PowerLogic™ Series E4800
Multi-Circuit Meters

Configuration Guide

Schneider Electric

Hazard Categories and Special Symbols

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 bulletin 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 an imminently hazardous situation which, if not avoided, **will result in** death or serious injury.

⚠ WARNING

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

⚠ CAUTION

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

CAUTION

CAUTION, used without the safety alert symbol, indicates a potentially hazardous situation which, if not avoided, **can result in** property damage.

NOTE: Provides additional information to clarify or simplify a procedure.

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.

Table of Contents

POWERLOGIC E4800 CONFIGURATION TOOL GUIDE

This document describes how to configure the the PowerLogic E4800 meter (PowerLogic E4833, E4880 and E4805 meters), using the PowerLogic configuration tool. It includes the following configuration tool information:

This documentation is intended for those responsible for configuring the PowerLogic E4833, E4880 and E4805 meters.

System Set-up and Description

The configuration tool supports the PowerLogic E4833, E4880 and E4805 meters.

Depending on how the meters are installed and configured, they can meter 8, 12, or 24 individual meter points. The PowerLogic E4833, E4880 and E4805 meters are designed for residential, commercial, and industrial use and display the power and consumption readings for each measurement point.

Configuration and Programming

The configuration tool is used to change any of the programmable parameters within the PowerLogic E4800 meters. The combination of the configuration tool and the state of the meter programming switches determine which parameters can be changed. As shown in Figure ?, the programming switches are two-position DIP switches labeled SW1, and are located inside the meter cover below the Display button. To enable meter configuration, both switches must be physically set to the ON (down) position (default).

Figure 1: Programming Switch location

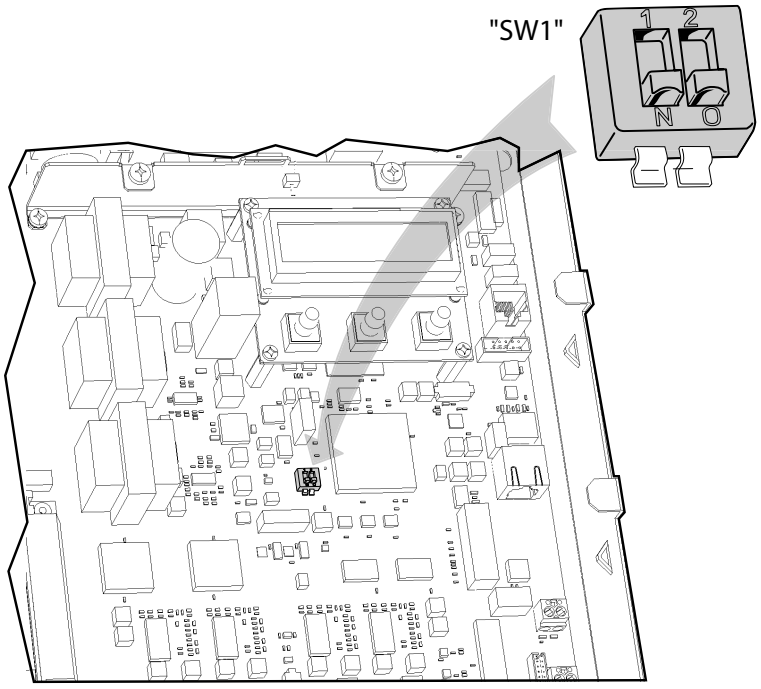


Table 1 lists the programming capabilities associated with each parameter in combination with the programming switches. After the meter has been programmed, the programming switches can be turned OFF to prevent tampering with metering parameters.

Table 1: Programming access to meter parameters

Parameter	Read access	Write access	Activation time
Badge number	Configuration tool	Configuration tool	Immediate
Phone number	Configuration tool	Configuration tool	Immediate
Alternate phone number	Configuration tool	Configuration tool	Immediate
AT string	Configuration tool	Configuration tool	Immediate
Host upload directory	Configuration tool	Configuration tool	Immediate
Host download directory	Configuration tool	Configuration tool	Immediate
Host IP address	Configuration tool	Configuration tool	Immediate
PPP user name	Configuration tool	Configuration tool	Immediate
PPP password	Configuration tool	Configuration tool	Immediate

Parameter	Read access	Write access	Activation time
FTP user name	Configuration tool	Configuration tool	Immediate
FTP password	Configuration tool	Configuration tool	Immediate
Report period start time	Configuration tool	Configuration tool	Immediate
Report period end time	Configuration tool	Configuration tool	Immediate
Report interval	Configuration tool	Configuration tool	Immediate
Data interval in minutes	Configuration tool	Configuration tool	Immediate
PT ratio	Configuration tool	Configuration tool + prog. switch ON	Immediate
Encryption	Configuration tool	Configuration tool	Immediate
MODBUS address	Configuration tool	No Access	Immediate
Default IP address	Configuration tool	Configuration tool	Immediate
Default netmask	Configuration tool	Configuration tool	Immediate
Default gateway	Configuration tool	Configuration tool	Immediate
Reset dial readings	No Access	Configuration tool + prog. switch ON	Immediate
Programming switch state	Configuration tool	No Access	Immediate
MAC address	Configuration tool	No Access	Immediate
Report types	Configuration tool	Configuration tool	Immediate
Manufacturing			
Serial number	Configuration tool	No Access	N/A
Part number	Configuration tool	No Access	N/A
Model number	Configuration tool	Configuration tool + prog. switch ON	After reset
Revision	Configuration tool	No Access	
Firmware revision	Configuration tool	No Access	N/A
Build number	Configuration tool	No Access	
Meter and probe points			
Name	Configuration tool	Configuration tool	After reset
CT 1 current	Configuration tool	Configuration tool + prog. switch ON	After reset
CT 2 current	Configuration tool	Configuration tool + prog. switch ON	After reset
CT 3 current	Configuration tool	Configuration tool + prog. switch ON	After reset
CT 1 phase	Configuration tool	Configuration tool + prog. switch ON	After reset
CT 2 phase	Configuration tool	Configuration tool + prog. switch ON	After reset

Parameter	Read access	Write access	Activation time
CT 3 phase	Configuration tool	Configuration tool + prog. switch ON	After reset
Enabled	Configuration tool	Configuration tool + prog. switch ON	After reset

Display Navigation

The display on the front of the meter provides status information for each circuit, and general information for metering. The PowerLogic E4800 meter has three buttons for navigating: a Display button, and left and right arrow buttons. The display has a normal and a diagnostics mode.

Normal Mode

In Normal mode, the Display button scrolls through the information for each meter. The left and right arrow buttons select the previous or next meter points respectively.

The following information is available:

- Real Energy Delivered kWh D
- Real Energy Received kWh R
- Real Power Watts
- Reactive Energy Delivered KVarhD
- Reactive Energy Received KVarhR
- Reactive Power Var
- VAh (Volt Amp hours)
- VAs (Volt Amps)

In Normal mode, the right and left arrow buttons scroll the display from meter points 1 to 8, 1 to 12, or 1 to 24, depending on your configuration.

