

CMI760 Series®

Highly flexible equipment for copper measurement

The Oxford Instruments CMI760 was designed to meet the copper measurement and quality control needs of the printed circuit board industry

The **CMI760** measures various surface copper applications and comes with a SRP-4 user-replaceable tip. Optional accessories that measure plated through-hole copper can also be added. This highly expandable benchtop system is capable of both micro resistance and Eddy Current testing, resulting in accurate and precise measurement of copper.

This benchtop system is remarkably versatile and expandable. The **CMI760** accepts multiple probe types to meet application needs, including surface copper, through-hole, micro through-hole, and through-hole quality.

The **CMI760** product comes standard with an advanced statistical package for the interpretation of test data. We stand behind our equipment with a responsive customer service team and warranty policy. SRP-4 PROBE: The SRP Probe utilizes advanced micro resistance test method technology. This probe measures thickness as a function of resistance, therein obtaining exact, reliable readings regardless of laminate thickness and/or copper plating on the opposite side of the printed circuit board. The SRP-4 features user-replaceable probe tips. A worn probe tip can be quickly and easily replaced on-site, minimising downtime. Replacement probe tips are a far more economical alternative to replacing the entire probe. One replacement probe tip comes standard with the **CMI760**. Additional probe tips are available in boxes of three. Additionally, this tethered probe features a rugged cable and small footprint for ease of use.



CMI760 product consists of (for surface copper applications):

- Gauge: **CMI760**
- SRP-4 Probe
- One SRP-4 Replacement Probe Tip
- Two NIST Traceable Calibration Standards
- Optional Standards available for a range of copper weight

Optional accessories (for plated through-hole applications):

- ETP Probe
- Plated through-hole standard



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Accessory highlights

ETP PROBE: The ETP probe utilizes Eddy Current test method technology. The Eddy Current test method indicates whether copper coating thickness on the inside of the printed circuit board through-holes meets required specifications. The probe was designed to generate accurate readings regardless of the board's interim layers. It works equally well on double-sided and multi-layer boards, before and after etch, even with tin and tin/lead resist. In addition, the **CMI760** instrument with the ETP probe features temperature compensation technology, enabling measurement of plated through-hole copper immediately after the board is lifted from the plating tank.



GAUGE SPECIFICATIONS:

Memory Capacity: 8000 bytes, non-volatile
Dimensions: 11 1/2" (W) x 10 1/2" (D) x 5 1/2" (H) (29.21 x 26.67 x 13.97 cm)
Weight: 6 lbs. (2.79 kg)
Units: Automatic conversion between imperial and metric with a keystroke
Unit Conversions: Select from mils, μm , μin , mm, in., or % as units for display
Output: Parallel printer port and RS232 serial port
Display: Large LCD 480 (H) x 32 (V) pixels, backlit, wide-angle view
Statistical Display: Number of readings, standard deviation, mean, high, low
Charts: Histogram, trend, x-Bar, and r

SRP-4 PROBE SPECIFICATIONS:

Accuracy: $\pm 1\%$ ($\pm 0.1 \mu\text{m}$) referred to reference standards
Precision: Electroless Copper: 0.2% standard deviation typical, Electrodeposited Copper: 0.3% standard deviation typical
Resolution: 0.01 mils > 1 mil, 0.001 mils < 1 mil, $0.1 \mu\text{m}$ > $10 \mu\text{m}$, $0.01 \mu\text{m}$ < $10 \mu\text{m}$, $0.001 \mu\text{m}$ < $1 \mu\text{m}$
Thickness Range: Copper: $10 \mu\text{in}$ – 10 mil ($0.25 \mu\text{m}$ – 254 μm), Fine Line Measure: trace width 8 mil – 3000 mil (203 μm – 76.2 mm)

ETP PROBE SPECIFICATIONS:

Accuracy: ± 0.01 mil ($0.25 \mu\text{m}$) < 1 mil (25 μm)
Precision: 1.0% at 1.2 mil typical
Resolution: 0.01 mils (0.25 μm)
Eddy Current: Conforms to method ASTM E376
Thickness Range: 0.08– 4.0 mils (1 – 102 μm)
Minimum Hole Size: 35 mils (899 μm)

visit www.oxford-instruments.com for more information or email Industrial@oxinst.com

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