Manual

EASY-CHECK FE, FE-S, FN

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EASY-CHECK FE

(XI / 2006)

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INTRODUCTION

Congratulation ! You really made a good choice to decide for

EASY-CHECK FE,

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.

EASY-CHECK FE is especially designed for those users who need to measure only on ferromagnetic iron and steel and wish to do this job as simple as possible. Therefore we knowingly did not include a data memory .

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 the EASY-CHECK FE ?

All non-magnetic coatings, such as varnish, paint, plastics, enamel, rubber, ceramics and galvanization (except nickel) up to 5mm on iron and steel.

EASY-CHECK FE is equipped with a new swinging measuring probe allowing to measure inside pipes and in other inaccessible places.

EASY-CHECK FE is provided with a serial interface making it possible to measure *online* for further data evaluation. You just need the Statistics Software STAT-6 and an interface cable.

<u>And this is really unique:</u>

- **EASY-CHECK FE can measure up to 80 hours with only one 1.5V Mignon battery.**

- **Worldwide the only device with a swinging measuring probe allowing to measure inside pipes and in other inaccessible places.**

SHORT INSTRUCTIONS

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

You receive the instrument ready for operation and do not need to perform any adjustments.

You just switch on the device with the red key. In the display appears <*on*>.

That´s all and now you can start taking measurements.

FUNCTION MODES

Switch on the instrument until <*on*> is displayed. Now release the key !

While switching on and pressing the key for a longer time, the software version number is displayed.

When you now press the key once again or a longer time, the following function modes appear in sequence:

un = Change the unit of measurement (µm / mils)

↓

rES = Switch over the resolution from 1.0 µm to 0.1 µm

By pressing the key the mode selected is confirmed.

OPERATION OF THE FUNCTION MODES

<*Un*> Switch over the 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 µm>*** 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*> Resolution

From factory the device is adjusted to the resolution 1.0 µm.

To switch over to the resolution 0.1 µm press the key until ***<rES>*** is displayed. Release the key and wait until ***<r 1µm>*** is flashing. Press the key again to switch over to 0.1 µm.

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. 100 µm) is only supplied to verify the accuracy after calibration.

With the new software V.22 it is possible to calibrate the device at 1 mm to get even more precise readings in the upper range.

- Switch on the device **(<*on*>)**
- Set the device with the probe on the base plate FE (blue) and press the key until ***<cal>*** is displayed, then release the key and wait until ***<0.0>*** is displayed stable. The zero setting is performed and confirmed by a beep signal.
- Take off the device, the foil value entered previously is flashing.
- 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 !!!
- Once the correct calibration value is set, place the shim on the base plate FE (blue) and set the device on the shim and wait until the beep sounds.

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:** at least 300 µm

EXCHANGE OF THE BATTERY

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

When the voltage of the battery is less than 0.8 V the device switches off by itself.

Please insert only leak proved batteries !

CHARGE THE 1.2V RECHARGEABLE BATTERY WITH THE LINE-CHARGING UNIT

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

Important:
Before inserting the charging connector into the interface plug of EASY-CHECK FE the device must be switched off.

The charger must not be connected when the 1.5V battery is inside the device. The battery may run out and destroy the device !

With the device switched off the charging connector is inserted into the interface plug of EASY-CHECK FE. The device switches on by itself and a bar diagram with the battery symbol is displayed. With the charger connected you can go on taking measurements.

After approx. 20 sec the state of charge is displayed again provided no measurement is taken. When the charger is connected the automatic switch off is deactivated.

The rechargeable battery needs approx. 8 hours to be charged completely. A constant bar diagram is flashing together with the battery symbol and the charger can be removed.

OPTIONAL ACCESSORIES

ONLINE Measurement: Graphic Statistics Software STAT-6
Interface cable

Line-Charger with 1.2V Mignon battery

TECHNICAL DATA

Measuring Technique:	Magnetic induction on iron and steel (ISO 2178)
Measuring Range:	0 - 5000 µm
Indication:	LCD 3½ digits with floating decimal point and guides for operation
Resolution:	selectable 1.0 µm or 0.1 µm
Accuracy:	below 100 µm: ± 1 µm 100 - 1000 µm: ± 1 % 1000 - 2000 µm: ± 3 % > 2000 µm: ± 5 %
Power Supply:	1,5V Mignon battery (1.2V rechargeable battery with charger available)
Measuring Probe:	swinging by 90°
Dimensions:	108 x 48 x 38 mm
Weight:	approx. 100 g
Warranty:	Indication unit: 12 months Measuring probe: 3 months

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EASY-CHECK FE-S

(Version V20.1 – 03.2006)

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INTRODUCTION

Congratulation ! You really made a good choice to decide for

EASY-CHECK FE-S,

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.

