

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

Certificate Number: 5313(c)-08
 Page 1 of 3

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

For:
 Watt-Hour Meter
 Electronic Surface Mount
 Models: 4VWX/YZ
 Generic Name: EZ Meter
 Voltage Rating: 120/208/240 VAC
 Class: 100 and 200 (100 or 200 Amps Max.)
 TA: 15 or 30 Amps
 Kh: 10 wh (0.01 Kwh)

Submitted by:
 Davidge Controls
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Standard Features and Options

Meter Model Designation:

4	V	W	X	/Suffix YZ
4 = 120V to Neutral	0 = Dumb 2 elements 1 = Dumb 3 elements 2 = Smart 2 elements 3 = Smart 3 elements 4 = Dumb 1 element 5 = Smart 1 element	1 = One display driver for counter 2 = Two display drivers for counter	0 = Class 200 1 = Class 100	16 = Meter Registration 0.01 Kwh (10 wh) 17 = pulse output (isolated) 0.01 Kwh (10 wh) 18 = pulse output (isolated) 0.01 Kwh (10 wh) 19 = Meter Registration 0.01 Kwh (10 wh) CA = Meter Registration 1.00 Kwh (1,000 wh)

- Smart meters have communication billing capability, dumb meters do not.

Current Transformers (CT's) Designation:

4720	/Suffix Z
4720 = 400:1 CT Ratio and accuracy class 0.3.	Blank = Green in color, used with Class 200 meters only 1 = Red in color, used with Class 200 meters only 2 = Black in color, used with Class 100 meters only 4 = Yellow or Black in color, used with either Class 100 or 200 meters

Note: CT's are not direction sensitive.

External Indicating Elements: Electromechanical (12 VDC or 6 VDC analog indicating element)

- 0.01 Kwh indicators have two colored wheels representing 100th of a Kwh per increment.
- 1.00 Kwh indicators have no colored wheels representing 1 Kwh per increment.

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.



Edmund E. Williams, Acting Director

Effective Date: April 25, 2008

Davidge Controls
Electronic Watt-Hour Surface Mount Meter
Models: 4VWX/YZ (EZ Meter)

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: An adhesive tamper evident security seal may be applied across the parting line between the meter case and the back plate cover or can be applied over the screw that retains the back plate on the meter module; however, there are no adjustable components inside. Calibration is performed at the factory with firmware.

Once the meter is installed, the wiring terminals (VAC power, CT's and external indicators) can be sealed by securing a plastic bar across the terminal screws with a wire security seal or one may seal the entire NEMA enclosure (if used) that contains the meter with an appropriate seal.

Operation: These watt-hour meters are not self-contained. The meter must be mounted in an appropriate location to insure a dry environment for the electronic module. The red LED indicates power (120 volts to neutral) is on for element 1. The green test LED(s) flashes briefly (50 ms) every time the external indicating element increments except for meters with /CA suffix in the model number. On meters with the /CA suffix, the Green LED has a Kh of 10 or 0.01 Kwh and the external indicating element has a registration of 1000 wh (1.0 Kwh). On meters with /18 suffix, the isolated output toggles on and off each time the green LED flashes. On other meters, the isolated output closes for 50 ms then opens again. Resolution of the isolated output is the same as the external indicating element unless noted on the label. The meters should be tested one element at a time as the green LED flashes as each element reaches 10 wh.

Test Conditions: This certificate supersedes Certificate of Approval Number 5313(b)-06 and is issued to add a new meter registration increment, in which the increment equals 1.0 Kwh. One meter was submitted and used for evaluating the registration increment. The meter was tested at the Division of Measurement Standards lab. No communication capabilities were evaluated. Previous test conditions are listed below for reference.

Certificate of Approval Number 5313(b)-06: This certificate superseded Certificate of Approval Number 5313(a)-03 and was issued to add a new CT Model 4720/4 and add 256 suffix to the meter model number. The new CT can be used with the Class 100 or 200 EZ meter. Three meters were submitted and used for evaluating the new CT's. The meters were tested at the Division of Measurement Standards lab and were subjected to a total of 69 tests from 1.5 amps to 50 amps at both unity and 0.5 power factors. No communication capabilities were evaluated.

Certificate of Approval Number 5313(a)-03: This certificate superseded Certificate Approval Number 5313-02 and was issued to add Class 100 meters. One sample of each of the six Class 100 meter models, with register modules and Model 4720/2 current transformers, were submitted for evaluation. The meters were tested at the Division of Measurement Standards lab. The meters were subjected to a total of over 150 tests from 1.5 amps to 50 amps at both unity and 0.5 power factors. No communication capabilities were evaluated.

