



User Manual

North America V1.6

PowerWatch, a Product of MJ Innovations Ltd.

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Introduction

Thank you for choosing *PowerWatch™* as your energy-monitoring device.

PowerWatch™ is a real-time energy-monitoring device, which aims to educate the average homeowner and business owner on their energy consumption and conservation patterns, and is designed to directly empower you and guide you in making the most informed decisions possible with your own individual electricity usage. *PowerWatch™* enables you to reduce your amount of energy consumption naturally, enabling you to save energy, money and the environment with greater ease.

Rather than wait for a monthly energy bill to find out if you have already made costly consumption decisions, *PowerWatch™* arms you with the information you need to make intelligent decisions when you can make a difference – right now.

PowerWatch™ offers real-time, easy to understand consumption measurements. With *PowerWatch™*, users are encouraged to experiment with conservation strategies to find the one that works best for them. How much do we save by turning off the kitchen light? How much could we save by stopping the clothes dryer a little sooner? How much does it cost us to leave the computer on all day? Until now, there was no way to find out.

PowerWatch™ also provides an easy to follow real-time display of overall home or business energy usage – in dollars and cents. Turn off a light, and immediately see how much your energy costs are reduced. Shut down that computer and count the savings. Shut off the baseboard heater in a seldom-used room, and keep your money in the bank.

Your *PowerWatch™* product gives you the advantage of instantaneous, clear, and continuous feedback. Tests have proven that households who use real-time feedback can reduce their electricity costs by as much as 20%.

If you want to check whether you have left a light on or an appliance running that should have been turned off when you go to bed or leave the house, simply check the receiver display. If energy consumption is higher than is usual or expected, you can use your unit to find the source and then turn off the unnecessary appliances to save energy.

It is important to remember that *PowerWatch™* is only a tool, designed to give you responsive control over your own energy usage. The amount you save is up to you. Endeavouring to keep all of the displayed measurements, both current and future, as low as possible can translate into real, substantial savings on your monthly bill, as well as lowering demand on the power grid, and reducing greenhouse gas emissions overall.

Important

This manual provides step-by-step instructions for using this product. Please refer to the *Safety Instructions Booklet* and *Installation Guide* provided for the installation of the *Main Module* for your product.

Keep this manual in a safe place in case you need to refer to it later.

Safety Instructions

To ensure your **PowerWatch™** product is used safely, please read the *Safety Instructions Booklet*, *User's Manual*, and *Warranty Card* thoroughly before using this product.

These instructions must be followed at all times.

Please refer to the *Safety Instructions Booklet* included in this kit for the full complement of safety instructions involved for the installation, use, and care of your **PowerWatch™** product. The instructions below and elsewhere in this guide are not intended to be a comprehensive list:

1. Do not attempt to repair **PowerWatch™** yourself. If you have difficulties with your unit, call your local distributor for assistance or contact PowerWatch directly using the contact information provided on your *Warranty Card* or visit us at www.powerwatch.com.
2. Take precautions when working with all sensors and wires.
3. Please ensure that you have all proper tools and materials and appropriate documentation before proceeding with the installation process.
4. Do not immerse the **PowerWatch™** modules in water.
5. Do not drop the **PowerWatch™** remote interface module.
6. Only place the remote interface module indoors. Placing the remote interface module outdoors will result in damage to the product and will void the warranty.
7. Do not use the remote interface module in high moisture areas such as the bathroom.
8. Keep this product away from heat sources such as stoves and heaters.
9. When disposing of this product, do so in accordance with your local waste disposal regulations.

Warning



RISK OF ELECTRIC SHOCK. Hazardous voltages are contained inside the APM MAIN MODULE. Do not remove the rear cover during operation.

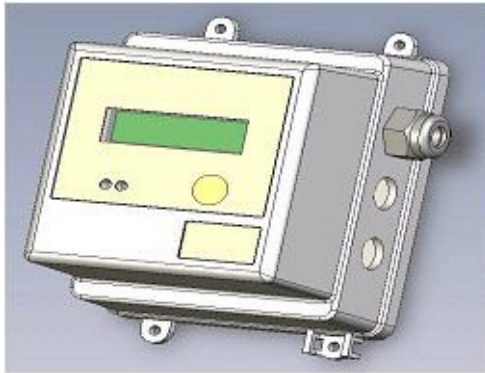
Getting Started

This manual is intended solely as a guide for the setup of the remote interface module (RIM) to a convenient location within the unit's range of operation. It contains instructions for the RIM, including software installation, troubleshooting guide and general use of your product. For safety instructions and installation procedures, please refer to the *Safety Instructions Booklet* and the *Installation Guide* for your module. For warranty or repair concerns, please refer to the *Warranty Card* included in this kit. *Please read the Safety Instructions provided in your kit before you begin any installation procedures!*

Unpacking the product

The contents of the box are:

- Qty. 1 – **PowerWatch™** Main Module (MM).



