

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

Certificate Number: 5623-10

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

**For:**

Indicating Element, Water Meter  
Digital Electronic  
Model: MDU XX

**Submitted by:**

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**Standard Features and Options**

Model Designation:

MDU	XX
MDU = Meter Display Unit	2.1 = Single Display 2.2 = Dual Display

- Eight digit liquid crystal diode (LCD) display
- Power: 3.6 VDC internal lithium battery
- Meter pulses per increment displayed: One
- Unit of measure: Gallon or cubic feet

**Option:**

- Single display or dual display (**See Figure 1**)

**Note:** The device must be enclosed to protect it from extreme temperature conditions if installed outdoors.

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: January 8, 2010



Edmund E. Williams, Director

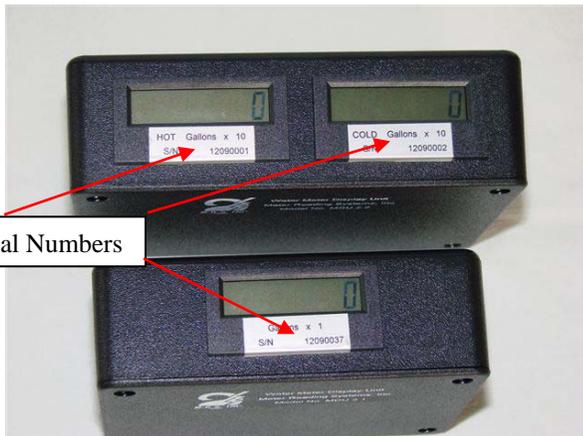
**Meter Reading System  
Indicating Element, Water Meter  
Model: MDU XX**

**Application:** For use as an indicator for approved and compatible water meters capable of sending a pulsed output signal.

**NOTE:** Written installation instructions shall be included with each indicator.

**Identification:** The serial number and unit of measurement identification label is located on the front of the indicating element and must be visible after installation. The make and model are silk screened into the lid. (See Figure 2)

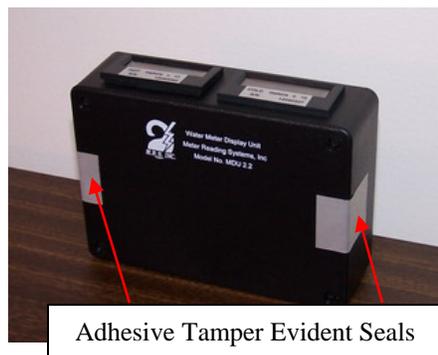
**FIGURE 1**



**FIGURE 2**



**Sealing:** To prevent access to all connections made to the indicating element, adhesive tamper evident seals must be placed across two sides of the lid and case enclosure. The lid cover is held in place with four screws.



**Operation:** The indicator receives the pulsed output from the water meter to display water usage in gallons or cubic feet. The dual display indicator can receive pulsed signals from two separate water meters.

**Test Conditions:** A Model MDU 2.1 and Model MDU 2.2 indicators were submitted for evaluation. Each indicator was interfaced to a water meter capable of sending a pulsed output signal and was tested at various flow rates. The indicating elements and the water meter displays were checked for agreement at the various flow rates. A digital pulse simulator was also used to test each indicator. After 21 days of use the indicators were tested again for agreement of indication. Additionally, the device was tested with input pulse voltages from 1.7 VDC to 3.9 VDC.

Results of the evaluation indicate the device complies with applicable requirements.

**Type Evaluation Criteria Used:** Title 4, California Code of Regulations, 2009 Edition

**Tested By:** Matt Stevens (CA) 2009