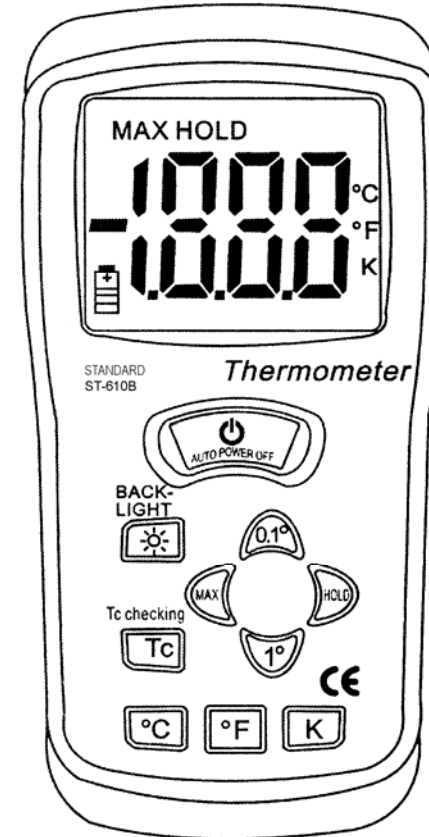


Specification



ST610B

User Handbook



ST610B Digital Pyrometer

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Specification

Temperature

Temperature measurement ranges

R Type: -40°C to 1450°C
S Type: -40°C to 1450°C
K Type: -40°C to 1325°C
N Type: -40°C to 1275°C

Accuracy

±0.25% FSD ± 1 digit
(does not include thermocouple error)

Readings per second: 4

Cold Junction Compensation

Precision thermistor (calibrated)

Environmental

Operating temperature range: -20°C to 50°C
Storage temperature range: -20°C to 60°C

Enclosure

Material: ABS Size: 170x85x45mm
Sealing: IP53 (L x W x H)

Error Handling

Thermocouple failure detection

Electrical

Power supply

Replaceable standard alkaline
9V (PP3) dry battery types:
IEC 6F22, NEDA 1604 etc.

Battery Life: > 100 hours

Auto power-off: 15 mins.

Connector

Standard "miniature"
thermocouple connector
(7.9mm between pin centres)

Overload withstand

60VDC 24VAC

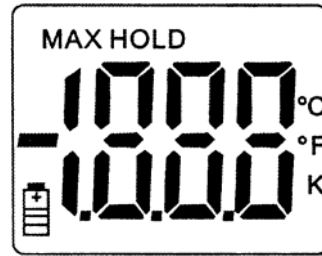
CE This instrument
complies with
Council Directive
89/336/EEC (electromagnetic
compatibility) & Council Directive
73/23/EEC (low voltage safety)

Further copies of this handbook may be found at <http://www.stafford-inst.co.uk/docs/st610b/user610b.pdf>

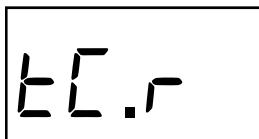
Operation

On / Off

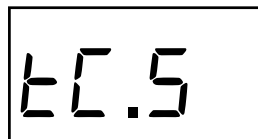
Use the On/Off button to turn the ST610B on (or off). When turned on the ST610B performs a display test by briefly turning on all of the display segments.



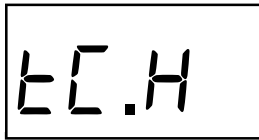
Next displayed is the thermocouple type to which the ST610B is set. This thermocouple type setting should match the type of thermocouple connected to the ST610B and can be R, S, K or N type.



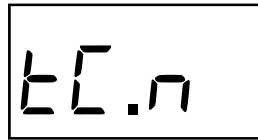
'R' type thermocouple



'S' type thermocouple



'K' type thermocouple



'N' type thermocouple

Auto Power Off

The ST610B turns itself off if no buttons have been pressed for 15 minutes (auto power-off). *This feature is disabled in MAX mode.*

Changing the Thermocouple Type

To change the thermocouple type setting turn the ST610B off. Now press the "Tc" button. Keep the "Tc" button held down and turn on the ST610B. Release the "Tc" button when the thermocouple type display is shown. Select the required thermocouple type with either the "0.1°" button or the "1°" button. Confirm the selection with the "HOLD" button. The ST610B will now store the required thermocouple type and turn itself off. When next turned on the selected thermocouple type will be shown. ***It is important that the thermocouple type selected be the same as the type of thermocouple actually in use else large errors will be present in the displayed temperature.***

Units Selection

The required display units (Centigrade (°C), Fahrenheit (°F) or Kelvin (K)) can be selected with the appropriate buttons. The units are remembered when the ST610B is turned off.

Resolution

The resolution of the displayed reading can be selected with the 0.1° and 1° buttons. The resolution is remembered when the ST610B is turned off. If the measured temperature is greater than 199.9 when 0.1° resolution is selected then the ST610B will overflow and show "+1". To clear this error select 1° resolution.

MAX Mode

The MAX button puts the instrument into a recording mode and it displays the maximum temperature reached. In this mode the auto power-off feature is disabled. To cancel the MAX mode press the MAX button again. While in MAX mode pressing the HOLD button stops recording of the MAX temperature. Press the HOLD button again to resume recording.

HOLD Mode

The HOLD button freezes the reading on the display. To cancel the HOLD mode press the HOLD button again.

Tc Mode

Pressing the Tc button causes the internal temperature of the instrument to be displayed (cold junction temperature). Release the Tc button to show the normal display.

Low Battery Warning

If the battery symbol appears in the bottom left hand corner of the display then the battery needs to be replaced. Fit a standard 9 Volt alkaline battery. The display backlight feature is disabled when the battery is low. ***Unplug the thermocouple before changing the battery.***

Display Backlight

Press the BACKLIGHT button to turn the backlight on. The backlight will turn off after 5 seconds unless the BACKLIGHT button is held down.