

# Logi<sup>i</sup>therm

ENERGY SAVING SOLUTIONS

## **C3** digital room thermostat



*Operating Instructions*

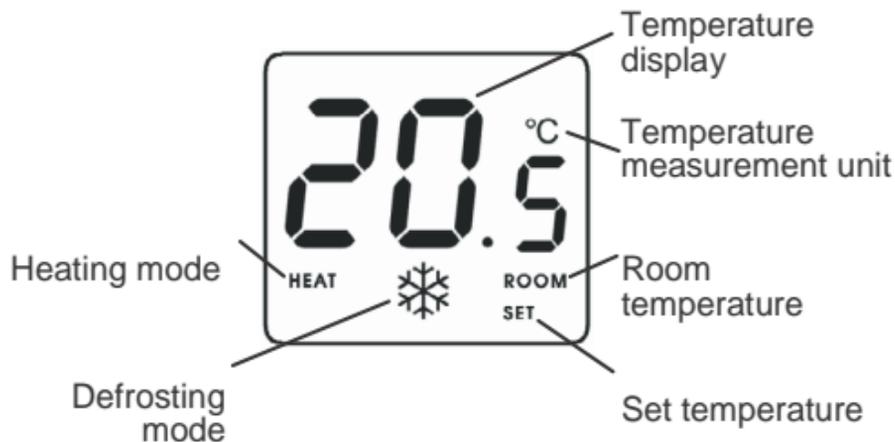
## **GENERAL DESCRIPTION OF THE THERMOSTAT**

This type switched-mode room thermostat is suitable to regulate the overwhelming majority of boilers available in Europe. It can easily be connected to any gas boiler or air conditioning device that has a double wire connector for a room thermostat, regardless of whether it has a 24 V or 230 V control circuit.

Temperature can be measured more precisely as compared to simple, conventional thermostats. In accordance with the selected switching sensitivity, the thermostat will switch the boiler or any other appliances on and off below and above the adjusted temperature, respectively, and contributes to reduce energy costs while maintaining comfort.

The switching sensitivity of the thermostat is  $\pm 0.2^{\circ}\text{C}$  ( $\pm 0.3^{\circ}\text{C}$ ). This means the difference between the adjusted temperature and the actual temperature measured during the switching process. For example, if the factory default setting is  $20^{\circ}\text{C}$  on the thermostat, then the device switches the boiler on at  $19.8^{\circ}\text{C}$  or below, and switches it off at  $20.2^{\circ}\text{C}$  or above.

***The information shown on the liquid crystal display of the thermostat includes the following:***



## **1. LOCATION OF THE DEVICE**

It is reasonable to locate it in a room used regularly or for many hours per day so that it is in the direction of natural ventilation in the room but protected from drought or extreme heat (e.g. direct sunlight, refrigerator, chimney, etc). Its optimal location is 1.5 m above floor level.

### **IMPORTANT WARNING!**

If the radiator valves in your flat are equipped with a thermostatic head, replace the thermostatic head of the radiator valve with manual control knob or adjust it to maximum temperature in the room where the room thermostat is to be located, otherwise the thermostatic head may disturb the temperature control of the flat.

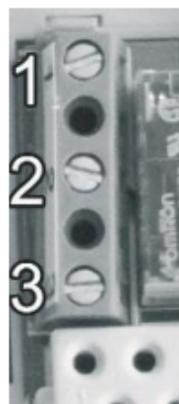
## 2. INSTALLATION OF THE THERMOSTAT

- To install the thermostat, detach the rear panel of the thermostat from the front panel by loosening the screws at the bottom of the cover as shown in the figure.
- With the help of the screws provided and some tools fasten the rear panel of the device to the wall.
- Using a small screwdriver, remove the cover of the terminal block from the inner side of the rear panel.
- The output relay of the thermostat has three potential-free connection points, i.e. No. **1** (NO); No. **2** (COM) and No. **3** (NC), which are located under an inner cover on the inner side of the rear panel. To control heating, connect the two connection wires of the device to



be controlled to terminals No. **1** (NO) and No. **2** (COM), i.e. to the normally open terminals of the relay, while the two connection wires of the cooling equipment should be connected to terminals No. **2** (COM) and No. **3** (NC), i.e. to the normally closed terminals of the relay.