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 EASY-CHECK FE-S ?

On *iron and steel* (FE) all non-magnetic coatings, such as varnish, paint, plastics, enamel, rubber, ceramics and galvanization (except niquel) up to 5 mm.

In addition EASY-CHECK FE-S includes the following features

- Store up to 1000 readings in the data memory
- Display statistics
- Transfer all readings and statistics to a printer or computer by means of the interface, or just
- Transfer the data by RADIO.

All these functions can be performed with the red key.

And this is really unique:

- **EASY-CHECK FE-S can measure up to 80 hours with only one 1.5V Mignon battery.**
- **Worldwide the only device with a swinging measuring probe allowing to measure inside pipes and in other in-accessible places.**

SHORT INSTRUCTIONS

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

You receive the instrument ready for operation and do not need to perform any adjustments.

You just switch on the device with the red key. In the display appears <*on*>.

That´s all and now you can start taking measurements.

FUNCTION MODES

Switch on the device by pressing the key until <*on*> is displayed. Release the key.

While switching on and pressing the key for a longer time the software version and the status of the Lock Function for calibration (from software 13.1) are displayed.

When you now press the key once again for a longer time the following functions will appear one after another:

Sto = Store readings in the Data Memory
↓
StA = Display Statistics
↓
Prn = Print or activate the Serial Interface
↓
IcL = Clear the last reading
↓
cLr = Clear the whole Data Memory
↓
un = Change the unit of measurement (µm / mils)
↓
rES = Switch over the resolution from 1.0 µm to 0.1 µm

By pressing the key the mode selected is confirmed.

OPERATION OF THE FUNCTION MODES

<*Sto*> Store readings in the Data Memory

To store readings in the memory for further evaluation press the key until **<*Sto*>** is displayed.

Now release the key and wait until **<*on*>** is flashing. Confirm by pressing the key again.

The data memory is activated and all subsequent measurements will be stored. The symbol **<*STORE*>** is displayed to make evident that the memory is switched on.

Capacity of the data memory : 1000 readings

When the memory has reached its capacity limit the symbol **<*FUL*>** is displayed.

As soon as the device is switched off the memory mode is deactivated.

<*StA*> Display Statistics

The readings stored in the data memory are evaluated as follows:

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

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.

<*Prn*> Print or activate the RADIO CONTROL function

When EASY-CHECK FN is connected to the printer MEGA-PRINT or operated with the RADIO CONTROL module, press the key until **<*Prn*>** is displayed and wait until **<*Prn*>** is flashing. Start the data transfer by pressing the key.

This is not necessary when working with the interface cable and the software selected. As soon as the interface cable is connected, the data transfer starts by itself without pressing the key.

<*lcL*> Clear the last reading

Press the key until the symbol **<*lcL*>** is displayed and wait until **<*lcL*>** is flashing. Confirm by pressing the key again.

Now the last reading is cleared.

<u><*cLr*> Clear the whole Data Memory</u>

Press the key until the symbol ***<cLr>*** is displayed and wait until ***<cLr>*** is flashing. Confirm by pressing the key again.

Now the whole Data Memory is cleared.

<u><*Un*> Change unit of measurement (µm / mils)</u>

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 µm>*** 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.

<u><*rES*> Resolution</u>

From factory the device is adjusted to the resolution 1.0 µm.

To switch over to the resolution 0.1 µm press the key until ***<rES>*** is displayed. Release the key and wait until ***<r 1µm>*** is flashing. Press the key again to switch over to 0.1 µm.

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. 100 µm) is only supplied to verify the accuracy after calibration.

With the new software V20.1 it is possible to calibrate the device at 1 mm to get even more precise readings in the upper range.

- Switch on the device. **(<*on*>)**
- 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
- Take off the device, the foil value entered previously is flashing.

- 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 !!!

