

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



IMPORTANT: PLEASE READ 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.

1. SAFETY INSTRUCTIONS

1.1 ELECTRICAL SAFETY

WARNING! Under NO circumstances may you take a 230V supply to this controller. The controller works on low voltage (less than 30V) and to ensure the system is safe 230V supplies MUST be kept away from this controller.

WARNING! It is the responsibility of the owner and the operator to read, understand and comply with the following:

You must also read and understand the following instructions concerning electrical safety.

- The Health & Safety at Work Act 1974 makes owners of electrical appliances responsible for the safe condition of those appliances and the safety of the appliance operators. If in any doubt about electrical safety, contact a qualified electrician.
- Installation should always be carried out by a qualified electrician or a competent person in accordance with current electrical regulation.



1.2 GENERAL SAFETY INSTRUCTIONS

- ✓ Remove all packaging and store it away from children, check the package for visible damage or tampering.
- ✓ Only use recommended attachments and parts. To use unauthorised parts may be dangerous and will invalidate your warranty.
- X **DO NOT** use in areas where hazardous gasses or dusts may be present.
- X **DO NOT** disassemble the controller for any reason. The circuit board has no user serviceable parts on it.
- X **DO NOT** use this controller to perform a task for which it has not been designed.

2. INTRODUCTION & SPECIFICATION

This Controller is designed to work in conjunction with SystemX heaters. It provides low / high heat or fan only settings. When used on low or high heat setting the internal thermostat will control the temperature. Any heaters from the SystemX range may be connected together and controlled by this controller.

Model	CX1
Dimensions (W x H x D)	120 x 80 x 35mm
Recommended Mounting Height	1.5M
Remote Sensor (If Required)	CXS
Recommended Timer (If Required)	PROTIM-7



CXS – Remote Sensor
(Optional Extra)



PROTIM-7 – 7 Day Timer
(Optional Extra)

3. LOCATION OF CONTROLLER

CHOOSING A LOCATION FOR YOUR CX1

The CX1 should be mounted on an internal wall approximately 1.5 meters from floor level and should be in a position away from draughts, direct heat and sunlight.

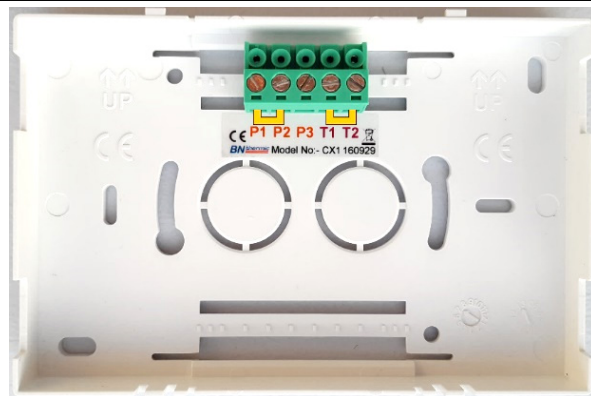
Ensure that there will be enough space on the left hand side of the controller to allow free air movement through the controller so it can detect the room temperature. If you wish to place the controller in a separate area such as an adjacent room or cupboard from the room you are heating a remote sensor will be required to detect the temperature (Part No. CXS).

4. MOUNTING THE CONTROLLER

To remove the back plate from the front of the controller gently push the bottom of the back plate whilst gently prising the front panel away. The bottom of the controller must be released from the back plate first before gently unclipping the top.

Screw to the wall ensuring the "UP arrows" are pointing the correct way and the green terminal block is at the top.

The CX1 can also be mounted on a single gang flush wiring box using the 2 x semi-circular slotted holes in the back. DO NOT overtighten the fixing screws as you will deform the box and the connection block in the back will not engage with the circuit board correctly.



5. ELECTRICAL CONNECTIONS

A network cable is used to connect the controller to any of the SystemX heaters (read notes below regarding cables)

- We recommend you use our network cables as they have been thoroughly tested with all heaters and controllers and are totally compatible.
- Problems arising from using non-standard or inferior network cables are not covered by the guarantee.
- Network cables with "wings" on the boot connections will not fit into the controller socket.

Bring sufficient length of network cable through one of the knock outs in the back plate to allow a lazy loop to be formed before plugging into the back of the circuit board.

If you are not fitting additional sensors / timers to the controller leave the links in position on the back plate.

