

TED 5000 FOOTPRINTS

User Manual

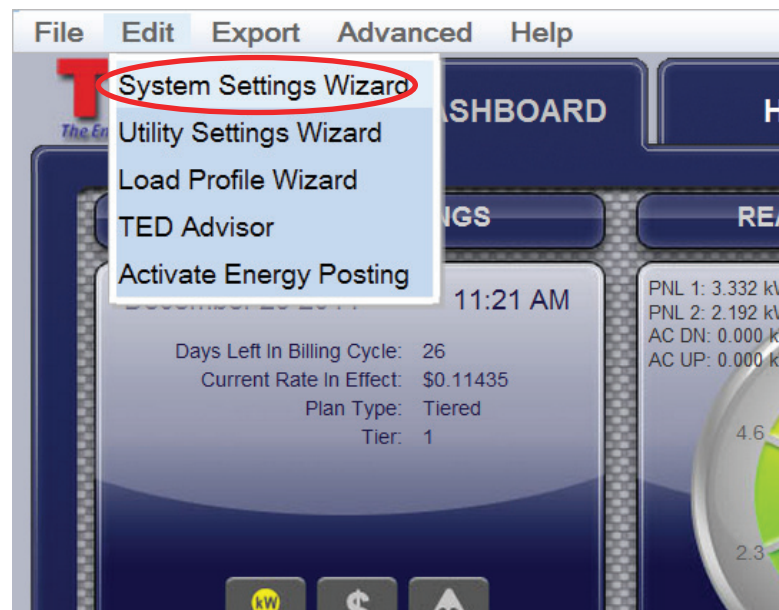
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When you first open Footprints5000, you will see the Live Dashboard Screen. None of the data will be populated until you complete the Setup procedures described below.

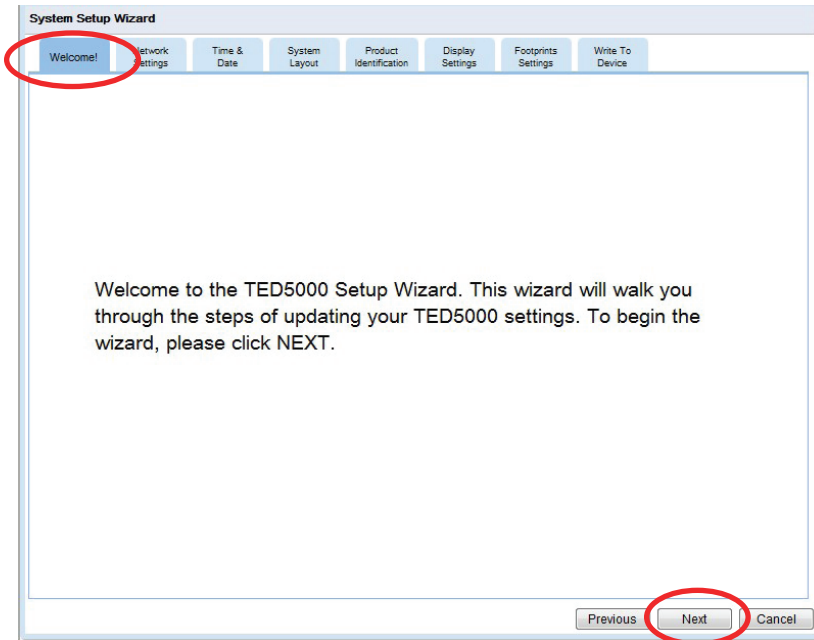


To get your system up and running, please follow these steps completely. Under the EDIT tab, press System Setup Wizard as shown below to begin the Setup process.



Next you will see the Welcome screen. You can move from screen-to-screen by pressing the next/previous button or by selecting the specific TAB you want. Let's go through the screens one by one: Please note that for most users the optimum settings are already set by default. Other than the Product IDs, we highly recommend that you leave the settings as-is until you fully understand how it works and exactly what it is you want to change.

The System can be modified at any time simply by going through this System Setup Wizard.

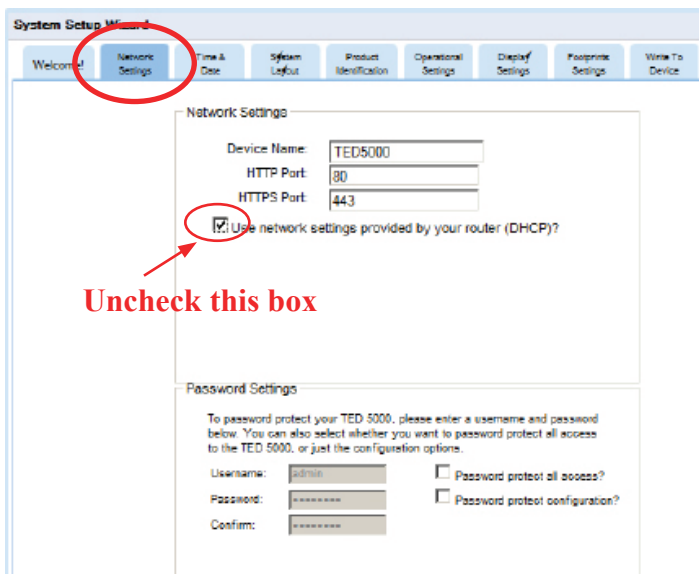


Network Settings tab

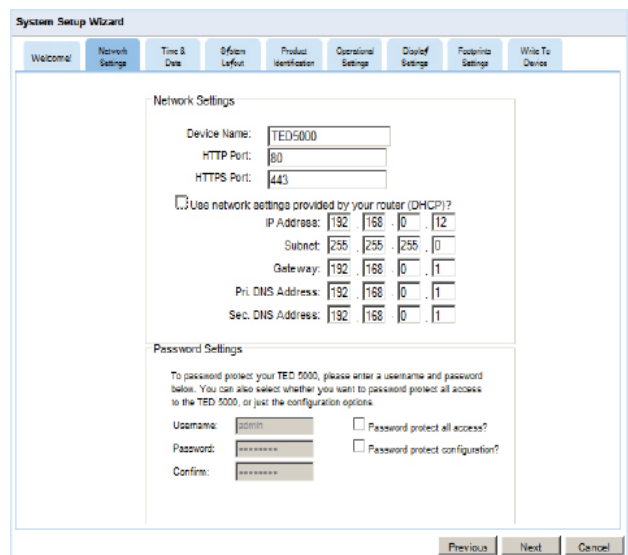
If you are connected to a standard router, you should not need to change the default settings at all.

The only change you should make is to UNCHECK the box indicated below. This will make the IP address static as assigned by your router. All of the information should auto-fill. Do not change any of these numbers.

If you are connecting directly to your computer (not recommended) see Appendix A.



Uncheck this box



Time and Date

If you are connected to the Internet (router or computer), TED will automatically retrieve the time. If not, uncheck the box and enter the time and date. Once set, the Gateway will keep track of time, even during a power failure.

System Layout

Here is where we tell TED about your installed system. If you have typical installation with one MTU, one Gateway and one Display, then you won't need to change anything. If you have more than one MTU (Dual Panel or Solar/Wind Package) then change the quantities as required.

If you own a Radio Thermostat thermostat (available at Home Depot), you will be able to adjust your thermostat settings via TED. If you do not own a RadioThermostat, simply leave as '0.'

If you installed your MTU(s) using **only** the Black and White wires (as we suggest), you will set the Voltage Display as shown.

Product IDs (Extremely important)

Footprints will automatically read the Gateway ID from the Gateway. The IDs for the MTU and Display are initially set to 00 00 00. The Gateway will only communicate with MTUs and Displays with IDs that you list under this tab. This is for security reasons. You don't want to be displaying your neighbor's energy use. Type in the ID(s) from MTU(s) in format 10 12 34 (they are located on the sticker on the MTU). Next you will need to get the ID of the Display(s). Press and hold the Display Button for **30** seconds and the ID will be shown. Type in the ID(s) from the Display(s) in format 30 12 34.

The Description is not required, but you may fill in something meaningful if you have more than one. For example, "Upstairs Display" and "Downstairs Display"

System Setup Wizard

Welcome! Network Settings Time & Date **System Layout** **Product Identification** Operational Settings Display Settings Footprints Settings Write To Device

Please enter the Product ID and Descriptions for your devices.

MTU Products

	Product ID	Description
MTU 1:	10028B	
MTU 2:	000000	
MTU 3:	000000	

Gateway Products

	Product ID	Description
Gateway:	2002E7	

Display Products

	Product ID	Description
Display 1:	000000	

After filling in this information, refer to your RadioThermostat Instruction Manual to sync your RadioThermostat with TED.

Thermostat Products

TED5000 can control RTA-brand thermostats via a WiFi USNAP card. To enable this feature, please enter the IP address of the Thermostat. Please consult your RTA user manual for information on how to obtain the device's IP address.

IP Address Description

Thermostat 1 192 168 1 239 AC DN ☒ CT-80?

Poll Rate: 5 (number of seconds between data requests to the thermostat)

Previous Next

Operational Settings

These settings control how often information is updated in the system. **It is recommended that these not be changed.**

System Setup Wizard

Welcome! Network Settings Time & Date System Layout Product Identification **Operational Settings** Display Settings Footprints Settings Write To Device

Operational Settings

	Normal Mode	Enhanced Mode	
Energy Update Time:	60	10	seconds
Energy Update Minimum Change	100	100	watts
Voltage Update Time:	10	10	seconds
Voltage Update Minimum Change	1.0	0.2	volts
Peak Energy Use Average Time:	10		seconds
Peak Voltage Average Time:	10		seconds
Carbon Cost:	1.55		lbs per kW
Enhanced Mode Timer:	2		minutes

Display Setting

Your Display is very flexible; you can adjust the backlight, sleep and scroll settings, you can also select which screens to display. You can check one, any, or all of them depending on which information is important to you.

System Setup Wizard

Welcome! | Network Settings | Time & Date | System Layout | Product Identification | **Display Settings** | Footprints Settings | Write To Device

Display Settings

	Normal Mode	Enhanced Mode
Backlight Settings on Power:	20	100 %
Backlight Settings on Battery:	100	%
Backlight Timer:	30	secs
Scroll Timer:	5	secs
Battery Mode Sleep Timer:	60	secs

Screen Choices

☒ Current Use	☐ Voltage
☒ Recent Usage	☒ KW Detail Today
☒ Month To Date	☐ Spending Detail Today
☒ Monthly Projections	☐ Multi-Panel
☐ CO2 Panel	

Previous Next Cancel

Footprints Settings

You can adjust the ranges displayed within the Footprints program.

Dashboard Settings:

The Max Value is the maximum amount shown on any graphs. If you have a small, energy-efficient home and family, you may only see a maximum real time use of 5kW. Change the "Real Time kW Usage" setting to "5" and the maximum on the dial will be 5kW instead of 12kW. If you have a large home, you may need to change it to 40kW to keep the needle from pegging. Any of the scales can be changed temporarily from the Dashboard by pressing the + - tabs. The Scale Value adjusts how much the scale changes with each press of the + - key. This will help you determine what the permanent settings should be in Footprints Settings.

Graph Settings:

You can adjust which items will be graphed and in which color. To show Multiple MTUs you can choose to show all the values or just the total.

System Setup Wizard

Welcome! | Network Settings | Time & Date | System Layout | Product Identification | Operational Settings | Display Settings | **Footprints Settings** | Write To Device

Dashboard Settings

	Min	Max	Scale
Real Time kW Usage	0	15	1
kWh Usage Since Midnight:	0	120	5
kWh Usage This Month:	0	4000	100
Projected kWh Usage:	0	4000	100
Average Daily kWh Usage:	0	125	5
Current Spending Per Hour:	0	10	1
Money Spent Since Midnight:	0	15	1
Money Spent This Month:	0	700	10
Projected Bill:	0	700	10
Average Daily Spending:	0	15	1
Real Time CO2 Emissions:	0	40	1
CO2 Emissions Since Midnight:	0	150	5
CO2 Emissions This Month:	0	5000	100
Projected CO2 Emissions:	0	5000	100
Avg Daily CO2 Emissions:	0	150	5
Present Voltage:	105	140	5

Graph Settings

Current kWh: ☒ Display?

Current Voltage: ☒ Display?

MTU 1 kWh: ☐ Display?

MTU 1 Voltage: ☐ Display?

MTU 2 kWh: ☐ Display?

MTU 2 Voltage: ☐ Display?

MTU 3 kWh: ☐ Display?

MTU 3 Voltage: ☐ Display?

Weather Settings

The location entered will be sent to weather.gov when obtaining weather information. If you wish to disable this feature, use the zip code of 00000.

Zip Code: ☐ Use Lat/Lon?

☐ Show Power Factor and kVA on Dashboard?

☒ Show multiple MTU data on Dashboard?

Previous Next Cancel

For Solar installations only, make this number a **NEGATIVE** number equal to the size of your PV system. In other words, if you have a 7kW system, you should make this a -7.

Input your Zip Code for weather display. Weather is updated every hour. For installations outside of the continental US, you may input your latitude/longitude for weather.

Check this box to see multiple MTUs on the Dashboard

Check this box to show Power Factor and kVA on Dashboard. (If you're not sure what these are, don't bother checking the box...it's for the electrical-guys.)

Write to Device

Like any software program, you need to save the changes you made. Changes will be applied when you click the Update button.

Backup Settings

Before updating changes, you can save the previous settings to a file on your PC. (Recommended)

Restore Settings

You can restore settings that you previously saved to a file on your PC. The restored settings will be applied when the Update button is selected.

Update

You will use this function *any time* you make a change to your TED 5000 system. This will update the changes you make and save them to the Gateway. Press UPDATE.

System Settings Wizard

Welcome! | Network Settings | Time & Date | System Layout | Product Identification | Operational Settings | Display Settings | Footprints Settings | **Write To Device**

Apply Settings to the Gateway

Do you wish to update your Gateway with these new settings? **Update**

Backup Settings

Do you wish to back-up your current gateway settings to disk?

Backup Settings

Note: This will save the settings that are currently active on your Gateway to disk. Any settings that have been changed but not written to the Gateway will not be

Restore Settings

Do you wish to restore your settings from disk?

Select file

Choose File No file chosen **Restore**

Previous Next Cancel

After pressing UPDATE, the progress bar will indicate that it is writing the data to the Gateway.

Apply Settings to the Gateway

Do you wish to update the Gateway with these new utility settings? **Update**

Updating System Voltage

26%

Previous Next Cancel

Wait for the progress bar to read 100%, then you press finish. Footprints will then refresh your browser and the system will begin operation with your new settings. You may make changes to the Settings at any time.

System Settings Wizard

Welcome! Network Settings Time & Date System Layout Product Identification Operational Settings Display Settings **Footprints Settings** Write To Device

Apply Settings to the Gateway

Do you wish to update your Gateway with these new settings?

Backup Settings

Do you wish to back-up your current gateway settings to disk?

Note: This will save the settings that are currently active on your Gateway to disk. Any settings that have been changed but not written to the Gateway will not be

Restore Settings

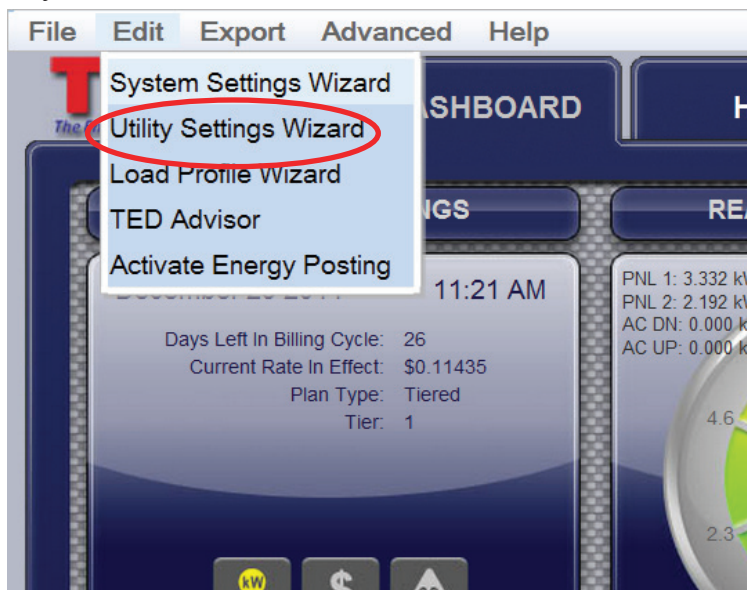
Do you wish to restore your settings from disk?

Select file

No file chosen

Utility Settings Wizard

These settings affect the **rate calculations** of your TED 5000 system. It would be most helpful to have your most recent electric bill handy for this.



Utility Setup Wizard

Welcome! **Utility Rate Setup** Plan Type Tiers Energy Rates Additional Charges Write To Device

Basic Setup

What is the Meter Read Date?

Utility Seasons

How many energy rate seasons does your utility use?

TED 5000 automatically resets the billing cycle based on the Meter Read Date. This date may fluctuate from bill-to-bill by a couple of days (depending on weekends, etc), but it will generally be pretty reliable. Do not change the Meter Read Date if your bill comes in and the date is off by one or two days, because your next month bill will likely adjust for it.

Select 1 if your utility does not have tariffs for different seasons of the year.
 Select 2 if you have SUMMER and WINTER rates.
 Select 3 if you have THREE seasons.
 Select 4 if you have WINTER, SPRING, SUMMER, and FALL rates

Select NEXT after making your selection

Previous **Next** Cancel

Utility Setup Wizard

Welcome! Utility Rate Setup **Plan Type** Tiers Energy Rates Additional Charges Write To Device

Plan Type

Please choose your plan type:

Tiered
Flat
Tiered
Time of Use
Tiered and TOU

Choose your rate plan type here

FLAT - a fixed price per kWh. (i.e. \$0.1152)

TIERED - Your utility bill uses a tiered formula. (i.e. \$.xxxx for 1st xxx kWh and \$.xxxx for 2nd xxx kWh and \$.xxxx for 3rd kWh and so on.)

TIME OF USE - Your utility has different rates during different times of the day. (i.e. From 8-10a.m. is \$.xxxx kWh, from 1-6pm is \$.xxxx kWh.)

TIERED WITHIN A TIME OF USE - Choose this if your utility bill is based on a Tiered system within a Time of Use system. (i.e. \$0.xxxx for 1st xxx kWh from 8-10a.m., \$0.xxxx per kWh for 2nd kWh from 8-10a.m., etc.)

Select NEXT after making your selection

Previous Next Cancel

The Rate Plan Type selected will determine what the next screen will show

Screen Samples showing FLAT RATE with SEASONS

Utility Setup Wizard

Welcome! Utility Rate Setup Plan Type **Energy Rates** Additional Charges Write To Device

Please enter your utility's rates:

Energy Rates

0.10000 \$/kW

Previous Next Cancel

Note: The format used for *CENTS per Kilowatt Hour* is \$0.xxxxx, where "x" is the actual cents charged. Think about it...how do you write **thirteen cents**? Answer: \$0.13000

These are the screens that you would see if you were to select 1 Season, 2 Seasons, 3 Seasons, and 4 Seasons.

