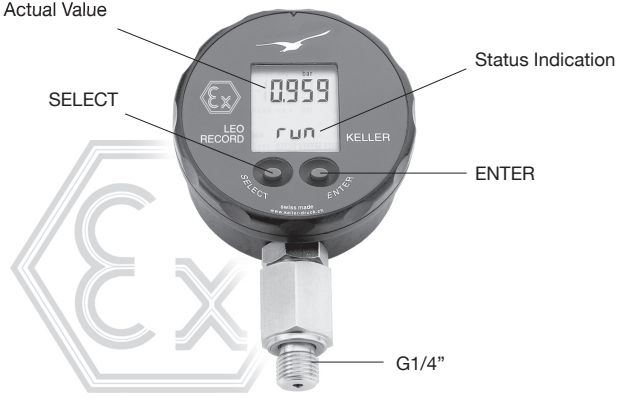
LEO RECORD Ei



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Intrinsically Safe Digital Manometer with Record Function for use in Hazardous Applications.

Accuracy: 0,1 %FS

Description and Application

Intrinsically safe manometer with record function 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

LEO RECORD 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.

Turn-on: Pressing the SELECT key turns the instrument on. It first shows the full-scale pressure range (top display) and the software version (bottom display). The instrument is then ready for use and indicates the actual pressure (top display) and the record status (bottom display).

The instrument has the following functions:

OFF: Turns off the instrument and ends an active record

MANO: Releases the following functions:

- **rEC Strt:** Starts a record with the actual configuration (set via the software)
- **rEC StoP:** Ends an active record
- **ZERO SEt:** Sets a new Zero reference
- **ZERO rES:** Sets the Zero to factory setting, followed by the unit selection: **bar, mbar/hPa, kPa, MPa, PSI, kp/cm², (m)H_2O**

Example: Setting a new Zero Reference:

➠ Turn on the instrument by shortly pressing the SELECT-key
➠ Wait for the instrument's measuring mode (approx. 3 seconds)
➠ Press the SELECT-key 2 times: **MANO** appears
➠ Press ENTER: **rEC Strt** appears

➠ Press the SELECT-key 2 times: **ZERO SEt** appears
➠ Press ENTER: The new Zero reference is set. The instrument returns to the measuring mode.

Notes

- 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.

- If the selected function or unit is not activated within 5 seconds with the ENTER-key, LEO RECORD Ei returns to the measuring mode without changing any settings.

- Turning LEO RECORD Ei on and off does not influence any of the previous settings.

- In the measuring mode, the record status is always indicated on the bottom display (run, prep, end).

- If a pressure can not be represented on the display, **OFL** (overflow) or **UFL** (underflow) appears on the display.

- If the actual pressure goes beyond the measuring range, the last valid pressure value starts flashing on the display.

- Both the PC-Software and the LEO RECORD Ei indicate the battery condition in only 2 ways: 0% (BatLow display) and 100%.

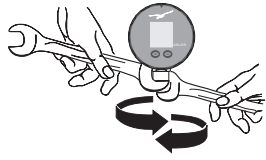
- The internal clock of LEO RECORD Ei is also updated when the instrument is turned off. The clock is automatically upated by the PC-software (Logger 4.x) when writing a record configuration.

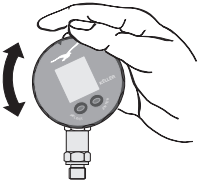
- After a battery change, LEO RECORD Ei has to be reconfigured with the PC-Software (Logger 4.x).

- If a record is active, the display of the pressure is updated according to the set record interval (at least every 5 seconds)

Installation

Screw the G1/4" male port of LEO RECORD Ei into the female pressure port and tighten using the lower hexagon of the transducer. Loosen the upper hexagon and rotate the LEO RECORD Ei to the desired position. Retighten.





The face of LEO RECORD Ei can be rotated through 355°. This feature allows the instrument to be mounted in all possible positions; vertical, horizontal or upside down.

Battery Change / Battery Life

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

Battery change (please end current records and 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. Close the instrument.

The **battery life** is up to 5 years, depending on measuring cycle.

The following battery type must be used in explosive atmospheres: 3,6 V Lithium battery, type SL-760 or Tadiran SL-760.

Ranges / Calibration

The factory setting of the Zero for sealed gauge instruments (i.e. „Range in bar abs." is at 0 bar absolute and for reference pressure instruments (i.e. „Range in bar rel" at ambient pressure. Sealed gauge pressure instruments can be activated with "ZERO SET" at ambient pressure for referential pressure measurements.

Interface (RS485)

The interface is located on the back of the manometer. The actual data can be transferred to the PC via interface converter K103A (RS232) or K104A (USB), both available separately at KELLER. The corresponding software can be found on our website.

The connection for the RS 485 interface may only be used outside the zone with a potentially explosive atmosphere.

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 > 30 bar, the pressure connections could show residual hydraulic oil.

Please note that temperatures outside of 0…60 °C could impair the readability of the display.

Special Conditions for Safe Use

The digital manometer LEO RECORD Ei is an “intrinsically safe apparatus”; it can be operated in explosive atmospheres. The operating ambient temperature are included between -10 °C and +60 °C.

The connection for the RS 485 interface may only be used outside the zone with a potentially explosive atmosphere.

Due to the internal capacitances only a safe maximum voltage of Um = 5,7 V may be applied. The permissible capacitance for Ui = 5,7 V according to EN 50020:2002, Table A.2 is Ci = 50 µF.

This guarantees that the capacitance limit for the basic voltage level is not exceeded on reintroducing the equipment to the hazardous zone.

Declaration of Conformity

Herewith we declare, that the following products…

Intrinsically Safe Digital
Manometer LEO RECORD Ei

CE

…meet the basic requirements, which are established in the guidelines of the European Community:

Directive EMC 89/336/EEC
Directive ATEX 94/9/CE

As criteria, the following norms for this Intrinsically Safe Manometer LEO RECORD Ei are applied…

EN 61000-6-1 / -6-2: 2001
EN 61000-6-3 / -6-4: 2001
EN 60079-0: 2004
EN 50020: 2002

…and the EC examination certificate is given under:

PTB 05 ATEX 2012 X

This declaration is given for the manufacturer

Keller AG für Druckmesstechnik
St. Gallerstrasse 119
CH-8404 Winterthur

in full responsibility by

Keller GmbH
Schwarzwaldstrasse 17
D–79798 Jestetten

Jestetten, 02.06.08

H. W. Keller
Geschäftsführer / CEO
(with legally effective signature)