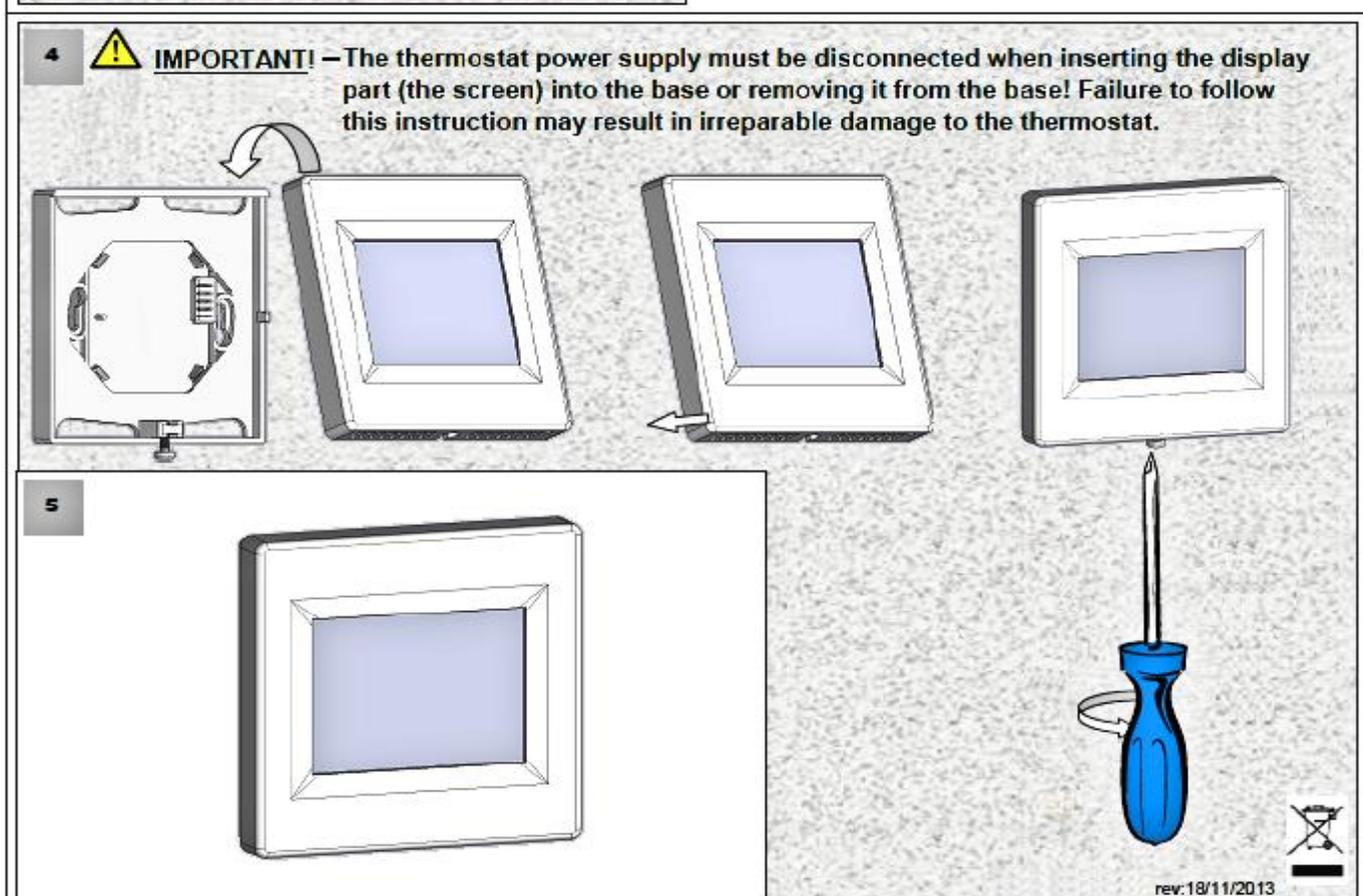
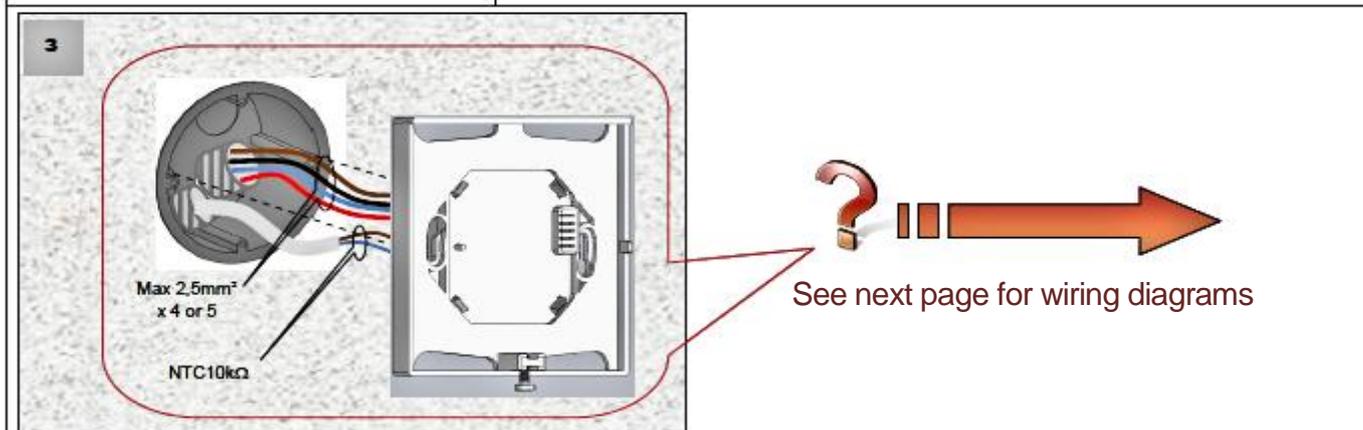
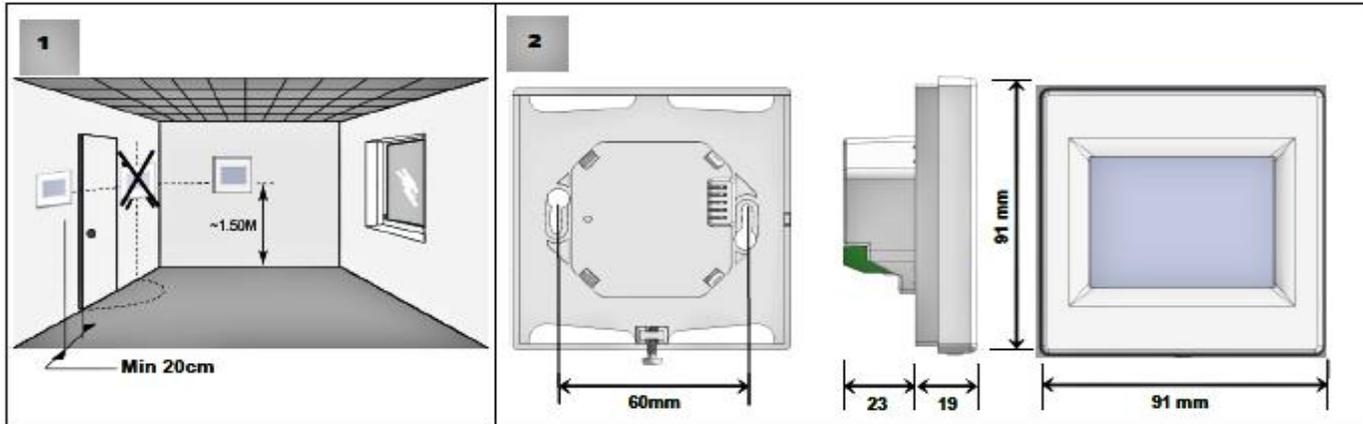


