**9. Notes**

9.1 Settings includes restoring factory setting, unit setting, S/C setting, which should be done within 6 seconds at every stage. or the gauge will quit itself and keep its status before.

9.2 It is strongly recommended that no changes should be made to **the value of Ln (**controlled by power key, It takes about 11 seconds from starting depressing Power key. Its value can be changed by plus/minus key after displaying Ln and releasing the power key. Store its value and quit by pressing Zero key.**) which will seriously affect the accuracy. Its value can be adjusted by professional persons only under the cases of replacing a new probe or making the gauge more accurate.** Generally, the larger the value of Ln, the smaller the reading on a same thickness. A little variation of value of Ln will cause a great change in reading at high end.

9.3 It is suggested to select the continuous mode to carry out measurements to weaken the fluctuation caused by the height of probe lifted and steadiness when the probe is placed onto the surface measured.



uncoated standard steadily. Press the zero key (3-3) and '0' will be on the Display before lifting the probe. **If pressing the ZERO key but the probe is not placed on the substrate or an uncoated standard, the zero calibration is invalid.**

5.2 Select an appropriate calibration foil according to your measurement range.

5.3 Place the standard foil selected onto the substrate or the uncoated standard.

5.4 Place the sensor (3-1) mildly onto the standard foil and lift. The reading on the display is the value measured. The displayed reading can be corrected by pressing the plus key (3-4) or minus key (3-5) while the probe is away from the substrate or the measured body.

5.5 Repeat step 5.4 until the result is correct.

5.6 For the large range of coating gange, it is very important to carry out high end calibration often, please refer part 8.2 for details.

**6. BATTERY REPLACEMENT**

6.1 When it is necessary to replace the battery, the battery symbol '⊡' will appear on the Display.

6.2 Slide the Battery Cover ( 3-8) away from the instrument and remove the batteries.

6.3 Install the batteries (4x1.5v AAA/UM-4) correctly into the case.

6.4 If the instrument is not to be used for any extended period , remove batteries.

**7. CONSIDERATIONS**

7.1 In order to weaken the influence of the measured material on the accuracy of measurement, it is recommended that the calibrations should be done on



# COATING THICKNESS GAUGE (F TYPE)

This Coating Thickness Gauge is small in size, light in weight, easy to carry. Although complex and advanced, it is convenient to use and operate. Its ruggedness will allow many years of use if proper operating techniques are followed. Please read the following instructions carefully and always keep this manual within easy reach.



Resolution 0.01mm (below 1.0mm)
0.1 mm (over 1mm)
Accuracy ±1~3%n or 0.1 mm
(Whichever is the greater)
PC interface: with RS-232C interface
Power supply 4x1.5 AAA(UM-4) battery
Operating condition: Temp. 0~50℃,
Humidity <80%
Size 126x65x27 mm (5.0x2.6x1.1 inch)
Weight: about 210 g
not including batteries

Accessories
- Carrying case .....1 pc.
- Operation manual ..... 1 pc.
- F probe..... .....1 pc.
- Calibration foils.....1set
- Substrate （Iron） .....1 pc.

Optional accessories
- Cable & software for RS232C
- USB adaptor

## 1. FEATURES

* It meets the standards of ISO2178 , DIN, ASTM and BS. Suitable for the laboratory and for use in harsh field conditions.
* The F probes measure the thickness of non-magnetic materials (e.g. paint, plastic, porcelain enamel, copper, zinc, aluminium, chrome etc.) on magnetic materials (e.g. iron, nickle etc.) . often used to measure the thickness of galvanizing layer, lacquer layer, porcelain enamel layer, phosphide layer, copper tile, aluminium tile, some alloy tile, paper etc.
* Automatic substrate recognition.
* Manual or automatic shut down.
* Two measurement mode:
  Single and Continuous
* Wide measuring range and high resolution.
* Metric/Imperial conversion.
* Digital display gives exact reading with no guessing or errors.
* Can communicate with PC computer for statistics and printing by the optional cable and the software for RS232C interface .

## 2 SPECIFICATIONS

Display 4 digits, 10 mm LCD
Range 0~12mm/0~480mil



## 3. FRONT PANEL DESCRIPTIONS


Gauge with external probe(s)

3-1 Probes
3-2 Display
3-3 Zero Key
3-4 Plus Key
3-5 Minus Key
3-6 Power key (multi functional )
3-7 Select key for mm/mil conversion
3-8 Battery Compartment/Cover
3-9 Calibration High Key
3-10 Jack forRS232C interface

## 4 MEASURING PROCEDURE

4.1 Plug in the F-probe for the external type.
4.2 Press the power key (3-6) to switch on the gauge and '0' displays on the Display (3-2). The gauge will restore the state of last operation itself , with a symbol 'Fe' indicating on the Display.
4.3 Place the probe (3-1) onto a coating layer



the uncoated material to be measured.
7.2 Probes will eventually wear. Probe life will depend on the number of measurements taken and how abrasive the coating is. Replacement of a probe can be fitted by qualified persons only.

## 8. RESTORE FACTORY SETTINGS

8.1 When to restore?
It is recommended to restore factory settings in the one of following cases.
A. The gauge does not measure any more.
B. Measuring accuracy is degraded caused by the abraded probe or by environmental conditions changed greatly.
C. Replacement of a new probe.
8.2 How to restore?
You can restore the factory settings easily. Please follow procedures below to restore the factory settings. Depress CAL-H key ,when F:H is on the Display, lift the probe to more than 25 centimeters. Then press the Zero key and the gauge return to measurement state. The factory setting is restored. Remember, to restore factory setting should be done within 6 seconds. Or the gauge will quit itself and restoration is invalid.





to be measured. The reading on the Display is the thickness of the coating layer. The reading can be corrected by pressing the plus key (3-4) or minus key (3-5) while the probe is away from the substrate or the measured body.
4.4 To take the next measurement, just lift the probe (3-1) to more than 5 centimeters and then repeat the step 4.3.
4.5 If suspecting the accuracy of measurement, you should calibrate the gauge before taking the measurements. For the calibration procedures, please refer to the calibration part 5.
4.6 The gauge can be switched off by pressing the Power key (3-6) at any time. On the other side, the gauge will power itself off about 50 seconds after the last operation.
4.7 To change the measurement unit 'mm' or 'mil' by
A. Depressing the shortcut key (3-7) **or**
B. Depressing Power key and not releasing it till 'UNIT' on the Display and then pressing Zero key (3-3). It is about 7 seconds from starting depressing Power key.
4.8 To change measurement mode from the single to continuous or vice visa, just depressing the Power key and not releasing it till 'SC' on the Display and then pressing Zero key (3-3). The symbol '((●))' represents continuous mode and 'S' represents single mode. It is about 9 seconds from starting depressing Power key.

## 5. CALIBRATION

5.1 Zero adjustment
Place the probe (3-1) on the iron substrate or an