- Once the correct calibration value is set, place the shim on the base plate FE (blue) and set the device on the shim and wait until the beep sounds.

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:** at least 300 µm

EXCHANGE OF THE BATTERY

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

When the voltage of the battery is less than 0.8 V the device switches off by itself.

Please insert only leak proved batteries !

CHARGE THE 1.2V RECHARGEABLE BATTERY WITH THE LINE-CHARGING UNIT

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

Important:
Before inserting the charging connector into the interface plug of EASY-CHECK FE-S the device must be switched off.

The charger must not be connected when the 1.5V battery is inside the device. The battery may run out and destroy the device !

With the device switched off the charging connector is inserted into the interface plug of EASY-CHECK FE-S. The device switches on by itself and a bar diagram with the battery symbol is displayed. With the charger connected you can go on taking measurements.

After approx. 20 sec the state of charge is displayed again provided no measurement is taken. When the charger is connected the automatic switch off is deactivated.

The rechargeable battery needs approx. 8 hours to be charged completely. A constant bar diagram is flashing together with the battery symbol and the charger can be removed.

TECHNICAL DATA

Measuring Technique:	Magnetic induction on iron and steel (ISO 2178)
Measuring Range:	0 – 5000 µm
Indication:	LCD 3½ digits with floating decimal point and guides for operation
Resolution:	selectable 1.0 µm or 0.1 µm
Accuracy:	below 100 µm: ± 1 µm 100 - 1000 µm: ± 1 % 1000 - 2000 µm: ± 3 % > 2000 µm: ± 5 %
Memory:	max. 1000 readings
Statistics	Indication of No.-MIN-MAX-MEAN-STD.DEV.
Power Supply:	1,5V Mignon battery (1.2V rechargeable battery with charger available)
Recording Data:	one long beep
Measuring Probe:	swinging by 90°
Dimensions:	108 x 48 x 38 mm
Weight:	approx. 100 g
Interface:	serial RS 232 C (5 V TTL level)
Baudrate:	Printer + PC: 1200 baud
Data/Stop bits:	Printer + PC: 7/2
Warranty:	Indication unit: 12 months Measuring probe: 3 months

OPTIONAL ACCESSORIES

SOFTWARE incl. Operation Instructions

- Software TRANSFER
  Sends the data and statistics to the computer.

- Software TRANSFER-EXCEL
  Transfers the data directly in an existing Excel file.

- Graphic Statistics Software STAT-6
  Sends the data and statistics to the computer.
  Limit values can be set which are evaluated as line and bar diagrams.

RADIO- CONTROL

With the Transmitter / Receiver and the Software STAT-6 the data and statistics can be sent to the computer by RADIO without any cable connection.

Data Printer MEGA-PRINT

Print out all the data and statistics.

Line-Charger with 1.2V rechargeable Mignon battery

DATA PRINTER MEGA-PRINT

Technical Data:

Type of Printer:	Thermo printer
Characters/Line:	20
Data Transfer Rate:	1200 baud
Printing Velocity:	max. 20 lines/sec.
Interface:	serial
Paper:	Thermo paper 57 mm wide, max. 10 m long
Power Supply:	Rechargeable NiCad battery (approx. 60 hours operation/charge)
Size:	110 x 80 x 45 mm
Weight:	approx. 240 g
Charging Unit:	230 V/50 Hz / 6.0 V – 0.5 A

Charging the built-in NiCad Battery

Before using MEGA-PRINT for the first time the built-in NiCad battery must be charged.

The built-in NiCad battery is charged with the charging unit supplied with the printer. The cable of the charging unit is connected at the right-hand socket of MEGA-PRINT.

The charging time should be at least 4 hours.

Operating Instructions

1. The operation of MEGA-PRINT together with the Coating Thickness Meter EASY-CHECK FE-S is explained in the operating instructions of EASY-CHECK FE-S (Page 4).

2. When the printer MEGA-PRINT is connected to the Coating Thickness Meter EASY-CHECK FE-S, MEGA-PRINT switches on automatically (the green LED flashes every 2 sec). When switching off EASY-CHECK FE-S, the printer is switched off automatically (the green LED remains switched off).

