



List-Magnetik

Manual

MEGA-CHECK Pocket

OPERATION MANUAL

COATING THICKNESS METER

MEGA-CHECK POCKET

2020-02



List-Magnetik Dipl.-Ing. Heinrich List GmbH

D-70771 Leinfelden-Echterdingen Max-Lang-Str. 56/2

Fon: + 49 (711) 903631-0 Fax: + 49 (711) 903631-10

Internet: <https://www.list-magnetik.com>

E-mail: info@list-magnetik.de



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INTRODUCTION

Congratulation! You really made a good choice to decide for

MEGA-CHECK Pocket,

because this device is not only designed and manufactured according to the latest level of technology but also is extremely comfortable and easy to operate.

The **MEGA-CHECK** devices are of high quality and manufactured exclusively in **Germany**.

We tried our best to write this manual as clear and short as possible. For any further information you may need please contact our Service Department. Our technicians are always ready to help you.

WHAT CAN YOU MEASURE WITH MEGA-CHECK POCKET ?

MEGA-CHECK Pocket FE (Probe PF-5) and MEGA-CHECK Pocket FN (Dual-Probe PFN- 52D):

On iron and steel (FE) all non-magnetic coatings, such as varnish, paint, plastics, enamel, rubber, ceramics and galvanization (except nickel) up to 5000 microns.

MEGA-CHECK Pocket FN (Dual-Probe PFN- 52D):

On **non-ferrous metals** (aluminium, brass, bronze, zinc, lead, copper and stainless steel) all non-conductive coatings, such as varnish, paint, plastics, rubber and anodizing up to 2000 microns.

and also paint and varnish on zinc plated steel without measuring the zinc coating.

MEGA-CHECK POCKET INCLUDES THE FOLLOWING OUT- STANDING FEATURES

- The statistics of the last series of measurement can be displayed by switching on the device without connecting the probe to the device (ASR – technique)
- The cable of the new digital probes can be easily exchanged because it is connectable from both sides (control unit and probe).
- The device recognizes by itself on which base material the measurement is performed, whether on steel (FE) or on non-ferrous metal (NFE) and displays the symbol with each reading.
- MEGA-CHECK Pocket works with two 1.5 V AA Mignon batteries up to 120 hours.

SHORT INSTRUCTIONS

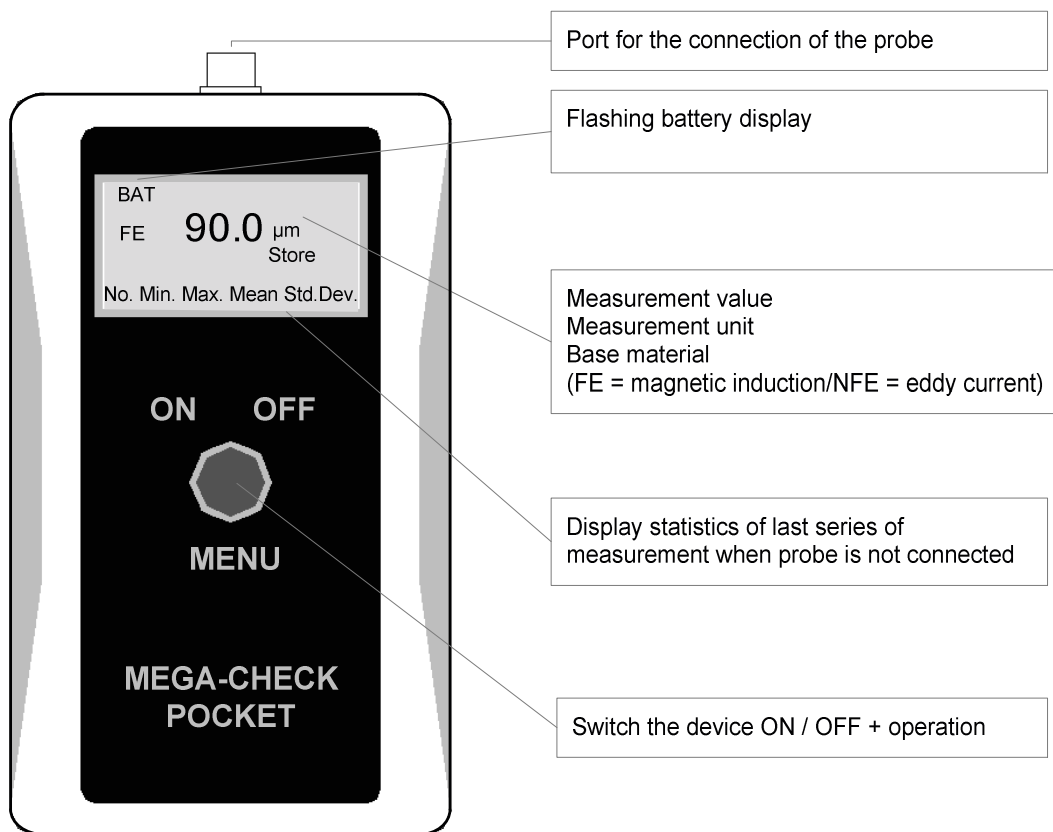
To make it as easy as possible for you, and to start taking measurements immediately, you receive the device already calibrated.

