

## Thermocouple Calibrator/Simulator

The portable thermocouple calibrator is a compact and easy to use instrument that is equally at home in the laboratory or service environment. The DP6 will both measure and simulate the outputs from the 10 most popular thermocouple types, and may be scaled in °C, °F, K or mV. Automatic reference junction compensation is provided with the option for manual value entry.

For full portability the calibrator is powered by a rechargeable battery giving more than 15 hours continuous use. The DP6 is delivered in an ABS transport case which also houses the charger and a copper transition adapter for easy connection to miniature thermocouple plugs. A soft carrying bag with neck strap is available as an option.



Linearised for 10 Thermocouple Types

Measures and Sources

Calibrated to ITS90 and IPTS68

Displays in °C, °F, K and mV

1µV Resolution

Reference Junction Compensation

Rechargeable Battery

Memory with 130 Stores

Digital Calibration

### Display

4 1/2 digit high contrast LCD 10.2 mm. Display range 19999 digits, automatic decimal point, polarity and units. Two line alphanumeric LCD for programming and display of configuration.

### Terminals

Two 4mm low thermal emf copper terminals.

### Working Temperature

0...40°C

### Storage Temperature

-20 ... +50°C.

### Battery

6 Volt 1.2 Ah sealed lead acid, replaceable.

### Operating Time

15 Hours typical continuous use.

### Charger Type

External charger operating from mains supply.

### Case

Shockproof thermoplastic with polycarbonate sealed membrane keyboard. Soft carrying case available as an accessory.

### Reference Junction

Referenced to 0° C and with three operating modes. Automatic with internal sensor, Off (=to 0°C) and Manual entry via keyboard.

### Accuracy

Better than ±0.1 °C at +20°C.

### Deviation

0.01°C/°C over the range 0 to +50°C

### Manual Input Range

The reference junction reference value may also be set via the keyboard over the range 0 to +100°C.

### Size

150x130x60 mm (W D H)  
350x260x65 mm in transport case.

### Weight

1.4 kg



| Thermocouple Type |              | Range          | Accuracy         |
|-------------------|--------------|----------------|------------------|
| Code              | Material     | Degrees C      | Measure & Source |
| <b>B</b>          | PtRh30-PtRh6 | +500 to +1820  | ±0.5°C           |
|                   |              | +200 to +500   | ±1.5°C           |
|                   |              | +60 to +200    | ±6.0°C           |
| <b>E</b>          | NiCr-CuNi    | -200 to +1000  | ±0.2°C           |
|                   |              | -250 to -200   | ±0.6°C           |
|                   |              | -270 to -250   | ±6.0°C           |
| <b>J</b>          | Fe-CuNi      | +800 to +1200  | ±0.3°C           |
|                   |              | +200 to +800   | ±0.2°C           |
|                   |              | 0 to +200      | ±0.1°C           |
|                   |              | -210 to 0      | ±0.3°C           |
| <b>K</b>          | NiCr-NiAl    | +1000 to +1370 | ±0.4°C           |
|                   |              | +100 to +1000  | ±0.3°C           |
|                   |              | -50 to +100    | ±0.1°C           |
|                   |              | -150 to -50    | ±0.2°C           |
|                   |              | -225 to -150   | ±0.5°C           |
| <b>L</b>          | Fe-CuNi      | -270 to -225   | ±3.0°C           |
|                   |              | +300 to +900   | ±0.2°C           |
|                   |              | -100 to +300   | ±0.1°C           |
|                   |              | -200 to -100   | ±0.15°C          |

| Thermocouple Type |             | Range          | Accuracy         |
|-------------------|-------------|----------------|------------------|
| Code              | Material    | Degrees C      | Measure & Source |
| <b>N</b>          | NiCrSi-NiSi | +1100 to +1300 | ±0.4°C           |
|                   |             | +400 to +1100  | ±0.3°C           |
|                   |             | +150 to +400   | ±0.15°C          |
|                   |             | 0 to +150      | ±0.1°C           |
| <b>R</b>          | PtRh13-Pt   | +1200 to +1760 | ±0.8°C           |
|                   |             | +100 to +1200  | ±0.4°C           |
|                   |             | 0 to +100      | ±0.5°C           |
|                   |             | -50 to 0       | ±0.8°C           |
| <b>S</b>          | PtRh10-Pt   | +1400 to +1760 | ±0.95°C          |
|                   |             | +1200 to +1400 | ±0.5°C           |
|                   |             | +50 to +1200   | ±0.4°C           |
|                   |             | -50 to +50     | ±0.6°C           |
| <b>T</b>          | Cu-CuNi     | -100 to +400   | ±0.2°C           |
|                   |             | -230 to -100   | ±0.5°C           |
|                   |             | -250 to -230   | ±1.0°C           |
|                   |             | -270 to -250   | ±2.5°C           |
|                   |             |                |                  |
| <b>U</b>          | Cu-CuNi     | +300 to +400   | ±0.2°C           |
|                   |             | 0 to +300      | ±0.1°C           |
|                   |             | -150 to 0      | ±0.15°C          |
|                   |             | -200 to -150   | ±0.2°C           |

Resolution on all types of thermocouple -0.1°C, 0.1K, 0.1°F. Limits of error apply for 1 year at 20 degrees centigrade ±1°C

| Range  | Max. Display | Uncertainty                     | Resolution |
|--------|--------------|---------------------------------|------------|
| 10 mV  | ±15.000mV    | ±0.02% of reading<br>±0.015% FS | 1 µV       |
| 100 mV | ±150.00mV    | ±0.01% of reading<br>±0.015% FS | 10 µV      |
| 1V     | ±1.5000V     | ±0.01% of reading<br>±0.015% FS | 100 µV     |

Temperature coefficient: typically 17 ppm/°C +0.2mV/°C

## CROPICO on the Web


Details of the DP6 and other CROPICO instruments can be found on our website at:  
**[www.cropico.co.uk](http://www.cropico.co.uk)**

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