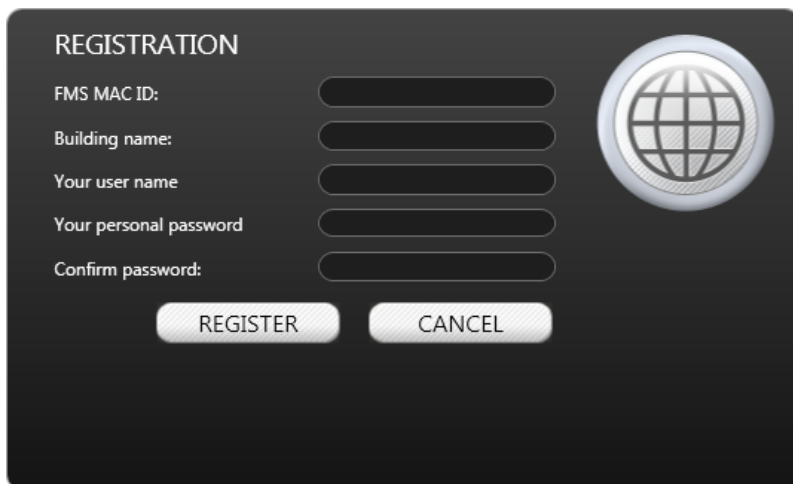
New to FMS Online? [create account](#)

Forgot your password? [reset password](#)

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9.3. REGISTRATION

When logging for the first time You need to create account and associate **FMS MAC ID** with personal **login** and **password**. Furthermore, You can add an additional **building name** to FMS BOX instead of hardware original identifier.



The registration panel has a dark grey background. At the top left is the title 'REGISTRATION'. On the right is a circular globe icon. Below the title are five input fields: 'FMS MAC ID:', 'Building name:', 'Your user name', 'Your personal password', and 'Confirm password:'. Below these are two buttons: 'REGISTER' and 'CANCEL'.

REGISTRATION

FMS MAC ID:

Building name:

Your user name

Your personal password

Confirm password:

9.3.1. PASSWORD RESET


You can change the personal password to FMS Online Service at any time. System automatically send new password to e-mail address associated with Your FMS Online account.

RESET PASSWORD

Your user name

RESET

CANCEL



9.3.2. BUILDING SELECTION

If You logged in to Your account You can manage buildings associated with Your account.

BUILDING SELECTION

Your buildings:


FMS 1050 (0004A38B6797) ▾

CHOOSE

CANCEL

Do you want to add new FMS to your account?

[create new](#)




9.3.3. Additional buildings accounts

You can associate additional buildings with Your FMS Online Service account.

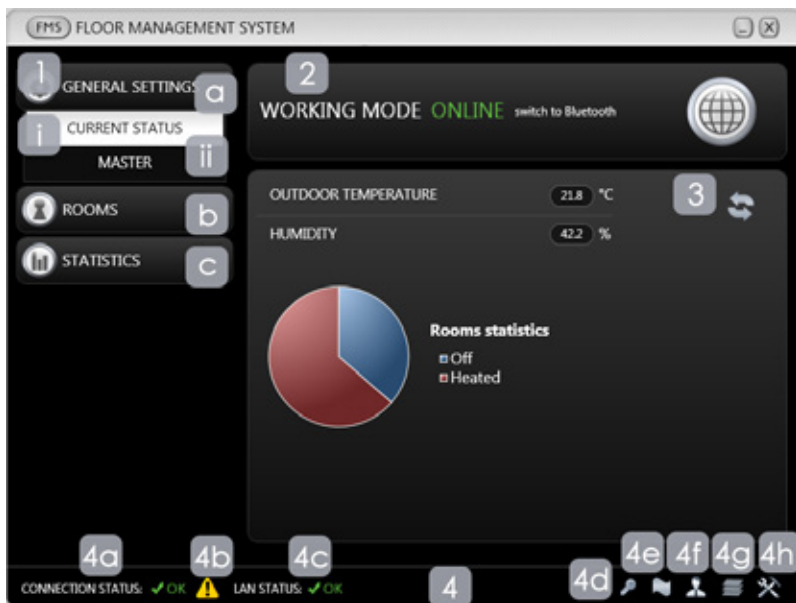
REGISTRATION

FMS MAC ID:

Building name:



9.4. MAIN WINDOW



1. MAIN MENU

a. GENERAL SETUP

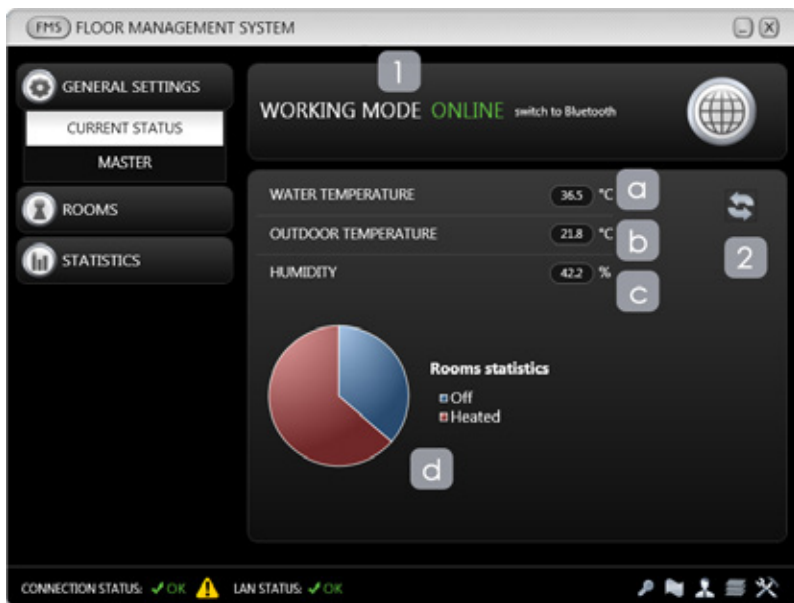
- i. **CURRENT STATUS** - contains basic readings from the sensors and the statistics of rooms;
 - ii. **WLM2 MASTER** - includes information about the master and allows You to change these settings;
- b. **ROOMS** - contains information about the individual room or group of rooms and allows You to change these settings;
- c. **STATISTICS** - includes information about connection statistics between FMS and WLM2 master;