Thank you for purchasing a BN Thermic product. Manufactured to a high standard this product will, if used according to these instructions and properly maintained, give you years of trouble free performance.



**IMPORTANT:** PLEASE READ ALL THESE INSTRUCTIONS, NOTE THE SAFE OPERATIONAL REQUIREMENTS, WARNINGS, AND CAUTIONS. USE THIS PRODUCT CORRECTLY, AND WITH CARE FOR THE PURPOSE FOR WHICH IT IS INTENDED. FAILURE TO DO SO MAY CAUSE DAMAGE AND/OR PERSONAL INJURY AND WILL INVALIDATE THE WARRANTY.

## INSTALLATION INSTRUCTIONS



**Please Note:-** You can drive directly up to 3,600W (16A) with this thermostat (see fig 1), If the total load is above 3,600W (16A) you must install an external relay or contactor to take the load (see fig 2).

**Mounting instruction:**

All electrical conduits to the thermostat box that contain heating cable or floor sensors must be sealed to protect the thermostat against hot air currents coming up the conduit and into the thermostat. Failure of the thermostat is not covered by the guarantee if it over heats!  
 At least one floor sensor must be used when using this thermostat with underfloor heating (supplied) and all floor sensors MUST be mounted alone in a separate conduit to avoid electrical interference. Again seal this conduit to avoid hot thermal air reaching the thermostat.

