

# California Type Evaluation Program

## Certificate of Approval

### Weighing and Measuring Devices

**For:**

Watt-Hour Meter  
Models: EKM-OMIv.3, EKM-OMIULv.3, and  
EKM-OMPv.4  
Voltage Rating: 120/208/240 VAC  
Class (CL): 200 Amps  
Test Amps (TA): 30 Amps  
Watt-Hour Test Constant (Kh) = 1.25 Wh

**Submitted By:**

EKM Metering, Inc.  
122 Benito Ave.  
Santa Cruz, CA 95062  
Tel: 831-247-4740  
Fax: 831-425-7371  
Contact: Doug Brouwer  
Email: [dbrouwer@ekmmetering.com](mailto:dbrouwer@ekmmetering.com)  
Web site: <http://www.ekmmetering.com/>

#### Standard Features and Options

Internal Scrolling Indicator:

- Liquid Crystal Display (LCD)

Current Transformers (CT):

- EKM Metering Model BCT-013-200, BCT-013-200UL, BCT-015-200UL, BCT-025-200UL Closed Loop Style, Accuracy Class 0.1, Rating 200A, CTR 200A:26.6mA (Figure 1)
- EKM Metering Model SCT-013-200, Split Loop Style, Accuracy Class 0.1, Rating 200A, CTR 200A:26.6mA (Figure 2)



Figure 1



Figure 2



Arrow on CT Depicts  
Load Side

This device was evaluated under the California Type Evaluation Program (CTEP) and was found to comply with the applicable 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.

*Kristin Macey*

Kristin J. Macey, Director  
Effective Date: December 2, 2016

## EKM Metering

### Watt-Hour Meter / EKM Series

**Application:** Universal meter for use as a watt-hour metering system in legally sub-metered electric service applications. Meter is approved for single-phase 2-wire and single-phase 3-wire service applications.

**Identification:** The model EKM-OMIv.3 watt-hour meter identification is located on the main face of the meter. The serial number is inscribed into the body of the meter (Figure 3).

**Sealing:** There are no adjustable metrological components under the cover. The model EKM-OMIv.3 meter is equipped with two drilled head screws which allow wire security seals to be placed on each meter door and the bottom of the meter (Figure 3).



Figure 3. Photos Showing Identification Label and Location of the Wire Security Seals

**Operation:** The “Pulse LED” provides a visual display of kWh usage, with a pulse rate ( $K_i$ ) of 1.25. Terminal connections 14 and 15 provide “dry contact” pulse output at the same rate ( $K$ ) of 1.25. On the LCD display, 02 records total reversed kWh when the CT direction is reversed.

The LCD display can show the following items: Total electricity consumption (kWh), reverse electricity consumption (kWh), L1, L2, L3 voltage (U), L1, L2, L3 current (A), L1, L2, L3 total power (P) and L1, L2, L3 COS, five seconds between every item.

DISPLAY REGISTERS														
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
Total kWh	Reverse kWh	Volts L1	Volts L2	Volts L3	Amps L1	Amps L2	Amps L3	Watts L1	Watts L2	Watts L3	Total Watts	Cos L1	Cos L2	Cos L3

**EKM Metering**  
Watt-Hour Meter / EKM Series

**WIRING DIAGRAMS**

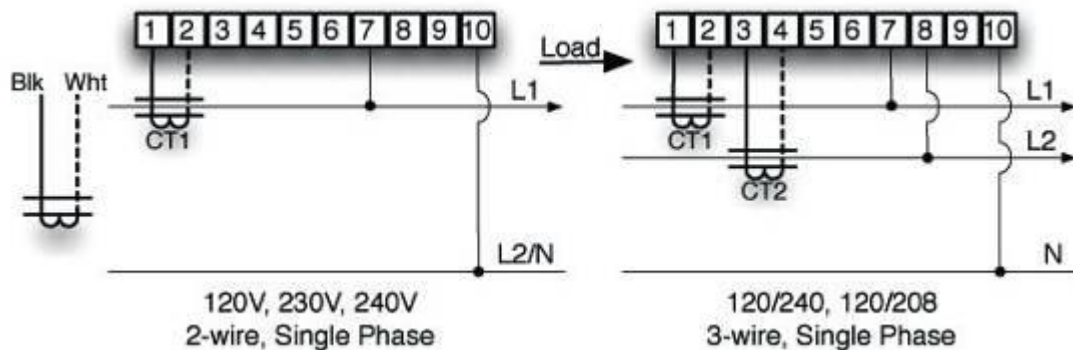


Photo of the Wiring Diagram

**Test Conditions:** This certificate supersedes Certificate of Approval number 5645(a)-13 and is issued to add an additional wire security sealing provision on the bottom of the meter as described in the seal provision section.

**Certificate of Approval Number 5645(a)-13:** This certificate superseded Certificate of Approval number 5645-11 and is issued to add two new meter model numbers EKM-OMIULv3 and EKM-OMPv4 and two new closed loop style CT's BCT-015-200UL, and BCT-025-200UL. Samples of each new meter model and CT's were submitted for evaluation. After a throughput period of approximately 60 days the meters were retested. The meters and CT's were subjected to tests from 3 amps to 50 amps at both unity and 0.5 power factors.

**EKM Metering**  
Watt-Hour Meter / EKM Series

**Certificate of Approval Number 5645-11:** Samples of each model meter and current transformers were submitted for evaluation. The meters were tested at the California Division of Measurement Standards (DMS) lab. After a throughput period of approximately 30 days the meters were retested. The meters were subjected to a combined total of over 210 tests from 3 amps to 50 amps at both unity and 0.5 power factors.

**Evaluated By:** M. Stevens (CA) 5645-11; J. Roach (CA) 5645(a)-13 and 5645(b)-13

**Type Evaluation Criteria Used:** *California Code of Regulations, Title 4, Division 9, Article 1. National Uniformity, Exceptions and Additions 2010 Edition*

**Conclusion:** The results of the evaluation and information provided by the manufacturer indicate the device complies with applicable requirements.

