



LEO 5

MANUAL



VERSION 1.2

Keller AG für Druckmesstechnik



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1 General information

The LEO 5 is operated by an accumulator.

To charge the accumulator the device is connected to a USB communication port.

The accumulator is built in the device and can't be replaced.

2 Operating instructions

2.1 Keyboard

LEO 5 has two touch keys.

A key press is initiated by touching the key field "Select" or "Enter" and activated by untouching (make a distance to the field of at least 1cm) for at least 0.5 second.

Turn-on:

Pressing the "SELECT" key turns the display on. The display will show "PRESS ENTER". Touch "ENTER" and the device is on.

2.2 Handle the device with the touch pannels

To select the different functions

→ press „SELECT“

To activate the command or function

→ press "ENTER"

Remark: The display automatically switches back to the main display 10 seconds after the last touch of the touch key.





2.2.1 Example: Setting the peak mode

- Turn on the instrument by pressing the SELECT key followed by pressing the ENTER key
- Press the “SELECT”–key 3 times: The lower display will show “MENU”
- Press “ENTER”
- Press “SELECT” –key 3 times: The lower display will show “PEAK” and “START”
- Press “ENTER”: In the main display, the segment “PEAK” indicates that the peak mode is on.





2.2.2 Handling example: How to stop the peak mode

- Press “SELECT”–key 3 times: The lower display will show “MENU”
- Press “ENTER”
- Press “SELECT”–key 3 times: The lower display will show “PEAK” and “STOP”
- Press “ENTER”















2.3 Menu structure

2.3.1 Main menu

	RESET	OFF	MENU
			
Main display	Min.-/Max.-value are set to the actual pressure.	Turns off the instrument and ends an active record.	Releases the sub menu functions





















2.3.2 Sub menu

REC On  Starts a record with the actual configuration (set via the software).	REC OFF  Ends an active record.	Peak START  PEAK off: Normal measuring mode with 2 measurements per second. PEAK on: Fast measuring mode with 5000 measurements/sec..	RF BT ON/OFF  Switch the LEO 5 Bluetooth modul "On" or "OFF" to communicate without cable.	Zero SET  Sets a new pressure zero reference.	ZERO RESET  Sets the pressure zero to factory setting
UNIT  unit selection	CONT  activates or deactivates the automatic turn off function	DISPL  main display selection	BACKL  backlight setting	RESL  choose resolution	ACCU  Accumulator information and charge status



2.3.3 Sub menu settings

Unit selection	Continuous mode	Display selection	Backlight setting	Resolution selection	Accu information
   <p>bar, mbar, hPa, kPa, MPa, PSI, kp/cm², cmH₂O, mH₂O, inH₂O, ftH₂O, mmHg, inHg</p>	   <p>CONT on: Deactivates the automatic turn-off function.</p> <p>CONT off: Activates the automatic turn off function (the instrument turns off 15 minutes after the last key operation)</p>	   <p>select the lower display option. Select between:</p> <p>temperature display or min/max pressure value</p>	     <p>The backlight could be turn "ON", "OFF" or "ONOFF".</p> <p>"ONOFF" switches on the backlight for 10 seconds after a key press.</p>	   <p>choose between 0 to 4 decimal places.</p>	 <p>The display shows the voltage level and the bar graph visualizes the charge level from the accumulator, where 3.2 Volt is an empty- and 4.2 Volt is a fully charged accumulator.</p>



EXIT



Each sub menu can be left by pressing "ENTER" while "EXIT" is displayed. The display will switch back to the sub menu.

2.4 USB connection

To connect the device to a USB cable, remove the rubber protection to get access to the Mini-USB plug.



Hint:

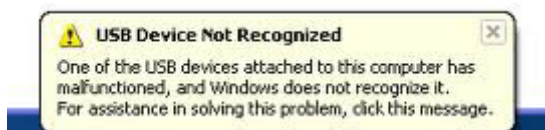
The rubber also acts as over pressure safety valve in cases of damages at the pressure sensor when inner pressure is raised to a critical pressure.



2.5 Installing the USB – driver LEO 5

To enable the USB communication you have to install the manually the LEO5 USB – driver.

