

# AS230 Power Master Unit

## Chapter 4 - Software Support

M200 001 4A  
2/09



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# Software Installation

## System Requirements

Windows™ 2000 or a later

.Net 2.0

## Installing the Software

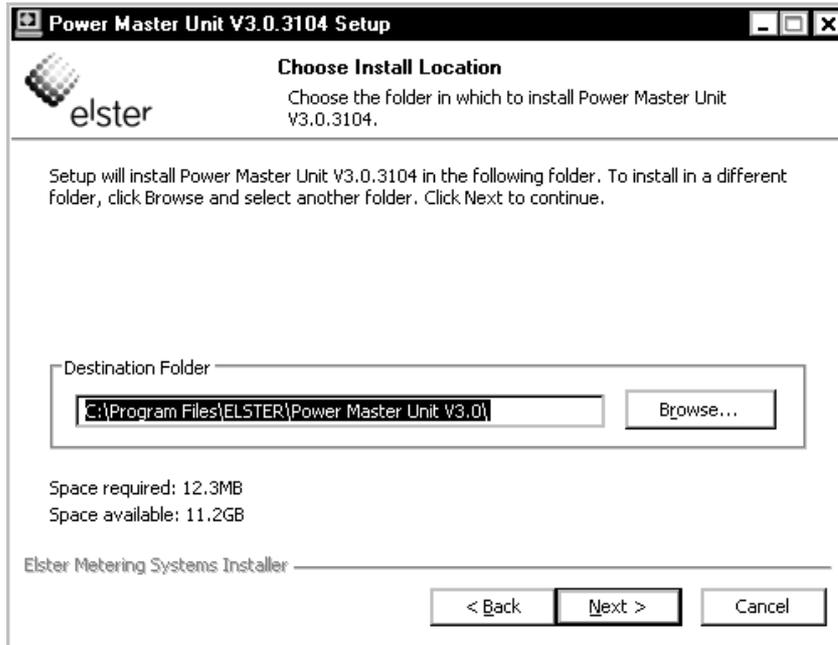
Double Click on Setup.exe

The following screen is displayed



Click Next

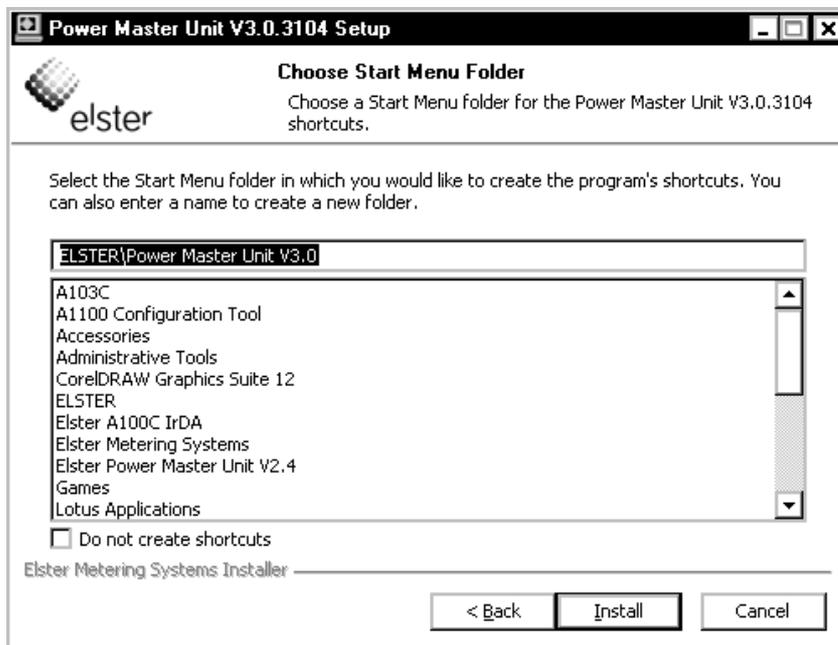
The Choose Installation Page will be displayed



Select the folder for the installation

Click Next

The Choose Start Menu Page is displayed



Click Install



The PMU is installed

Click Finish



# 1 Power Master Unit

## 1.1 Power Master Unit Introduction

This Section gives the basics on how to use Power Master Unit 3.0 Software

### Features of the Master Unit

Menu driven, using Microsoft<sup>®</sup> Windows based operating software to guide the user through the process of setting up a meter for any particular application

Programming structure to ensure that, if an attempt is made to program a feature that is not present in a meter, erroneous data cannot be programmed. All other features are programmed normally