- Qty. 1 – **PowerWatch™** Remote Interface Module (RIM) with power adapter.



- Qty. 2 – Sensor cables
- Qty. 1 ea. – **PowerWatch™** Manuals (Installation Guide, User Manual, Safety Instructions Booklet, Warranty Card)
- Qty. 1 – **PowerWatch™** Installation CD
- Qty. 1 – USB cable

Installation

Please read the *Safety Instructions Booklet* and *Installation Guide* provided with your kit as your first step to setting up **PowerWatch™** in your home or business. Follow the installation instructions applicable to your MM unit type. The two unit types available are MD0007 (Split phase) and MD0010 (3 Phase). The unit type is indicated on the front of the housing.

Please note – Installation of the MM is required before proceeding further!

You will need qualified personnel, such as a certified electrician, to perform the installation of the MM. *Please do not attempt the installation yourself if you do not have the qualifications or experience necessary.* MM Installation requires access to the electrical service panel in your facility and involves invasive electrical wiring, where there is *a great risk of serious electrical shock, even when the main breaker is switched OFF.*

MJ Innovations Ltd., manufacturers of **PowerWatch™**, requires that a qualified installer from your jurisdiction install this device, and we would be pleased to recommend a certified installer in your area. Search our list of certified installers for your area at www.powerwatch.com, or contact us at info@powerwatch.com for further assistance.

The RIM can be setup without specialized assistance, but it must be kept within receiving range of the MM in order to work properly.

Servicing the Modules

- Please follow the instructions listed in the front of this manual *Safety Instructions* for proper care of these units.
- The MM requires qualified personnel to disconnect and service the unit.
- The RIM requires similar handling to other electronic devices equipped with an LCD display and power source. Please take care when setting up this unit to avoid areas with high levels of moisture or heat, potential shocks, falls, scratches to the LCD, or water damage. Do not store this unit outdoors at any time.

Cleaning Instructions

To clean either unit, use a damp cloth. Remove the power connection from the RIM before cleaning. Consult the *Safety Instructions Booklet* for further instructions. Do not use liquid cleaning agents, benzene, thinner or aerosols.

Installation

Overview

No training is required for operation of this equipment. However, installation of the main module is expected to be performed by *certified personnel with appropriate electrical safety training and experience*. Please make the arrangements to have a qualified electrician perform the installation if you do not possess the necessary level of training and expertise.


Install the **PowerWatch™** MM beside or below your electrical panel with a minimum spacing of 100 mm (4 in.). Secure it firmly to the wall. The MM derives its power from a phase A voltage connection.

Once the MM is powered, a lit LED will indicate that it is active. The unit will go through a series of changes during start up and the LED will change colour as the unit progresses through various self tests and determines a radio channel to transmit on. Once that is completed, the LED will flash green at regular intervals, typically every other second, indicating normal operation for the unit.

On the front of the Main Module, in the lower right area, there is a 15-digit unit address in the form of a serial number. Copy this address down for use in the Remote Module setup, which is located in the *User Manual* included in this kit.

Installing the Main Module

Warning

 The voltage connections and current sensors of the PowerWatch APM MAIN MODULE connect into your wiring panel which contains live electrical wiring and components. The following installation should be performed only by competent personnel with appropriate electrical safety training and experience.

