

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

Certificate Number: 3786(a)-04  
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***California Type Evaluation Program***  
***Certificate of Approval***  
***for Weighing and Measuring Devices***

**For:**

Electronic Watt-Hour Meter  
 Models: 2XX1202-X  
 Generic Name: 2-in-1 Meter  
 Voltage Rating: 120/208/240 VAC, 50/60 HZ  
 Class: 200 (200 Amps Max.)  
 TA: 30 Amps

**Submitted by:**

Integrated Metering Systems, Inc.  
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**Standard Features and Options**

**Model Designation:**

2	X	X	120	2	-X
<u>Two Meters Per Package</u>	<u>Number of Stators for Meter A</u>	<u>Number of Stators for Meter B</u>	<u>Voltage (Phase to Neutral)</u>	<u>Current Rating:</u> CL 200	<u>KWH</u> T = 1/10 kwh/pulse meter Left Blank = 1 kwh/pulse meter
	1 = one 2 = two	1 = one 2 = two			

**Current Transformers (CT's):**

IMS Part number CT200124BK (black and white in color), Rating: 200:0.1A, Accuracy class 0.3  
 IMS Part number CT200124RD (red and white in color), Rating: 200:0.1A, Accuracy class 0.3  
 These two types of CT's are labeled line and load side service

IMS Part number 32410-1 (black and white in color), Rating: 200:0.2A, Accuracy: 0.3  
 The dot or H-1 mark must face the line service

**External Counter/Registers:**

Electromechanical (12 VDC analog register)  
 LCD display (Curtis Type 703ZR001N1248D2060A)  
 Note: The Curtis LCD display shall be accompanied with a resistor circuit

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: April 22, 2004



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 Mike Cleary, Director

**Integrated Metering Systems, Inc.**  
**Electronic Watt-Hour Meter**  
**Model: 2XX1202-X**

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

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

**Sealing:** A paper security seal may be applied across the parting line between the meter case and cover preventing access to the metrologically adjustable components. The front of the meter also has light and full load adjustment capability. The adjustment is made by puncturing through the marked area and can be resealed by applying a paper security seal. Test terminals should be paper security sealed to prevent tampering.

**Operation:** The metering system requires a suitable weatherproof enclosure for outdoor installations. Watt-hour meters are not self-contained and use current transformers (CT's) to drive the meter, which measures the customer's electrical loads.

The "POWER" LED is illuminated whenever line voltage is present. The "LOAD METER A" or "LOAD METER B" LED illuminates when a load is applied to each respective meter.

The terminals labeled "LINE 1" and "NEUTRAL" are the 120VAC voltage supply terminals. The terminals labeled "CT1" (striped or black wire) and COM (white wire) are the CT terminals for the single element (2-wire) meters. The terminals labeled "LINE 1/LINE 2" and "NEUTRAL" are the voltage supply terminals for 120/208/240 VAC. The terminals labeled "CT1/CT2" (striped or black wire) and "COM" (white wire) are the CT terminals for the Dual Element (3-wire) meters. The terminals labeled "REGISTER OUTPUT" and "COM" are the terminals for the external counters/registers.

The test terminals are to be shorted only during testing. (Remove shorting link after testing.) This allows for the Rr to equal 0.01 KWH per increment (10 watt-hours).

The meter can use two types of CT's with different CT ratios. Each meter shall identify on the ID label the correct CT ratio. The appropriate CT Ratio is either 200:0.1A or 200:0.2A and must be marked on the CT.

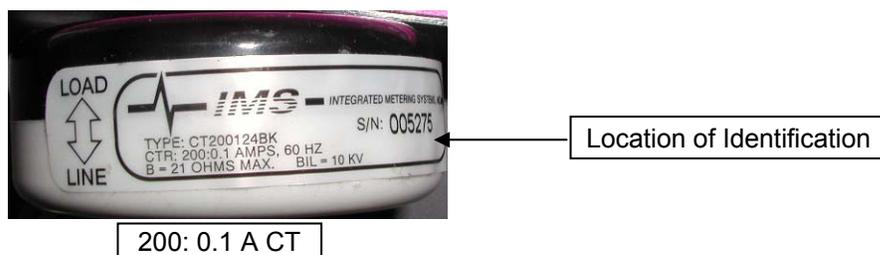
**Test Conditions:** This certificate supersedes Certificate of Approval Number 3786-92 and is issued to include additional CT's. Samples of each meter model, current transformers, and register/counters were submitted for evaluation. The meters were tested at the Division of Measurement Standards lab. The meters were subjected to a combined total of over 60 tests from 3 amps to 50 amps at both unity and 0.5 power factors. Previous test conditions are listed below for reference.

**Certificate of Approval Number 3786-92:** The Division of Measurement Standards evaluated the watt-hour meters and current transformers in the laboratory. Field tests were also conducted with the meters in active service.

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

**Type Evaluation Criteria Used:** Title 4, California Code of Regulations, 2004 Edition

**Tested By:** T. Michel (CA) 3786-92, John Roach (CA) 3786(a)-04



**Integrated Metering Systems, Inc.**  
**Electronic Watt-Hour Meter**  
**Model: 2XX1202-X**

Model 2221202-T  
Top View

Installed shorting Link.  
Remove after testing.

Tamper evident calibration adjustments. If exposed a tamper evident paper security seal may be applied.



Typical Registers

Tamper evident security seals applied to the parting line between the meter case

**Installation Wiring Diagram**  
**Model 2221202**

