Coating Thickness Gauge

DCT-200

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

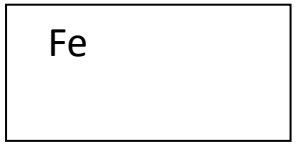
UP ------ Adjust menu

DOWN- Adjust menu

ZERO – Zero point calibration / Esc menu

BACKLIGHT—Turn backlight ON/OFF

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 Up key plus Power key to enter calibration state (DCT-200F or DCT-200N);
2. Take out the substrate in the standard delivery.
3. Please do Zero-point calibration.
4. 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.
5. Repeat this step to the other 4 foils.
6. 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. System setup

1.1 Measure mode: Single measuring: one measurement is performed at once.
Continuous measuring: several measurements are performed at once.

1.2 Lime setting: Upper value setting
Lower value setting

1.3 Statistics: On
Off

2. Memory

2.1 Memory unit: Direct, F1, F2, F3, F4 and F5. There are 100 data for each file
For Direct, if there is more than 100 data, the 101th data replaces the 1st data
For F1 to F5, if it is full, the new test result is not stored anymore

2.2 Delete a file: Choose the file that user wants to delete

2.3 Delete all: Press “Delete all” to delete all test data

2.4 Data transfer: Install Driver and Software
Set Memory unit
Press “Data transfer” to upload data to PC

3. View: Statistics--Check testing times, Average, Max. and Min. value
Measurement—Test result stored in the main unit

4. Function: Unit—um or miles
Default—Press “Default”, the gauge recovers the default parameter

Technical data:

Type of instrument		F400	F1	F1/90 °	F10
Measuring Principle		Magnetic method			
Measuring range(μm)		0～400	0～1250		0～10000
Min resolution(μm)		1			
Tolerance(μm)	One-point calibration	±(2%H+0.7)	±(2%H+1)		±(2%H+10)
	Two-point calibration	±(1%H+0.7)	±(1%H+1)		±(1%H+10)
Minimum radius of curvature		1	1.5	flat	10
Minimum measuring area(mm)		Φ3	Φ7		Φ40
Minimum thickness of base		0.2	0.5		2

Notice：H——Measured Value

Type of instrument		N400	N1	N3
Measuring Principle		Eddy current method		
Measuring range(μm)		0～400	0～1250	0～3000
Min resolution(μm)		1		
Tolerance(μm)	One-point calibration	±(2%H+0.7)	±(2%H+1.5)	±(2%H+3)
	Two-point calibration	±(1%H+0.7)	±(1%H+1.5)	±(1%H+3)
Minimum radius of curvature		1.5	3	4
Minimum measuring area(mm)		Φ4	Φ5	Φ7
Minimum thickness of base		0.3	0.3	1

Notice：H——Measured Value