

Important Information About Your New E-Mon Product

E-Mon is committed to producing and delivering quality products in appearance and performance. That is why our meters are covered with a limited warranty against defects in workmanship and material. (See below for details.)

If you have questions, we can handle them quickly and effectively with a telephone call. Please let us try to help you by phone, BEFORE you remove your E-Mon product. Call our technical department at (800) 334-3666 between the hours of 8:00 am and 7:30 pm, eastern time. To help us help you, please have all relevant information (model or part numbers, nature of difficulty, etc.) on hand when you call.

Limited Warranty

Subject to the exclusions listed below, E-Mon will either repair or replace (at its option) any product that it manufactures and which contains a defect in material or workmanship. The following exclusions apply:

1. This limited warranty is only effective for a period of five (5) years following the date of manufacture when installed in accordance with manufacturer's instructions by qualified personnel.
2. E-Mon must be notified of the defect within ninety (90) days after the defect becomes apparent or known.
3. Buyer's remedies shall be limited to repair or replacement of the product or component which failed to conform to E-Mon's express warranty set forth above.
4. Buyer shall be responsible for all freight costs and shall bear all risk of loss or damage to returned goods while in transit.
5. This limited warranty does not cover installation, removal, reinstallation, or labor costs, and excludes normal wear and tear. Buyer shall provide labor for the removal of the defective component or item and installation of its replacement at no charge to E-Mon.
6. This limited warranty does not cover any product if: (i) a product is altered or modified from its original manufactured condition, (ii) any repairs, alterations or other work has been performed by Buyer or others on such item, other than work performed with E-Mon's authorization and according to its approved procedures; (iii) the alleged defect is a result of abuse, misuse, improper maintenance, improper installation, accident or the negligence of any party; (iv) damaged as a result of events beyond E-Mon's control or other force majeure events or (v) used in conjunction with equipment, components, accessories, parts or materials not supplied or approved by E-Mon.
7. This limited warranty is limited to the obligation to repair and replace the manufactured product. This is the sole and exclusive remedy for breach of any warranty. IN NO EVENT SHALL E-MON BE LIABLE FOR ANY INDIRECT, INCIDENTAL, SPECIAL, CONSEQUENTIAL OR PUNITIVE DAMAGES (INCLUDING ANY DAMAGE FOR LOST PROFITS) ARISING OUT OF OR IN CONNECTION WITH FURNISHING OF PRODUCTS, PARTS OR SERVICES, OR THE PERFORMANCE, USE OF, OR INABILITY TO USE ANY PRODUCTS, PARTS OR SERVICES, SALE OF OR OTHERWISE, WHETHER BASED IN CONTRACT, WARRANTY, TORT, INCLUDING WITHOUT LIMITATION, NEGLIGENCE, OR ANY OTHER LEGAL OR EQUITABLE THEORY.
8. EXCEPT AS EXPRESSLY PROVIDED HEREIN, E-MON MAKES NO WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED WITH RESPECT TO ANY PRODUCTS, PARTS OR SERVICES PROVIDED BY E-MON INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. PRODUCTS OR COMPONENTS DISTRIBUTED, BUT NOT MANUFACTURED, BY E-MON ARE NOT WARRANTED BY E-MON AND BUYER MUST INSTEAD RELY ON THE REPRESENTATIONS AND WARRANTIES, IF ANY, PROVIDED DIRECTLY TO THE BUYER BY THE MANUFACTURER OF SUCH PRODUCT OR COMPONENT.

Class 4000 kWh Meter

Installation & Instruction Manual



Dear Valued Customer:

We are pleased that you chose to purchase one of our products and want you to be just as pleased with it. To be sure that you are 100% satisfied with our products, we provide toll-free technical and sales information Monday through Friday 8:00 am to 7:30 pm, eastern time. The toll-free number to call is (800) 334-3666. You may also reach us via email at info@emon.com.

Before installing your new E-Mon product, please read the information on the following pages carefully.

We believe that you will find the Class 4000 single-phase kilowatt-hour meters easy to install and use for monitoring and evaluating your electrical usage.

Be sure to keep this manual in a safe place, as it can be used in the future as a reference guide.

Thank you.

E-Mon[®]

Troubleshooting Guide

The Class 4000 electronic kilowatt-hour meter is calibrated and tested at the factory before being packaged and shipped. If installed properly and in accordance with the installation instructions, the Class 4000 meter will provide years of trouble-free service. If the meter should not function, the following guide will assist in trouble shooting the installation. If, after following the procedures below, the meter still does not function, please call E-Mon's technical department at (800) 334-3666 BEFORE removing the meter.