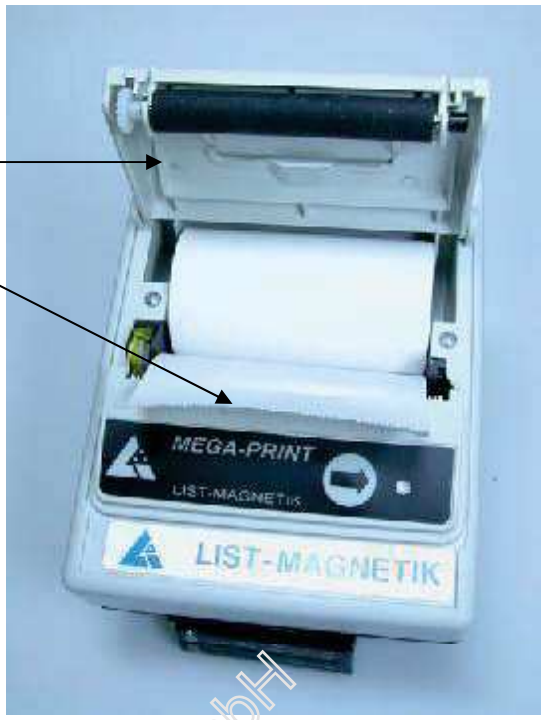
3. The manual paper feed is performed with the key „Paperfeed“. When the printout is finished the paper stripe is transported out of the casing by pressing this key and can be neatly turned off.

4. Faulty print out

   Incorrect printed lines mean that the printer should be recharged.

Insert a new paper roll

- Open the lid
- Insert the paper roll
- Pull out the end of the paper
- Close the lid



OPERATION MANUAL

COATING THICKNESS METER

EASY-CHECK FN

2015-10

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TÜV MANAGEMENT SERVICE ISO 9001

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INTRODUCTION

Congratulation ! You really made a good choice to decide for

EASY-CHECK FN,

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.

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 EASY-CHECK FN ?

On *iron and steel* (FE) all non-magnetic coatings, such as varnish, paint, plastics, enamel, rubber, ceramics and galvanization (except niquel) up to 5,0 mm.

On *non-ferrous metals* (aluminium, brass, bronze, zinc, lead, copper and non-magnetic steel) all non-conductive coatings, such as varnish, paint, plastics, rubber and anodizing up to 2,5 mm.

And in addition you can also measure paint coatings on zinc plated steel without considering the zinc thickness.

<u>In addition EASY-CHECK FN includes the following features</u>

- Store up to 1000 readings in the data memory
- Display statistics
- Transfer all readings and statistics to a printer or computer by means of the interface, or just
- Transfer the data by RADIO.

All these functions can be performed with the red key.

<u>And this is really unique:</u>

- **The device recognizes by itself on which base material the measurement is taken, whether on steel (FE) or on non-ferrous metal (NFE) and displays the symbol with each reading.**

- **EASY-CHECK FN can measure up to 80 hours with only one 1.5V Mignon battery.**

- **Worldwide the only device with a swinging measuring probe allowing to measure inside pipes and in other inaccessible places.**

SHORT INSTRUCTIONS

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

You receive the instrument ready for operation and do not need to perform any adjustments.

You just switch on the device with the red key. In the display appears *<on>*.

That´s all and now you can start taking measurements.

FUNCTION MODES

Switch on the device by pressing the key until *<on>* is displayed. Release the key.

While switching on and pressing the key for a longer time the software version number is displayed. When you now press the key once again for a longer time the following functions will appear in sequence::

Sto = Store readings in the Data Memory
↓
StA = Display Statistics
↓
Prn = Print or activate the Serial Interface
↓
IcL = Clear the last reading
↓
cLr = Clear the whole Data Memory
↓
nFE = Base material recognition
NFE = recognizes exclusively non-ferrous metals
↓
un = Change the unit of measurement (µm / mils)
↓
rES = Switch over the resolution from 1.0 µm to 0.1 µm

By pressing the key the mode selected is confirmed.

OPERATION OF THE FUNCTION MODES

<Sto> **Store readings in the Data Memory**

To store readings in the memory for further evaluation press the key until ***<Sto>*** is displayed.

Now release the key and wait until ***<on>*** is flashing. Confirm by pressing the key again.

The data memory is activated and all subsequent measurements will be stored. The symbol ***<STORE>*** is displayed to make evident that the memory is switched on.