Utility Setup Wizard

Welcome! Utility Rate Setup Plan Type **Energy Rates** Additional Charges Write To Device

Please enter your utility's rates:

Winter

0.10000 \$/kW

Summer

0.00000 \$/kW

Previous Next Cancel

Utility Setup Wizard

Welcome! Utility Rate Setup Plan Type **Energy Rates** Additional Charges Write To Device

Please enter your utility's rates:

Season 1

0.10000 \$/kW

Season 2

0.00000 \$/kW

Season 3

0.00000 \$/kW

Previous Next Cancel

Utility Setup Wizard

Welcome! Utility Rate Setup Plan Type **Energy Rates** Additional Charges Write To Device

Please enter your utility's rates:

Winter

0.10000 \$/kW

Spring

0.00000 \$/kW

Summer

0.00000 \$/kW

Fall

0.00000 \$/kW

Previous Next Cancel

Screen Sample showing TIERED RATE with 2 SEASONS

Utility Setup Wizard

Welcome! Utility Rate Setup Plan Type **Tiers** Energy Rates Additional Charges Write To Device

Tiers

How Many Tiers?

Winter

	from	to
Tier 1	0	800
Tier 2	801	

Summer

	from	to
Tier 1	0	1200
Tier 2	1201	

Previous Next Cancel

If you entered a number of Seasons other than "1", you will enter the Tiers for each Season.

Upon entry of the **kWh** break point of the 1st Tier, the second break point will automatically appear. You will then enter the kWh break point of the 2nd Tier. The beginning of the 3rd Tier will automatically appear.

After you've entered the next-to-last kWh break point, TED will automatically show the beginning of the 'balance' of kWh.

Utility Setup Wizard

Welcome! Utility Rate Setup Plan Type **Tiers** Energy Rates Additional Charges Write To Device

Tiers

How Many Tiers?

Winter

	from	to
Tier 1	0	800
Tier 2	801	802
Tier 3	803	

Summer

	from	to
Tier 1	0	1200
Tier 2	1201	1202
Tier 3	1203	

Previous Next Cancel

Utility Setup Wizard

Welcome! Utility Rate Setup Plan Type **Tiers** Energy Rates Additional Charges Write To Device

Tiers

How Many Tiers?

Winter

	from	to
Tier 1	0	800
Tier 2	801	802
Tier 3	803	804
Tier 4	805	

Summer

	from	to
Tier 1	0	1200
Tier 2	1201	1202
Tier 3	1203	1204
Tier 4	1205	

Previous Next Cancel

Screen Samples showing TIME OF USE RATES with SEASONS

Utility Setup Wizard

Welcome! Utility Rate Setup Plan Type **TOU** Energy Rates Additional Charges Write To Device

TOU Rates

How Many TOU Rates? **4** TOU Rate Applicable? ☐ Saturday? ☐ Sunday? ☐ Holiday

Most utilities consider weekends and holidays OFF PEAK. Check here if that is **NOT** the case.

TOU Times

Notice that each rate can be in the AM **and** the PM. If a rate occurs only once in the day, leave the other (AM or PM) at the default of 12:00 - 12:00.

	Winter				Summer			
	AM TOU		PM TOU		AM TOU		PM TOU	
	from	to	from	to	from	to	from	to
Super-Peak	12:00AM	12:00AM	12:00AM	12:00AM	12:00AM	12:00AM	12:00AM	12:00
Mid-Peak	12:00AM	12:00AM	12:00AM	12:00AM	12:00AM	12:00AM	12:00AM	12:00
Peak	12:00AM	12:00AM	12:00AM	12:00AM	12:00AM	12:00AM	12:00AM	12:00
Off-Peak	All Other Times				All Other Times			

If you have entered multiple Seasons, you will need to input the TOU periods for all seasons as well.

Select NEXT when completed

Previous **Next** Cancel

Utility Setup Wizard

Welcome! Utility Rate Setup Plan Type TOU **Energy Rates** Additional Charges Write To Device

Please enter your utility's rates:

Winter

Super-Peak	Mid-Peak	Peak	Off-Peak
0.10000 \$/kW	0.00000 \$/kW	0.00000 \$/kW	0.00000 \$/kW

Enter the corresponding rates. If your utility has a 6th digit, just round it up/down.

Summer

Super-Peak	Mid-Peak	Peak	Off-Peak
0.00000 \$/kW	0.00000 \$/kW	0.00000 \$/kW	0.00000 \$/kW

Select NEXT when completed

Previous **Next** Cancel

Demand Charges

Most Utilities do not have *residential* Demand Charges, but in the event you do, here is the screen you would follow to input the charges.

Utility Setup Wizard

Welcome! Utility Rate Setup Plan Type Tiers Energy Rates **Demand Charges** Additional Charges Write To Device

Demand Charges

Does your utility apply demand charges ? ☒

What type of demand charge does your utility use ? ☒ Demand Steps ☐ TOU Based

Are demand charges based on kW or kVA ? ☒ kW based ☐ kVA based

Are demand charges applicable on the following days ? ☐ Saturday? ☐ Sunday? ☐ Holidays? ☐ Off Peak?

How many steps of demand charges ?

Please enter the steps and associated charges.

	Demand Exceeds kW	\$/kW
Step 1	0.00	0.000

Utility Setup Wizard

Welcome! Utility Rate Setup Plan Type TOU Energy Rates **Additional Charges** Write To Device

Energy or Fuel Surcharge

Is there an Energy or Fuel Surcharge? Yes

	Winter	Summer
\$/kWh	0.00	0.00

This is a charge billed by some, but not all utilities from time to time to recover their costs for extraordinary fuel prices.

Fixed Charges

Does your utility make a Fixed Charge per period? Yes

	Winter	Summer
\$	10.00	0.00

For example, neighborhood street lighting costs, or any other recurring costs the Utility may pass on to the consumer. If more than one fixed fee applies, enter the sum of all fees.

Minimum Charge

Does your utility charge a Minimum Charge Per Period? Yes

	Winter	Summer
\$	0.00	0.00

Some utilities, in addition to a charge per kWh, have a minimum charge for electricity. This is typically a flat-fee.

Taxes

Are there municipal, state, or federal taxes applied to your bill? Yes

	Winter	Summer
%	5.00	0.00

Charged as a percentage calculation of the entire bill. If you have multiple items on your bill that are calculated as a percentage, you can add them all together and enter them here.

Previous **Next** Cancel

Select NEXT when completed

Write to Device

Like any software program, you need to save the changes you made. Changes will be applied when you click the Update button.

Backup Settings

Before updating changes, you can save the previous settings to a file on your PC. (Recommended)

Restore Settings

You can restore settings that you previously saved to a file on your PC. The restored settings will be applied when the Update button is selected.

Update

You will use this function every time you make a change to your TED 5000 system. This will update the changes you make and save them to the Gateway. **Press UPDATE.**

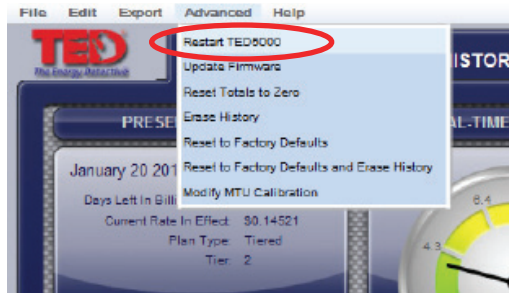
The screenshot shows the 'Utility Setup Wizard' window. The 'Write To Device' tab is selected and highlighted with a red circle. Below the tab, the 'Apply Settings to the Gateway' section asks 'Do you wish to update your Gateway with these new settings?' with an 'Update' button circled in red. The 'Backup Settings' section asks 'Do you wish to back-up your current gateway settings to disk?' with a 'Backup Settings' button. The 'Restore Settings' section asks 'Do you wish to restore your settings from disk?' and includes a 'Select file' field with a 'Choose File' button and a 'Restore' button. At the bottom are 'Previous', 'Next', and 'Cancel' buttons.

This screenshot shows the 'Apply Settings to the Gateway' section with the 'Update' button. Below it, the 'Updating System Voltage' progress bar is shown at 26%. A red arrow points to the 'Next' button at the bottom right, with the text 'Wait on the progress bar to reach 100%, and then press FINISH' written in red above it. The 'Previous', 'Next', and 'Cancel' buttons are at the bottom.

ADVANCED FUNCTIONS

Restart TED5000

Selecting “Restart TED5000” accomplishes the same thing as unplugging your Gateway. It is not something you will likely find yourself needing to do. It simply eliminates the need to physically unplug the Gateway.



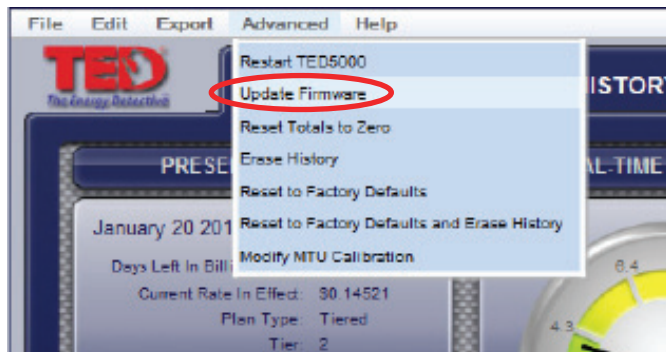
Firmware Update

You can update your Footprints firmware using the instructions below, but it is **HIGHLY** recommended that any firmware updates are done following the **exact** instructions at this link:

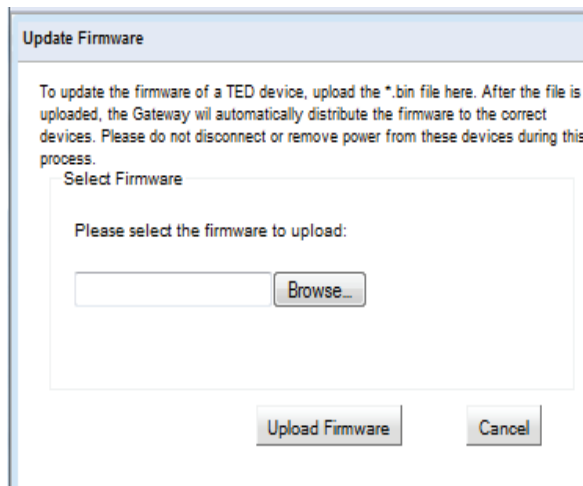
<http://www.theenergydetective.com/upgrade>

(see note above on Firmware Update) There will be occasions when TED or your utility may have an update for your firmware. It could be an update for your Display, the MTU, or the Gateway. It may be a rate change, software modification, or a new feature. There are several ways in which you can receive the update: by link in an email, a direct download from the TED website, or from your Utility’s website. It will be your option to install the update.

Once you have downloaded the update to your computer, you will need to select the “Update Firmware” feature on TED 5000 shown below.

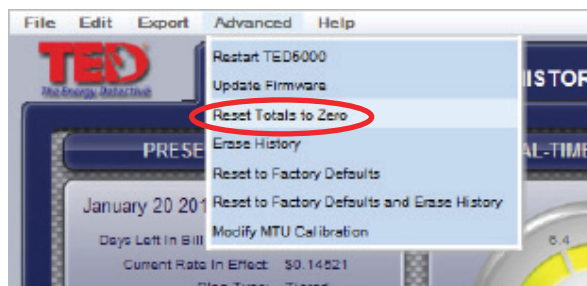


Click the Browse button and locate the firmware you are wanting to update. Once you have located and selected the file, click UPDATE FIRMWARE. The process is totally automatic at this point. Depending on the size of the update, this process could take from one to 30 minutes.



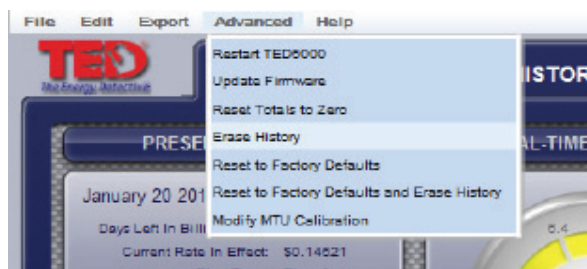
Reset Totals to Zero

Select this function to reset all of your totals to zero. This is a non-recoverable act, so you may want to consider Exporting your data prior to executing this function.



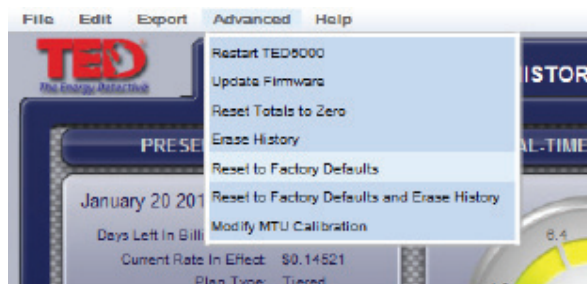
Erase History

Select this function to erase your entire history. This is a non-recoverable act, so you may want to consider Exporting your data prior to executing this function.



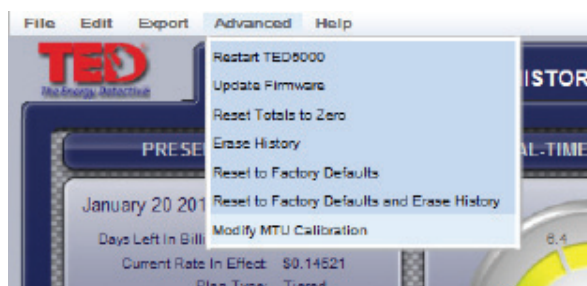
Reset to Factory Default

Select this function to reset all the data within TED. This will clear ALL history, charts, graphs, and all operational variables (time, date, rates, meter date, etc.) This is a non-recoverable act, so you may want to consider Exporting your data prior to executing this function.



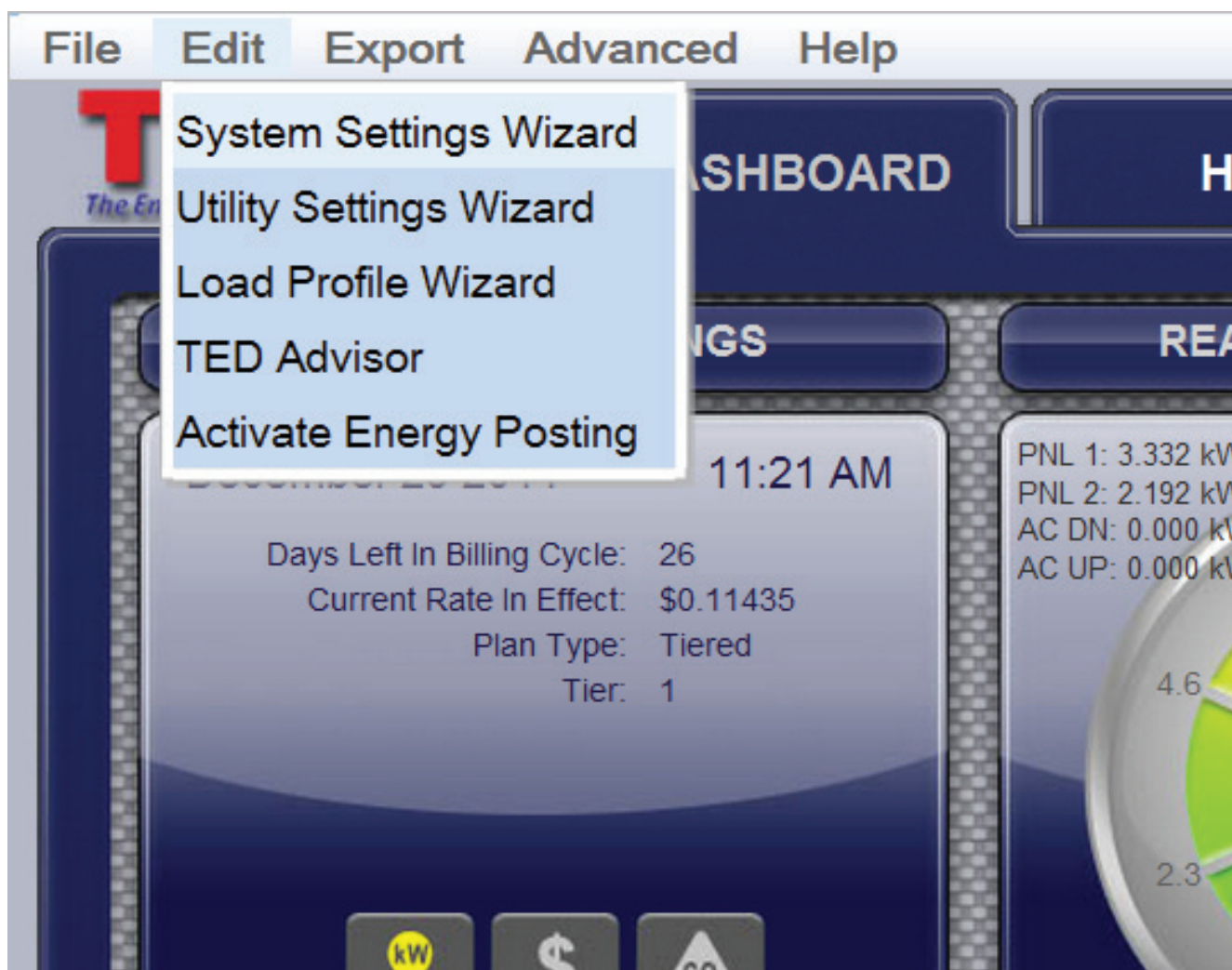
Adjusting MTU Calibration

Your TED comes calibrated from the factory. The default multiplier is 1:1. If, after a 2-3 MONTH period, you feel TED is not matching your utility meter exactly, you can modify this multiplier to make TED more closely match your utility meter. Most installations do NOT require any changes to the default.



3rd Party Posting

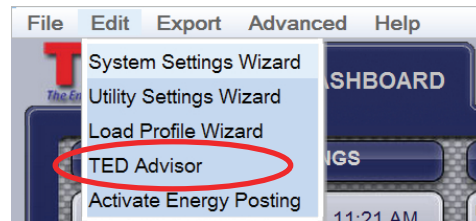
If you wish to send your TED-data to an outside source (like a university, a neighborhood/community, a solar-company, a utility, or any other entity that is aggregating the data), this is a user-friendly way to do so. Just click the “Activate Energy Posting” button and follow the on-screen instructions. **Note:** You may only post to one source at a time.



TED Advisor

TED Advisor is a real-time energy notification system. TED Advisor sends immediate notification, locally and remotely, via email and/or text message to let you know that a user-defined parameter has been reached.

You may need to call your Internet Service Provider (ISP) to obtain some of the details below.



Mail Server Settings

TED Advisor uses your Internet Service Provider's outbound email server (SMTP) to send notifications via email. You will need to contact them to determine the correct server to use and whether or not SSL or authentication is required. In most cases they are not and the default settings are adequate as long as you provide the email address assigned to you by your ISP.

Who is your Internet service provider: Other Other:

Please enter the email address provided by your ISP:

Does your ISP require SSL for outbound emails?: ☒

What port does your ISP use for outbound email (usually port 25):

Does your ISP require authentication for outbound emails?: ☒

Advisor Recipient

Please enter the e-mail address that you wish to send notifications to. To send these as text messages to your phone, use your phone providers email-to-SMS gateway (e.g. 9875550100@SMS-gateway). A list of gateway addresses can be found [HERE](#).

Email Address:

CC:

Check the appropriate box for any parameter for which you would like notification.

