KELLER LEX1 Highly Precise Digital Manometer User Manual

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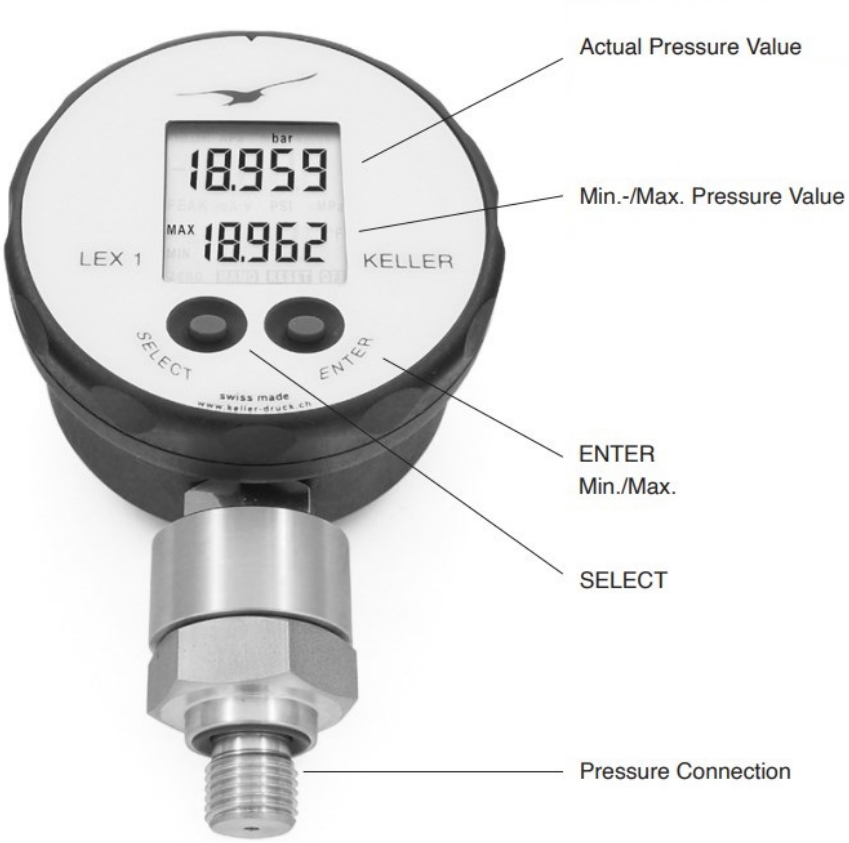
Product overview



Description

Highly precise digital pressure manometer.
The technical data of the digital manometer can be taken from the corresponding data sheet or from the agreed specifications.

Turn-On and Functions

LEX1 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 (year/ week). 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

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 , cm H2 O, mH2 O, inH2 O, ftH2 O, mmHg, inHg

Example: Setting a new pressure unit (mbar):

- 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: ZERO** SEt appears.
- **Press SELECT: ZERO** rES appears.
- **Press SELECT:** CONT on or **CONT** off appears.
- **Press SELECT:** bar appears.
- **Press SELECT:** mbar appears.
- **Press ENTER:** The new pressure unit (mbar) is set.
  The instrument returns to the measuring mode.

Display of the Minimum or Maximum Value

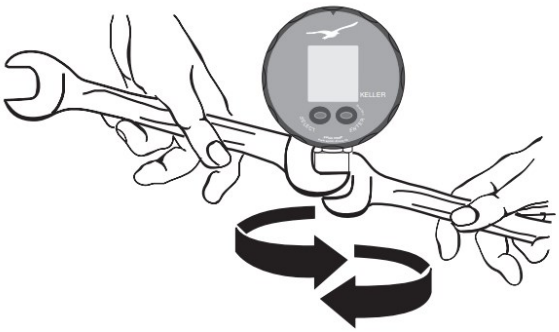
When in the measuring mode (Display: Actual Pressure and Max. pressure value), you may display the Min. pressure value for 5 seconds by shortly pressing the ENTER-key.