2. INFORMATION PANEL - depending on the main menu status, contains information about:

- a. The mode of the program:
 - i. **ONLINE** - in a situation when the application is online, You can manage the floor heating system through the Internet and FMS Online Service (after logging in to Your account). The service is available on the Internet via specially dedicated web server;
 - ii. **BLUETOOTH** - this is the default mode of the application, enabling management of the heating and cooling system through a computer that is connected to the FMS BOX via Bluetooth;
- b. **WLM2 master operation mode:**

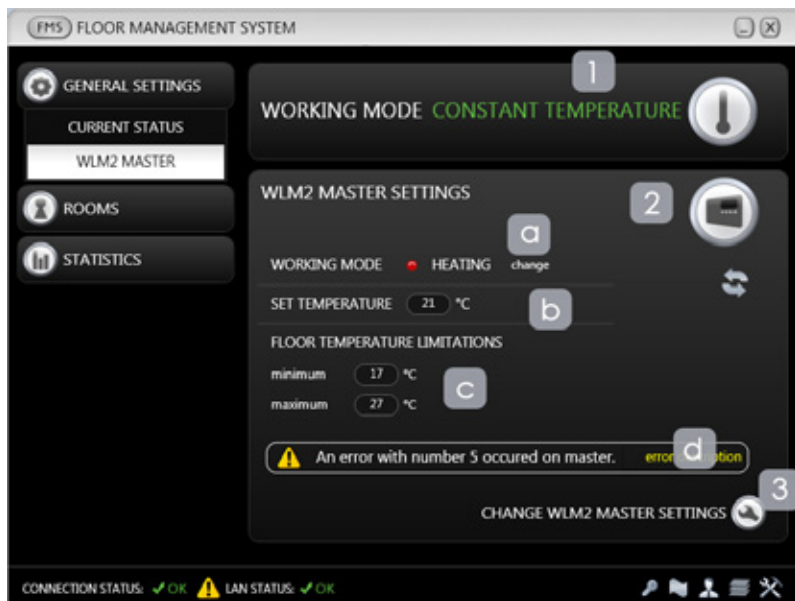
- i. constant temperature,
 - ii. time and temperature programming;
 - c. **groups of rooms operation mode:**
 - i. constant temperature,
 - ii. time and temperature programming;
 - d. **single-room operation mode:**
 - i. according to WLM2 master,
 - ii. constant temperature,
 - iii. time and temperature programming,
 - iv. according to the group settings;
 - e. **The status of the connection between the FMS and WLM2 master:**
 - i. **OK** - the communication is done properly,
 - ii. **TIMEOUT** - no connection between the FMS and WLM2 master;
3. **MAIN PANEL** - depending on the currently displayed menu position, displays detailed information about the sensor readings, temperature and connection statistics;
4. **BOTTOM PANEL:**
- a. **CONNECTION STATUS** -communication status between the FMS and WLM2 master;
 - b. **ERRORS** - visible error icon indicates that an error has occurred on the master or on a thermostat in the room;
 - c. **LAN CONNECTION STATUS** - communication status between the FMS BOX and the FMS Online service (Internet);
 - d. **CHANGE BUILDING** – after clicking on this icon a special window occurs which allows to change building to manage;
 - e. **CHANGE LANGUAGE** – after clicking on this icon a special window occurs which allows to change the user's interface language;
 - f. **USERS MANAGEMENT** - after clicking on this icon a special window occurs which allows to create / edit / delete additional users (only in FMS Desktop Online working mode);
 - g. **GROUP MANAGEMENT** - after clicking on this icon a special window occurs which allows to create / edit / delete groups of rooms;
 - h. **APPLICATION SETTINGS** - after clicking on this icon a special window occurs which allows to edit the application settings, including: changing the name of the rooms, languages and user credentials.

9.5. CURRENT STATUS



1. **INFORMATION PANEL** - contains information about the Floor Management System operating mode:
 - a. **ONLINE** - in a situation when the application is online, You can manage the floor heating system through the Internet and FMS Online service (after logging in to Your account). The service is available on the Internet via specially dedicated web server;
 - b. **BLUETOOTH** - this is the default mode of the application, enabling management of the heating and cooling system through a computer that is connected to the FMS BOX via Bluetooth;
2. **MAIN PANEL** - contains information about:
 - a. **WATER TEMPERATURE** - supply water temperature (provided that the WLM2 master is equipped with an appropriate sensor);
 - b. **OUTDOOR TEMPERATURE** - reading from the outside sensor (provided that the installation is equipped with an appropriate sensor);
 - c. **HUMIDITY** - reading from the humidity sensor (provided that the installation is equipped with an appropriate sensor);
 - d. **ROOMS STATISTICS** - depending on the mode of installation (heating / cooling) displays a graph showing the percentage of:
 - i. **heated / cooled rooms** - rooms in which the thermal actuators are open, because the temperature set point has not been reached yet;
 - ii. **turned-off rooms** - rooms in which the actuators are switched off, because the preset temperature has been reached;