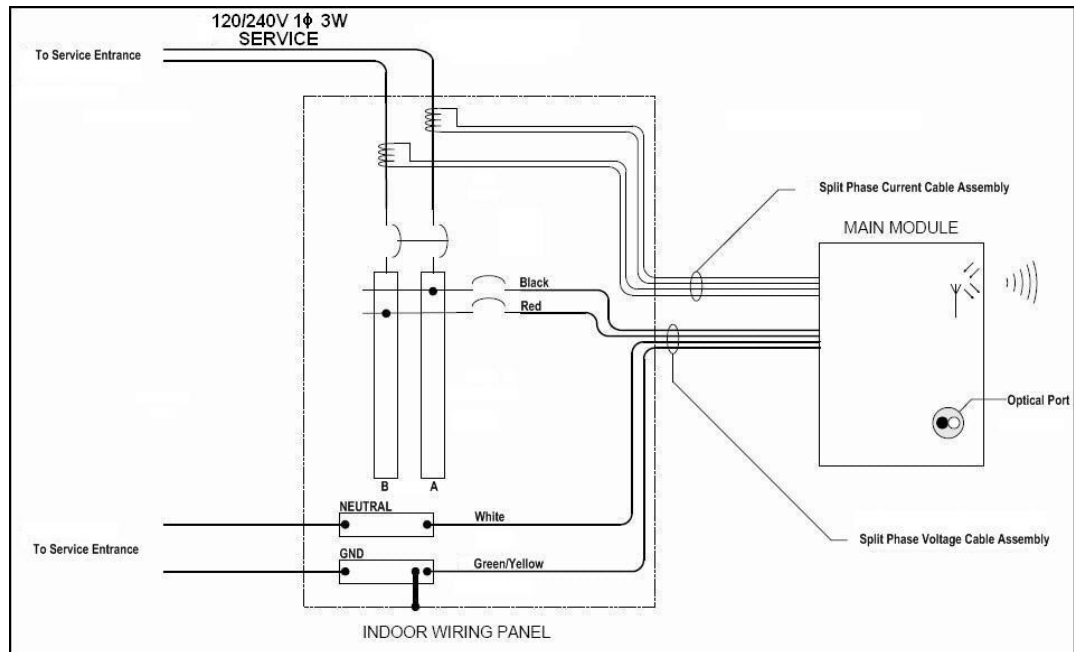
The APM MAIN MODULE must be installed in a CAT III location.

For use only on circuits which are protected by a breaker.

Follow the installation instructions applicable to your MM unit type. The two unit types are MD0007 (Split Phase) and MD0010 (3 Phase). The unit type will be indicated on the front of the unit's housing.

Main Module Installation – Split Phase MD0007

Split Phase Diagram



APM System Split Phase

Find a location to mount the MM on the wall close to the wiring panel. Keep clear of the wiring panel by at least 100mm (4 in.). Mark the screw-hole locations. The MM is to be mounted with #8 screws.

SWITCH OFF THE MAIN BREAKER BEFORE PROCEEDING.

Remove the wiring access panel.

Remove the rear access cover of the MM case.

Feed the wiring end of the current sensor cables (CB0004) through a knockout in the wiring panel. Use an appropriate strain relief/bushing in the knockout location.

Determine a suitable location for the current sensors and remove any extra cable length from the wiring end of the cables. 125mm (5 in.) of cable free of any sleeving is required inside the MM to terminate the current sensors. The current sensors are normally applied around the incoming mains cables. **DO NOT CLAMP THE CURRENT SENSORS AROUND CONDUCTORS UNTIL INSTRUCTED.**

Fit the supplied bushing around the end of the cable sleeve at the wiring end.

Insert the cable end into the top hole in the left side of the MM case. Press the bushing into the hole until it locks into place.

Connect the wire ends inside the case to terminal blocks J1B & J2B as follows:


P = Positive (not Power) N = Negative

- Phase A white → IAP
- Phase A black → IAN
- Phase B white → IBP
- Phase B black → IBN

Fit the supplied bushing around the end of the cable sleeving at one end of cable CB0005.

Insert the cable end into the bottom hole in the left side of the MM case. Then press the bushing into the hole until it locks into place.

Connect the wire ends inside the MM case to terminal block J4B as follows:

- GREEN/YELLOW →  (ground)
- WHITE → N
- BLACK → VA
- RED → VB

Fit the rear access cover of the MM and secure with the #6 screws provided.

Mount the MM to the wall using #8 screws.

Feed the end of the voltage cable assembly (CB0005) through a knockout in the wiring panel. Use an appropriate strain relief/bushing in the knockout location.

Connect the GREEN/YELLOW lead to the wiring panel grounding point.

Connect the WHITE lead to the wiring panel neutral connection point.

Clamp the current sensors around the conductors to be measured. The labeled side of the current sensor should face the source of the incoming mains wiring.

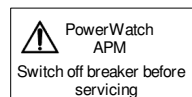
Identify suitable Phase A voltage and Phase B voltage breakers.

Switch off the breakers.

If spare breakers are not available, existing breakers can be used *provided that a suitable twist on wire connector is used to convert the connection to 14AWG. **Do not connect different gauge wiring in the same breaker!***

Connect the BLACK lead to the Phase A circuit breaker, and connect the RED lead to the Phase B circuit breaker.

Label the Phase A and Phase B breakers with the warning labels (LB0008) provided:



Check all wiring. Incorrect wiring is dangerous and can also cause permanent damage to the Main Module.

Install the wiring access panel.

Switch on the main breaker.

Switch on the Phase A breaker.

At this point an LED should be visible on the MM. After 30 seconds, the LED should begin flashing green at regular intervals.

Switch on the Phase B breaker.

Copy down the 15-digit serial number, located in the lower right corner on the front of the module, for use in installing the remote interface module.

