

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. Please ensure instructions remain with your customer for their reference.



**REGISTER:** PLEASE REGISTER THIS PRODUCT ONLINE TO ACTIVATE  
YOUR GUARANTEE AT [www.bnthermic.co.uk](http://www.bnthermic.co.uk)



## PART 1 – USER INSTRUCTIONS.

For installation instructions and drilling template see separate leaflets

### 1. INTRODUCTION & SPECIFICATION.

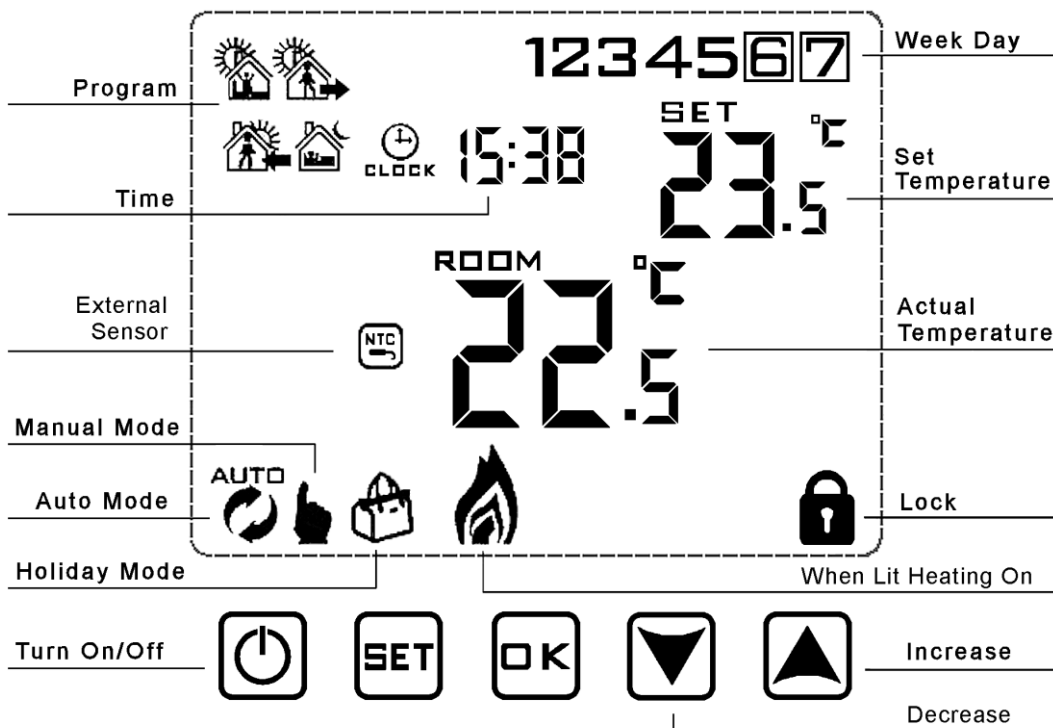
The CS-DT Controller includes mode switches on the right side for OFF, Fan Only, Low or High Heat using the digital thermostat. It is easy to install wiring directly to our fan heaters control connection box. The Programmable Thermostat offers 7 Day, 6/1 Day or 5/2 Day settings and four time and temperature changes each day. It is designed to provide automatic time and temperature control for heating applications using its inbuilt air temperature sensor or a remote-mounted temperature sensor. Supplied with 1 x M20 White Cable gland.














#### CS-DT- Programmable Heater Controller

Programming	7 Day, 6+1 Day or 5+2 Day (Default 5+2 Day)
Power Supply	230V (Fed directly from the heaters control connection enclosure (Battery back-up for settings)
Remote Sensor (Optional)	CXS, CXSIP, BBS and BBSIP (IP versions are IP65 rated)
Temperature Range	1°C to 45°C (Default 5°C to 30°C)
Display	LCD + back light that operates when any button is pressed.
Programs Per Day	4
Tamper Resistant	Facility for locking all thermostat buttons or all thermostat buttons except "On / Off" button. Note: Mode switch on front still operates for "Fan Only" when thermostat does not require heat.
Dimensions	145mm (H) x 95mm (W) x 66mm (D).
Mounting	Surface mounting comes pre-drilled with holes in the back that allow direct mounting to single or double recessed boxes or for screws to secure to a wall. Also includes 1 x M20 White cable gland.
Electrical Protection	IP20
Complies with:	EN 301489-1, EMC Directive 2014/30/EU, EN60950-1:2006+a11:2009+a1:2010+a12:2011+a2:2013

## 2. OPERATING GUIDE.







### To Set Time and Weekday Number

- Turn thermostat on by pressing the  button.
- Press the  button and the minutes will start to flash. Adjust the minutes by pressing the  or  buttons. When correct, press the  button and the hours will flash. Set these by pressing the  or  buttons. When correct, press the  button and the day number will flash. Set this by pressing the  or  buttons. When correct, press the  button.