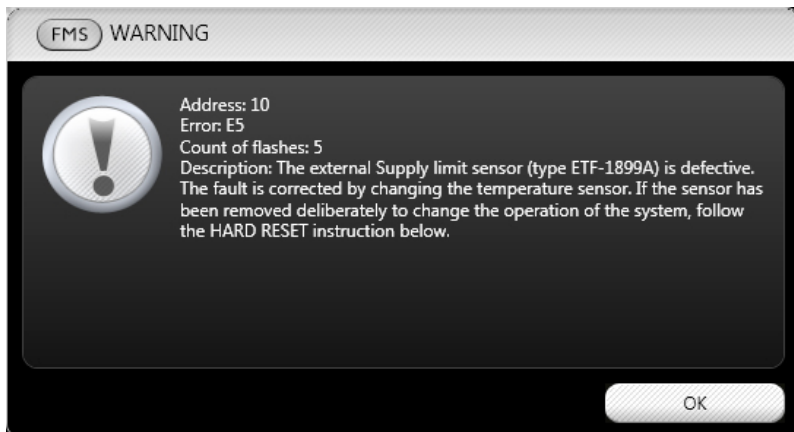
9.6. WLM2 MASTER



1. **INFORMATION PANEL** - contains information about the current operating mode of the WLM2 master:
 - a. **TIME AND TEMPERATURE PROGRAMMING** - Floor Management System allows You to automate the management of heating with the possibility of determining heating strategies (time and temperature programming), different for the week and weekend days. In each of these modes, there is up to four temperature changes possible during the day.
 - b. **CONSTANT TEMPERATURE** - Floor Management System software allows You to set a constant temperature of the WLM2 master. In this case the room temperature setting will be compatible with the setting on the WLM2 master.
2. **MAIN PANEL** - contains the following information:
 - a. **OPERATION MODE** (of the entire system) and possibility to change entire system working mode:
 - i. **HEATING** - installation works in the heating mode;
 - ii. **COOLING** - installation works in the cooling mode;
 - iii. **PENDING** – waiting for committing changes on the WLM2 master;
 - b. **TEMPERATURE SET POINT** - shows the current temperature set point for the WLM2 master;
 - c. **FLOOR TEMPERATURE LIMITATION:**
 - i. **MINIMUM FLOOR TEMPERATURE** - minimum floor temperature limit in the

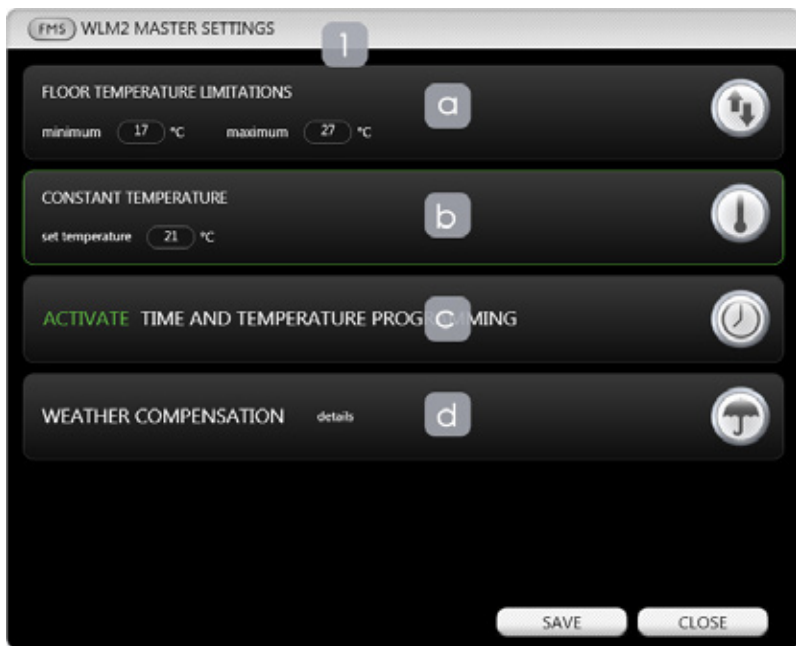
rooms (this setting is taken into account if there is the WLTD-x9 thermostat (with the floor sensor) or the WLCT2-x9 thermostat (additionally equipped with the floor sensor) installed in the room;

- ii. **MAXIMUM FLOOR TEMPERATURE** - maximum floor temperature limit in the rooms (this setting is taken into account if there is the WLTD-x9 thermostat (with the floor sensor) or the WLCT2-x9 thermostat (additionally equipped with the floor sensor) installed in the room;
- d. **WLM2 MASTER ERROR** - by clicking on the error description button the software displays a detailed description of the error message:



- 3. **WLM2 MASTER SETTINGS CHANGE** - after clicking an additional window opens which allows to change settings of the WLM2 master, including:
 - a. **floor limitation**;
 - b. **constant temperature**;
 - c. **time and temperature programming** - heating strategies;
 - d. **weather compensation settings** - if system is equipped with the WLOC-19 module;

9.7. CHANGING THE SETTINGS OF WLM2 MASTER



1. **CHANGE MASTER SETTINGS** – in this window You can change the settings of the WLM2 master, including:
 - a. **the floor temperature limitations** - described in section 2c of this User's Guide;
 - b. **constant temperature set point** - the constant temperature You want to set on the master and therefore also in the rooms that work in the master mode;
 - c. **time and temperature programming** - heating strategies;
 - d. **weather compensation settings** – after clicking on the details button, the following windows appears, in which it is possible to make changes in the weather compensation settings:

9.8. WEATHER COMPENSATION

In situation when the installation is equipped with weather compensation module (WLOC-19), You have the possibility to edit the settings of this function.

