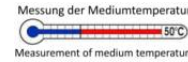


Digital reference pressure gauge and data logger
Model: LR-Cal LDM 80
Accuracy $\pm 0.2\%$ FS, optional $\pm 0.1\%$ FS
Pressure ranges from 0...100 mbar to 0...3000 bar
USB interface, optional WIRELESS data transmission
Optional with Pressure Switch Test function
Incl. measurement of medium temperature
and always visible analogue bargraph display
Chargeable battery, easy charging via USB



The digital reference pressure test gauge LR-Cal LDM 80 is featured with an outstanding longterm stability. It is perfect for reference pressure measurements, for testing and calibration purposes. Together with the portable pressure test pumps LR-Cal LPP 40, as well as LR-Cal LPP 700 or LR-Cal LPP 1000 it can be used mobile, on site. For higher pressure values we recommend our pressure comparison pumps LR-Cal LSP.

The LR-Cal LDM 80 is powered by a rechargeable li-ion battery and is fitted with an USB interface. In addition, the device is featured with a data logging function (max. 60,000 values) and it measures the temperature of the pressure medium. A transit case, an USB charger and a traceable factory certificate of calibration are included in standard delivery.

Optional, the LR-Cal LDM 80 is available with electrical connection for pressure switch tests or with WIRELESS transmission of data to PC/Laptop (instead of via USB interface).

Technical Data:

Internal resolution: 65,000 div.

Measurements per second (if filter is set to 0): 10 (100 ms).

Pressure measurement/indication: see table on page 2. Accuracy $\pm 0.2\%$ FS, optional $\pm 0.1\%$ FS (Code LDM80-KL01).

Filter: programmable digital filter for stabilisation of displayed values also at fluctuating pressures.

Temperature measurement/indication: Resolution 0.1°C; Accuracy $\pm 1^\circ\text{C}$ (range -10...+70°C, ambient temp. 0...50°C).

Reference temperature: +23°C.

Working temperature range: -10...+70°C.

Storage temperature range: -10...+80°C.

Temperature influence: $\leq \pm 0.002\%/1^\circ\text{C}$.

Display: LCD 13 mm; with programmable backlight (1...60 seconds, or off).

Programmable resolution: 1, 2, 5, 10.

Interface: USB 2.0 (virtual COM port on PC/Laptop, programmable baud rate 19200, 9600 or 4800)

Optional: WIRELESS, RF frequency 433 MHz, RF transmission 200 m in free air, max. 10 transmissions per second.

ZEROing: Via key press, up to 50% of FS.

Maximal-/Minimal values: PEAK function, aktive at positive and negative pressures, 10 measurements per second

Pressure units: selectable; bar, mbar, psi, MPa, kPa, kg/cm², mHg, mmHg, mmH₂O, mH₂O.

Temperature units: selectable; °C, °F.

Data logger: max. storing frequency: 1 value per second, capacity max. 60,000 measured values (= 60,000 pressure values or 30,000 pressure values plus 30,000 temperature values)

Supply: rechargeable inside li-ion-battery 3.7 V, type 523450, autonomy approx. 3 months (if backlight of display is switches off and without optional WIRELES data transmission, charging time approx. 8 hours (via PC/Laptop or supplied USB charger).

Pressure port: 1/2" BSP male, recommended gasket: USIT A 63-18. (Ranges from 1,000 bar: sealing cone 60°).
 Optional: 1/2" NPT male, for pressure ranges up to 700 bar also 1/4" BSP male and 1/4" NPT male.

Pressure limits: Static pressure up to 100% FS, max. permissible pressure up to 150% FS, breaking pressure >300% FS, at highly dynamic pressure max. 75% FS.

Pressure port mounting: Tightening wrench 27 mm, tightening torque 28 Nm.

Protection degree: IP 40

Materials: Indicator housing: black coated aluminium, pressure sensor and port: stainless steel.