## 1.2 Logging On

Open the Power Master Unit from the appropriate directory to display the Master Unit Logon dialog

For security reasons, only users with a direct knowledge of the correct User Name and Passwords will be permitted to Log On to the software

To enter the system a User Name with the correct Password must be entered. Three attempts to match the Password with the User Name are allowed before access is denied. If a match is not found, a message is displayed and the program exits



The screenshot shows a Windows-style dialog box titled "Power Master Unit". Below the title bar, the text "Select User Name and Enter" is displayed. There are two input fields: "User Name" is a dropdown menu currently showing "Administrator", and "Password" is a text box with "\*\*\*\*\*" indicating a masked password. At the bottom right, there are two buttons: "OK" and "Cancel".

The Power Master Unit Software has two levels of access, Standard User and Administrator

### Logging on as a Standard User

The Password is initially set to Elster. This should be changed as soon as possible to prevent unauthorised access to the software. The password may be changed using the System/Change Password dialog from the Main Menu bar

Select the User Name and enter the password. The system enters the Master Unit Main Menu

The default password is:

**User Name** Elster

**Password** Elster

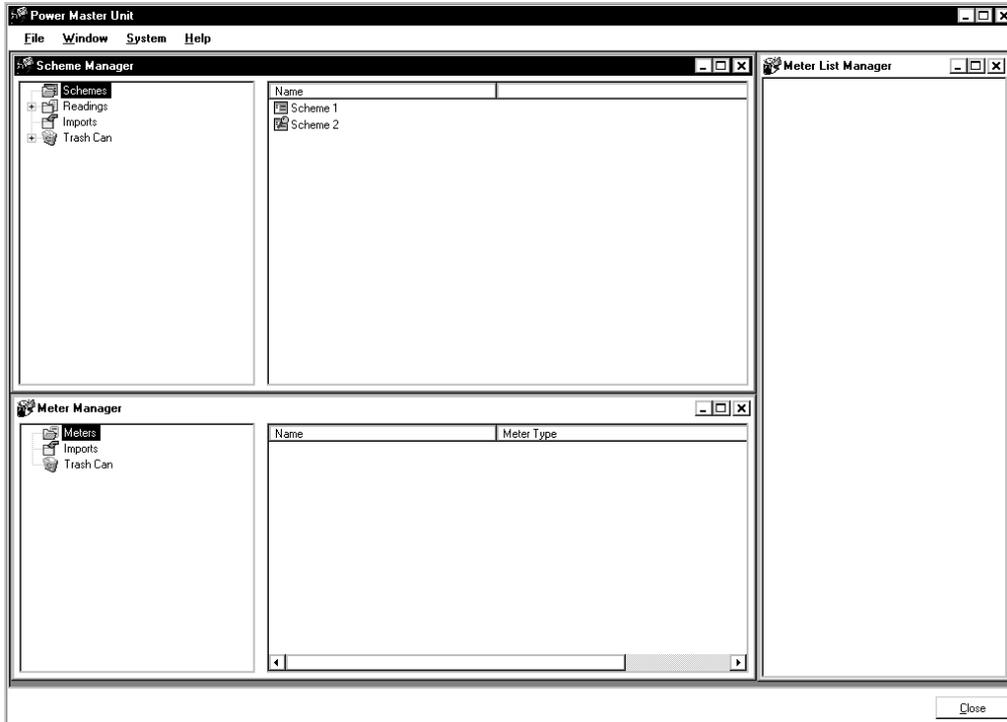
### Logging On as an Administrator

For details on how to use the Administration Facilities, see Section 8

For details of passwords for Administrator Access, contact Elster Metering Systems

### 1.3 Features of the Main Master Unit Window (Standard User)

When the software is first entered, the Main Window containing the Scheme Manager, Meter Manager and Meter List Manager is displayed



