Coating Thickness Gauge

DCT-100 Series

Operating Manual

德光科技

Dragon Electronics Co.

This instrument is mainly used in coating thickness measurement in automobile industry. There are 2 measuring ways:

1) **F probe (Ferrous).** It requires:

Coating: Non-magnetic materials such as gold, copper, zinc, lead, resin, rubber, glass and so on.

Base: Magnetic materials such as iron, steel, cobalt and nickel.

2) **N probe (Non-ferrous).** It requires:

Coating: Non-conductors such as painting, synthetic, resin, rubber glass and so on.

Base: Non-magnetic materials.

Instruction of each part:



POWER – Switch the gauge ON/OFF

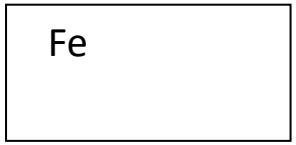
MENU – Setting data / Entry menu

UP ------ Adjust menu

DOWN- Adjust menu

ZERO – Zero point calibration / Esc menu

Measuring interface:



Zero point calibration:

Before measuring, it is necessary to make zero point calibration. The steps in detail shows as follow:

1. Take out the substrate in the standard delivery.
2. Make a measuring on the substrate, it will display on screen ＜× ×μm>.
3. Press ZERO key
4. Repeat this step until LCD shows <0>. The calibration process accomplishes

Five points calibration:

1. Press Down key plus Power key to enter calibration state (DCT-100F or DCT-100N);
2. Press Down key plus Power key (F probe from DCT-100FN) or press Up key plus Power key (N probe from DCT-100FN)
3. Take out the substrate in the standard delivery.
4. Please do Zero-point calibration.
5. Then take the foil with the smallest value in the standard delivery, put it on the substrate, make test until it shows the same value with the foil by press Up or Down key. Meanwhile, press up and down key to confirm.
6. Repeat this step to the other 4 foils.
7. After testing 5 foils, users shall make test on the substrate again. The instrument powers off automatically, which means calibration step is correct and accomplished.

Power on or off

Power on: Press power key for one second and the instrument turns on automatically.

Power off: Press power key again and the instrument turns off automatically.

Right test steps:

1. Power one the instrument
2. Make zero calibration on the substrate in the standard delivery
3. For exact measuring, please test the five calibration foils in the standard delivery and make sure whether the accuracy is correct in full measuring range.
4. Begin testing.

Menu setting:

1. Measuring Single measuring: one measurement is performed at once.
   Continuous measuring: several measurements are performed at once.
2. Delete Please select F or N probe, then press "Delete" to delete all test data.
3. Measure There are 100 data storage. Users could check Max. value, Min. value as well as mean value.
4. Statistics Check testing times, Average, Max. and Min value.

Technical data:

Type of instrument		DCT-100F	DCT-100N
Measuring Principle		Magnetic method	Eddy current method
Measuring range(μm)		0～1250	
Min resolution(μm)		1	1
Tolerance(μm)	One-point calibration	±(2%H+1)	±(2%H+1.5)
	Two-point calibration	±((1%H+1)	±(1%H+1.5)
Minimum radius of curvature		1.5	3
Minimum measuring area(mm)		Φ7	Φ5
Minimum thickness of base material(mm)		0.5	0.3

Notice：H——Measured Value