Read section 6 before refitting front panel to the back

To refit the front panel to the back

Locate the 2 holes on the top of the front cover onto the two lugs on the top of the back box. Now gently click the bottom of the front cover onto the back box. No force should be applied if the front cover does not fit easily the network cable is possibly caught please check before trying again.

If you are not fitting an additional sensor or timer go to section 10

6. FAN ON or OFF?

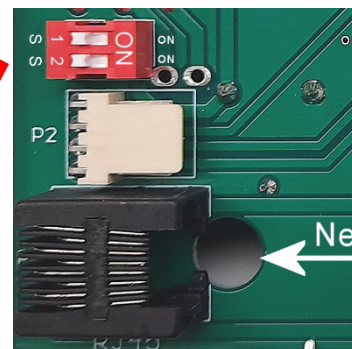
The fan in the heaters has two modes of operation to suit different applications.

Fan Off

Slide the top switch (S1) to OFF position. In all heaters both the heater elements and the fan turn on and off with the thermostat. This mode is best used when using the heater as a space heater.

Fan On

Slide the top switch (S1) to ON position. In all heaters the fan runs continuously and only the heating elements go on and off with the thermostat. This mode is usually used with aircurtains or using an overdoor heater as an aircurtain as you need to maintain a curtain of air when the heat turns off. Switch S2 has no functional in this controller.



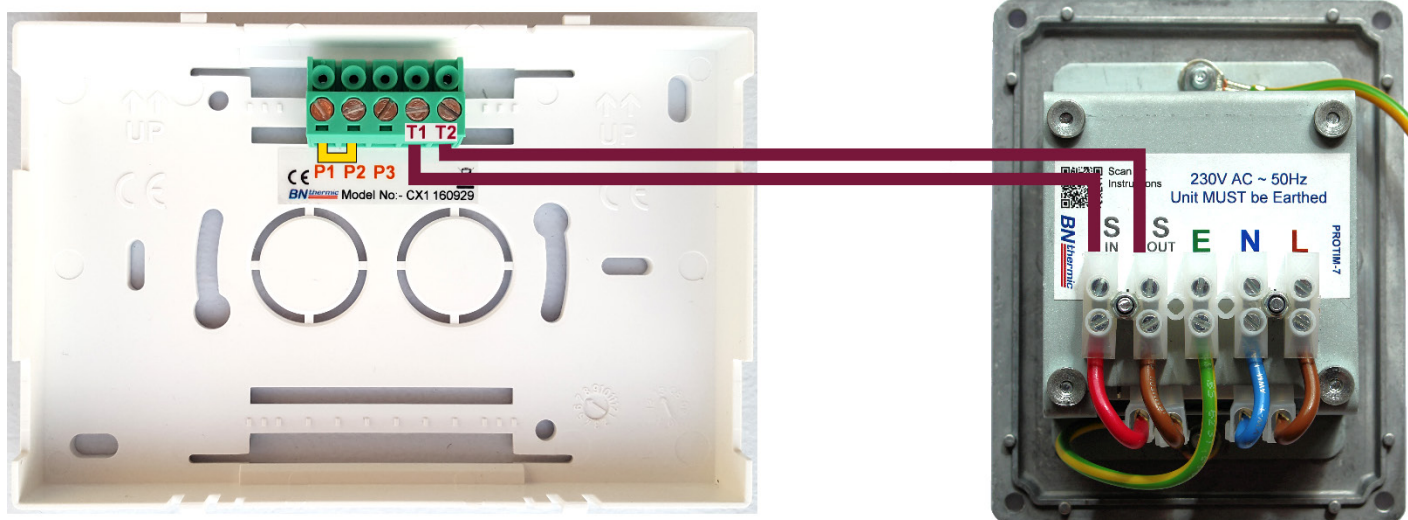
7. USING A REMOTE SENSOR (CXs) WITH THE CONTROLLER



- 1) Remove the existing link  between P1 and P2.
- 2) DO NOT remove the link  between T1 and T2.
- 3) Using any insulated copper wire connect the remote sensor to terminals P2 and P3.

8. USING A TIMER (PROTIM-7) WITH THE CONTROLLER

You may control your heating system by adding a PROTIM-7 timer to the control circuit. We do not recommend adding other timers as the timer **MUST** be a “Zero Volt” type timer and **NOT** have a 230V output. If you wish to use another manufacturer’s timer, please contact us first.