#### Main Menu Bar

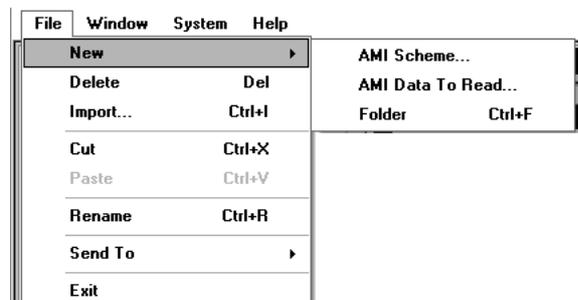
##### File

##### New

**AMI Scheme** - Sets up a new scheme for a meter

**AMI Data to Read** - Sets up the data to be read from the meter

**Folder** - Creates a folder for schemes/readings etc.



**Delete** - Allows Folders/Schemes/Readings to be deleted and sent to the Trash Can

**Import** - Allows Readings/Schemes to be imported

**Cut** - Allows a Folder/Scheme/Reading to be cut ready for pasting into another folder or the Trash Can

**Paste** - Allows a Cut Folder/Scheme/Readings to be pasted into another folder or the Trash Can

**Rename** - Rename a selected file

**Send To** - Sends the file to option as shown opposite

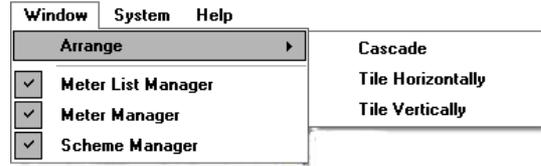
**Exit** - Quits the Master Unit

Send To Printer...	Ctrl+P
Send To Meter...	Ctrl+M
Send To HTML...	Ctrl+H
Send To CSV...	Ctrl+E
Send To Quick-Command...	Ctrl+Q
Send To Export File...	Ctrl+O

**Window**

The Scheme Manager, Meter Manager and Meter List Manager can be customised to be viewed as Cascade, Tile Horizontally or Tile Vertically

The Windows can also be sized by placing the cursor on the edge of the Window, then dragging



**System**

**Configure Auto-Import** - Allows the scanning frequency for the system to be set. If zero is entered Configure Auto Imports is disabled

**Configure Database Locations** - Allows a database in a different location to be configured. Click on [...] to the right of the window to select the location of the database

**Communications Server Setup** - Allows the communications server to be viewed

**View Communications Server Log** - Allows a log of the communications sessions to be viewed

**Backup Database** - Allows the Database to be backed up

**Language** - Allows menus to be displayed as the Windows (Language) setup. The default language is English

**Change Password** - This allows the User Password to be changed (See Section 8)

**User Administration** (System Administration only) - Allows passwords and new users to be defined (See Section 8)

**Role Administration** (System Administration only) - Used to alter access (See Section 8)



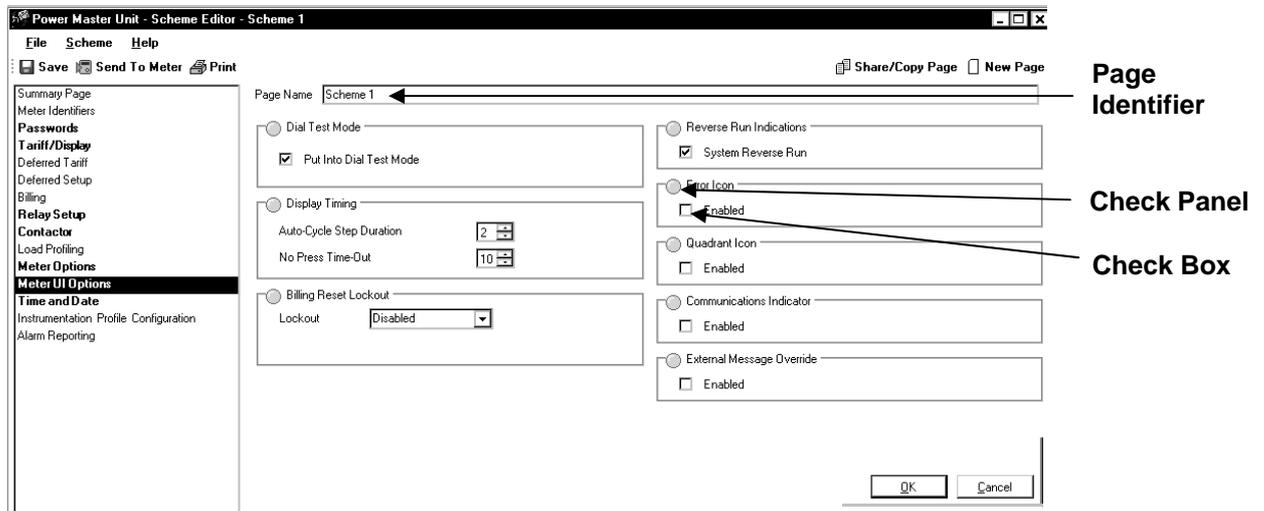
**Help**

Help on the Power Master Unit

Use the F1 key for Context Sensitive help



## 1.4 Scheme Editor Pages



Each page in the Scheme Editor is similar in construction with all fields and controls being used in the same way