Diagnostics Mode

Diagnostics mode is accessed by pressing and holding the Display button for 5 seconds. In Diagnostics mode, pressing the Display button will scroll through the following information:

- Real energy consumption in kWh
- Real power in Watts
- Apparent power in VA
- Voltage
- Current in amperes
- Phase setting and CT rating in amperes
- Local IP address
- Send command
- Set default IP address
- Date and time (UTC)

In Diagnostics mode, the right and left arrow buttons scroll the display from meter 1 to 8, 1 to 12, or 1 to 24, depending on your configuration. When the local IP address is shown on the LCD, use the right and left arrow buttons to scroll through the following information:

- Remote host IP address

- Default IP address
- Default NetMask
- Default gateway
- PPP user name
- Phone number
- AT command string
- Alternate phone number
- Unit serial number
- Manufacturing build
- Ethernet port MAC address
- Firmware revision
- Voltage transformer ratio

Communications Connections

If you are configuring the meter at the installation site, see the PowerLogic E4800 Installation Guide for instructions on connecting the power. Power connections vary depending on whether the meter is configured for single-phase or three-phase operation.

If you are pre-configuring the meter in the shop, only Phase A, Neutral, and protective earth connections are required to power up the PowerLogic E4800 meter for configuring.

The PowerLogic E4800 Configuration Tool communicates with the PowerLogic E4800 meters through an Ethernet network connection. A network connection can be accomplished in two ways. Either Direct using an Ethernet crossover cable or by connecting to a LAN (Local Area Network).

NOTE: The configuraiton PC MUST be on the same network segment as the PowerLogic E4800 meters to be configured.

Direct Connection Ethernet Requirements

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E.
- This equipment must only be installed and serviced by qualified electrical personnel.
- Turn off all power supplying this equipment before working on or inside equipment.
- Always use a properly rated voltage sensing device to confirm power is off.
- Replace all devices, doors and covers before turning on power to this equipment.
- The meters must be connected to the reference voltage and control power through a properly rated disconnect.

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

To connect a PC directly to the PowerLogic E4800 meter:

1. Disconnect power from the meter with the installed breaker or disconnecting device. Use a properly rated voltage sensing device to confirm power is off.

2. Remove the outer cover.
3. Remove the inner cover and ensure the programming switches are in the ON position.
4. Re-install the inner cover.
5. Remove the local LAN Ethernet cable if present and connect the CAT 5 Ethernet cross-over cable between the PC and the PowerLogic E4800 meter.
6. Restore power to the meter.
7. Assign the PC an IP address of 169.254.0.xxx, where xxx is not 10.
8. Configure the meter. See “Configuring the meter” on page 7 for configuration instructions.
9. Remove power.
10. If you wish to lock the configuration parameters, remove the inner cover and move the programming switches (SW1) to the OFF (up) position.
11. Re-install the inner cover.
12. Connect the LAN Etherent cable if present.
13. Restore power.

NOTE: All PowerLogic E4800 meters have a default IP address of 169.254.0.10 in the absence of a DHCP service.

Network Connection Ethernet Requirements

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E.
- This equipment must only be installed and serviced by qualified electrical personnel.
- Turn off all power supplying this equipment before working on or inside equipment.
- Always use a properly rated voltage sensing device to confirm power is off.
- Replace all devices, doors and covers before turning on power to this equipment.
- The meters must be connected to the reference voltage and control power through a properly rated disconnect.

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

To connect the PowerLogic E4800 meter to the network:

1. Disconnect power from the meter with the installed breaker or disconnecting device. Use a properly rated voltage sensing device to confirm power is off.
2. Remove the outer cover.
3. Using a CAT 5 Ethernet patch cable, connect the meter to a local Ethernet switch.
4. Re-install the outer cover.

5. Restore power. When control power is restored, the meter will receive an IP address from a local DHCP server. This IP address can be viewed from the Diagnostics menu.

   NOTE: To use a static IP address, have your local network administrator assign the desired IP address to the MAC address of the meter in the DHCP server configuration.

PowerLogic Configuration Tool

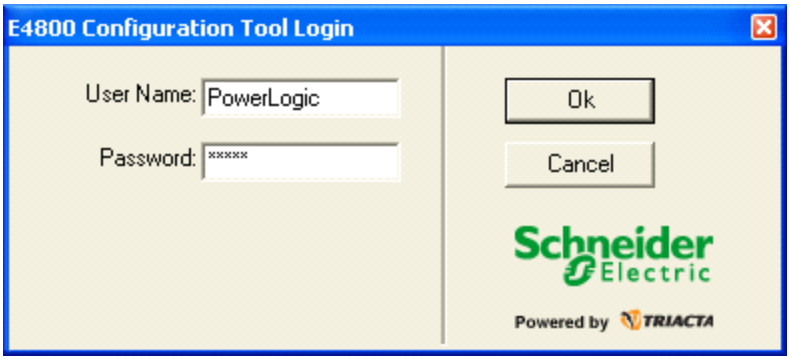
The PowerLogic E4800 configuration tool is available on the CD shipped with each unit, and is used to configure all programmable parameters listed in Table 1.

Configuring the meter

Use the following procedure to configure the meter.

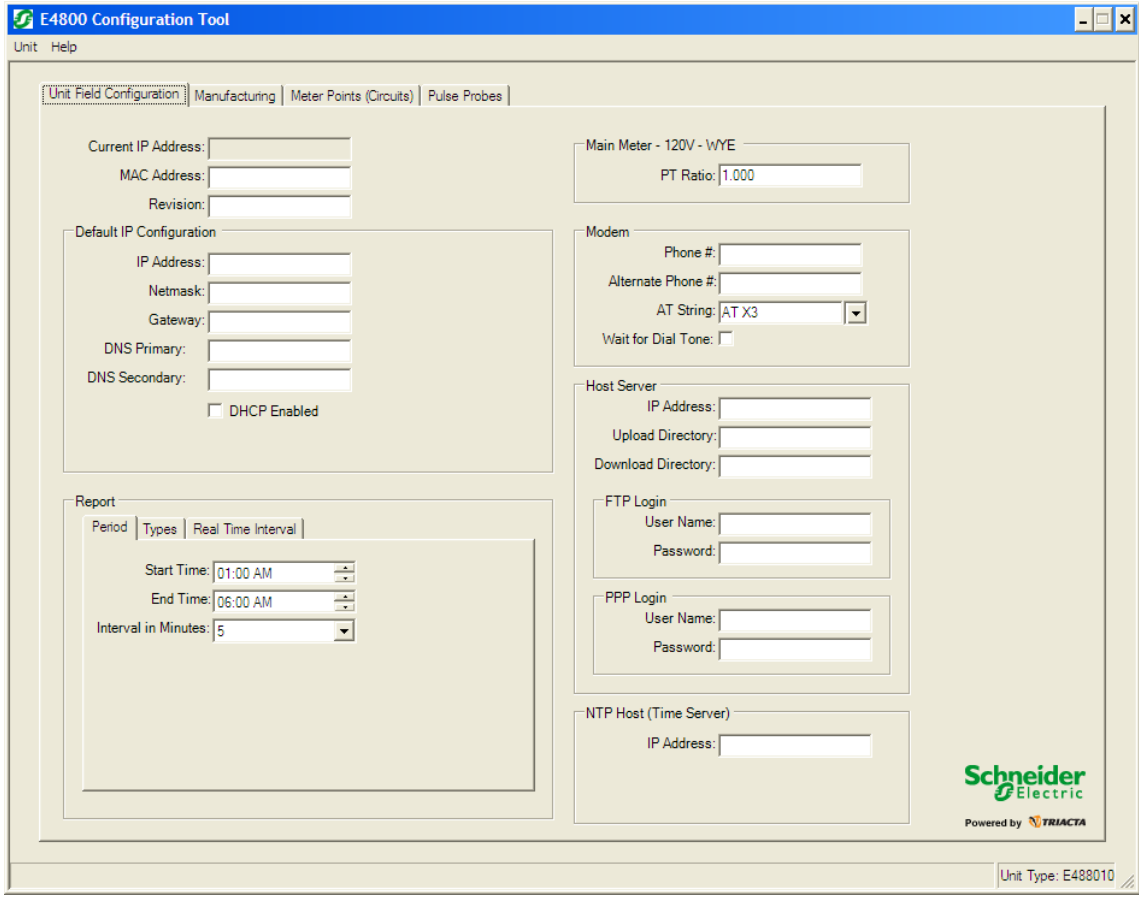
1. Establish an Ethernet network connection with the meter using one of the methods described in “Communications Connections” on page 5.
2. Ensure the programming switches are in the ON position. The programming switches are two-position DIP switches labeled SW1, and are located inside the meter cover below the Display button. To enable meter configuration, both switches must be physically set to the ON position. When both switches are in the OFF position, meter configuration is disabled.
3. Start the configuration tool by entering “PowerLogic” as the **User Name**, and “E4800” as the **Password** (see Figure 1). Click **Ok**.

