ms electronics
energy saving controls

E819

Product Guide

Standard Robust Thermostat with Wide Temperature Range

today, tomorrow and in the future

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Issue 1.2

Product Overview

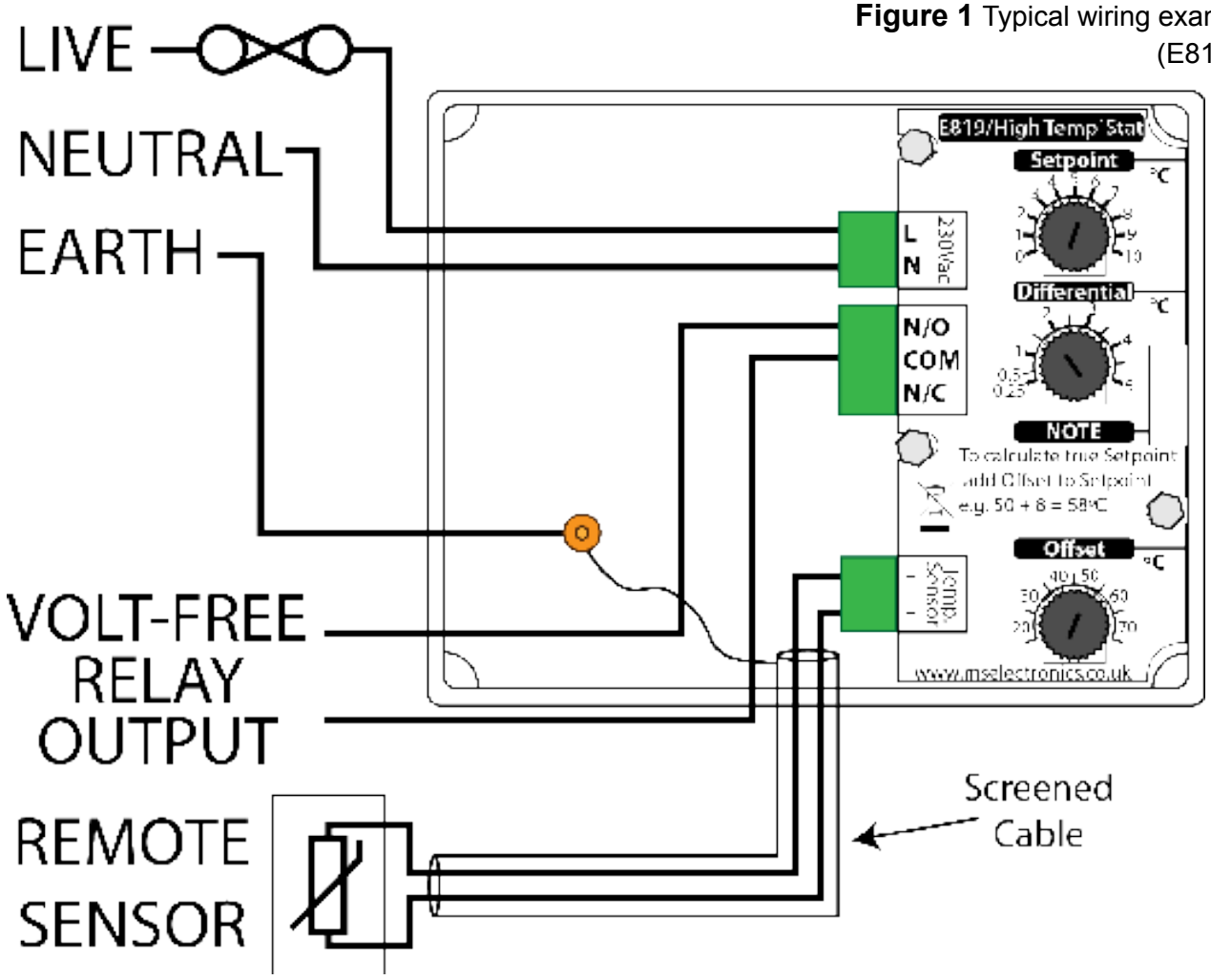
The E819 thermostat family offers a high quality and robust solution to tamperproof energy saving thermostatic control. A remotely located high-accuracy radiant heat sensor (supplied separately) is used in conjunction with the E819's die-cast aluminium case and tamperproof screws to ensure vandal-resistant yet accurate tamperproof energy control.

The E819 is available in a low temperature and high temperature version, the E819/L and E819/H respectively. The E819/L accurately regulates to a fully adjustable temperature setpoint between -40°C and +20°C while the E819/H accurately regulates to a temperature setpoint between +20°C and +80°C. Both units provide an adjustable temperature hysteresis (differential) of anything between 0.25°C and 5°C.

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). This supply should be suitably fused (recommended: 1A slow blow).
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 "N/O" terminal when the sensed temperature is above the "Setpoint".
    - Conversely, the "COM" terminal is connected to the Normally Closed "N/C" terminal when the temperature is sensed to be below the "Setpoint".
5. The remote temperature sensor should be connected via mains rated 2-core screened cable to the "Temp. Sensor" terminals. The cable screen should only be connected to the Earth terminal inside the E819.

Figure 1 Typical wiring example (E819/h)



Installation

1. **IMPORTANT**: ensure all electrical connections are isolated before commencing any work on the unit.
2. Remove the 4 security screws on the E819 using M.S. Electronics tamperproof screwdriver MSD-152.
3. Mount the E819 unit securely using any suitable fixing in conjunction with the mounting holes provided in the unit. NOTE: The E819 unit must be installed in an area that does not exceed its min/max operating temperature (see 'Technical Specification').
4. Mount the remote sensor in the area that is required to be temperature controlled. NOTE: The remote temperature sensor is capable of withstanding the full operating temperature of –40°C to +80°C. For optimal results, position the remote temperature sensor out of direct sunlight and well away from any heating/cooling sources.
5. 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. The remote sensor cable screen should be connected to the E819 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 'Operation').
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. **NOTE**: The actual temperature Setpoint that the thermostat regulates to is equal to the "Offset" dial temperature added to the "Setpoint" dial temperature.
3. Use the "Offset" dial to select between 1 of 6 temperature offsets.
   E819/L: -40ºC, -30ºC, -20ºC, -10ºC, 0ºC, +10ºC
   E819/H: +20ºC, +30ºC, +40ºC, +50ºC, +60ºC, +70ºC
4. Adjust the "Setpoint" dial to the required temperature away from the selected offset. Remember: Actual temperature = Offset temperature + Setpoint temperature.
5. Set the "Differential" to the total temperature swing either side of the true Setpoint that the sensed temperature is required to keep within.
6. Example of a typical E819/H set-up:
   Switch Point set to 7ºC
   Differential set to 1ºC
   Offset set to 60ºC
   The unit will maintain the temperature between 66.5ºC and 67.5ºC.

Technical Specification	
Power supply:	220V - 240V 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:	-40°C to +20°C [/L variant] +20°C to +80°C [/H variant]
Temperature differential:	0.25°C to 5°C
E819 operating temperature:	-10°C to +40°C
Remote sensor operating temperature:	-40°C to +80°C
Guarantee:	5 Years
Weight:	0.31Kg
Dimensions mm:	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)

Technical Support

For further help or information on this and the other products in the ms electronics range visit www.mselectronics.co.uk or call 0333 666 1176.

Alternatively, email techsupport@mselectronics.co.uk
Additional copies of this product guide can be downloaded from our website.

Product Warranty

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

Note

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

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