Servicing the Main Module

10. Disconnect the unit before servicing.

11. The Main Module Phase A (BLACK) and Phase B (RED) voltage connections must be made on circuits protected by breakers. Breakers for these circuits must be switched OFF before servicing of the unit can take place.

12.

You will require the 15-digit serial number from the main module unit to perform the set up of the remote interface module.

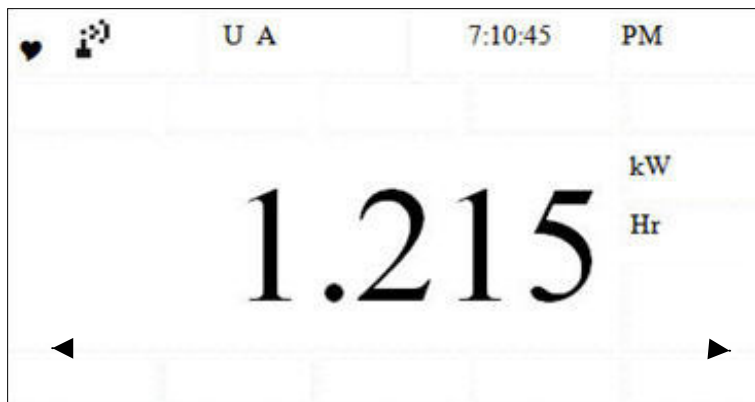
The Remote Interface Module

Positioning the RIM

- 1 Place the Remote Interface Module (RIM) within 90 m (100 yds) of the Main Module (MM) to receive a strong radio signal. Distances may vary depending on the site.
- 2 Connect the power adapter to the RIM and plug it in. The module displays the PowerWatch logo and then goes to the last stored menu setting.

Familiarizing yourself with the RIM display

Figure 1



Above is a typical display for the Remote Interface Module. There are various icons which display the status of the unit. Starting at the top left of the display screen, the meaning of the individual fields and the information appearing in them is described in the following table.

♥	The heartbeat flashes every other second to indicate continuous processing of data. (This feature may not be optional to your unit)
📶	When animated, this icon indicates the radio link between the RIM and the MM is active.
📶	Indicates signal strength from the MM.
U	Indicates the RIM has been connected to a host USB port running SLIP.
A	Indicates that a TCP/IP connection has been made to the Advanced Power Monitor inside the MM.
◀ ▶	Indicates that other display screens are available.

The four control buttons

On the front of the RIM, there are four control buttons. Depending where you are in a menu, they perform specific functions.

- Moves the cursor to the left
Decreases the value of a selected field
- Moves the cursor to the right
Increases the value of a selected field
- Selects the highlighted menu item
Saves the value of a selected field
- Cancels the current action and
returns to the previous menu



Navigating the menus

Where is the Menu? Press a button, any button. The menu will display at the bottom of the screen automatically.

If you don't press a button for 10 or more seconds, the menu will reset to the TOP menu and hide itself. Any information you did not finish entering and saving will be cancelled automatically.

Exploring the menus

Each menu has a layout similar to the menu in *Figure 2*.

Figure 2



In this case, **TOP** is the menu name which appears above the menu line at the left side of the screen. Below, on the menu line, the available menu options are displayed.

DISPLAY is highlighted as the default option in this menu and if is pressed, it will be selected. If more items are available, they will be hidden on the right or left. Arrows show that additional selections to the left or right are possible as shown by in *Figure 1* above.




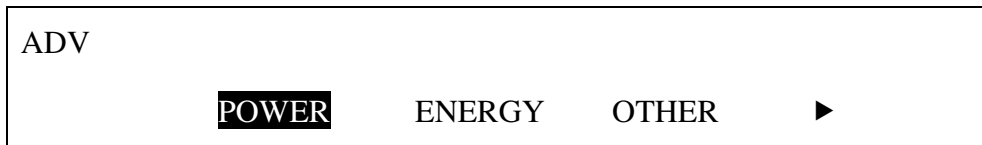
Figure 3 shows the changes that occur when **ADV** is selected by pressing   .

Figure 3






The menu name has changed to **ADV**. **POWER** is highlighted and the right arrow is visible indicating that more items are available to the right. The left and right buttons control the cursor position which is the highlighted item. Pressing  once moves the cursor to **ENERGY**. Press  twice more and all items will scroll across and the cursor will be on **DEFLT** as shown in *Figure 4*.

Figure 4



More items are now available only on the left side as indicated by the left arrow. Pressing  moves the cursor in the opposite direction.

Pressing  returns to the previous menu shown in *Figure 5*.

