

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

You must check all electrical products, before use, to ensure that they are safe. You must inspect power cables, plugs, sockets and any other connectors for wear or damage. You must ensure that the risk of electric shock is minimised by the installation of appropriate safety devices. A Residual Current Circuit Breaker (RCCB) should be incorporated in the main distribution board. If in any doubt consult a qualified electrician.

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 regulations.
- The soft start relay must not be used as an isolator and a separate isolator must be provided between the fuse board and the Timer.
- This soft start relay is IP65 rated and is suitable for indoor or outdoor use.
- Suitably rated cable glands must be used to maintain the IP65 rating.
- Important: Ensure that the voltage marked on the soft start relay matches the power supply to be used.
- The unit should be protected by a suitably rated isolator and type C (also known as type 3) MCB.

### 1.2 GENERAL SAFETY INSTRUCTIONS

- ✓ Remove all packaging and store it away from children, check the package and controller for visible damage or tampering.
- ✓ Familiarise yourself with the applications and limitations of the Timer.
- ✓ Isolate from mains before removing the cover to adjust the time on setting.
- ✓ **Do not use this soft start relay to control a contactor or electric motor.**

## 2. INTRODUCTION & SPECIFICATION

The SSR soft start electronic waterproof relay is used instead of traditional contactors or relays when controlling or switching on halogen infrared heaters. "Soft starting" incorporated in the controller prolongs the life of your infrared lamps, reduces the stress on the mains supply and prevents false tripping of MCB's due to inrush currents. As the heaters are not turned on using a mechanical switch, you do not experience the problems associated with mechanical contacts: arcing and welding themselves together etc. Usually with halogen heaters, we recommend using a contactor or relay that is twice the rating of the load you are switching but by using this electronic soft start relay you can switch up to the full rating of 26A (6kW).

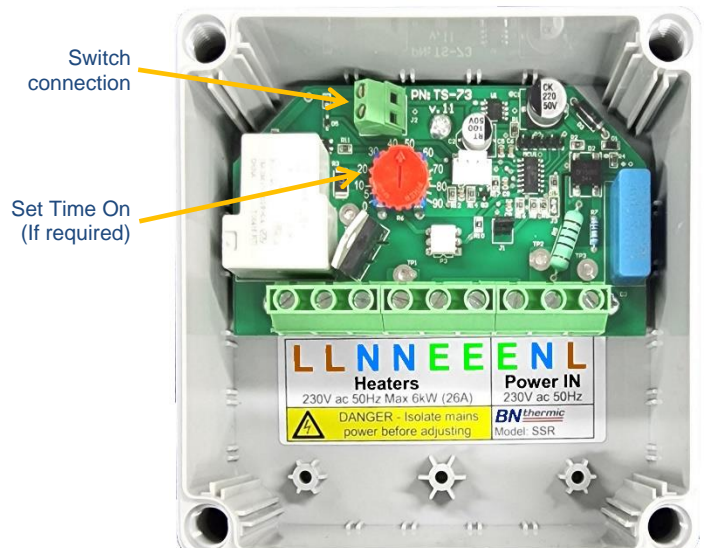
This product needs a minimum total load of 250W to operate and it cannot be used to switch loads below this.

Also incorporated is a timer should you require it. This controller must NOT be used as a safe way of isolating heaters from the mains supply and additional isolation must be used.

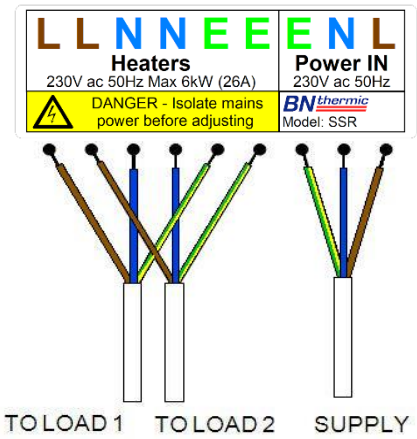
Model:-	SSR	Time to Off Delay (if required):-	0 – 90 Minutes
Max Power:-	6000W	Dimensions (W x H x D):-	124 x 124 x 78mm Deep
Input supply:-	230V AC 50Hz 26A	IP Rating:-	IP65
Minimum Power Rating:-	250W	Weight:-	350g