The Meter UI Options page is shown above

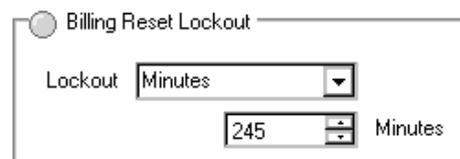
### Page Name Identifier

This identifier is unique to the page currently being edited. Other pages of this type can be selected using the share/copy page (See Section 3.1)

### Check Panels & Check Boxes

#### Check Panels

The Billing Reset Lockout Check Panel is shown opposite. The Panels are selected or deselected as follows:



If the Panel is disabled (Grey) the contents of the panel cannot be altered and the meter functionality or data will remain unchanged

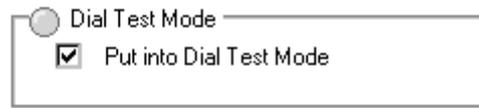
If the Panel is enabled (Green), the panel becomes operable and the meter functionality or data can be changed

### Check Boxes

Check boxes operate within Check panels

If the Panel is operable (Green) and the box is checked, the box task (Put into Dial Test Mode) will be programmed to the meter

If the Panel is operable and the box is unchecked, the box task will be removed from the meter (The meter will be taken out of Dial Test Mode)



### Toolbar

Save

Send to meter

Print



### About Help

All information required to program a meter is contained in the Help

Pressing F1 whilst a topic is selected in the Master Unit Software displays the related topic Help information

## 2 Scheme Manager

### 2.1 Introduction

The Scheme Manager allows schemes to be organised or read

A scheme can consist of an individual entry, such as a Tariff/Display Sequence.

This may be used to program a number of different meters with the same Tariff/Display Sequence. This gives the advantage of changing only one set of parameter in the meter, all other parameters remaining unchanged

### 2.2 Scheme Manager Components

The Scheme Manager is divided into four components -

**Schemes** - Used to store and organise schemes

To create a new Scheme/Data to Read, right click on scheme/new and select the required option from the list provided

**Readings** - Allows Readings to be viewed (See Section 5.1)

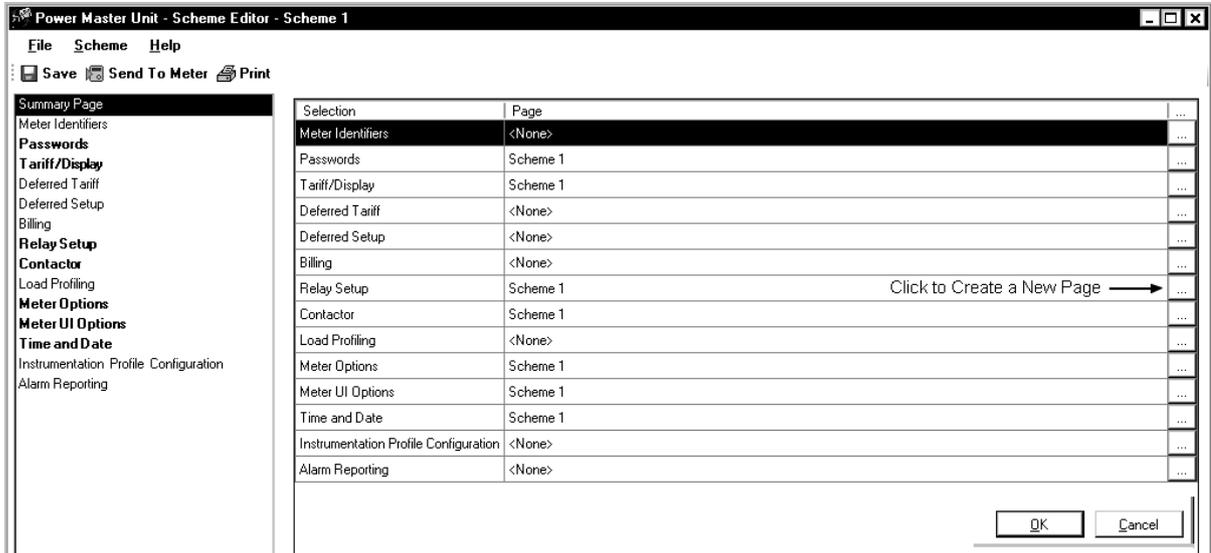
**Import** - Allows schemes to be imported

