

Web-Mon Guide



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Web-Mon User Guide

Overview	5
Compatibility	5
Internet Browser	5
Email	5
E-Mon Meters	5
Ethernet Connectivity	5
IP Address	5
HTTP	6
Users	6
Port Forwarding	6
Application Configuration	7
Logging in to Configure the Application.....	7
TCP/IP.....	8
Interface 1	8
Interface 2	8
Hostname	8
Hosts File	9
DNS Domain	9
IPv4 Gateway (Gateway).....	9
DNSv4 Servers (DNS Servers)	9
Interface Fields	9
Date and Time (Platform).....	10
RS-485 Devices (EZ7 Network)	11
Connection Enabled.....	11
Serial Port	11
Ethernet Tunnel	12

WEB-MON GUIDE

Discovering Meters on the RS-485 Bus..... 13

IDR Configuration..... 16

Class 3000 / V-Class Configuration 18

Universal Inputs..... 19

 IO Enabled..... 19

 Board Enabled..... 19

 Input Fields 19

Users..... 20

 Default Users..... 20

 User Properties..... 20

Email 22

 Hostname 22

 Port..... 22

 Authentication..... 22

Alarming..... 23

 Escalation Level 23

 Delay 23

 Email Recipients..... 23

Emissions Assumptions..... 24

Exports 25

 Web-Mon Export 25

 E-Mon Energy Export..... 25

 Manual Export 25

Database..... 26

Screen Reference..... 27

 Home..... 27

 Alarms..... 30

WEB-MON GUIDE

Log History..... 32

Resources..... 33

Diagnostics 34

Total Emissions 35

Charts..... 37

 Consumption 37

 Demand 38

Meter Dashboard..... 40

Interval Data..... 42

Daily Data 44

 Meter Emissions..... 46

Overview

The Web-Mon (Web Enabled Energy Monitor) allows users to easily access energy data via computer. The Web-Mon provides an energy dashboard and various graphical displays of energy data to a standard web browser via an Ethernet LAN or remotely via the Internet.

Compatibility

Internet Browser

The Web-Mon application can only be accessed with an Internet browser. The browser must support Java version 6. Visit <http://www.java.com>.

Email

For alarm notification and nightly data exports, the Web-Mon device must have access to an SMTP server.

E-Mon Meters

Up to 24 metering devices are supported. The 24 meters can be a combination of any of the following:

- Class 1000 – Requires an I/O module.
- Class 2000 & Green Class Meters – Requires an I/O module.
- Class 3000 – Integrates with the RS-485 port.
- V-Class & Class 5000 Meters – Integrates with the RS-485 port.
- IDR – Integrates with the RS-485 port.

Ethernet Connectivity

IP Address

When shipped, a new Web-Mon controller is pre-configured with IP addresses on both ports.

- The primary port, LAN1, is 192.168.1.12 n , where the last numeral n in the IP address matches the last numeral in the device's serial number. This port should be connected to an Ethernet hub.

WEB-MON GUIDE

- The secondary port, LAN2, is 100.100.1.130. This port should only be used when the IP address of LAN1 is lost or forgotten.
- The default subnet mask is: 255.255.255.0

You can change these IP network settings during application configuration.

HTTP

The Web-Mon is accessible via any standard Internet browser that supports the Java plug-in (version 6 or higher).

1. Install the Java plug-in if necessary, visit <http://www.java.com>
2. The first time the application is accessed, visit the IP address as defined in the prior section.
3. The application is available on the default HTTP port: 80.
4. Login using credentials from the following section.

Users

Manager – The user name and password are *manager*. This user has access to setup screens.

Operator – The user name and password are *operator*. This user does not have access to setup screens.

Admin – This user is the factory install user, it should never be used unless the passwords for all other setup users have been lost or forgotten. The user name is *admin* and the password is *green*.

Port Forwarding

Exposing Web-Mon from behind a firewall, requires that a number of ports be forwarded:

- 80 – Required. This is for web access.
- 1911 – Required. Once the application is loaded in the browser, it communicates with the Web-Mon server on this port using a proprietary binary protocol.
- 3011 – Optional. If service is required, this port is needed by technical support.
- 23 – Optional. This is only necessary for support personnel to remotely tunnel through the Web-Mon to meters on the RS485 bus. The port number is configurable in the application.

Application Configuration

Logging in to Configure the Application

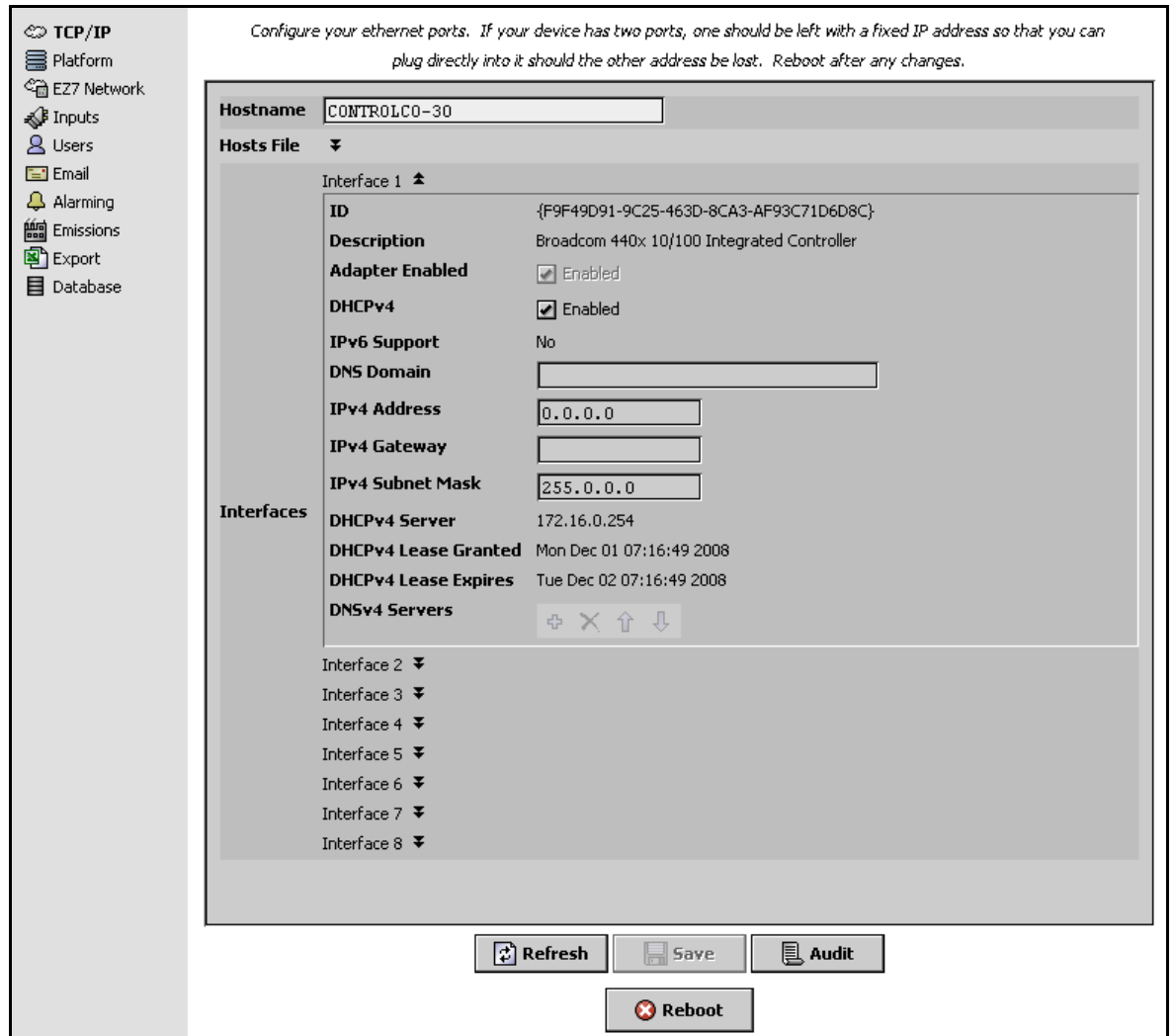
To configure the Web-Mon application, you must log into the application as a user that has access to the setup screens.

1. In the address bar of your Internet browser, type in the IP address of the Web-Mon controller. The default IP address on the LAN1 port is 192.168.1.12*n*, where *n* is the last digit of the controller's serial number.
2. Enter *manager* as the user name and password.
3. If login is successful, the following Setup page should be visible.

The screenshot displays the 'Setup' page of the E-MonD-Mon Web-Mon Appliance. The page has a blue header with the E-MonD-Mon logo and the tagline 'Leading the industry for over 25 years.' Below the header is a navigation menu with icons for Home, Health, Charts, Emissions, and Setup. The main content area is titled 'Welcome to the Web-Mon Appliance' and 'Where To Begin'. It provides a list of links to configure various system settings, such as TCP/IP, Platform, EZ7 Network, Inputs, Users, Email, Alarming, Emissions, and Export. A 'Then What?' section provides information about other links available on the page, including Home, Health, Charts, and Database. The footer of the page shows 'E-Mon | Logout'.

TCP/IP

Web-Mon controllers have two configurable Ethernet ports called interfaces. You must reboot after making any changes.



Interface 1

This port is labeled LAN1 on the device and is the primary Ethernet port. This port should be used for accessing the application.

Interface 2

This port is labeled LAN2 on the device and is the secondary Ethernet port. It should only be used to access the application if the IP address of Interface 1 is lost or forgotten.

Hostname

The host name is the "computer name." This is a string that can be processed by a DNS server to resolve an IP address. By default, the hostname for a Web-Mon appliance is *Web-Mon*.

If using hostnames on your network, this should be assigned a unique name.

Hosts File

The hosts file is a standard TCP/IP hosts file, where each line associates a specific IP address with a known hostname. To review and edit, you click on the expand control to see all entries.

DNS Domain

The TCP/IP Domain Name System (DNS) domain the host belongs to, if used.

IPv4 Gateway (Gateway)

The IP address for the device that forwards packets to other networks or subnets.

DNSv4 Servers (DNS Servers)

The IP address for one or more DNS servers (if available), where each can automate associations between hostnames and IP addresses. Included are icon-buttons to Add (to enter IP address of server), Delete, and move Up/Down (to set the DNS search order).

