



KELLER LEO1-Ei Intrinsically Safe Digital Manometer Instruction Manual

[Home](#) » [KELLER](#) » KELLER LEO1-Ei Intrinsically Safe Digital Manometer Instruction Manual

Contents [[hide](#)]

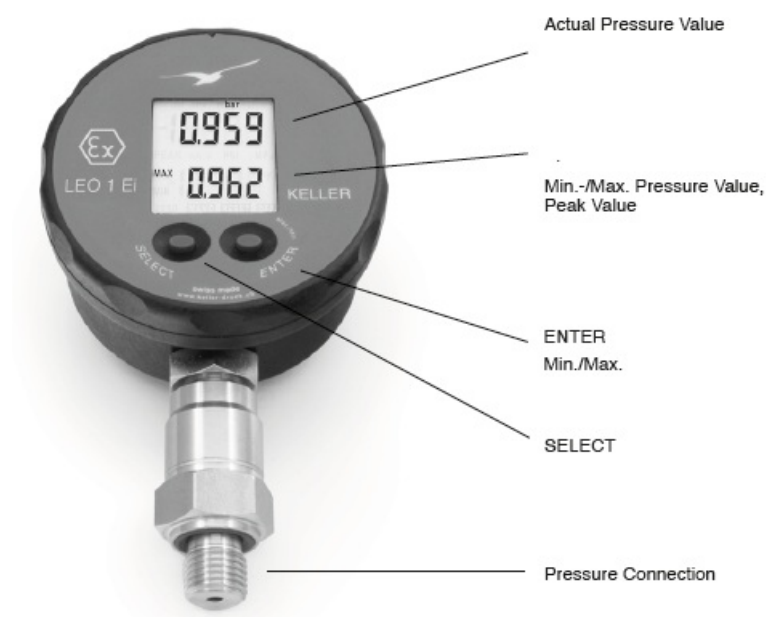
- 1 KELLER LEO1-Ei Intrinsically Safe Digital Manometer
- 2 OVERVIEW
- 3 Description and Application
- 4 Turn-On and Functions
- 5 Display of the Minimum Value
- 6 Installation
- 7 Battery Change / Battery Life
- 8 Ranges / Calibration
- 9 General Safety Instructions
- 10 Safe Use
- 11 EU / UK DECLARATION OF CONFORMITY
- 12 Documents / Resources
 - 12.1 References
- 13 Related Posts



KELLER LEO1-Ei Intrinsically Safe Digital Manometer



OVERVIEW



Description and Application

Intrinsically safe manometer with peak pressure value detection and Min./Max.-pressure indication, for use in hazardous environments. The technical data of the digital manometer can be taken from the corresponding data sheet or from the agreed specifications.

Turn-On and Functions

LEO1-Ei has two operating keys. The left key (SELECT) serves to select the functions and the pressure units. The right key (ENTER) activates the selected function or pressure unit. The right key is also used to switch between the Min.- and Max.- pressure value.

Turn-on:

Pressing the SELECT key turns the instrument on. The instrument first displays the full-scale pressure range (top display) and the software version (yearweek). The instrument is then ready for use and indicates the actual pressure (top display) and the last measured Max. pressure value (bottom display). The instrument has the following functions:

RESET:

Min.-/Max.-value are set to the actual pressure.

OFF:

Turns off the instrument.

MANO:

Releases the following functions:

PEAK off:

Normal measuring mode with 2 measurements per second

PEAK on:

Fast measuring mode with 5000 measurements/sec..

ZERO SET:

Sets a new pressure zero reference.

ZERO RES:

Sets the pressure zero to factory setting.

CONT on:

Deactivates the automatic turn-off function.

CONT off:

Activates the automatic turnoff function (the instrument turns off 15 minutes after the last key operation),

followed by the unit selection: bar, mbar, hPa, kPa, MPa, PSI, kp/cm²

Example: Setting a new Zero Reference

- Turn on the instrument by shortly pressing SELECT.
- Wait for the instrument's measuring mode (≈ 3 s).
- **Press the SELECT-key 3 times:** MANO appears.
- **Press ENTER:** PEAK on or PEAK off appears.
- **Press SELECT:** ZERO SET appears.
- **Press ENTER:** The new Zero reference is set. The instrument returns to the measuring mode.