Note:- Monday is number 1, Tuesday 2, Wednesday 3 etc.












If you don't press a button for 5 seconds the display will return to standard mode, and you will need to repeat section b above.

Programming - The controller is pre-set to the following times and temperatures:-















Day Number	Period							
								
1	06:00	20°C	08:00	15°C	17:00	20°C	22:00	15°C
2	06:00	20°C	08:00	15°C	17:00	20°C	22:00	15°C
3	06:00	20°C	08:00	15°C	17:00	20°C	22:00	15°C
4	06:00	20°C	08:00	15°C	17:00	20°C	22:00	15°C
5	06:00	20°C	08:00	15°C	17:00	20°C	22:00	15°C
6	08:00	20°C	10:00	15°C	16:00	20°C	23:00	15°C
7	08:00	20°C	10:00	15°C	16:00	20°C	23:00	15°C

By default the thermostat is set to 5+2 days this means when programming Monday – Friday settings will all be the same and you can then program different settings for Saturday – Sunday. If you require 7 day or 6+1 day settings enter default settings and adjust parameters first (See section 5).





#### To adjust or program the time & temperature periods

- Make sure the thermostat is on or turn on by pressing  button.
- Press and hold the  button for 3-5 seconds until the time starts to flash, display will also show “1 2 3 4 5” and the first period symbol will show. Adjust the hours by pressing the  or  buttons. When correct, press  button and the minutes will flash. Set these by pressing the  or  buttons. When correct, press  button and the temperature will flash. Set this by pressing the  or  buttons. When correct, press  and the second period symbol will show and the hours will flash. Now repeat the above to set all 4 periods. Once set, the days will change to 6+7 and you repeat the above procedure to program Saturday and Sunday. Note “1 2 3 4 5” on the display while programming means you are setting all 5 Weekdays “6+7” on the display while setting means you are programming Saturday & Sunday. If you don't press a button for approx. 5 seconds the controller will automatically store the settings and exit programming mode.













## Thermostat Run Modes

- 1 – Turn thermostat On or Off by pressing the  button.
  - 2 – When “ON” press  to toggle between Auto mode  and Manual mode .
  - 3 – When in Auto mode  you can override the set temperature by pressing the  or  buttons. This override will last until the next program period and is shown by both the  and  symbols.
  - 4 – When in Manual mode  you can override the set temperature by pressing the  or  buttons. Note:- The thermostat will stay in Manual mode with the same set temperature until you switch it to Auto mode or turn the thermostat off.
- At any time you can return to the auto temperature set point by pressing the  button until only the Auto mode  shows.

## Locking the Thermostat

The thermostat has 2 lock settings selected in the default settings (see section 5). Half lock, when set only allows the On/Off  button to be pressed. Full lock disables all buttons except the unlock sequence. Putting the controller in lock mode indicated by a  symbol on the screen is done by pressing and holding the  button until the  symbol appears. Unlocking is the reverse process.

## Holiday / Shutdown Mode – Note: 1 day = 24 hours count down

Holiday days (count down) and temperature set point can be set so that the heating runs at a lower temperature whilst you are away and then reverts back to normal when you return. To access, make sure controller is on and then press  button for 3-5 seconds until the screen displays “Off”. Change to “On” by using the  or  buttons. Then press  button to set the number of days you are away by using the  or  buttons. Then press  button to set the temperature required while you are away by using the  or  buttons. Finally press  button to set. Holiday mode is shown by a  symbol displayed on the screen. Once set and counting down, to exit holiday mode early press the  button.


### 3. CONTROL SWITCHES.


#### SWITCH MODES

The large switch on the right hand side of the controller allows the following modes:

**OFF (0)** – When in this position both the fan and the heat are turned off.

**FAN (-)** – When in this position the fan will operate regardless of the thermostat settings. Useful in the summer for moving air around.

**HEAT (=)** – When in this position the heater will turn on and start warming up BUT only when the thermostat is asking for heat. This is shown by a  flame symbol near the bottom of the display. This heat switch does not over-ride the thermostat settings.