- To prevent electric shock, replace the inner cover removed for the connection of wires after the assembling process has been completed.



**Attention!** The device must be installed and connected by a qualified professional. Always follow the manufacturer's instructions when connecting the thermostat to any heating or cooling appliance. The voltage appearing at terminal No. **1**, No. **2** or No. **3** depends only on the system being controlled, therefore the dimensions of the wire are determined by the type of the device to be controlled. The length of the wire is of no significance.

### 3. PUTTING THE THERMOSTAT INTO OPERATION

To put the thermostat into operation, detach the rear panel of the thermostat from the front panel by loosening the screws at the bottom of the cover as shown in the figure.

The battery compartment is in the inner side of the front panel of the housing. Insert 2 AA alkaline batteries (LR6 type) in accordance with the diagram in the battery compartment. After the batteries have been inserted, the display flashes the measured room temperature. (If this information fails to appear on the display, press the “**RESET**” button with a wooden or plastic stick. To press the button, do not use any electrically conductive materials or graphite pencil).

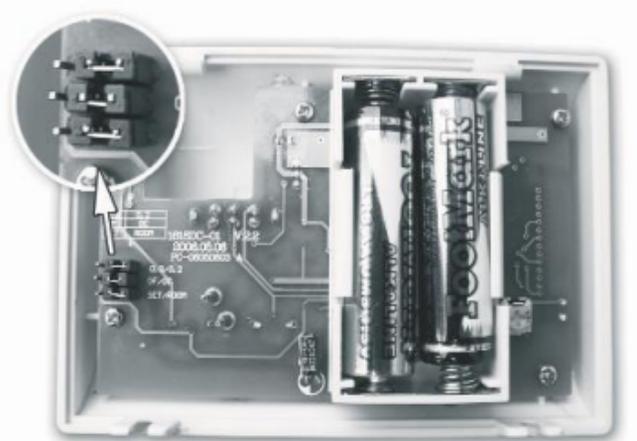
## 4. DEFAULT SETTINGS

After removing the rear panel of the device, the following factory default settings can be modified by relocating the jumpers (black plugs) located on the base panel.

### 4.1 Modifying the Switching Sensitivity

The switching sensitivity of the thermostat can be selected or adjusted by the uppermost jumper.

The factory default switching sensitivity (the difference between the adjusted temperature and the temperature measured when



the device is switched on or off) is  $\pm 0.2^{\circ}\text{C}$  that can be modified to  $\pm 0.3^{\circ}\text{C}$  by relocating the plug onto the left and central pins.

#### **4.2 Changing the Unit of Measurement of the Displayed Temperature**

The unit of measurement of the temperature shown on the LCD display can be selected and set by the central jumper.

With factory default settings the display shows the temperature in  $^{\circ}\text{C}$  (Celsius) which can be modified to  $^{\circ}\text{F}$  (Fahrenheit) by relocating the plug onto the left and central pins.

#### **4.3 Changing the Displayed Temperature**

The temperature(s) to be shown on the LCD display can be selected and set by the bottommost jumper.

With factory default settings the display shows the currently measured room temperature value, while the notice “**ROOM**” appears in the bottom right corner of the display. The adjusted temperature is visible only during the adjustment process (for approximately 15 seconds). By relocating the plug onto the left and central pins the displayed temperature can be modified so that the display alternately shows the current room temperature and the adjusted temperature for 4 seconds, respectively. In this mode, notices “**ROOM**” and “**SET**” are alternately shown under the currently displayed temperature in the bottom right corner of the display, indicating whether the display shows the room temperature or the adjusted temperature value.

***ATTENTION!*** To modify the factory default settings after inserting the batteries, press the “**RESET**” button with a small wooden or plastic stick to activate them.