Display of the Minimum Value

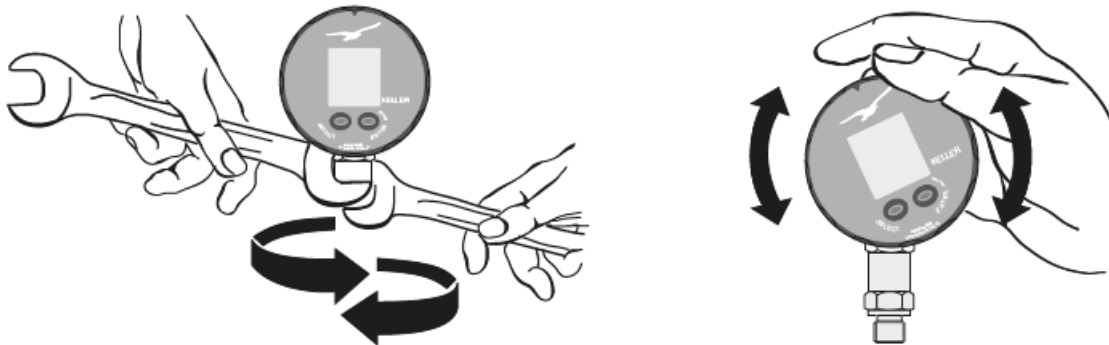
When in the measuring mode (Display: Actual Pressure and Max. pressure value), you may display the Min. pressure value for 5 seconds by shortly pressing the ENTER-key.

Notes

1. The functions and units can also be called up by keeping the SELECT-key depressed. Releasing the key enables the displayed function or unit to be activated with the ENTER-key.
2. If the selected function or unit is not activated within 5 seconds with the ENTER-key, LEO1-Ei returns to the measuring mode without changing any settings.
3. Turning LEO1-Ei on and off does not influence any of the previous settings.
4. If the PEAK on or CONT on function is activated, it is indicated with a flashing sign on the display (OFF flashes when CONT on is set).
5. If a pressure can not be represented on the display, OFL (overflow) or UFL (underflow) appears on the display.
6. If the actual pressure goes beyond the measuring range, the last valid pressure value starts flashing on the display (overload warning).
7. Temperatures outside of 0...60 °C could impair the readability of the display.

Installation

The installation must be carried out by authorized qualified personnel only. Screw the LEO1-Ei into the female pressure port and tighten using the hexagon of the transducer (pressure connection) (max. torque 50 Nm).



The transducer is secured to the housing by a lock nut. Aligning the face: Slacken the lock nut at the housing using two open-ended spanners. The display of the LEO1-Ei can now be rotated in relation to the transducer. Move the face to the desired position and tighten the lock nut. The LEO1-Ei's display can be turned almost 180° to the left and right. The lid of the lower housing can then be opened.

ATTENTION: Turning the display more than 180° may damage the wires.

Battery Change / Battery Life

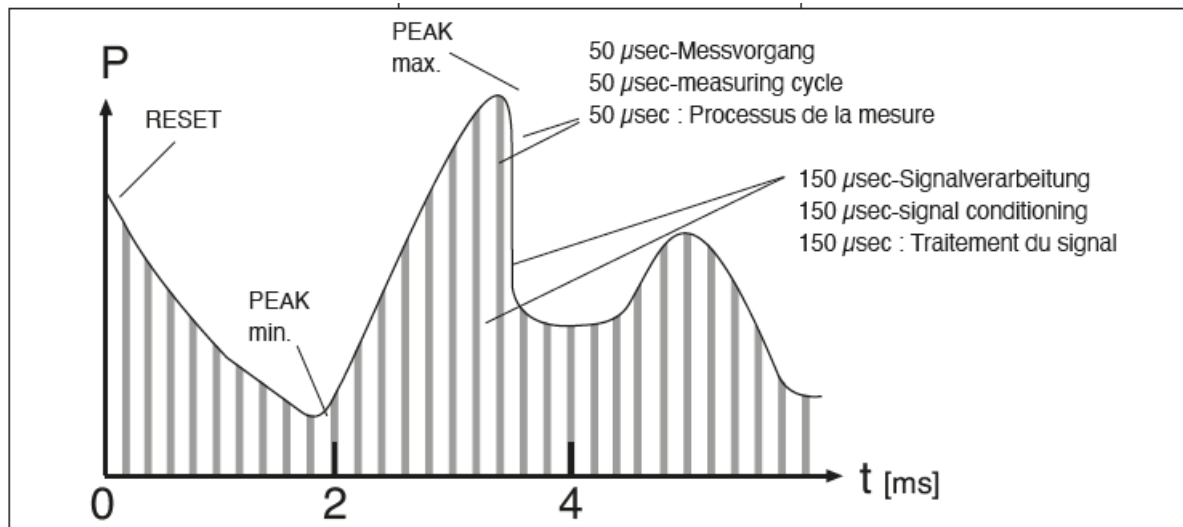
When the battery starts weakening, a low battery warning (BAT LOW) will appear in the display.