Advisor Notifications

- ☐ Please send advice minutes before a new TOU rate.
- ☐ Please send advice when a rate change occurs.
- ☐ Please send advice when a new demand charge is reached.
- ☐ Please send advice when money spent Since Midnigh exceeds \$ Send at Most Once Per Minute
- ☐ Please send advice when money spent Since Midnigh exceeds \$ Send at Most Once Per Minute
- ☒ Please send advice when energy consumed Since Midnigh exceeds kWh. Send at Most Once Per Day
- ☐ Please send advice when energy consumed Since Midnigh exceeds kWh. Send at Most Once Per Day
- ☐ Please send advice when 10-minute kW average exceeds . Send at most Once Per Minute
- ☐ Please send advice when 10-minute kW average exceeds . Send at most Once Per Minute
- ☐ Please send advice when voltage goes above volts. Send at most Once Per Minute
- ☐ Please send advice when voltage goes below volts. Send at most Once Per Minute

Save

Cancel

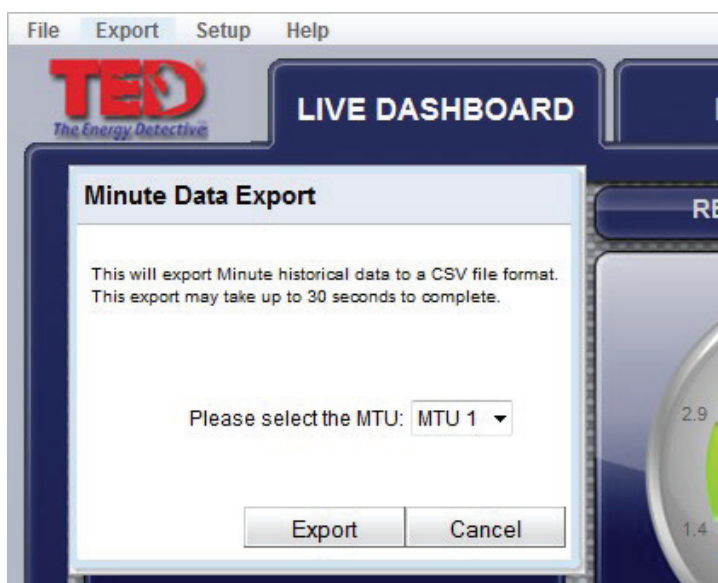
EXPORT Tab



Data Export Feature

Since TED 5000 stores 60 minutes of second-data, 48 hours of minute-data, 90 days of hourly data, 24 months of daily data, and 10 years of monthly data in separate files, they can be exported independent of each other.

Simply select the data you would like to export to analyze, and follow the on-screen instructions.



If you have multiple MTUs or a SOLAR /WIND installation, you can output the data for each for analysis.

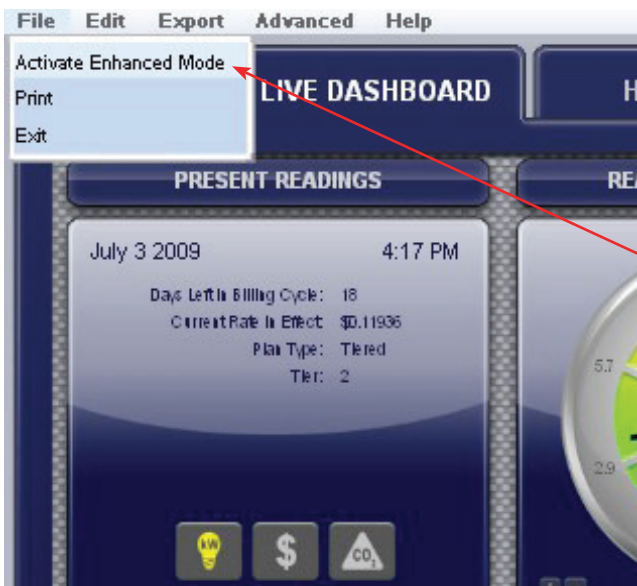
FILE Tab

Print / Enhanced Mode / Exit



Print

This action will allow you to print any of the screens as you see them on TED 5000, i.e. the Dashboard, Historical Charts, Graphs or Load Profiles.



Activate Enhanced Mode

Activating Enhanced Mode will temporarily change the sample/transmission interval of your power and voltage readings to reflect the settings you have in SYSTEM SETUP.

You might use this feature to do some temporary diagnostics where you need to see very fast response times beyond what you would routinely want to see.

HISTORY Tab

Use this History Chart to compare your usage with prior time periods. The data auto-populates. Compare Hours, Days, and Months.

To see historical data for separate MTUs, simply click the desired MTU as shown below.



GRAPHING Tab

TED 5000 stores data internally in its Gateway. This data can be retrieved at any time and graphed displayed in graphic form. The data available for viewing is:

SECONDS - one hour of second-data in increments from Live (real-time) recording, 30-seconds, or 1, 2, 5, 15, 30 and 60 minutes.

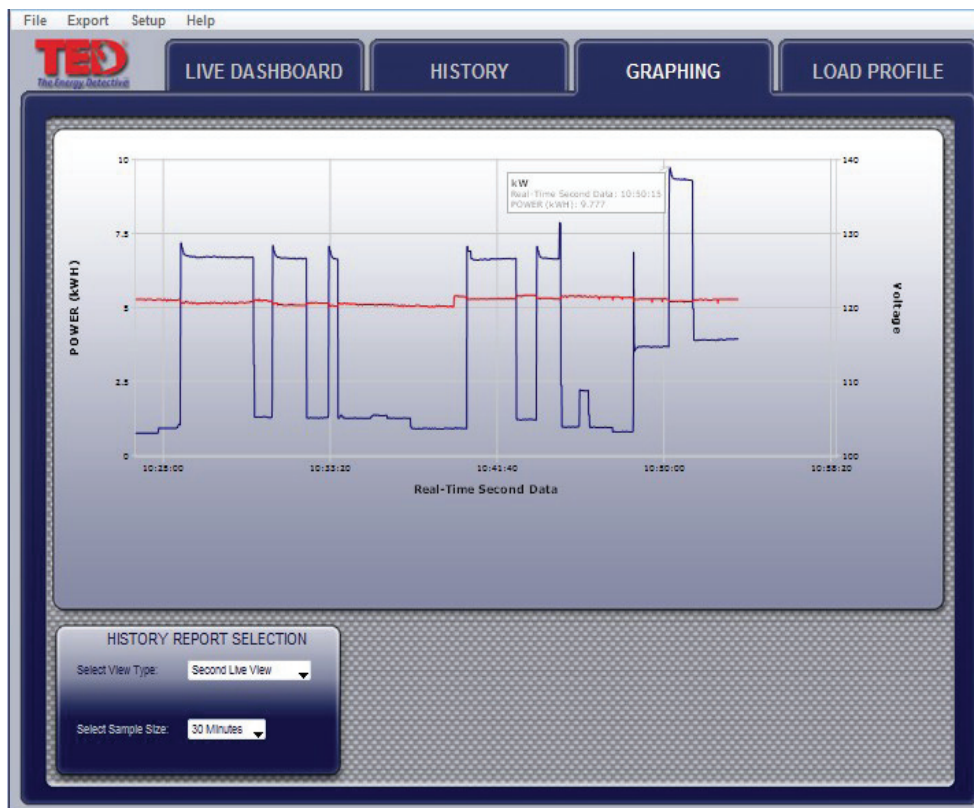
MINUTES - 48 hours of minute-data may be displayed in increments from 30 minutes; 1, 2, 4, 12, 24, 36, to 48 hours.

HOURLY - 90 days of hourly data are stored. Historical Hourly Data is viewable for any selected date-range in increments of 7-day periods. Specific Hourly Data can be viewed in kWh, Voltage, or Dollars.

DAY - 2 years of Daily data are stored. Daily Data is viewable for any selected range for the prior 2 years in 90-day periods. Data viewable is: kWh, Dollars, Minimum/Maximum Voltage, Minimum/Maximum Cost, Minimum/Maximum Power (kW).

MONTH - 10 years of Monthly data are stored. Data viewable is: kWh, Dollars, Minimum/Maximum Voltage, Minimum/Maximum Cost, Minimum/Maximum Power (kW).

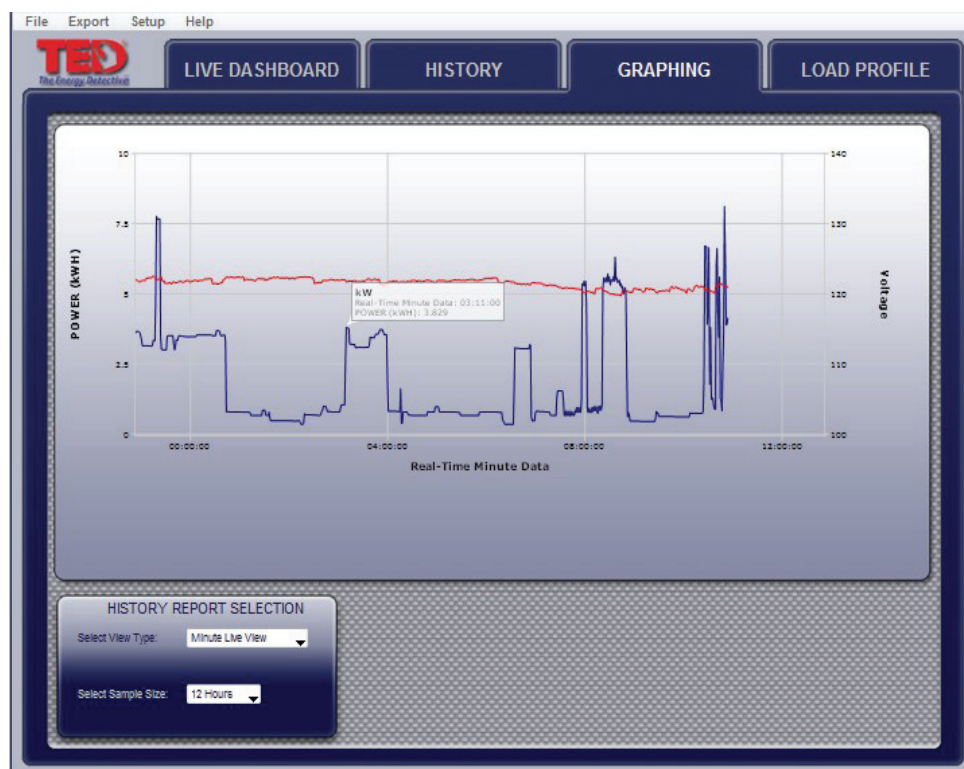
Sample - SECONDS graph of KW - scale selected is 30 seconds



Line colors are user-selectable in System Setup.

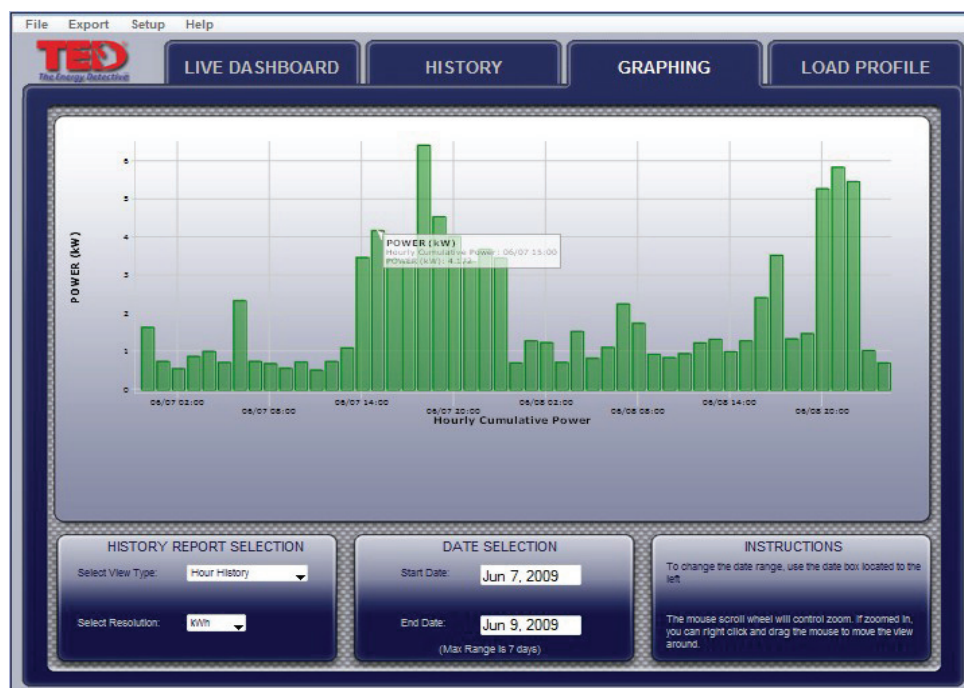
If more than 1 MTU is installed, or Solar/Wind package installed, each MTU is displayed layered or independently.

Sample - MINUTE graph of KW- scale selected is 12 Hours



Looking at this graph, you can immediately see when the HVAC is on, when activity begins in the home, hotwater heater coming on, etc.

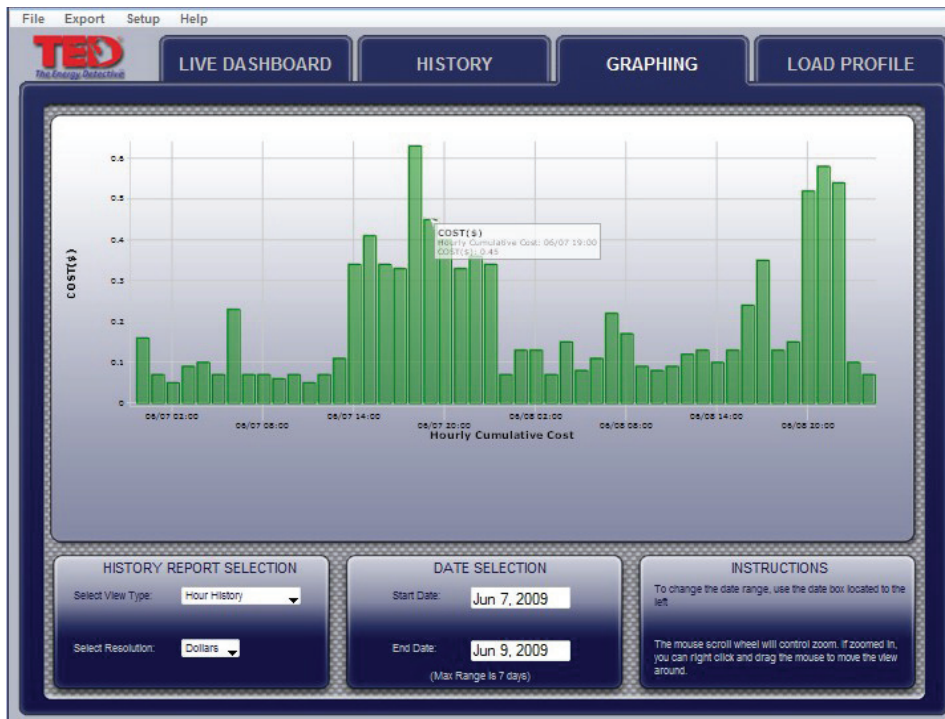
Sample - HOUR graph of kWh - range selected is 2 days



Hovering over any point on any graph will give the specific detail of that moment in time.

This is a 2-day view showing the kWh used each hour of the day.

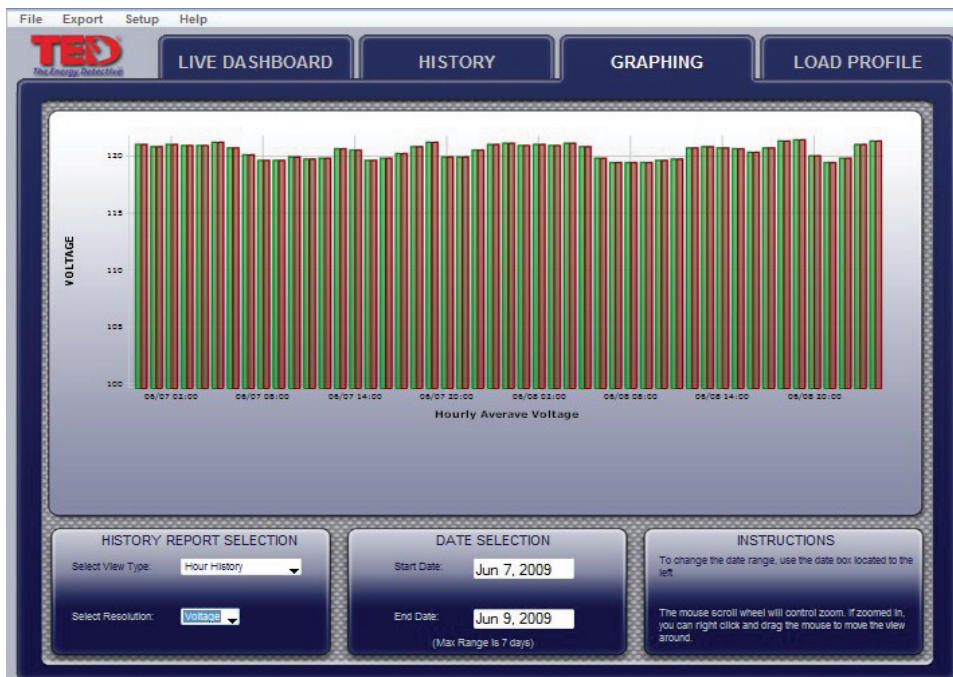
Sample - HOUR graph of Dollars spent - range selected is 2 Days



This is a 2-day view showing the Dollars spent each hour of the day.

Hover over any point to see the specific usage detail.

Sample - HOUR graph of Minimum and Maximum Voltage - range selected is 2 Days



This is a 2-day view showing the minimum and maximum voltage delivered to your home over a 2-day period.

As with all graphs, hover over any point on the graph to see the specific detail.

Sample - DAY graph of kWh usage - range selected is 7 Days



This is a 7-day view showing the kWh used each day.

See what days most electricity is used. What took place those days?

Sample - DAY graph of Minimum and Maximum kW usage - range selected is 7 Days



This is a 7-day view showing the minimum and maximum kW used each day.

Why so high?!

Why so low?!

How low can you go?