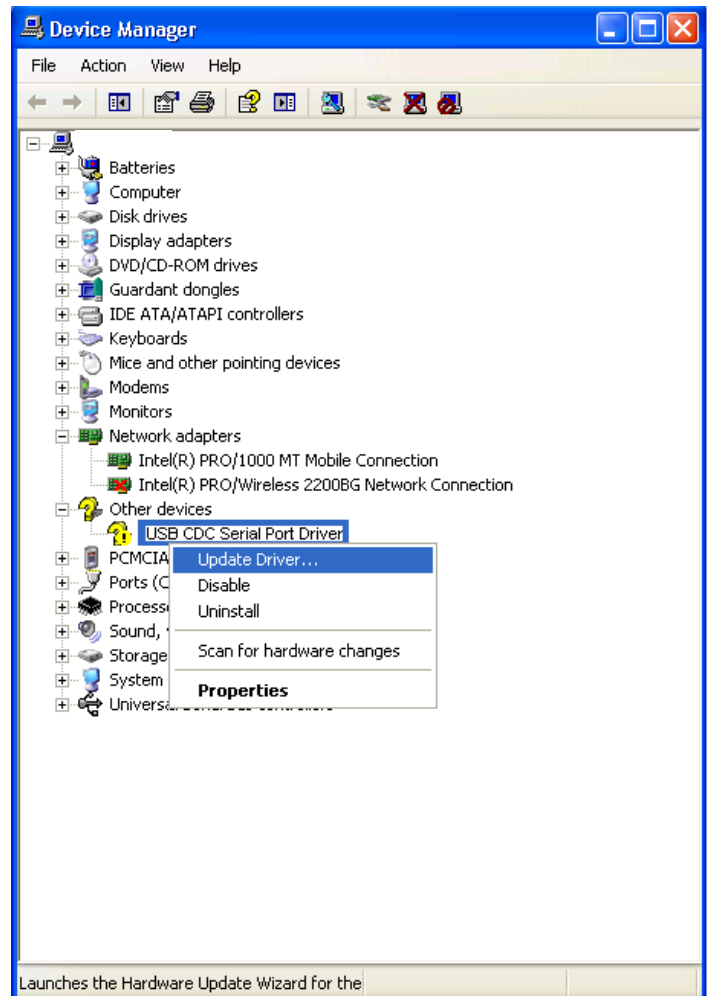
Connect the LEO5 with the PC by a USB cable. After the PC has detected this device the following message will appear:



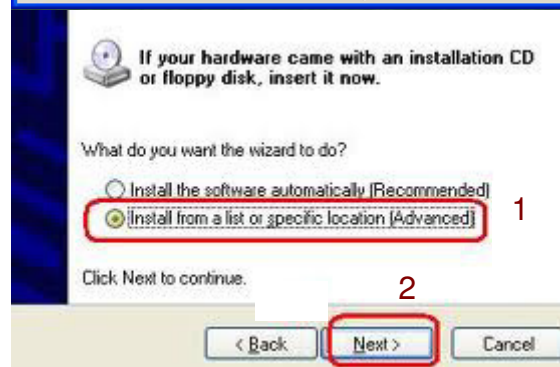
Link to the driver:

<http://www.keller-druck2.ch/swupdate/DriverManometer/DriverManometer.zip>

Then go to the device manager and do a right click on the new listed device and select update driver as shown in the right picture.

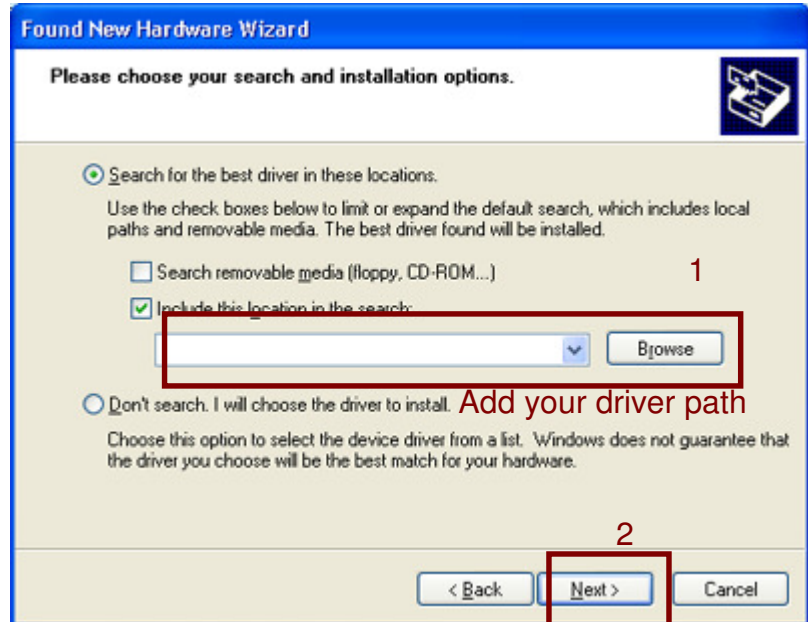


Please follow the introduction shown in the picture on the right side to install the driver.

