

## Instruction Manual TA\_F

### Digital Coating Thickness Gauge



**Model: TA 1000-1F**

#### Table of contents

1. General introduction
2. Caution
3. Specification
4. Description of the instrument
5. Function keys, main use
6. Instruction
7. Calibration
8. Operation
9. Maintenance

#### 1. General introduction

This instrument is a portable, easy-to-use digital „ferrous“ coating thickness gauge to measure coatings on ferrous base material, designed for a one hand operation. It has got an illuminated LCD display, and an Auto Power Off function (15 seconds approx.) to conserve batteries.

#### 2. Caution

- Don't use the Thickness Gauge near any device emerging strong electromagnetic radiation or near a static electrical charger like a power generator, magnet... this may cause errors.
- The device may not be exposed to corrosive or explosive gases. It might be totally damaged or even explode.



- This instrument may not be exposed to direct sunlight or condensation.

This might lead to deformation, the insulation might be damaged or it might affect the functions. Don't place the instrument onto or around hot objects (70°C/ 158°F). The housing might be damaged.

- If it is exposed to significant changes of the ambient temperature, just wait for about 30 minutes for a stabilisation of temperature, before performing measurements.

- If the instrument is used for over one minute continuously, the accuracy of measurement at higher thicknesses might be degraded. But nevertheless, the accuracy will be within its specified range.
- There may be condensation on the sensor when changing from a cold to a hot environment. Therefore, one should wait for ten minutes for the condensation to disappear. By taking measurements, the sensor tip should contact the coated thickness tightly without tilting. It should be assured that there are no bubbles between base material and coating.
- Don't use the device in wet or dusty environment. It is also not waterproof!
- To perform exact measurements, it should be assured that the contact of the coated material and the sensor tip is tight enough and without any lateral down-grade.
- There may not be any air bubbles between the base plate and the coating.


**The Zero-Calibration should be performed before every use.**

**The Two-point-Calibration HAS TO BE implemented to increase the measurement accuracy.**

#### 3. Specifications

##### 3.1 Generally

**Display:** 3 ½- digit liquid crystal LCD display with maximum reading of 1999.

**Low battery indication:** If this symbol appears  , the battery voltage drops below the operating level.

**Measurement rate:** 1 second, nominal

**Environmental condition:** Temperature: 0°C to 50°C  
(32°F to 122°F)  
Humidity: < 75% R.H.

**Storage temperature:** -20°C to 60°C  
(-4°F bis 140°F)  
0 bis 80% R.H. (batteries have to be taken off!)

**Auto Power Off:** 15 seconds

**Power consumption at standby:** <15µA

**Battery:** 9V Standardbatterie

**Battery life:** 9 hours continuously, including backlight

**Dimensions:** L x W x H: 148mm x 105mm x 42mm

**Weight:** ca. 157g (inclusive battery)

## Instruction Manual TA\_F

**Detectable base material:** ferrous metal (iron, steel)

### 3.2 Electrical basic data

**Thickness range:** 0 to 1000µm (0 to 40.0 mil)

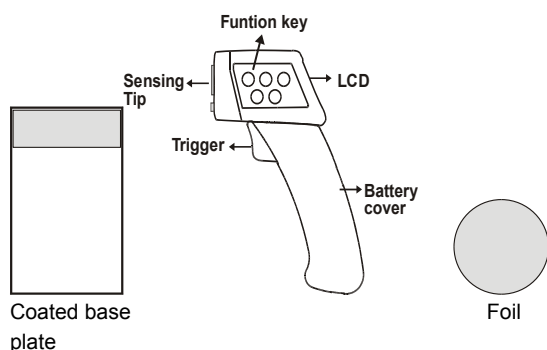
**Display Resolution:** 1µm (0.1mil)

**Accuracy:** ± 4 digits at 0 to 7,8 mil  
± 10 dgts at 0 to 199µm  
± (3%+4dgts) at 7.9 mil to 40 mil  
± (3%+10dgts) at 200µm to 1000µm

**Temperature Coefficient:** ±0.1% of the reading values  
Change of accuracy at °F/°C  
Change of the environmental conditions over  
82.4°F/ 28°C or under 64.4°F/ 18°C

**Response time:** 1 second

### 4. Description of the instrument



**The protection films have to be peeled off from the foil and from the standard coating plate before the first use!**

### 5. Function keys, main use



The ☀ key has to be used to turn the backlight on and off.

