

iEM3000 Series SE Driver for Power Monitoring Expert 8.1 Release Notes

This document contains information about the StruxureWare™ Power Monitoring Expert 8.1 SE (Standard Edition) driver for the iEM3000 Series devices.

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Additional Information

- iEM3000 Series device documentation
- Power Monitoring Expert 8.1 documentation

Version History

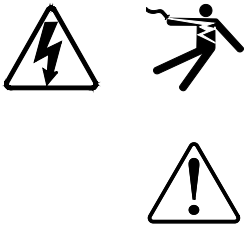
The following table lists the version history of the iEM3000 Series device driver:

Version Number	Description of Changes
8.1.16150.03 (Latest Release)	What is New? <ul style="list-style-type: none">• Added support for 1P4W Multicircuit Wiring Mode• Added Power Factor Total IEC and IEEE registers.
8.1.16072.03 Native Driver	First Release.

Safety Information

Important information

Read these instructions carefully and look at the equipment to become familiar with the device before trying to install, operate, service or maintain it. The following special messages may appear throughout this manual or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.



The addition of either symbol to a “Danger” or “Warning” safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

DANGER

DANGER indicates a hazardous situation which, if not avoided, **will result in** death or serious injury.

WARNING

WARNING indicates a hazardous situation which, if not avoided, **could result in** death or serious injury.

CAUTION

CAUTION indicates a hazardous situation which, if not avoided, **could result in** minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to physical injury.

Please note

Electrical equipment should be installed, operated, serviced and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction, installation, and operation of electrical equipment and has received safety training to recognize and avoid the hazards involved.

Safety Precautions

During installation or use of this software, pay attention to all safety messages that occur in the software and that are included in the documentation. The following safety messages apply to this software in its entirety.

▲ WARNING

UNINTENDED EQUIPMENT OPERATION

- Do not use the software for critical control or protection applications where human or equipment safety relies on the operation of the control action.
- Do not use the software to control time-critical functions because communication delays can occur between the time a control is initiated and when that action is applied.
- Do not use the software to control remote equipment without securing it with an authorized access level, and without including a status object to provide feedback about the status of the control operation.

Failure to follow these instructions can result in death or serious injury.

▲ WARNING

INACCURATE DATA RESULTS

- Do not incorrectly configure the software, as this can lead to inaccurate reports and/or data results.
- Do not base your maintenance or service actions solely on messages and information displayed by the software.
- Do not rely solely on software messages and reports to determine if the system is functioning correctly or meeting all applicable standards and requirements.
- Consider the implications of unanticipated transmission delays or failures of communications links.

Failure to follow these instructions can result in death, serious injury, equipment damage, or permanent loss of data.

iEM3000 Series SE Driver

Power Monitoring Expert 8.1 Requirements

The device can be connected to Power Monitoring Expert 8.1 using any one of the following methods:

- Through a translating gateway, such as an EGX300 device or via some other method of connection that allows the device to use Modbus™ TCP.
- Through Serial connection using a suitable RS-485 to RS-232 converter.

Driver Version

These release notes apply to the device driver version 8.1.16150.03.

Supported Models

The driver supports the following device variants of the PowerLogic™ iEM3000 Series Energy Meter:

- iEM3150/3250/3350
- iEM3155/3255/3355/3455/3555

The supported firmware versions are:

iEM3100/3200	iEM3300	iEM3400	iEM3500
V1.1.003	V1.1.003	V1.0.010	V1.0.012

Some features may not work for other firmware revisions.

Features

This device driver supports the following features:

- All real-time registers
- Factory Diagrams
- Support for Real Time data transfer using OPC/EWS
- Over Active Power Alarm (iEM3155/3255/3355/3455/3555 only)
- Device time synchronization with the Server Local Time (without DST adjustment) at hourly interval
- The following factory-provided default reports in the Web-based Reports application:

- Trend
- Tabular
- Load Profile
- Energy Cost
- Energy Period Over Period
- Energy Usage by Shift
- Hourly Usage
- Single Device Usage
- Multi Device Usage

NOTE: Alarm Logs are not supported.