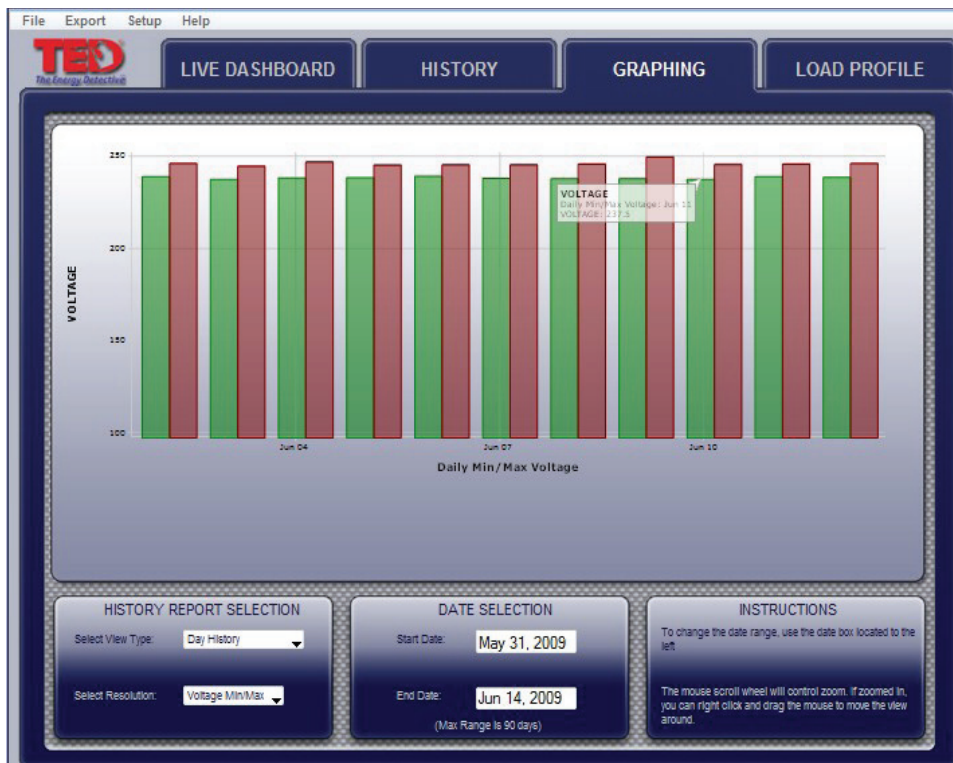
Sample - DAY graph of Minimum and Maximum of Money Spent - range 7 days



This is a 7-day view showing the most and least amount of money spent each day.

Now it's meaningful! The money counts.

Sample - DAY graph of Minimum and Maximum of Voltage - range 11 days



This is a 11-day view showing the most and least amount of voltage each day coming from the utility.

The Solar/Wind package will show the generation, grid-supplied power, and the net.

Load Profile

TED Footprints provides the ability to monitor simple changes in kW usage to create Load Profile Events. The concept of Load Profiling is based on TED's recognition of a 'footprint' created when a load is turned on or off. Theoretically, any electrical load may be profiled, however, the more common the load (i.e. 60w light), the more likely a false-positive will be registered. In other words, you may turn on your computer or TV, or any 60w load, and Footprints would not be able to discern which was turned on - the light, the computer, or the TV. That being said, major loads (water heater, HVAC, pool pump, hot tub) are more easily profiled because they are less likely to have similar loads. Please note that the Load Profile feature is only intended to indicate when an appliance might have possibly been turned on or off, and that many factors may cause an event to be incorrectly registered.

The following is an example of Load Profiling a Hot Water Heater

A hot water heater turning on might register a 4.6kW increase over a few seconds. TED Footprints will watch for a 4.6 kW increase and register an event signaling that the device has been turned on. Once a 4.6kW decrease is measured, Footprints will log an additional event signaling that the device has been turned off.



To Add, Edit or Delete a Load Profile Appliance. select "Load Profile Wizard" under EDIT.

TED Footprints will track up to five electrical devices.

To ADD a device

The wizard will prompt you for the name of the device. Appliance Names must be unique. If you attempt to add a second appliance with the same name as an appliance that already exists, you will overwrite the settings of the original appliance.

MTU# allows you to select which MTU the load may be measured by (in the instance of dual electric panels, or solar/wind generation). Generally, there will only be one MTU.

Start Stages - Some electrical devices have multiple-start stages (i.e. some HVAC systems).

Stop Stages - As with Start Stages, some devices power down in stages.

Percent Error - This figure can be adjusted as the user wishes. It will help TED Footprints to avoid false-positive readings.

Load Profile Configuration

HVAC Upstairs Power On Settings

Now it's time to enter how much power is used when the appliance is started up. This can either be entered manually, or you can press the LEARN button. For best results, turn off as many appliances as possible during this process. If there are multiple steps involved, please remember that each step is the difference in kW usage from the previous step.

Press the LEARN button to monitor the kW usage for an event. Turn on the appliance you wish to detect while the SCANNING is taking place. The device may need to be on for over 30 seconds to be detected. Once a kW change is detected, you will be notified that the process is complete and the value will be entered into the step trigger amount field. If you have multiple steps, each step will be filled in as it's detected.

Device Start Steps

Stage 1:

Current Readings

Live: 3.808 kW

Event: 3.765 kW

Learn

Back **Next**

Close

For best results, it is best to turn off as many appliances as possible prior to setting up Load Profiles; be certain that the electrical load of your home is stable, and not fluctuating.

When the Learn button is pressed, Footprints will monitor for the next kW increase. The device being profiled may need to be on for over 30 seconds to be detected. Once a kW change is detected, the value will be automatically entered into Stage 1 field.

Alternatively, you may manually input the value if preferred.

Current Readings:

Live - is the actual usage of your home at the moment.

Event - is the last change TED noted in the power.

Load Profile Configuration

Save Device Settings

Please review the settings below. To save the settings, please press the UPDATE button below.

Hot Water Heater Settings

Power On Steps: Stage 1: 4.42 kW

Power Off Steps: Stage 1: -4.42 kW

Back **Save**

Close

You may press the BACK button at any time to go back to a prior screen.

When Load Profile is complete, press the SAVE button to complete the process.

Load Profile Configuration

Welcome To the Load Profile Wizard

Welcome to the Load Profile Wizard. This wizard will allow you to add or edit device footprints. These signatures will help determine whether or not a device is on or off.

Please select an existing device, or add a new device. You can track up to five devices.

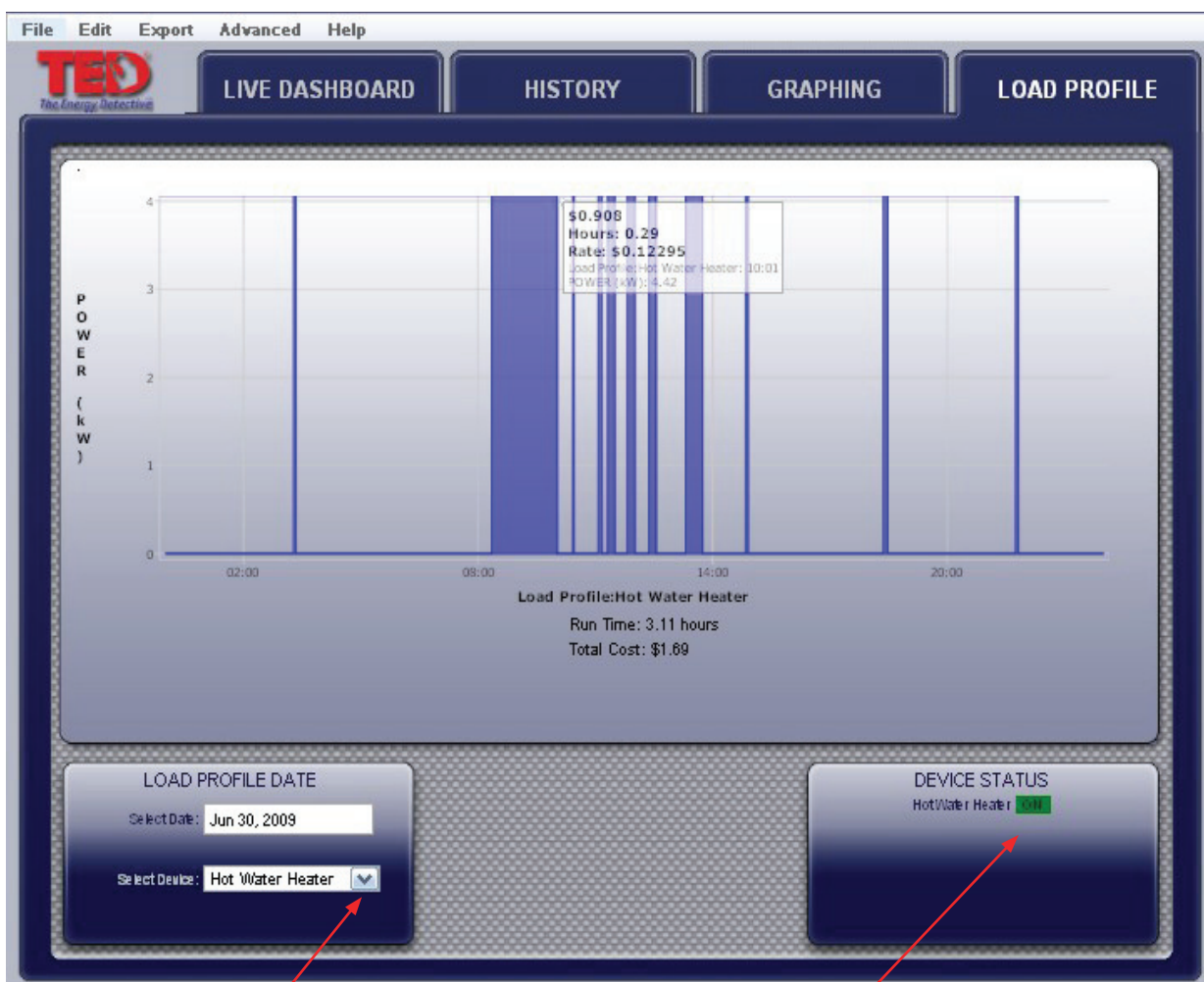
Please select a device

Hot Water Heater (2 steps) - ON	EDIT
DEVICE AVAILABLE	ADD
DEVICE AVAILABLE	ADD
DEVICE AVAILABLE	ADD
DEVICE AVAILABLE	ADD

Close

To EDIT or DELETE your Load Profile settings, select the Load Profile Wizard under the EDIT, and select the device you wish to modify.

Modifications to a Load Profile are performed as stated in the 'ADD' section detailed above.



Click the drop-down to view other Loads that have been profiled

You may manually toggle a device on/off by clicking here.

Solar/Wind Generation

In a Solar configuration where the inverter ties into the house panel, MTU 1 should be set to **ADJUSTED LOAD**. (MTU 1 should be the MTU in the main electrical panel). If the inverter ties in up-stream between the meter and the panel, then MTU 1 should be shown as **“LOAD.”**

Set the remaining MTU which is connected to your Solar/Wind inverter to **“Generation.”**

If you are generating power (solar/wind, or auxiliary generator), TED is designed to record your *Generation*, *Consumption*, and record the *Net* of the two as well. At any time, you can see each independently simply by checking the appropriate tab on the Live Dashboard (MTU1, MTU2, NET).

This section is to be completed only after the physical installation of the MTU(s) and CT(s) have been completed.

Depending on the TED system purchased, your system came with two MTUs or more (a TED system can have up to 4 MTUs). One/some MTU(s) will be measuring your Consumption (Load), and the second(other) MTU will be measuring your Production (Generation). Footprints will record each of these, and also present the NET of your Production/Consumption.

Under the EDIT tab, select System Setup Wizard

- Select the tab System Layout
- Under “How Many MTUs?”, click the drop-down and select how many you have installed.
- Under “Multiple MTU Configuration,” select “SOLAR” if you have installed a Generating system.

Please also refer to Page 7 for some critical settings for Footprints (which will help set up your graphing of solar activity).

Only after you have completed the Setup of your system will the changes be noted on the Live Dashboard.

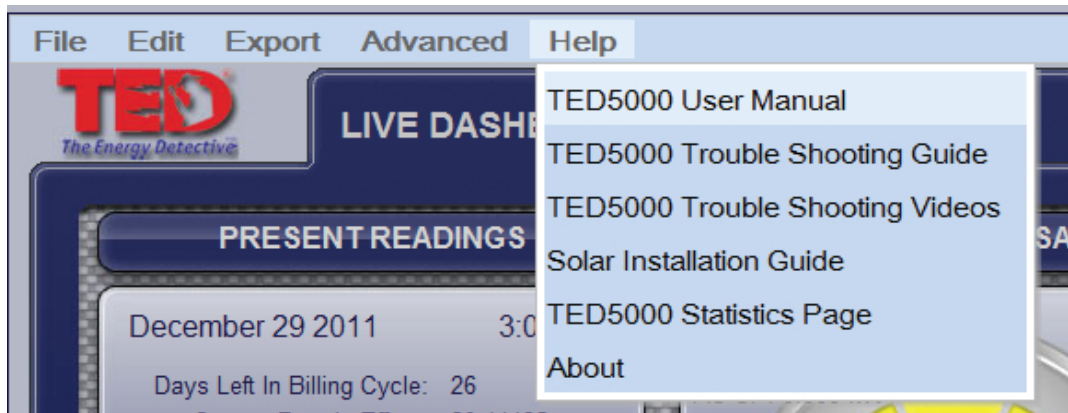
By selecting “NET”, you will see a combined view of both/all of your MTUs...showing you a positive number if your consumption is greater than your generation, or a negative view if you are generating more electricity than you are consuming (sending electricity back to the grid).

You can view MTU1, MTU2, (MTU3 & MTU4 - if you have that many installed) all independently simply by selecting the appropriate MTU.



HELP Tab

Selecting any of the items shown under the HELP tab will open a link to download a file. You can choose to either view the files on your browser window, or you can save them to your computer.



TED 5000 Statistics Page

This will open up a diagnostics screen. The most meaningful items (to the user) on the screen are the “MTU Rec” and “MTU Skp” shown below. These indicate *Received* data-packets and *Skipped* data-packets. If the Skipped is 20% or less than the Received, your system is in great shape. (divide MTU Skp by MTU Rec). In the example below: $30 \text{ divided by } 783 = 0.038$ (or 3.8%)

If your MTU Skp ratio is higher than 20%, we would suggest you visit the following link:

<http://www.theenergydetective.com/PLC>

Gateway-G Placeholder Page

	MTU 1	MTU 2	MTU 3	MTU 4
Power:	1756	1552	0	0
Voltage:	1228	1220	0	1224
kVA:	1992	1706	0	14
MTU Rec:	783	663	650	464
MTU Skp:	30	88	32	55
Min Count:	208215	176984	135768	38489
LP SAMPLE:	1715	1566	2147483647	0
Pack Id:	201	88	82	238
Man Cal:	100/100	100/100	100/100	100/100
Last Timestamp:	1325171520	1325171520	1321960020	1325171520
Last Value:	333829360997221632	28340461024	38643237546	8411534506
MTU Id:	109CE0	109CAD	109D3A	109E8B

3rd Party Post

Activated	Act. Status	Attempts	Success	Result	Last Timestamp
0	0	0	0	0	0
Server	:80				
URI					

Amp Config

APPENDIX A

Connecting TED 5000 Gateway Directly to a Computer

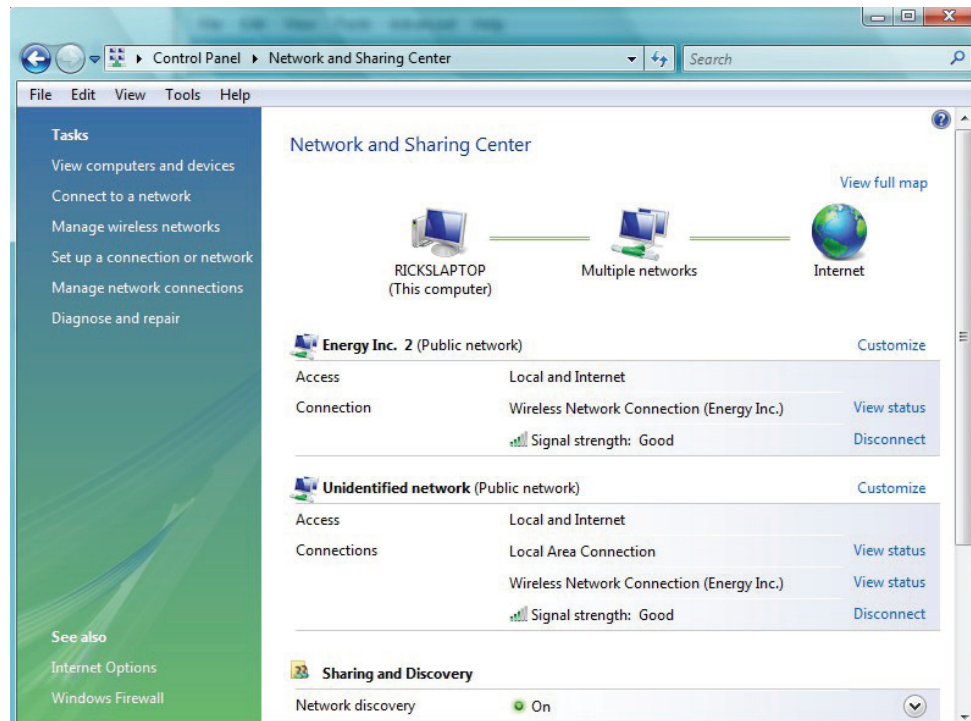
Note: It is highly recommended that you connect your Gateway directly to your router, *and not your computer*.

- Installation and setup is simplified.
- Energy information can be viewed by any device connected on your home network.
- Time is automatically synchronized.
- Up to the minute weather information is available.

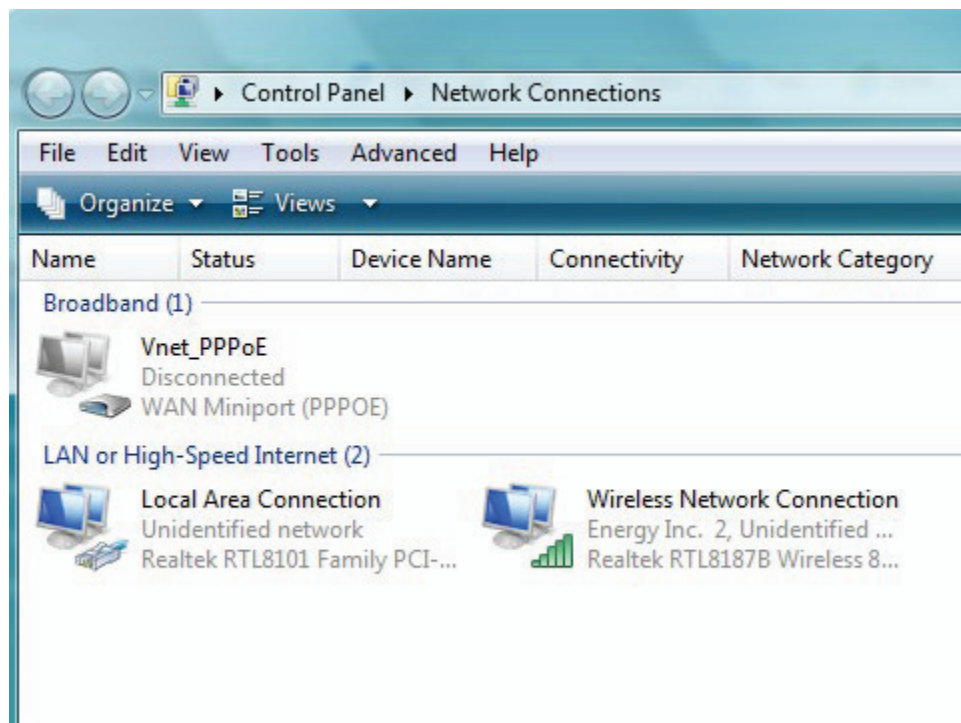
If you do not have a router, we highly recommend that you purchase one.