Figure 2: Login screen



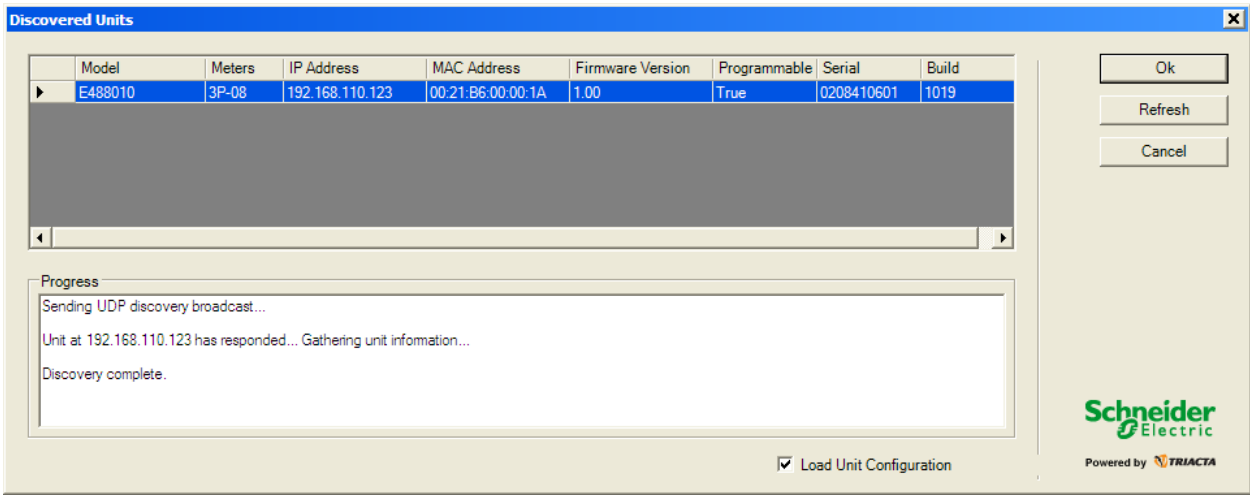
4. The main window displays as shown in Figure 3.

Figure 3: Configuration tool main window



5. The configuration tool automatically detects and lists the PowerLogic E4800 meters that are on the same network segment with the PC. To display a list of discovered meters, click on **Unit** from the menu bar. From the pull-down menu, select **List**. A window will display showing meters available for configuration. See Figure 4.

Figure 4: Discovered Units dialog box



6. To select the meter that you wish to program from the list, click the **Load Unit Configuration** check box, then click **Ok**. As shown in Figure 5, the configuration tool main window appears populated with the current programming information for the meter selected. Table 2 describes the programming information in each field of the main window.

   NOTE: Only meters that are on the network segment as the PC will be discovered by the configuration tool.