- The following factory-provided default reports in the Excel-based Reporter application:
 - Load Profile
 - Energy and Demand

Installation

Device Driver Installer

The associated device driver installer is used to add this driver and all the required supporting files to the target Power Monitoring Expert system. The supporting files consist of:

- Device map and tree files
- Vista diagrams
- xliEM3155_3255.dll

NOTE: The device driver installation process restarts the ION Site Service of Power Monitoring Expert. This results in a brief disruption of communication between the Power Monitoring Expert server and the devices connected to it.

Uninstalling

Uninstalling by Add/Remove programs removes all the files that were added by the Device Driver Installer. This method does not remove the files that have been modified.

Refer to *Known Issues* on page 12 for an exception regarding the removal process.

Implementation Details

Device Configuration and Upgrade

NOTE: Power Monitoring Expert 8.1 cannot be used to configure this device or to upgrade the device firmware.

The device firmware upgrade can be done using the DLF 3000 tool.

The device configurations can be performed using ION Setup. The device type name in ION Setup is **PowerLogic iEM3000 Series Energy Meter**.

Alarm Configuration

Configuration of alarms is possible from Vista.

NOTE:

- Vista can only be used for alarm configuration. All other device configuration must be performed using ION Setup.
 - Alarm configuration is also possible using ION Setup.
-

PC-Based Logging

The iEM3000 device driver does not support on-board data logs. Thus, all the historical data is obtained using the PC-based logging feature.

The following measurements are logged by default using PC-based logging:

Measurements	Logging Interval	iEM3150/3250 /3350	iEM3155/3255/3355/ 3455/3555
Real Power A	900		✓
Real Power B	900		✓
Real Power C	900		✓
Current Phase A	900	✓	✓
Current Phase B	900	✓	✓
Current Phase C	900	✓	✓
Active Energy Delivered Phase A	900		✓
Active Energy Delivered Phase B	900		✓

Measurements	Logging Interval	iEM3150/3250 /3350	iEM3155/3255/3355/ 3455/3555
Active Energy Delivered Phase C	900		✓
Active Energy Delivered	900	✓	✓
Active Energy Received	900	Not applicable	✓
Reactive Energy Delivered	900	Not applicable	✓
Reactive Energy Received	900	Not applicable	✓
Real Power Total	900	✓	✓
Reactive Power Total	900	Not applicable	✓
IM CH1 Cumulative Usage	900	Not applicable	✓

To change the list of measurements being logged, use the Modbus Device Importer, accessed from the **Tools > System** menu in Management Console.

When the device is configured in the 1P4W Wiring Mode, measurements for each phase shall be logged under different sources names with the phase labels from the device.

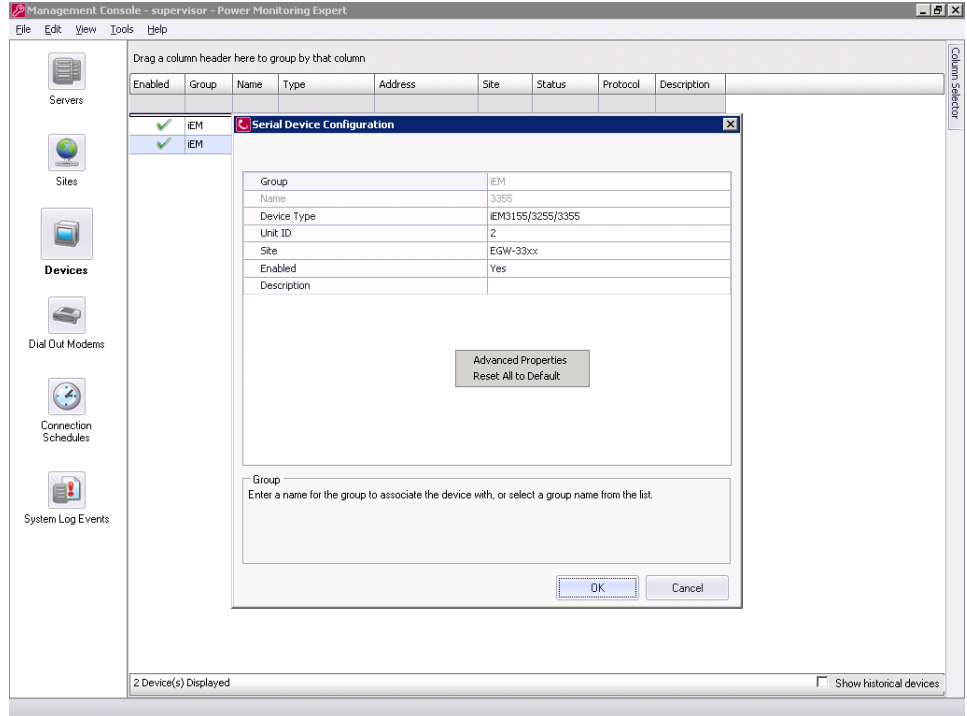
The logged measurements can be viewed in the reports or by linking the Data log viewer to appropriate source in Vista diagrams.