Figure 5




Performing the Initial SETUP

(Language/Network Address/Date/Time/Billing Setup)

SETUP Menu

The **SETUP** menu has options for configuring the Main and Remote Interface Modules. It is accessed from the Top menu on the **Remote Interface Module (RIM)**.

In the TOP menu press the right directional arrow button until **SETUP** is highlighted and then press .

SETUP Language


Using the arrow buttons, select your desired language and then press .

Figure 6

SETUP Language	
ENG	FRA

SETUP Network Address








Using the arrow buttons, select YES the first time you plug in the RIM. Then press . Subsequent setups don't require a network address change.

Figure 7

SETUP Change Network Address	
NO	YES

The **Main Module** Network Address field appears as "000000".

- The  and  buttons control the value of each digit.
- The  button causes the digit to be accepted.

Refer to the serial number you copied from the Main Module (MM), and enter the last 6 digits of it into this field by pressing  until the desired number appears and pressing  to advance to the next number. If the last six numbers are zeroes continue to press the  through the six digits.


Pressing  after the last number has been selected begins the process of the RIM establishing communications "associating" with the MM ("Contacting Network Address" will be displayed) as in Figure 8 below. This can take up to 60 seconds.

Figure 8



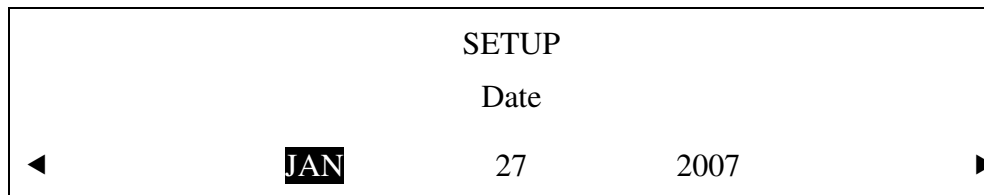
The SETUP Date screen appears after “association” is complete. If no communication with the **Main Module (MM)** is possible the **RIM** will alternate between “Scanning” and “PAN not found”. If this happens and 60 seconds have elapsed, ensure that the address entered in for the **Main Module** is correct.




The **Remote Interface Module** may occasionally display messages briefly indicating a status change and then return to normal display.

SETUP Date


The Date and Time setup changes the value of the real time clock stored in the MM. Care should be taken when changing these values as the stored measurements in the MM are stored according to the current time.

Figure 9



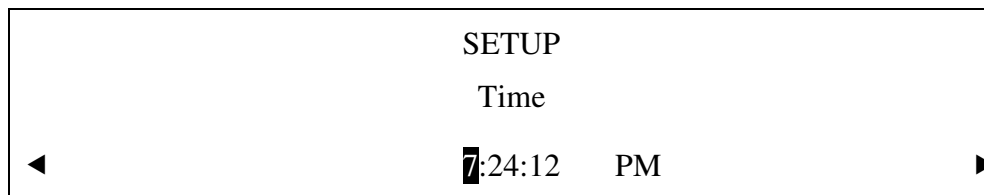
In this example, pressing  causes the month to increment to FEB. Pressing  causes the month to decrement to DEC. Pressing  causes the month JAN to be accepted and to advance the cursor to the ‘day of the month’ option ‘27’.




The date entry progresses through month, then date and then year. Allow several seconds for the date to be transmitted to the MM.

Pressing  while in one of these types of menus returns you to the previous menu, not back to the previously entered item. In this case it will return you to the **SETUP Network Address** screen.

SETUP Time

Figure 10



In this example, pressing  causes the hour to increment to 8. Pressing  causes the hour to decrement to 6. Pressing  causes the hour 7 to be accepted and to advance the cursor to the minute option 24.

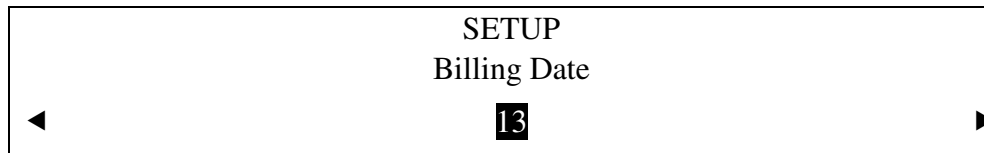
The time entry progresses through hours, then minutes and then seconds. Allow several seconds for the time to be transmitted to the MM.

Pressing will return the user to the **SETUP Date** screen. Continuing to press accepts the time advances the screen to the **SETUP Billing Date** screen.

SETUP Billing Date

The menu sets a billing date from 1 to 31. The billing date is the day on which a bill would be sent out from the utility. The bill is calculated up to but not including this bill date.