To connect your Gateway directly to your computer, you will most likely need to change the network settings on your computer. Please carefully follow these steps:

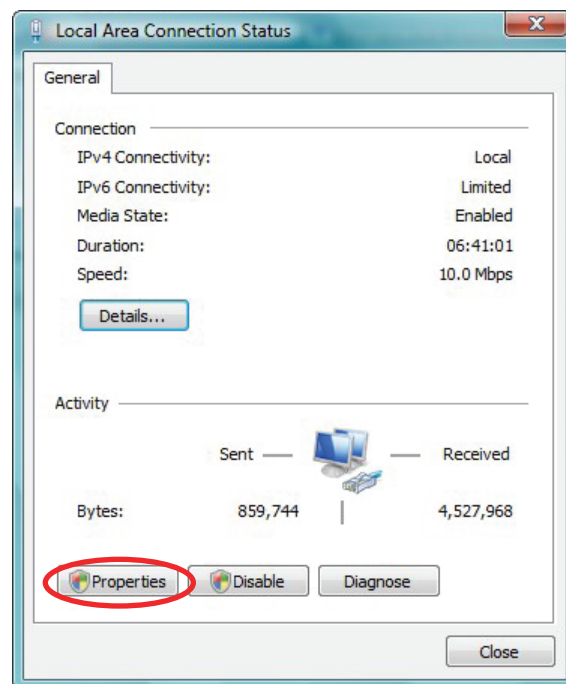
1. Plug the Gateway into a 120V outlet.
2. Connect your PC to the Gateway with the included Ethernet Patch Cable.
 - 2.1. If you need a longer cable, any CAT V cable with RJ45 jacks may be used.
 - 2.2. A cross-over cable can be used to direct-connect to the computer, but it is not necessary. The Gateway automatically senses the cable configuration.
3. Open your web browser (Internet Explorer, Firefox, Chrome, etc.)
 - 3.1. In the address bar type in: <http://192.168.7.2/Footprints.html>
 - 3.2. FootPrints 5000 Dashboard should load (Note: could take up to 1 ½ minutes to load)
4. If you get a “Cannot Open Webpage” or “File Not Found” error on your browser, then you will need to change the IP of your PC.
 - 4.1. Go to Control Panel/Network and Sharing Center (accessed from Start Menu)
 - 4.2. Click on Manage Network Connections.



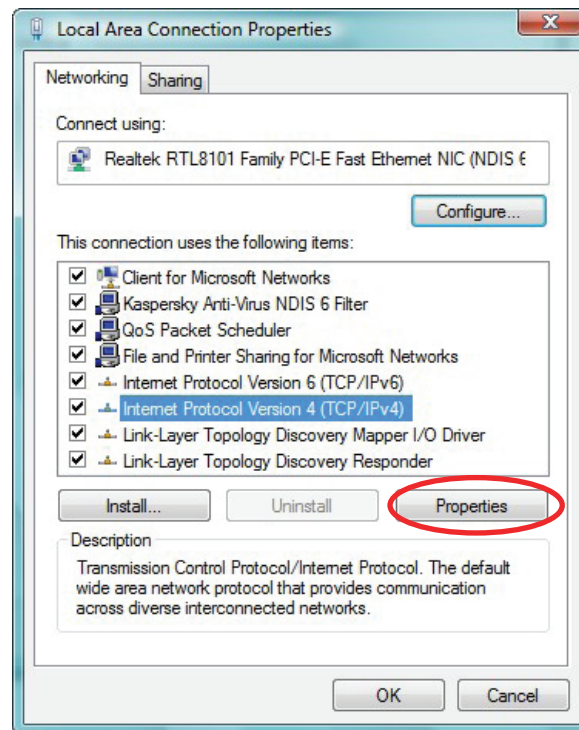
4.3. Click on Local Area Connection



4.4. Click on Properties

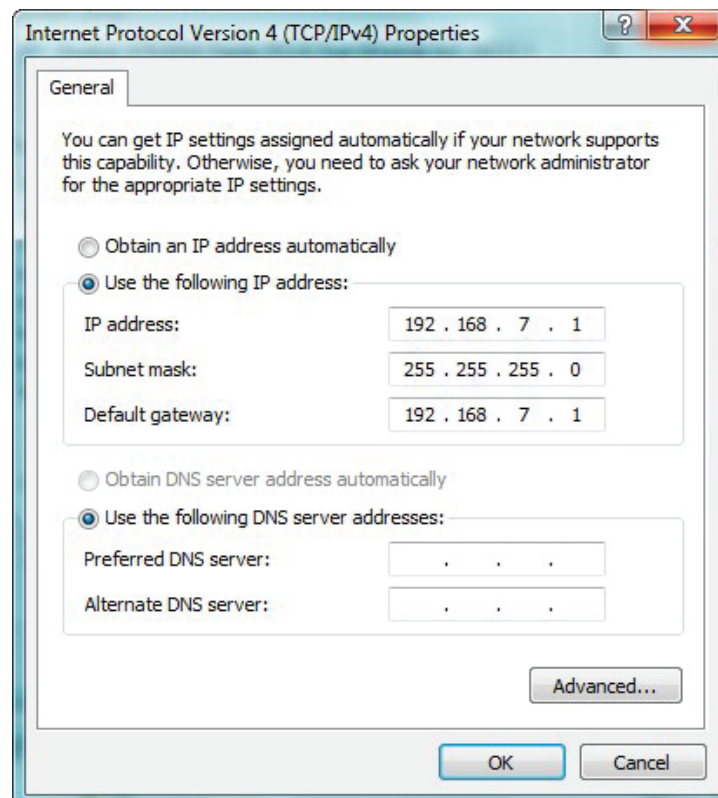


4.5. Highlight Internet Protocol Version 4 (TCP/IPv4). Click on “Properties”



4.6. Click “Use the following IP address” and fill in as shown:

- 4.6.1. IP Address 192.168.7.1
- 4.6.2. Subnet mask: 255.255.255.0
- 4.6.3. Default Gateway: 192.168.7.1



4.7. Click OK

4.8. Restart your browser and type: <http://192.168.7.2/Footprints.html> into the address bar.



4.9. Footprints 5000 Dashboard should be displayed

4.9.1. Read and follow Footprints 5000 Help File.

4.9.2. If Footprints 5000 does not come up, please contact your network administrator, IT department or trained computer professional.

TED (Energy, Inc.) can not help you troubleshoot network issues.

TED 5000 FOOTPRINTS

User Manual

Contenido

1. Tablero Vivo	Página 2
2. Configuración	Página 2
2.1. Ayudante de configurar el sistema	Página 2
2.2. Ayudante de configurar la utilidad	Página 10
2.3. Actualizar Firmware	Página 17
2.4 Funciones especiales	Página 18
3. Exportacion de los datos	Página 22
4. Impresión/modo mejorado página	Página 23
5. Historia	Página 24
6. Gráficos	Página 25
7. Haciendo Perfil de carga	Página 30
8. Medición total – Solar/de Viento página	Página 33

Apéndice:

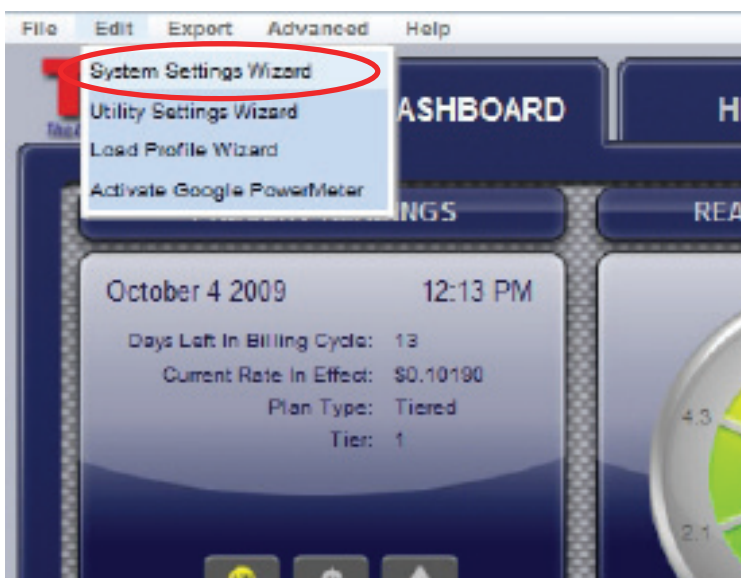
A. Conectar TED5000 directamente a una computadora	Página 34
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Al iniciar Footprints5000, se verá la pantalla del Live Dashboard (Tablero Vivo). Ningunos de los datos se actualizará hasta que completes el procedimiento descrito abajo. F11 para cambiar entre Windows y modo de pantalla completa.

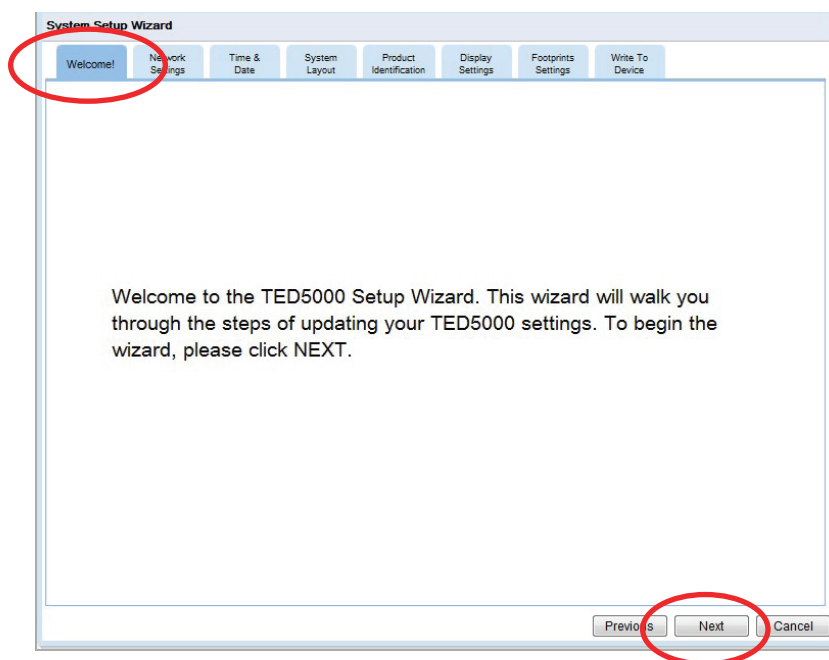


Para iniciar y configurar el sistema, por favor sigas estos pasos completamente.

Bajo la pestaña EDIT (editar), haga clic en “System Setup Wizard” (ayudante de configurar el sistema) como es mostrado para iniciar el proceso de configuración.

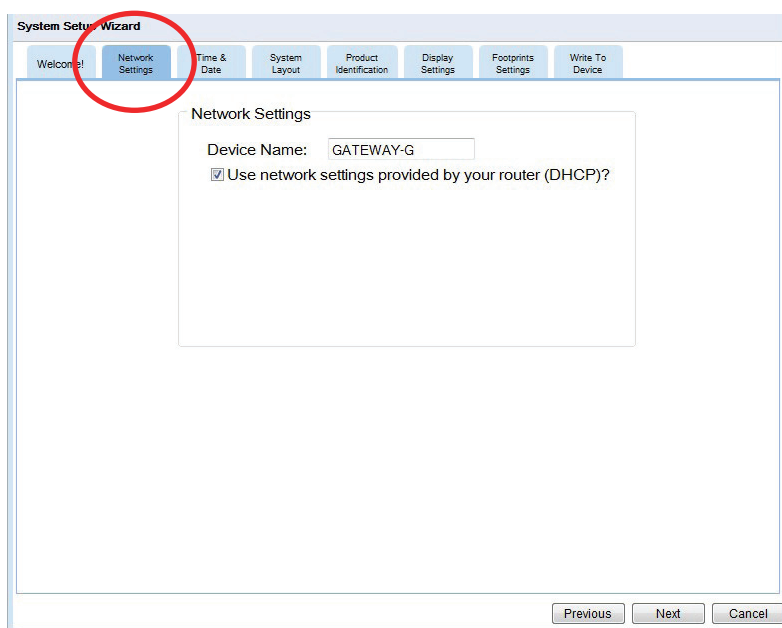


Después aparece la pantalla de bienvenida. Se puede cambiar entre pantallas haciendo clic en los botones “next/previous” (siguiente/atrás) o seleccionando la pestaña específica deseada. Pasemos por las pantallas una por una: Tome nota que las configuraciones ya están en los puestos óptimos para la mayoría de los usuarios. Además de las identificaciones de producto, le recomendamos que deje las configuraciones tales como son hasta que entienda totalmente como funciona y exactamente lo que quiere cambiar.



Pestaña de “Network Settings” (Configuraciones de la red)

Si está conectado a un router estándar, no se necesita cambiar esto. Si está conectado directamente a su computadora (no se le recomienda) vea al Apéndice A.



“Time and Date” (Hora y Fecha)

Si está conectado a Internet (por router o computadora), TED ajustará la hora automáticamente. Si no, deseleccione esta caja y digite la hora y la fecha. Una vez puestas, el Gateway lleva el tiempo aunque haya una falla de electricidad.

System Setup Wizard

Welcome! Network Settings **Time & Date** System Layout Product Identification Display Settings Footprints Settings Write To Device

Date and Time

☒ Synchronize Gateway with Time Server (NTP)
Server: pool.ntp.org

Timezone: (GMT-5) Eastern Time (US & Canada) ▼

☒ Adjust for Daylight Savings Time?

Previous Next Cancel

“System Layout” (Diseño del sistema)

Aquí se le comunica al TED sobre el sistema instalado. Si tiene una instalación típica en una sola UME entonces no hay que cambiar nada. Si tiene más que una UME (paneles duales o paquete Solar/de viento) entonces hay que cambiar las cantidades como sea necesario. Le pedirá que haga una descripción. Por ejemplo, Panel 1 Casa, Panel 2 Garaje.

System Setup Wizard

Welcome! Network Settings Time & Date **System Layout** Product Identification Display Settings Footprints Settings Write To Device

MTU and Displays

How Many MTUs? 1 ▼

How Many Displays? 1 ▼

Transmit Amplifiers On? ☐ Gateway ☐ MTU

Voltage Display

Display Voltage As? 120V ▼

Previous Next Cancel

Product IDs (Identificaciones del producto) (Sumamente importante)

Footprints reconoce automáticamente la identificación del Gateway. Inicialmente, las identificaciones para la UME y Pantalla están puestas en 00 00 00. El Gateway sólo se comunica con las UME's y pantallas con identificaciones que usted define en esta pestaña. Esto es para seguridad. Usted no quiere ver el uso de energía de su vecino. Digite las identificaciones de las UME's en formato 10 12 34 (están ubicadas en la etiqueta de la UME). Después hay que conseguir la identificación de la(s) pantalla(s). Presione el 'Display Button' (botón de pantalla) y manténgalo presionado durante 30 segundos y se mostrará la identificación. Digite la(s) identificación(es) de la(s) pantalla(s) en formato 30 12 34.

System Setup Wizard

Welcome! Network Settings Time & Date System Layout **Product Identification** Display Settings Footprints Settings Write To Device

Please enter the Product ID and Descriptions for your devices.

MTU Products

Product ID	Description
MTU 1: 000000	

Gateway Products

Product ID	Description
Gateway: 2000D3	

Display Products

Product ID	Description
Display 1: 000000	

Previous Next Cancel

Operational Settings (configuraciones de operación)

Estas configuraciones controlan cuan frecuente se actualizan los datos en el sistema. Se le recomienda que no se las cambie.

System Setup Wizard

Welcome! Network Settings Time & Date System Layout Product Identification **Operational Settings** Display Settings Footprints Settings Write To Device

Operational Settings

	Normal Mode	Enhanced Mode	
Energy Update Time:	60	10	seconds
Energy Update Minimum Change	100	100	watts
Voltage Update Time:	10	10	seconds
Voltage Update Minimum Change	1.0	0.2	volts
Peak Energy Use Average Time:	10		seconds
Peak Voltage Average Time:	10		seconds
Carbon Cost:	1.55		lbs per kW
Enhanced Mode Timer:	2		minutes

Previous Next Cancel

Display Setting (Configuración de la Pantalla)

Se puede ajustar la luz de la pantalla y configuraciones de dormir y desplazar. Vea al Apéndice C para una explicación detallada. También se puede seleccionar cuales pantallas mostrar. Se puede seleccionar una, varias o todas ellas dependiendo en cuales datos son importantes para usted.

System Setup Wizard

Welcome! Network Settings Time & Date System Layout Product Identification **Display Settings** Footprints Settings Write To Device

Display Settings

	Normal Mode	Enhanced Mode
Backlight Settings on Power:	20	100 %
Backlight Settings on Battery:	100	%
Backlight Timer:	30	secs
Scroll Timer:	5	secs
Battery Mode Sleep Timer:	60	secs

Screen Choices

☒ Current Use	☐ Voltage
☒ Recent Usage	☒ KW Detail Today
☒ Month To Date	☐ Spending Detail Today
☒ Monthly Projections	☐ Mutli-Panel
☐ CO2 Panel	

Previous Next Cancel

Footprints Settings (Configuraciones de Footprints)

Se puede ajustar los rangos mostrados dentro del programa Footprints.

Dashboard Settings (Configuraciones del tablero):

El valor máximo es la cantidad máxima mostrada en las pantallas gráficas. Si tiene una familia pequeña y una casa pequeña y eficiente puede que sólo vea un máximo uso actual de 5 kilovatios (kW). Cambie la configuración del “Real Time kW Usage” (uso kW actual) a “5” y el máximo en el dial será 5kW en vez de 12kW. Si tiene una casa grande puede que se necesite cambiarlo a 40kW para que la aguja no se pegue. Se puede cambiar cualquiera de las escalas temporalmente por presionar las pestañas +/- . El valor de la escala se ajusta con respecto a los cambios de la escala cada vez que se presione la tecla +/-.

Graph Settings (Configuraciones de los gráficos):

Se puede ajustar cuales datos salen en los gráficos y en cual color.

Misc Settings (Configuraciones variadas):

Digite su código postal para ver el tiempo local.

Haga clic en “Show Power Factor” (Muestra el factor del poder) y KWA si quiere que estos valores se muestren en el “Dashboard” (tablero). (Si no sabe lo que son, es probable que no quiere mostrarlos)

Muestra varias UME's: Si tiene varias UME's se puede elegir mostrar todos los valores o sólo la suma.

System Setup Wizard

Welcome! | Network Settings | Time & Date | System Layout | Product Identification | Display Settings | **Footprints Settings** | Write To Device

Dashboard Settings

	Max Value	Scale Value
Real Time kW Usage:	12	1
kWh Usage Since Midnight:	50	10
kWh Usage This Month:	2000	100
Projected kWh Usage:	2000	100
Average Daily kWh Usage:	50	1
Current Spending Per Hour:	1	1
Money Spent Since Midnight:	8	5
Money Spent This Month:	250	50
Projected Bill:	250	50
Average Daily Spending:	8	1
Real Time CO2 Emissions:	25	5
CO2 Emissions Since Midnight:	250	10
CO2 Emissions This Month:	3000	200
Projected CO2 Emissions:	3000	200
Avg Daily CO2 Emissions:	25	5
Present Voltage:	140	1
Voltage History Bottom:	100	

Graph Settings

Current kWh: ☐ ☒ Display

Current Voltage: ☐ ☒ Display

Misc. Settings

Weather Zip Code:

☐ Show Power Factor and kVA on Dashboard?

