

## Product Guide

# Set-Back Robust Thermostat with Remote Control Input



today, tomorrow and in the future

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## Product Overview

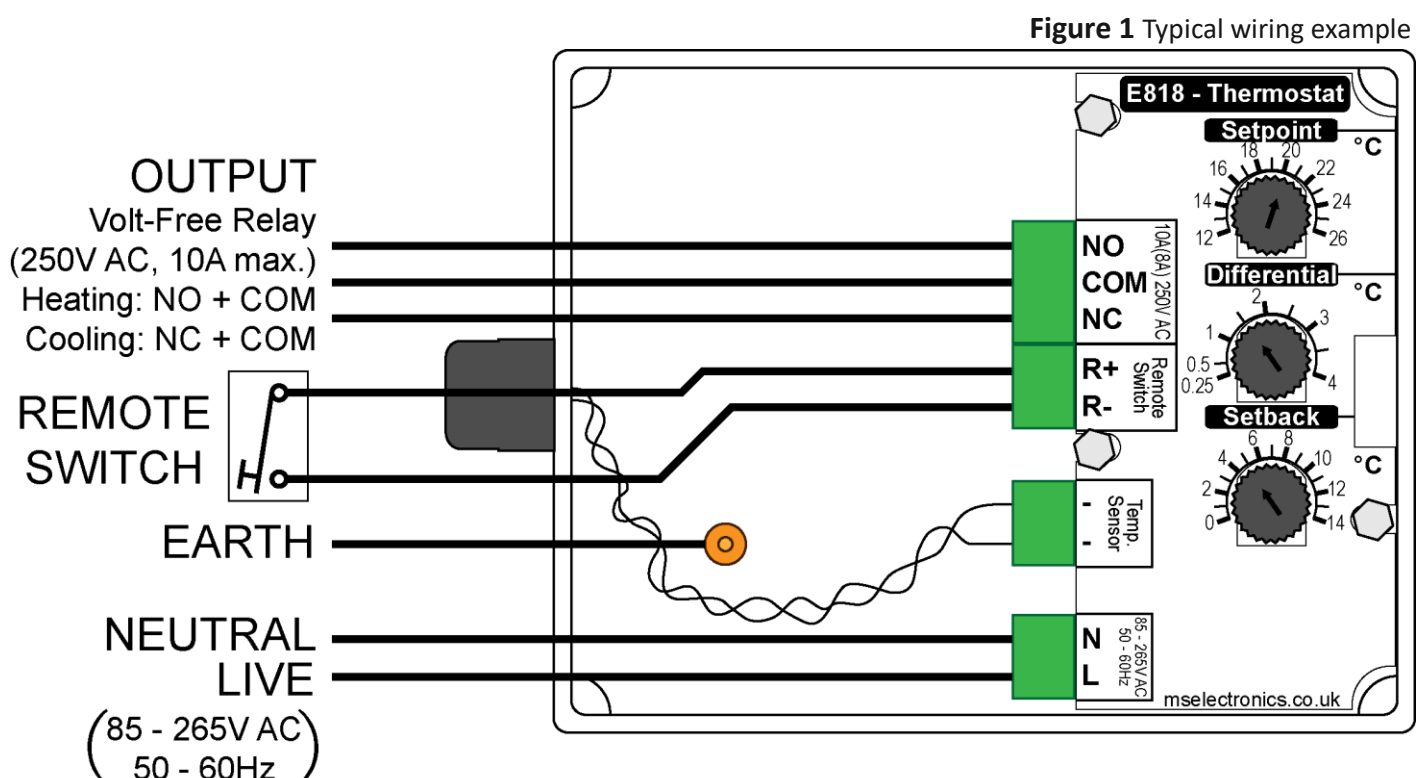
The E818 offers a high quality and robust solution to tamperproof energy saving thermostatic control. It utilises a high-accuracy radiant heat sensor in conjunction with its die-cast aluminium case and tamperproof screws to ensure vandal-resistant, yet accurate tamperproof energy control.

The E818 is a standard set-back thermostat with a set-point between +12°C and +26°C, combined with an adjustable temperature hysteresis (differential) of anything between 0.25°C and 4°C and a set-back of up to 14°C. The thermostat regulates to one of two preset temperatures which can be chosen between by the end-user using a remotely located toggle switch/latching pushbutton, providing greater temperature control to the end-user while helping to reduce overall heating energy consumption. For clarity, two LEDs on the unit indicate which temperature set-point has been selected.

The E818 can also be controlled remotely by any device that can provide a voltage-free latching contact such as a time-clock, PIR presence detector or BMS relay for example. This eliminates the user interface for switching between the high and low modes, providing an effective solution to heating areas that are infrequently occupied.

