

Electronic Pressure Controller and Calibrator LR-Cal LCC 100

- Generates and measures pressure and vacuum
- Pressure up to 1 mbar, 10 mbar, 100 mbar and 1,000 mbar (vacuum max. -600 mbar), incl. factory calibration certificate
- Uncertainty up to $\pm 0.1\%$ FS (± 1 digit)
- Great adjustment accuracy (0.01% FS)
- Chargeable Li-Ion battery
- Generates pressure+vacuum by pressing a key



The LR-Cal LCC 100 measures and generates pressure and vacuum and consequently it is more than a mere measuring instrument - it can also be applied as test and calibration instrument for pressure sensors, pressure switches and pressure gauges. Thanks to the internal pressure/vacuum generation no auxiliary tools are required for operation. An internal Li-Ion battery (chargeable) makes mobile operation very easy. Parallel operation of mains and battery supply allows for maximum flexibility.

Typical applications:

- Mobile and stationary pressure standard for low pressure and vacuum
- Mobile and stationary check of all kind of pressure reading instruments
- Mobile and stationary pressure and vacuum source for calibration purposes
- Leak test

Technical Data:

Type	LR-Cal	LCC 100-1	LCC 100-10	LCC 100-100	LCC 100-1000
Order-Code:		LCC-100-1	LCC-100-10	LCC-100-100	LCC-100-1000
Pressure range:		1 mbar	10 mbar	100 mbar	1.000 mbar
Vacuum generation:		max. -600 mbar, more via ext. pressure pump			LR-Cal LPP 40
Overpressure:		5-fold			2-fold
Uncertainty:	±1 Digit	±0.3% FS	±0.1% FS		
Linearity:	±1 Digit	±0.2% FS	±0.1% FS		
Hysteresis		max. ±0.1% FS			
Measurement principle:		inductive			
Temperature drift of the internal reference sensor:		Zero point: 0.003% FS/K (0% via ZERO balance) Span: 0.03% FS/K			
ZERO balance:		automatic (in settable time spans, possible to switch off), or manual (by pressing the ZERO button)			
Long-term stability of the internal reference sensor:		0.1% FS per year (typical)			
Temperature ranges:		Working: +10...+40°C; Storage: -10...+70°C			
Usable pressure range:		-10...+110%			
Adjustment accuracy:		0.001% FS			
Adjustment time:		depending on volume, < 5 s			
Measurement media:		Air, non-aggressive and corrosion-free dry gases			
Operation modes:		CTRL = controlling pressure MESS = measuring pressure AUTO = individually definable pressure profile Remote-controlled operation (via USB or RS232 interface)			
Display:		Graphic display (white on blue background)			
Interfaces:		USB and RS232			
Supply:		24 VDC/1 A, build-in Li-Ion battery (typical: 8 h continuous operation) Mains charger 90...264 VAC			
Pressure ports:		6.6 x 11 mm (for flexible hose with 6 mm inner diameter)			
Dimensions		H 102.6 x W 257 x D 271 mm (without handle)			

Please note: The usable pressure range of the LR-Cal LCC 100 types is -10%...+110% of the pressure range, depending on type. To achieve larger vacuum values, user can change the +/- pressure port connections.

Operation modes of the LR-Cal LCC 100

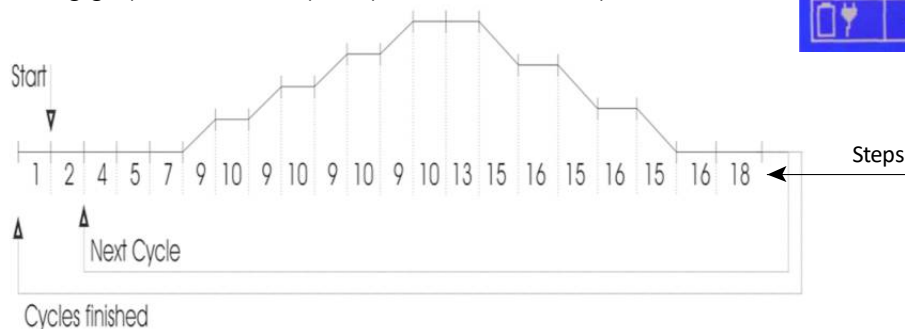
- **Measure:** The measuring mode ("MESS") is used to measure a gauge or differential pressure. In this operation mode the internal pump of the LR-Cal LCC 100 is deactivated. The applied pressure, measured by the internal reference sensor, is shown in the display.



- **Control:** The control mode ("CTRLW") is used to calibrate pressure transmitter, pressure switches or pressure gauges. In this operation mode the internal pump of the LR-Cal LCC 100 is activated, the pressure is adjusted to the set point. The pressure value is shown on the display.

- **Auto:** In the „AUTO“ mode, a calibration procedure can be defined. This mode allows a comfortable calibration of several test specimen with same specifications. The calibration can be run AUTOMatically in this mode.

Following graphic shows the principle of a calibration procedure:



- Steps:
- | | | | |
|------|--|-----|--------------------------|
| [1] | Wait for start command (pressing OK key) | [2] | Delay time (adjustable) |
| [4] | Duration of ZERO balancing of the system | [7] | Dwell time at ZERO point |
| [9] | Adjustment time to the next step | | |
| [10] | Dwell time | | |
| [13] | Delay time at max. pressure step | | |
| [15] | Adjustment time to the next step | | |
| [16] | Dwell time at ZERO point | | |
| [18] | Delay time (adjustable) | | |

- **Leaktest:** In the CTRL mode, connected test specimen can be tested to leakage/tightness by pressing the LEAK key.



Back view of the LR-Cal LCC 100



Front panel of the LR-Cal LCC 100



Optional Accessories:

Spare part: Mains supply 90...264 VAC (47...63 Hz)

Order-Code: **LCC-100-NT** (1 pc. included in standard supply of the equipment)

Carrying case with foam inserts:
Order-Code:
LCC-100-KOFFER



Pressure test pump LR-Cal LPP 40
Order-Code: **LPP-40**, -0,95...+40 bar