Back view of Thermostat

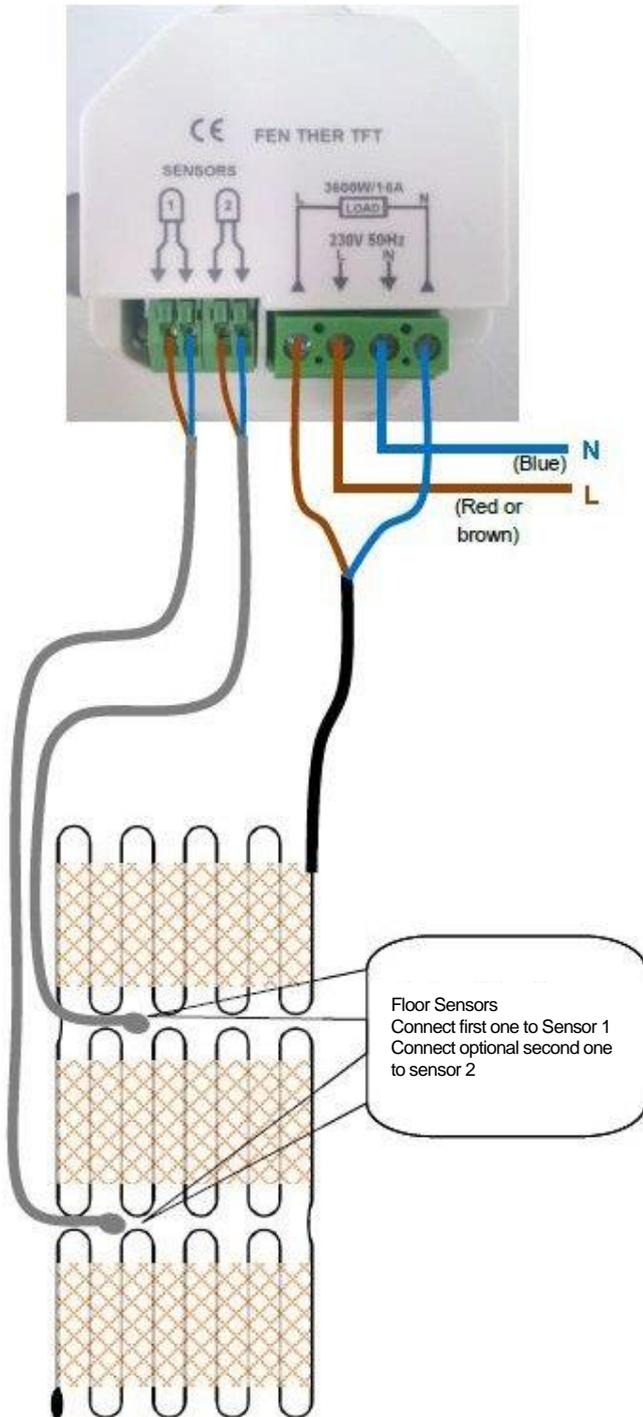


Fig 1  
 Use Heating Mats / Wire up to a maximum of 3,600W

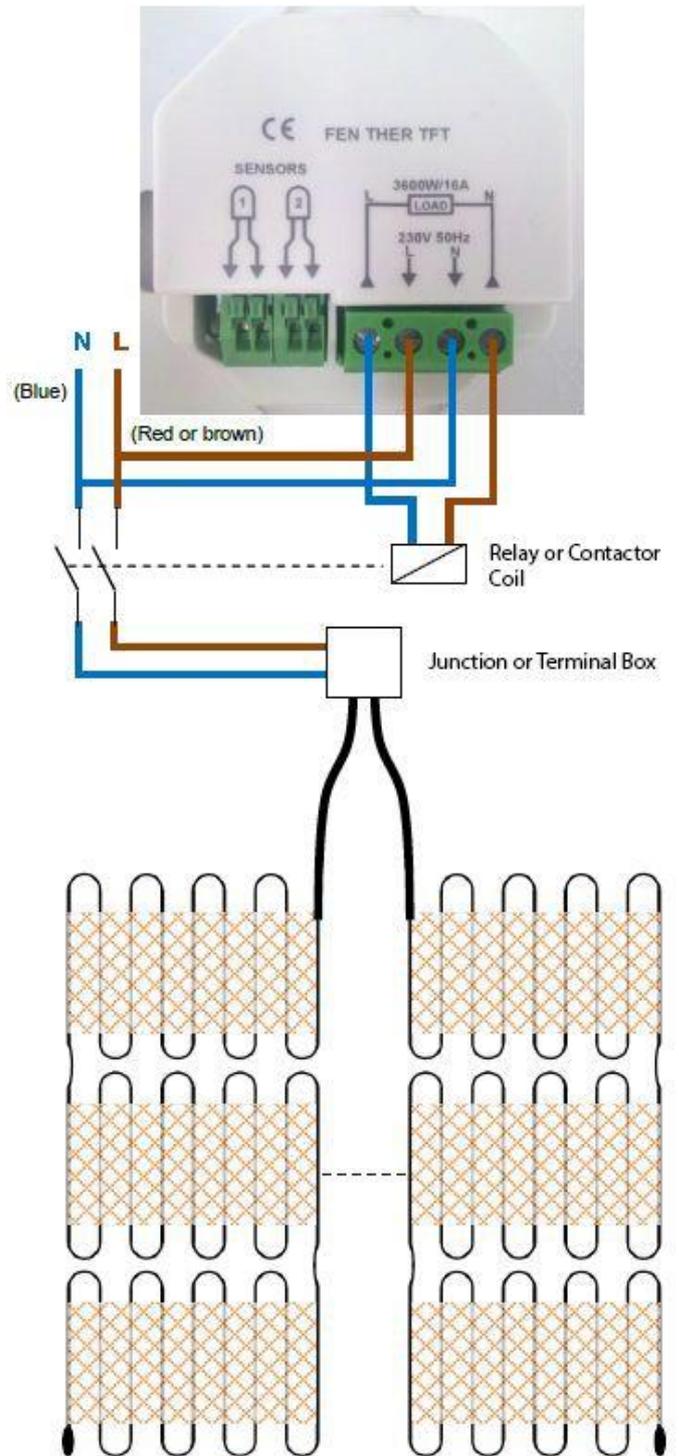


Fig 2  
 Use heating Mats / Wire above 3,600W

**⚠ IMPORTANT!**

**The thermostat power supply must be disconnected when inserting the display part (the screen) into the base or removing it from the base! Failure to follow this instruction may result in an irreparable damage to the thermostat.**

Before starting work the installer should carefully read this Installation & Operation Manual, and make sure all instructions contained therein are understood and observed.

- The thermostat should be installed by suitably qualified electrician.

- All instructions in this Installation & Operation manual should be observed when working with the thermostat. Any other application shall not comply with the regulations. The manufacturer shall not be liable in case of incompetent use of the thermostat. Any modifications and amendments are not allowed for safety reasons. The maintenance may be performed by service shops approved by the manufacturer only.

- The functionality of the controller depends on the model and equipment. This installation leaflet is part of the product and has to be obtained.

**APPLICATION**

- The thermostats are developed to control and manage all type of heating installations.  
- The controllers have been designed for use in residential rooms, office spaces and industrial facilities.

Verify that the installation complies with existing regulations before operation to ensure proper use of the installation.

**⚠ SAFETY INSTRUCTIONS**

Before starting work disconnect the power supply!

- All installation and wiring work related to the thermostat must be carried out only when de-energized. The appliance should be connected and commissioned by qualified personnel only. Make sure to adhere to valid safety regulations.

- The thermostats are neither splash- nor drip-proof. Therefore, they must be mounted at a dry place.

- Do not interchange the connections of the sensors and the 230V connections under any circumstances! Interchanging these connections may result in life endangering electrical hazards or the destruction of the appliance and the connected sensors and other appliances.

**FIRST INSTALLATION**

Batteries inside the thermostat must be charged for at least 6 hours to reach maximum capacity to back up time.

**1. Product overview**



Touch screen programmable thermostat specially designed to control different types of heating systems.

The thermostat will allow you to optimize your energy consumption and increase your comfort levels.