Battery change:

Please turn off the instrument before changing the battery. Open the instrument by turning the display ring beyond the limit stop. Disconnect the battery. Remove weak battery and insert new one (Type RENATA CR 2430). Please use a coin for opening the battery box to prevent damage to the battery cover. When reassembling, make sure that the O-ring remains imbedded in the cover. Dispose of discharged batteries properly, where they are to be

picked up by a qualified waste management company. Place replacement battery between the contact springs, paying attention to the polarity (positive pole facing up). Close the cover plate by hand, if possible. The battery life is 150 hours in Peak-mode (at continuous operation) and 1000 hours in normal measuring mode.

Measuring Procedure of the Peak-Mode (5000 meas./s)



Ranges / Calibration

The ZERO-function allows to set any pressure value as a zero reference. The factory setting of the pressure zero for the ranges ≤ 61 bar absolute is at vacuum (0 bar absolute). For relative pressure measurements, activate "ZERO SET" at ambient pressure. Instruments > 61 bar absolute or instruments with a relative pressure sensor (label marked with: Range: rel) are calibrated with the zero at atmospheric pressure.

General Safety Instructions

When installing and operating the digital manometer, attention should be paid to the corresponding national safety regulations and to the relative country regulations concerning the Ex-application. Only mount the digital manometer onto unpressurized systems. On pressure ranges ≥ 61 bar, the pressure connections could show residual hydraulic oil, determined by production flow. Please also note the corresponding data sheet. Special Conditions for

Safe Use

The digital manometer LEO1-Ei is an «intrinsically safe apparatus»; it can be operated in explosive atmospheres. The operating ambient temperature are included between $-10\text{ }^{\circ}\text{C}$ and $+80\text{ }^{\circ}\text{C}$. Connect the pressure port of the digital Manometer to neutral earth (to ground). The following battery type must be used in explosive atmospheres: Renata CR 2430. The battery may be changed inside the zone with a potentially explosive atmosphere. Do not conduct such processes in close proximity, which generate charged particles (air ioniser, high-voltage electrodes, etc). Increases the maximum media temperature at the transducer $80\text{ }^{\circ}\text{C}$ it is the duty of the final user to make own safety clarifications.

EU / UK DECLARATION OF CONFORMITY

Herewith we declare, that the following products

Intrinsically Safe Digital Manometer LEO1-Ei


comply with the requirements of the following EU/UK Directives:

- Directive EMC 2014/30/EU
- Directive ATEX 2014/34/EU
- Directive RoHS 2011/65/EU and Commission Delegated Directive (EU)
- UKSI 2016:1091
- UKSI 2016:1107
- UKSI 2012:3032

KELLER Ges. für Druckmesstechnik mbH DE-79798 Jestetten

- +49 7745 9214 0
- eurocenter@keller-druck.com

Documents / Resources

 <p>LEO1-Ei</p>	<p>KELLER LEO1-Ei Intrinsically Safe Digital Manometer [pdf] Instruction Manual</p> <p>LEO1-Ei, Intrinsically Safe Digital Manometer, Safe Digital Manometer, Intrinsically Digital Manometer, Digital Manometer, Manometer</p>
--	---

References

- [Druck a Baker Hughes business | Providing Peace of Mind in the Toughest Environments](#)
- [KELLER Pressure](#)