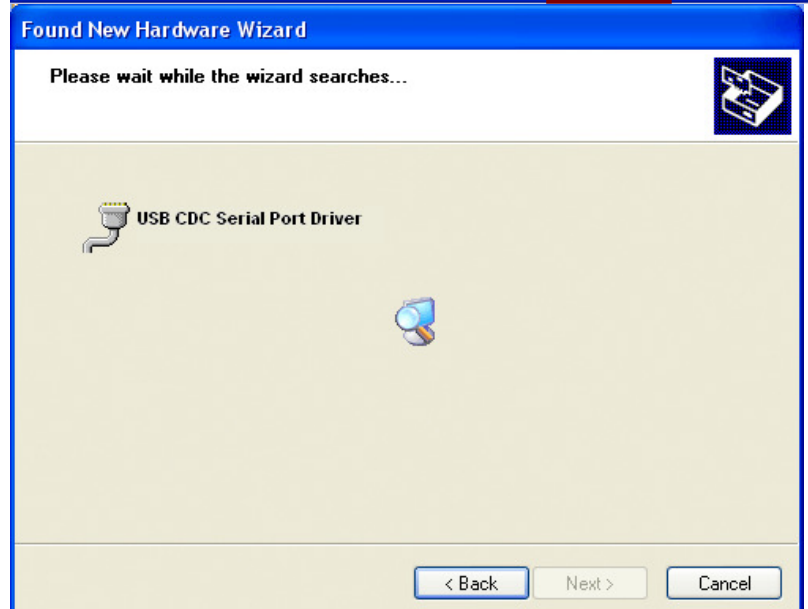




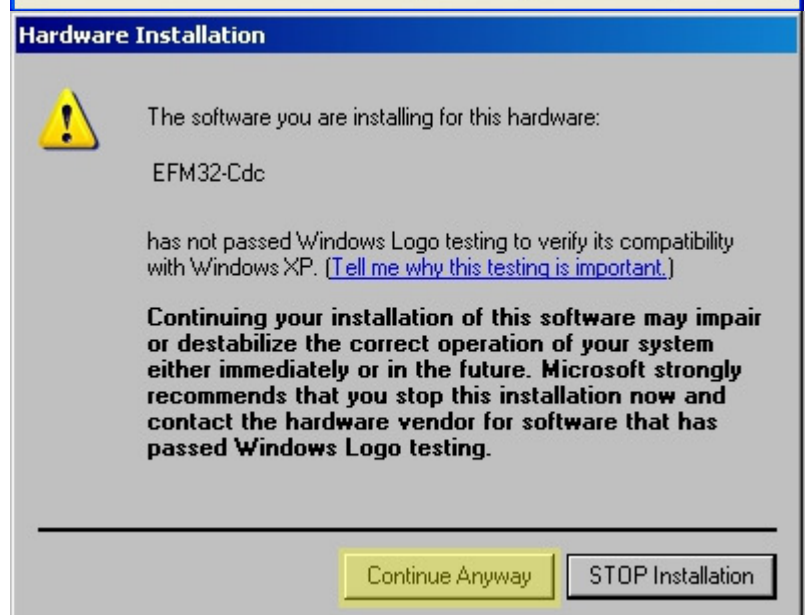
Add the path, where the driver is stored.



The PC starts to install the new driver.