Time Synchronization

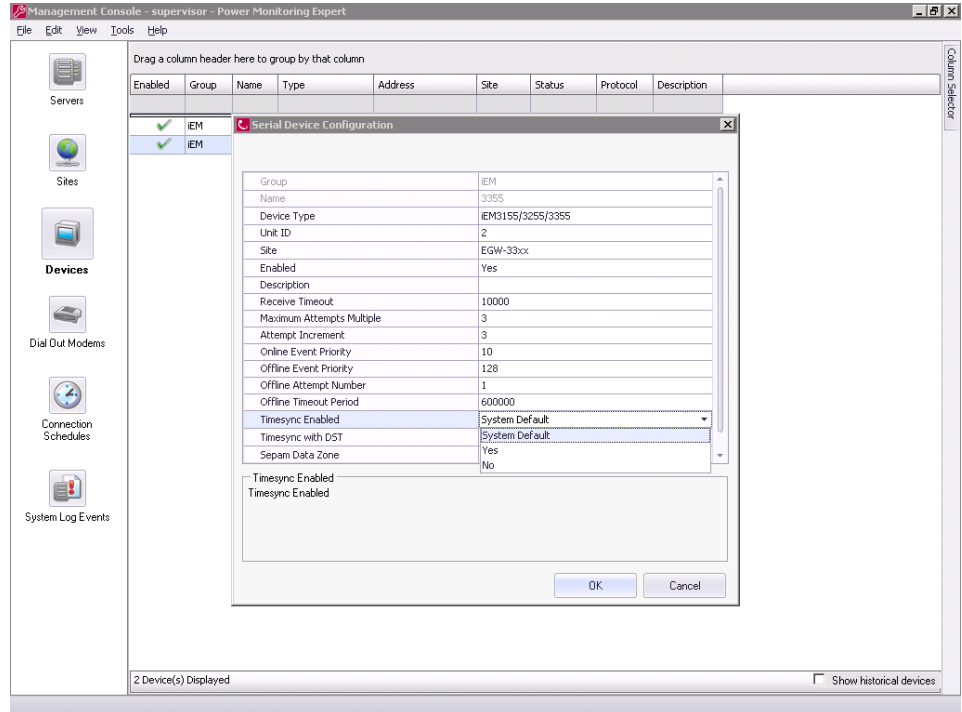
For a particular device instance, automatic time synchronization can be disabled using the following steps.

In Management Console:

1. Click the **Devices** icon, right-click the device and select **Configure Device**.
2. Right-click the Configuration dialog and select **Advanced Properties**.



- To enable **Timesync**, select **Yes** from the **Timesync Enabled** dropdown list. To disable **Timesync**, select **No** from the **Timesync Enabled** dropdown list.