- Modern design with touch screen.
- Simplified wiring & Installation.
- "Easy program creation" function.
- Fully programmable.
- Temporary override function.
- Anti freeze function.
- Holiday or Reception function.
- Connections for 2 sensors.
- Estimation of the cost and consumption of the installation

**Options**

Additional 2<sup>nd</sup> floor sensor with several possibilities of regulation. (Floor, combined...)

Or

Remote air sensor (T16R) for use in damp conditions e.g. wet rooms or shower rooms



T16R – Remote wall sensor

**2. Menu structure**

**Mode**

- Manuel
- Timer
- OFF
- Anti freeze
- Vacation
  - Vacation settings
    - OFF
    - Anti freeze
    - Reduce
    - Sunday's program
    - Set Return Date
- Program
  - Program Menu
    - View Current Program
    - Select Program
    - Edit Program
      - User 1
      - User 2
      - User 3

**Settings**

**Language**

- English
- German
- Czech
- Spanish
- French

**Date and Time**

- Date
- Time
- DST

**Display**

- Colour
  - Blue
  - Red
  - Green
  - None
- Clean Screen
- Screen Lock
- Floor Temperature Display
  - Yes
  - No
- Degree Format
  - °C
  - °F
- Time Format
  - 12h
  - 24h

**Installation**

- Sensor
  - Sensor Calibration
    - Int
    - Ext1
    - Ext2
  - Ext. Sensor Type
    - Ext1 (10K – 12K – 15K)
    - Ext2 (10K – 12K – 15K)
- Regulation
  - Sensor Regulation
    - Air
    - Air + Floor
    - Floor
    - Air (Ext) + Floor
    - Air + Floor (x2)
  - Regulation Type
    - ON/OFF
    - PID
  - Floor Limit
    - Low
    - High
  - First Heating
    - Wood (10 days)
    - Concrete (21 days)
    - Ceiling (10 days)
  - Smart Start
    - o Yes
    - o No
  - Open window function
    - o Yes
    - o No

**RESET** (press 2 seconds on the RESET button to reset your installation)

**Statistics**

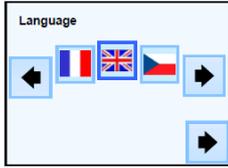
**View**

- View Last Day
  - View Months
  - View Year
- kWh Price*  
*Heating*  
*Power*

### 3. Installation menu

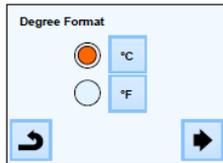
This section will guide you through setting up your thermostat for the first time.

#### 3.1. Language



Press the (◀) or (▶) keys near the flags to select the chosen language. The active language is framed.  
Press the ▶ key in the bottom right corner to continue the settings of the installation.

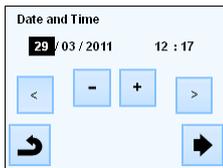
#### 3.2. Degree format



Select the degree format chosen by pressing on the touch button near the degrees. The active option is coloured red.  
Press the ▶ key in the bottom right corner to continue to the next part of the installation.

You can return to the previous menu by pressing the ↶ key.

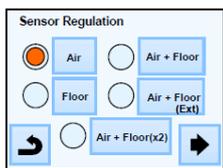
#### 3.3. Date and Time



Select the time format 12H or 24H using the same method as above.  
Press the (◀) or (▶) keys to activate the value to be modified.  
Each time a value is highlighted, it can be modified by pressing the (+) or (-) keys.  
Press the ▶ key in the bottom right corner to continue to the next part of the installation.

You can return to the previous menu by pressing the ↶ key.

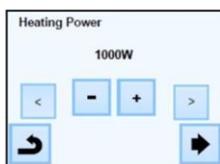
#### 3.4. Sensor Regulation



Select the chosen sensor regulation by pressing on the touch button near the sensor regulation possibilities.  
The active touch is coloured red.  
Press the ▶ key in the bottom right corner to continue to the next part of the installation.

You can return to the previous menu by pressing the ↶ key.

#### 3.5. Heating power



Press the (◀) or (▶) keys to select a unit, press the (+) or (-) keys to modify the heating power.

This value is used to estimate the running cost of the system. You can return to the previous menu by pressing the ↶ key.

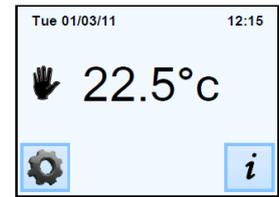
Press the ▶ key in the bottom right corner to continue.

The main screen is displayed.

The default working mode will automatically be set to manual mode. 🖐

### 4. Mode of operation

Main screen



How to change the current mode?