**Trash Can** - Contains deleted or pasted Schemes/Readings etc.



### 3 Scheme Editor

#### 3.1 Main Menu



File/Scheme Main Menu Options are shown in Section 1.3

#### Tool Bar

The toolbar offers a quick method to -

Save a Scheme

Send the Scheme to the Meter

Print the Scheme



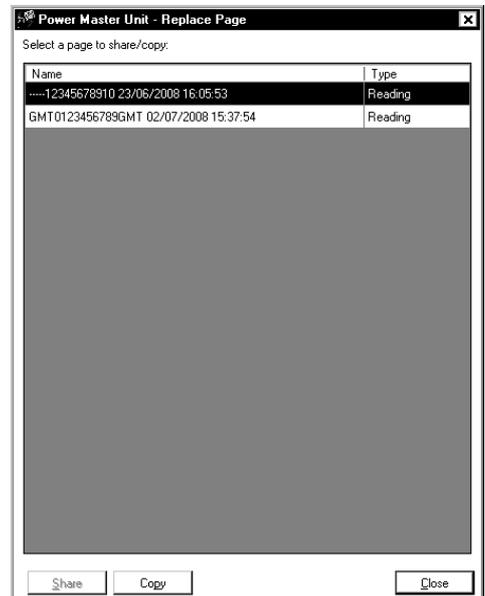
#### New Page

New Page allows a New Page to be created. The New Page is selected by clicking [...] to the right of the Scheme Editor

#### Share/Copy Page

**Copy** - Copies the selected Page

**Share** - Shares a Page with other schemes. The schemes that share the Page will be shown at the bottom of the page



### 3.2 Creating a New Scheme

In the Scheme Manager, right click and select New/AMI scheme

Enter the Name of the scheme. The PMU will switch to the Scheme Editor

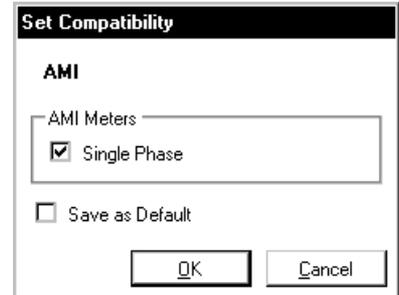
#### Meter Compatibility

Before creating a Scheme, the type of meter to be programmed must be selected

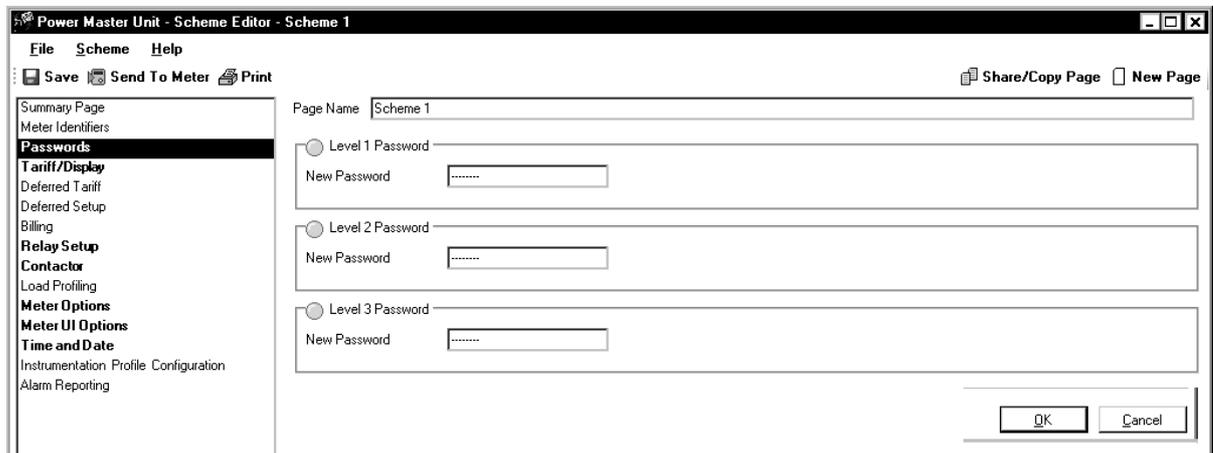
Select Scheme/Compatibility from the menu bar

The Set Compatibility Checkbox opposite is displayed

Only AMI Meters can be programmed using the PMU



#### Selecting Scheme Pages



Select the Page to be Edited (Passwords)

Edit the Page (Passwords changes to Bold to highlight it is part of the Scheme)

