

The multifunctional Temperature Calibrator **LR-Cal LTC 100** is a high-precision, hand-held calibrator for the calibration and troubleshooting of process control instrumentation.

- Measuring of Thermocouples, Resistances, Resistance Temperature Detectors RTD, mA, mV and circuit continuity
- Sourcing of Thermocouples, Resistances, RTDs, mA and mV
- Dual display enables simultaneous input and output view
- Internal 24 V loop supply to power transmitters and measure mA during tests
- Selectable Step- and Ramp functions
- Data logging via supplied SD memory card
- USB interface
- Powered by chargeable Lithium-Ion battery
- Graphically trend display



The Temperature Calibrator **LR-Cal LTC 100** simultaneously measures and sources ten types of thermocouples and seven resistance temperature detectors (RTD), whilst automatically capturing the calibration results. It measures milliamps whilst sourcing or simulating millivolts, TCs, RTDs or ohms to calibrate transmitters.

The **LR-Cal LTC 100** logging facility stores data on the SD card supplied, which is easily downloaded to a PC via the onboard USB port and usable in most of the common spreadsheet formats.

The trend feature is ideal for graphing temperature profiles and PID controller optimization with a programmable timebase. In addition, the **LR-Cal LTC 100** has the functionality necessary to install and maintain all powered and non-powered transducers using the built-in 24 V loop power supply.

The multifunctional Temperature Calibrator **LR-Cal LTC 100** is the economical choice for people wanting to do industrial field or workshop calibration.



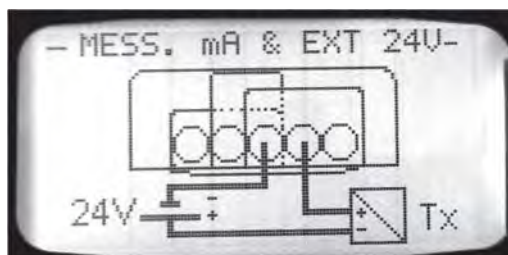
Included in standard delivery is a rubber boot, a SD memory card, a Thermocouple Extender (with cold junction compensation) and a plastic case with foam.



The operation of the Temperature Calibrator **LR-Cal LTC 100** is very simple and easy.

Example: the Help-Menu shows on the display Wiring Schematics for almost all kind of testing and calibration tasks.

**RTD  
Thermocouple  
mA Loop**



The keypad of model **LR-Cal LTC 100**:



### Technical Data

| MEASURING                 | Range:   | Accuracy:  | Resolution: |
|---------------------------|--|------------|-------------|
| Milliamps mA              | 0...24 mA (Impedance ±17 Ω)                              | 0.02% FS   | 1 μA        |
| Millivolts mV             | -10...+100 mV (> 1 MΩ)                                   | 0.01% FS   | 1 μV        |
| Thermocouples             | Types J, K, T, E, N, U, L                                | 0.1% FS *) | 0.1°C       |
| Thermocouples             | Types B, R, S  | 1% FS *)   | 0.1°C       |
| Resistance Ω              | 0...400.00 Ω   | 0.05% FS   | 0.01 Ω      |
|                           | 0...2200.0 Ω   | 0.05% FS   | 0.1 Ω       |
| Resistance Temp. Ind. RTD | Types Pt50, Pt100, Pt200, Pt500,<br>Pt1000, Ni100, Ni120 | 0.1% FS    | 0.01°C      |

Continuity: with a 100 Ω trigger. Visual and audible confirmation

| SOURCING                  | Range:   | Accuracy:    | Resolution: |
|---------------------------|--|--------------|-------------|
| Milliamps mA              | 0...24 mA (max. load 500 Ω)                              | 0.02% FS     | 1 μA        |
| Millivolts mV             | -10...+100 mV (min. load 100 Ω)                          | 0.01% FS     | 1 μV        |
| Thermocouples             | Types J, K, T, E, N, U, L                                | 0.1% FS *)   | 0.1°C       |
| Thermocouples             | Types B, R, S  | 1% FS *)     | 0.1°C       |
| Resistance Ω              | 10.00...400.00 Ω   | 0.05% FS **) | 0.01 Ω      |
|                           | 400.0...2200.0 Ω   | 0.05% FS **) | 0.1 Ω       |
| Resistance Temp. Ind. RTD | Types Pt50, Pt100, Pt200, Pt500,<br>Pt1000, Ni100, Ni120 | 0.1% FS **)  | 0.01°C      |

Measurement of Ohms and RTD in 2-, 3- or 4-wire configuration. Continuity with a 100Ω trigger (visual and audible confirmation)

### General Data

|                                    |   |
|------------------------------------|---|
| <b>Isolation:</b>                  | Maximum 100 VDC between all input and output circuits   |
| <b>Thermocouple Extender:</b>      | Cold junction compensation Pt100 DIN EN 60751, 100 Ω at 0°C,<br>Nom. resistance drift 0.04% after 1000 hours at 500°C   |
| <b>Power supply</b>                | Type: chargeable lithium-ion battery<br>Charging time: approx. 5 h<br>Running time: typically 8 h (depending on used functions)   |
| <b>Mains Charger:</b>              | Charger input at calibrator: 10...15 VDC<br>Charger Input: 115...230 VAC; 0,5 A; 50/60 Hz<br>Charger Output: 12 VDC at 1.5 A  |
| <b>Optional car charger:</b>       | 12 VDC at 1 A via cigarette lighter plug  |
| <b>Temperature ranges:</b>         | Storage: -40...+50°C incl. battery<br>Usage: 0...50°C   |
| <b>Relative Humidity:</b>          | 0...85% r.h. (non-condensing)   |
| <b>Housing:</b>                    | ABS plastic, IP54 dust & splash proof, UL94V-0 flame retardant  |
| <b>Rubber Boot:</b>                | green   |
| <b>Dimension:</b>                  | without rubber boot 149 x 34 x 77 mm<br>with rubber boot 155 x 43 x 86 mm   |
| <b>Weight:</b>                     | approx. 340 g   |
| <b>Scope of standard Delivery:</b> | Calibrator <b>LR-Cal LTC 100</b> with rubber boot<br>SD memory card<br>Thermocouple Extender<br>Set of safety test leads (1 x red, 1 x black)<br>Mains Charger 115...230 VAC<br>Plastic kit case<br>Operating Manual (German/English)<br>Factory Certificate of Calibration |
| <b>Warranty:</b>                   | 24 months after date of delivery  |

\*) Using Thermocouple Extender and CJ temp set to External.

\*\*) at 1 mA excitation current (for different excitation currents please contact LR-Cal DRUCK & TEMPERATUR Leitenberger GmbH)

### Accessories and Spare Parts

| Order-Code          | Description                         |
|---------------------|-------------------------------------|
| LRCAL-100-KFZ-LADER | Car Charger (12 VDC Car Lighter)    |
| LRCAL-100-SP-SICH   | Spare Fuses 250 mA SMD              |
| LRCAL-100-SP-KABEL  | Spare set of Test Leads (red/black) |
| LRCAL-100-SP-BATT   | Spare Battery Pack (Li-Ion)         |
| LRCAL-100-SP-LADER  | Spare Charger mains 115...230 VAC   |
| LRCAL-100-SP-SCHUTZ | Spare Rubber Boot (green)           |
| LRCAL-100-SP-KOFFER | Spare plastic Case with custom foam |
| LTC100-SP-TASTATUR  | Spare Keypad                        |

**Plugged Thermocouple Extender**  
with cold junction compensation



**3 in 1  
functions**

**RTD  
Thermocouple  
mA Loop**