☐ Show multiple MTU data on Dashboard?

Previous Next Cancel

Write to Device (Escribir al aparato)

Como cualquier programa de software, hay que guardar los cambios que ha hecho. Se aplican los cambios al hacer clic en el botón “Update” (actualizar).

Backup Settings (Guardar Configuraciones)

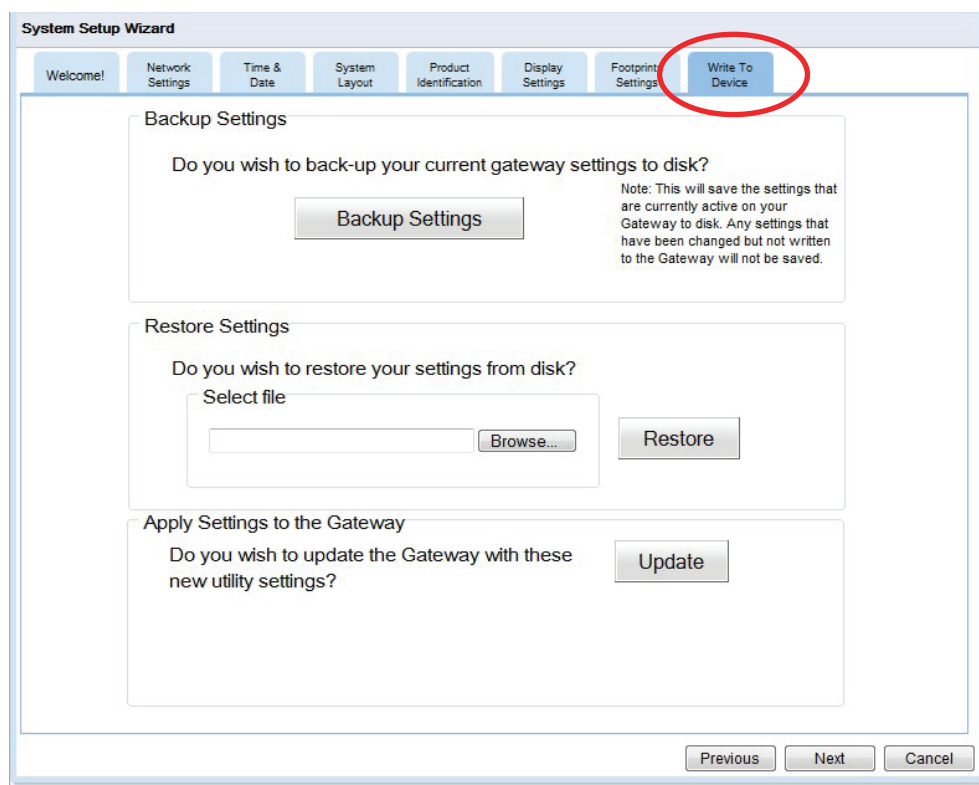
Antes de actualizar cambios, se puede guardar las configuraciones anteriores a un archivo en su computadora. (Recomendado)

Restore Settings (Restaurar Configuraciones)

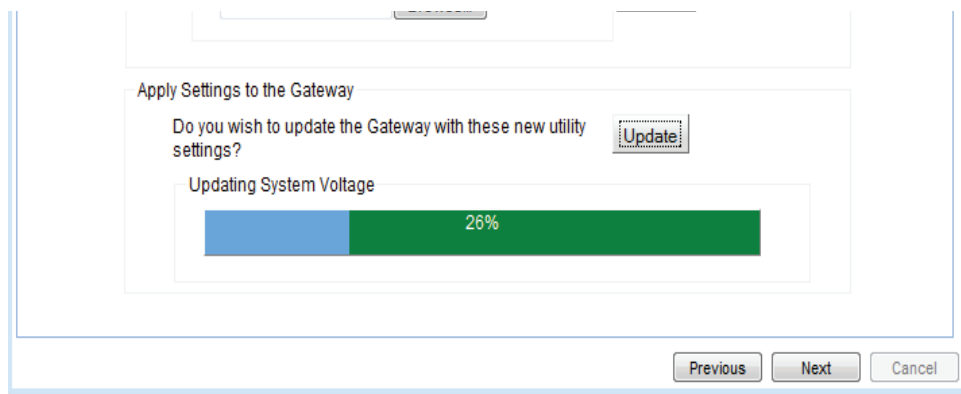
Se puede restaurar las configuraciones que han sido guardadas anteriormente en su computadora. Se aplican las configuraciones restauradas cuando selecciona el botón “Update” (actualizar).

Update (Actualizar)

Se usa esta función cada vez que hace un cambio al sistema TED5000. Así se actualizan los cambios que Ud. hace y se los guarda al Gateway. Presione UPDATE (Actualiza).



Después de presionar UPDATE (Actualiza), la barra del progreso le indica que está escribiendo los datos al Gateway.



Espere que la barra de progreso llegue a 100% y entonces Presione “Finish” (terminar). Entonces Footprints se actualizar el navegador y el sistema operará con las nuevas configuraciones. Se puede hacer cambios a las configuraciones en cualquier momento.

System Setup Wizard

Welcome! Network Settings Time & Date System Layout Product Identification Display Settings **Footprints Settings** Write To Device

Backup Settings

Do you wish to back-up your current gateway settings to disk?

Note: This will save the settings that are currently active on your Gateway to disk. Any settings that have been changed but not written to the Gateway will not be saved.

Restore Settings

Do you wish to restore your settings from disk?

Select file

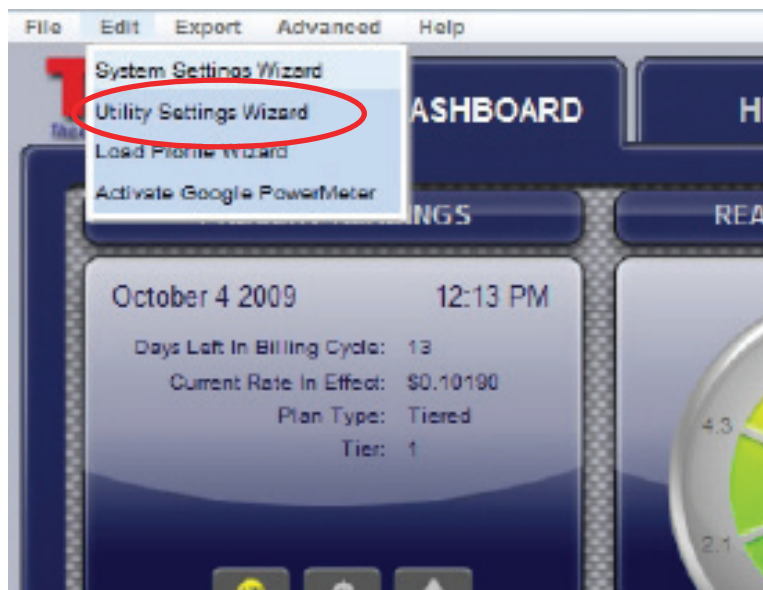
Apply Settings to the Gateway

Do you wish to update the Gateway with these new utility settings?

Saving settings to Gateway

Utility Settings Wizard (Ayudante de las configuraciones de la utilidad)

Estas configuraciones afectan las calculaciones de tarifa del sistema TED5000. Es recomendado tener su factura de electricidad más reciente a mano.



Utility Setup Wizard

Welcome! **Utility Rate Setup** Plan Type Tiers Energy Rates Additional Charges Write To Device

Basic Setup

What is the Meter Read Date?

Utility Seasons

How many energy rate seasons does your utility use?

TED5000 se vuelve a cero automáticamente el ciclo de facturación en la fecha de revisión de medidor de electricidad. Esta fecha puede fluctuar de factura a factura por unos días (dependiendo en fines de semana, etc.), pero es bastante confiable. Le sugerimos que no cambie la fecha de revisión del medidor si le llega la factura de electricidad y la fecha se varía por uno o dos días por que probablemente su próxima factura estará ajustada.

Seleccione 1 si su utilidad no tiene tarifas variadas para estaciones diferentes del año.
 Seleccione 2 si tiene tarifas de verano e invierno
 Seleccione 3 si tiene tres estaciones
 Seleccione 4 si tiene invierno, primavera, verano y otoño

Seleccione NEXT (siguiente) después de seleccionar

Previous **Next** Cancel

Utility Setup Wizard

Welcome! Utility Rate Setup **Plan Type** Tiers Energy Rates Additional Charges Write To Device

Plan Type

Please choose your plan type:

Tiered
Flat
Tiered
Time of Use
Tiered and TOU

Escoja su tipo de plan de tarifa aquí:

FLAT (Fija) – un precio fijo por kWh (kilovatio por hora). (i.e. \$0.1152)

TIERED (Nivelada) – La factura de utilidad se utiliza una formula nivelada. (i.e. \$.xxxx por 1° xxx kWh y \$.xxxx por 2° xxx kWh y \$.xxxx por 3° kWh y etc.)

TIME OF USE (Tiempo de uso) – Su utilidad tiene tarifas diferentes durante varias horas del día. (i.e. Desde 8-10a.m. son \$.xxxx kWh, desde 1-6pm son \$.xxxx kWh.)

TIERED WITHIN A TIME OF USE (Nivelada dentro de un tiempo de uso) – Escoja esto si la factura de utilidad se basa en un sistema nivelado dentro de un sistema de tiempo de uso. (i.e. \$0.xxxx por 1° xxx kWh desde 8-10a.m., \$0.xxxx por kWh por 2° kWh desde 8-10a.m., etc)

Seleccione NEXT (siguiente) después de hacer su selección

Previous **Next** Cancel

El tipo de plan de tarifa seleccionado determina la pantalla que sigue

Ejemplos de pantallas mostrando tarifa fija con estaciones

Utility Setup Wizard

Welcome! Utility Rate Setup Plan Type **Energy Rates** Additional Charges Write To Device

Please enter your utility's rates:

Energy Rates

0.10000 \$/kW

Previous Next Cancel

Utility Setup Wizard

Welcome! Utility Rate Setup Plan Type **Energy Rates** Additional Charges Write To Device

Please enter your utility's rates:

Winter

0.10000 \$/kW

Summer

0.00000 \$/kW

Previous Next Cancel

Estas son las pantallas que se ve si selecciona 1, 2, 3 o 4 estaciones.

Utility Setup Wizard

Welcome! Utility Rate Setup Plan Type **Energy Rates** Additional Charges Write To Device

Please enter your utility's rates:

Season 1

0.10000 \$/kW

Season 2

0.00000 \$/kW

Season 3

0.00000 \$/kW

Previous Next Cancel

Utility Setup Wizard

Welcome! Utility Rate Setup Plan Type **Energy Rates** Additional Charges Write To Device

Please enter your utility's rates:

Winter

0.10000 \$/kW

Spring

0.00000 \$/kW

Summer

0.00000 \$/kW

Fall

0.00000 \$/kW

Previous Next Cancel

Ejemplo de pantalla mostrando TIERED RATE (tarifa nivelada) con dos estaciones

Utility Setup Wizard

Welcome! Utility Rate Setup Plan Type **Tiers** Energy Rates Additional Charges Write To Device

Tiers

How Many Tiers? 2

Winter

	from	to
Tier 1	0	800
Tier 2	801	

Summer

	from	to
Tier 1	0	1200
Tier 2	1201	

Previous Next Cancel

Si digitó una cantidad de estaciones que no sea "1", hay que introducir los Tiers (niveles) para cada estación.

Al digitar el "breakpoint" (punto de cambio) del primer Tier (nivel), el segundo punto de cambio se aparece automáticamente. Ponga el punto de cambio del 2º nivel. El inicio del 3º nivel aparece automáticamente.

Después de digitar el penúltimo punto de cambio, TED muestra el inicio del "balance" de kWh automáticamente.

Utility Setup Wizard

Welcome! Utility Rate Setup Plan Type **Tiers** Energy Rates Additional Charges Write To Device

Tiers

How Many Tiers? 3

Winter

	from	to
Tier 1	0	800
Tier 2	801	802
Tier 3	803	

Summer

	from	to
Tier 1	0	1200
Tier 2	1201	1202
Tier 3	1203	

Previous Next Cancel

Utility Setup Wizard

Welcome! Utility Rate Setup Plan Type **Tiers** Energy Rates Additional Charges Write To Device

Tiers

How Many Tiers? 4

Winter

	from	to
Tier 1	0	800
Tier 2	801	802
Tier 3	803	804
Tier 4	805	

Summer

	from	to
Tier 1	0	1200
Tier 2	1201	1202
Tier 3	1203	1204
Tier 4	1205	

Previous Next Cancel

Ejemplos de pantallas mostrando tarifas de tiempo de uso con estaciones

Utility Setup Wizard

Welcome! Utility Rate Setup Plan Type **TOU** Energy Rates Additional Charges Write To Device

TOU Rates

How Many TOU Rates? **4** TOU Rate Applicable? ☐ Saturday? ☐ Sunday? ☐ Holiday

La mayoría de utilidades consideran los fines de semana y feriados de tarifa reducida. Haga clic aquí si este NO es el caso.

Fijese que cada tarifa puede estar en el AM y el PM. Si una tarifa sólo ocurre una vez al día, deje el otro (AM o PM) en el puesto original de 12:00 – 12:00

TOU Times

	Winter				Summer			
	AM TOU		PM TOU		AM TOU		PM TOU	
	from	to	from	to	from	to	from	to
Super-Peak	12:00AM	12:00AM	12:00AM	12:00AM	12:00AM	12:00AM	12:00AM	12:00
Mid-Peak	12:00AM	12:00AM	12:00AM	12:00AM	12:00AM	12:00AM	12:00AM	12:00
Peak	12:00AM	12:00AM	12:00AM	12:00AM	12:00AM	12:00AM	12:00AM	12:00
Off-Peak	All Other Times				All Other Times			

Si ha introducido varias estaciones, se necesita introducir los periodos de TOU (tiempo de uso) para las estaciones también.

Seleccione NEXT (siguiente) al completarlo

Previous **Next** Cancel

Utility Setup Wizard

Welcome! Utility Rate Setup Plan Type TOU **Energy Rates** Additional Charges Write To Device

Please enter your utility's rates:

Winter

Super-Peak	Mid-Peak	Peak	Off-Peak
0.10000 \$/kW	0.00000 \$/kW	0.00000 \$/kW	0.00000 \$/kW

Summer

Super-Peak	Mid-Peak	Peak	Off-Peak
0.00000 \$/kW	0.00000 \$/kW	0.00000 \$/kW	0.00000 \$/kW

Digite las tarifas correspondientes. Si la utilidad tiene un sexto dígito, redondéelo.

Seleccione NEXT (siguiente) al completarlo

Previous **Next** Cancel

Utility Setup Wizard

Welcome! Utility Rate Setup Plan Type TOU Energy Rates **Additional Charges** Write To Device

Energy or Fuel Surcharge
 Recarga de energía o combustible // ¿Hay un recargo de energía o combustible?
 Is there an Energy or Fuel Surcharge? Yes ▼

Winter Summer
 \$/kWh 0.00 \$/kWh 0.00

Esto es una carga hecha por algunas, pero no todas las utilidades de vez en cuando para recuperar los gastos extraordinarios de combustible.

Fixed Charges
 Carga fijas // ¿Se le hace una carga fija por periodo la utilidad?
 Does your utility make a Fixed Charge per period? Yes ▼

Winter Summer
 \$ 10.00 \$ 0.00

Por ejemplo, gastos de las luces públicas u otros gastos recurrentes que la utilidad le pasa al cliente. Si se aplica más que uno carga fija, digite la suma de todas las cargas.

Minimum Charge
 Carga mínima // ¿Se le cobra una carga mínima por periodo su utilidad?
 Does your utility charge a Minimum Charge Per Period? Yes ▼

Winter Summer
 \$ 0.00 \$ 0.00

Algunas utilidades, además de cargar por kWh, tienen una carga mínima para la electricidad. Típicamente es una carga fija.

Taxes
 Impuestos // ¿Se aplican impuestos municipales, del estado o federales a la factura?
 Are there municipal, state, or federal taxes applied to your bill? Yes ▼

Winter Summer
 % 5.00 % 0.00

Cobrado como un porcentaje de la factura entera. Si tiene cargas múltiples de su factura que se calculan en porcentajes, se puede sumar todas y digitarlas aquí.

Previous **Next** Cancel

Seleccione NEXT (siguiente) al completarlo

Write to Device (Escribir al aparato)

Como cualquier programa de software, hay que guardar los cambios que ha hecho. Se aplican los cambios al hacer clic en el botón “Update” (actualizar).

Backup Settings (Guardar Configuraciones)

Antes de actualizar cambios, se puede guardar las configuraciones anteriores a un archive en su computadora. (Recomendado)

Restore Settings (Restaurar Configuraciones)

Se puede restaurar las configuraciones que han sido guardadas anteriormente en su computadora. Se aplican las configuraciones restauradas cuando selecciona el botón “Update” (actualizar).

Update (Actualizar)

Se usa esta función cada vez que hace un cambio al sistema TED5000. Así se actualizan los cambios que Ud. hace y se los guarda al Gateway. Presione UPDATE (Actualizar)

The screenshot shows the 'Utility Setup Wizard' window with the 'Write To Device' tab selected and circled in red. The window contains three sections: 'Backup Settings' with a 'Backup Settings' button and a note about saving current settings; 'Restore Settings' with a 'Select file' field, a 'Browse...' button, and a 'Restore' button; and 'Apply Settings to the Gateway' with a question 'Do you wish to update the Gateway with these new utility settings?' and an 'Update' button. A red arrow points to the 'Update' button with the text 'Presione'. At the bottom are 'Previous', 'Next', and 'Cancel' buttons.

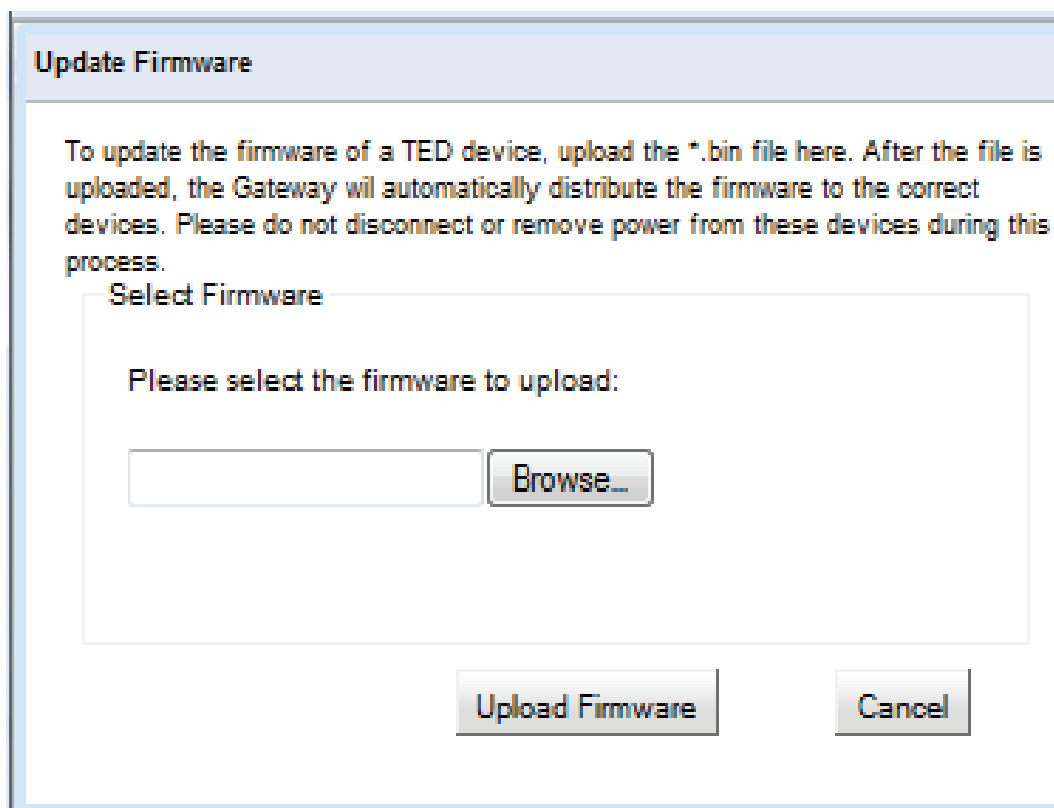
This screenshot shows the 'Apply Settings to the Gateway' section of the wizard. It includes the same 'Update' button. Below it is a progress bar labeled 'Updating System Voltage' which is currently at 26%. A red arrow points to the 'Next' button at the bottom with the text 'Espere que la barra de progreso llegue a 100% y entonces presione FINISH (terminar)'.