Edit each page that will form part of the Scheme

Save the Scheme

### 3.3 To Edit a Scheme

Double click the Scheme in the right panel of the Scheme Manager

Select and edit each Page to be changed

Save the Page

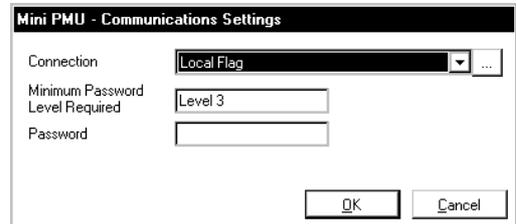
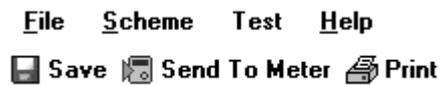
Note - Use the File/Save As option to save the Scheme as a New Scheme

### 3.4 Sending a Scheme to a Meter

Select Send to Meter from the Main Menu

Enter the correct minimum password level to match the password that has been programmed to the meter

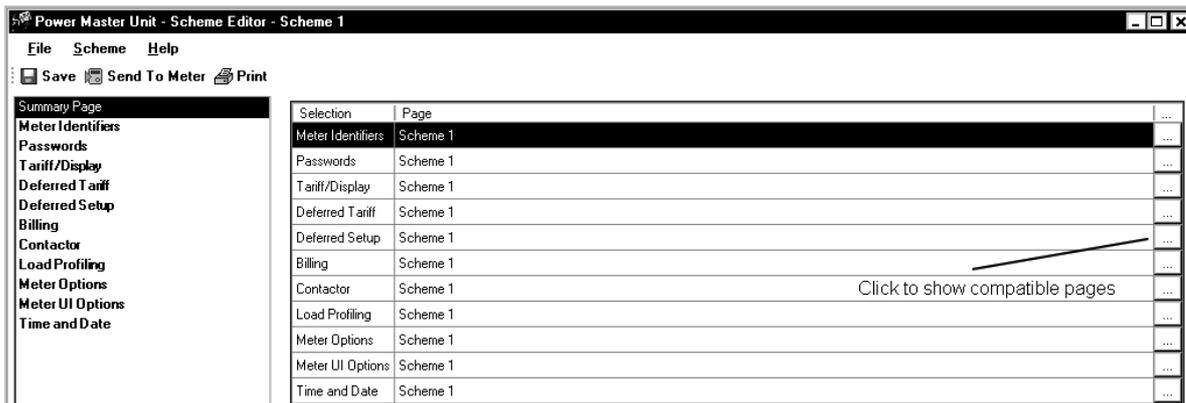
Press OK



### 3.5 Meter Pages

#### 3.5.1 Summary

The Summary gives a quick preview of all pages to be programmed to the meter. Only pages shown in **Bold** will form part of the scheme



### 3.5.2 Meter Identifiers

Page Name

Meter Scheme ID

Meter Scheme ID

Outstation Number

Outstation Number

This Page allows the Scheme id and Outstation Number to be entered

The Meter Scheme id is 8 alphanumeric characters long. An un-programmed meter will have a Scheme id of 00000000. A Scheme id must be entered if it is to appear when the meter is read

The Outstation Number is 3 digits long. The default is 001

### 3.5.3 Passwords

#### All meter types

Page Name

Level 1 Password

New Password

Level 2 Password

New Password

Level 3 Password

New Password

Three levels of Password Security protect the meter. Each level of password consists of eight characters. The Passwords are right padded with dashes

Note - The integrity of the meter passwords should always be protected. This can be best achieved by ensuring the ability to change passwords is controlled and only made available to Administrative personnel. The level 3 password should be changed at regular intervals

### 3.5.4 Tariff/Display

#### 3.5.4.1 Register Sources (8 Rates, 1 Maximum Demand)

Rate	Source
1	Import varh
2	No Source
3	No Source
4	No Source
5	No Source
6	No Source
7	No Source
8	No Source

Maximum Demand	Source
1	No Source

The source of each of the Rate Registers and the MD Register must be defined

**To Select Rate and MD Sources** - Double click the source for the required rate to reveal the dropdown list then select the required source. Repeat for each required rate's and MD's. Press OK

#### 3.5.4.2 Season Definition (12 Seasons)

This Tab allows the Tariff which runs for a particular Season to be created. The Seasons applied to the appropriate tariff must then be given a unique name

The resolution of a tariff between its start and end time can be defined using minimum step (5, 10, 15 or 30 minutes)

The resolution can be set to one minute by typing the value in the right panel of the sources window (Example 22:03 - 23:06)