FMS

WEATHER COMPENSATION

WINTER

outdoor temperature

10

water temperature

45

SUMMER

outdoor temperature

20

water temperature

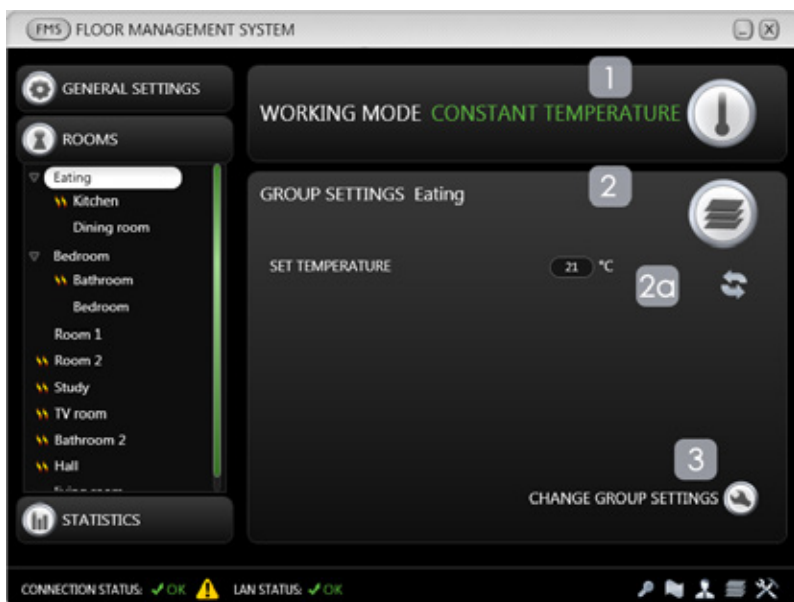
25

SAVE

CLOSE

9.9. GROUPS OF THE ROOMS

Floor Management System enables the possibility to manage the groups of rooms. With this functionality, You can easily combine the rooms in groups and thus determine the temperature in all the rooms belonging to the group.

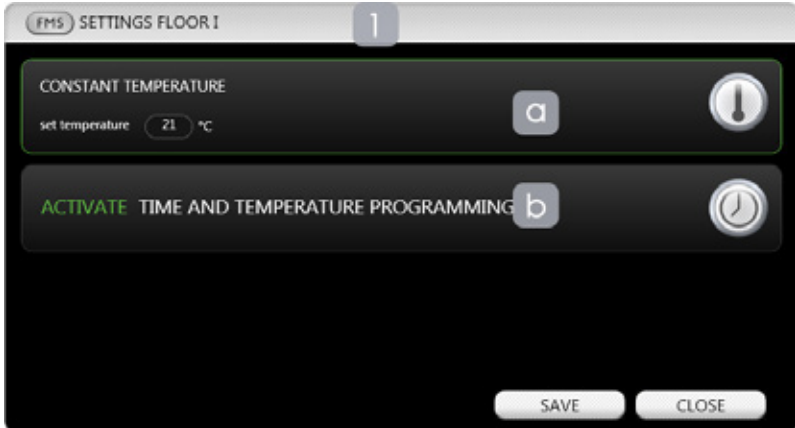


1. **INFORMATION PANEL** - contains information about the current operating mode of the group of rooms:
 - a. **TIME PROGRAMMING** - Floor Management System allows You automate the management of floor heating with the possibility of determining heating strategies (time programming), separate for the week and weekend days. In each of these modes there is up to four temperature changes possible during the day. When determining heating strategies (programming time) all the rooms in the group will work according to the group settings.
 - b. **CONSTANT TEMPERATURE** - Floor Management System software allows You to set a constant temperature of the group. In this case the rooms belonging to the group will be set to the same constant temperature (set point) as a group.
2. **MAIN PANEL** - contains information such:
 - a. **SET TEMPERATURE** - shows the current temperature set point for a group of rooms. Preset temperature depends on the mode of the group (time programming or constant temperature). This value will be compatible with the value of the temperature resulting from the currently used settings for the group;
3. **CHANGE GROUP SETTINGS** - after clicking, an additional window opens which allows to change settings of the group of rooms, including:

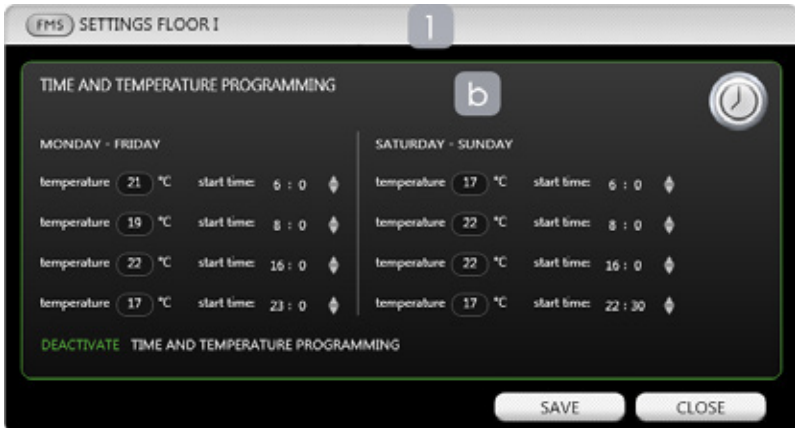
- a. setting a **constant set temperature**;
- b. **time and temperature programming** - heating strategies;