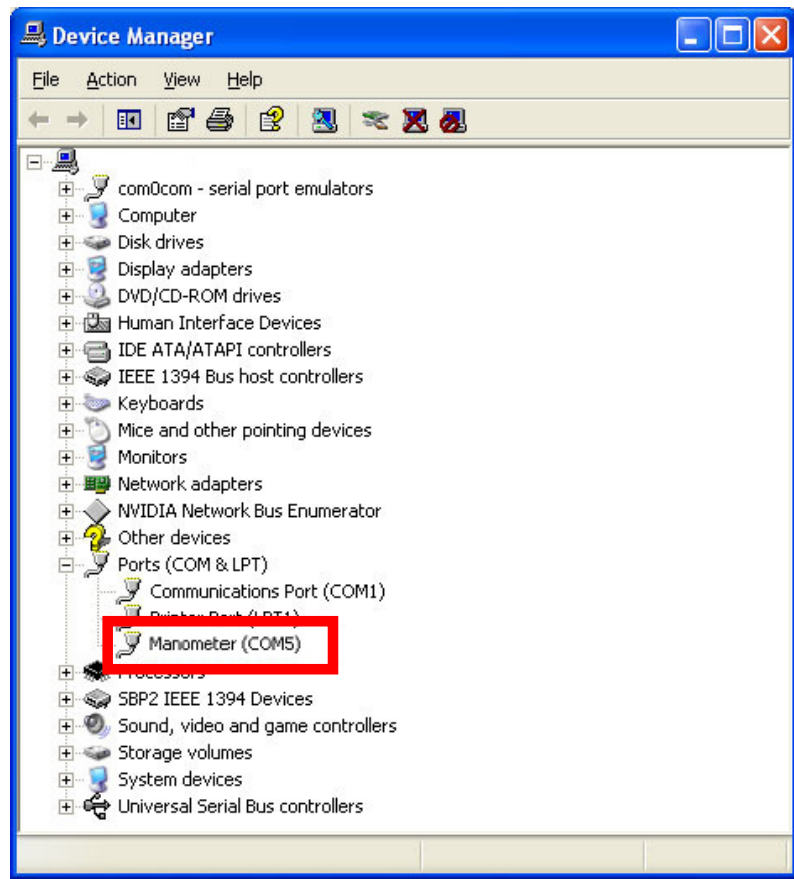
Windows doesn't recognize the driver. Please click on "Continue Anyway".





Now the driver is installed and the device is recognized by the windows system. The device manager is listing the device as “Manometer” and its assigned com port number.

This com port number must be select manually in the PC software.



Remark:

If the device is connected to the USB-Port of the PC and it is switched OFF, the device will not be listed in the device manager and no com port number is assigned.



2.6 Optional – establish a Bluetooth connection

Make sure your Computer has a Bluetooth Module included or it is connected to a Bluetooth USB Dongle and that it is activated. Both should be at least Bluetooth 2.1 capable.

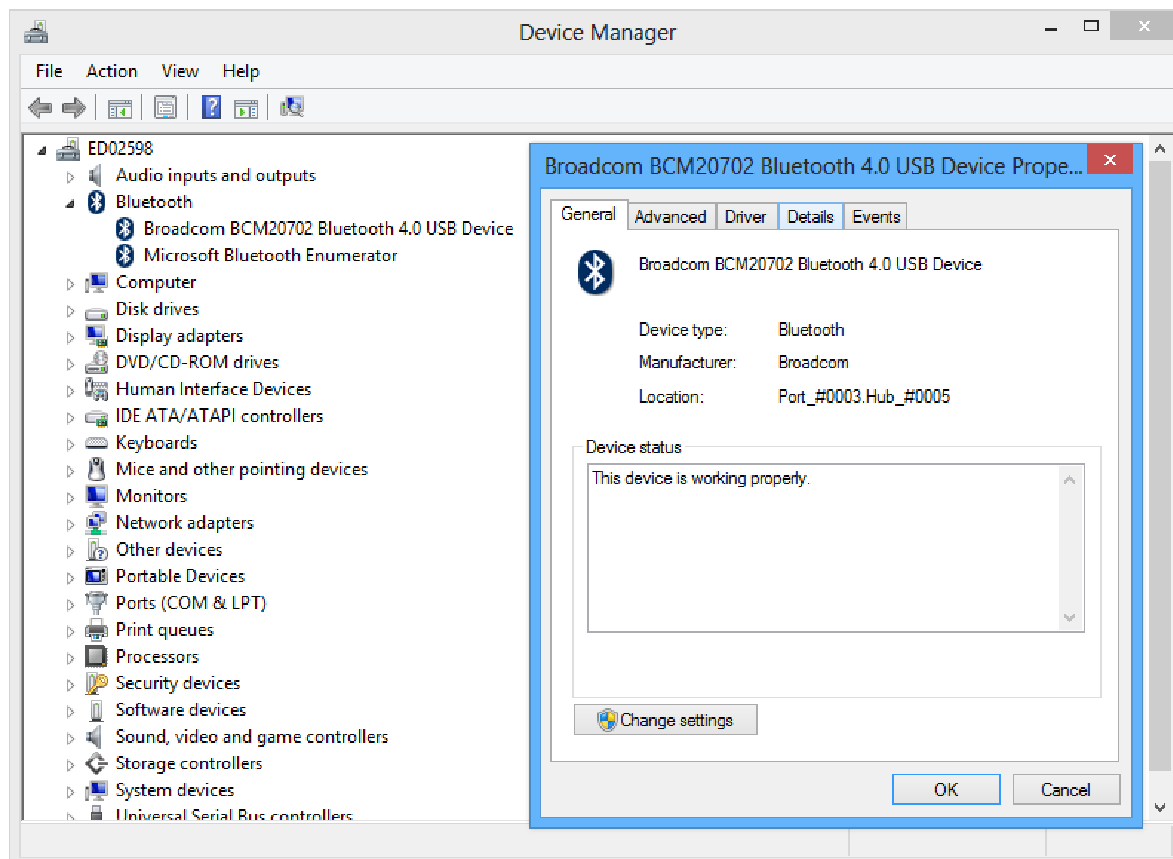
2.6.1 Step 1 check/activate Bluetooth on your PC