## 5. SETTING THE DESIRED TEMPERATURE

The factory default temperature was set to 20°C and in case of the default switching sensitivity ( $\pm 0.2^\circ\text{C}$ ), the thermostat switches on and off the connected heating appliance below 19.8°C and above 20.2°C, respectively. This default temperature can be freely changed in steps of 0.5°C between 10°C and 30°C as follows:

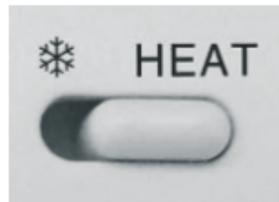
- Press the  or  button and the notice “**SET**” (adjusted value) appears in the bottom right corner of the display, while the temperature value shown on the display switches from room temperature to the default temperature (20.0°C) or to the last set temperature (the set temperature is blinking on the display). Pressing the buttons repeatedly or continuously (the change in values is accelerated), the desired temperature to be maintained

at the place where the thermostat has been installed can be set in steps of 0.5°C.

- Approximately 15 seconds after setting the room temperature to be maintained, the device automatically switches to normal mode. The notice “**SET**” disappears from the bottom right corner of the display, and once again the current room temperature is displayed.

## 6. OPERATION OF THE INSTALLED THERMOSTAT

After connecting, commissioning and performing basic settings and setting the temperature, the thermostat is ready for operation and controls the connected devices according to the position, i.e. **HEAT** or Defrosting ( ❄ ) of the operating mode switch located above the push buttons for temperature adjustment.



## 6.1 Heating Mode (right hand position of the switch)

According to the change in room temperature and temperature setting, the device controls (switches on or off) the boiler or any other heating equipment connected to the appliance. When activated, the normally open contact pairs, i.e. No. **1** (NO) and No. **2** (COM), of the relay of the device clamp shut, and, as a consequence, the appliance connected to the thermostat is switched on. The appearance of the notice "**HEAT**" in the bottom left corner of the display indicates that the device is activated.

## 6.2 Defrosting Mode (left hand position of the switch)

In the left hand position of the operating mode switch the thermostat provides defrosting in the vicinity of the installation, and, in order to avoid the possibility of freezing, it switches the boiler or any other heating appliances connected to the thermostat on and off below and above +7.0°C, respectively. During defrosting the normally

open contact pairs, i.e. No. 1 (NO) and No. 2 (COM) of the relay of the thermostat clamp shut and, as a consequence, the device connected to the thermostat unit is switched on. The activated state is indicated by the appearance of a ❄️ (snowflake) icon on the LCD display. During defrosting the temperature adjustment buttons are inactive.

## **7. BATTERY REPLACEMENT**

The average lifetime of the batteries is 1 year. The “**BA**” icon alternately replacing the temperature value on the LCD display indicates low battery voltage. Replace the batteries whenever the “**BA**” icon indicating low battery voltage appears on the display (see Section 3). After battery replacement, the desired temperature should be adjusted again, because during the battery replacement the thermostat is reset to factory default settings.

## TECHNICAL DATA

— switchable voltage:	24 V AC / DC,...250 V AC; 50 Hz
— switchable current:	8 A (2 A inductive load)
— temperature measurement range:	5 to 35°C (in 0.1°C increments)
— adjustable temperature range:	10 to 30°C (in 0.5°C increments)
— temperature measurement accuracy:	±0.5°C
— selectable switching sensitivity:	±0.2°C / ±0.3°C
— defrosting temperature:	+7°C
— storage temperature:	-10°C to +60°C
— power supply voltage:	2x1.5 V AA alkaline batteries (LR6 type)
— power consumption:	1.5 mW
— battery lifetime:	approx. 1 year
— dimensions:	110 x 75 x 45 mm
— weight:	154 g
— temperature sensor type:	NTC 10 kΩ ±1% at 25°C

This type thermostat complies with the requirements of standards EU Directive 2014/30/EU and standards R&TTE Directive 99/5/EC.