9.10. CHANGING THE GROUP SETTINGS

When You click on Change group settings, the following window is displayed, allowing You to change settings of group of rooms under **constant temperature** mode:



or in the time and **temperature programming mode** (heating strategy):

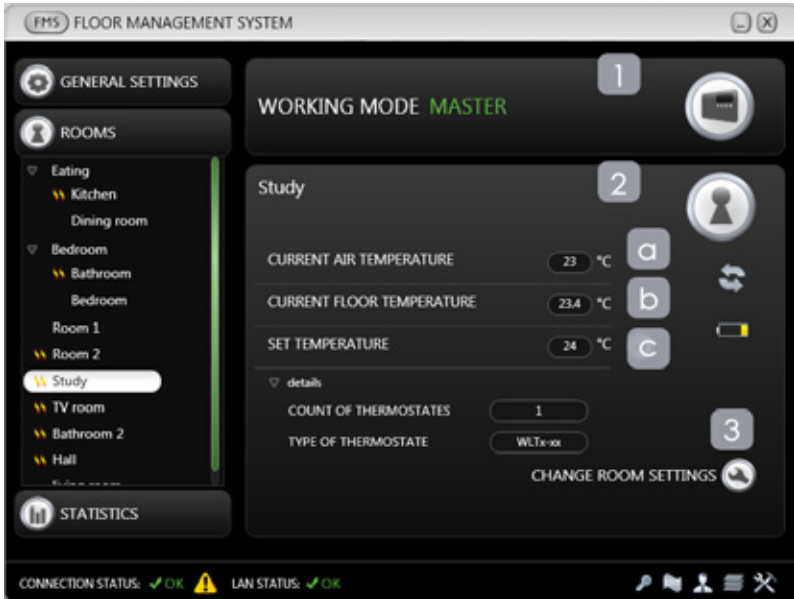


1. **CHANGE SETTINGS OF THE GROUP** - in that window we can change the settings of the group of rooms, including:
 - a. **setting a constant temperature set point** – this is the constant temperature which we want to set for all rooms belonging to the group;

- b. **time and temperature programming (heating strategies)** – allowing You to define up to four time / temperature changes per day;

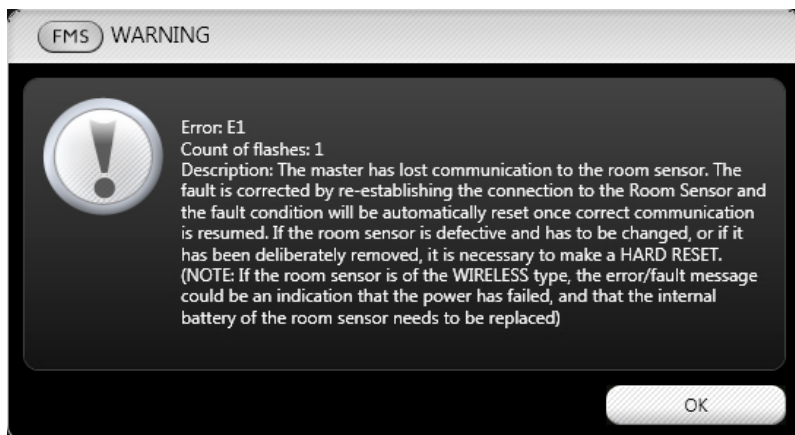
9.11. ROOMS

In the case of single rooms, Floor Management System allows monitoring and control of the management process by providing five heating modes for any room.



1. **INFORMATION PANEL** - includes information of the current room operating mode:
 - a. **MASTER** - room works in accordance with the master, which can be set to constant temperature or time programming;
 - b. **GROUP** - the room is working according to group settings, which can operate in a constant temperature or time programming;
 - c. **TIME PROGRAMMING** - Floor Management System allows You to automate the management of floor heating with the possibility of determining heating strategies (time programming), separate for the week and weekend days. In each of these modes there is up to four temperature changes possible during the day. When determining heating strategies (programming time) every room can have its own time / temperature settings.
 - d. **CONSTANT TEMPERATURE** - as in the case of the master and groups, Floor Management System allows You to set a constant temperature for a single room.
 - e. **BOOKING** – if booking module is activated.
2. **MAIN PANEL** - contains the following information:
 - a. **CURRENT AIR TEMPERATURE** - indicates the current temperature of the room;

- b. **CURRENT FLOOR TEMPERATURE** - indicates the current temperature of the floor (provided that You have installed the thermostat with a floor sensor);
- c. **SET TEMPERATURE** - indicates the temperature set point for the room. Preset temperature depends on the room operating mode (compatible with master, group or individual settings);
- d. **ERRORS** (of thermostat on that channel) - by clicking on the error description button, the software will display a detailed description of the error:



- 3. **CHANGE ROOM SETTINGS** - after clicking on this button, an additional window opens allowing You to change settings of a single room, including:
 - a. setting a **constant temperature**;
 - b. **time and temperature programming** - heating strategies;
 - c. activation of operating mode **in accordance with the** settings of **the WLM2 master**;

9.12. CHANGING THE ROOM SETTINGS

When You click on the CHANGE ROOM SETTINGS, the following window appears, allowing You to change settings of a single room under constant temperature:

The screenshot shows a window titled "FMS SETTINGS Room I" with a tab labeled "1". It contains three main settings sections, each with a label, a button, and an icon:

- CONSTANT TEMPERATURE** (button 'a', thermometer icon):
set temperature: 21 °C
- ACTIVATE TIME AND TEMPERATURE PROGRAMMING** (button 'b', clock icon)
- ACTIVATE WLM2 MASTER WORKING MODE** (button 'c', WLM2 icon)

At the bottom are "SAVE" and "CLOSE" buttons.

or in **time and temperature programming** mode:

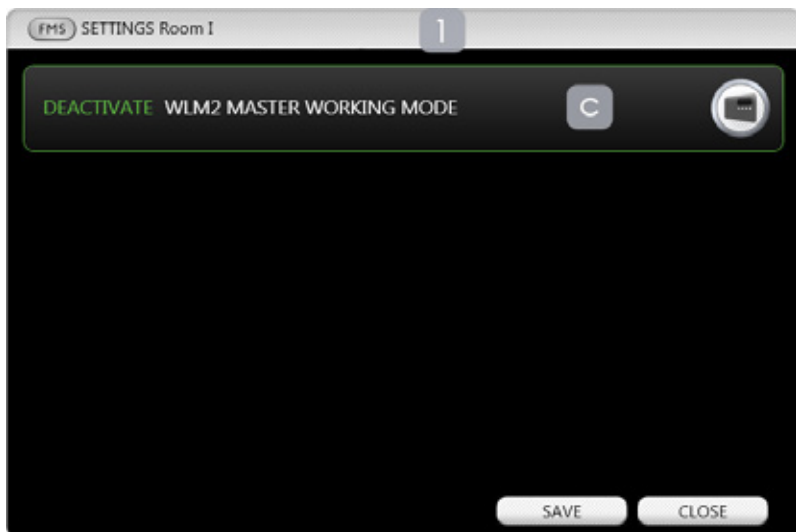
The screenshot shows the same "FMS SETTINGS Room I" window with tab "1", but with different settings:

- ACTIVATE WLM2 MASTER WORKING MODE** (button 'c', WLM2 icon)
- TIME AND TEMPERATURE PROGRAMMING** (button 'b', clock icon):
This section is divided into two columns: MONDAY - FRIDAY and SATURDAY - SUNDAY.

MONDAY - FRIDAY		SATURDAY - SUNDAY	
temp: 21 °C	start time: 6 : 0	temp: 17 °C	start time: 6 : 0
temp: 19 °C	start time: 8 : 0	temp: 22 °C	start time: 8 : 0
temp: 22 °C	start time: 16 : 0	temp: 22 °C	start time: 16 : 0
temp: 17 °C	start time: 22 : 30	temp: 17 °C	start time: 23 : 0

At the bottom of the programming section is a "DEACTIVATE TIME AND TEMPERATURE PROGRAMMING" option. At the bottom of the window are "SAVE" and "CLOSE" buttons.

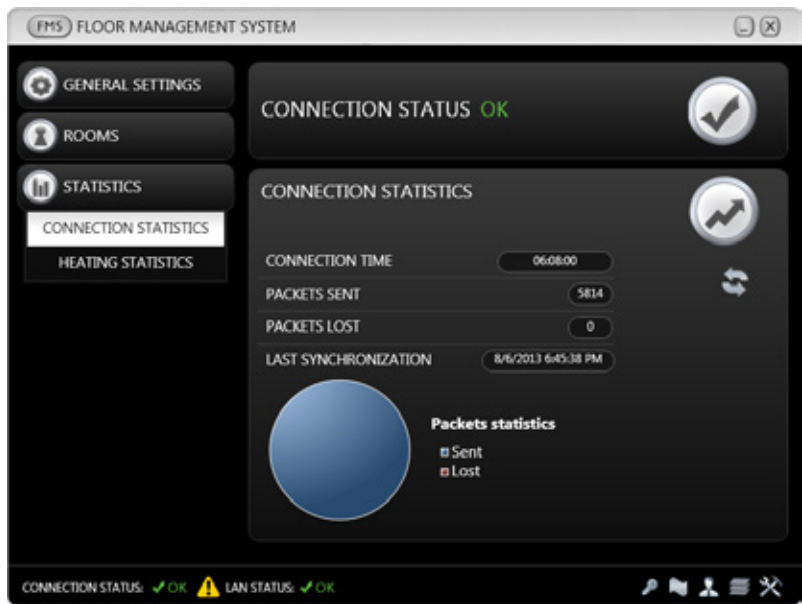
or in a mode which **complies with the master**:



1. **CHANGE ROOM SETTINGS** - in that window You can change the settings of a single room, including:
 - a. **setting a constant temperature** - this is the constant temperature that You want to set the room;
 - b. **time and temperature programming** - heating strategies, allows You to define up to four time / temperature changes per day;
 - c. setting an **operating mode** in accordance with **the WLM2 master** - the room is working in accordance with the master settings;