Figure 5: Main configuration window with configured parameters

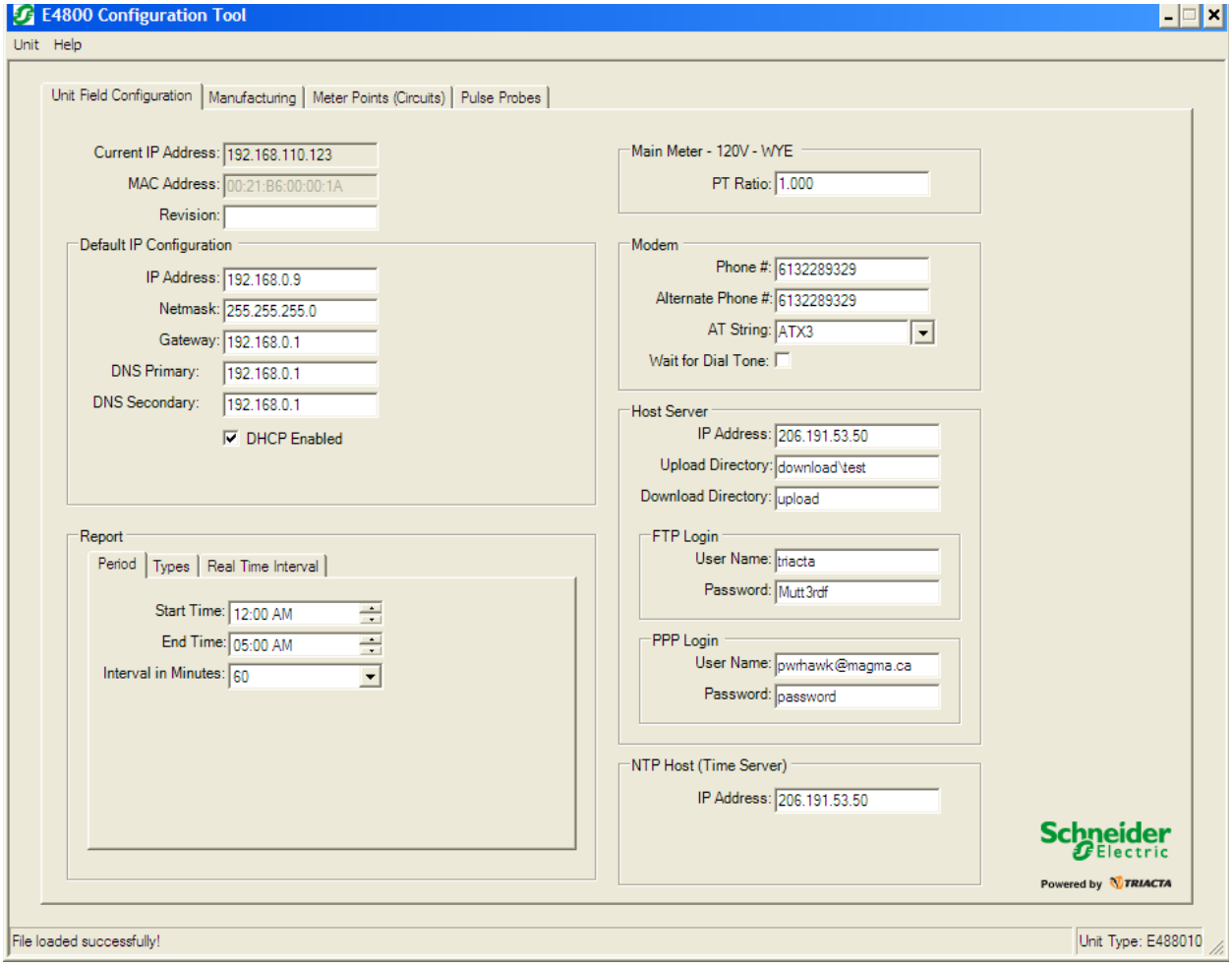


Table 2: Configuration parameters

Field	Parameter	Description
Unit Field Configuration	Current IP Address	The current IP address for the unit .This parameter is read only and cannot be changed by the user.
	Mac Address	The current MAC address for the unit. This parameter is read only and cannot be changed by the user.
	Revision	The revision number of the unit.
Default IP Configuration	IP Address	The default IP address. This parameter is configured when DHCP has been disabled, or DHCP services are not available on the network.
	Netmask	The default subnet mask. This parameter is configured when DHCP has been disabled, or DHCP services are not available on the network.
	Gateway	The default gateway. This parameter is configured when DHCP has been disabled, or DHCP services are not available on the network.
	DNS Primary	The primary domain name server. This parameter is configured when DHCP has been disabled, or DHCP services are not available on the network.
	DNS Secondary	The secondary domain ame server. This parameter is configured when DHCP has been disabled, or DHCP services are not available on the network.
	DHCP Enabled	If DHCP is not enabled, the meter uses the Default IP Configuration parameters. If DHCP is enabled, the meter uses the IP configuration parameters provided by the network DHCP service.
Report	See “Report Parameters” on page 12	
Main Meter	PT Ratio	The main meter potential transformer ratio. This is an internal multiplier used by the meter for external potential transformers. External PTs can be used with a PT ratio of 1 if the billing system will apply the PT muliplier. Use a PT Ratio of 1 with no external PTs.
Modem	Phone #	The phone number of your internet service provider’s PPP service.
	Alternate Phone #	An alternate phone number of your internet service provider’s PPP service.
	AT String	AT command string to customize modem operation. Default string is ATX3, do not wait for dial tone.
	Wait for Dial Tone	Do not enable this parameter if the line has a broken dial tone due to a message waiting feature.
Host Server	IP Address	The IP address or domain name of the FTP server for data storage.
	Upload Directory	The sub-directory used for data reporting within the root directory. The root directory is determined by the FTP user name and the FTP server configuration. The FTP account must have write access to this directory.
	Download Directory	The sub-directory used by the meter to retrieve configuration updates. The FTP account must have read access to this directory..
FTP Login	User Name	The user name for the FTP account.
	Password	The password for the FTP account.
PPP Login	User Name	The user name for the PPP account. This is only required if using dial-up reporting.
	Password	The password for the PPP account. This is only required if using dial-up reporting.
NTP Host (Time Server)	IP Address	The IP address of the NTP server that provides timing to the meter.

Report Parameters

The **Report** section in the main configuration window has three tabs:

- the **Period** tab allows the user to configure when the reports are generated and the interval at which data is collected. Figure 6 shows the Period tab, and Table 3 lists configuration parameters within the tab.
- the **Types** tab allows the user to configure the types of reports that are generated, and to define the metering parameters that are to be logged on an interval basis. Figure 7 shows the Types tab, and Table 4 lists the configuration parameters within the tab.
- the **Real Time Interval** tab allows the user to configure real time reporting daily, or at a specified regular interval in minutes. It allows the user to define how often the meter is to send interval data to a server. This setting works independenly from the **Period** tab setting. Figure 8 shows the Real Time Interval tab, and Table 5 lists the configuration parameters within the tab.

Figure 6: Period tab in the Report section

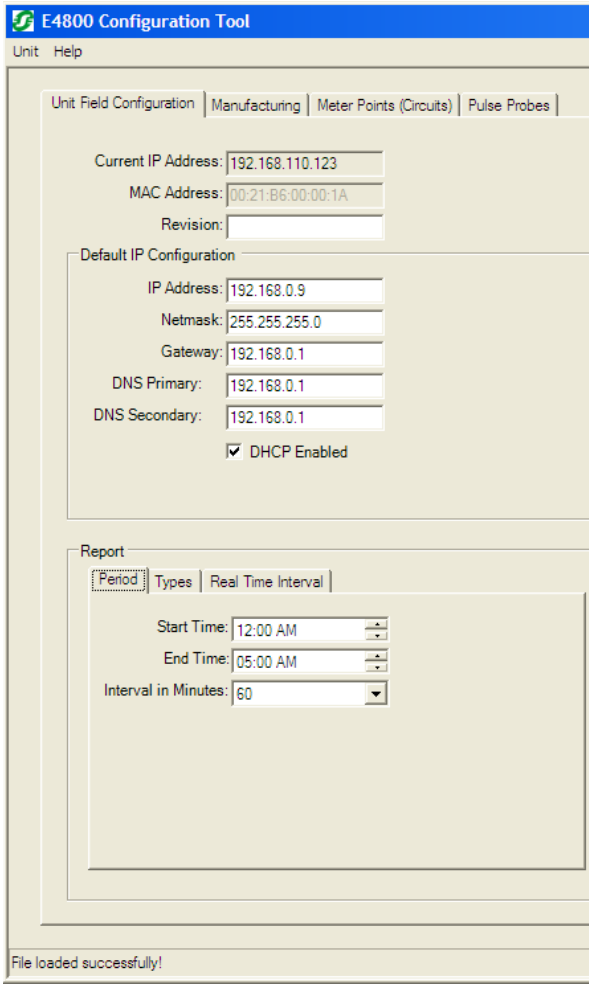


Table 3: Period tab configuration parameters

Parameter	Description
Start Time	The report period start time. The unit defaults to daily reporting and sends ithe data file at a randomly selected time within the report window.
End Time	The report period end time. The unit defaults to daily reporting and sends ithe data file at a randomly selected time within the report window.
Interval in Minutes	The interval at which data is collected.