When **HEAT** is selected and the thermostat is ON shown by the flame  symbol it will allow the right hand switch to operate giving the following settings:

**LOW HEAT (-)** – When in this position the heater runs in low heat mode.





**HIGH HEAT (=)** – When in this position the heater runs in its maximum heat mode.


### 4. CHANGING THE MASTER / DEFAULT SETTINGS.

There are various master / default settings that can be changed by entering the master default settings. See over for a table showing all the changes that can be made.

To enter these settings, turn off the thermostat by pressing the  button. Then press and hold the  button for 3-5 seconds until “A1” appears on the screen. You are now in settings mode.

If you don't press any button for 5 seconds the display reverts back to off mode. If this happens just repeat the above instructions.

Press  button to switch to next option (A1, A2, A3 etc) and press  or  buttons to adjust the data. If you wish to exit the settings without waiting 5 seconds press the  button.

No.	Setting Options	Data Setting Function	Default
A1	Temperature calibration	-9°C to +9°C in 0.5°C steps. (Can be used to fine tune existing temperature reading so it matches another thermostat)	0°C Step
A2	Differential between set point and On and Off	0.5°C - 2.5°C in 0.5°C steps.	0.5°C
A3	Not used.	1°C - 9°C in 1°C steps.	2°C
A4	Temperature sensor used	N1= Built in sensor N2= External sensor only N3= Built in sensor and external sensor. NOTE.- N3 only used for specialist applications if recommended by BNThermic.	N1
A5	lock settings	0 = half lock 1 = full lock	0
A6	Maximum set point of external sensor if A4 set to N3.	5°C - 45°C	27°C
A7	Minimum set point of external sensor if A4 set to N3.	1°C - 10°C or -- (-- = Not active)	5°C
A8	Minimum set point of internal sensor if A4 set to N1 or N3 or external sensor if A4 set to N2.	1°C - 10°C	5°C
A9	Maximum set point of internal sensor if A4 set to N1 or N3 or external sensor if A4 set to N2.	20°C - 45°C	30°C
AA	Power Cut function.	0 = Power heating as per controller memory. 1 = Shut down controller after power cut. 2 = Shutdown heating but turn controller on after power cut.	0
AB	Programming selection	0 = 5 + 2 (same settings Mon-Fri + Sat-Sun) 1 = 6 + 1 (same settings Mon-Sat + Sun) 2 = 7 (different settings each day Mon-Sun)	0
AC	Window Opening detection	-- = Not active 10 - 20°C = Sudden drop set point at which heating turns off.	--
AD	Window Opening OFF period	5 - 40 minutes (only if AC above is set to a temperature and not --).	10
AE	Factory Reset	Press & hold  key until whole digital display screen shows. If you Factory Reset please ensure you set A4 above correctly.	

## 5. USING AS A CONVENTIONAL THERMOSTAT.

It is easy to set up your CS-DT thermostat to operate as a simple, conventional thermostat without the need to programme different times and temperatures. There are 2 steps.

1. Set the temperature required – Refer to “Run Modes” on page 4 and use manual mode, then select the required temperature by using the ▼ or ▲ buttons.
2. Lock the thermostat - Refer to “Locking the controller” on page 4. Locking the thermostat will disable all the buttons except the on/off button. If you want to disable the on/off button as well, you will need to change the default lock settings before starting this process (see section, 4 Number A5).

## 6. USING WITH OVERDOOR HEATERS MODELS 830, 860 & 890

When you use the CS-DT controller with the 830, 860 or 890 overdoor heaters the switch on the front of the heater MUST be left ON for the controller to operate. If you turn the switch OFF the controller will turn OFF and the thermostat will not operate.

## 7. SENSOR FAULT CODES.



E1 or E2 fault codes are displayed if the temperature sensors are faulty or are not connected. The thermostat will stop heating until the fault is corrected.

E1= Internal sensor faulty.

E2 = External sensor faulty or missing / not present.

If in the master settings shown overleaf on page 6, you have selected N3 for option A4 (Sensors used) you will get a fault code and the thermostat will not work, please select either N1 if you are using the internal sensor or N2 if you are using an external mounted sensor.

## 8. MAINTAINANCE

The thermostat has been designed to be maintenance free and as such there are no serviceable parts inside but before removing the cover to the controller make sure you have isolated all sources of power. Please Note: There may be more than one power source entering the enclosure.

Only use a soft slightly damp cloth to clean the thermostat.

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**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.*



### WEEE REGULATIONS:

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.

**REGISTER:** Activate your warranty by registering online at [www.bnthermic.co.uk](http://www.bnthermic.co.uk) and retain this installation data for future reference.

**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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