

MATERIALS

243 Gauge and ECP-M Probe with EM-1 Guide
OICM certified Zn/Fe calibration standard set

OPERATING SPECIFICATIONS

Coating/Substrate	Coating Measurement Range
Zn/Fe	0 to 1.5 mil/38 um

MEMORY STRUCTURE

- Locations 51 to 99 available.
- Current location shown in the upper left of display.
- Stores readings and corresponding statistics, Conductivity Factor (CF) and Offset (OF).

CONDUCTIVITY FACTOR (CF)

- Compensates for sample plating properties.
- Used when readings differ from known value.
- CF= Desired reading/Actual Reading.
- Range is 0.5 to 4.

OFFSET

- Subtracted from reading.
- Range is 0.0 to 1.5 mil/38 um.

LOW BATTERY

- **BAT** displays in lower right corner.
- Replace battery with 9V alkaline type.

SAMPLE FOR MEASUREMENT

- Must be clean and free of surface defects.

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MEASURE MODE

MODE	DISPLAY	MEASUREMENT
Regular	Numeric	Last reading passed to STATS
Continuous	InF	Probe in air, no reading
	Numeric	Probe on part, continuous reading not passed to STATS
Scan	ScAn	Probe in air, no reading
	Numeric	Probe moved across part for approx. 10 sec., average value passed to STATS
	dOnE	Beeps once, lift probe

USING THE GAUGE

1. Connect ECP-M probe and power gauge on.
2. Software version shown in the upper left of display and model 243 in the center of display.
3. Then memory location number is shown in the upper left of display and last reading in the center of display.
4. Select Measure Mode as shown below.
5. Select Memory Location as shown below.
6. Select Units as shown below.
7. Calibrate system as shown below.
8. Select Conductivity Factor and Offset as shown below.
9. Place probe firmly on a flat area of the part to make a measurement.

SELECTING MEASURE MODE

1. Press C/M to toggle between Regular, Continuous, and Scan.

SELECTING MEMORY LOCATION

1. Press SEL, location number and **ENTER**.
2. Or press SEL to scroll and **ENTER** to select.

SELECTING UNITS

1. Press **UNITS** to toggle between MIL (mil = 1/1000 in) and UM (micrometer).
2. Units appear on right side of display.

CALIBRATE SYSTEM

1. Press **CAL** and place probe on bare steel sample.
2. When reading stabilizes, press **ZERO**.
3. Lift probe from sample. A confirmation beep will sound.
4. Press * **CAL** and place probe on 0.2 mil/5 um standard.
5. When reading stabilizes, type value, press **ENTER**.
6. Place probe on 0.8 mil/20 um standard.
7. When reading stabilizes, type value, press **ENTER**.
8. Place probe on infinite standard.
9. When reading stabilizes, press **ENTER**
10. **CF** shown in the upper left of display and current CF in the center of display. (Default is 1.00).
11. To accept value, press **ENTER**.
12. Gauge returns to measurement mode.

SELECTING CONDUCTIVITY FACTOR (CF) MANUALLY

1. Press *1 2 **ENTER**
2. **CF** shown in the upper left of display and current CF in the center of display. (Default is 1.00).
3. To retain press **ENTER**. Or type new value, **0.5 to 4**, and press **ENTER**.
4. After entry, a CF is applied to all subsequent readings at a memory location.
5. Gauge returns to measurement mode.

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SETTING CONDUCTIVITY FACTOR (CF) WITH PART

1. Press **CAL**.
2. Place probe on part of known thickness.
3. When reading stabilizes, type value, press **ENTER**.
4. A **CF** is computed automatically and is applied to all subsequent readings at a memory location.
5. Gauge returns to measurement mode.

SETTING OFFSET (OF)

1. Press * **UNITS**.
2. **OF** shown in the upper left of display.
3. Type desired numeric value, press **ENTER**.
4. After entry, an Offset is applied to all subsequent readings at a memory location
5. Gauge returns to measurement mode.

SELECTING STATS

1. Use the following keystrokes to display statistics of the stored readings at a memory location.

STATISTIC	PRESS KEY
Number of readings	N (9)
High	HIGH (4)
Low	LOW (5)
Mean	MEAN (7)
Standard Deviation	S.D. (8)

2. To clear all statistics of a memory location, press **CLEAR**, and **CLEAR** again, while a statistic is displayed.

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