MEC
MEDICAL LIMITED

Highly Precise Digital Manometer

SPECIFICATION SHEET

Precision: 0,01 %FS / RS485 Bus Interface**

LEX 1 is a micro-processor controlled, accurate and versatile digital pressure measuring instrument with integrated Max.-/Min.-function for calibration and testing purposes. LEX 1 Ei is approved per IECEx for use in hazardous areas. Via the RS485 Bus Interface, communication with up to 128 connected instrument can take place.

The pressure is measured twice per second and displayed. The top display indicates the actual pressure, the bottom display shows the Max.- or Min.-pressure since the last RESET. LEX 1 has two operating keys. The left key is to turn the instrument on, to select the functions and the pressure units. The right key executes the selected function resp. unit or serves to display the Max.- and Min.-value.

The instrument has the following functions

RESET	With the RESET-function, the Max.- and Min.-value is set to the actual pressure value.
ZERO	With the RESET-function, the Max.- and Min.-value is set to the actual pressure value.
CONT	The instrument turns off 15 Min. after the last key function. Activating CONT (Con-tinuous) deactivates this automatic turn-off.
UNITS	All standard instruments are calibrated in bar. The pressure can be indicated in 13 different units.

Display 5 Digit LEX 1

Included with Delivery

- Carrying case
- 5-point calibration certificate.

Optional Accessories

Carrying bag, protective rubber covering, interface converter K-114A.

LEX 1 Ei – Intrinsically Safe Version, 94/9/EG and IECEx

Classification:	II 2 G Ex ia IIC T6 Gb
Certifications File:	PTB 05 ATEX 2012 X and IECEx PTB 13.0028X

The intrinsic safe version of LEX 1 incorporates an additional protection board. Functions, ranges and accuracy are identical to the standard LEX 1 version.

CE

Supplied by

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CONTINUED

Specification

Pressure Ranges relative (bar)									
PR	-0,3 – 0,3	-1 – 2	-1 – 10	-1 – 20					
Pressure Ranges absolute (bar)									
PA					0 – 100	0 – 200	0 – 400	0 – 700	0 – 1000
PAA	0 – 0,3	0 – 3	0 – 11	0 – 21					
Overpressure (bar)	3	6	20	40	200	400	800	1100	1100
Resolution Display (mbar)	0.1	0.1	1	1	10	10	50	100	100
Resolution (pressure) via interface 0.0025 %FS									

PR = Vented Gauge. Zero at atmospheric pressure PA = Absolute. Zero at 1 bar abs. PAA = Absolute. Zero at vacuum

Number of Digits:	5 Digit
Accuracy * :	0.05 %FS
Total Error Band:	(0 – 50 °C) 0.10 %FS (Accuracy, incl. temperature error)
Precision **:	Standard 0.05 %FS
Optional for ≥ 20 bar:	0.025 %FS or 0.01 %FS
Storage / Operating Temperature:	-10 – 60 °C / 0 – 50 °C
Long Term Stability typ. Vented Gauge:	min. 1 mbar or 0.05 %FS
Absolute:	min. 0.5 mbar or 0.025 %FS
Compensated Temperature Range:	0 – 50 °C
Supply:	3 V battery, Typ CR 2430
External supply (excl. Ei instruments):	8 – 28 VDC
Battery Life:	2,000 hours continuous operation
Pressure Connection:	G1/4"
Interface RS485:	rear-sided mating plug "Fischer" compatible with PC-converter cable K103-A (RS232) and K114-A (USB)
Protection IP 65Weight:	210g
Height:	11.8cm
Depth:	4.2cm
Diameter:	7.6cm
Recalibration Ref:	??

* Includes Linearity + Repeatability + Hysteresis

**** Accuracy and Precision**

"Accuracy" is an absolute term, "Precision" a relative term. Dead weight testers are primary standards for pressure, where the pressure is defined by the primary values of mass, length and time. Highest class primary standards in national laboratories indicate the uncertainty of their pressure references with 70 to 90 ppM or close to 0,01%. Commercial dead weight testers as used in our facilities to calibrate the transmitters and manometers indicate an uncertainty or accuracy of 0,025%. Below these levels, KELLER use the expression "Precision" as the ability of a pressure transmitter or manometer to be at each pressure point within 0,01 %FS relative to these commercial standards.
The manometer's full-scale output can be set up to match any standard of your choice by correcting the gain with a calibration software.

Recording Readings on PC or Laptop

Pressure and temperature readings can be displayed and recorded on PC or Laptop with help of the software ControlCenterSeries30 (CCS30) and a serial interface cable. The software also enables configuration of the zero point settings. The Bus protocol and programming examples in various programming languages are available. This allows very quick and easy implementation in customer software applications. Up to 128 devices can be connected together into a Bus-system.

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