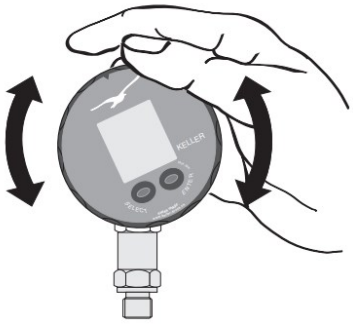
Notes

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 seconds with the **ENTERkey, LEX1** returns to the measuring mode without changing any settings.
3. Turning **LEX1** on and off does not influence any of the previous settings.
4. If the **CONT** on function is activated, it is indicated with a flashing sign (cont) on the display.
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…50 °C could impair the readability of the display

Installation





The installation must be carried out by qualified personnel only. Screw the LEX1 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 LEX1 can now be rotated in relation to the transducer. Move the face to the desired position and tighten the lock nut.

The LEX1'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 CR 2430).

When reassembling, make sure that the O-ring remains imbedded in the cover.

The battery life is approx. 2000 hours in normal measuring mode.

Please note: This manometer is equipped with a battery (Type CR2430) installed.
Please use a coin for opening the battery box to prevent damage to the battery 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.

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.

Interface (RS485)

The interface converter K-103A (RS232) or K-114A (USB) can be connected at the back of the manometer (Fischer plug Series 103), allowing the data transfer to the PC.

The corresponding PC software can be found on our web site.

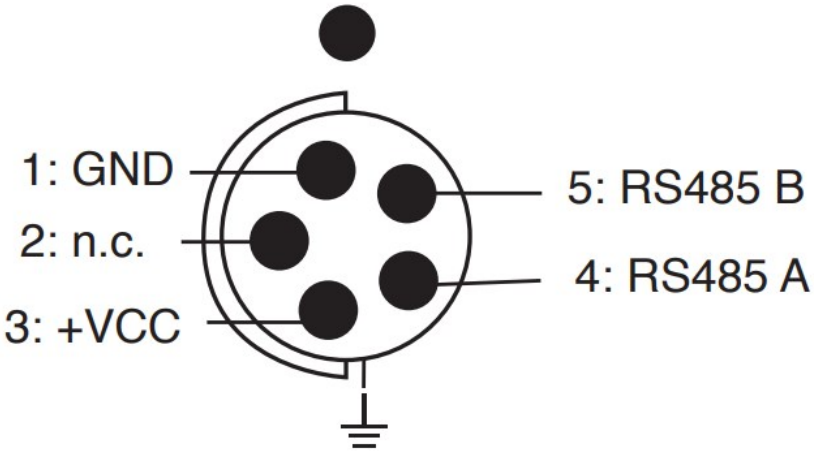
General Safety Instructions

When installing and operating the digital manometer, attention should be paid to the corresponding safety regulations. 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.

Pin assignment



Accessories Spare Parts

- **Battery Renata CR2430, Lithium 3,0 V:** Order Number 557005.0001
- **Interface Cable K-114A (USB – RS485):** Order Number 309010.0075
- **Interface Cable K-103A (RS232 – RS485):** Order Number 309010.0002
- **KELLER Software CD:** Order Number 750505.0001
  (can be downloaded free of charge at www.keller-druck.com)
- **Protective rubber covering:** Order Number 309030.0002

- **Carrying bag:** Order Number 309030.0003
- **Carrying Case:** Order Number 309025.0050

EU / UK DECLARA TION OF CONFORMITY

Herewith we declare, that the following products

Digital Manometer LEX1

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

Directive EMC 2014/30/EU
Directive RoHS 2011/65/EU and Commission
Delegated Directive (EU) 2015/863

UKSI 2016:1091
UKSI 2012:3032

The Digital Manometer LEX1 comply with the following standards:

- EN IEC 61000-6-1:2019
- EN IEC 61000-6-2:2019
- EN IEC 61000-6-3:2021
- EN IEC 61000-6-4:2019
- EN 61326-1: 2013
- EN 61326-2-3:2013

This declaration is given for the manufacturer:

issued by:

KELLER

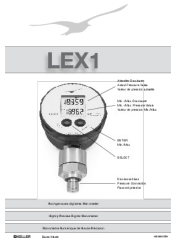
Jestetten, 14.09.2022

Bernhard Vetterli
Head of Development | Technical Director
Responsible development

Matthew Schlimper
Quality Manager | Quality manager
Responsible quality

with legally effective signature

Documents / Resources

	KELLER LEX1 Highly Precise Digital Manometer [pdf] User Manual LEX1 Highly Precise Digital Manometer, LEX1, Highly Precise Digital Manometer, Precise Digital Manometer, Digital Manometer, Manometer

References

- KELLER Pressure