**Defining a Season -** Select the required Season and name the Season

Click on New Day, name the Day, Press the Add button

Double click on Monday to reveal the dropdown list, select New Day

Click on the Add Rate button. The Rate Source Clock is displayed

Place the cursor on the leading edge of the active time (a double arrow will be displayed), then drag to the start time for the Rate. Repeat for the end time of the rate. Alternatively time may be entered directly on the right hand side

Click on the Add Rate button and repeat for all required Rates and MD's for this Season

Repeat for all required Days and Seasons

Select Scheme/Save page as from the Main Menu and save the page

**Note 1 - Use copy of existing day type** allows a similar day type to be created and saved as a new name

To create a similar day type, press the New Day button and Check the Use Selected Item as Template box. Select the Day type from 'Existing day types' then Type the New day name, then press the 'OK' button

**3.5.4.3 Season Changeover (24 Dates)**

Season Changeover Dates are the dates on which a new season begins. Season Changeover Dates are defined by day or by month and season number

**Entering the seasons changeover dates**

**To enter a fixed date** - Select the first season then click on the Season Dates column at the start of the required Season

Click and drag to the Season End Date

Repeat for all Seasons

Select Scheme/Save page

If a date other than the first day of the month is required for the Season Start Date, click on the 'Day' tab and use the scroll bar to find the start of the Season. Click and drag to the Season End Date

**Billing Reset**

A Billing Reset can be activated by selecting 'Perform a Billing Reset on Change Season'

**3.5.4.4 Exclusion Dates**

**32 Exclusion Dates**

Exclusion Dates are the dates when the normal switching times for that season are not to be adopted i.e. Public Holidays. Instead, Switching Times with defined actions take over

1 Jan	Holiday
2 Jan	
3 Jan	
4 Jan	
5 Jan	

A Switching Time for the 1 Jan is shown opposite  
The shaded box indicates the Season or Day to switch to i.e. Holiday is the day type selected to use

**Choosing the Exclusion Date Type**

The Exclusion Date can be set to one of the following options:

**Set to day type** – this sets an Exclusion Date to a particular day as defined in the Define Season Day List

**Set to specific season** – this sets the Exclusion Date to the day currently selected of a Specific Season

**Exclusion Date Repetition**

This can be set to Every Year or to a Specific Year

**3.5.4.5 Advanced Season Change**

A Season Change can be initiated on an Exact Date or on the 'same day of the week' each year. This allows the meter to respond to a Daylight Savings Event

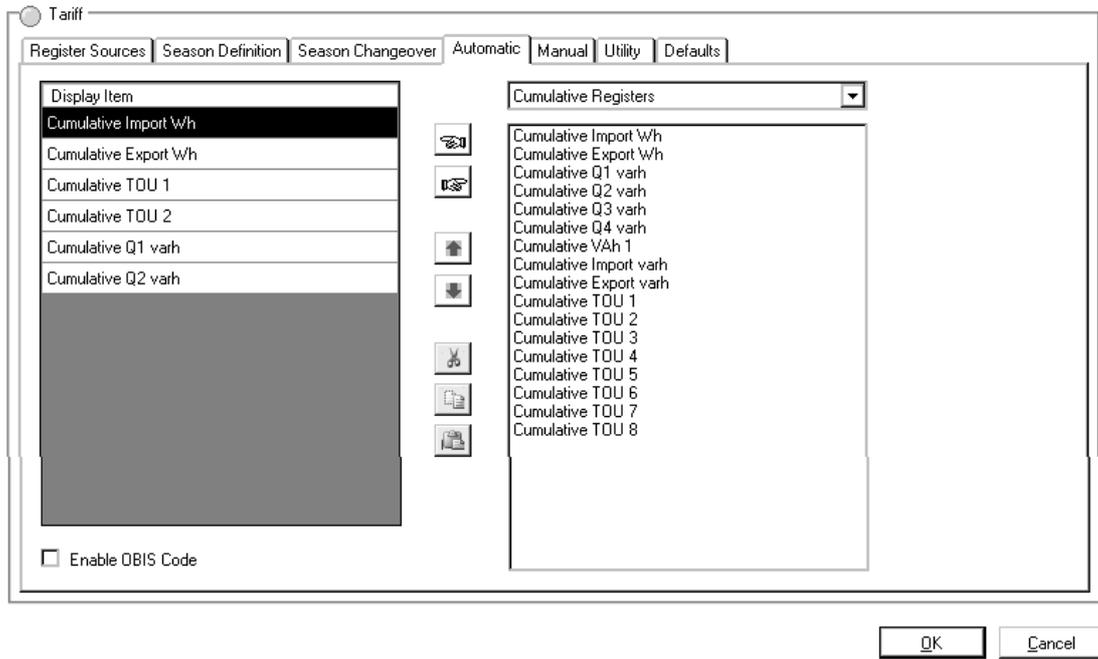
**Exact Date** - Enter the exact date in the Season Start dropdown list