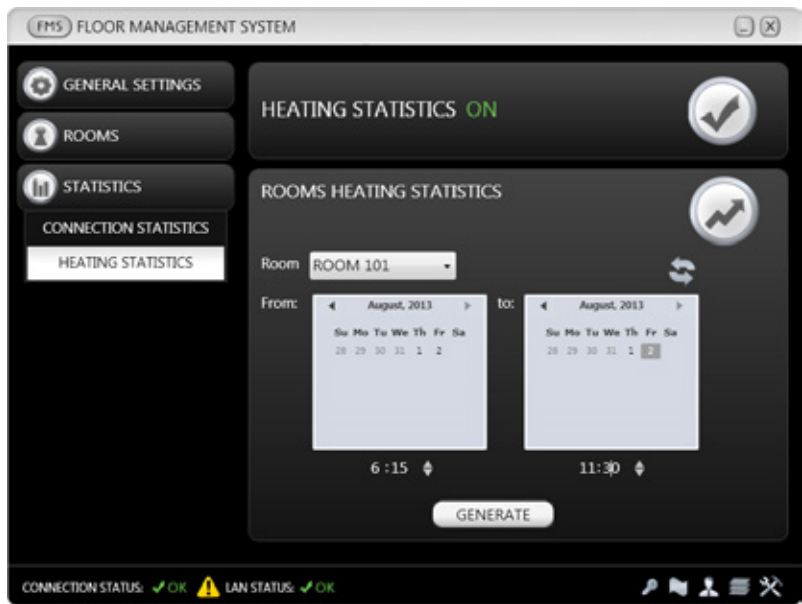
9.13. CONNECTION STATISTICS

Floor Management System allows You to view statistics of the connection between Your FMS BOX and the WLM2 master.




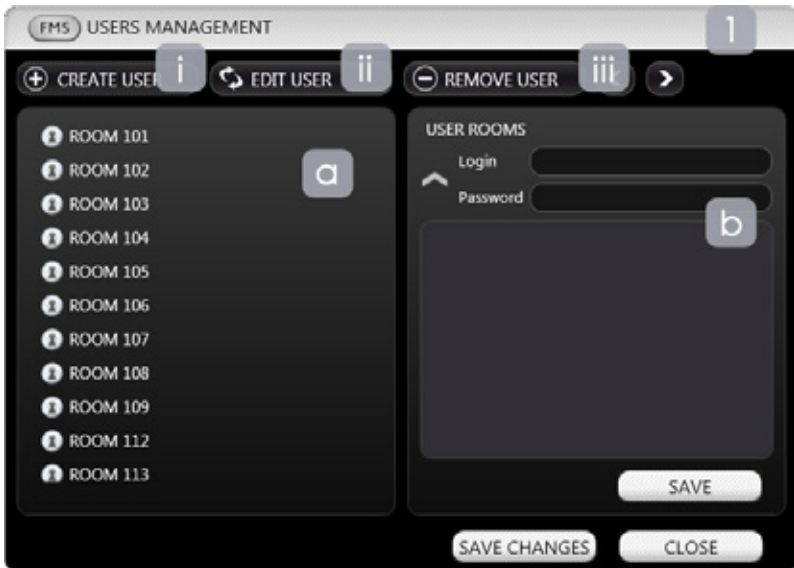
9.14. HEATING AND COOLING STATISTICS

Floor Management System allows You to view archive statistics of Your heating and cooling system (only in FMS Desktop Online mode via FMS Online service).




9.15. USERS MANAGEMENT

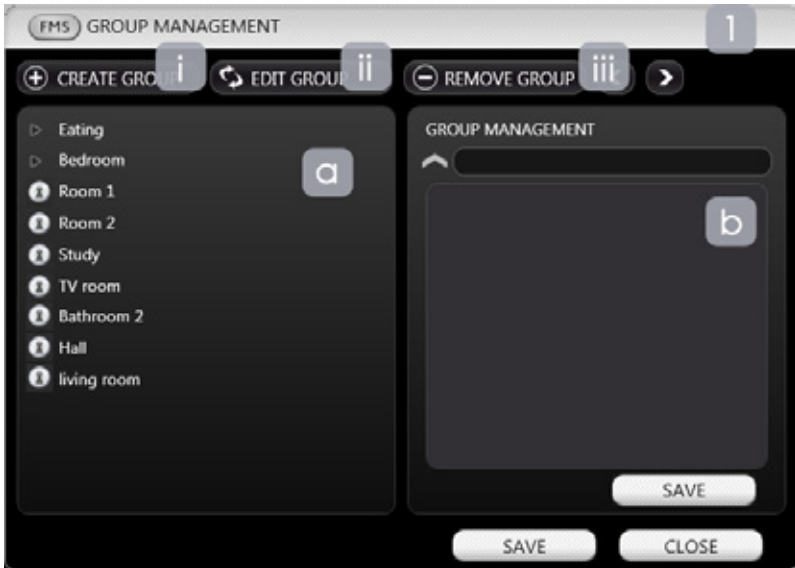
After clicking on the button with the  symbol the following window will appear, which allows You to create new additional users, edit existing users and remove users associated with Your building. To assign a particular room to the user, simply click the right arrow button.



1. **USERS MANAGEMENT** - in this window, You have the ability to edit users associated with Your building, including:
 - a. **ROOMS LIST** - contains the list of unassigned rooms to the user;
 - b. **USER ROOMS** - to add a room to the newly created user's rooms list simply use the arrow buttons;
 - c. **OPERATIONS USERS:**
 - i. **Create user** - creates a new user account;
 - ii. **Edit user** - displays a dialog box with the existing user accounts in order to further editing;
 - iii. **Delete user** - displays a dialog box for selecting the users which can be removed;