You don't need to perform any adjustments.

You just switch on the device with the red key. On the display appears the last reading shortly and then <on>.

That's all and now you can start to measure.

FUNCTION MODES



Switch on the device by pressing the key until <on> is displayed.
When switching on the last reading will be shortly displayed.

While switching on and pressing the key for a longer time the software version number of the device and probe is flashing.

When you now press the key once again for a longer time the following functions will appear in succession:

- StA = Statistics = Displays the statistics of the last series of measurement with the probe connected to the control unit.
- nFE = NFE = Switch off the automatic base material recognition / measure exclusively non-ferrous metals (only with probe PFN-52D possible)
- un = unit = Change the unit of measurement (μm / mils)
- rES = Reset = Using the reset function all adjustments are reset to the settings from factory. This function is important when settings have been modified or the device and the probe do not work properly.

By pressing the key, the mode selected is confirmed.

When setting the probe for the first time, the statistics of the last series of measurement is automatically cleared. Further readings will be entered in a new statistics until the device is switched off.

When switching on the device without connecting the probe the statistics of the last series of measurement will be displayed and then **<n.Pb>** (no probe connected). Then the device switches off by itself (ASR technique = Automatic Statistic Result) This feature enables the operator to get a view of the last readings even when the device has been switched off.

OPERATION OF THE FUNCTION MODES

<STA> DISPLAY STATISTICS

The statistics of the last series of measurements (measurements taken between switch-on and switch-off) are stored and evaluated as follows:

No.	- Number of readings stored
MIN	- Lowest reading stored
MAX	- Highest reading stored
MEAN	- Mean value
STD.DEV.	- Standard deviation

The series of measurements is stopped automatically when the device is switched off. When the device is switched on again a new series of measurements will be started.

Press the key until the symbol <StA> appears. Now wait until <StA> is flashing and confirm by pressing the key again. The statistics values are displayed one after another.

When the probe is not connected to the control unit, this function is activated automatically when the device is switched-on.

<NFE> BASE MATERIAL RECOGNITION (MC POCKET FN)

This mode is necessary when you want to measure paint or other insulating coatings on zinc plated steel.

In the standard mode (FE + nFE) the device would measure the paint and the zinc coating together because it is not able to recognize the thin zinc coating as non-ferrous base material nFE.

To measure only the paint coating on the zinc plating the device must be switched over to the nFE mode.

To avoid wrong measurements the following requirements should be met:

- **The zinc plating should have a thickness of at least 20 µm.**
- **The zero adjustment should be performed on a similar zinc plated object without coating.**

The nFE Mode should also be used when measuring on slightly magnetic stainless steel.

From factory the device is adjusted to the FE + nFE recognition mode. To switch over to the nFE mode press the key until the symbol <nFE> is displayed. As soon as <NFE on> is flashing confirm by pressing the key again.

As soon as the device is switched off the nFE recognition is deactivated and the device will measure again in the FE + nFE mode.

Using this mode, the symbol <NFE> is flashing

<UN> CHANGE UNIT OF MEASUREMENT (μM / MILS)

In its basic setting the instrument measures in μm .

To measure in "mils" (American unit of measurement) press the key until the symbol **<un>** is displayed. Release the key and wait until **<on $\mu\text{m} is flashing. Press the key again to switch over to **<on mils>**.$**

When you switch on again the device it measures in "mils".

To change over to " μm " proceed in the same way.

<RES> RESET TO THE SETTINGS FROM FACTORY

Using the reset function all adjustments are reset to the settings from factory. This function is important when settings have been modified or the device and the probe do not work properly.