PROBLEM

PROCEDURE TO FOLLOW

- | | |
|---|---|
| <p>1. Display reads all ZEROs, or is not incrementing.</p> | <p>A. Determine if the load is sufficient to update the display. (A load of less than 1% of the meter rating may require more than 24 hours to change the display reading.)</p> <p>B. Check the current sensors for installation.</p> <p>C. Be sure that the current and voltage inputs have proper phase relationship.</p> <p>D. Check wiring to voltage terminals.</p> <p>E. Check circuit breaker or fuses.</p> <p>F. Test source for correct voltage.</p> |
| <p>2. Display reads only a fraction of the power consumption.</p> | <p>A. Check the supply voltage to be sure that it is on continuously 24 hours a day.</p> <p>B. Check the current sensors for installation and polarity.</p> <p>C. Check the sensor wiring to the terminal block in the meter (color coding white to white and black to black).</p> |

Technical Specifications

<p>Voltage input configuration: 2-wire, 120-volt; 3-wire, 120/240 volt; 3-wire, 120/208-240 volt</p>	<p>Temperature range: -20 degrees C to +50 degrees C</p>
<p>Current Input: Up to 200 amps rms AC</p>	<p>Voltage overload: +25% continuously; +100% for 20 cycles</p>
<p>Power Factor: 0.5 leading or lagging</p>	<p>Current overload: Can be overloaded 100% without damaging meter.</p>
<p>Frequency: 50 Hz to 400 Hz</p>	<p>Display: Electro-mechanical 6-digit display</p>
<p>Accuracy: Certified to ANSI C12.1 (+/-1% of reading from 1% to 100% of rated load).</p>	<p>Standard ranges: 120 volt; 100 or 200 amps 120/240 volts; 100 or 200 amps 120/208 volts; 100 or 200 amps</p>
<p>Voltage operating range: ± 25% of rated voltage</p>	

Installation Information

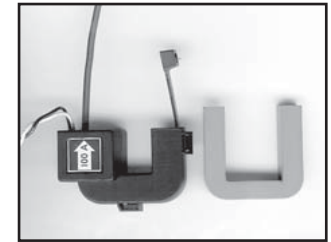
The Class 4000 single-phase kilowatt-hour meters are used to monitor power to individual loads after the utility company meter. Installation should be performed by qualified personnel and ONLY according to these instructions and local electrical codes. E-Mon and its representatives assume no responsibility for damage or injury resulting from the improper installation of this meter.

- STEP 1:** Check the rating and configuration of the meter label to ensure it is suitable for the intended service. Class 4000 meters can only be used in single-phase applications. Verify that the meter rating is suitable for the intended load. Compare the color of the arrows on the current sensors to the chart below to find the amperage of the sensors.

SENSOR ARROW COLOR CODE		SENSOR RATING
BROWN	-	100 AMP
RED	-	200 AMP

- STEP 2:** Mount the meter in desired location using the four mounting holes located inside the enclosure. Class 4000 meters must be installed indoors, where they will not be affected by the elements.

- STEP 3:** Assemble and install current sensors around conductors to be monitored. For each phase being monitored you will need one two-piece current sensor assembly. Open the two-piece current sensor assembly by releasing the nylon clamp using a flathead screwdriver.

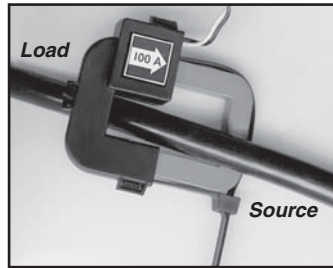


Using a flathead screwdriver, press the tab on the nylon clamp to open the current sensor assembly.

- STEP 4:** Reassemble the current sensor assembly around the conductor(s) to be monitored. Be sure that the current sensor halves marked "Load" are both facing the load side of the conductor. The colored arrow will be on the source side of the conductor being monitored and MUST be pointed in a clockwise direction around the conductor being monitored.

Installation Information

STEP 4:



When looking from the source side of the conductor(s) being monitored, you should see the arrow on the current sensor assembly, and the arrow should be pointing clockwise around the conductor(s) being monitored. IF THE ARROW IS NOT ON THE SOURCE SIDE, INACCURATE READINGS WILL RESULT!!

