

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

**For:**

Watt-Hour Meter  
Current Transformer (CT) rated kWh meter  
Meter Model(s): AcuRev1312-mA-X0-C200 and  
AcuRev1312-mA-X0-C400  
CT TYPE(s): ACuCT-S77-200:80mA and  
AcuCT-S113-400:80mA  
Software Version Number: 2.22 or higher

**Submitted By:**

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**Standard Features and Options**

**Standard Features:**

- 60 Hz, TA30, Kt 1 Wh per pulse
- External indicator (register), Liquid Crystal Display (LCD), 1.000 kWh register
- External pulse comparator box for displaying the test constant (Kt). This must be supplied to the local weights and measures test facility and is required to perform accuracy tests on the meter specific to the California Code of Regulations.

**Options:**

- 1, 2, or 3 elements
- Class 200 or 400
- 120/208/240/277/480 Vac
- 2-Wire, 3-Wire, or Y network
- External solid core CTs with CT ratios of 200A:80mA or 400A:80 mA

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 Macey, Director  
Effective Date: July 12, 2022

### Accuenergy (CANADA) Inc.

Watt-hour Meter / Model(s) AcuRev1312-mA-X0-C200 and AcuRev1312-mA-X0-C400

**Application:** For use as a multi-tenant watt-hour metering system with a signal register for each meter in legal sub metered electric service applications.

**Identification:** The meter identification (ID) information is located on side of the watt-hour meter. See **Figure 1.** for examples of the meter ID. The current transformer (CT) markings are on the face of the CT's. Please see **Figure 2.** for examples of CT markings and **Figure 3.** for meter markings. To view the software version ID, press "SCROLL" button 6 times (**See Figure 4.**).

Model	AcuRev1312-mA-X0-C200
Manufacturer	Accuenergy (CANADA) Inc.
Configuration	1EL, 2-Wire <input type="checkbox"/>
2EL, 3-Wire, 1Φ <input type="checkbox"/>	3EL, Y <input checked="" type="checkbox"/>
Test Amperes(TA)	30A
Meter Class(CL)	200
Watt-hour Test Constant (Kt)	1Wh
Power Supply	100-415Vac, 60Hz
Rated Voltage	120/208/240/277/480Vac, 60Hz
Frequency	60Hz
CT Turns Ratio	200:0.08
Meter Type	Transformer Rated kWh meter
No. of Meter Elements	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input checked="" type="checkbox"/>
CTEP COA	xxxx- 21
S/N	E3T18052501

Model	AcuRev1312-mA-X0-C400
Manufacturer	Accuenergy (CANADA) Inc.
Configuration	1EL, 2-Wire <input type="checkbox"/>
2EL, 3-Wire, 1Φ <input type="checkbox"/>	3EL, Y <input checked="" type="checkbox"/>
Test Amperes(TA)	60A
Meter Class(CL)	400
Watt-hour Test Constant (Kt)	1Wh
Power Supply	100-415Vac, 60Hz
Rated Voltage	120/208/240/277/480Vac, 60Hz
Frequency	60Hz
CT Turns Ratio	400:0.08
Meter Type	Transformer Rated kWh meter
No. of Meter Elements	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input checked="" type="checkbox"/>
CTEP COA	xxxx- 21
S/N	E3T18052525

**Figure 1.** Both meter model ID badge examples



**Figure 2.** CT marking examples

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Watt-hour Meter / Model(s) AcuRev1312-mA-X0-C200 and AcuRev1312-mA-X0-C400

Model	AcuRev1312-mA-X0-C400
Manufacturer	Accuenergy (CANADA) Inc.
Configuration	1EL, 2-Wire <input type="checkbox"/>
2EL, 3-Wire, 1Ø <input type="checkbox"/>	3-EL, Y <input checked="" type="checkbox"/>
Test Amperes (TA)	60A
Meter Class (CL)	400
Watt-hour Test Constant(Kt)	1Wh
Power Supply	100-415Vac, 60Hz
Rated Voltage	120/208/240/277/480Vac, 60Hz
Frequency	60Hz
CT Turns Ratio	400:0.08
Meter Type	Transformer Rated kWh Meter
No. of Meter Elements	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input checked="" type="checkbox"/>
CTEP COA	XXXX-22
S/N	E3T18075153

Model	AcuRev1312-mA-X0-C200
Manufacturer	Accuenergy (CANADA) Inc.
Configuration	1EL, 2-Wire <input type="checkbox"/>
2EL, 3-Wire, 1Ø <input type="checkbox"/>	3-EL, Y <input checked="" type="checkbox"/>
Test Amperes (TA)	30A
Meter Class (CL)	200
Watt-hour Test Constant(Kt)	1Wh
Power Supply	100-415Vac, 60Hz
Rated Voltage	120/208/240/277/480Vac, 60Hz
Frequency	60Hz
CT Turns Ratio	200:0.08
Meter Type	Transformer Rated kWh Meter
No. of Meter Elements	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input checked="" type="checkbox"/>
CTEP COA	XXXX-22
S/N	E3T18075163

**Figure 3.** Meter markings

**Sealing:** The meters have three wire security sealing provisions to prevent undetected access to the terminal blocks and adjustment mechanism. The terminal blocks sealing provision is a Category 1 method of sealing, and the adjustment mechanism sealing provision is a Category 2 method of sealing. See **Figure 5.** for an example of all three wire security seals in place.