Press on the ⚙ key on the main screen and then press on the "Mode" button to access to the operating modes.  
You can now press the (◀) or (▶) keys to scroll and select a mode.

The selected mode is framed, to select a mode press the ↶ key to return to the main screen.



#### 4.1 Programmable mode 🕒

In this mode the thermostat will follow the chosen program (Built-in or customized) according to the actual time.

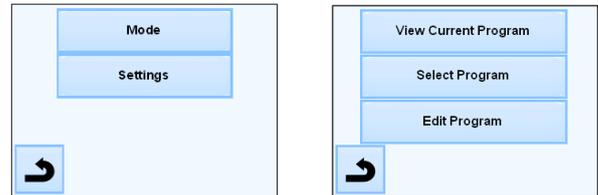
You can temporarily override the selected program, by pressing the temperature displayed on the main screen.

The small hand 🖐 logo will be displayed when the override function is active. To exit override mode, switch to manual then back to automatic mode.

You will have the choice between 4 built-in programs that can't be modified and 3 user programs that you can customize.

##### 1- How to customize a user program

Press on the "Mode" button then on "Edit Program" button and choose a user program.



Then you will have to choose between 3 configurations:



##### a- Set day by day

You will set a new program for each day. Automatically, the first day you will program is Monday.

The minimum program step is 15 minutes.

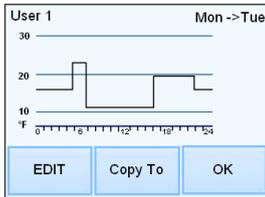
You will have to configure several periods.

The first period begins at 00:00. Then, choose the end time period with the (+) and (-) keys and the temperature to be followed during this period.



Press "Next" button to continue the program. The next period will start at the end of the last period.

For all periods you will define, you have to choose the end period and the temperature. The last period stops at 24:00. Then press on the Next button.



Then, you can define another program for Tuesday by pressing the "EDIT" button or you can copy the Monday Program by pressing the "Copy to" button

Continue to program as above for the remaining days of the week.

#### a- Set Weekday / Weekend

You will determine 2 programs: 1 for the weekdays (Monday to Friday) and 1 for the weekend (Saturday and Sunday)  
Use the same process as explained above to customize your program.

#### b- Set all Days at once

You will determine 1 program which will be the same for every day of the week  
Use the same process as explained above to customize your program.

#### 1- How to choose a program

Press on the "Mode" button then on "Program Menu" button, then "Select Program" button you can choose between 4 built-in programs and 3 user programs.  
Use the "See Next" button to scroll through the different programs and the "Select" button to confirm your selection.

You can view the current program by pressing on "View current program".

If you return to the main screen, press on the  button to see the current program.

#### • Timer mode

The Timer mode allows you to set a temperature and duration for a period of up to 5 hours.

This function can be used to override the existing program for short periods. You will have to adjust the temperature and the duration (Default value 22°C). When you have validated your choice, the  logo appears on the left of the temperature with the remaining duration below.

#### • Manual mode

Manual mode, the set temperature will be followed all the time.

#### • OFF mode

Use this mode if you need to switch off your installation. Be Careful: In this mode your installation can freeze.

#### • Antifreeze mode

The antifreeze mode is used to protect your installation against frost. The default value is 7°C but can be adjusted between 2°C and 15°C

#### • Holiday mode

You will have to select a mode which will be followed during the vacation time. You have 4 possibilities:

#### • OFF Mode

#### • Antifreeze Mode

#### • Reduced Mode

#### • Sunday mode : the installation follows Sunday's current program

Then, select a return date and time

The logo and date of return are displayed on the main screen

If you want to cancel the holiday function before the return date, you can simply change operating mode.

## 5. Special Function

### 5.1 Keyboards lock Function

Use this function to prevent all change of your settings (In a child room, public area...)

- To activate the Key lock function, first press on Settings -> Display -> Screen Lock

- The "  " logo will be displayed on the screen.

- press on the  key and then press 7 seconds on the logo 

### 5.2 First heating

This function should be used after installation to prevent your floor from getting damaged by its first heating cycles.

#### The first heating function works as follows:

- Concrete: 2 hours of operation during first 24 hours, and 1 extra hour is added for the 21 subsequent days. During this period, floor temperature (or room temperature unless floor sensor is activated) is limited to 20°C.