Interface Fields

Adapter Enabled	Read-only checkbox that indicates whether the Ethernet port is usable.
DHCPv4 (DHCP)	<p>A checkbox to specify DHCP (Dynamic Host Configuration Protocol) instead of static IP addressing. Successful use requires a DHCP server installed on your network.</p> <p>If enabled, other interface fields such as IP Address and Subnet Mask become read-only, as these are assigned by the DHCP server after the platform reboots.</p> <p>In general (for stability), static IP addressing is recommended over DHCP.</p> <p>Do not enable DHCP unless sure that your network has one or more DHCP servers! Otherwise, the Web-Mon may become unreachable over the network.</p>
IPv4 Address (IP Address)	<p>The "static" IP address for this host, unique on your network.</p> <p>If a Web-Mon is actively using both LAN ports, the LAN1 IP address and LAN2 IP address must be on different subnets, otherwise the ports will not function correctly. For example, using a typical "Class C" subnet mask of 255.255.255.0, setting Interface 1=192.168.1.99 and Interface 2=192.168.1.188 is an invalid configuration, as both addresses are on the same subnet.</p>
IPv4 Subnet Mask (Subnet Mask)	The "static" IP subnet mask used by this host.

You must reboot Web-Mon after making any TCP/IP changes.

Date and Time (Platform)

The platform setup screen provides access to host configuration. It is only necessary to update the date, time and time zone.

TCP/IP
Platform
 EZ7 Network
 Inputs
 Users
 Email
 Alarming
 Emissions
 Export
 Database

These settings provide access to low level services of the underlying platform. It is important to set the date, time and time zone.

Name	WebMonDev								
Host	My Host : CONTROLCO-30 (WebMonDev)								
Model	Workstation								
Host ID	Win-BCCD-DA90-6E76-00A6								
Niagara Version	3.3.27								
Java VM Name	Java HotSpot(TM) Client VM								
Java VM Vendor	Sun Microsystems Inc.								
Java VM Version	1.6.0_02-b06								
OS Name	Windows XP								
OS Arch	x86								
OS Version	5.1								
Platform Daemon Port	3011								
Locale	en_US								
System Time	09:08								
Date	09-Feb-2009								
Time Zone	America/Los_Angeles (-8/-7)								
Engine Watchdog Policy	Terminate								
Engine Watchdog Timeout	00000h 01m [0ms - +inf]								
Enable Station Auto-Save	<input checked="" type="checkbox"/> Enable								
Station Auto-Save Frequency	00001h 00m [0ms - +inf]								
Station Auto-Save Versions to Keep	3								
Number of CPUs	2								
Current CPU Usage	8%								
Overall CPU Usage	9%								
Filesystem	<table border="1"> <thead> <tr><th></th><th>Total</th><th>Free</th><th>Block Size</th></tr> </thead> <tbody> <tr><td>C:\</td><td>150,384,464 KB</td><td>106,016,508 KB</td><td>4,096 bytes</td></tr> </tbody> </table>		Total	Free	Block Size	C:\	150,384,464 KB	106,016,508 KB	4,096 bytes
	Total	Free	Block Size						
C:\	150,384,464 KB	106,016,508 KB	4,096 bytes						
Physical RAM	<table border="1"> <thead> <tr><th></th><th>Total</th><th>Free</th></tr> </thead> <tbody> <tr><td></td><td>2,095,480 KB</td><td>1,190,928 KB</td></tr> </tbody> </table>		Total	Free		2,095,480 KB	1,190,928 KB		
	Total	Free							
	2,095,480 KB	1,190,928 KB							

Refresh Save Reboot

RS-485 Devices (EZ7 Network)

E-Mon devices that utilize the EZ7 protocol over the RS-485 bus can be discovered and added to the application in this setup screen.

Connection Status {ok}
Status of the RS-485 connection between this host and the meter bus.

Connection Enabled Enabled

Serial Port
This will be either COM1 or COM2.

Ethernet Tunnel

Status Not in use

Enabled Disabled

TCP/IP Port

Devices

- Press discover to find E-mon devices.
- Since it can take a long to time scan every possible address you will be prompted for the number of devices being sought.
- IDRs with 16 inputs will appear as two unique 8 input IDRs.
- Double-click discovered devices to add them to the application. You MUST choose the correct type of device at that time.

Database			1 objects
Device Type	Address	Fault Cause	
Class 3000	1A		

Connection Enabled

If disabled, the application will not be able to communicate with any meters over the RS-485 bus. The Ethernet tunnel will temporarily disable the connection when in use.

Serial Port

This should be COM2 for the RS-485. COM1 is the RS-232 port.

Ethernet Tunnel

If enabled, the Web-Mon will accept TCP/IP connections on the configured port and relay any data between the RS-485 port and the TCP/IP client. This service can be used to diagnose connection and meter problems.

Do not leave the Ethernet tunnel enabled when it is not needed. Any incoming connection from the internet can disable normal communications.

The screenshot shows a configuration window with the following fields and values:

- Connection Status:** {disabled,down} (highlighted with a red box)
- Status of the RS-485 connection between this host and the meter bus.*
- Connection Enabled:** Enabled (radio button selected)
- Serial Port:** COM2
- This will be either COM1 or COM2.*
- Ethernet Tunnel:**
 - Status:** In use (highlighted with a red box)
 - Enabled:** Enabled (radio button selected)
 - TCP/IP Port:** 23

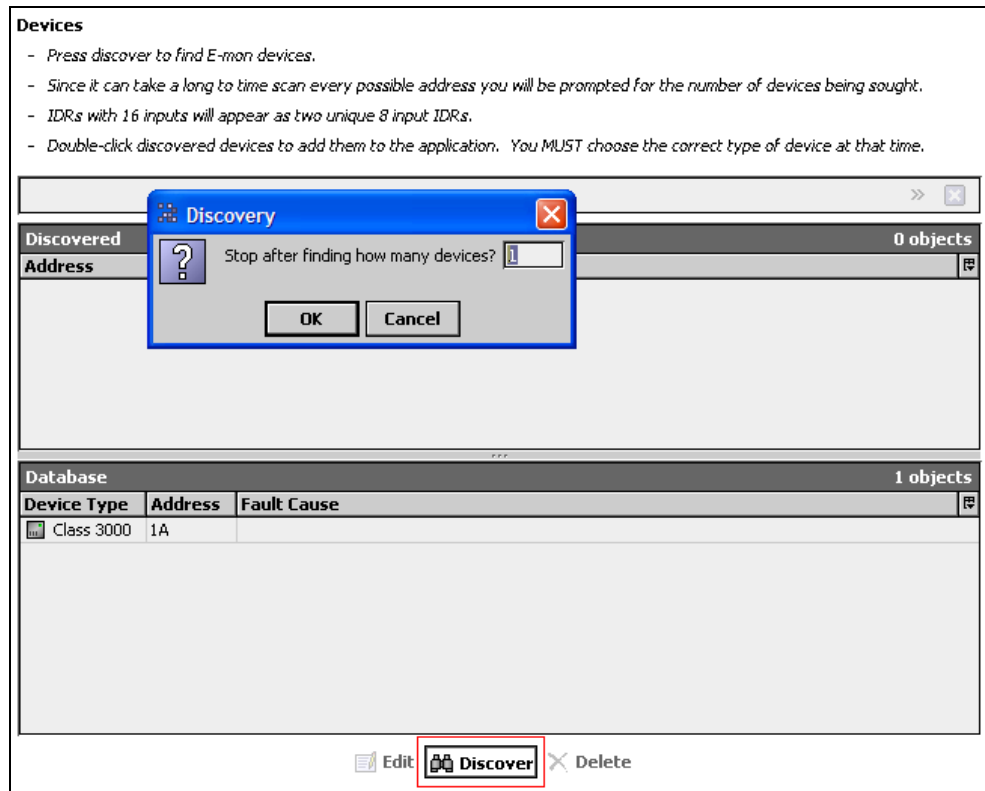
EZ7 is an ASCII protocol. It does not echo input from the client, so you might want to configure your client (such as HyperTerminal) to echo typed characters locally.

To verify that communications are working you must know the address of a meter. Suppose your meter address is 1A, you can type `!1A*,RV` and press the enter key. You should get a response similar to the following:

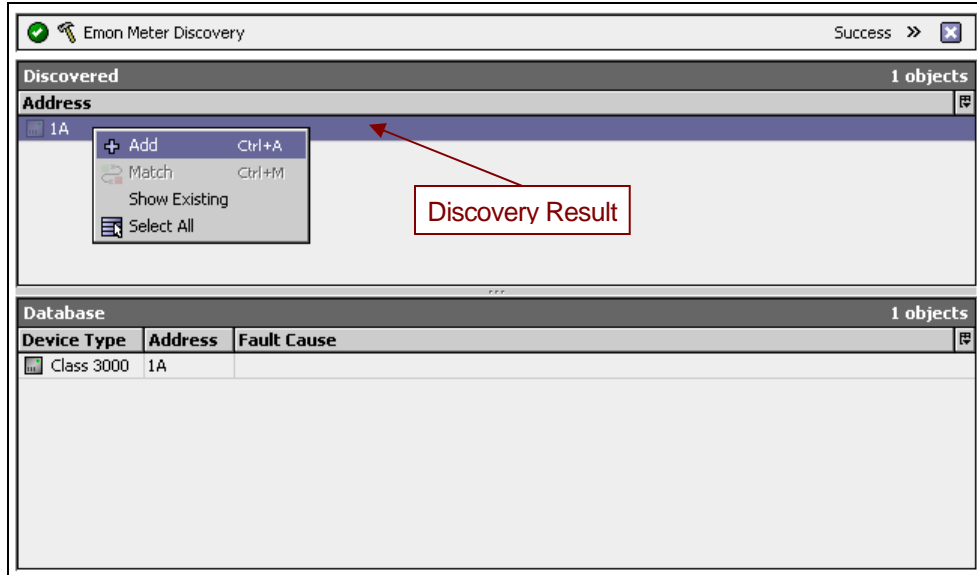
```
@1A*,RV
DEV: 1A*.07
VER: 02.60 03
REL: 01/09/04
EZ7: 01 04 04
DSC: PROMON-HS
COPYRIGHT(c) 1999-2004 BY E-MON L.P.
[*95FA+EOT*]
```

Discovering Meters on the RS-485 Bus

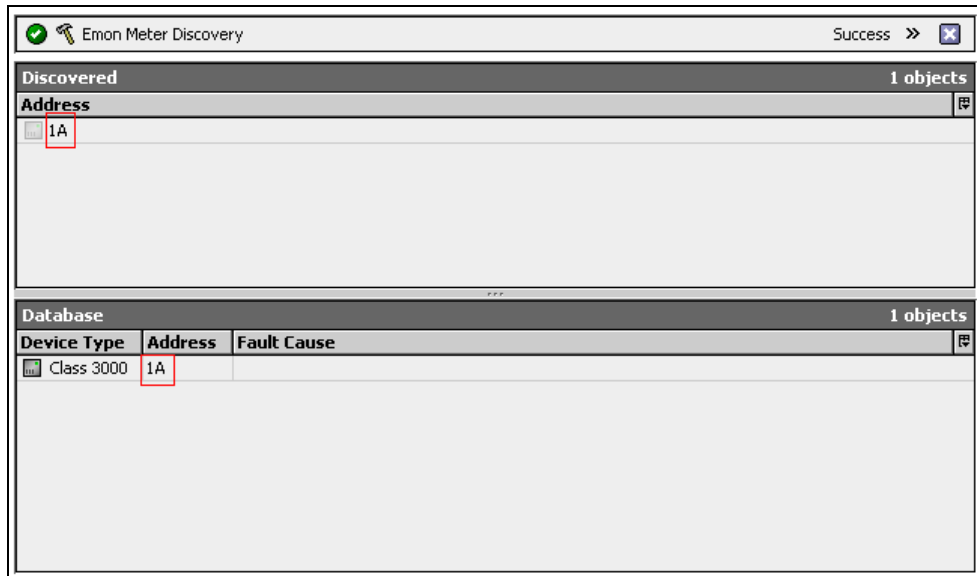
1. Press the Discover button.