9.16. GROUPS MANAGEMENT

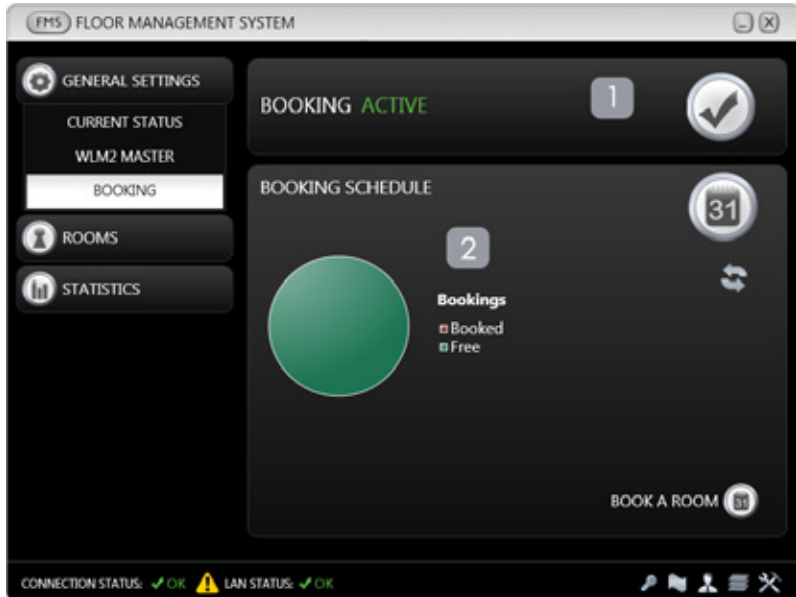
After clicking on the button with the symbol,  the following window will appear, which allows You to create new groups, edit existing groups and remove groups of rooms. To move a particular room to the group, simply click the right arrow button.



1. **GROUP MANAGEMENT** - in this window, You have the ability to edit groups of rooms, including:
 - a. **ROOMS LIST** - contains the list of existing groups and individual rooms;
 - b. **EDIT GROUP** - to add a room to the newly created or edited group simply use the arrow buttons;
 - c. **OPERATIONS GROUP:**
 - i. **Create group** - creates a new group;
 - ii. **Edit group** - displays a dialog box with the existing groups in order to further editing;
 - iii. **Delete group** - displays a dialog box for selecting the groups which can be removed;

9.17. ROOM RESERVATION

Floor Management System allows You to control the booking process by providing the Room reservation module. With this feature You can control the booking of particular room and make time-temperature changes within the scheduled dates. When You book a room in the system, its temperature for this period of time will change automatically in accordance to the settings in the Reservation module. The process of adjusting the room temperature will start in a pre-defined number of hours before the reservation date, in order to achieve an adequate level of heating comfort for those who will be staying in the room. After the reservation time, the temperature is automatically reduced to the previous room temperature settings.



1. **INFORMATION PANEL** - provides current status of the reservation module.
2. **MAIN PANEL** - provides graphical visualization of the number of reserved rooms.

9.18. BOOKING SCHEDULE

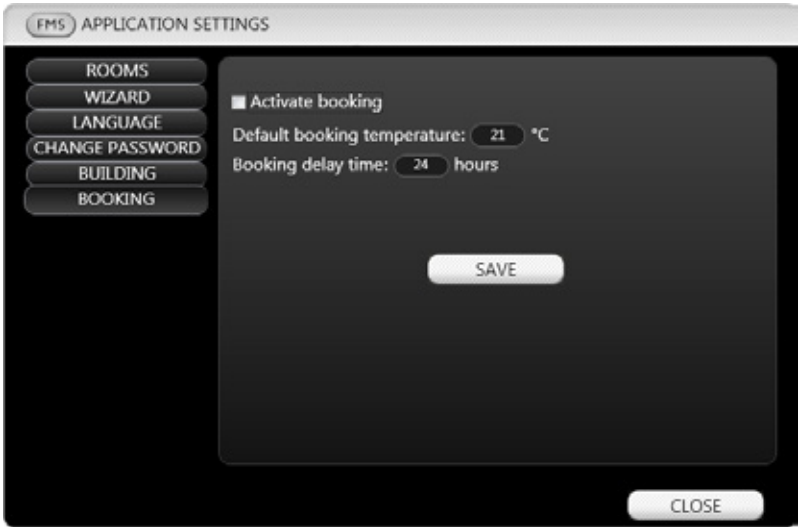
When clicking on the “Room reservation” button, the following window is displayed, where You can make changes in the reservation timetable:




1. **LIST OF ROOMS** - a current list of rooms in the system.
2. **RESERVATION TIMETABLE** - an interactive implementation of room reservation mechanism. Clicking on the square in the grid (determined by the room and date) allows You to book any room, using the stated above procedure. Re-click on reserved space allows You to cancel the reservation or change the heating strategy.

9.19. RESERVATION MODULE SETTINGS

By default, the reservation module is disabled. In order to enable this feature it is necessary to make changes to Your application. Here You can also set the default temperature of reserved rooms and the length of booking delay – time that is required to achieve the requested temperature of booked rooms.



9.20. APPLICATION SETTINGS

After clicking on  symbol, software displays the following screen, which allows You to edit the application settings, including changing the names of the individual rooms along with a pre-view of the channel number and address of the master to which the thermostats are connected:

FMS APPLICATION SETTINGS

ROOMS

LANGUAGE

CHANGE PASSWORD

Room name	Channel	Master address	Order	Booking
Kitchen	7	10	100	100
Dining room	5	10	100	100
Bathroom	4	10	100	100
Bedroom	3	10	100	100
Room 1	2	10	100	100
Room 2	1	10	100	100
Study	8	10	100	100
TV room	9	10	100	100
Bathroom 2	10	10	100	100
Hall	11	10	100	100
living room	12	10	100	100

SAVE

CLOSE