- Wood: 2 hours of operation during 24 hours on the first day, and 2 extra hours are added for the 10 subsequent days. During this period, floor temperature (or room temperature unless floor sensor is activated) is limited to 20°C + 0.8°C\*number of days (20°C the 1<sup>st</sup> day, 20.8°C the 2<sup>nd</sup> day, 21.6°C the 3<sup>rd</sup> day, etc, etc...).

- Ceiling: 2 hours of operation during the first 24 hours, and 2 extra hours are added for the 10 subsequent days. During this period, air temperature is limited to 20°C.

### 5.3 Open window function

The user activates / de-activates the function in the Open Window menu. Conditions of open window detection:

The thermostat detects an "Open window" if the displayed temperature (internal or ambient sensor) decreases by 3°C or more during a 5 minutes period (or less).

In this case, the thermostat stops heating for 15 minutes.

The function remains active during those 15 minutes so the stop can last more time if the temperature continues decreasing.

Return to normal mode:

The thermostat returns automatically to normal mode after the stop period.

The function can be overridden: pressing the screen during the stop heating phase, will display a specific menu asking the user to stop or continue the stop phase.

Special cases:

- This function doesn't work if Thermostat is in Floor regulation
- This function doesn't work if Thermostat is in OFF / Antifreeze Mode
- If temperature is less than 10°C, thermostat will regulate at 10°C during the stop phase

### 5.4 Information

On the right bottom corner, a button is displayed. This button is a shortcut depending of the current state of the thermostat:

○ If a warning logo is displayed: press on the icon to access the information screen. The information screen will provide more information on the current fault.

○ If a "i" is displayed: you can access the current set point and change it

○ If a "step" icon is displayed, it means that you are in Programmable mode and you can view the current program directly.

○ If a "padlock" logo, it means that the screen is locked, pressing the icon will take you to the unlock screen.

6. Parameter's precision		7. Technical characteristics	
N°	<b>Default value</b> & other possibilities	Measured temperature precision	0.1°C
In <u>Date and Time Menu</u>	DST: Daylight Summer time change Summer<->Winter <b>YES</b> automatic change according to date. NO no daylight summer time automatic change.	Environmental: Operating temperature: Shipping and storage temperature:	0°C to 40°C -10°C to +50°C
In <u>Installation Menu</u> -> <i>Sensor</i>  -> <i>Sensor Calibration</i>	<b>Probe Calibration</b> The calibration must be done after 1 day working with the same setting temperature in accordance with the following description: Put a thermometer in the room at 1.5M distance from the floor (like the thermostat) and check the real temperature in the room after 1 hour.  Select the probe you want to calibrate then use the (-) or (+) keys to enter the real value. Calibration is erased by the "RESET" function  <b>* Pay attention:</b> Only the heating element driven by the thermostat must be used during the complete step of the calibration.	Setting temperature range Comfort, Reduced Holiday (Antifreeze)	5°C to 35°C by 0,5°C step 7°C (adjustable)
In <u>Installation Menu</u> -> <i>Sensor type</i>	<b>Probes Type</b> For ext1 and ext2 probes, you can have different types of NTC. 10, 12 and 15K NTC are recognized. 10K : B25/85 = 3950K 12K : B25/85 = 3740K 15K : B25/85 = 3965K	Regulation characteristics	PID(10min cycle) or Hysteresis of 0.5°C
In <u>Installation Menu</u> -> <i>Regulation</i>  -> <i>Sensor Regulation</i>	<b>Air</b> : only internal probe is used, no floor limitation <b>Air + Floor</b> : internal probe is used for the regulation and Ext1 for floor limits <b>Floor</b> : only Ext1 probe is used for regulation, no floor limitation <b>Air (Ext) + Floor</b> : Internal probe is not used, regulation is done by connecting T16R remote sensor to Ext1 and floor limitation probe by Ext2 <b>Air + Floor (x2)</b> : internal probe is used for the regulation and Ext1, Ext2 for floor limits	Electrical Protection	Class II - IP21
In <u>Installation Menu</u> -> <i>Regulation Type</i>	<b>ON/OFF</b> : regulation made by hysteresis +/-0.3°C <b>PID</b> : use a PID regulation (See next page for further information)	Maximum load	Without Relay - 16Amps 250Vac
In <u>Installation Menu</u> -> <i>Regulation</i>  -> <i>Floor Limit</i>	in Air + Floor / Air (Ext) + Floor / Air + 2Floors regulations : High : if floor temperature is above the High limit, thermostat stops heating Low : if floor temperature is below the Low limit, thermostat starts heating	Included External sensors	10K ohms at 25°C
In <u>Installation Menu</u> -> <i>Regulation</i>  -> <i>First Heating</i>	<i>In new installations the heating must be progressive, there are two first heating programs available, depending on the finished floor covering.</i>	Optional External sensors	10K,12K or 15K ohms at 25°C
In <u>Installation Menu</u> -> <i>Regulation</i>  -> <i>SmartStart</i>	<i>Function that can be activated / deactivated : In program mode, the positive steps will be anticipated according to the current temperature and the next set point.</i>	Software version	Displayed in the user menu.
		Your thermostat has been designed in conformity with the following standards or other normative documents:	EN 60730-1 : 2003 EN 61000-6-1 : 2002 EN 61000-6-3 : 2004 EN 61000-4-2 : 2001 EN 60730-2-9 Low voltage 2006/95/CE EMC 2004/108/CE
		Measured temperature precision	0.1°C
		Battery Life (upon power failure)	24 hours minimum (battery fully charged)
		<b>8. Troubleshooting and solutions</b>	
		<b>My thermostat doesn't start</b>	
		Supply Problem	- Check if the product is correctly wired - Press the Reset button through the small hole under the product on the bottom right corner - in the case of uneven walls or inadequately embedded wiring boxes, excessive fastening of the installation screws may result in loss of contact with the power supply of the display.
		<b>Warning logo is displayed</b>	
		General Problems	Press the warning logo on the bottom right corner. More information on the fault is displayed i.e. the sensor or the fault type (error, floor limit, ...) If error refers to the sensor : - Check sensor connections, - Check Regulation type (Air / Floor / Air+Floor ...)
		<b>My thermostat seems to work correctly but the heating doesn't work correctly</b>	
		Output	- Check the connections. - Contact your installer.
		<b>My thermostat seems to work correctly but the temperature in the room was never in accordance with the program.</b>	
		Program	- Check the Clock. - The temperature steps are too high? - The step in the program is too short? - Contact your installer, to check & adjust the regulation parameters with your heating system.
		General	- Check calibration sensor - Check external sensor type (10k, 12k, 15k)