STEP 5:

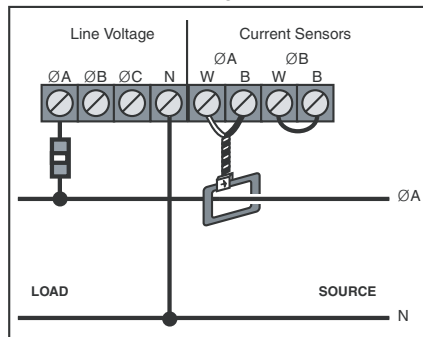
Connect the black and white leads from the current sensor assembly to the meter terminal block. Current sensors can be mounted up to 2000 feet away from the meter by extending the current sensor leads using #14-22 AWG wire (consult your local electrical codes for proper sizing). There is no hazardous voltage across the current sensor wires and there will be no damage if the sensor wires are shorted together.

STEP 6:

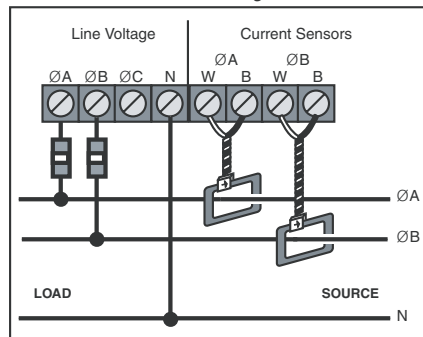
Connect the line voltage input wires to the meter terminal block. **NOTE: LINE VOLTAGE INPUTS MUST CORRESPOND TO THE SAME PHASE BEING MONITORED BY THE CURRENT SENSOR INPUTS. THE CONFIGURATION SHOWN MUST BE FOLLOWED OR INACCURATE READINGS WILL RESULT.** These wires are normally #14 AWG (consult your electrical codes for proper sizing). It is recommended that in-line fuses with a one amp rating be used. Do not connect the voltage wires to the unit while they are live. Push insulating cover down over terminal block. Apply voltage to meter only after installation is complete.

NOTE: When the E-Mon D-Mon® meter is installed where the tenant has access to the electrical panel powering the meter, it is suggested that a dedicated breaker NOT be used to power the E-Mon D-Mon meter, because a dedicated breaker can be shut off. If a dedicated breaker must be used, it should be a lockable style.

1-Phase, 2-Wire Connection
120-Volt, Single-Phase



Single-Phase, 3-Wire Connection
120/208-240 Volt Single-Phase

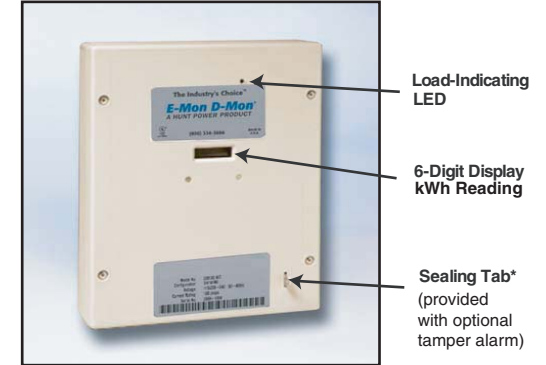


Class 4000 Meters Features & Operating Guide

The 6-digit display shows the kilowatt-hours consumed by loads being monitored.

The blinking LED indicator provides a visual pulse signal of the meter load. A heavier load will increase blink frequency.

* The sealing tab, which is supplied when the anti-tamper option is ordered, provides the meter with a location to install a utility-type seal.



NOTE: Depending on the amount of power being used, a period of time will elapse before the meter registers readings. In the case of light loading, this could be as much as several hours.



6-pin Modular Jack

Connection for peripherals such as the P2 Pulser, which is used to interface energy management systems.

Terminal Blocks

Used for installation of the Class 4000 kWh meter.

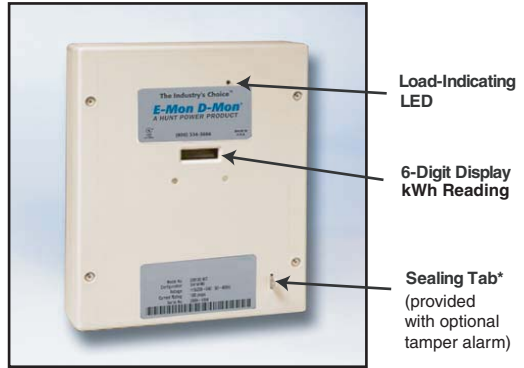
Class 4000 Meters

Features & Operating Guide

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- C. Be sure that the current and voltage inputs have proper phase relationship.
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- F. Test source for correct voltage.

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