To activate your Bluetooth device, open the Device Manager and go to the section Bluetooth.

Perform a right click on the Bluetooth device.

If the Bluetooth is ready to use the device status shows “This device is working properly”.

Otherwise please activate the Bluetooth device.



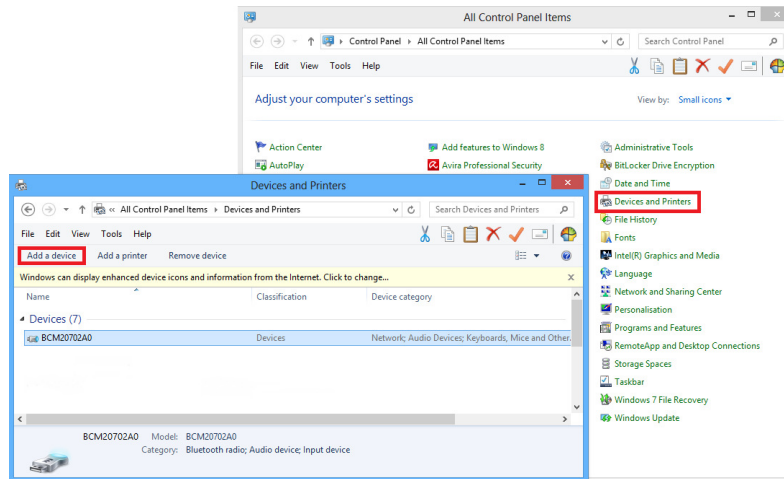
2.6.2 Step 2 switch the LEO 5 Bluetooth module on

Switch the LEO 5 Bluetooth module on. More information in the chapter menu structure.



2.6.3 Step 3 establish Bluetooth connection

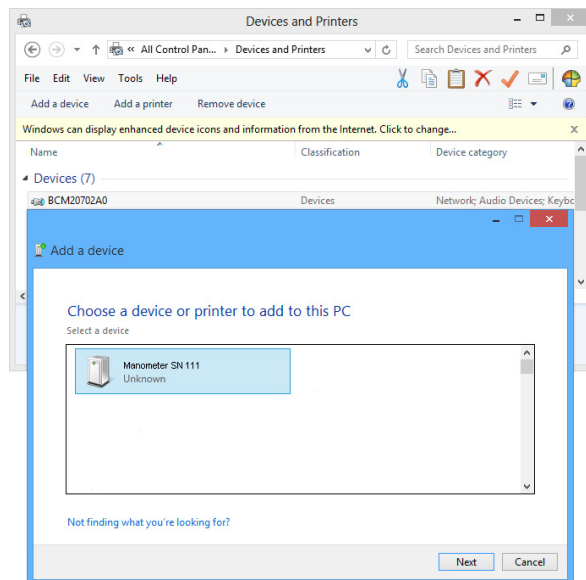
To establish a connection with the LEO 5, open the window “Devices and Printers” and select “Add a device”.



2.6.4 Step 4 search for the LEO 5 device

Wait until the LEO 5 is found. The name from the LEO 5 is “*Manometer*” and the *serial number*. If it is not found, start an other search until the device is listed in the window.

Sometimes it takes a few tries to detect the device. After the LEO 5 is found, select it and click on the “Next” button.



2.6.5 Step 5 Confirm the pass code

The LEO 5 will send a pass code. If you want to establish the Bluetooth connection, you have to accept the pass code. After this, you will see a window that's inform you, that the Bluetooth connection is established.



2.7 Charge the accumulator

To charge the accumulator, connected the device via USB to a PC or USB mains adaptor.

To check charge status use the Accumulator sub menu on LEO5's display or read status with the PC software.

3 Disposal

This product must not be disposed of as normal household waste at the end of its useful lifetime. To prevent possible damage to the environment or to health due to uncontrolled waste disposal, this product must be separated from other waste and recycled correctly in order to ensure sustainable use of the raw materials.



4 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.