Capacity of the data memory : 1000 readings

When the memory has reached its capacity limit the symbol ***<FUL>*** is displayed.

As soon as the device is switched off the memory mode is deactivated.

<StA> **Display Statistics**

The readings stored in the data memory are evaluated as follows:

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

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.

<Prn> **Print or activate the RADIO CONTROL function**

When EASY-CHECK FN is connected to the printer MEGA-PRINT or operated with the RADIO CONTROL module, press the key until ***<Prn>*** is displayed and wait until ***<Prn>*** is flashing. Start the data transfer by pressing the key.

This is not necessary when working with the interface cable and the software selected. As soon as the interface cable is connected, the data transfer starts by itself without pressing the key.

<IcL> **Clear the last reading**

Press the key until the symbol ***<IcL>*** is displayed and wait until ***<IcL>*** is flashing. Confirm by pressing the key again.

Now the last reading is cleared.

<cLr> **Clear the whole Data Memory**

Press the key until the symbol ***<cLr>*** is displayed and wait until ***<cLr>*** is flashing. Confirm by pressing the key again.

Now the whole Data Memory is cleared.

<nFE> **Base material recognition**

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.

<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 µm>*** 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> **Resolution**

From factory the device is adjusted to the resolution 1.0 µm.

To switch over to the resolution 0.1 µm press the key until ***<rES>*** is displayed. Release the key and wait until ***<r 1µm>*** is flashing. Press the key again to switch over to 0.1 µm.

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. 100 µm) is only supplied to verify the accuracy after calibration.

With the new software V.20 it is 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 until ***<cal>*** is displayed, then release the key and wait until ***<0.0>*** is displayed stable. The 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)

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 dif-ferent 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 steel FE: > 300 µm

  Base material non-ferrous metal NFE: > 50 µm

EXCHANGE OF THE BATTERY

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

When the voltage of the battery is less than 0.8 V the device switches off by itself.

Please insert only leak proved batteries !

CHARGE THE 1.2V RECHARGEABLE BATTERY

with the line-charging unit

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

Important: Before inserting the charging connector into the interface plug of EASY-CHECK FN the device must be switched off.

The charger must not be connected when the 1.5V battery is inside the device. The battery may run out and destroy the device !

With the device switched off the charging connector is inserted into the interface plug of EASY-CHECK FN. The device switches on by itself and a bar diagram with the battery symbol is displayed. With the charger connected you can go on taking measurements.

After approx. 20 sec the state of charge is displayed again provided no measurement is taken. When the charger is connected the automatic switch off is deactivated.
The rechargeable battery needs approx. 8 hours to be charged completely. A constant bar diagram is flashing together with the battery symbol and the charger can be removed.

TECHNICAL DATA

Measuring Technique:	Magnetic induction on iron and steel (ISO 2178) Eddy current on non-ferrous metals and non-magnetic steels (ISO 2360)
Switch over Measuring Technique:	Automatic or manual (NFE)
Measuring Range:	Magnetic Induction: 0 – 5000 µm (FE) Eddy current: 0 – 2500 µm (NFE)
Indication:	LCD 3½ digits with floating decimal point and guides for operation
Resolution:	selectable 1.0 µm or 0.1 µm
Accuracy:	below 100 µm: ± 1 µm 100 - 1000 µm: ± 1 % 1000 - 2000 µm: ± 3 % > 2000 µm: ± 5 %
Memory:	max. 1000 readings
Statistics	Indication of No.-MIN-MAX-MEAN-STD.DEV.
Power Supply:	1,5V Mignon battery (1.2V rechargeable battery with charger available)
Recording Data:	on steel (FE): one long beep on non-ferrous metals (NFE): two short beeps
Measuring Probe:	swinging by 90°
Dimensions:	108 x 48 x 38 mm
Weight:	approx. 100 g
Interface:	serial RS 232 C (5 V TTL level)
Baudrate:	Printer + PC: 1200 baud
Data/Stop bits:	Printer + PC: 7/2
Warranty:	Indication unit: 12 months Measuring probe: 3 months

OPTIONAL ACCESSORIES

SOFTWARE incl. Operation Instructions

- Software TRANSFER
  Sends the data and statistics to the computer.

  The free ***TRANSFER*** software for the transmission of data to the PC or laptop can be downloaded from www.list-magnetik.de/de/Download_5:0:1.html.

