Important Information About Your New E-Mon Product

E-Mon is committed to producing and delivering products of quality 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 on hand when you call (model or part numbers, nature of difficulty, etc.).

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 eighteen (18) months 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. THE TOTAL LIABILITY OF E-MON, FROM ANY CAUSE WHATSOEVER, SHALL BE LIMITED TO THE PRICE PAID FOR THE PRODUCTS OUT OF WHICH SUCH CLAIM AROSE.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.

3000-LOAD-6/06

www.emon.com
info@emon.com

E-Mon D-Mon®
Metering Products & Systems

Class 3000
Advanced kWh/Demand Meter
Load Control Relay Option

Description & Operating Instructions

One Oxford Valley, Suite 418
Langhorne, PA 19047
(800) 334-3666

Dear Valued Customer,

We are pleased that you chose to buy 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 support Monday through Friday, 8:00 am to 7:30 pm, eastern time, (800) 334-3666. You may also reach us via email at info@emon.com.

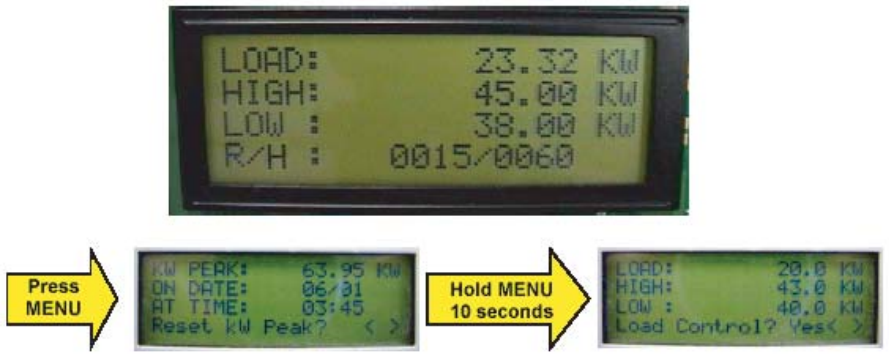
Before installing your new E-Mon product, please read the information on the following pages carefully.

Be sure to forward this manual to the owner after installation is complete so that they may use it as a reference guide when reading the E-Mon D-Mon® meters.

Thank you.

E-Mon®

Chapter 3
Load Control Relay Programming



STEP 1: Press and hold the *Menu* button for 10 seconds to enter the programming mode. When *Menu* is first pressed, the display will read *Reset kW peak?*. After 10 seconds, the display will change to *Load Control? Yes*. Toggle between the *Up* and *Down* buttons to choose "Yes" or "No". Choose "Yes" if load control is desired.

STEP 2: Press *Select* once. "HIGH" should now be blinking on the Class 3000 display. Use the *Up* and *Down* buttons to select a value in kW.

STEP 3: Press *Select* again. "LOW" should now be blinking on the meter display. Use the *Up* and *Down* buttons to select a value in kW. This number must be higher than "0", but lower than the number selected for the HIGH set point.

STEP 4: Press *Select* again. The first number on the bottom line of the display should be blinking. This is the **ramp** setting, which controls the number of seconds that the load must exceed the set point before activating the relay. Use the *Up* and *Down* buttons to select a time between 15 and 240 seconds. (Default is 30 seconds.)

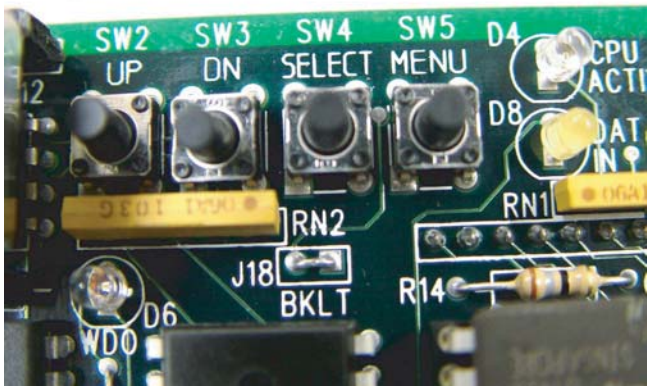
STEP 5: Press *Select* again. The second number on the bottom line of the display should now be blinking. This is the **hold** setting, which is the time that the relay is held active after exceeding the high set point and the ramp time has timed out. Use the *Up* and *Down* buttons to choose a time from 60 to 2400 seconds. The default is 60 seconds.

STEP 6: Press *Select* to return to normal mode.