## 3. MOUNTING / ELECTRICAL CONNECTIONS

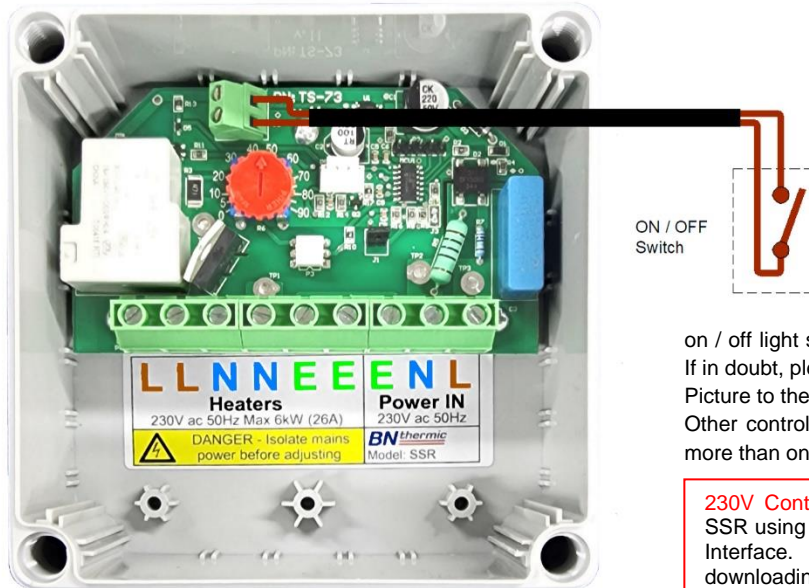
1. Remove front cover by undoing four corner screws.
2. Use the 4 holes in the corners to attach the controller to a suitable surface as these will maintain the IP65 rating.
3. Drill box to accept cable glands. We supply 2 x M20 cable glands with each controller these require a 20mm hole to be drilled for them. If you have to drill additional holes remember to waterproof these holes or use suitable IP rated cable glands to maintain the IP65 waterproof rating.



4. Connect power wiring as shown in diagram to the right.
5. Do NOT use power tools to tighten up the terminal screws but ensure the screws are correctly tightened before replacing the lid.
6. Supply and output are 230V 50Hz and output is rated 6 kW maximum.



#### ON / OFF SWITCH CONNECTION



ON / OFF Switch

The soft start relay can be directly controlled by many different devices BUT these all must be zero-volt controls or switches. This means when the controller or switch operates it does not give out a voltage but just makes a circuit. These switches / controllers can include a simple on / off light switch, zero-volt PIR, zero-volt timer, zero-volt thermostat etc. If in doubt, please contact our help desk using the number below. Picture to the left shows simple connection of an ON / OFF switch. Other controllers can be connected in a similar way or if you wish to add more than one controller add them in series.

**230V Controllers** – Should you wish to operate the SSR using a 230V controller you will need to use a VI Interface. More information can be found by downloading the VI instructions or looking up on our website. [VI Instructions →](#)



Some typical examples of 0V systems are explained below some include using the internal timer.

## 4. TYPICAL SET UPS

### Basic ON/OFF Switch

Wire control circuit as picture above and twist time "ON" to zero. Heaters will soft start when switch is ON and turn off when switch is turned OFF.

### Basic ON / OFF but add time delay before turning OFF.

Useful for smoking shelters, outdoor coffee shops etc. Use a push button switch (often called momentary switch) wired the same as above. Set timer to required "ON" time. When push button switch is pressed heater turns on and stays on for time set before turning OFF. Button can now be repressed to turn heater on again. Please note minimum on time is 5 minutes.

**Increase PIR "ON" time by using soft start timer.** Typically, PIR's stay on maximum of 12 - 15 Minutes this can be increased by an additional 5 - 90 minutes by using this soft start relay. Make sure you use a zero-volt switching PIR and wire zero-volt switch in PIR as per picture above. Set timer "ON" to the number of additional minutes you require. When PIR times out heater will now stay on additional time set. Please note if you don't require any additional time just set "ON" time to zero.

**Using with zero-volt thermostat** A thermostat may be required to prevent the heaters working if the ambient temperature is above the set point. Wire in a zero-volt thermostat in series with any of the above controls.

**Using with zero-volt 24 hour time switch or 7 day time switch** Used if you wish to prevent the heaters from working out of hours. Wire in a zero-volt timer in series with any of the above controls.

**Warning:** - If adding other controllers that will be positioned outside please make sure they are suitably IP rated for their application.

Please note that should the remote 7 day timer or thermostat send a "switch off" signal to the soft start timer while the heaters are energised, the soft start timer will continue to time down to zero but once the heaters go off they will not be able to restart until the remote 7 day timer or thermostat allow it.

A maximum of 5V dc (no current) will be present in the wires used to connect any controllers to the soft start relay.

## 6. SAFETY FAULT CONDITION

If the soft start relay is turned on and off 5 times in quick succession a time delay of 30 seconds will be applied until the timer can be turned on again. This should not normally occur with standard use but is built in to protect the PCB from misuse.



### 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.

**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.

**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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