Actualizar Firmware

Habr  ocasiones en las cuales TED o su utilidad tendr  actualizaciones para su firmware. Puede ser una actualizaci n para la pantalla, la UME o el Gateway. Puede ser un cambio de tarifa, modificaci n de software, o una nueva funci n. Hay varias maneras de recibir las actualizaciones: por un v nculo en un correo electr nico, una descarga directa de la p gina de web de TED, o de la p gina de su utilidad. Usted tendr  la opci n de instalar la actualizaci n. Despu s de cargar la actualizaci n en su computadora, hay que iniciar la funci n “Update Firmware” (actualizar firmware) en TED mostrado abajo.



Haga clic en el bot n Browse (Buscar) y ubique el firmware que quiere actualizar. Despu s de ubicar y seleccionar el archivo haga clic en “Update Firmware” (actualizar firmware). Desde este punto en adelante el proceso es autom tico. Dependiendo de la complejidad de la actualizaci n, el proceso puede durar desde 10 segundos hasta 10 minutos.



Google PowerMeter

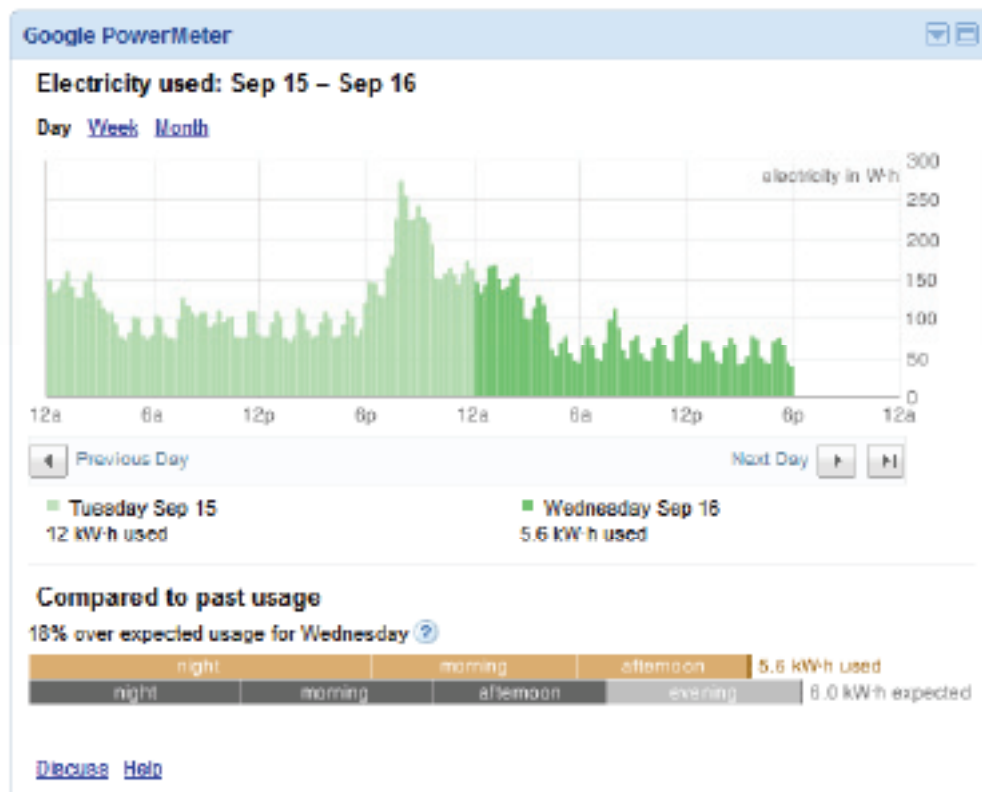
Your TED 5000 works with Google PowerMeter - Google's home energy monitoring tool.

Google PowerMeter helps you:

- **Access data** - View your electricity usage from any Internet-connected device, including your mobile phone.
- **Compare** - Display current and historical usage side-by-side in easy-to-understand charts and graphs.
- **Save** - Discover ways to reduce your electricity usage and lower your monthly bills.

Stay tuned as we continue to enhance Google PowerMeter.

To learn more about Google PowerMeter and to join our mailing list, visit www.google.org/powermeter.



Things to know before you enroll in Google PowerMeter

- Activating your TED 5000 for Google PowerMeter doesn't alter your Footprints profile in any way.
- Using Google PowerMeter does not send any personally identifiable information to Google.

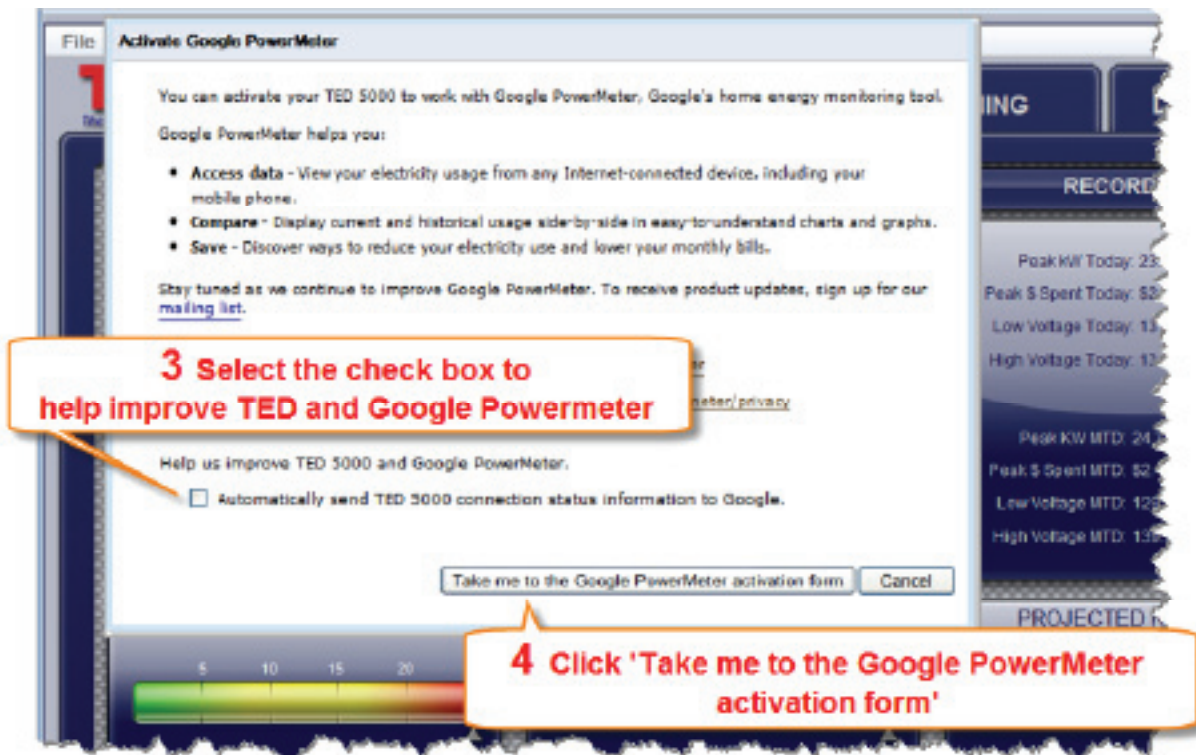
- You can choose to stop using Google PowerMeter at any time.
- You can help improve both the TED 5000 and Google PowerMeter by sending connection status information to Google.

Activate Your TED 5000 for Google PowerMeter

In Footprints:



When the "Activate Google PowerMeter" page appears:



Complete and submit the activation form to activate your TED 5000 for Google PowerMeter.

To adjust your settings or unenroll from Google PowerMeter visit: www.google.com/powermeter

Otros comandos en la pestaña de configuración:



Volver los totales a cero

Esta acción vuelve los totales diarios y mensuales a CERO. Es una acción no-recuperable, así que asegúrese de que quiera volver los datos a cero.



Borrar Historia

Esta acción borra toda la historia guardada. Es una acción no-recuperable, así que asegúrese de que quiera borrar su historia.



Volver a las configuraciones originales de la fábrica

Esta acción borra todas las configuraciones que han sido guardadas al aparato y restaura las configuraciones de la fábrica. Es una acción no-recuperable, así que asegúrese de que quiera perder sus configuraciones actuales.

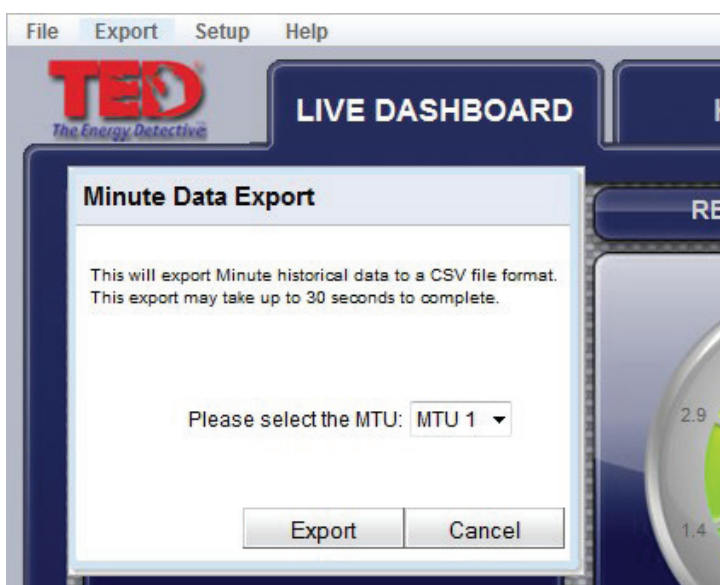
Pestaña de exportar



Función de exportar los datos

Como TED5000 guarda segundos, minutos, horas, días y meses en archivos separados, se los puede exportar independientes uno del otro.

Simplemente seleccione los datos que quiere exportar para analizar y siga las instrucciones de la pantalla.



Si tiene varias UME's o instalación Solar/de Viento, se puede exportar los datos para cada análisis.

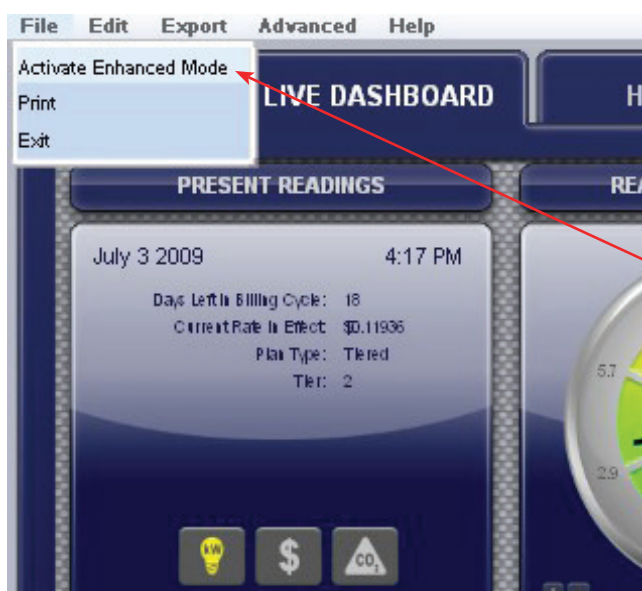
Pestaña Archivo

Imprimir/ Modo mejorado/Salir



Imprimir

Esta acción le permite imprimir cualquiera de las pantallas tales como aparecen en el TED5000, ej.: el Tablero, tablas históricas, gráficos o perfiles de carga.



Activar modo mejorado

El activar modo mejorado cambia temporalmente la muestra/intervalo de transmisión de las lecturas de poder y voltaje para reflejar las configuraciones que usted tiene en SYSTEM SETUP (configuración del sistema). Puede que use esta función para hacer algunos diagnósticos temporales donde necesita ver tiempo de respuesta más rápido de lo general.

Pestaña historial

Use esta tabla historial para comparar su uso con periodos anteriores. Los datos se actualizan automáticamente.

Compare horas, días y meses.

File Edit Export Advanced Help

LIVE DASHBOARD
HISTORY
GRAPHING
LOAD PROFILE

Month History

This Year			Last Year		
Month	Power	Cost	Month	Power	Cost
Jan 09	0 MWh	\$0.00	Jan 08	0 MWh	\$0.00
May 09	3050 MWh	\$310.12	May 08	0 MWh	\$0.00
Apr 09	0 MWh	\$0.00	Apr 08	0 MWh	\$0.00
Mar 09	0 MWh	\$0.00	Mar 08	0 MWh	\$0.00
Feb 09	0 MWh	\$0.00	Feb 08	0 MWh	\$0.00
Jan 09	0 MWh	\$0.00	Jan 08	0 MWh	\$0.00
Dec 08	174 MWh	\$120.05	Dec 07	0 MWh	\$0.00
Nov 08	0 MWh	\$0.00	Nov 07	0 MWh	\$0.00
Oct 08	0 MWh	\$0.00	Oct 07	0 MWh	\$0.00
Sep 08	0 MWh	\$0.00	Sep 07	0 MWh	\$0.00
Aug 08	0 MWh	\$0.00	Aug 07	0 MWh	\$0.00
Jul 08	0 MWh	\$0.00	Jul 07	0 MWh	\$0.00

Hour History

Today			Yesterday		
Hour	Power	Cost	Hour	Power	Cost
07.03 15:00	4 MWh	\$0.43	07.02 15:00	7 MWh	\$0.85
07.03 14:00	4 MWh	\$0.44	07.02 14:00	5 MWh	\$0.65
07.03 13:00	4 MWh	\$0.46	07.02 13:00	5 MWh	\$0.68
07.03 12:00	6 MWh	\$0.79	07.02 12:00	5 MWh	\$0.64
07.03 11:00	12 MWh	\$1.49	07.02 11:00	5 MWh	\$0.64
07.03 10:00	5 MWh	\$0.62	07.02 10:00	5 MWh	\$0.67
07.03 09:00	3 MWh	\$0.41	07.02 09:00	5 MWh	\$0.66
07.03 08:00	4 MWh	\$0.48	07.02 08:00	6 MWh	\$0.69
07.03 07:00	4 MWh	\$0.43	07.02 07:00	5 MWh	\$0.57
07.03 06:00	3 MWh	\$0.41	07.02 06:00	4 MWh	\$0.50
07.03 05:00	4 MWh	\$0.47	07.02 05:00	4 MWh	\$0.53
07.03 04:00	4 MWh	\$0.51	07.02 04:00	5 MWh	\$0.60
07.03 03:00	5 MWh	\$0.67	07.02 03:00	5 MWh	\$0.65
07.03 02:00	6 MWh	\$0.79	07.02 02:00	5 MWh	\$0.61
07.03 01:00	9 MWh	\$1.11	07.02 01:00	5 MWh	\$0.61
07.03 00:00	7 MWh	\$0.87	07.02 00:00	5 MWh	\$0.65
07.02 23:00	5 MWh	\$0.65	07.01 23:00	6 MWh	\$0.69
07.02 22:00	6 MWh	\$0.70	07.01 22:00	8 MWh	\$0.93
07.02 21:00	6 MWh	\$0.74	07.01 21:00	8 MWh	\$0.98
07.02 20:00	6 MWh	\$0.78	07.01 20:00	8 MWh	\$0.99
07.02 19:00	6 MWh	\$0.73	07.01 19:00	9 MWh	\$1.10
07.02 18:00	5 MWh	\$0.62	07.01 18:00	7 MWh	\$0.82
07.02 17:00	5 MWh	\$0.63	07.01 17:00	7 MWh	\$0.82
07.02 16:00	5 MWh	\$0.66	07.01 16:00	6 MWh	\$0.69

Day History

This Week			Last Week		
Day	Power	Cost	Day	Power	Cost
Thu 07.02	127 MWh	\$15.68	Thu 06.25	131 MWh	\$20.39
Wed 07.01	132 MWh	\$16.28	Wed 06.24	151 MWh	\$18.07
Tue 06.30	128 MWh	\$15.78	Tue 06.23	145 MWh	\$14.49
Mon 06.29	149 MWh	\$21.61	Mon 06.22	138 MWh	\$13.76
Sun 06.28	138 MWh	\$21.42	Sun 06.21	131 MWh	\$13.07
Sat 06.27	136 MWh	\$21.21	Sat 06.20	160 MWh	\$16.01
Fri 06.26	138 MWh	\$21.48	Fri 06.19	141 MWh	\$14.14

Pestaña de gráficos

TED5000 guarda los datos interiormente en el Gateway. Se puede recuperar estos datos en cualquier momento y verlos mostrados en una forma gráfica. Los datos que se pueden ver son:

SEGUNDOS – una hora de los datos de segundos en incrementos de la grabación viva (tiempo actual), 30 segundos o 1, 2, 5, 15, 30 y 60 minutos.