Figure 7: Types tab in the Report section

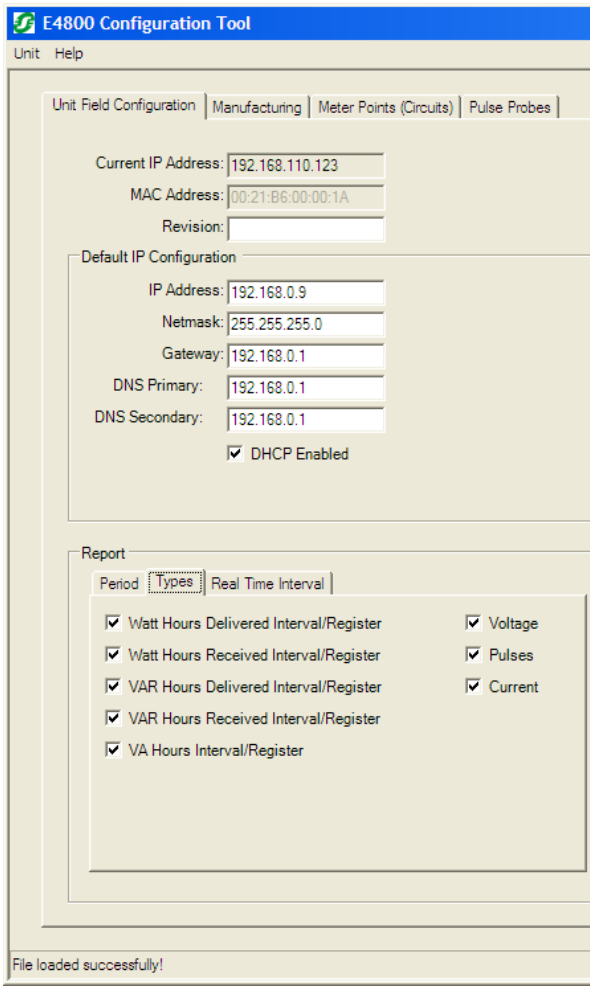


Table 4: Types tab configuration parameters

Parameter	Description
Watt Hours Delivered Interval/Register Watt Hours Received Interval/Register VAR Hours Delivered Interval/Register VAR Hours Received Interval/Register VA Hours Interval/Register Voltage Pulses Current	These types of records can be enabled by selecting the check box.

Figure 8: Real Time Interval tab in the Report section

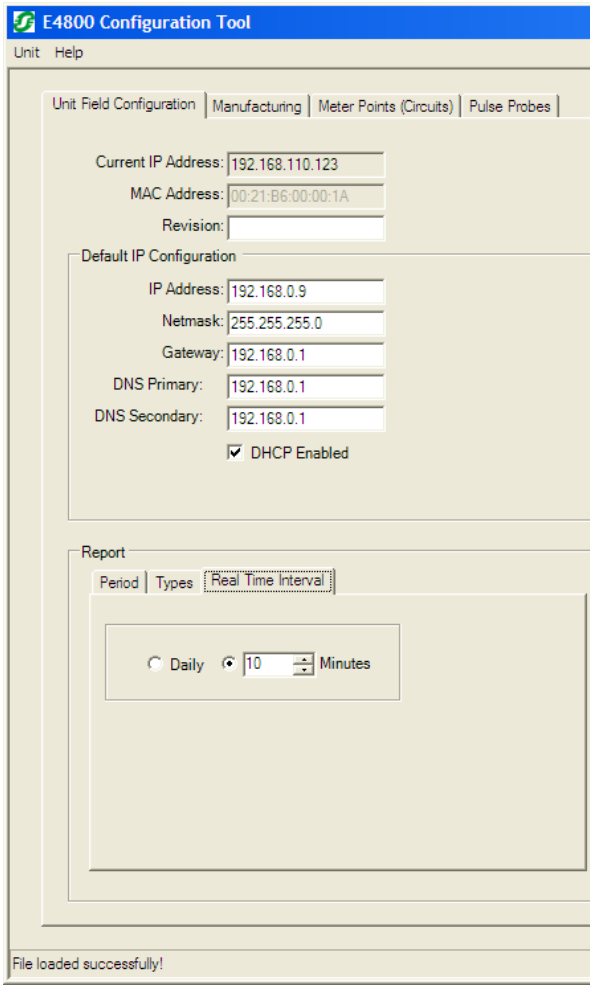


Table 5: Real Time Interval tab configuration parameters

Parameter	Description
Daily	Enables daily real time reporting by selecting the radial button.
Minutes	Enter a number to enable real time reporting every x number of minutes.

Manufacturing Tab

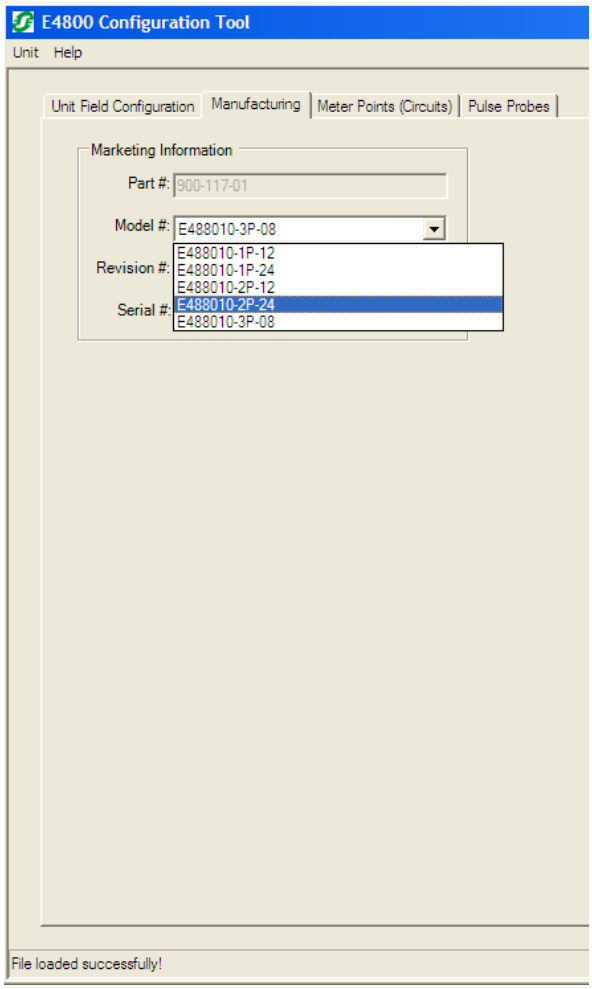
The **Manufacturing** tab allows the user to define metering configuration for the PowerLogic E4800 meter.The meter supports the configurations listed in Table 6.

Table 6: List of supported metering configurations

PowerLogic E4805	PowerLogic E4833	PowerLogic E4880
E480510-1P-12	E483310-1P-12	E488010-1P-12
E480510-1P-24	E483310-1P-24	E488010-1P-24
E480510-2P-12	E483310-2P-12	E488010-2P-12
E480510-2P-24	E483310-2P-24	E488010-2P-24
E480510-3P-08	E483310-3P-08	E488010-3P-08

To view the manufacturing information for a specific meter, select a model number from the **Model #** pull-down list shown in Figure 9. The part number, revision number and serial number for the selected model will be shown.

Figure 9: Manufacturing tab



Meter Points (Circuits) Tab

The **Meter Points (Circuits)** tab contains the configuration information for each of the metering points. It shows the number of elements used, the phase, the current ratings, and the user-defined identification string for each meter point. Default information is entered when the metering configuration is selected in the **Manufacturing** Tab (see “Manufacturing Tab” on page 16).