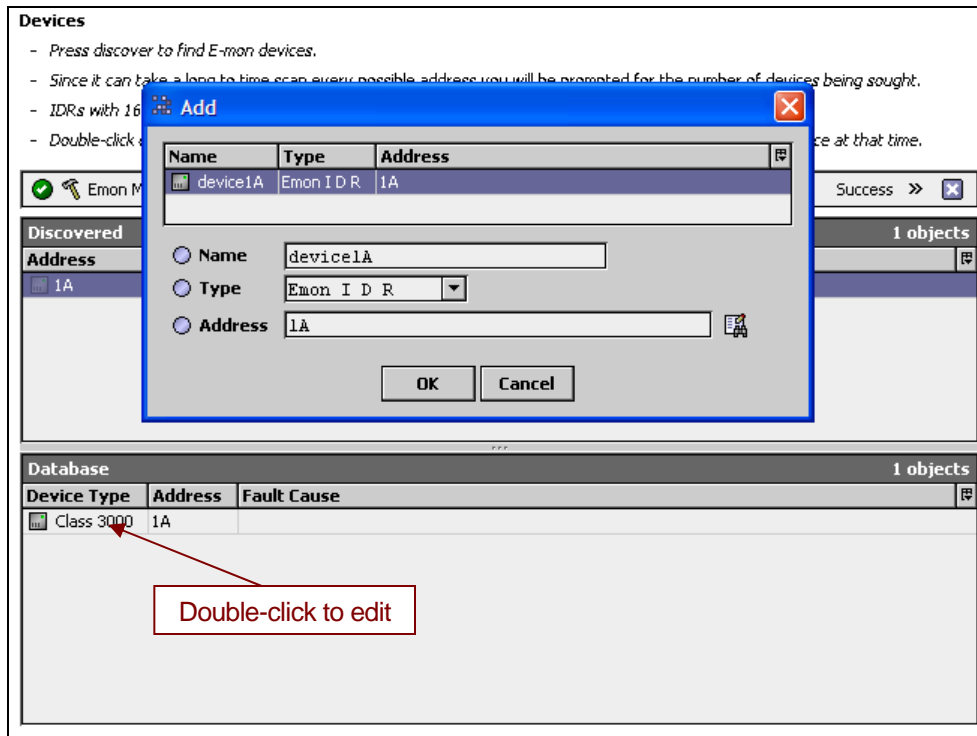
2. In the dialog that appears, select the number of devices you wish to find and press *OK*.
 - a. The application has to scan every possible address to find devices; this can take a very long time. By know how many devices to find, the discovery process can terminate as quickly as possible.
 - b. IDR16 will be discovered as two devices. All other meters represent a single device.
3. Double-click, or right-click discover results to add them to the application. Do not add devices with addresses that have already been added to the application.



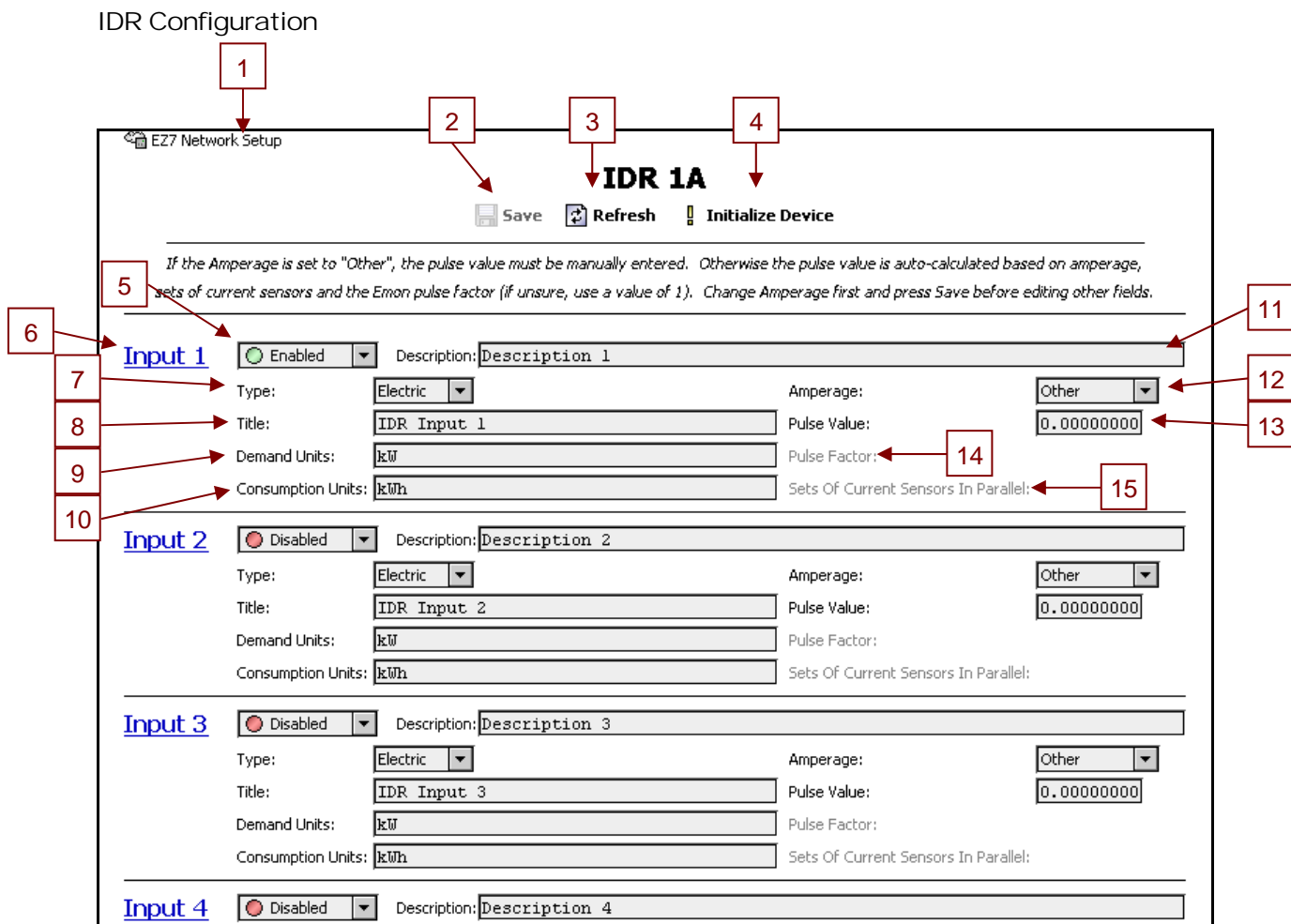
4. Do not add devices that have previously been added to the application.
 - a. Their address will match one of the rows in the lower Database table.
 - b. Already known devices will appear faded compared to unknown devices.



5. After double-clicking a discovery result, or selecting Add after right-clicking one, you must configure the device type before adding it to the application.
 - a. The name is unimportant, it is best to leave it unchanged.
 - b. Select the proper device type in the drop down.
 - c. There is no need to change the address.



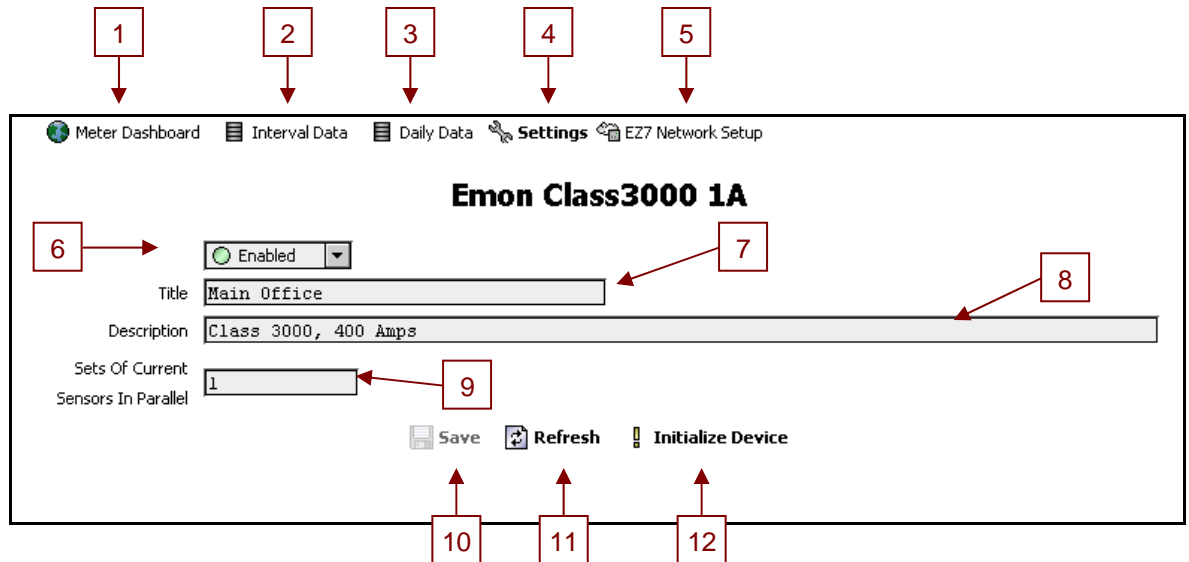
6. Double click a row in the Database table to edit the device configuration. This will take you to another page in the application.



1. EZ7 Network Setup – Link to the RS485 Network setup page.
2. Save – Will be enabled when there are changes to be saves. Do not leave this page with unsaved changes, they will be lost. Save any Amperage changes before modifying Pulse Value, Pulse Factor, or Sets of Current Sensors In Parallel.
3. Refresh – Will restore any modified fields to their last saved state.
4. Initialize Device – Initializes the hardware and resets the display if it has one.
5. Enabled/Disabled – Do not enable inputs that are not in use.
6. Input – Links to the meter dashboard.
7. Type – At this moment, all that matters is if the meter is electric or not. This field is used to calculate emissions.
8. Title – The meter title, used in various places including the comparison charts. This should be short and meaningful.