**Figure 4.** Software version ID screen



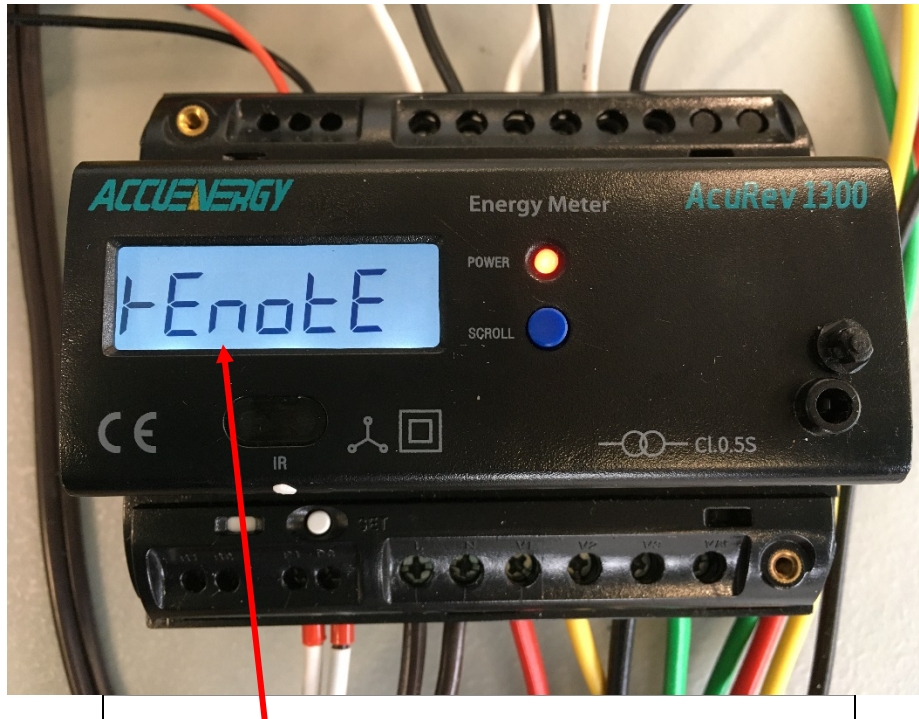
**Figure 5.** Wire terminal block sealing provisions with red arrow indicating the calibration button location

The Category 2 adjustment mechanism sealing provision prevents undetected access to the calibration button located under a wire security provision plug. Thread a wire security seal through the plug to prevent undetected access to the button that must be pressed to allow communication with the remote proprietary hardware and software (**Figure 5.**). The button located under the plug is pressed and the indicator/register displays the word "remote." This allows the indicator/register to now communicate for

**Accuenergy (CANADA) Inc.**

Watt-hour Meter / Model(s) AcuRev1312-mA-X0-C200 and AcuRev1312-mA-X0-C400

configuration and calibration metrological changes. Ensure the indicator/register display does not state “remote” before the wire security seal is in-place so the calibration cannot occur undetected. See **Figure 6.** for the word “remote” displayed on the indicator/register display that would be displayed during calibration/configuration.



**Figure 6.** Remote mode enabled

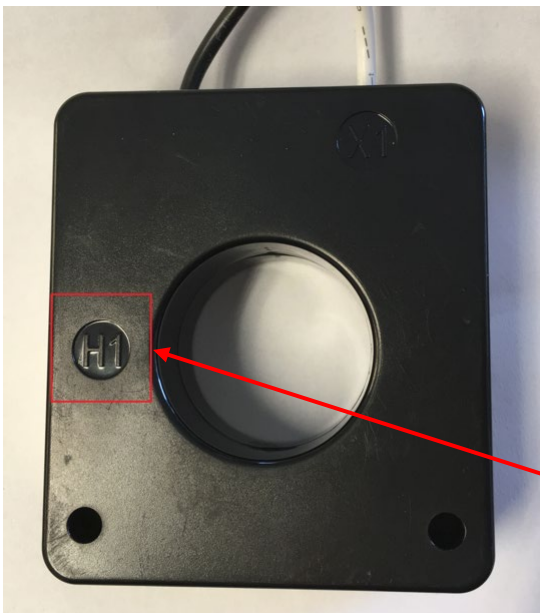
**Operation:** An external pulse indicator is required for testing and shall be provided by the manufacturer to the weights and measures official(s) responsible for verifying meter performance. The pulse indicator must be attached to the meter and removed for testing each meter (**Figure 7.**). The pulse indicator has a flashing Light-Emitting Diode (LED) that flashes momentarily, indicating 1 watt-hour per flash. The CT's line and load are direction sensitive. On both the Class 200 and Class 400 CTs the “H1” marks the polarity which points toward the source. See **Figure 8.** for an example of the Class 400 CT with the “H1” polarity markings.

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**Figure 7.** Pulse indicator



**Figure 8.** Class 400 CT showing the "H1" markings which must be facing the source when installed for testing

**Test Conditions:** The emphasis of the type evaluation was on marking, sealing, design, and performance from 3.0 amps to 30 amps at both unity and 0.5 power factors. CL200 and CL400 meters were subjected to 120VAC to 480 VAC tests. Similar tests were repeated after a throughput of 200 kWh over 29 days.

**Evaluated By:** M. Lawrence (CA)

**Accuenergy (CANADA) Inc.**

Watt-hour Meter / Model(s) AcuRev1312-mA-X0-C200 and AcuRev1312-mA-X0-C400

**Type Evaluation Criteria Used:** *California Code of Regulations, Title 4, Division 9, Chapter 1, Article 1. General Code 1.10. and Article 2.2., 2022 Edition*

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

**Example(s) of the Device:**



AcuCT-S113-200:80mA



AcuCT-S113-400:80mA