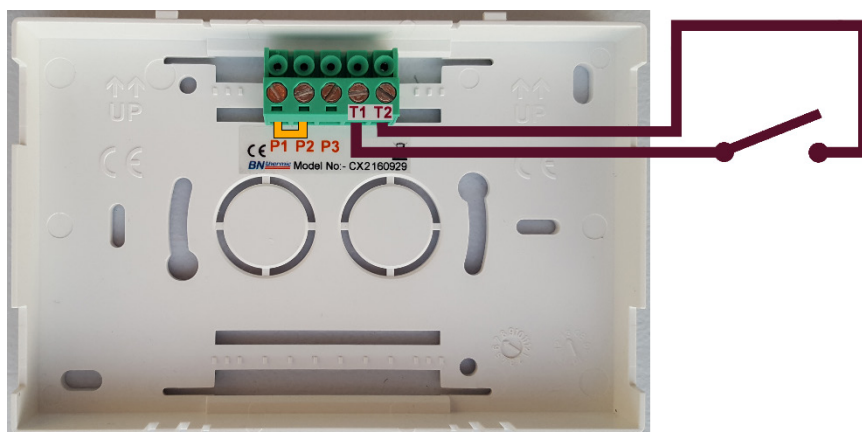
- 1) Remove the existing link  between T1 and T2.
- 2) DO NOT remove the link  between P1 and P2.
- 3) Using any insulated copper wire connect between Terminals T1 and SIN of the timer.
- 4) Using any insulated copper wire connect between Terminals T2 and SOUT of the timer.
- 5) Connect terminals L, N & E of the timer to a 230V 3A fused spur box.

9. USING WITH AN EXTERNAL SWITCH OR KEY SWITCH.

You can disable or enable the controller from working by removing the link between T1 and T2 and connecting the two terminals to a zero volt switch.

AT NO TIME MUST A VOLTAGE BE SENT DOWN THESE WIRES.

With the link removed or broken the controller turns OFF all the heaters and stops the buttons on the front from working. When re-made controller restarts as determined by front switch settings.

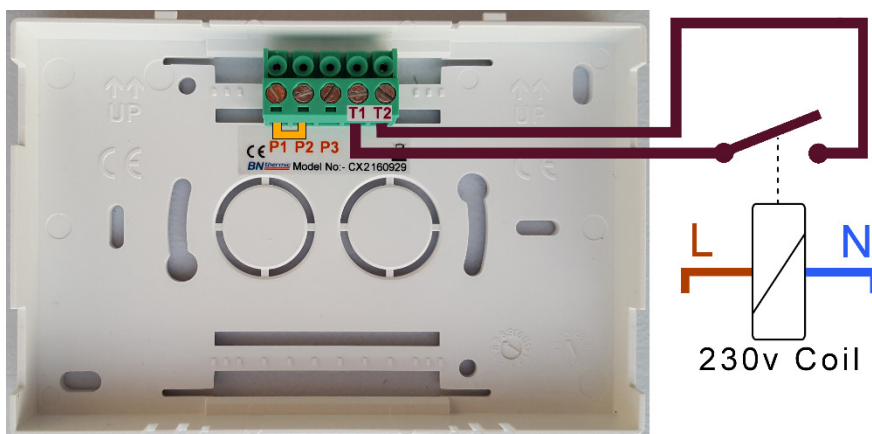


10. USING WITH A BMS SYSTEM.

You can also connect the controller to a building management system (BMS). This is done by removing the link between T1 and T2 and connecting the two terminals to a zero volt relay of which the coil is controlled by the BMS.

AT NO TIME MUST A VOLTAGE BE SENT DOWN THESE WIRES FROM THE BMS. See product code VI if you require a zero volt to 230v convertor.