9. Demand Units – kW for example.
10. Consumption Units – kWh for example.
11. Description – A longer line of text, displayed under the meter title on the meter dashboard.
12. Amperage – Set to “Other” to manually input the pulse value. Otherwise, the pulse value will be calculated based on this, the pulse factor and the number of parallel current sensors. Always modify and save this field before modifying the following fields.
13. Pulse Value – Only valid when the Amperage is set to “Other.”
14. Pulse Factor –
15. Sets of Current Sensors in Parallel –

Class 3000 / V-Class Configuration



1. Meter Dashboard – Link to the meter dashboard.
2. Interval Data – Link to 15 minute interval data table.
3. Daily Data – Link to daily data table.
4. Settings – This page.
5. EZ7 Network Setup – Link to the RS485 Network setup page.
6. Enabled / Disabled – Hides the meter and disables data collection.
7. Title – The meter title, used in various places including the comparison charts. This should be short and meaningful.
8. Description – A longer line of text, displayed under the meter title on the meter dashboard.
9. Sets of Current Sensors in Parallel –
10. Save – Will be enabled when there are changes to be saves. Do not leave this page with unsaved changes, they will be lost. Save any Amperage changes before modifying Pulse Value, Pulse Factor, or Sets of Current Sensors In Parallel.
11. Refresh – Will restore any modified fields to their last saved state.
12. Initialize Device – Initializes the hardware and resets the display if it has one.

Universal Inputs

If an I/O module is available. Web-Mon can integrate with pulse enabled equipment.

IO Enabled

If disabled, the application will not be able to communicate with the I/O module.

Board Enabled

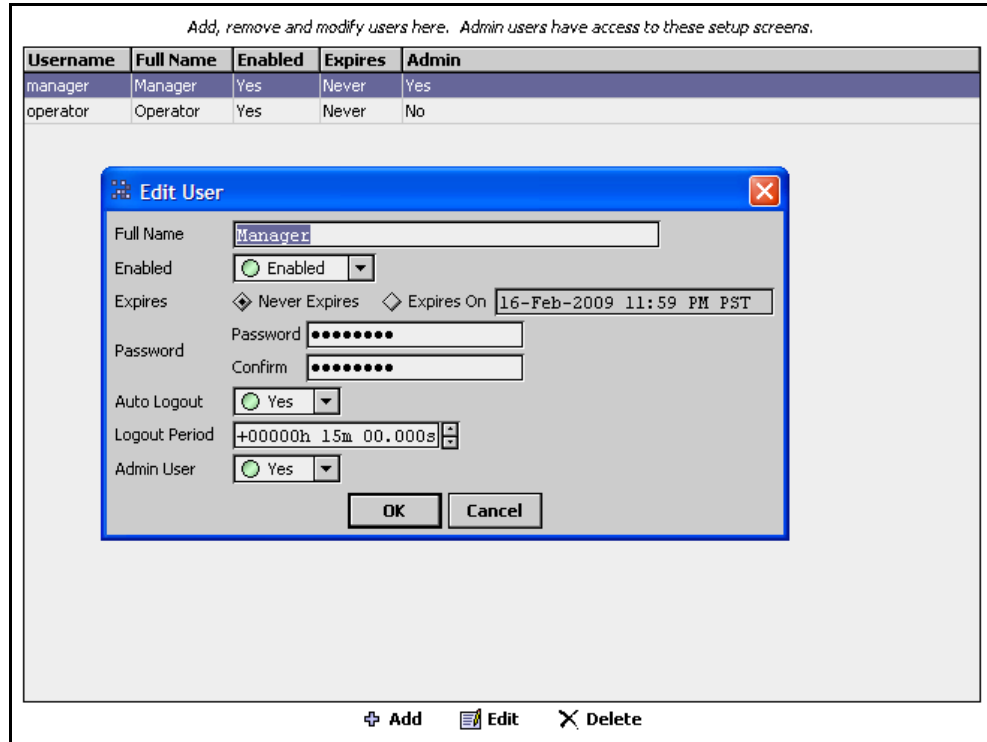
Use this to enable or disable the individual input modules.

Input Fields

Enabled	Read-only checkbox that indicates whether the Ethernet port is usable.
Title	Summary text to describe the input.
Description	Longer description of the input, only shown on the meter dashboard, under the title.
Demand Units	The pulse scale converts pulses into demand, such as KW or BTU. Any text is acceptable here.
Consumption Units	The demand is converted into an hourly consumption unit such as KWH or BTUH. Any text is acceptable here.
Type	Whether or not the input represents an electric meter (KW) or not. This is used for the emissions calculations.
Pulse Value	The value of each pulse in consumption units.

Users

Users can be added, removed and modified in the user setup screen. Admin users have access to the setup screens.



Default Users

Manager – The user name and password are *manager*. This user has access to setup screens.

Operator – The user name and password are *operator*. This user does not have access to setup screens.

Admin – This user is the factory install user, it should never be used unless the passwords for all other setup users have been lost or forgotten. The user name is *admin* and the password is *green*.

User Properties

Full Name – A more descriptive name than the login username.

Enabled – Disabled users will not be able to access the application.

Expires – An expiration date can be specified after which the user will not be able to access the application.

Password – The password need to access the application.

WEB-MON GUIDE

Auto Logout – When set to Yes, the user will be automatically logged out of the application after the Logout Period has expired.

Logout Period – If Auto Logout is set to Yes, this defines how much time of inactivity before logging out the user.

Admin User – If set to Yes, the user has access to the setup screens.

Email

An email server is necessary for nightly data export and for alarm escalation.

Configure the outgoing email server.

Hostname
Address of the SMTP email server. If email account being used to send email is name@host.com, hostname would be host.com.

Port [-1 - max]
The port of the outgoing email server. Leave at -1 for the default SMTP port.

Authentication Disabled
Many servers require account credentials to send email. If so, the account would be an email address such as name@host.com

Account

Password

Hostname

IP address or host name of the outgoing SMTP server.

Port

The TCP/IP port of the outgoing server. Leave at -1 for the default.

Authentication

Account – This is typically an email address such as *useremail@domain.com*, or just *useremail*.

Password – The account's password.



Alarming

This setup screen allows you to configure alarm escalation. All alarms (such as communication failures) go to the alarm console where they need to be acknowledged by a user. Email alerts can be sent if alarms go unacknowledged for a configurable period of time.

- All alarms go directly to the alarm console where they need to be acknowledged. If an alarm goes unacknowledged for a certain amount of time, email can be used to bring attention to the alarm. To send email notifications, enable and configure the escalation levels below.

- Separate multiple email recipients with semi-colons.

Escalation 1 Enabled	<input checked="" type="radio"/> Enabled
Delay	+00000h 05m
Email Recipients	support@emon.com
Escalation 2 Enabled	<input type="radio"/> Disabled
Delay	+00000h 15m
Email Recipients	
Escalation 3 Enabled	<input type="radio"/> Disabled
Delay	+00000h 30m
Email Recipients	

 Save  Refresh

Escalation Level

There are three levels of escalation. Each level, if enabled, will send an email after a configurable period of time.

Delay

This is the amount of time after an alarm is created, that an email alert will be sent.

Email Recipients



Use the semi-colon ; to delineate multiple recipients.

Emissions Assumptions

Emissions calculations can vary by region and will change over time as population consumption habits change. The emissions setup page allows you to change the default assumptions.

Here you can change the assumptions made in emissions calculations.


Lbs Co2 Per KWH	<input type="text" value="1.370000"/>
Lbs Nox Per KWH	<input type="text" value="0.004200"/>
Lbs So2 Per KWH	<input type="text" value="0.000013"/>
Lbs Co2 Per Gallon Gas	<input type="text" value="19.5640"/>
Miles Per Gallon Gas	<input type="text" value="20.0"/>
Lbs Co2 Per Forest Acre Per Year	<input type="text" value="5880"/>
Lbs Co2 Per Tree Per Year	<input type="text" value="25.0"/>

 Save  Refresh

Exports

The Web-Mon has a limited amount of storage. Nightly exports can be used to export data into other systems.

Daily data can be sent via email as a CSV (Comma Separated Values) file attachment.


Web-Mon Export  **Manual Export**

Enabled Disabled

Recipients *Separate with a semi-colon ';'*

From Address

Email Subject

Emon Energy Export  **Manual Export**



Data export for Emon Energy software.

Enabled Disabled

Recipients *Separate with a semi-colon ';'*

From Address

Email Subject

 **Refresh**  **Save**

Web-Mon Export

Use this to export data to any application *except* E-Mon Energy™. The file format is CSV and includes the header row that defines each column.

E-Mon Energy Export

This export is dedicated for use with E-Mon Energy Software.


Manual Export

Data from either export can be manually exported. Recipients and time ranges are configurable when you click either *Manual Export* button.

Database

The database page allows you to clear records from the database.

Title	Address	Status	Enabled	Description
MAIN POWER PANEL "P"	1A1	First record: 07-Apr-09 11:00 AM PDT	Enabled	MAIN POWER PANEL "P"
HVAC PANEL "P"	1B1	First record: 07-Apr-09 11:00 AM PDT	Enabled	HVAC PANEL "P"
LIGHTING PANEL "B"	0A1	First record: 07-Apr-09 11:15 AM PDT	Enabled	LIGHTING PANEL "B"
LIGHTING PANEL "A"	0A2	First record: 07-Apr-09 11:15 AM PDT	Enabled	LIGHTING PANEL "A"
HOT WATER HEATER PANEL "A"	0A3	First record: 07-Apr-09 11:45 AM PDT	Enabled	HOT WATER HEATER

 **Clear Data**

1. Select the histories you wish to modify.
2. Clear records by pressing this button.

Screen Reference

Home

The screenshot shows the E-MonD-Mon web interface. At the top, there is a navigation bar with links for Home, Health, Charts, Emissions, and Setup. Below this is a banner for E-MonD-Mon with the tagline 'Leading the industry for over 25 years.' The main content area features a table of meters with columns for Meter {status}, Address, Live Demand, Peak Demand Today, and Consumption Today. Below the table is contact information for E-Mon, including address, phone numbers, and email. At the bottom, there are links for E-Mon and Logout. Numbered callouts 1-10 point to the following elements:

- 1: Home link in the navigation bar
- 2: Health link in the navigation bar
- 3: Charts link in the navigation bar
- 4: Emissions link in the navigation bar
- 5: Setup link in the navigation bar
- 6: Meter title 'HOT WATER HEATER PANEL "A" {ok}'
- 7: E-Mon contact information
- 8: Live Demand value (0.00)
- 9: Peak Demand Today value (2.2)
- 10: Consumption Today value (6.22)

Meter {status}	Address	Live Demand	Peak Demand Today	Consumption Today
MAIN POWER PANEL "P" {ok}	1A1	12.56	21.8	260.26
HVAC PANEL "P" {ok}	1B1	2.40	7.8	67.23
LIGHTING PANEL "B" {ok}	0A1	4.48	5.2	59.75
LIGHTING PANEL "A" {ok}	0A2	3.36	3.8	39.97
HOT WATER HEATER PANEL "A" {ok}	0A3	0.00	2.2	6.22

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 Langhorne, PA 19047
 (800) 334-3666 toll-free
 (215) 752-0601 main
 (215) 752-3094 fax
 info@emon.com e-mail

E-Mon | Logout

1. Home – Link to this page.
2. Health – Link to health and diagnostics. This link will blink red when there are open alarms.
3. Charts – Link to comparison charts.
4. Emissions – Link to the emissions dashboard.
5. Setup – Link to the setup screen. Only available to administrative users.
6. Meter title – Each row represents a meter and links to a meter dashboard. This column displays the title and status of the meter. The following are possible status values:
 - a. Ok – The meter has no problems.
 - b. Fault – There is an error condition.
 - c. Disabled – The meter has been disabled in this application.
 - d. Down – Communications with the meter are down.