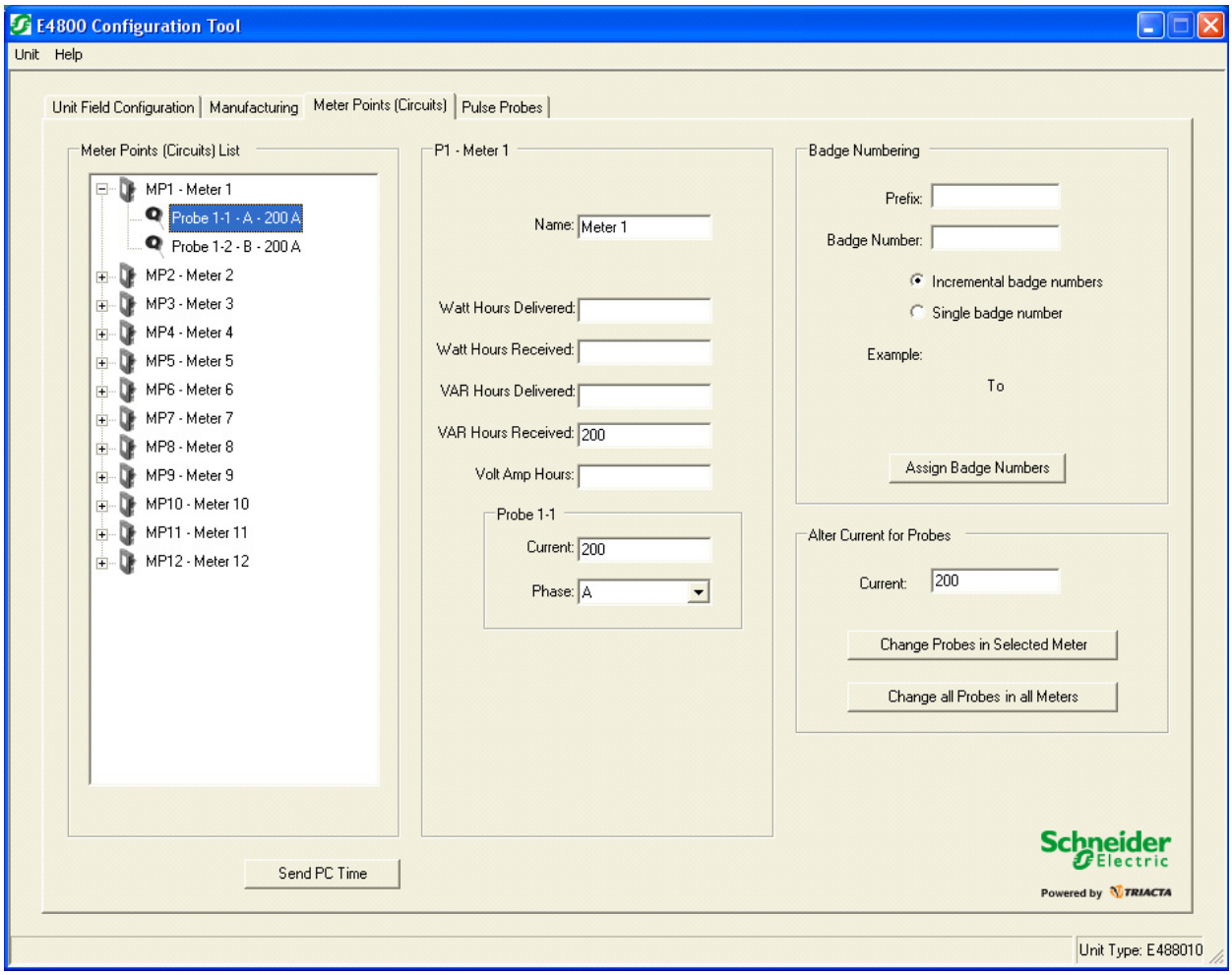
Meter Point Configuration

The current rating and phase assignment for each meter point can be configured individually, by meter, or all at once. The configuration in all three cases does not take effect until the new settings have been sent to the meter (see “Completing the Meter Configuration” on page 21).

To change the current rating and phase assignment for an individual meter point:

1. Select one probe at a time from the **Meter Points (Circuits) List.** The selected probe number will appear in the middle pane beside **Probe**, and its assigned **Current** and **Phase** are shown beneath it. See Figure 10.
2. To change the **Current**, enter the reuired number. To change the **Phase**, select the required phase type from the pull-down list.

Figure 10: Meter points configuration screen



To change the current rating for all meter points assigned to a meter:

1. Select a meter from the **Meter Points (Circuits) List.** The selected meter will appear in the **Name** field of the middle pane. See Figure 10.
2. In the **Alter Current for Probes** pane, enter the desired value referenced to the CT primary rating in the **Current** field, and click on **Change Probes in Selected Meter**.

To change the current rating for all meter points assigned to all meters:

1. In the **Alter Current for Probes** pane, enter the desired value referenced to the CT primary rating in the **Current** field, and click on **Change all Probes in all Meters**. See Figure 10.

Badge Numbering

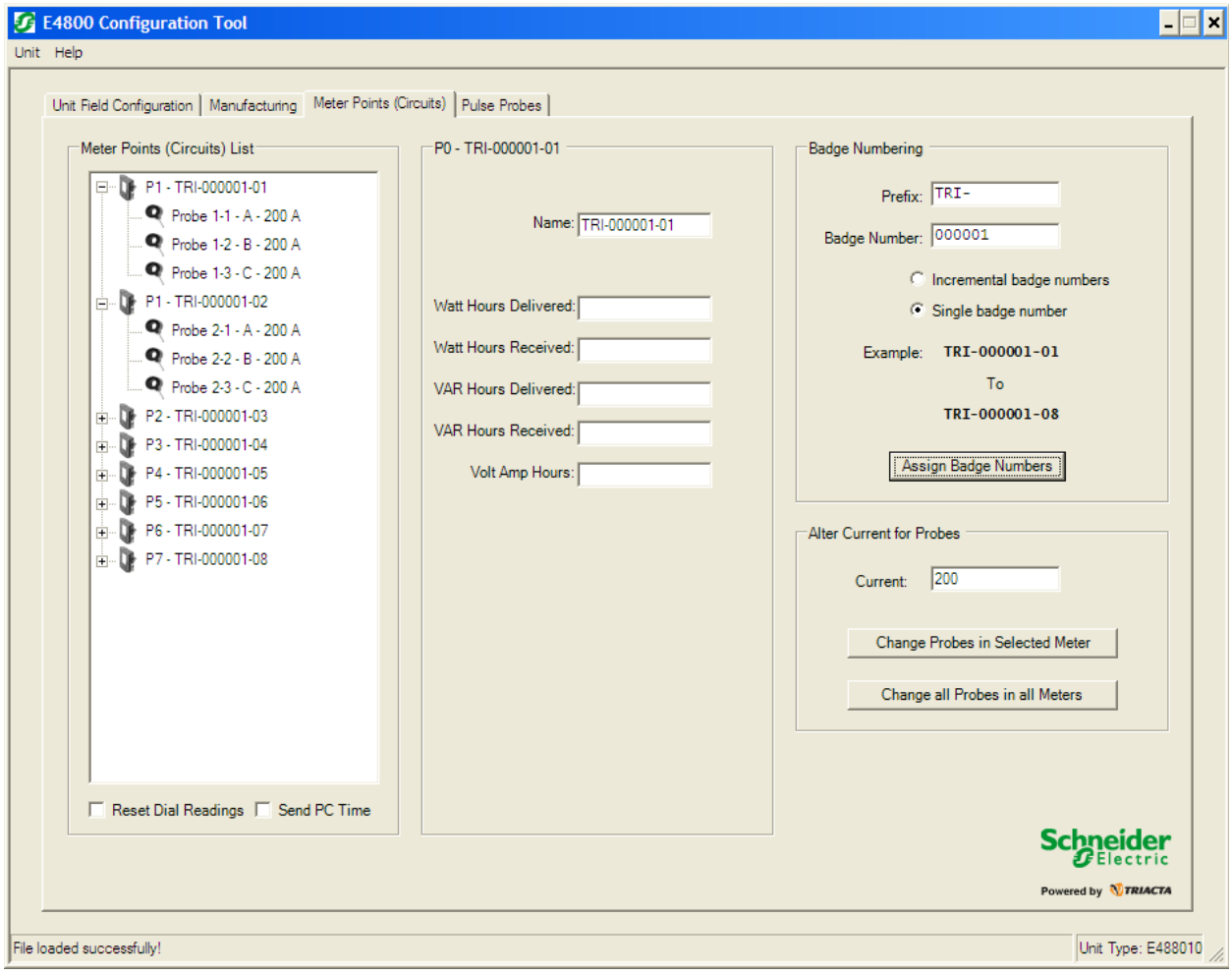
Each meter point can be configured with a name defined by the user. The meter point name, known as the badge number, can be 13 alphanumeric characters in length. The **Badge Numbering** pane allows the user to set two types of badge numbers:

- sequential, which assigns a badge number to each meter point after the prefix (for example CORP-00000001 to CORP-00000012)
- grouped by meter, which uses a base prefix to designate the meter, then assigns a sequential badge number suffix to each meter point assigned to that meter (for example CORP-00001-01 to CORP-00001-12)

The configuration tool provides examples before the badge number is assigned to the meter. In the **Badge Numbering** pane shown in Figure 11, the following fields and buttons are provided for assigning badge numbers:

- **Prefix** field - an alphanumeric field that prefixes the number field
- **Badge Number** field - a numeric field that becomes part of the prefix for meter points assigned to that meter, or the first number in the sequence to be assigned to individual meter points
- **Incremental badge numbers** button - choosing this button assigns a sequential badge number for each meter point
- **Single badge number** button - choosing this button assigns one badge number prefix followed by a numeric suffix for each meter point assigned to that meter

Figure 11: Badge Numbering pane

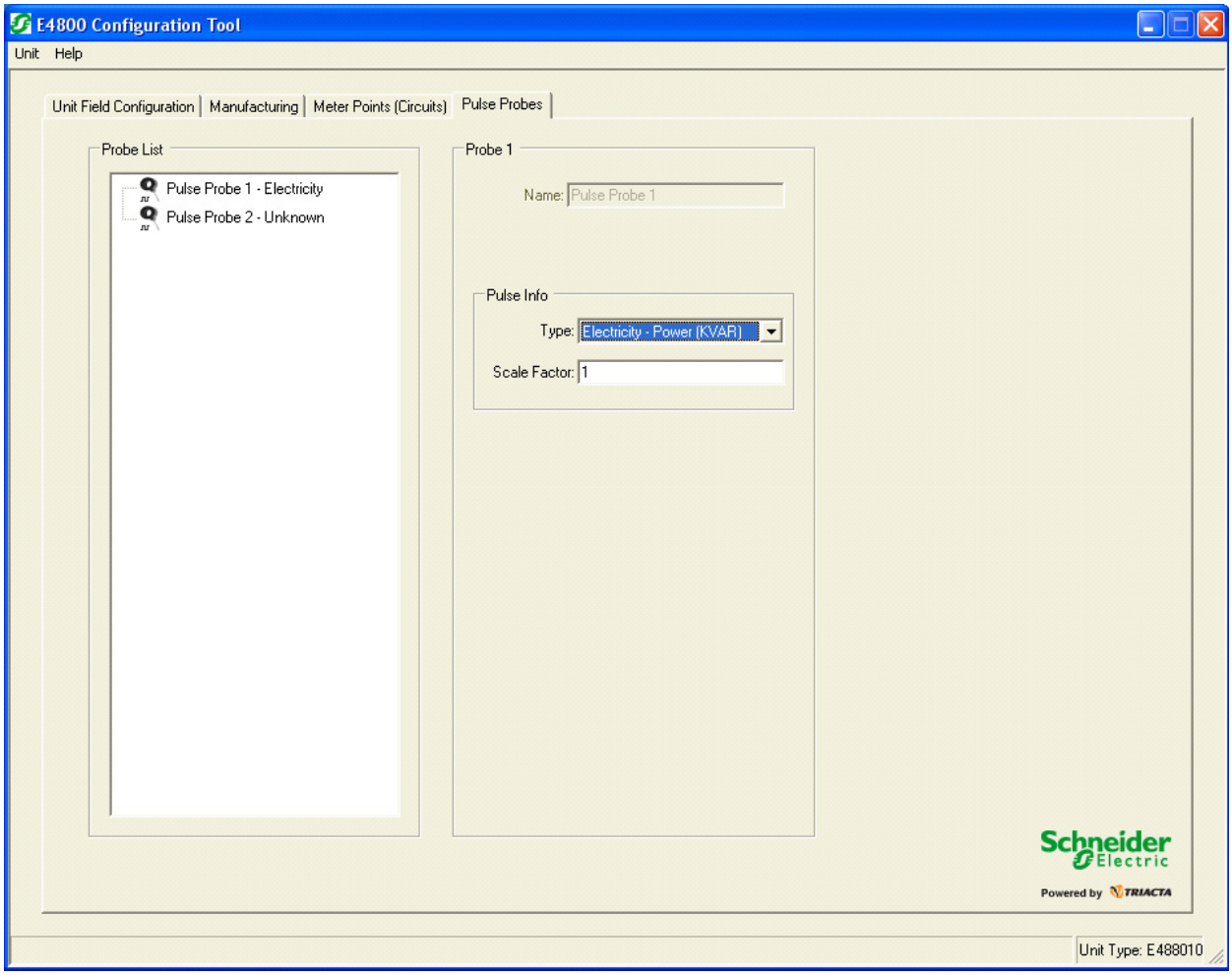


Pulse Probes Tab

The **Pulse Probes** tab contains the configuration information for each pulse input. It shows the measurement type in units for each input, and the scale factor applied to the collected pulse counts.

Select one pulse probe at a time from the **Probe List** to program it for measurement **Type** units from the pull-down list, and **Scale Factor**. Figure 12 shows the Pulse Probes tab of the main configuration tool window.