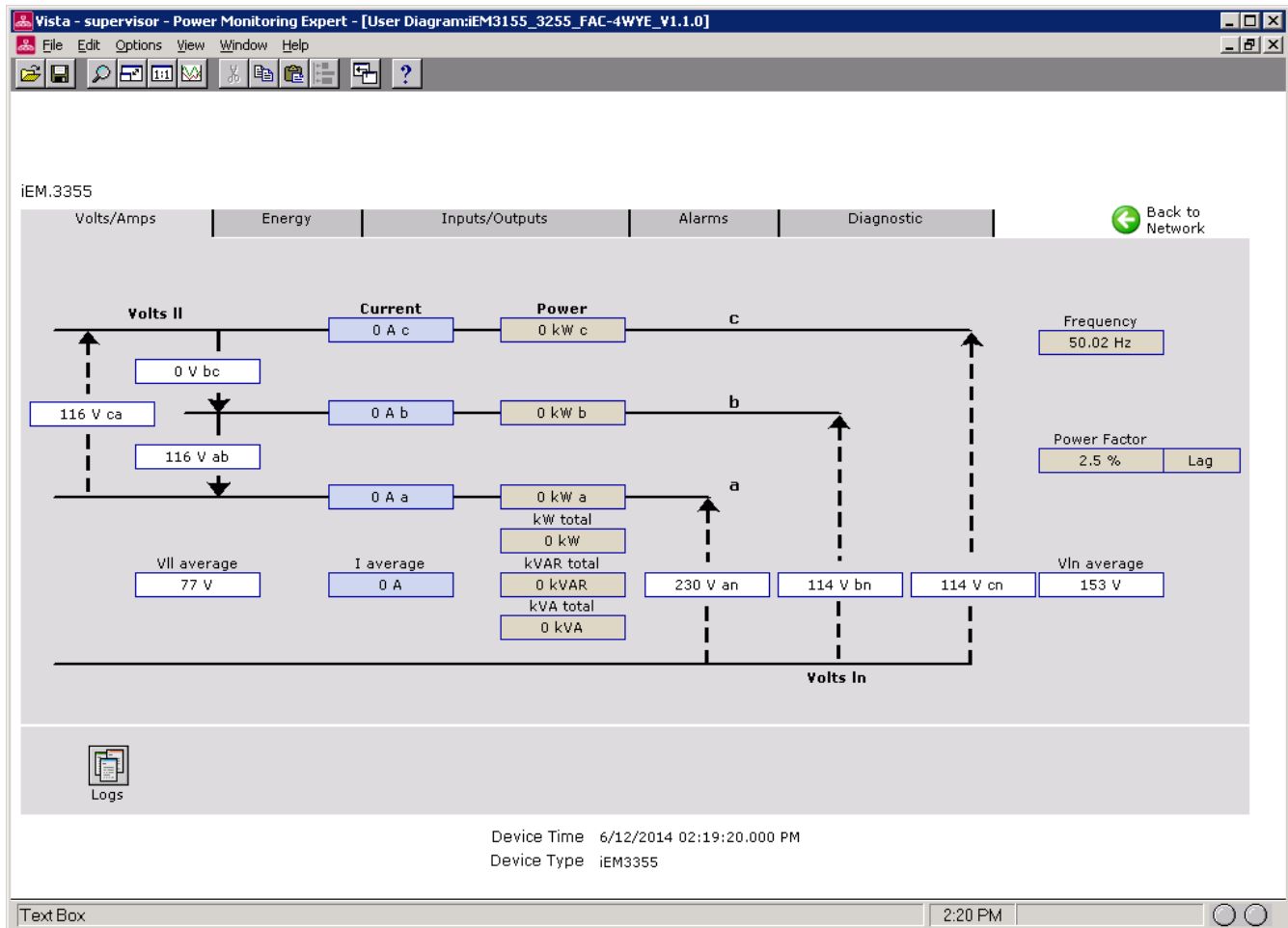
Known Issues

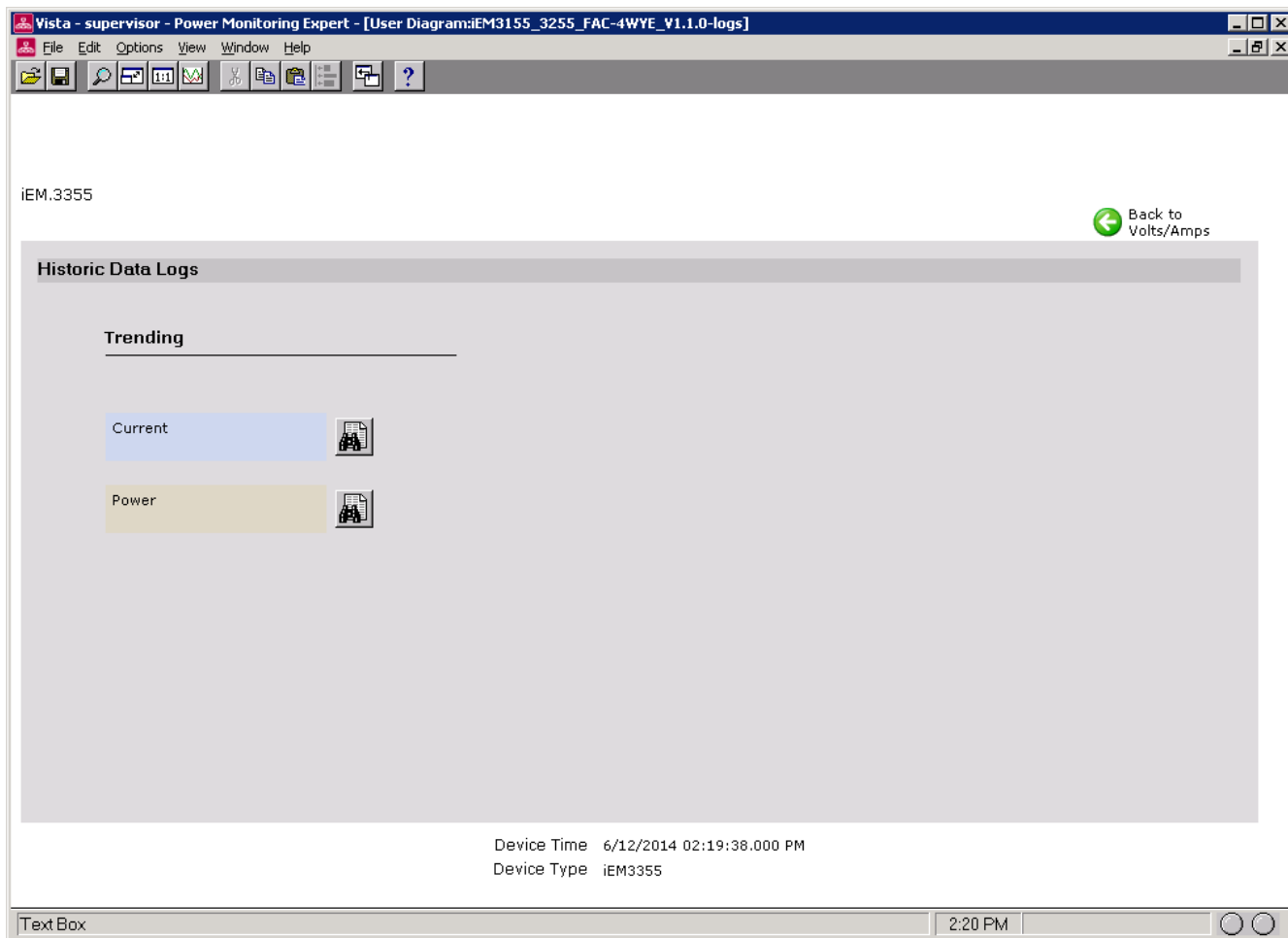
Following are the known issues as of the publication date of this document. These issues will be resolved in future releases:

- When the driver is uninstalled, the device instances in the Management Console component and in the device type definition contained in the Device Type table in ION_Network database are not removed.

Vista Factory Diagrams

This section contains samples of the Vista factory diagrams for the device.





Vista - supervisor - Power Monitoring Expert - [User Diagram:iEM3155_3255_FAC-4WYE_V1.1.0-rev]

File Edit Options View Window Help

iEM.3355


Volts/Amps | Energy | Inputs/Outputs | Alarms | Diagnostic

Back to Network

Energy


Energy - Cumulative


	kWh	kVARh
imp	2	57
exp	1	12

Energy log 

Energy - Since Last Reset

	kWh	kVARh
imp	0	0

Reset Accumulated Energy (also resets Time of Use) 

Time of use 

Device Time 6/12/2014 02:19:52.000 PM
Device Type iEM3355

Text Box 2:20 PM

Vista - supervisor - Power Monitoring Expert - [User Diagram:iEM3155_3255_FAC-4WYE_V1.1.0-tou-kwh]

File Edit Options View Window Help

iEM.3355

[Back to Energy](#)