- e. Alarm / Unacked Alarm – The meter has an alarm on the alarm console. Unacked means an alarm is unacknowledged.
- 7. Address – The E-Mon address of the meter.
- 8. Demand – The approximate real time demand.
- 9. Peak Demand – The peak demand of the day.
- 10. Consumption Today – Total consumption for the day.

11. Health

The Health Page provides information that can be used to diagnose problems with your Web-Mon.



1. Health – The health link will blink with red text when there are open alarms. An alarm is “open” if it is unacknowledged or is still in an abnormal state.
2. Alarms – The alarm console.
3. Log History – The system event log.
4. Resource – Resource utilization such as memory and CPU.
5. Diagnostics – Information about integrated hardware such as IO Modules and meters.

Alarms

The alarm console allows you to view everything that is, or was in an abnormal condition. The main intent of this page is to alert you to the fact that something is wrong. All you need to do on this page is acknowledge alarms to close them out.

Each row represents the most recent alarm from a single source. If there are multiple alarms for a single source, double clicking the row will show all of the alarms. Double clicking a single alarm will then show more details about a specific alarm.

The screenshot shows the 'Alarms' tab interface. At the top, there are tabs for 'Alarms', 'Log History', 'Resources', and 'Diagnostics'. Below the tabs is a header for 'Open Alarms' with a sub-header '5 Sources / 500 Alarms'. The main area is a table with the following columns: Timestamp, Source State, Ack State, Source, Alarm Class, Priority, and Msg Text. The table contains four rows of data. Below the table are several callout boxes numbered 1 through 15. Callout 1 points to the 'Alarms' tab. Callout 2 points to a green icon in the first row. Callout 3 points to the first row. Callouts 4 through 10 point to the columns: 4 (Timestamp), 5 (Source State), 6 (Ack State), 7 (Source), 8 (Alarm Class), 9 (Priority), 10 (Msg Text). Callouts 11 through 15 point to buttons: 11 (Acknowledge), 12 (Hyperlink), 13 (Notes), 14 (Silence), 15 (Filter).

Open Alarms							5 Sources / 500 Alarms
Timestamp	Source State	Ack State	Source	Alarm Class	Priority	Msg Text	
16-Feb-09 2:40:55 PM PST	Normal	0 Acked / 496 Unacked	Class 3000 1A	defaultAlarmClass	255	Ping Success	
16-Feb-09 3:07:30 PM PST	Offnormal	0 Acked / 1 Unacked	IO Board 4	defaultAlarmClass	255	Ping Fail	
16-Feb-09 3:07:29 PM PST	Offnormal	0 Acked / 1 Unacked	IO Board 3	defaultAlarmClass	255	Ping Fail	
16-Feb-09 3:07:27 PM PST	Offnormal	0 Acked / 1 Unacked	IO Board 2	defaultAlarmClass	255	Ping Fail	
16-Feb-09 3:07:24 PM PST	Offnormal	0 Acked / 1 Unacked	IO Board 1	defaultAlarmClass	255	Ping Fail	

1. Alarms – The alarm console is accessible on the Alarms tab on the Health page.
2. Green Icon – The alarm source has returned to a normal state.

3. Red Icon – The alarm source is in an abnormal state.
4. Timestamp – The time the alarm was created. If a row represents multiple alarms, it is the time of the most recent alarm.
5. Source State – Whether or not the alarm source has returned to a normal state.
6. Ack State – How many alarms have been acknowledge, or not, for the alarm source.
7. Source – The source of the alarm.
8. Alarm Class – At this time, only defaultAlarmClass is used.
9. Priority – This will always be 255.
10. Msg Text – Description of the most recent alarm in the row.
11. Acknowledge Button – Use this to acknowledge alarms. Acknowledged alarms will remain in the alarm console if they are still in an abnormal condition.
12. Hyperlink Button – Always disabled at this time.
13. Notes – Notes can be added to alarms.
14. Silence – Silences continuous sounding alarms. This application does not have any at this time.
15. Filter – Can be used to clear up the console, but shouldn't be necessary at this time.

Log History

The log history table contains significant events which could be useful when trouble shooting problems.

Alarms Log History Resources Diagnostics

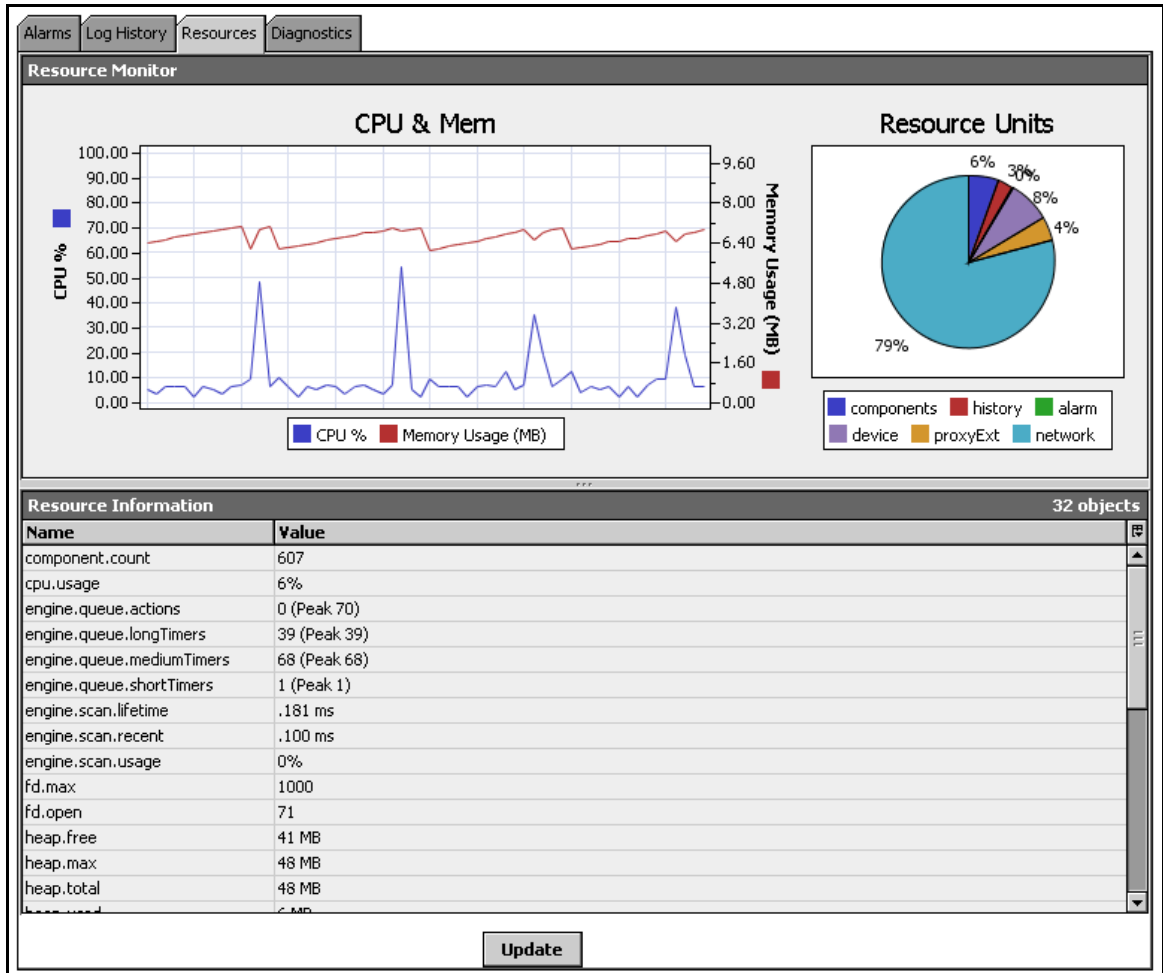
Double-click a row for detailed information.
 If there are problems with the application, the log history table may contains clues about the problem.

Time Range 05-Feb-09 7:18 AM PST to ?

/WebMon/LogHistory				473 records
Timestamp	Log Name	Severity	Message	
15-Feb-09 2:42:29 PM PST	sys	1	Saving station...	
15-Feb-09 2:42:32 PM PST	history.db	1	Saved history archive (1211ms)	
15-Feb-09 2:42:33 PM PST	sys	1	Saved /ffs0/niagara/stations/WebMon/config.bog (4651ms)	
16-Feb-09 9:10:50 AM PST	console	1	Quit	
16-Feb-09 9:10:50 AM PST	sys	1	Saving station...	
16-Feb-09 9:14:12 AM PST	ndio	3	Unable to init ndio device at ioPort <1>	
16-Feb-09 9:14:13 AM PST	ndio	3	Unable to init ndio device at ioPort <2>	
16-Feb-09 9:14:14 AM PST	ndio	3	Unable to init ndio device at ioPort <3>	
16-Feb-09 9:14:14 AM PST	ndio	3	Unable to init ndio device at ioPort <4>	
16-Feb-09 9:14:16 AM PST	web.server	1	HTTP Server started on port 80	
16-Feb-09 9:14:17 AM PST	fox	1	Service started on port 1911	
16-Feb-09 9:14:17 AM PST	sys	1	nre.version: 3.4.43	
16-Feb-09 9:14:17 AM PST	sys	1	*** Station Started (9074ms) [103650ms total] ***	
16-Feb-09 9:20:09 AM PST	fox	2	Closing session [0: Server 71.140.196.97:2684 doesn't match opened session [null]]	
16-Feb-09 9:20:11 AM PST	fox	1	Opened: 1 <- 3 :: Workbench [admin] @ CONTROLCO-30	
16-Feb-09 9:51:47 AM PST	console	1	Quit	
16-Feb-09 9:51:47 AM PST	sys	1	Saving station...	
16-Feb-09 9:53:55 AM PST	ndio	3	Unable to init ndio device at ioPort <1>	
16-Feb-09 9:53:56 AM PST	ndio	3	Unable to init ndio device at ioPort <2>	
16-Feb-09 9:53:56 AM PST	ndio	3	Unable to init ndio device at ioPort <3>	
16-Feb-09 9:53:56 AM PST	ndio	3	Unable to init ndio device at ioPort <4>	
16-Feb-09 9:53:59 AM PST	web.server	1	HTTP Server started on port 80	
16-Feb-09 9:53:59 AM PST	fox	1	Service started on port 1911	
16-Feb-09 9:54:00 AM PST	sys	1	nre.version: 3.4.43	
16-Feb-09 9:54:00 AM PST	sys	1	*** Station Started (9457ms) [76445ms total] ***	
16-Feb-09 9:59:47 AM PST	fox	2	Closing session [0: Server 71.140.196.97:3135 doesn't match opened session [null]]	
16-Feb-09 9:59:49 AM PST	fox	1	Opened: 1 <- 5 :: Workbench [admin] @ CONTROLCO-30	

Resources

This tab displays information such as CPU and memory utilization.