Figure 11



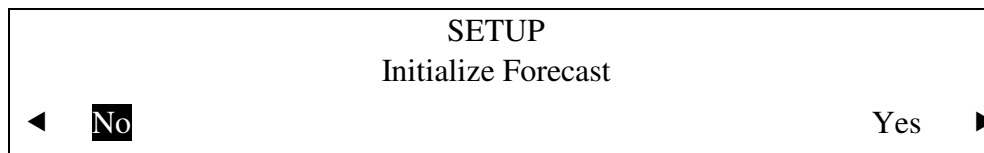
The screenshot shows a rectangular window with a black border. At the top center, the text "SETUP Billing Date" is displayed. Below this text, the number "13" is shown in a large font. On the left and right sides of the window, there are small black triangles pointing outwards, representing navigation buttons.

The and buttons control the value of each digit.

The button causes the digit to be accepted.

SETUP Initialize Forecast

Figure 12



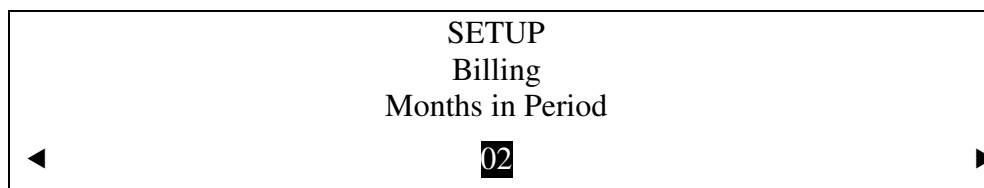
The screenshot shows a rectangular window with a black border. At the top center, the text "SETUP Initialize Forecast" is displayed. Below this text, the word "No" is shown in a large font on the left side, and the word "Yes" is shown in a large font on the right side. On the far left and far right sides of the window, there are small black triangles pointing outwards, representing navigation buttons.

When prompted to “Initialize Forecast”, use the to move to the **YES** selection and press the button to accept it.

SETUP Billing Months in Period

The **Months in Period** ranges from 1 to 12. It is the number of months that pass from one reading to the next. If bills are received six times per year, the **Months in Period** value should be 02.

Figure 13



The screenshot shows a rectangular window with a black border. At the top center, the text "SETUP Billing Months in Period" is displayed. Below this text, the number "02" is shown in a large font. On the left and right sides of the window, there are small black triangles pointing outwards, representing navigation buttons.

The and buttons control the value of each digit.



The button causes the digit to be accepted.


SETUP Billing Period Start Month

The **Billing Period Start Month** is the month that contains the day after your last reading. If your last Meter Reading Period was Oct 11, 2007 to Dec 12, 2007 then your Billing Period Start Month would be December

Figure 14



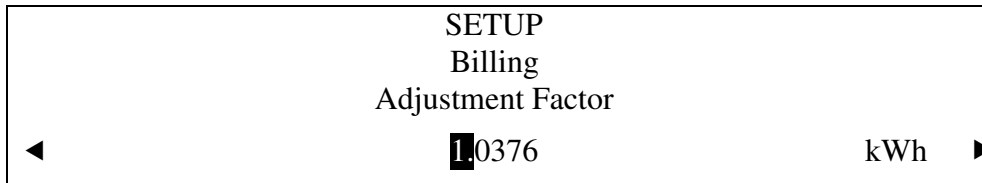
The  and  buttons move forward and backward through the months.

The  button causes the digit to be accepted.


SETUP Billing Adjustment Factor

The **Billing Adjustment Factor** is the provider's loss factor adjustment for power loss during transmission and distribution. The default factor is 1.

Figure 15



The  and  buttons control the value of each digit.

The  button causes the digit to be accepted.

SETUP Additional Charge Per kWh Factor

The **Billing Per kWh Factor** is the amount added to the bill per kWh to cover such things as Delivery, Regulatory and Debt Retirement Charges. The default is 00.0000 which does not increase the month end amount.

Selection Note

Don't change the default if you will be selecting the Fixed Tier Rate billing method in the next setup window. If you will be using the Multi Tier Rate billing method you could study the effect of the provider charges in relation to the kWh consumed. One example is the charges of over .06 per kWh on Toronto electricity bills.

Figure 16

SETUP
Additional Charge
Per kWh

◀ \$ 00.00000 kWh ▶

The and buttons control the value of each digit.

The button causes the digit to be accepted.

SETUP Billing Method

There are three **Billing Method** choices – Fixed Tier Rates (see note with default rate), Multi-Tier Rates (five levels are accommodated) and Time of Use (TOU) Rates. The default rates are as follows:

Fixed Tier Rate

\$0.12/KWh

(Divide your bill total by your kWh used to get a close approximate. This is the simplest and easiest approach to use in the beginning.)