#### „mil/µm“

The “mils/µm” key has to be used to switch between µm and mils (1mil= 25.4µm).

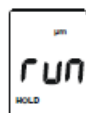
#### „CAL“

- To perform the Single-point Calibration, the CAL-key has to be pressed simultaneously with the ☀ key for 4 seconds while the instrument is powered on.
- To perform the Two-point Calibration, the CAL-key has to be pressed for 4 seconds.
- In Calibration mode, the CAL-key has to be pressed to confirm and to do to the next step.  
The CAL-key has to be pressed for 4 seconds to quit the Calibration mode.

### 6. Instruction

#### Power on/off:

- The sensor tip of the instrument has to be kept away from any base material or any magnetic field.
- The trigger has to be pulled to turn on the instrument. If “run” appears on the display, the instrument is ready for use.



- Auto Power Off Function (APO): If the device is left without operation for 15 seconds, it powers off automatically.

#### Measuring:

- The instrument has to be powered on.
- The sensor tip has to be pressed tightly onto the coated surface. The trigger has to be held as long as the reading appears on the display and the measuring procedure is finished. The measuring tip may not be lifted from the surface before!
- If the coating thickness is no longer within the measurement range, the reading result will be shown, but the accuracy of this measurement will be affected.

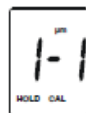
### 7. Calibration

- Before calibrating the instrument, the unit has to be chosen (µm/mil), because it isn't possible to enter it in Calibration mode.
- During calibration, the Auto Power Off Function is deactivated.

#### Single-Point Calibration:

**As the calibration point is standardised 102µm (4,0 mil), it is recommended to use the coated standard plate, included in delivery, for Single-Point Calibration.**

- To perform the Single-point Calibration, the CAL-key has to be pressed simultaneously with the ☀ key for 4 seconds while the instrument is powered on.  
On the LCD display “1—1” starts flashing.



- The sensor tip has to be pressed onto the coated base plate and onto the foil. The trigger has to be held down until the reading appears on the display.
- The CAL-key has to be pressed to confirm. On the display flashes “- -” and afterwards “1—2”.
- The CAL-key has to be pressed for 4 seconds to quit the Calibration mode and return to operation mode.



## Instruction Manual TA\_F

### Two-Point Calibration:



**During Two-Point Calibration, the foil and the standard coating plate (102µm) can be replaced by an uncoated base material and a coated standard plate with known thickness.**

1. The instrument has to be powered on. The CAL-key has to be pressed for 4 seconds to activate Two-Point Calibration. On the display "2—1" starts flashing.



2. The sensor tip has to be pressed onto the foil and the trigger has to be held until the reading result appears. The reading value has to be adjusted to "0" with the buttons  and .

3. The CAL-key has to be pressed to confirm. On the display flashes "--" and afterwards "2—2".

4. The sensor tip has to be pressed onto the coated base plate and onto the foil. The trigger has to be held until the reading result appears on the display. The reading value has to be adjusted to with the buttons  and  until it conforms to the standard material thickness of 102 µm (4,0mil).

5. The CAL-key has to be pressed to confirm. On the display flashes "--" and afterwards "2—3".

6. The CAL-key has to be pressed for 4 seconds to quit the Two-Point Calibration mode. This way, the instrument turns off automatically.

7. If the CAL-key is pressed and held for 4 seconds during Calibration mode, the instrument will change from Two-Point Calibration into Operation mode. This way, the calibration is not memorised and not followed through.

### 8. Operation

1. The instrument **has to be kept away from any base material or magnetic field.**

To power it on, the trigger has to be pulled and it has to be waited for the symbols "run" and HOLD to appear on the LCD.

2. The sensor tip has to be pressed tightly onto the coated surface.


3. The trigger has to be pulled and not released until the measurement result appears on the display.

**The sensor tip may not be removed from the surface before!**

4. If the measured thickness is no longer within its specified range, the reading result will be shown nevertheless, but the accuracy of the measurement will be degraded.

### 10. Maintenance

#### Battery replacement

1. Power is supplied by a 9 V transistor battery. If the LCD shows the symbol , the battery has to be replaced.

2. The battery cover has to be removed by gently sliding it onwards to the bottom of the device.

3. The battery has to be taken out by disconnecting it from the device and it has to be replaced by a new one. It has to be installed correctly into the case and the battery cover has to be reinstalled.



Pay attention!