Note: If no buttons are pressed within a one-minute period, the Class 3000 display will change to *Hold* mode. Press *Menu* again to set the load control, or press *Select* multiple times to scroll through the hold modes and return to normal.

Note: To disable the relay function, select "No" in Step 1.

Chapter 3
Load Control Relay Programming



The Class 3000 meter control relay functions are programmed through four pushbuttons that are located on the meter display board, which is mounted on the door of the enclosure.

The pushbuttons are labeled “UP”, “DN”, “SELECT”, and “MENU”. These buttons are also used for locking the meter’s scrolling display. (*See the Class 3000 meter installation manual for more information*.)

Programming the load control relay consists of four components. First, the high threshold point is set. This point is the kW (kilowatt) demand, and increments are in 1kW. When the load exceeds this point, the relay is activated and closes (or opens) the contact. The default is “0”, where the function is disabled.

Second, the low threshold point is set; this is the point where the relay de-activates and opens the contact. Default here is also “0”. When HIGH is set at a number above “0”, LOW must be set between “0” and the HIGH set point.

Third, the ramp (*R*) duration is selected; this is the time that the load has to exceed the high set point or fall below the low set point before the relay will function. This feature prevents unnecessary operation caused by short load spikes, such as those caused by a motor starting. Default is 30 seconds (settable from 15 to 240 seconds).

Finally, the hold (*H*) duration is set. This function specifies the interval during which the relay must remain activated once the HIGH setting is exceeded. This is to prevent frequent starts and stops (such as in an HVAC system), where damage could occur with “short-cycling”. Default is 60 seconds, settable from 60 to 2400 seconds.

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Chapter 1
Load Control Relay Option Description

The Class 3000 load control relay is designed to operate at user-selected high and low set points. This provides the user with the capability to reduce a facility's electrical (kilowatt) demand. By proper selection of the high kW limit, the meter can be utilized to shave expensive electrical demand peaks by shedding loads or by activating a local generator. The low kW limit set point will allow the load to be re-established or will shut down the local generator.

A user-selectable timer (*ramp*) will delay relay activation to eliminate short-term "nuisance" functioning, such as short-term motor start loads or compressor burdens. Once activated, the relay has a second user-selectable timer (*hold*), which keeps the relay active if the load falls below the low set point immediately after operation. This is designed to prevent short time cycling such as could occur in the control of an HVAC compressor, for example. The factory preset for high-limit threshold is 30 seconds (adjustable range is 15-240 seconds); the "hold" preset is 60 seconds (adjustable range is 60-2400 seconds).

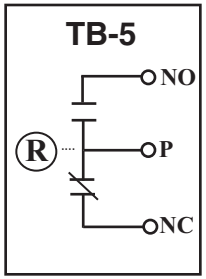
The form "C" relay is mounted on the main meter board, which is located on the back of the enclosure. It is capable of controlling 240VAC @ 3 amps. The connection to the relay is through a three-screw terminal block (TB-5) located next to the relay. The terminal block is removable to provide easy wiring of the normally open or normally closed contacts. The relay option must be ordered with the meter, as it is not field-installable.

All relay functions are programmed through four pushbuttons located on the meter's display board, which is mounted on the door of the enclosure.

High and low thresholds are shown on the Class 3000's display screen during programming. The display also shows the value of the two built-in timers. During normal meter operation, the display provides the high and low thresholds while also showing the "real-time" load in kilowatts (demand).

Installation should be performed by qualified personnel and only according to all applicable electrical codes. E-Mon and its representatives assume no responsibility for damage or injury resulting from the improper installation of this meter.

Chapter 2
Load Control Relay Wiring



The Class 3000 load control relay is mounted on the main meter board inside the enclosure and is capable of controlling 240VAC @ 3 amps. ***Under no circumstances should voltage or current exceed these limits.*** The connection to the relay is through a three-screw terminal block (TB-5) located next to the relay. This terminal block is removable to make wiring easier.

The relay is for pilot operation and should not be used for direct load control where the load is above the 3-amp limit. However, it may be utilized for directly functioning an alarm, again with precautions that the alarm load stays below the 3-amp rating.

Wiring

All wiring must be done in accordance with national and local electrical codes, and only by qualified personnel.

Remove the three-screw terminal block from the circuit board by pulling it up and away from the board. Connect the wires that are being used for the control/alarm circuit to the terminal block. The control circuit wires should not be energized until the installation is complete. The relay is a form "C" device and can be wired normally open (NO) or normally closed (NC), depending on desired functionality.

Re-install the terminal block onto the board by inserting it into the TB-5 socket.

Program the meter for the correct set points as described in Chapter 3.