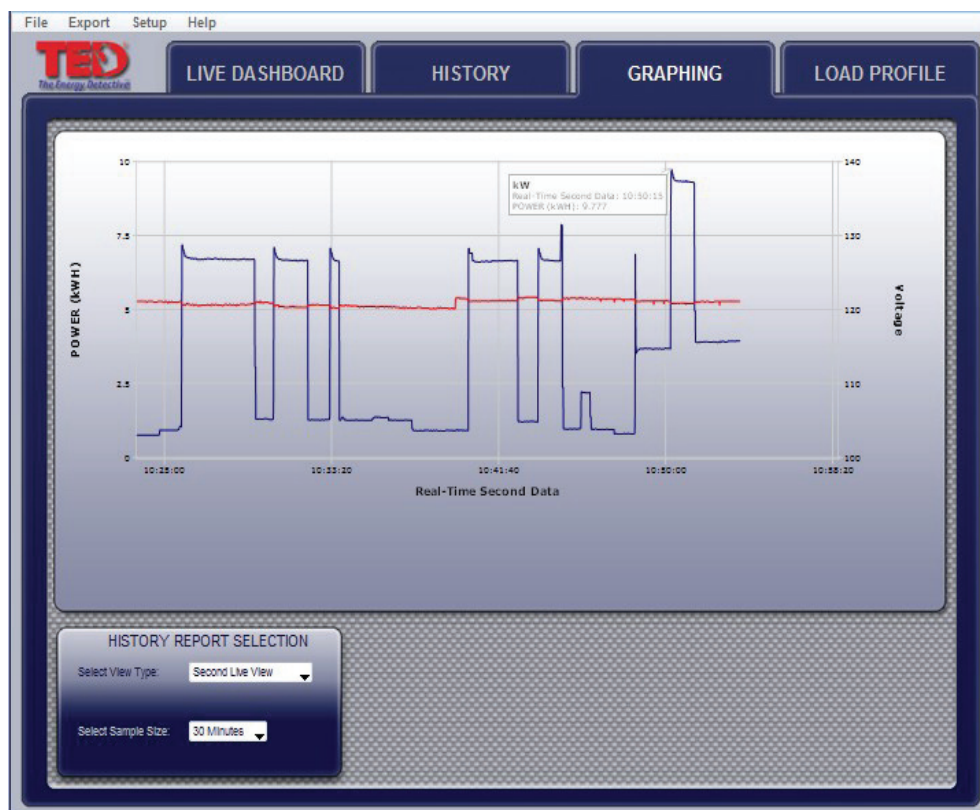
MINUTOS – 48 horas de los datos de minutos que se pueden visualizar en incrementos desde 30 minutos; 1, 2, 4, 12, 24, 36 hasta 48 horas.

HORA – 90 días de los datos de horas están guardados. Se puede ver los datos históricos de horas para cualquier rango de datos en incrementos de periodos de 7 días. Se puede ver los datos de horas específicas en kWh, voltaje o dólares.

DÍA – Se guardan 2 años de los datos diarios. Se puede ver los datos diarios para cualquier rango seleccionado de los periodos de los dos años anteriores en periodos de 90 días. Se puede ver los siguientes datos: kWh, dólares, mínimo/máximo voltaje, mínimos/máximos gastos, mínima/máxima electricidad (kW).

MES – 10 años de los datos mensuales están guardados. Se pueden ver los datos: kWh, dólares, mínimo/máximo voltaje, mínimos/máximos gastos, mínima/máxima electricidad (kW).

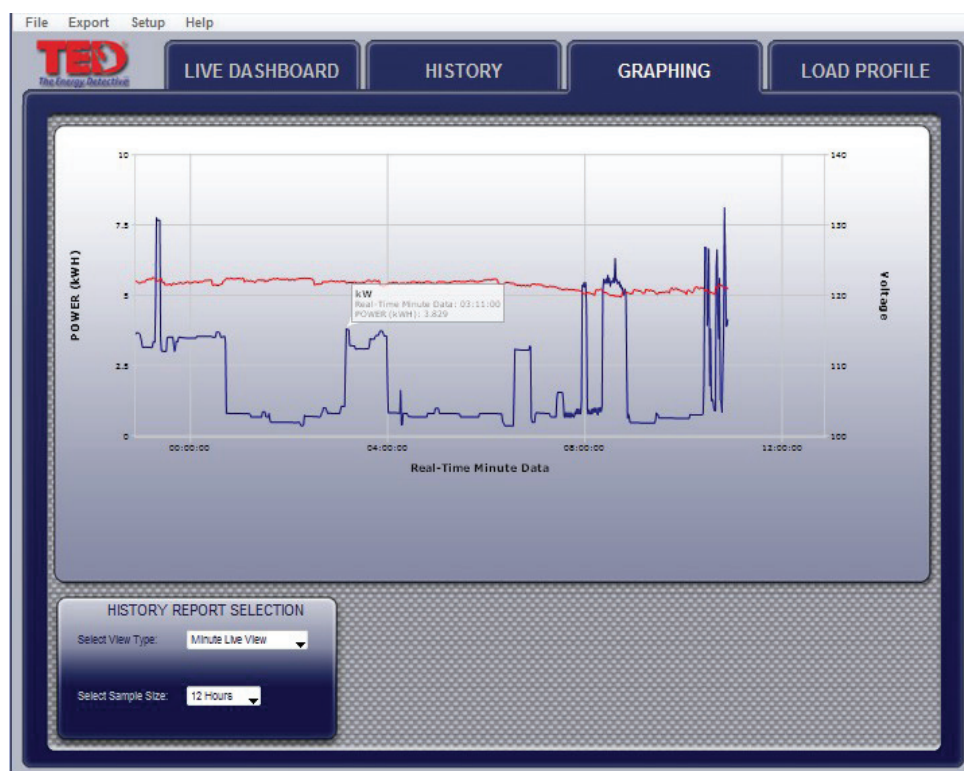
Muestra – Gráfico de segundos de kW – escala seleccionada es de 30 segundos



El usuario puede elegir los colores de las líneas en configuración del sistema.

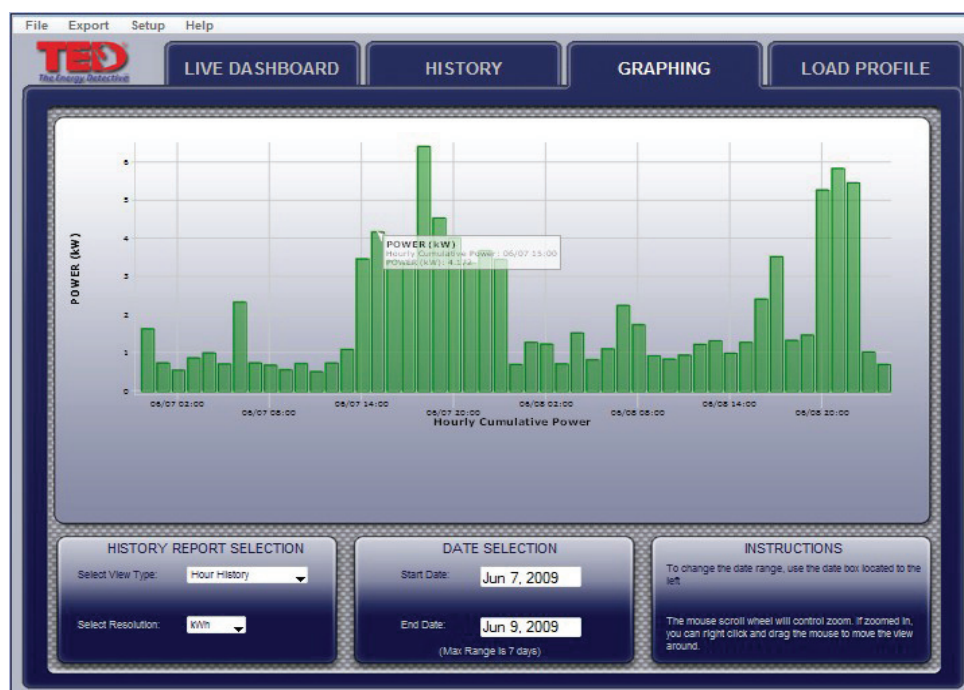
Si hay más que una UME instalada, o tiene instalado el paquete Solar/de viento, se visualiza cada UME en niveles o independiente uno del otro.

Muestra – Gráfico de minutos de kW – escala seleccionada es de 12 horas.



Al ver este gráfico, se nota inmediatamente cuando está prendido el a/c, cuando empieza actividad en la casa, el prender del calentador de agua, etc.

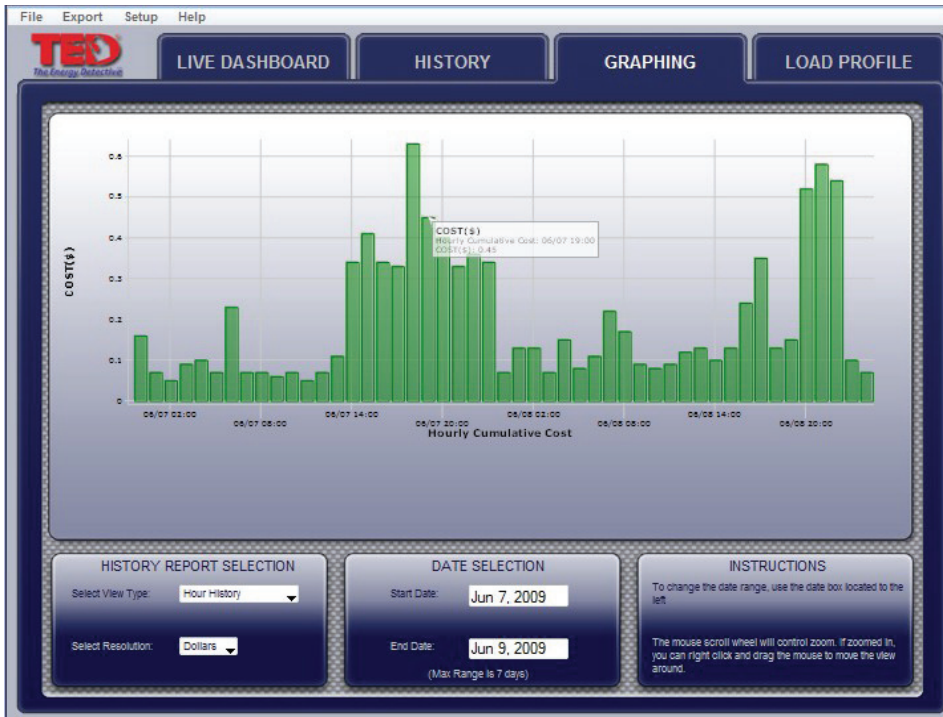
Muestra – Gráfico de kWh – rango seleccionado es de 2 días



Sosténgase sobre cualquier punto del gráfico para ver un detalle específico de ese momento.

Aquí hay una vista de 2 días que muestra el kWh usado cada hora del día.

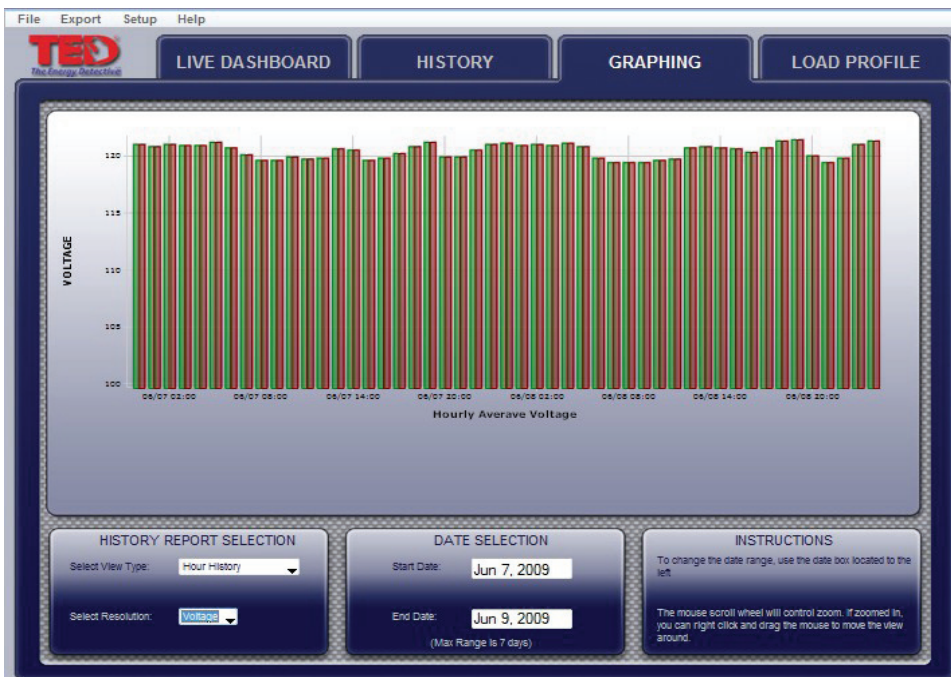
Aquí hay una vista de 2 días que muestra el kWh usado cada hora del día.



Esto es una vista de 2 días que muestra los dólares gastados cada hora del día.

Sostenga sobre cualquier punto del gráfico para ver un detalle específico del uso.

Muestra – Gráfico de horas de mínimo y máximo voltaje – rango seleccionado es de 2 días.



Esto es una vista de 2 días que muestra el mínimo y el máximo voltaje enviado a su casa durante un periodo de 2 días.

Como todos los gráficos, sostenga sobre cualquier punto del gráfico para ver un detalle específico.

Muestra – Gráfico diario del uso de kWh – rango seleccionado es de 7 días



Esto es una vista de 7 días que muestra el kWh usado cada día.

Vea cuales días se ocupa más electricidad. ¿Qué sucedió estos días?

Muestra – Gráfico diario de mínimo y máximo uso de kW- rango seleccionado es de 7 días



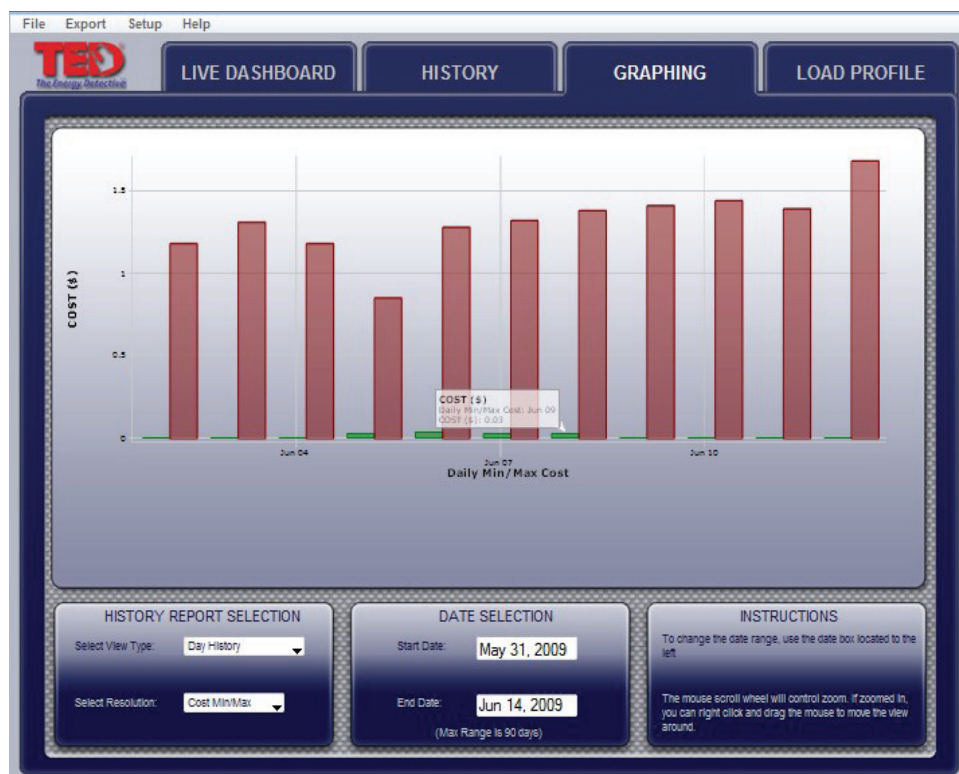
Esto es una vista de 7 días que muestra el mínimo y máximo kW usado cada día.

¿Por qué es tan alto?!

¿Por qué es tan bajo?!

¿Qué tan bajo puede lograr?

Muestra – Gráfico diario de mínimo y máximo de dinero gastado – rango de 7 días.



Esto es una vista de 7 días que muestra la máxima y la mínima cantidad de dinero gastado cada día.

Ahora sí, ¡es significativo! El dinero vale.

Muestra – Gráfico diario de mínimo y máximo de dinero gastado – rango de 11 días.



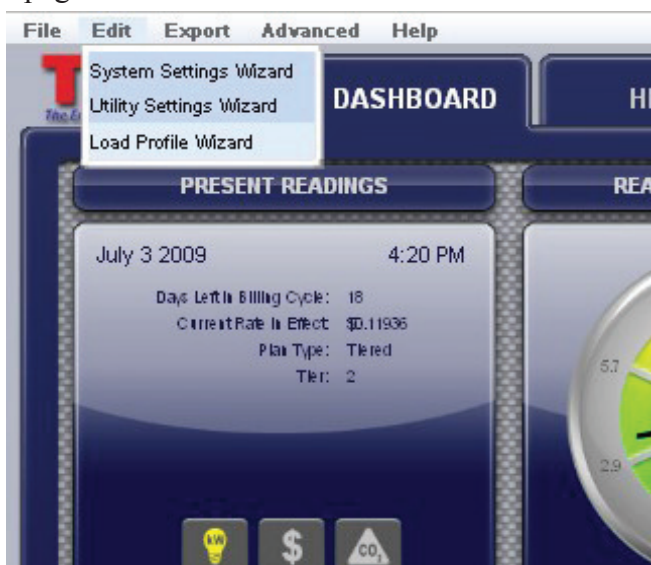
Esto es una vista de 11 días que muestra lo más alto y lo más bajo del uso de voltaje de la utilidad cada día.

El paquete Solar/de viento muestra la generación, electricidad proporcionada por la red de energía y el net.

Haciendo Perfil de carga

TED Footprints tiene la habilidad de monitorear cambios simples del uso de kW para crear Load Profile Events (perfil de un evento de carga). Se basa el concepto de los perfiles de carga en el reconocimiento de TED de una 'huella' creada cuando una carga está encendida o apagada. En teoría, se puede hacer un perfil de cualquier carga de electricidad, sin embargo, las cargas más comunes (ej. una luz de 60v) tienen más probabilidades de registrar un positivo-falso. Es decir, tal vez se enciende la computadora o el televisor o cualquier carga de 60v, y Footprints no se puede distinguir cual aparato es encendido – la luz, la computadora o el televisor. No obstante, se puede hacer perfiles más fáciles con cargas grandes (calentador de agua, HVAC, bomba de piscina, jacuzzi) porque no es probable que tengan cargas parecidas. Por favor tome nota de que la función de 'Load Profile' (perfil de carga) tiene la intención de indicar que un aparato ha sido encendido o apagado, y que hay varios factores que pueden causar que un evento sea registrado erróneamente.

El siguiente ejemplo se muestra un Load Profiling (el hacer perfil de una carga) de un calentador de agua. El encender un calentador de agua puede registrar una aumentación de 4.6kW durante unos segundos. TED Footprints busca el aumento de 4.6kW para registrar un evento que indica que el aparato ha sido encendido. Cuando se mide una disminución de 4.6kW, Footprints registra otro evento para indicar que el aparato ha sido apagado.



Para agregar, editar o borrar un perfil de carga de un aparato. Seleccione "Load Profile Wizard" (ayudante de los perfiles de carga) en EDIT (editar). TED Footprints puede monitorear hasta cinco aparatos eléctricos.

Para agregar un aparato

Para agregar un aparato Appliance Names must be unique. Nombres de los aparatos tienen que ser únicos. Si se intenta a agregar otro aparato con el mismo nombre de un aparato ya puesto, se borra las configuraciones del aparato original.

De UME - le permite seleccionar con cual UME se utiliza para medir la carga (cuando hay paneles duales eléctricos o generación solar/de viento). Generalmente solo hay una UME.

Etapas de inicio – Algunos aparatos tienen varias etapas de inicio (ej. algunos sistemas A/C).

Etapas de parar - Parecido a las etapas de inicio, algunos aparatos se apagan en etapas.

Porcentaje de error - Se puede ajustar esta figura como quiera el usuario. Le ayuda al TED Footprints evitar lecturas falsas positivas.