Multi-Tier Rates

\$0.053/KWh for the 1st 600KWh

\$0.062/KWh above 600KWh

Time of Use Tier Rates

Weekdays

\$0.072/KWh 7:00am to 11:00am

\$0.092/KWh 11:00am to 5:00pm

\$0.072/KWh 5:00pm to 8:00pm

\$0.072/KWh 8:00pm to 10:00pm

\$0.032/KWh 10:00pm to 7:00am

Weekends

\$0.032/KWh

Figure 17

SETUP
Billing Method

◀ **FIXED** MULTI TOU kWh ▶

The and buttons move from one selection to the next.

The button causes the highlighted method to be accepted.

If MULTI is selected, Thresholds (i.e. 1000 kWh) will be requested for each tier rate added. See the defaults above for sample values. through all five rate sections even if you only use two. Check your electricity provider bill or website for rates in your area (i.e., <http://www.torontohydro.com/electricsystem/residential/rates/index.cfm>).

If TOU is selected, Start times and End times will be requested for each tier rate added. See the defaults above for sample values.

Advanced Menus

Warning

90% of households do *not* require more than the initial setup and display menus.

POWER Menu

Access this menu by selecting **ADV ► POWER**. There are four options in this menu that are each described in their own sections.

- **W**
- **VAR**
- **VA**
- **FACTOR**

W

W is a real power watt measurement according to the formula

$$P_{\text{REAL}} = VI\cos\Theta$$

where *V* is the RMS voltage, *I* the RMS current and Θ the phase angle between them. This is the real power you are consuming.

When this menu item is selected, you are presented with four options:

- **NOM** – Nominal (current unmodified)
- **AVG** – Average starting at the top of the current hour
- **MIN** – Minimum for the current hour
- **MAX** – Maximum for the current hour

► Select one of these. The most usual selection is **NOM**.

You are then asked for the source of the measurement. The available choices are:

- **SUM** – Sum of all phases
- **A** – Phase A only
- **B** – Phase B only
- **C** – Phase C only

► Select one of these. The most usual selection is **SUM**.

VAR

VAR is a reactive power measurement according to the formula

$$P_{\text{REACTIVE}} = VI\sin\Theta,$$

where V is the RMS voltage, I the RMS current and Θ the phase angle between them. The reactive power is the apparent power consumed by the reactive part of your load. It is a measure of the inefficiency of your household load and represents power, which cannot be utilized by you or the utility.

The menu operation is the same as for **ADV ► POWER ► W**.

VA

VA is an apparent power measurement according to the formula

$$P_{\text{APPARENT}} = VI,$$

where V is the RMS voltage and I the RMS current.

The menu operation is the same as for **ADV ► POWER ► W**.

FACTOR

FACTOR is the power factor according to the formula

$$\text{PF} = \cos \Theta ,$$

where Θ is the phase angle between the RMS voltage and RMS current.

ENERGY Menu

Access this menu by selecting **ADV ► ENERGY**. There are four options in this menu that are each described in their own sections.

- **WH**
- **VARH**
- **VAH**

WH

WH is a real energy watt-hour measurement. When this menu item is selected, you have three options for the source of the measurement:

- **SUM** – Sum of all phases
- **A** – Phase A only
- **B** – Phase B only
- **C** – Phase C only

► Select one of these. The most usual selection is **SUM**.

VARH

VARH is a reactive energy measurement. The reactive energy is the apparent energy consumed by the reactive part of your load. It is a measure of the inefficiency of your household load and represents energy, which cannot be utilized by you or the utility.

The menu operation is the same as for **ADV ► ENERGY ► WH**.

VAH

VAH is an apparent energy measurement.

The menu operation is the same as for **ADV ► ENERGY ► WH**.

OTHER Menu

Access this menu by selecting **ADV ► OTHER**. This menu contains other, less used measurements. These measurement options are each described in their own sections.

- **VRMS**
- **IRMS**
- **FREQ**
- **TEMP**

VRMS

VRMS is the root mean squared voltage. When you select this menu, you have four options:

- **NOM** – Nominal (current is unmodified)
- **AVG** – Average starting at the top of the current hour
- **MIN** – Minimum for the current hour
- **MAX** – Maximum for the current hour

► Select one of these. The most usual selection is **NOM**.

You are then asked for the source of the measurement. The available options are:

- **A – Phase A only**
- **B – Phase B only**
- **C – Phase C only**

► Select one of these.

IRMS

IRMS is the root means squared current.

The menu operation is the same as for **AVG ► OTHER ► VRMS**.