CALIBRATION

You receive the device already calibrated. Nevertheless, from time to time it is necessary to check or correct the calibration. This is especially recommended when you measure on small or curved objects or when the surface of the test object is rough.

To calibrate the device, you should always use the shim with the higher value (approx. 300 µm). The shim with the lower value (approx. 100µm) is only supplied to verify the accuracy after calibration.

It is also possible to calibrate the device at 1 mm to get even more precise readings in the upper range.

The device must be calibrated separately on both base plates (FE and NFE).

1. Switch on the device. (<on>)
2. Set the device with the probe on the base plate FE (blue) and press the key for about 2 sec until <0.0> is displayed stable. Then release the key and zero setting is performed and confirmed by a beep signal
3. Take off the device. The foil value entered previously is flashing.
4. To enter the value of the shim, press the key as long as the value scrolls up. Pressing the key shortly the value goes down by 1, pressing it continuously the value scrolls up.

From > 320 µm on the value jumps up to 950 µm and increases by 10 µm steps. This makes it possible to calibrate the device in the upper range with even more accuracy than the tolerance fixed. From > 1050 µm on the value jumps down again to 280 µm.

When measuring below 1000 µm do not calibrate the device at 1000 µm

5. Once the correct calibration value is set place the shim (approx. 300 µm) on the base plate FE (blue) and set the device on the shim and wait until the beep sounds.

Now repeat the same calibration procedure (Item 1 – 5) on the base plate NFE (red) with MEGA-CHECK Pocket FN.

The device is calibrated.

To perform just a zero point adjustment (one-point calibration), wait until <on> appears while the calibration value is indicated.

GENERAL REMARKS

- The probe should not be drawn across the testing surface but reset at different spots, i. e. after each measurement hold the instrument in the air for about 1 sec. In doing so the stored calibration is automatically checked and corrected if necessary.
- Make sure that the probe surface and the base plate are kept clean and polished at all times.
- When measuring on small or curved objects it is advisable to perform calibration on a bare test object with the same geometry of the object to be measured and not on the base plate supplied with the device.
- The device switches off automatically one minute after the last measurement. The instrument can also be switched off with the red key.
- Thickness of the base material:
Base material iron/steel (FE): > 0,3 mm
Base material non-ferrous metal (NFE): > 0,2 mm

EXCHANGE OF THE BATTERIES

As soon as the symbol **<BAT>** is flashing the batteries must be exchanged by a new one.

When the voltage of the batteries is less than 1.5 V the device switches off by itself.

Please insert only leak proved batteries

CHARGE 1.2V RECHARGEABLE BATTERIES WITH THE CHARGER

As soon as the symbol **<BAT>** is flashing the rechargeable 1.2V Mignon batteries must be charged.

To charge the rechargeable batteries please use the external charging set and read the instructions.

TECHNICAL DATA

Applications:	Measurement of paint, varnish, plastic and galvanic coatings on steel (ISO 2178) / with MEGA-CHECK Pocket FN also measurement of insulating layers on non-ferrous metals (ISO 2360), automatic detection of base material
Measuring probe MEGA-CHECK Pocket FE:	Model PF-5, Measuring range: on steel and iron: 0-5000 μm , Smallest Area: \varnothing 4 mm, Smallest curvature radius: convex: 4 mm, concave: 38 mm, Calibration value: 300 μm
Measuring probe MEGA-CHECK Pocket FN:	Model PFN-52D, Measuring range: on steel and iron: 0-5000 μm , on NFE metals: 0-2000 μm , Smallest Area: \varnothing 8 mm, Smallest curvature radius: convex: FE 4 mm, NFE 6 mm, concave: 38 mm, Calibration value: 300 μm
Accuracy:	less than 100 μm \pm 1 μm , 100-1000 μm : \pm 1%, 1000-2000 μm : \pm 3%, > 2000 μm : \pm 5%
Resolution:	1-100 μm : 0.1 μm , 100-1000 μm : 1 μm , > 2000 μm : 10 μm
Measuring units:	μm and mils
Environment temperature:	0 - 50° C
Display:	LCD display 3½ digit
Statistics:	Count / Maximum / Minimum / Average / Standard deviation
Power supply:	2x 1.5 V AA Mignon
Operating time:	approx. 35 hours
Dimensions:	105 x 65 x 26 mm
Weight:	137 g (with batteries)
Warranty:	12 months on the device, 3 months on the probe

We supply:

- Coating Thickness Meters
- Magnetic Meters
- Magnetizing and Demagnetizing Equipment
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