Diagnostics

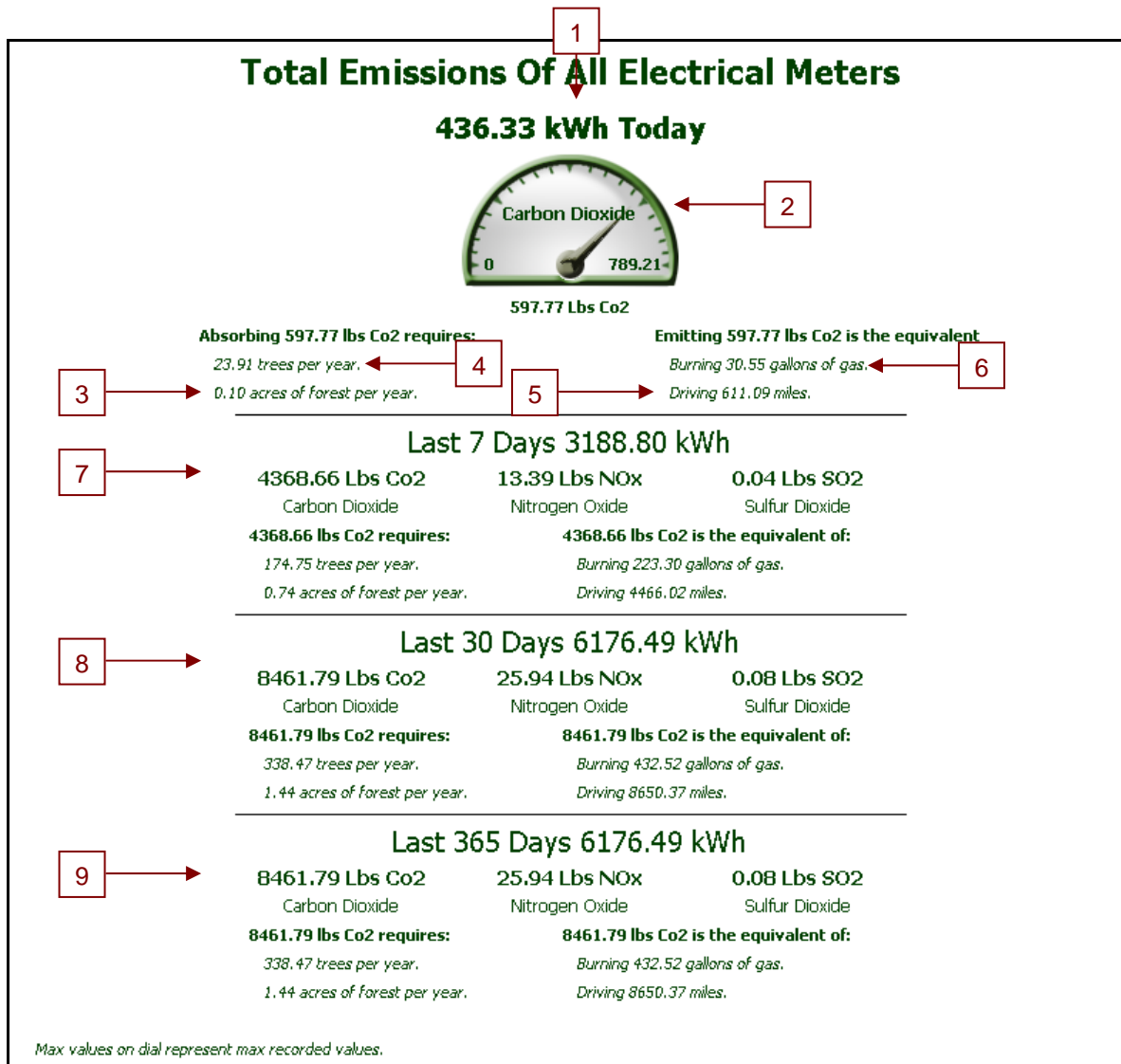
This tab displays the status of integrated hardware such as meters and IO modules.

The screenshot shows a web interface with the following content:

- Alarms** | **Log History** | **Resources** | **Diagnostics**
- EZ-7 Serial Network**
 - Status: {ok}
 - Fault Cause:
 - Last Ping OK: 16-Feb-09 11:13 AM PST
 - Last Ping Fail: 13-Nov-08 11:08 AM PST
 - Last Ping Fail Cause: java.lang.NullPointerException
 - Serial Port: COM2
 - Serial Port Status: {ok}
- Meter 1A**
 - Status: {ok}
 - Fault Cause:
 - Last Ping OK: 16-Feb-09 11:13 AM PST
 - Last Ping Fail: 16-Feb-09 3:08 AM PST
 - Last Ping Fail Cause: No response for 1A*.RL
- IO Network**
 - Status: {disabled}
 - Fault Cause:
 - Last Ping OK: null
 - Last Ping Fail: null
 - Last Ping Fail Cause:
- IO Board 1**
 - Status: {disabled}
 - Fault Cause:
 - Last Ping OK: null
 - Last Ping Fail: null
 - Last Ping Fail Cause:
- IO Board 2**
 - Status: {disabled}
 - Fault Cause:
 - Last Ping OK: null
 - Last Ping Fail: null

Total Emissions

This page allows you to view the environment impact of all the electrical meters being monitored by Web-Mon.



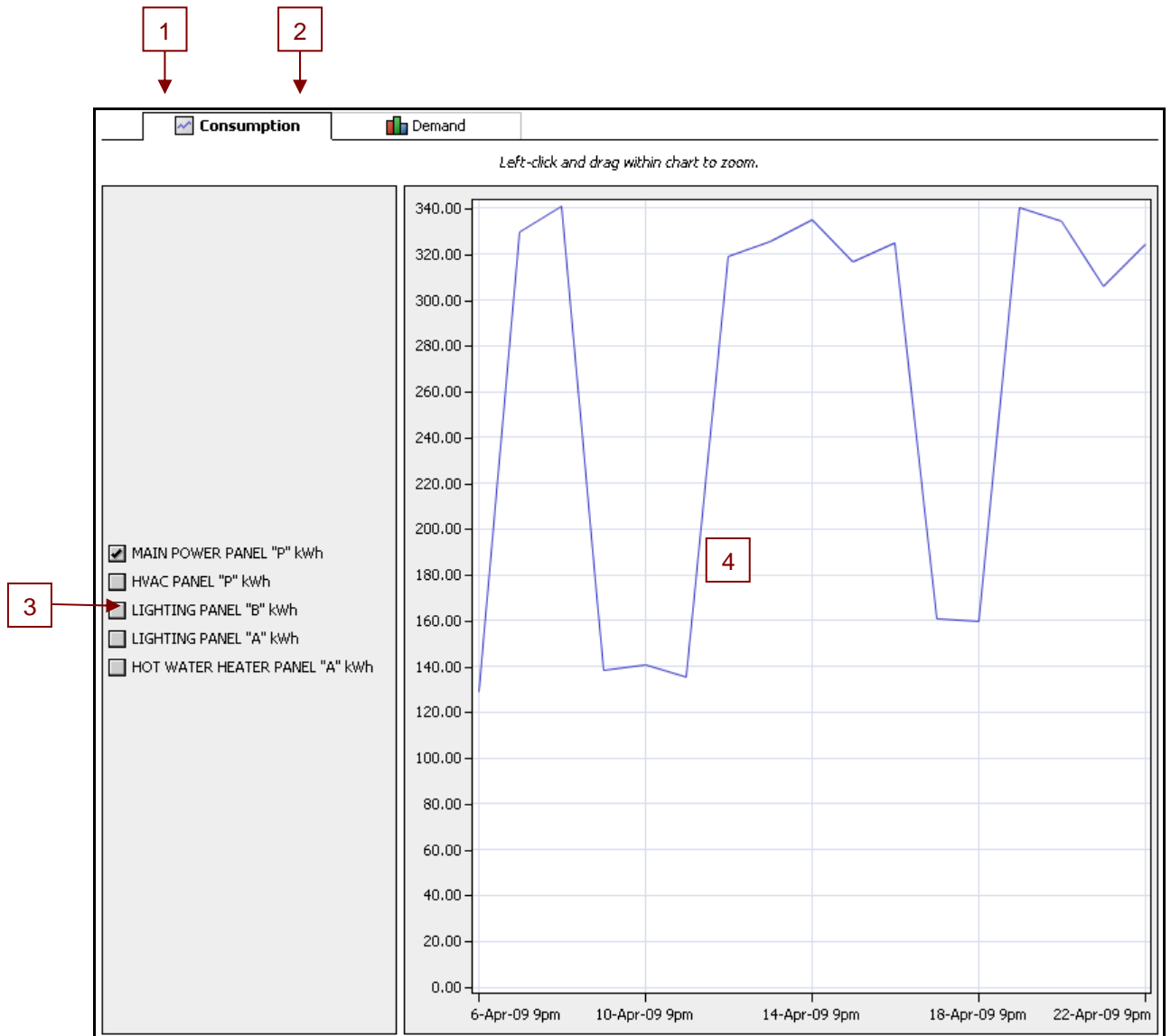
1. kWh Today – Consumption of all electric meters for the current day. Meters not designated as “electric” in their setup screen are ignored.
2. Carbon Dioxide Dial – The equivalent Carbon Dioxide emissions for the day. The max value represents the max value ever recorded. Right click on the max value to reset it.
3. Forest Acres – Acres of forest required to absorb the Carbon Dioxide in one year.
4. Trees – Number of trees required to absorb the Carbon Dioxide in one year.

5. Driven Miles – The Carbon Dioxide emissions are the equivalent to driving this number of miles.
6. Gallons of Gas – The Carbon Dioxide emissions are the equivalent to burning this number of gallons of gas.
7. Last 7 Days – The emissions statistics for the consumption of only the electric meters for the last seven days, not including the current day.
8. Last 30 Days – The emissions statistics for the consumption of only the electric meters for the last thirty days, not including the current day.
9. Last 365 Days – The emissions statistics for the consumption of only the electric meters for the last three hundred and sixty five days, not including the current day.