FREQ

FREQ is the wave period of the alternating voltage, currently measured on phase A. When you select this menu item, you have four options:

- **NOM** – Nominal (current unmodified)
- **AVG** – Average starting at the top of the current hour
- **MIN** – Minimum for the current hour
- **MAX** – Maximum for the current hour

► Select one of these. The most usual selection is **NOM**.

Software Installation

Your new **PowerWatch™** device comes with a complete PC software suite, allowing you to expand the range of data and analysis available. Because the MM stores up to 10 years of data, the software enables users to track trends in their energy consumption over extended periods of time.

By plugging your RIM unit into a PC using a standard USB cable, you can greatly expand the capabilities of **PowerWatch™**. (Note: You may need to purchase USB cable separately).

Please go to WWW. Powerwatch.com

Go to Downloads Tab; Download instructions; Click on PowerWatch Software Upgrade

Follow the listed and on screen instructions:

For Windows XP:

1. Double-click on the installer file labelled 'PowerWatchSetup.msi'. This file will install/uninstall/repair the program.
2. An install window should open. Follow the prompts on the screen, starting with 'NEXT' to proceed. The default install folder for the program is C:\Program Files\PowerWatch\.
3. Once installed, click on the START bar, scroll to ALL PROGRAMS → PowerWatch → PowerWatchClient and double-click on PowerWatchClient to initialize the program.

Note: This software requires .NET Framework to be installed in order to work properly. If this software is absent, a prompt window will direct you to the download site online, where you can acquire and install a copy of the latest version. Should this occur, you may resume the installation process once the .NET Framework has been installed.

For Microsoft Vista:

1. Double-click on the installer file labelled 'PowerWatchSetup.msi'. This file will install/uninstall/repair the program.
2. The 'PowerWatch Setup Wizard' install window should open. Follow the prompts on the screen, starting with 'NEXT' to proceed. The default install folder for the program is C:\Program Files\PowerWatch\
3. The 'User Account Control' may pop up, which requires permission to continue with the install process. Click on 'ALLOW' to continue.
4. Once installed, click on your START bar (windows icon, bottom left on-screen), and scroll to PROGRAMS → PowerWatch → PowerWatchClient and double-click on PowerWatchClient to initialize the program.
5. The initial screen will load up with all of your relevant data, with additional data located in the menu options to the right-hand side. If you have not yet set up your RIM unit, you will need to do so now in order to get accurate real-time data feedback from your software.

Troubleshooting Guide

Troubleshooting information and FAQs for your product can be found on the *PowerWatch*[™] website: www.powerwatch.com, under FAQs or Troubleshooting. Specific questions can be addressed directly by email to info@powerwatch.com.

Specifications

Dimensions

Main Module (WxHxD):
137 x 182 x 99 mm

Remote Interface Module (WxHxD):
146 x 98 x 38 mm

Factory default settings

Fixed Tier Rate

\$0.12/KWh

Multi-Tier Rates

\$0.053/KWh for the 1st 600KWh
\$0.062/KWh above 600KWh

Time of Use Tier Rates

Weekdays

\$0.072/KWh 7:00am to 11:00am
\$0.092/KWh 11:00am to 5:00pm
\$0.072/KWh 5:00pm to 8:00pm
\$0.072/KWh 8:00pm to 10:00pm
\$0.032/KWh 10:00pm to 7:00am

Weekends

\$0.032/KWh

Language

English

Billing Date

1st of the month

Months in Billing Period

1

Billing Period Start Month

January

Energy Provider Adjustment Factor

1.0000

Additional Charge Per KWh

\$0.00

Billing Method

Fixed

Voltage Accuracy

< 1% over operating temperature range

Current Accuracy

Main Module

< 1% over operating temperature range

Current transformer (CTS-0750-100)

1% from 10A to 130A

Energy Accuracy

Main Module

< 1.1% over operating temperature range

Current transformer (CTS-0750-100)

1% from 10A to 130A

Inter-Module Data Update Rate

0.5s

Memory

Hourly cost and energy storage for current year.

Daily cost and energy storage for 10 years.

Additional non-volatile storage for other measured values.

Radio

2.4GHz, 802.15.4 compliant transceivers

Range 90m in open areas (walls, floors and other radio/electrical appliances may affect operating range)

Power

Main Module

Powered from Phase A voltage connection 82-600VAC, < 500mW

Remote Interface Module

AC/DC adapter, 6.0VDC output, < 1W

Operating Environment

Main Module

0°C to 60°C, 85% relative humidity

Remote Module

0°C to 60°C, 85% relative humidity

Compliance

Radio transceiver registration according to FCC Part 15 and Industry Canada

Electrical safety according to CSA/UL C22.2 61010-1-04

European CE certification