QUARTZ PORTABLE TEMPERATURE CALIBRATOR

Operating range:
-30 °C / +150 °C
(-22 °F / 302 °F)

Applications:
Control and calibration of temperature sensor, in the laboratory and in the field, in conformity with ISO 9000 standards.
Control of thermostats.
Automatic computer-controlled calibrations.
QUARTZ temperature calibrator is a compact instrument used to calibrate transducers, RTD and temperature-measuring sensors in the field and in the laboratory. The possibility to generate positive and negative temperature ramps makes it suitable for use in calibrating and testing thermostats.

**TECHNICAL CHARACTERISTICS:**

QUARTZ calibrator consists of a metal block measuring 35 mm in diameter and 135 mm in height, it doesn’t use external refrigerating liquids and the metal block is heated and cooled by Peltier elements.

QUARTZ is equipped with a PID microprocessor controller with a resolution up to 0,01 °C, setting of the standard of measurement in °C, °F and K, programming of ascent/descent ramps and storage of the thermostats’ operative temperature.

In the QUARTZ-2I version, the instrument is equipped with an acquisition card having two adjustable inputs able to read: Pt100 3/4 wires & thermocouples: E, J, K, N, R, S with automatic compensation of the cold junction.

The REF input is provided for the reference sample probe, thus obtaining a complete calibration system which can be certified by Accredia centres, in compliance with ISO 9000 regulations.

The EXT input is provided for probes that are being tested; hence, the instrument can display the temperature of the well, the temperature of the sensor to be checked and the temperature of the reference sample probe, at the same time.

The QUARTZ is equipped with the RS232 serial interface to operate in automatic mode connected to the PC by means of the AQ2sp software which enables to carry out probe calibrations, test of thermostat and cyclical life tests; test results can be stored and printed, so they are easily traceable in compliance with ISO 9000 standards.

**TECHNICAL DATA**

(QUARTZ633-00 - base version)

- Operating range: -30 °C + 150 °C (*)
  -22 °F / 302 °F ) (*)
- Stability: ±0.03 °C (at 0 °C)
  ± 0.05 °F (at 32 °F)
- Uniformity (at 0 °C)
  - Radial: ±0.02 °C (at 40 mm)
  ± 0.03 °F (at 1.5 in.)
  - Axial: ±0.1 °C
  (at 60 mm from the bottom)
  ± 0.1 °F
  (at 2.3 in. from the bottom)
- Maximum heating time: 20 °C/min (68 °F/min)
- Maximum cooling time: 22 °C/min (71.6 °F/min)
- Display resolution: All temperatures: 0.1 °C / 0.01 °F
- Display accuracy: ±0.15 °C (± 0.27 °F)
- Units of measurement: °C - °F - K
- Serial interface: RS232
- Well diameter: 35 mm (1.3 in.)
- Insert hole depth: 130 mm (5.1 in.)
- Power supply: 115 or 230 VAC - 50/60 Hz
- Electric power: 300 W
- Calibrator size: 160 x 340 x 330 mm
  (6.2 x 13.3 x 12.9 in.)
- Calibrator weight: 8 kg (17 lb)
- Shipping weight with carrying case: 17 kg (37 lb)

(*) Room temperature 20 °C

**QUARTZ633-2I**

Version with data acquisition card and two input devices to measure:

<table>
<thead>
<tr>
<th>Probe type</th>
<th>Range</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pt100 IEC 3/4 wires</td>
<td>-100 / 700 °C</td>
<td>±0.3 °C</td>
</tr>
<tr>
<td>Thermocouple E, J</td>
<td>0 / 1000 °C</td>
<td>±1 °C</td>
</tr>
<tr>
<td>Thermocouples K, N, R, S</td>
<td>0 / 1300 °C</td>
<td>±1 °C</td>
</tr>
</tbody>
</table>

**STANDARD EQUIPMENTS:**

- QUARTZ calibrator.
- Power supply cable.
- Fuses kit.
- Thermostat connection cables.
- Instructions manual.
- Test report.
- Tweezers for insert removing.
- 2D1191: 6 holes insert: (diameter: 3.5 - 4.5 - 5.5 - 6.5 - 8.5 - 10.5 mm).
- Kit of clamp connections (only 2I version).
- RS232 serial interface.

**ACCESSORIES ON DEMAND:**

- Insert with customizable holes.
- AQ2sp software.
- Accredia certificate (only 2I version) performed by a sample probe connected to QUARTZ633.
- Pt100 sample probe.
- USB/RS232 converter.
- RS232 serial cable.
- Aluminium case.
- Cordura® soft bag.

**HOW TO ORDER:**

Standard version

<table>
<thead>
<tr>
<th>QUARTZ633</th>
<th>- 00</th>
<th>- 1</th>
<th>- 115 V 50/60 Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>QUARTZ633</td>
<td>- 00</td>
<td>- 2</td>
<td>- 230 V 50/60 Hz</td>
</tr>
</tbody>
</table>

Version with 2 configurable input

<table>
<thead>
<tr>
<th>QUARTZ633</th>
<th>- 2I</th>
<th>- 1</th>
<th>- 115 V 50/60 Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>QUARTZ633</td>
<td>- 2I</td>
<td>- 2</td>
<td>- 230 V 50/60 Hz</td>
</tr>
</tbody>
</table>

**CERTIFICATION:**

All instruments are supplied with final testing, stability and accuracy certification traceable to Accredia standards.