### Using Thermostat with remote wall sensor – T16R

- 1) Connect the remote sensor to "Sensor1" terminals on the back of the thermostat.
- 2) Connect floor probe to "Sensor2" terminals on the back of the thermostat.
- 3) When programming the thermostat make sure you set the "sensor regulation" – This is done by going to the installation menu -> *Regulation* -> *Sensor Regulation* (see above).

T16R – Remote wall sensor.  
Available as an optional extra.



**Turning PID mode ON or OFF** - PID mode (set **ON** by default) uses hysteresis to turn the heating system on or off. Easiest explained by the thermostat working out how quickly the temperature is raising and turning the system off before the temperature set point is reached making sure the system does not over run the set point. It then works out how quickly the room is cooling down and turns the heating on before the set point is reached so trying to stop the room cooling down too much. If you would rather the heating being turned on and off at the exact set point follow this guide which explains how to turn PID off.



1) Viewing the main screen



2) Press settings icon



3) From new screen press Settings



4) From new screen press "Down Arrow"



5) From new screen press "Installation"



6) From new screen press "Regulation"



7) From new screen press "Regulation Type"



8) From new screen press "ON/OFF"  
You should now see a red dot against "ON/OFF"



9) If you wish to use PID mode select "PID" red dot should be lit as in above picture otherwise return to main screen by pressing the return  5 times.

**Please note** :- If you don't touch any screen for 1 Minute the display will automatically return to the main screen.

**NOTE:** It is our policy to continually improve products and as such we reserve the right to alter data, specifications and component parts without prior notice.



This product conforms to EU Directive 2002/96/EC.

This appliance bears the symbol of the crossed waste bin. This indicates that, at the end of its useful life, it must not be disposed of as domestic waste, but must be taken to a collection centre for waste electrical and electronic equipment. It is the user's responsibility to dispose of this appliance through the appropriate channels. Failure to do so may incur penalties established by laws governing waste disposal.

**IMPORTANT:** No liability is accepted for incorrect use of this product.

**WARRANTY:** Your BN Thermic product is guaranteed for one year from date of purchase. We will repair or replace at our discretion any part found to be defective. We cannot assume any consequential liability. This guarantee in no way prejudices your rights under common law and is offered as an addition to consumer liability rights.

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