

Dry metal block temperature calibrator LR-Cal QUARTZ-35

Temperature range: -30...+150°C (at +20°C ambient temperature)

Version LR-Cal QUARTZ-35-2I additional with 2 inputs Pt 100 / TC for external reference and unit under test**Dry metal block temperature calibrator LR-Cal QUARTZ-50**

Temperature range: -50...+150°C (at +20°C ambient temperature)

Version LR-Cal QUARTZ-50-2I additional with 2 inputs Pt 100 / TC for external reference and unit under testCooling and heating with efficient peltier elements.
Fans electronically controlled**Typical applications:**

- Testing, checking and calibrating all kind of temperature instruments
- Testing and adjustment of temperature switches / thermostats
- Computer aided calibration via computer interface

**Technical data:**

Model:	LR-Cal QUARTZ-35	LR-Cal QUARTZ-50
Temperature range at +20°C ambient temperature:	-30°C...+150°C	-50°C...+150°C
Accuracy of built-in temperature indication:	±0.15°C	±0.15°C
Display resolution (user-selectable):	0.01° / 0.1°	0.01° / 0.1°
Temperature units (user-selectable):	°C / °F / K	°C / °F / K
Stability of regulated temperature (at 0°C):	±0.03°C	±0.02°C
Heating time (incl. time to stability):	∅ 20°C per minute	ambient...+150°C: 30 min
Average cooling time:	∅ 22°C per minute	ambient...-50°C: 60 min
Radial temperature uniformity (at 0°C):	±0.02°C (at 40 mm ins. depth)	±0.02°C (at 40 mm ins. depth)
Axial temperature uniformity (at 0°C):	±0.1°C (at 60 mm from bottom)	±0.1°C (at 60 mm from bottom)
Immersion depth:	130 mm	135 mm
Insert diameter:	35 mm	35 mm
Display:	LCD 2-zeilig	LCD 2-zeilig
Interface:	RS232 (option: USB-converter)	RS232 (option: USB-converter)
Inputs for 2 external probes: (1)	Option (version -2I)	Option (version -2I)
Ramp function (fully programmable):	•	•
Thermostat test function and connection: (2)	•	•
Power supply (50/60 Hz):	230 VAC (3)	230 VAC
Power consumption:	300 VA	300 VA
Weight:	10 kg	8 kg
Housing dimensions:	340 x 160 x 330 mm	350 x 160 x 365 mm

(1) e.g. 1 x for external reference probe + 1 x for probe under test (Pt 100 oder TC)

(2) with automatic log of switch open and switch close

(3) optional for 115 VAC

Scope of standard delivery:

- Temperature calibrator **LR-Cal QUARTZ-35(-2I)** or **LR-Cal QUARTZ-50(-2I)**
 - Power supply cable and spare fuse
 - Connection cable for thermostat tests and tweezer for removing block insert
 - 1 insert with holes 3.5 - 4.5 - 5.5 - 6.5 - 8.5 - 10.5 mm diameter
 - Factory certificate of performance and calibration and operating manual
- Additional for versions **LR-Cal QUARTZ-35-2I** and **LR-Cal QUARTZ-50-2I**:
- Set of red/black cables and plugs for the connection of external sensors

QUARTZ-35 QUARTZ-50

Dry metal block temperature calibrator
-30°C...+150°C or -50°C...+150°C



Versions QUARTZ-35-2I and QUARTZ-50-2I:

Instrument version with 2 measuring inputs, both suitable for resistance thermometers Pt 100 (2-, 3- or 4-wire) or Pt 100 as well as thermocouples (incl. cold junction compensation) types B, E, J, K, N, R, S and T.

The signals of up to two external temperature sensors can be displayed additionally.

Order-Code: [QUARTZ-35-2I](#) or [QUARTZ-50-2I](#)



Accuracy of the two measuring inputs:

Accuracy (max. deviation) of the optional measuring inputs at instrument version "-2I":

Resistance thermometer:

Pt 100	at -40°C: $\pm 0.09^\circ\text{C}$	at 0°C: $\pm 0.08^\circ\text{C}$	at +150°C: $\pm 0.11^\circ\text{C}$	at +300°C: $\pm 0.14^\circ\text{C}$
Pt 1000	at -40°C: $\pm 0.09^\circ\text{C}$	at 0°C: $\pm 0.08^\circ\text{C}$	at +150°C: $\pm 0.11^\circ\text{C}$	at +300°C: $\pm 0.14^\circ\text{C}$

Thermocouples:

Type B	at +950°C: $\pm 0.97^\circ\text{C}$	at 1050°C: $\pm 1.03^\circ\text{C}$	at +1200°C: $\pm 1.12^\circ\text{C}$
Type E	at -40°C: $\pm 0.42^\circ\text{C}$	at 0°C: $\pm 0.40^\circ\text{C}$	at +350°C: $\pm 0.61^\circ\text{C}$
Type J	at +200°C: $\pm 0.52^\circ\text{C}$	at +450°C: $\pm 0.67^\circ\text{C}$	at +700°C: $\pm 0.82^\circ\text{C}$
Types K + N + R + S	at +400°C: $\pm 0.64^\circ\text{C}$	at +700°C: $\pm 0.82^\circ\text{C}$	at +1000°C: $\pm 1.00^\circ\text{C}$
Type T	at -40°C: $\pm 0.42^\circ\text{C}$	at 0°C: $\pm 0.40^\circ\text{C}$	at +350°C: $\pm 0.61^\circ\text{C}$

Optional accessories:

Code **507.0.999.0008.0**: Insert without drillings (to be drilled by customer)

Code **507.0.999.0010.0**: Insert with 2 holes 6.5 - 19.5 mm diameter

Code **INS-SPEC-633-3**: Insert with 1-3 holes as per customers request, 3.2...20 mm diameter

Code **INS-SPEC-633-6**: Insert with mit 4-6 holes as per customers request, 3.2...20 mm diameter

Code **INS-SPEC-633-10**: Insert with 7-10 holes as per customers request, 3.2...20 mm diam.

Code **INSERT-QUARTZ**: Insert „black body“, 26 mm inner diameter (for Infrared thermometers)

Code **BB-SENSOR-01**: Reference probe Pt 100 for black body insert, 3 mm, Class A

Code **TEMPKAL-TASCHE**: Soft bag with shoulder trap



Code **TEMPKAL-KOFFER**: Aluminium hard case with foam insert



Code **599.0.000.0003.0**: PC software „AQ2sp“ incl. special RS232 cable
With the MS-Windows software „AQ2sp“ it is possible to remote-control the temperature calibrator with a PC. Automatic or manual calibration of one or more test specimen, stress tests, life cycle tests and thermostat tests can be carried out. Creation of certificates of calibration.



Code **RS232-USB-KONV**: Converter RS232 --> USB