

# CS174 - TEMPERATURE CALIBRATION SOURCE

## OPERATING INSTRUCTIONS

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The CS174 provides a temperature calibration source from 40°C below ambient to + 85°C, for both contact and non-contact (infra red) thermometers.

The CS174 operates from a mains supply of 100 - 240V AC and requires one 5A /250V fuse. Replace only with the same type and rating, by removing the fuse compartment of the mains socket at the back of the instrument. There is a mains lead supplied with each instrument.

The indicated temperature on the CS174 is for controlling the temperature of the source and should not be used as a temperature reference. For calibrations, a precision thermometer, such as the RT162 supplied by EUROLEC, should be used as the reference.

The temperature controller used in the CS174 is a PID controller from BrainChild and an operating manual for this controller is included. This controller has been pre-set for optimum operation over the full temperature range.

### Operation:

Switch the instrument on, by the On/Off switch at the front of the instrument.

The operating temperature of the CS174 is set by pressing the scroll button (the button on the left hand side) on the temperature controller, until the display shows SP1, then pressing the up ▲ or the down ▼ arrow buttons to increase or decrease the temperature set point.

Allow 30 minutes for the temperature of the calibration chamber to stabilise at the set point, before taking any readings.

If the temperature stability needs to be improved, then press the scroll button until **A-t** appears on the screen. Press and hold the scroll button for at least 3 seconds and the display will begin to flash. This is the controller's auto-tuning procedure and when the display stops flashing then the procedure is complete.

To **reset** the instrument and revert to the display showing the temperature, press the up ▲ and down ▼ buttons together.

To check non-contact thermometers, place the reference probe (if applicable) into the hole provided in the top of the chamber. Point the infra

red thermometer into the cavity at the front of the calibration chamber and take reading.

To check contact thermometers, place probes under test and the reference probe (if applicable), into the holes provided at the back of the calibration chamber.

**NOTE:**

- Ensure the cover is in position when not taking readings.
- Do not allow ice to build up in the infra red cavity.
- Defrost & remove water with absorbent paper.

Precision Accuracy Check (PAC)

The CS174 has a facility to check the calibration of the temperature controller. Use the key provided to check it at 0 and 85°C.

**CAUTION:** The key position should be at the SOURCE position for normal operation, so always switch back to this position after a calibration check. Remove the key from the key lock to avoid any accidental change of this position.

Warranty

This instrument has been carefully assembled and tested, and is warranted against faulty workmanship and materials for 24 months from the date of purchase.

During the warranty period any defective instrument will be repaired or replaced at the discretion of the manufacturer. This warranty does not cover damage or failure resulting from misuse or accident.

Modification, adjustment or any alteration with the internal arrangement of the instrument shall absolve the manufacturer from any liability in respect of the instrument.

Any instrument to be repaired should be forwarded to the manufacturer, carriage paid and at the owner's risk. A brief description of the fault should be included.