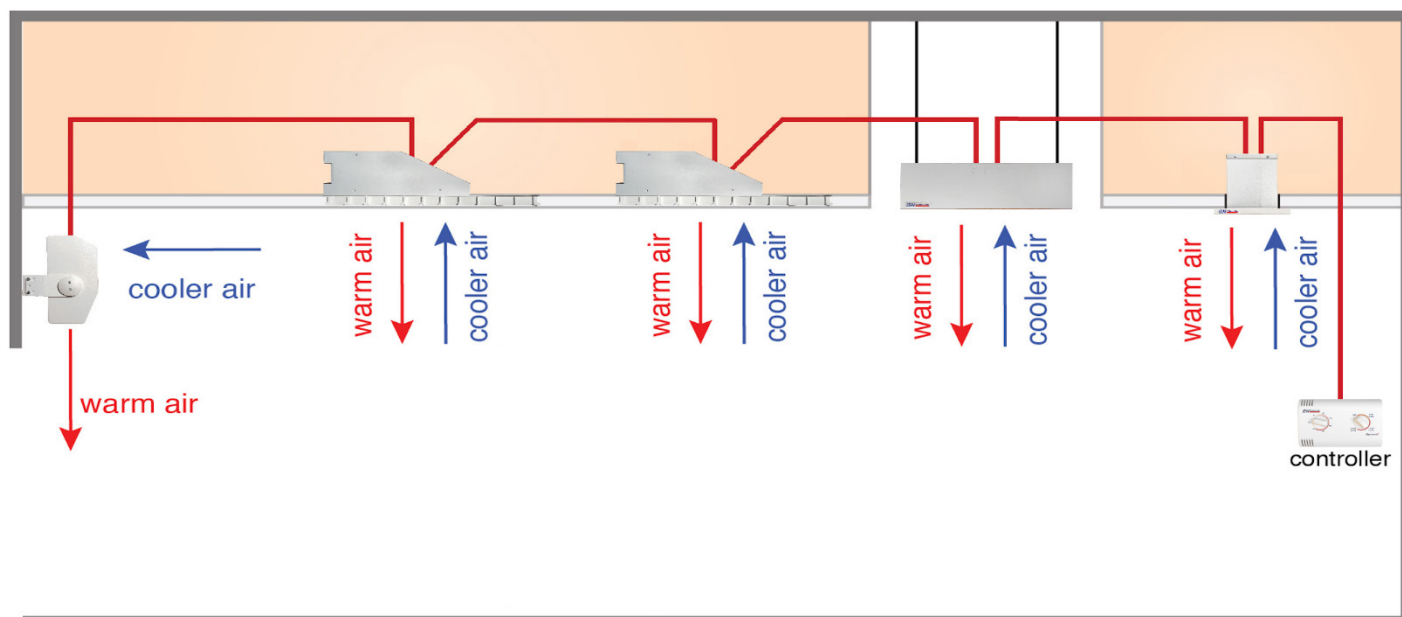
With the link removed or broken the controller turns OFF all the heaters and stops the buttons on the front from working. When re-made controller restarts as determined by front switch settings.



PLEASE CHECK ALL CONNECTIONS BEFORE TURNING ON AS INCORRECT WIRING IS NOT COVERED BY THE GUARANTEE

11. CONNECTING THE CONTROL CIRCUIT OF SYSTEM X HEATERS TOGETHER

Network sockets on the heaters are bi-directional. This means that either socket may be used for in or out.



- 1) Connect the CX1 controller into any one heater network socket.
- 2) Daisy chain all heaters together using network cables.

12. OPERATION

Ensure all heaters have their power supply enabled

Settings

FAN ONLY – All heaters fans will operate but no heat produced, useful in the summer for moving air around.

LOW HEAT – All heaters will operate on their lower heat setting IF the thermostat is asking for heat as the ambient temperature is below the set point.

HIGH HEAT – All heaters will operate on maximum heat output IF the thermostat is asking for heat as the ambient temperature is below the set point.

Please note :-

- 1- Should a heater's power supply fail or is turned off the remaining heaters will still operate. This is a design feature of the integral electronic circuit board.
- 2- Whether the fan remains on or goes off when the thermostat gets to temperature is set inside the controller see section 6.

Window Opening – There is an energy saving feature built into this controller when the heaters are operating on full power. Should the temperature suddenly drop indicating that an outside window or door is open the heaters will drop down to half power for a short period of time before returning to full power.

13. MAINTENANCE

Apart from keeping the air vents in the controller free from dust and dirt no maintenance of the controller is required.

If cleaning of the controller case is required only use a slightly damp cloth with a little soapy water.

Do not use any chemicals / abrasives to clean the controller.

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.

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.

REGISTER: Activate your warranty by registering online at www.bnthermic.co.uk and retain this installation data for future reference.

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