Charts

Consumption

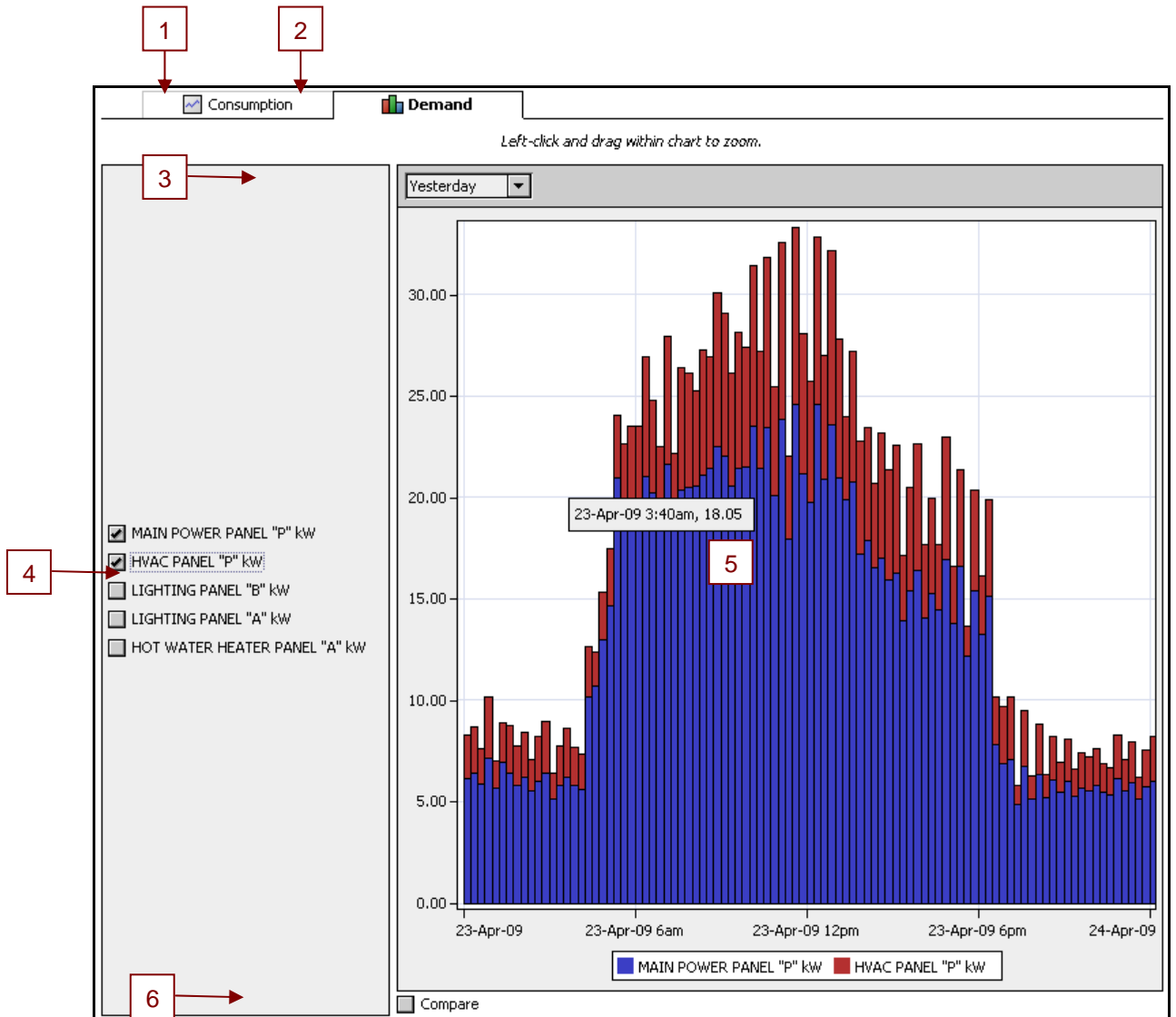
This chart allows you to compare the daily consumption of all meters. The charts show all data available, left-click within the chart to zoom.



1. Consumption – The current page.
2. Demand – Links to the demand comparison chart.
3. Meters – Check or uncheck meters to draw them on the chart. The consumption units are added to the meter title.
4. Chart – Left-click and drag to zoom in the chart.

Demand

This chart allows you to compare the demand of all meters.

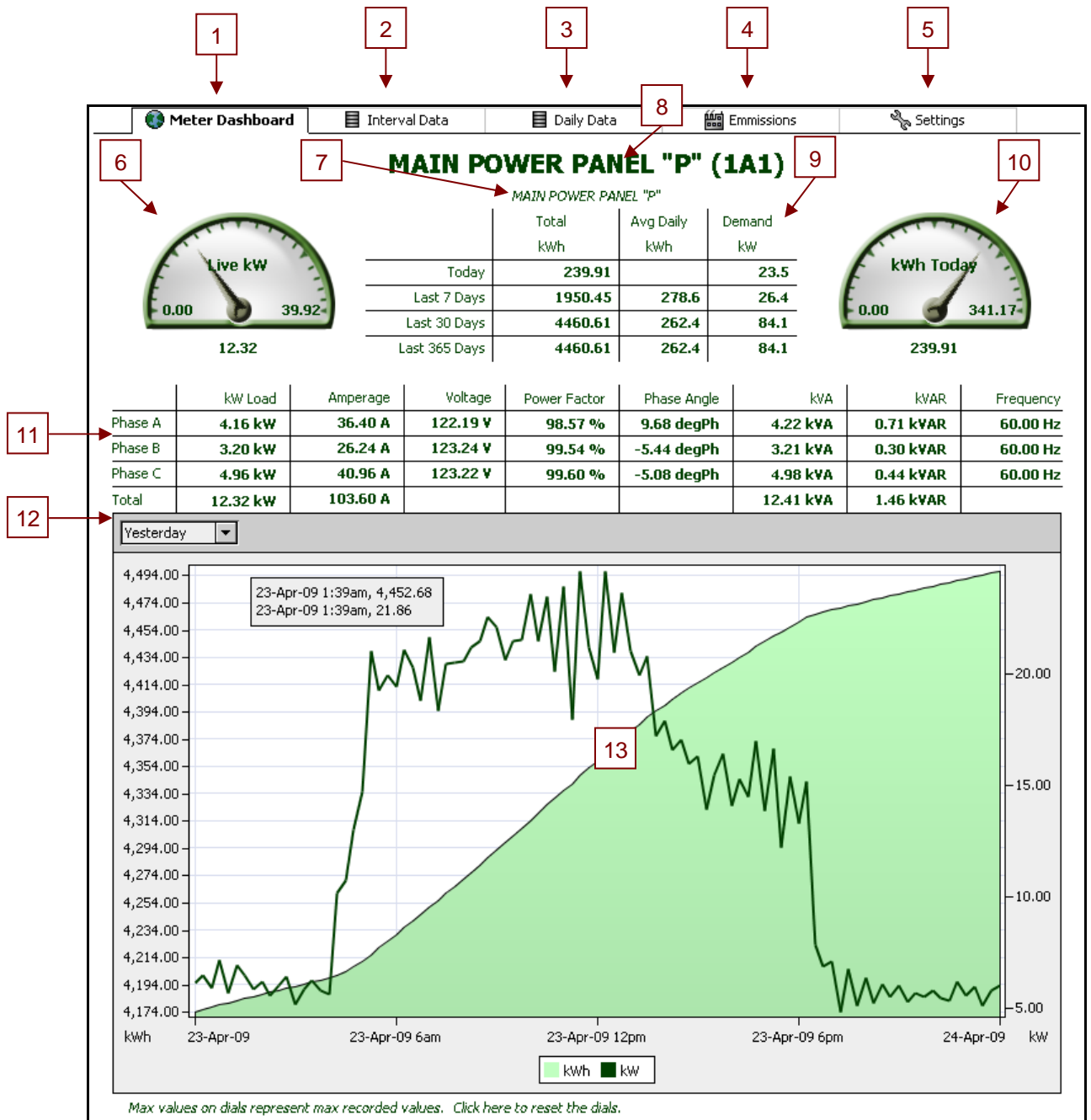


1. Consumption – Links to the consumption comparison chart.
2. Demand – The current page.
3. Time Range – Many time range options are available in this drop down.
4. Meters – Check or uncheck meters to draw them on the chart. The demand units are added to the meter title.
5. Chart – Left-click and drag to zoom in the chart.

6. Compare – Checking this will display another chart allowing you to compare the same set of meters, but for different time range.

Meter Dashboard

This pages provides a snapshot view of a single meter in both tabular and graphic formats.



1. Meter Dashboard – This page.
2. Interval Data – Link to 15 minute interval data table.
3. Daily Data – Link to daily data table.

4. Emissions – Link to the emissions data for the specific meter. Only available for electrical meters.
5. Settings – Link to settings page for the meter. Only available to admin level users.
6. Demand Dial – Real-time demand of the meter. The max value is the max ever recorded. Right-click the max value to reset it.
7. Description – On the settings page, this is the description field of the meter.
8. Title. Meter Title – This is the title field from the meter setup page. The E-Mon address of the meter is automatically appended in parentheses.
9. Statistics Table – The “Last X Days” do not include the current day. The Demand column is not the real time peak, but the peak 15 minute average.
10. Consumption Dial – Daily consumption of the meter. The max value is the max ever recorded. Right-click the max value to reset it.
11. Meter Quality Table – Additional data available only to Class 3000, Class 5000 and V-Class meters.
12. Time Range – Many time range options are available in this drop down. The difference between the “previous” and “current” options is that previous does not include the current period.
13. Chart – The consumption is the area series, the demand is the line.

Interval Data

This page displays a table of 15 minute interval records containing the demand, consumption and VARH (when applicable). The time range of the table is customizable and the data can be exported in a variety of formats.

The screenshot shows the 'Interval Data' page for 'MAIN POWER PANEL "P" (1A1)'. The page has a navigation bar with links for Meter Dashboard, Interval Data, Daily Data, Emissions, and Settings. A dropdown menu is set to 'Today'. The main table displays 72 records of interval data with columns for Timestamp, Demand, Consumption, and Varh. A callout '10' points to a small icon in the Varh column. A note at the bottom states: 'To export, press the button to the right of the last column.'