Time Of Use - kWh Del

	Rate A	Rate B	Rate C	Rate D
Energy [kWh]	0	0	0	0
Time of Use Active Rate	0			

Device Time 6/12/2014 02:20:07.000 PM
Device Type iEM3355

Text Box 2:21 PM

The screenshot displays the 'Power Monitoring Expert' software interface for device 'iEM.3355'. The interface includes a menu bar (File, Edit, Options, View, Window, Help) and a toolbar. A navigation bar at the top contains tabs for 'Volts/Amps', 'Energy', 'Inputs/Outputs', 'Alarms', and 'Diagnostic', along with a 'Back to Network' button. The main content area is divided into three sections: 'Digital I/O', 'Input Metering', and a status section. The 'Digital I/O' section contains two tables: 'Inputs' and 'Outputs'. The 'Inputs' table shows DI1 with a status of 'Off' and a control mode of 'Input Status'. The 'Outputs' table shows DO1 with a status of 'NA' and a control mode of 'Disabled'. The 'Input Metering' section shows a table with one entry: CH1 with a usage of 0, a pulse weight of 500.00, and a digital input association of 'None'. There are also buttons for 'Input Metering Log' and 'Reset Cumulative Usage'. The status section at the bottom indicates 'Device Time 6/12/2014 02:20:31.000 PM' and 'Device Type iEM3355'. The window title bar shows '366x22 Numeric Object: IM CH1 Digital Input Association@iEM.3355' and the system clock shows '2:21 PM'.

Port	Status	Control Mode
DI1	Off	Input Status

Port	Status	Control Mode
DO1	NA	Disabled

Channel	Usage	Pulse Weight	Digital Input Association
CH1	0	500.00	None

Device Time 6/12/2014 02:20:31.000 PM
Device Type iEM3355

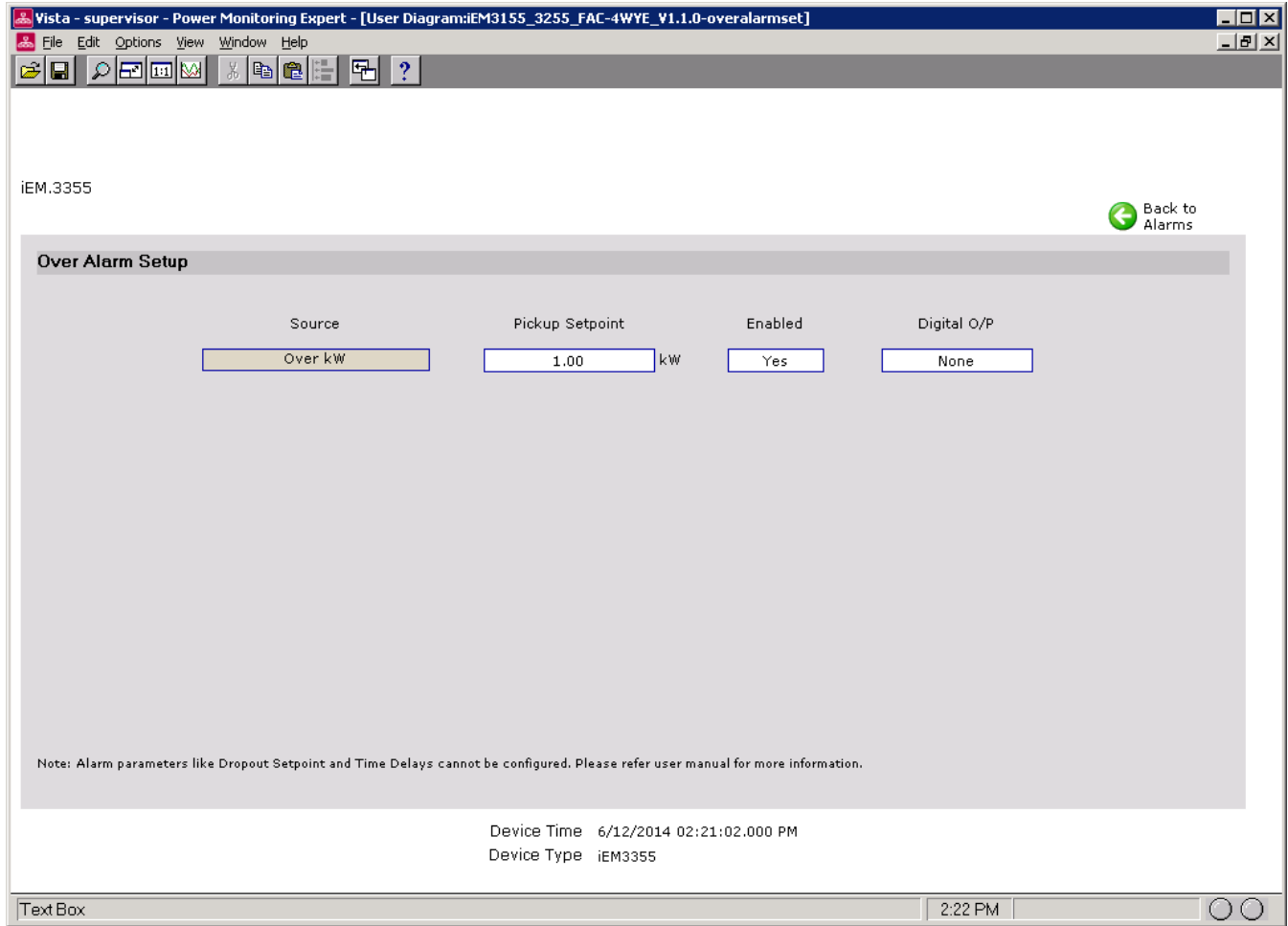
The screenshot shows a software window titled "Vista - supervisor - Power Monitoring Expert - [User Diagram:iEM3155_3255_FAC-4WYE_V1.1.0-sp]". The interface includes a menu bar (File, Edit, Options, View, Window, Help) and a toolbar. Below the menu, the device identifier "iEM.3355" is displayed. A navigation bar contains tabs for "Volts/Amps", "Energy", "Inputs/Outputs", "Alarms", and "Diagnostic". A "Back to Network" button is located on the right side of this bar. The main area is titled "Alarms" and contains a table with the following data:

Source	Enabled	Status	Value	Date/Time
Over kW	Yes	Inactive		

At the bottom of the main area, the following information is displayed:

Device Time 6/12/2014 02:20:50.000 PM
Device Type iEM3355

The bottom status bar includes a "Text Box" on the left and a clock showing "2:21 PM" on the right.



The screenshot displays the 'Power Monitoring Expert' software interface for device iEM3355. The window title is 'Vista - supervisor - Power Monitoring Expert - [User Diagram:iEM3155_3255_FAC-4WYE_V1.1.0-diag]'. The interface includes a menu bar (File, Edit, Options, View, Window, Help) and a toolbar. The main content area is divided into several sections:

- Navigation:** Tabs for 'Volts/Amps', 'Energy', 'Inputs/Outputs', 'Alarms', and 'Diagnostic'. A 'Back to Network' button is located in the top right.
- Power Meter Module:** Fields for VT Primary (120.0 V), VT Secondary (120.0 V), CT Primary (5.0 A), CT Secondary (5.0 A), Nominal Frequency (50.0 Hz), and Volts Mode (3-phase 4-wire Wye).
- Miscellaneous:** Fields for Temperature (35.0 deg C) and Meter ON Duration (1,350.196 Hrs).
- Diagnostic Indication:** A list of error indicators with status boxes: RTC Error (No), Wiring Error (Yes), NVRAM Error (No), Oscillator Error (No), Calibration Error (No), Frequency Setting Error (No), Current Reversed (No), Energy Pulse Overrun (No), and Phase Sequence Reversed (Yes).
- Serial Number and F/W Rev:** Fields for 'Serial Number' and 'F/W Rev' (10,901).
- Device Information:** 'Device Time' (6/12/2014 02:21:35.000 PM) and 'Device Type' (iEM3355).
- Maintenance Log:** A button with a key icon labeled 'Maintenance Log'.

At the bottom of the window, there is a 'Text Box' and a system clock showing '2:22 PM'.

The screenshot shows a software window titled "Vista - supervisor - Power Monitoring Expert - [User Diagram:iEM3155_3255_FAC-4WYE_V1.1.0-restCnt]". The interface includes a menu bar (File, Edit, Options, View, Window, Help) and a toolbar with various icons. The main content area displays the device ID "iEM.3355" and a "Maintenance Log - Resets" section. This section is divided into two parts: "Energy" and "Input Metering".

Category	Item	Last Operation
Energy	Accumulated	6/12/2014 09:38:20.000 AM
	Usage	6/12/2014 09:38:47.000 AM

At the bottom of the main area, the device status is shown: "Device Time 6/12/2014 02:21:53.000 PM" and "Device Type iEM3355". A "Back to Diagnostic" button is located in the top right corner of the log area. The bottom status bar shows "Text Box" on the left, "2:22 PM" in the center, and window control buttons on the right.