LDM 80 Pressure Calibrator and Data logger **LR-Cal** LDM 80

Accuracy $\pm 0.2\%$ FS, optional $\pm 0.1\%$ FS



Order-Codes and Pressure Ranges

Order-Code	Pressure Range	Display	Resolution
LDM80-8010	0...100 mbar	100.0 mbar	0.1 mbar
LDM80-8025	0...250 mbar	250.0 mbar	0.1 mbar
LDM80-8050	0...500 mbar	500.0 mbar	0.1 mbar
LDM80-0001	0...1 bar	1.000 bar	0.001 bar
LDM80-0002	0...2.5 bar	2.500 bar	0.001 bar
LDM80-0005	0...5 bar	5.000 bar	0.001 bar
LDM80-0010	0...10 bar	10.00 bar	0.01 bar
LDM80-0020	0...20 bar	20.00 bar	0.01 bar
LDM80-0050	0...50 bar	50.00 bar	0.01 bar
LDM80-0100	0...100 bar	100.0 bar	0.1 bar
LDM80-0250	0...250 bar	250.0 bar	0.1 bar
LDM80-0350	0...350 bar	350.0 bar	0.1 bar
LDM80-0500	0...500 bar	500.0 bar	0.1 bar
LDM80-0700	0...700 bar	700.0 bar	0.1 bar
LDM80-1000	0...1,000 bar *)	1000 bar	1 bar
LDM80-1500	0...1,500 bar *)	1500 bar	1 bar
LDM80-2000	0...2,000 bar *)	2000 bar	1 bar
LDM80-2500	0...2,500 bar *)	2500 bar	1 bar
LDM80-3000	0...3,000 bar *)	3000 bar	1 bar
LDM80-1010	-1...+1 bar	1.000 bar	0.001 bar
LDM80-1025	-1...+2.5 bar	2.500 bar	0.001 bar
LDM80-1050	-1...+5 bar	5.000 bar	0.001 bar
LDM80-1020	-1...+20 bar	20.00 bar	0.01 bar
LDM80-1040	-1...+40 bar	40.00 bar	0.01 bar
LDM80-1060	-1...+60 bar	60.00 bar	0.1 bar
LDM80-8050-ABS	0...0.5 bar absolute	0.5000 bar	0.0001 bar
LDM80-0001-ABS	0...1 bar absolute	1.000 bar	0.001 bar
LDM80-0002-ABS	0...2.5 bar absolute	2.500 bar	0.001 bar
LDM80-0005-ABS	0...5 bar absolute	5.000 bar	0.001 bar
LDM80-0010-ABS	0...10 bar absolute	10.00 bar	0.01 bar

*) for pressure ranges from 1,00 bar 2 pcs. sealing cone 60° are supplied.

Additional sealing cones 60° are available as spare part with order-code **TLDMM-DK**

Scope of delivery: LR-Cal LDM 80 + USB battery charger + USB cable + case + calibration certificate + operating manual

Dimensions (images are showing version with WIRELESS option)



Option **LDM80-ST**

Pressure switch test, electr. male conn. 2-pin power jack 5x5 x 2.1 mm, at the bottom side of the housing.



Option **LDM80-WF**

WIRELESS data transmission (instead of via USB interface). 100 m in free air, frequency 433 MHz, max. 10 transmissions per second.

Option **LDM80-KL01**

Accuracy $\pm 0.1\%$ v.E. instead of 0.2% incl. factory certificate of calibration

Option **PC-WIRELESS**

WIRELESS receiver to be connected to PC or Laptop (USB). Up to 5 LR-Cal LDM 80 at one PC/Laptop.



PC/Laptop driver for USB (virtual COM port) is available for download on our internet site www.druck-temperatur.de on the related product page.

Accessory **LDM80-GK**

Rubber protection cap to protect the device.



Additional order-codes:

(if other pressure connection as 1/2" BSP male is required)

MP-12-NPT: Connection 1/2" NPT male

For pressure ranges up to 700 bar:

MP-14-BSP: Connection 1/4" BSP male

MP-14-NPT: Connection 1/4" NPT male

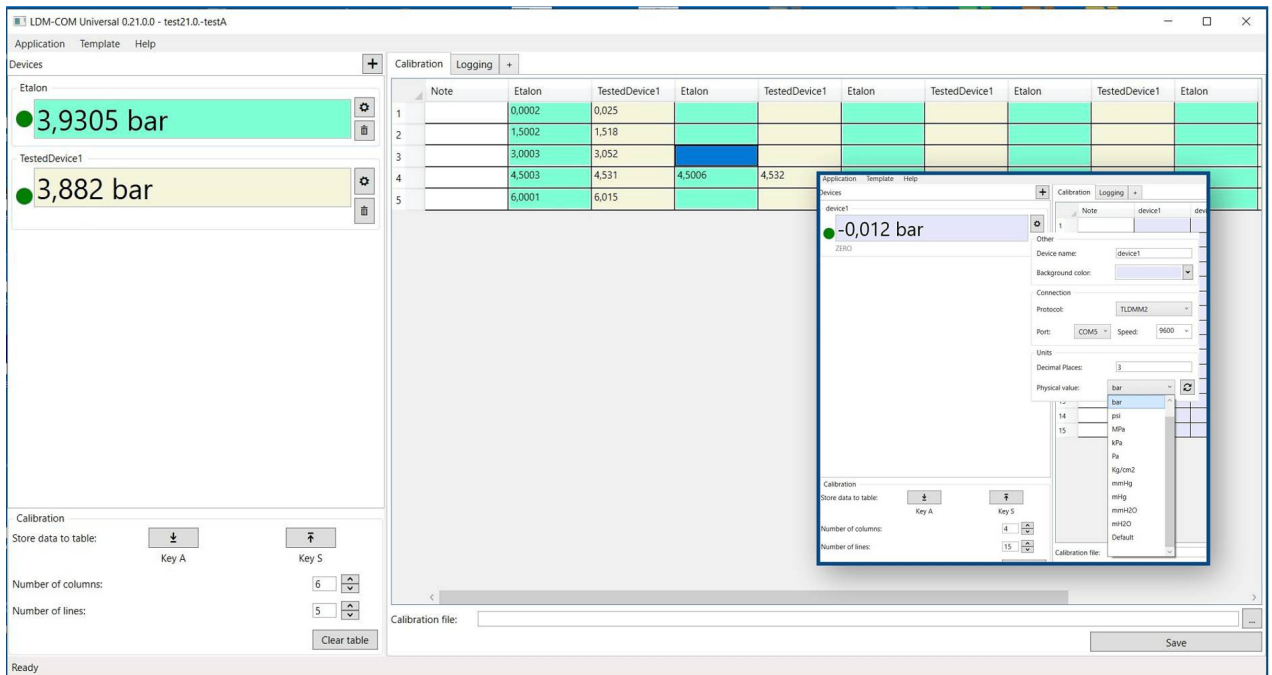
Free software LR-Cal LDM-COM

On our website we offer a free software (for Microsoft® Windows®) for download.

<https://www.druck-temperatur.de/images/software/ldm-com.zip>

The software **LR-Cal LDM-COM** offers you three operating modes:

- Calibration (calibration table):
Recording of the data measured during calibration of devices and storage in a data table.
- Data recording:
Automatic recording (logging) of measured values (with date and time stamp) at an adjustable time interval.
- Read out memory:
Downloading data from the device's memory.

The screenshot shows the LDM-COM Universal 0.21.0.0 - test21.0 - testA interface. On the left, there are two pressure gauges: 'Etalon' at 3,9305 bar and 'TestedDevice1' at 3,882 bar. The main area displays a calibration table with the following data:

Note	Etalon	TestedDevice1	Etalon	TestedDevice1	Etalon	TestedDevice1	Etalon	TestedDevice1	Etalon
1	0,0002	0,025							
2	1,5002	1,518							
3	3,0003	3,052							
4	4,5003	4,531	4,5006	4,532					
5	6,0001	6,015							

A settings dialog is open, showing 'device1' with a pressure of -0,012 bar. The 'Physical value' dropdown is set to 'bar'. Other settings include 'Protocol: TLDMMAS', 'Port: COM5', and 'Speed: 9600'. The 'Calibration' section shows 'Store data to table' with 'Key A' and 'Key S' buttons, and 'Number of columns: 4' and 'Number of lines: 15'. A 'Calibration file' field and a 'Save' button are also visible.

The data can be copied directly into spreadsheet software via Paste & Copy or saved as a comma-separated CSV file for further processing. For example, you can create a calibration certificate from the data in the calibration table.