

**State of California**  
 Department of Food and Agriculture  
 Division of Measurement Standards

Certificate Number: 5477-06  
 Page 1 of 3

***California Type Evaluation Program***  
***Certificate of Approval***  
***for Weighing and Measuring Devices***

**For:**  
  
 Electronic Watt-Hour Meter  
 Models: EE-X1202001-X-XXX  
 Generic Name: Epoxy Encapsulated or EE Mini Meter  
 Voltage Rating: 120/208/240 VAC  
 Class: 200 (200 Amps Max.)  
 TA: 30 Amps

**Submitted by:**  
  
 Integrated Metering Systems, Inc.  
 6741 102nd Avenue North, Suite 27  
 Pinellas Park, FL 33782  
 Tel: (727) 546-3594  
 Fax: (727) 541-4892  
 Contact: Charlie Wilde  
 Internet: [www.imsimeters.com](http://www.imsimeters.com)

**Standard Features and Options**

**Model Designation:**

EE-	X	120	2001	-X	-XXX
EE= Epoxy Encapsulated	<u>Element</u> D = Dual Element (3-wire)  S = Single Element (2-wire)	L1 to Neutral is 120 VAC  L1 to L2 is 208/240 VAC	<u>Current Transformer Ratio</u> 2001 = 200:0.1 Amps	<u>Kh Factor</u> T = 100  Blank = 1000	<u>Indcating Element</u> SCC = Self Contained Indicating Element  Blank = Requires an External Indicating Element

**Current Transformers (CT's):** (See Fig. 1 on Page 3)

- Type: CT200124BK (black and white in color) Accuracy class 0.3, CTR 200:0.1
- Type: CT200124RD (red and white in color) Accuracy class 0.3, CTR 200:0.1
- Type: CT200124BL (blue and white in color) Accuracy class 0.3, CTR 200:0.1
- Type: CT200124BK-A (label black and white in color) Accuracy class 0.3, CTR 200:0.1
- Type: CT200124RD-A (label red and white in color) Accuracy class 0.3, CTR 200:0.1

**External Indicating Elements:** (Examples on Page 2)

- 12VDC analog indicating element
- Curtis Type 703ZR001N1248D2060A LCD (12 VDC liquid crystal display (LCD) indoor/outdoor use)

This device was evaluated under the California Type Evaluation Program (CTEP) and was found to comply with the applicable technical requirements of California Code of Regulations for "Weighing and Measuring Devices." Evaluation results and device characteristics necessary for inspection and use in commerce are on the following pages.



Effective Date: March 15, 2006

Mike Cleary, Director

**Integrated Metering Systems, Inc.**  
**Electronic Watt-Hour Meter**  
**Model: EE-X1202001-X-XXX**

**Application:** For use in legally sub-metered service systems.

**Identification:** The watt-hour meter identification label is applied to the face of the meter.

**Sealing:** The Epoxy Encapsulated (EE) Mini Meter model has two metrologically adjustable components located under the ID label (see Fig. 2). The meter's wire connections are hard wired to the meter and are encapsulated in epoxy (see Fig. 4). The clear plastic meter case cover and the black case have two pins with drilled holes for two wire security seals on both sides to prevent terminal tampering after installation (see Fig. 3).

**Operation:** The "POWER" LED is illuminated whenever line voltage is present. The "LOAD" LED provides a visual display of KWh usage, with a pulse rate (Kt) of 10 (i.e., 5 watt-hours on, 5 watt-hours off). The load LED will not change states unless a load is applied.

The terminals labeled "L1 and N" are the AC voltage supply terminals for 120 VAC. The terminals labeled "CT1 (x1 and x2)" are the CT terminals for a single element (2-wire meter). The terminals labeled "L2 and CT2 (x1 and x2)" are used for the 208/240 VAC supply and dual element (3-wire meter).

**Test Conditions:** Three Epoxy Encapsulated (EE) Mini Meters with two CT models (CT200124XX and CT200124XX-A) as well as five indicating elements were submitted for evaluation. The meters were tested at the Division of Measurement Standards lab. The meters were subjected to a combined total of over 90 tests from 3 amps to 60 amps at both unity and 0.5 power factors. This meter is metrologically the same as the Mini Meter series from Certificate of Approval Number 5361(a)-06 and has been through permanence on that certificate.

Results of the evaluation indicate the devices comply with applicable requirements.

**Type Evaluation Criteria Used:** Title 4, California Code of Regulations, 2006 Edition

**Tested By:** John Roach (CA) 5361-03; Sonia Munoz (CA) and John Roach (CA) 5477-06



Curtis LCD  
indicating element



Typical 12VDC analog  
indicating element  
Kh = 100 wh



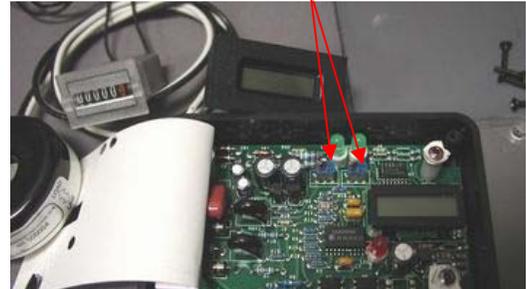
Typical 12VDC analog  
indicating element  
Kh = 1 Kwh

**Integrated Metering Systems, Inc.**  
**Electronic Watt-Hour Meter**  
**Models: MM-X1202001-X-XXX**

(Fig. 1) Two types of the approved CT's.



(Fig. 2) Metrologically adjustable components behind the label.



(Fig. 3) MM model with sealing provisions.



(Fig. 4) EE meter model showing hard wired wires in epoxy.

