

SOLAR

PORTABLE TEMPERATURE CALIBRATOR



Operating range:

+200 °C / + 1100 °C
(392 °F / 2012 °F)

Applications:

Control and calibration of temperature sensor, and the laboratory and in the field, in conformity with ISO 9000 standards

Control of thermostats.

Automatic computer-controlled calibrations.





SOLAR

PORTABLE TEMPERATURE
CALIBRATOR

The portable thermostatic calibrator **SOLAR** has been designed to carry out laboratory and field checks of thermocouples and Pt100; it consists of a tubular vertical well with an internal ceramic pipe and an interchangeable equalising block.

The equalising block, whose large size suits the external dimensions, ensures a proper heat transmission as well as optimal stability and uniformity values; its interchangeability makes it possible to test sensors of various lengths, with diameters ranging from 1 mm up to 26 mm. The block of the standard equipment has 4 holes (diameter: 7, 9, 11 and 13,5 mm); on request, further versions with different kinds of holes are available.

SOLAR is equipped with a counter-current forced air cooling system, which keeps the temperature low in the upper part of the well; this system enables to check even very short probes, without heating the connecting head or the handgrip.

SOLAR is provided with a new PID controller, whose microprocessor ensures resolution values up to 0,01 °C as well as °C, °F and K reading; it also enables to set the up/down ramps and to memorise the operative temperature of the thermostats.

The version **SOLAR-21** is equipped with a data acquisition card and two adjustable input devices (Pt100 3/4 wires; thermocouples: E, J, K, N, R, S) with gold-plated contacts and automatic compensation of the cold junction.

The REF input device is for the reference sample probe; this calibration system is provided with Accredia (Italian calibration service) test certificates and it is in accordance with ISO 9000.

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

Furthermore, **SOLAR** is provided with the serial interface RS232; once it is connected to a PC, it can operate automatically, by means of the software AQ2sp, which enables to carry out probe calibrations, thermostats tests and cycle life tests; test results can be stored and printed and they are easily traceable in conformity with ISO 9000 standard values.

TECHNICAL DATA

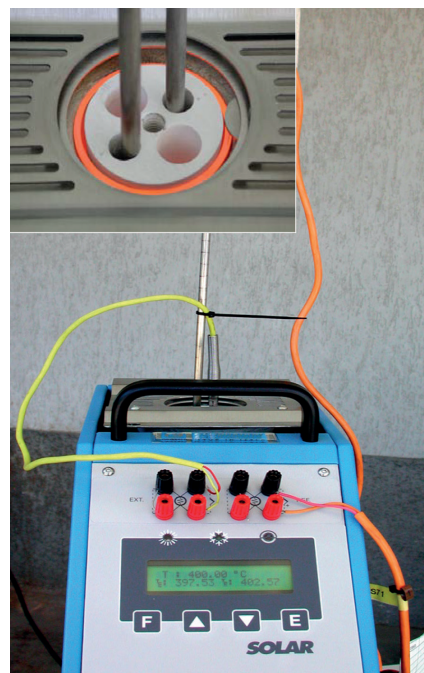
(SOLAR-00 - standard version)

Operating range:	+200 °C ÷ +1100 °C (392 °F ÷ 2012 °F)
Stability:	±0,3 °C (a 1000 °C) (±0,5 °F at 2012 °F)
Uniformity (at 1000 °C / 1832 °F)	
- Radial	±0,4 °C (at 40 mm) ±0,7 °F (at 1.5 in.)
- Axial	±0,4 °C (for 60 mm from the bottom) ±0,7 °F (for 2.3 in. from the bottom)
Mean heating time:	18 °C/min (64 °F/min)
Mean cooling time:	6 °C/min (42 °F/min)
Display resolution:	All temperatures: 0,1 °C / 0,01 °F
Display accuracy:	±3 °C (±37 °F)
Units of measurement:	°C - °F - K
Serial interface:	RS232
Well diameter:	44 mm
Insert hole depth:	220 mm / 7.8 in. (included insulator)
Power supply:	115 or 230 VAC - 50/60 Hz
Electric power:	850 W
Calibrator size:	170 x 450 x 330 mm (6.6 x 17.7 x 12.9 in.)
Packaging size:	370 x 450 x 600 mm (14 x 17 x 23 in.)
Calibrator weight:	12 kg (26 lb)
Packaging weight:	18 kg (39 lb)

SOLAR-21

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

Probe type	Range	Accuracy
Pt100 IEC 3/4 wires	-100 / 700 °C	±0,3 °C
Thermocouple E, J	0 / 1000 °C	±1 °C
Thermocouples K, N, R, S	0 / 1300 °C	±1 °C



STANDARD EQUIPMENTS:

- SOLAR calibrator.
- Ceramic equalizing block with 4 holes (diam. 7 - 9 - 11 - 13,5 x 155 mm).
- Top insulator with four holes.
- Block extractor.
- Power supply cable.
- Fuses kit.
- Thermostat testing connection cable.
- Test report.
- Instruction manual.
- Kit of clamp connections (only 21 version).
- RS232 serial interface.

ACCESSORIES ON DEMAND:

- Ceramic equalizing block-single hole 26 mm diam.
- Inconel 600 equalizing blocks with required holes + insulator.
- Software AQ2sp.
- Tc, S sample probe.
- Accredia certificate (only 21 version) obtained with a sample probe connected to SOLAR.
- USB/RS232 converter.
- RS232 serial cable.
- Carrying case.

HOW TO ORDER:

Standard version

SOLAR - - - 115 V 50/60 Hz

SOLAR - - - 230 V 50/60 Hz

Version with 2 configurable input

SOLAR - - - 115 V 50/60 Hz

SOLAR - - - 230 V 50/60 Hz



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CERTIFICATION:

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