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

Certificate Number: 5709-13

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

For:
Electric Watt-Hour Meter (Electronic)
Model: MiniCloset-5c
Voltage Rating: 120/208 VAC
Class: 100
TA: 30
Watt-hour Test Constant Kh = 0.016 Kwh or 16 Wh

Submitted by:
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Standard Features and Options

Internal Indicators:

- Liquid Crystal Display (LCD) Digital Indicator 1 Kwh Register

External Current Transformers (CT's):

- Model CTSL1, Accuracy Class 0.3, Rating 100:0.1A

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 8, 2013

Kristin J. Macey, Director

Quadlogic Controls Corporation
Electric Watt-Hour Meter / MiniCloset-5c

Application: For use as a watt-hour metering system (up to 12 meters in a box) in legally sub-metered electric service applications.

Identification: Meter identification information is on the face of the meter door cover. The external CT's identification is on the side of the CT. The "TEST LED" is located to the left of the register.

Sealing: A wire security seal may be applied to the meter case and door cover. The device is a Category 2 device with a wire security sealing provision. The wire security seal prevents access to the inside of the device. Once the meter is open, a computer can be connected to a port that can adjust the calibration and configuration with Quadlogic software. The metrological meter is attached to the inside of the door. There is an optical communication port under the "TEST LED" that is used for programming of non-metrological configuration parameters.

Operation: A "TEST LED" provides a visual display of Wh usage, with a pulse rate Kh of 16 (i.e., one complete on/off cycle is 16 watt-hours). Each change state of the test LED "off to on" or "on to off" equals 8 Wh. The register provides a visual Kwh display. The white side of the CT goes toward the line source (side) and black goes toward the load.

When testing, ensure CT shorting links on all CT connections (CT1-CT24) on CT secondary input board, except for meter point being tested, as shown in picture on the last page. The yellow arrows shown on the same picture, shows the meter point that is being tested. In this case, it is meter point 1. When one tests another position such as CT3 and CT4, (meter point 2), shorting links should be connected to CT connections CT1-CT2 and CT5-CT24. The "TEST LED" will work correctly when one CT is tested at a time on whichever CT is under a load. There are 12 meters (2 CT elements each) in this metering system. See the picture on the last page.

Once installed, the meter positions should be labeled to represent its specific mobile home, apartment number, marina slip etc.

Test Conditions: Samples of the metering system and current transformers were submitted for evaluation. The meters were initially tested at the Division of Measurement Standards (DMS) lab. The meters were then sealed and installed at the DMS lab location. After a permanence period of approximately 30 days the meters were retested. The meters were subjected to a combined total of over 37 tests from 1.5 amps to 50 amps at both unity and 0.5 power factors. The emphasis of the evaluation was on scrolling register, accuracy testing, labeling and sealing of the enclosure package.

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

Type Evaluation Criteria Used: Title 4, California Code of Regulations, 2013 Edition

Tested By: John Roach (CA)

Example(s) of Device: See next page.

Quadlogic Controls Corporation
Electric Watt-Hour Meter / MiniCloset-5c