Timestamp	Demand	Consumption	Varh
24-Apr-09 12:00:00 AM EDT	6.00	4480.35	504.64
24-Apr-09 12:15:00 AM EDT	5.28	4481.67	504.77
24-Apr-09 12:30:00 AM EDT	5.66	4483.08	504.89
24-Apr-09 12:45:00 AM EDT	5.52	4484.46	505.05
24-Apr-09 1:00:00 AM EDT	5.78	4485.91	505.23
24-Apr-09 1:15:00 AM EDT	5.45	4487.27	505.34
24-Apr-09 1:30:00 AM EDT	5.33	4488.60	505.50
24-Apr-09 1:45:00 AM EDT	6.17	4490.14	505.70
24-Apr-09 2:00:00 AM EDT	5.53	4491.53	505.86
24-Apr-09 2:15:00 AM EDT	5.92	4493.01	506.04
24-Apr-09 2:30:00 AM EDT	5.11	4494.29	506.17
24-Apr-09 2:45:00 AM EDT	5.77	4495.73	506.34
24-Apr-09 3:00:00 AM EDT	6.03	4497.23	506.53
24-Apr-09 3:15:00 AM EDT	5.66	4498.65	506.66
24-Apr-09 3:30:00 AM EDT	6.64	4500.31	506.79
24-Apr-09 3:45:00 AM EDT	4.97	4501.55	507.01
24-Apr-09 4:00:00 AM EDT	5.72	4502.98	507.18
24-Apr-09 4:15:00 AM EDT	6.28	4504.55	507.40
24-Apr-09 4:30:00 AM EDT	5.00	4505.80	507.51
24-Apr-09 4:45:00 AM EDT	5.34	4507.14	507.66
24-Apr-09 5:00:00 AM EDT	6.27	4508.70	507.86
24-Apr-09 5:15:00 AM EDT	5.48	4510.07	508.04
24-Apr-09 5:30:00 AM EDT	5.30	4511.40	508.18
24-Apr-09 5:45:00 AM EDT	5.34	4512.73	508.32
24-Apr-09 6:00:00 AM EDT	6.56	4514.38	508.57
24-Apr-09 6:15:00 AM EDT	5.45	4515.74	508.73
24-Apr-09 6:30:00 AM EDT	5.39	4517.09	508.89
24-Apr-09 6:45:00 AM EDT	5.55	4518.47	509.06
24-Apr-09 7:00:00 AM EDT	6.80	4520.17	509.27
24-Apr-09 7:15:00 AM EDT	7.20	4521.97	509.38
24-Apr-09 7:30:00 AM EDT	11.47	4524.84	509.57
24-Apr-09 7:45:00 AM EDT	12.48	4527.96	509.85
24-Apr-09 8:00:00 AM EDT	12.44	4531.07	510.04
24-Apr-09 8:15:00 AM EDT	18.20	4535.62	510.44
24-Apr-09 8:30:00 AM EDT	16.84	4539.83	510.80
24-Apr-09 8:45:00 AM EDT	17.91	4544.31	511.25

1. Meter Dashboard – Link to the meter dashboard.

2. Interval Data – This page.
3. Daily Data – Link to daily data table.
4. Emissions – Link to the emissions data for the specific meter. Only available for electrical meters.
5. Settings – Link to the meter configuration.
6. Time Range – Many time range options are available in this drop down. The difference between the “previous” and “current” options is that previous does not include the current period.
7. Meter Description – This is the description field from the meter setup page.
8. Meter Title – This is the title field from the meter setup page. The E-Mon address of the meter is automatically appended in parentheses.
9. Table Export – This button give you the option to export the table in various formats.
10. Data Table – 15 minute interval data. The VARH column only has values for Class 3000, 5000 and V-Class meters.

Daily Data

This page displays a table of daily records containing the total consumption of each day, the peak demand and the timestamp of the peak demand. The time range of the table is customizable and the data can be exported in a variety of formats.

MAIN POWER PANEL "P" (1A1)

Time Range: 07-Apr-09 12:00 AM EDT to ?

Timestamp	Consumption	Peak Demand	Peak Timestamp
07-Apr-09 12:00:00 AM EDT	128.55	84.06	07-Apr-09 5:00:00 PM EDT
08-Apr-09 12:00:00 AM EDT	329.60	25.80	08-Apr-09 2:15:00 PM EDT
09-Apr-09 12:00:00 AM EDT	341.17	27.28	09-Apr-09 3:00:00 PM EDT
10-Apr-09 12:00:00 AM EDT	138.12	8.83	10-Apr-09 3:45:00 PM EDT
11-Apr-09 12:00:00 AM EDT	140.75	7.44	11-Apr-09 9:30:00 PM EDT
12-Apr-09 12:00:00 AM EDT	135.19	7.62	12-Apr-09 5:00:00 PM EDT
13-Apr-09 12:00:00 AM EDT	319.17	25.44	13-Apr-09 12:45:00 PM EDT
14-Apr-09 12:00:00 AM EDT	325.66	24.30	14-Apr-09 12:15:00 PM EDT
15-Apr-09 12:00:00 AM EDT	335.10	44.88	15-Apr-09 12:15:00 PM EDT
16-Apr-09 12:00:00 AM EDT	316.85	24.34	16-Apr-09 3:00:00 PM EDT
17-Apr-09 12:00:00 AM EDT	324.69	24.31	17-Apr-09 1:30:29 PM EDT
18-Apr-09 12:00:00 AM EDT	160.83	11.03	18-Apr-09 11:00:00 AM EDT
19-Apr-09 12:00:00 AM EDT	159.43	9.61	19-Apr-09 6:15:00 PM EDT
20-Apr-09 12:00:00 AM EDT	340.57	26.38	20-Apr-09 3:15:30 PM EDT
21-Apr-09 12:00:00 AM EDT	334.30	23.14	21-Apr-09 3:00:00 PM EDT
22-Apr-09 12:00:00 AM EDT	306.11	21.81	22-Apr-09 1:30:00 PM EDT
23-Apr-09 12:00:00 AM EDT	324.51	24.58	23-Apr-09 2:30:00 PM EDT

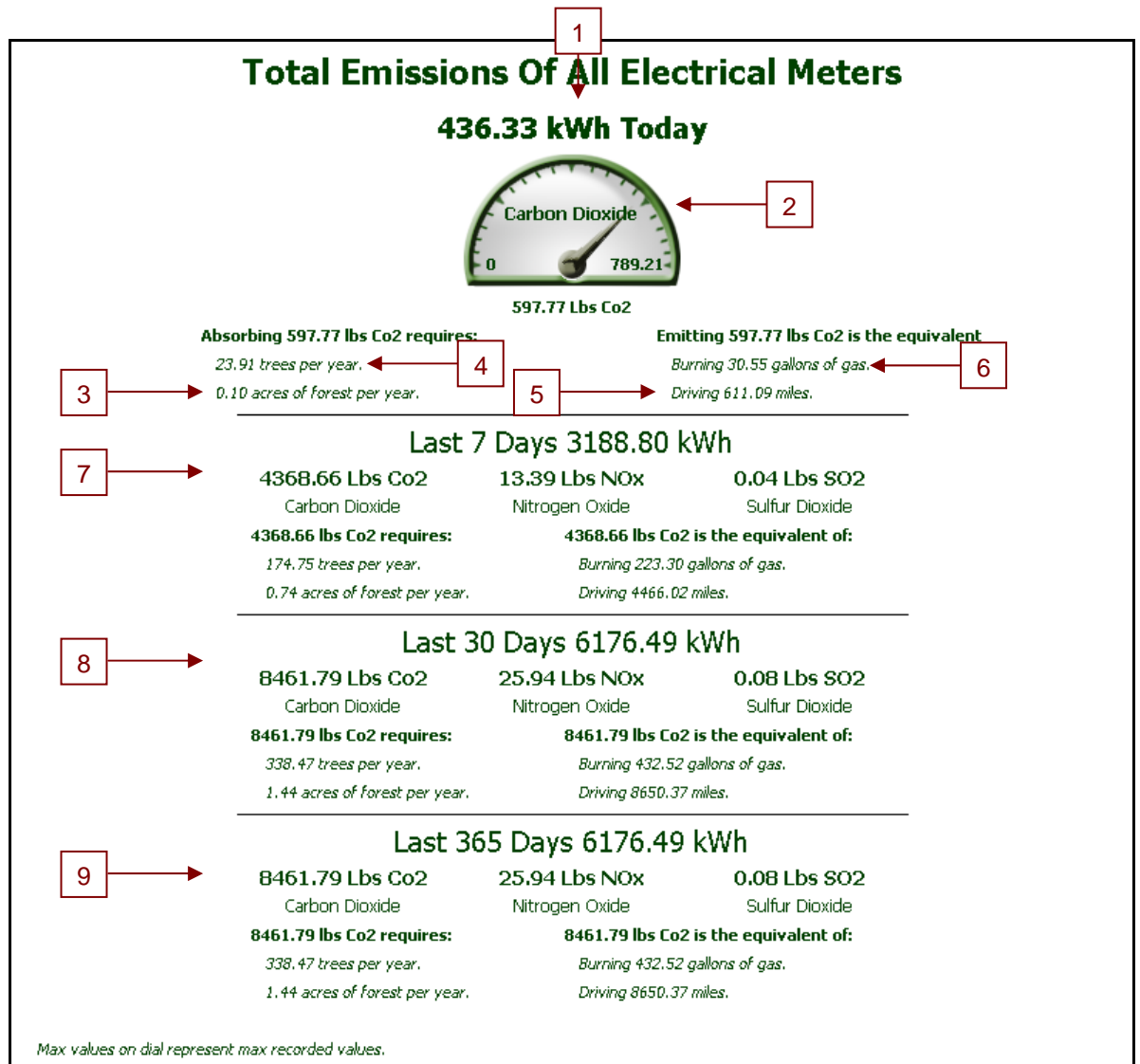
To export, press the button to the right of the last column.

1. Meter Dashboard – Link to the meter dashboard.
2. Interval Data – This page.
3. Daily Data – Link to daily data table.

4. Emissions – Link to the emissions data for the specific meter. Only available for electrical meters.
5. Settings – Link to the meter configuration.
6. Time Range – Many time range options are available in this drop down. The difference between the “previous” and “current” options is that previous does not include the current period.
7. Meter Description – This is the description field from the meter setup page.
8. Meter Title – This is the title field from the meter setup page. The E-Mon address of the meter is automatically appended in parentheses.
9. Table Export – This button gives you the option to export the table in various formats.
10. Data Table – Daily summary.

Meter Emissions

This page allows you to view the environment impact for a specific meter.



10. kWh Today – Consumption of all electric meters for the current day. Meters not designated as “electric” in their setup screen are ignored.
11. Carbon Dioxide Dial – The equivalent Carbon Dioxide emissions for the day. The max value represents the max value ever recorded. Right click on the max value to reset it.
12. Forest Acres – Acres of forest required to absorb the Carbon Dioxide in one year.
13. Trees – Number of trees required to absorb the Carbon Dioxide in one year.
14. Driven Miles – The Carbon Dioxide emissions are the equivalent to driving this number of miles.

15. Gallons of Gas – The Carbon Dioxide emissions are the equivalent to burning this number of gallons of gas.
16. Last 7 Days – The emissions statistics for the consumption of only the electric meters for the last seven days, not including the current day.
17. Last 30 Days – The emissions statistics for the consumption of only the electric meters for the last thirty days, not including the current day.
18. Last 365 Days – The emissions statistics for the consumption of only the electric meters for the last three hundred and sixty five days, not including the current day.