Certificate of Approval Number 5313-02: Two samples of each model meter, with register modules and Model 4720/1 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 a marina. After a permanence period of approximately 8 weeks the meters were returned to the DMS lab for retesting. The meters were subjected to a combined total of over 200 tests from 3 amps to 50 amps at both unity and 0.5 power factors. No communication capabilities were evaluated.

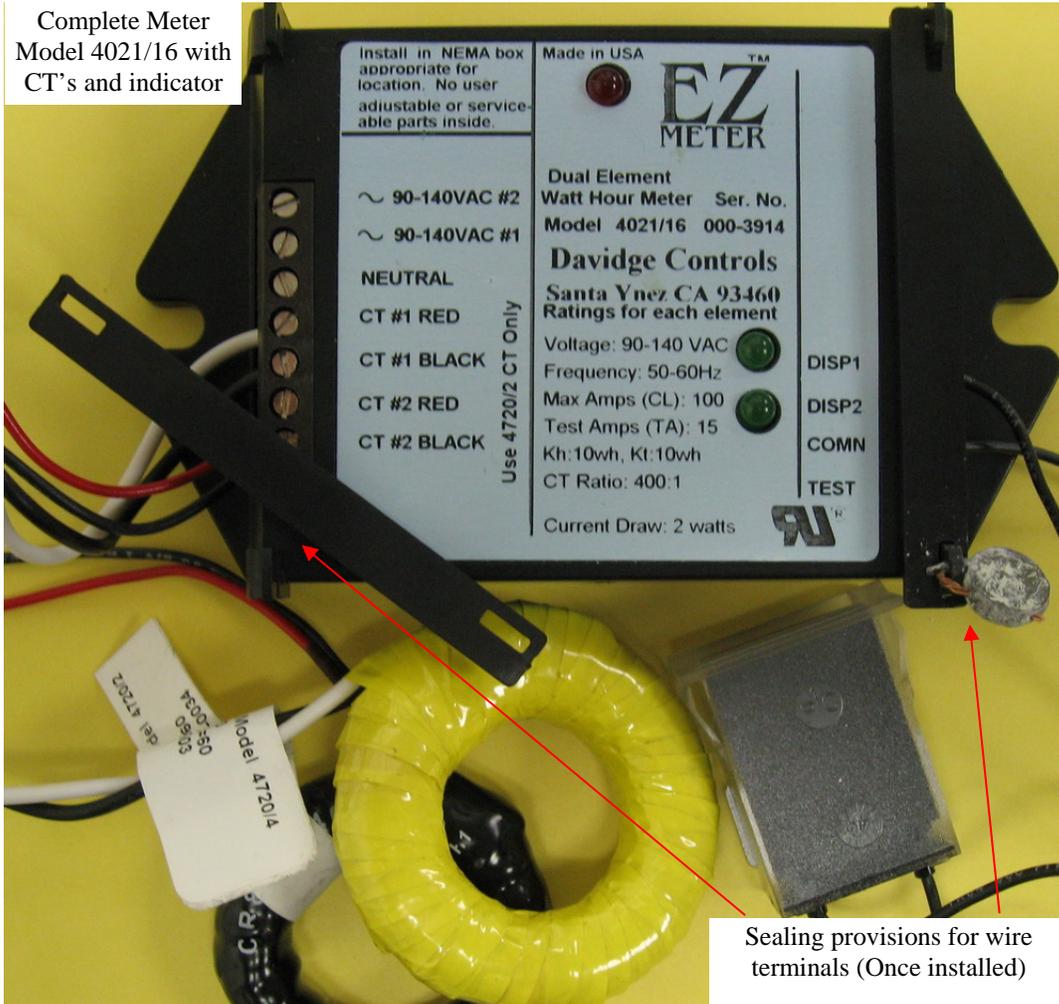
Results of the evaluation and information provided by the manufacturer indicate the devices comply with applicable requirements.

Type Evaluation Criteria Used: Title 4, California Code of Regulations, 2008 Edition

Tested By: J Raspino (CA) 5313-02, 5313(a)-03; John Roach (CA) Sonia Munoz (CA) 5313(b)-06; John Roach (CA)

**Davidge Controls
Electronic Watt-Hour Surface Mount Meter
Models: 4VWX/YZ (EZ Meter)**

Complete Meter
Model 4021/16 with
CT's and indicator



Sealing provisions for wire terminals (Once installed)



Typical 12 VDC
indicating element with
2 colored wheels for
0.01 Kwh registration



Typical 12 VDC Indicating
element with no colored
wheels for 1.0 Kwh
registration



Approved Model 4720 Series
Current Transformer's