  The following login data are required for the download:
  User name: "**Kunde**"
  Password: "**listmag_191199**"

- Software TRANSFER-EXCEL
  Transfers the data directly in an existing Excel file.

- Graphic Statistics Software STAT-6
  Sends the data and statistics to the computer.
  Limit values can be set which are evaluated as line and bar diagrams.

RADIO- CONTROL

With the Transmitter / Receiver and the Software STAT-6 the data and statistics can be sent to the computer by RADIO without any cable connection.

Data Printer MEGA-PRINT

Print out all the data and statistics.

Line-Charger with 1.2V rechargeable Mignon battery

DATA PRINTER MEGA-PRINT

Technical Data:

Type of Printer:	Thermo printer
Characters/Line:	20
Data Transfer Rate:	1200 baud
Printing Velocity:	max. 20 lines/sec.
Interface:	serial
Paper:	Thermo paper 57 mm wide, max. 10 m long
Power Supply:	Rechargeable NiCad battery (approx. 60 hours operation/charge)
Size:	110 x 80 x 45 mm
Weight:	approx. 240 g
Charging Unit:	230 V/50 Hz / 6.0 V – 0.5 A

Charging the built-in NiCad Battery

Before using MEGA-PRINT for the first time the built-in NiCad battery must be charged.

The built-in NiCad battery is charged with the charging unit supplied with the printer. The cable of the charging unit is connected at the right-hand socket of MEGA-PRINT.

The charging time should be at least 4 hours.

Operating Instructions

1. The operation of MEGA-PRINT together with the Coating Thickness Meter EASY-CHECK FN is explained in the operating instructions of EASY-CHECK FN (Page 5).

2. When the printer MEGA-PRINT is connected to the Coating Thickness Meter EASY-CHECK FN, MEGA-PRINT switches on automatically (the green LED flashes every 2 sec). When switching off EASY-CHECK FN, the printer is switched off automatically (the green LED remains switched off).

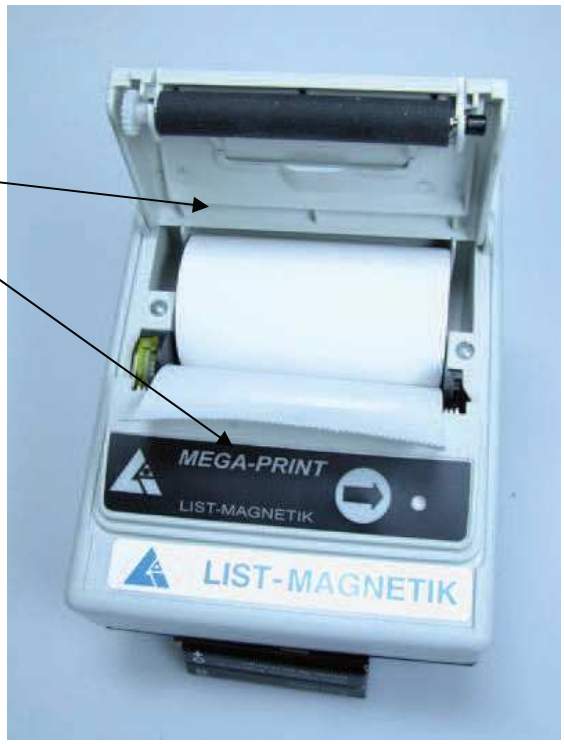
3. The manual paper feed is performed with the key „Paperfeed". When the printout is finished the paper stripe is transported out of the casing by pressing this key and can be neatly turned off.

4. Faulty print out

   Incorrect printed lines mean that the printer should be recharged.

Insert a new paper roll

- Open the lid
- Insert the paper roll
- Pull out the end of the paper
- Close the lid



INTERNET INQUIRY
CUSTOMER'S SATISFACTION

We would like to point out to the form in our homepage *www.list-magnetik.de*. We would be grateful if you take a little time and fill it out. You can help us to reach our quality target regarding ISO 9001-2000.

THANK YOU !

We supply:

- Coating Thickness Meters
- Surface Testing Devices
- Ultrasonic Thickness Gauges
- Magnetic Measuring Instruments
- Magnetizing and Demagnetizing Equipment

We advise and take care of all your problems

Fast Service

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