Figure 12: Pulse Probes tab

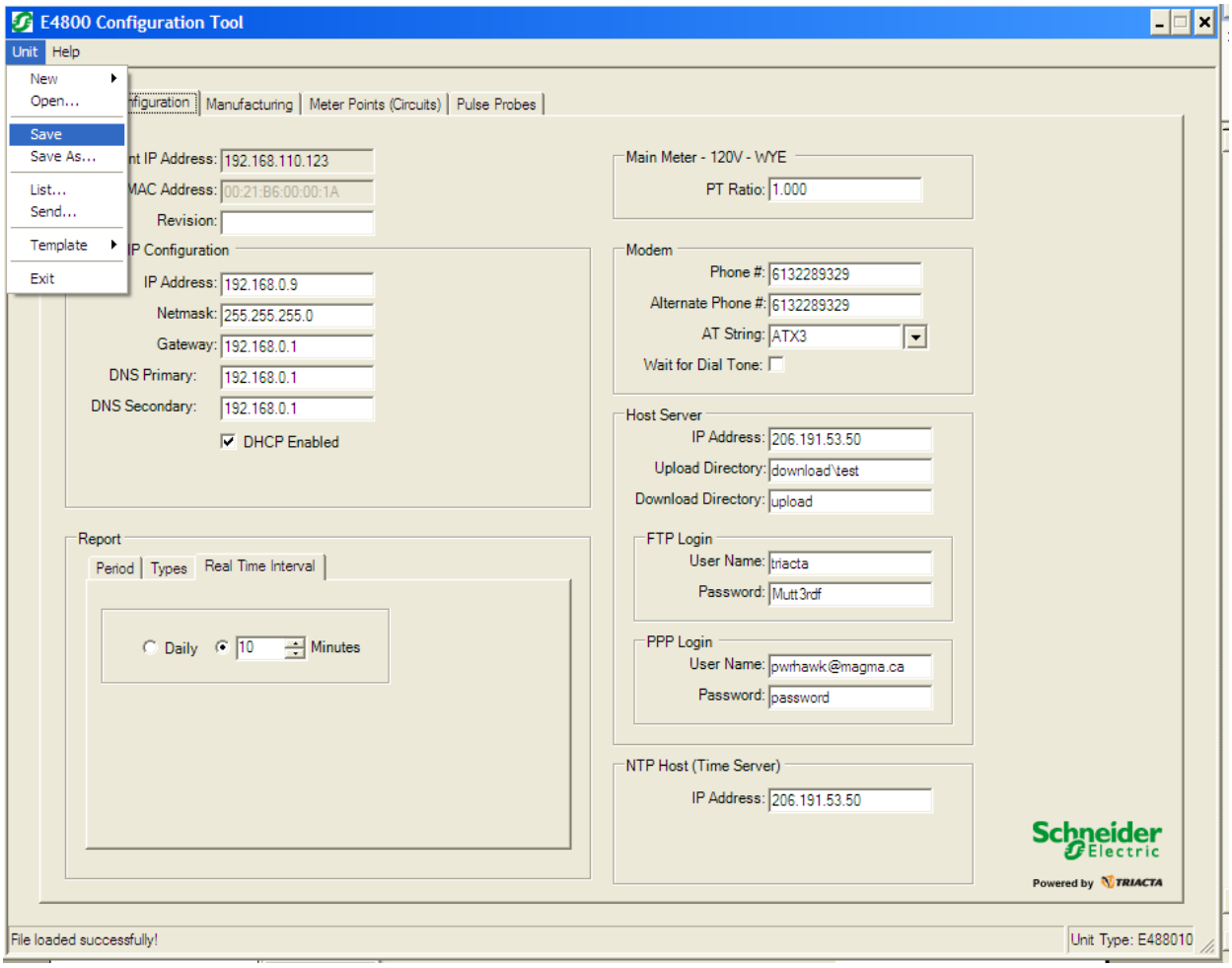


Completing the Meter Configuration

Once you have defined all of the configurable parameters, the PowerLogic E4800 meter is ready to be programmed. Proceed as follows:

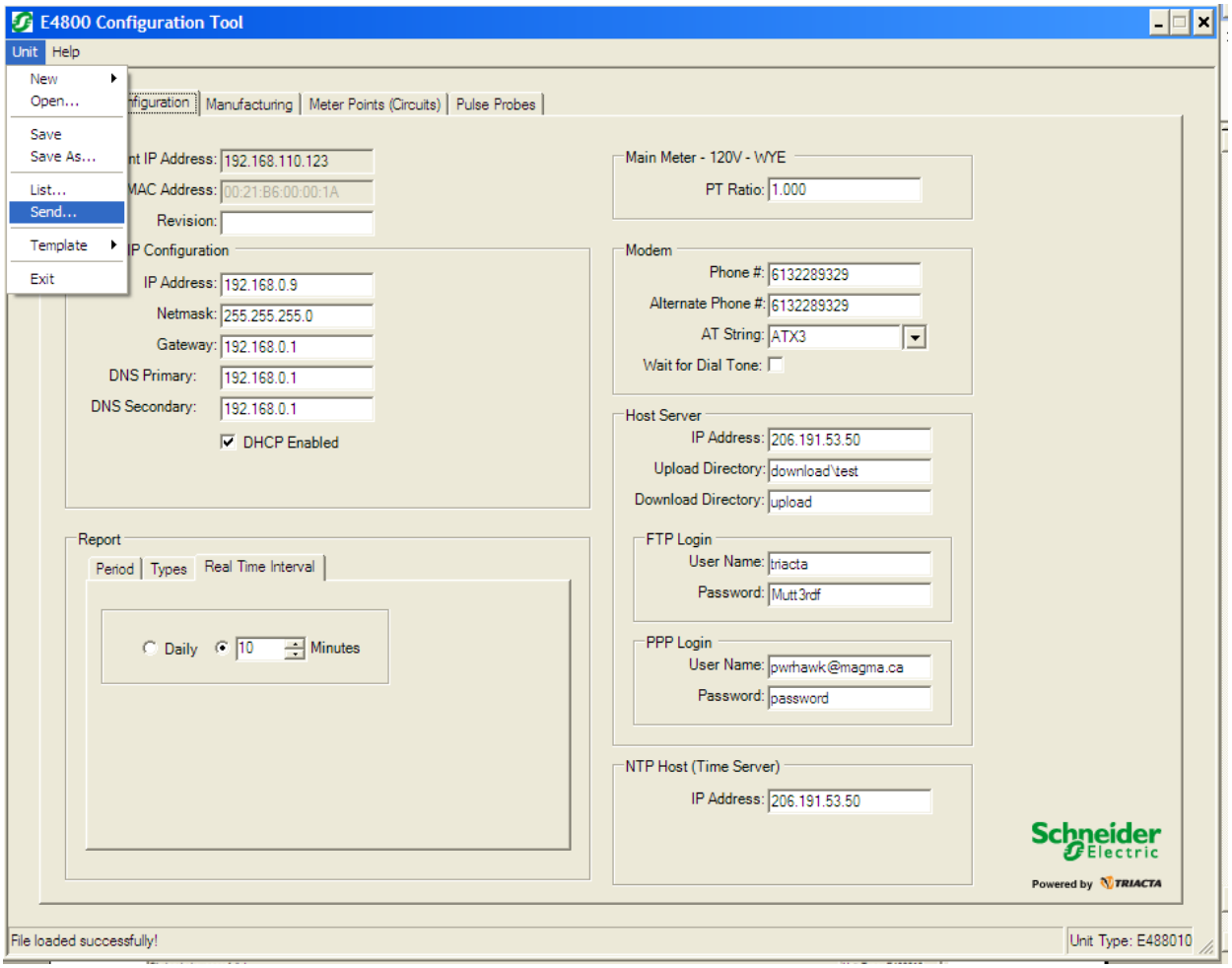
1. Save the configuration settings by selecting **Save** under the **Unit** drop-down menu in the main configuration tool window. See Figure 13.

Figure 13: Saving the configuration settings



2. Under the **Unit** drop-down menu, select **Send** to transmit the configuration settings from your PC to the PowerLogic E4800 meter currently selected. See Figure 14.

Figure 14: Sending the configured settings to the meter



3. To verify whether the configuration was successfully sent, check the status bar at the bottom of the window where the confirmation message **File loaded successfully!** should appear. See Figure 14.

PowerLogic™ E4800 Series
Configuration Guide

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