#### Cleaning

The case has to be wiped periodically with a damp cloth and detergent, abrasives or detergents may not be used.

### 10. Declaration of conformity




**SAUTER GmbH**  
D-72468 Albstadt  
Tel: 0049 (0)7431-938-666  
Fax: 0049 (0)7431-938-252  
E-Mail: info@sauter.eu  
Internet: www.sauter.eu

#### Konformitätserklärung


Declaration of conformity for apparatus with CE mark  
Konformitätserklärung für Geräte mit CE-Zeichen  
Déclaration de conformité pour appareils portant la marque CE  
Declaración de conformidad para aparatos con marca CE  
Dichiarazione di conformità per apparecchi contrassegnati con la marcatura CE

**English** We hereby declare that the product to which this declaration refers conforms with the following standards.  
**Deutsch** Wir erklären hiermit, dass das Produkt, auf das sich diese Erklärung bezieht, mit den nachstehenden Normen übereinstimmt.  
**Français** Nous déclarons avec cela responsabilité que le produit, auquel se rapporte la présente déclaration, est conforme aux normes citées ci-après.  
**Español** Manifestamos en la presente que el producto al que se refiere esta declaración está de acuerdo con las normas siguientes.  
**italiano** Dichiariamo con ciò che il prodotto al quale la presente dichiarazione si riferisce è conforme alle norme di seguito citate.

#### Coating Thickness Gauge: SAUTER TA

Mark applied	EU Directives	Standards
	89/338/EEC EMC	EN 61326 : 1997+A1 : 1998+A2 : 2001 EN 55222 EN 61000-4-2 /-3

Date: 07.01.2010

Signature:   
SAUTER GmbH  
Management

SAUTER GmbH, Schumannstraße 33, D-72468 Albstadt, Tel: +49 (0) 7431 938 666, Fax: +49 (0) 7431 938 252

## Instruction Manual TA\_F



**SAUTER GmbH**  
D-72458 Albstadt  
E-Mail: info@sauter.eu

Tel: 0049-[0]7431-938-666  
Fax: 0049-[0]7431-938-282  
Internet: www.sauter.eu

### 9. Instandhaltung

#### Batteriewechsel

1. Die Stromversorgung besteht über eine 9V „Transistor“ Batterie.
2. Die Batterieabdeckung wird entfernt, indem diese vorsichtig mit dem Daumen zur Unterseite des Gerätes hin abgestreift wird.
3. Die gebrauchte Batterie wird entnommen und die neue wird eingesetzt. Die Batterieabdeckung wird wieder angebracht.



Vorsicht beim Einlegen der Batterie!

#### Reinigung

Von Zeit zu Zeit und bei Bedarf sollte das Messgerät mit einem feuchten Tuch und etwas Reinigungsmittel gereinigt werden, wobei aber keine aggressiven Mittel oder Lösemittel verwendet werden dürfen.

### 10. Konformitätserklärung

#### Konformitätserklärung

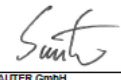
Declaration of conformity for apparatus with CE mark  
Konformitätserklärung für Geräte mit CE-Zeichen  
Déclaration de conformité pour appareils portant la marque CE  
Declaración de conformidad para aparatos con marca CE  
Dichiarazione di conformità per apparecchi contrassegnati con la marcatura CE

**English** We hereby declare that the product to which this declaration refers conforms with the following standards.  
**Deutsch** Wir erklären hiermit, dass das Produkt, auf das sich diese Erklärung bezieht, mit den nachstehenden Normen übereinstimmt.  
**Français** Nous déclarons avec cela responsabilité que le produit, auquel se rapporte la présente déclaration, est conforme aux normes citées ci-après.  
**Español** Manifestamos en la presente que el producto al que se refiere esta declaración está de acuerdo con las normas siguientes.  
**italiano** Dichiariamo con ciò che il prodotto al quale la presente dichiarazione si riferisce è conforme alle norme di seguito citate.

#### Coating Thickness Gauge: SAUTER TA

Mark applied	EU Directives	Standards
CE	89/336/EEC EMC	EN 61326 : 1997+A1 : 1998+A2 : 2001 EN 55022 EN 61000-4-2 I-3

Date: 07.01.2010

Signature:   
SAUTER GmbH  
Management

SAUTER GmbH, Schumannstraße 33, D-72458 Albstadt, Tel: +49 (0) 7431 938 666, Fax: +49 (0) 7431 938 282