## Product Wiring

1. **IMPORTANT:** ensure all electrical connections are isolated before commencing any work on the unit.
2. Power to the thermostat is provided via the Live and Neutral input terminals labelled "L" and "N" (230V AC, 50Hz). On the 24 volt product variant ("/24V") the same terminals are used (24V AC or DC) and are not polarity sensitive.
3. **NOTE:** This thermostat MUST be earthed using the earth terminal provided.
4. A voltage-free changeover relay output capable of switching loads of up to 10A, 250V AC (resistive) is provided by the thermostat. Connect to your application in an appropriate manner given the following:
  - The Common "COM" terminal is connected to the Normally Open "NO" terminal when the sensed temperature is below the calculated setpoint temperature (use to control heating).
  - Conversely, the "COM" terminal is connected to the Normally Closed "NC" terminal when the sensed temperature is above the calculated setpoint temperature (use to control air-conditioning).
5. The temperature sensor is factory fitted to all models with the exception of the Remote Sensor versions. The 2-core screened cable connection should be made to the "Temp. Sensor" terminals in this case.



## Installation

1. **IMPORTANT:** ensure all electrical connections are isolated before commencing any work on the unit.
2. Unscrew the 4 security screws using M.S. Electronics tamperproof screwdriver MSD-152 to remove the front cover.
3. Mount the unit securely using any suitable fixing in conjunction with the mounting holes provided in the unit. For optimal results, position the temperature sensor out of direct sunlight and well away from any heating/cooling sources.
4. Connect the wiring as shown in the diagram (or any suitably appropriate form) using the convenient pluggable terminal blocks provided. Make sure to choose the correct output terminals that are suitable to your application.
5. On the remote sensor version, 2-core screened cable should be used to connect the remote sensor to the thermostat. The screen should be connected to the earth terminal ONLY (do not connect the screen to anything at the remote sensor end).
6. Adjust the internal controls to suit the operational requirements (see below).
7. Replace the cover securely using the 4 security screws

## Operation

1. **IMPORTANT:** ensure all electrical connections are isolated before commencing any work on the unit.
2. Adjust the "Setpoint" dial to the temperature the room is to be regulated at (typically 20°C).
3. Set the "Differential" to the total temperature swing either side of the "Setpoint" that the room temperature is required to keep within (typically 1°C).
4. Adjust the "Setback" to the temperature below the HIGH "Setpoint" to obtain the desired temperature in LOW mode.
5. Example of a standard set-up:
  - HIGH mode (**RED** LED)
    - "Setpoint" set to 20°C and "Differential" set to 1°C
    - The unit will maintain the temperature between 19.5°C and 20.5°C
  - LOW mode (**GREEN** LED)
    - "Setpoint" set to 20°C, "Differential" set to 1°C and "Setback" set to 5°C
    - The unit will maintain the temperature between 14.5°C and 15.5°C

Technical Specification	
Power supply:	85V - 265V AC 50Hz (live/neutral/earth) 22V - 26V AC or DC [/24V variant only]
Output switch rating:	10A, 250V AC 50Hz (resistive)
Output switch type:	Changeover relay (volt-free)
Temperature control:	[high setpoint]: +12°C to +26°C [low setpoint]: 0°C to 14°C below the high setpoint
Temperature differential:	0.25°C to 4°C
Sensor drift:	0.15°C over 5 years
Guarantee:	3 Years
Weight:	0.35Kg
Dimensions:	120mm x 95mm x 35mm

Product Accessories	
MSD-152	M.S. Electronics tamperproof screwdriver
MSD-150	Air temperature sensor (sensor only)
MSD-224	Air temperature sensor (internal, boxed)
MSD-370	Air temperature sensor (internal, faceplate)

## **IMPORTANT INSTALLATION NOTICE**

The installation of this product should be carried out in accordance with the latest IEE wiring regulations and all wiring completed by a qualified electrician.

### **Technical Support**

For further help or information on this and the other products in the MS Electronics range visit [www.mselectronics.co.uk](http://www.mselectronics.co.uk) or call 0333 666 1176.

Alternatively, email [techsupport@mselectronics.co.uk](mailto:techsupport@mselectronics.co.uk)

Additional copies of this product guide can be downloaded from our website.

### **Product Warranty**

MS Electronics guarantees all their products against manufacturing defects for 5 years from the purchase date. If your product is found to be faulty, MS Electronics will, at their discretion, repair or replace the product free of charge.

### **Note**

Any modification or damage to the outer casing of the product, as well as any damage to the product due to abuse or incorrect wiring may invalidate the guarantee.

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MS Electronics reserves the right to alter or change this specification without prior notice.