Enter the exact date in the Next Season dropdown list. Press OK

**Advanced** - Enter the Week (first, second, third, fourth or last), Week day and Month for the Season Start Date

Enter the Week, Weekday and Month for the next Season  
Press OK

## Display/Automatic



### Building the display

A list of possible displays is shown on the right hand side of the dialogue and can be made available for display by using the ➤ Button

**To transfer a group of sequential displays** - Click on the first display in the list

Hold down the shift key

Click the last display required in the list (the displays will appear highlighted) then use the ➤ button to transfer the displays to the display list

### Using the Buttons

**To Transfer a display** - Select the required display from the Available Display List

Click the ➤ button. The display is transferred from the Available Display List to the Display List

**To Remove a display from the display list** - Click on the required display

Click the ⇐ button. The display is removed from the Display List

**To Change the display order** - Click on the required display and click the ⬆ button to move the display upwards in the display order

Click on the required display and click the ⬇ button to move the display downwards in the display order

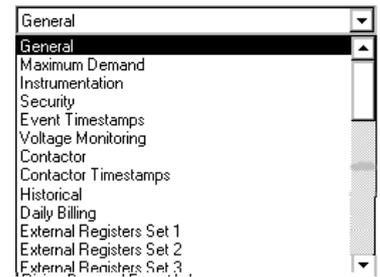
### OBIS Codes

To enable OBIS Codes, check the Enable OBIS codes checkbox. The meter display will be identified by an OBIS Code as well as English Descriptors. The OBIS Code is shown next to the display item

Display Item	OBIS Text
Cumulative TOU 3	#.8.3
Cumulative TOU 4	#.8.4

### Selection

The displays have been split into groups for ease of handling. Select the required group to add items to the display sequence



### Manual/Utility Displays

Manual and Utility display sequences can be changed in the same way as the Automatic Display Sequence

### Defaults

Defaults show a list of all displays available to the AS230 with their OBIS Codes

## 3.5.5 Deferred Setup

### Deferred Tariff Changeover Date

Page Name

Deferred Tariff Change-Over Date

Change-Over

Change-Over Date

Change-Over Time  Hours  Minutes

Perform a Billing Reset when switching to deferred tariff?

This Page allows the Deferred Tariff/Display to be disabled, or enabled on a specified date  
A Billing Reset on switching to Deferred Tariff can also be actioned

## 3.5.6 Deferred Tariff

The Deferred Tariff operates in exactly the same way as the Tariff Page

### 3.5.7 Billing

Page Name

Manual Billing Reset

Carry Out Manual Billing Reset

Automatic End of Billing Dates

Billing Dates

<input type="text" value="31"/>	<input type="text" value="January"/>
<input type="text" value="29"/>	<input type="text" value="February"/>
<input type="text" value="31"/>	<input type="text" value="March"/>
<input type="text" value="30"/>	<input type="text" value="April"/>
<input type="text" value="31"/>	<input type="text" value="May"/>
<input type="text" value="30"/>	<input type="text" value="June"/>
<input type="text" value="31"/>	<input type="text" value="July"/>
<input type="text" value="31"/>	<input type="text" value="August"/>
<input type="text" value="30"/>	<input type="text" value="September"/>
<input type="text" value="31"/>	<input type="text" value="October"/>
<input type="text" value="30"/>	<input type="text" value="November"/>
<input type="text" value="31"/>	<input type="text" value="December"/>
	<input type="text" value="[None]"/>

Daily Billing

Enable Daily Billing?

Reset Maximum Demands?

**Manual Billing Reset** - executes a Billing Reset via the IEC 62056-21 port or module port at the end of a Communications Session

**Automatic End of Billing Dates** - Up to 13 End of Billing Dates can be activated at the end of each month or by User Defined Sort Dates

**Daily Billing** - allows the Billing Data to be recorded at midnight every day. The meter stores the last 14 sets of Daily Billing Data, overwriting the oldest set with the newest set

**Reset Maximum Demand** - the Maximum Demand can be reset with the Daily End of Billing

### 3.5.8 Relay (Optional)

As an option, the meter may be built with a 100mA, mains rated relay output

The relay may be programmed to close if any of the rate registers or the maximum demand register is active

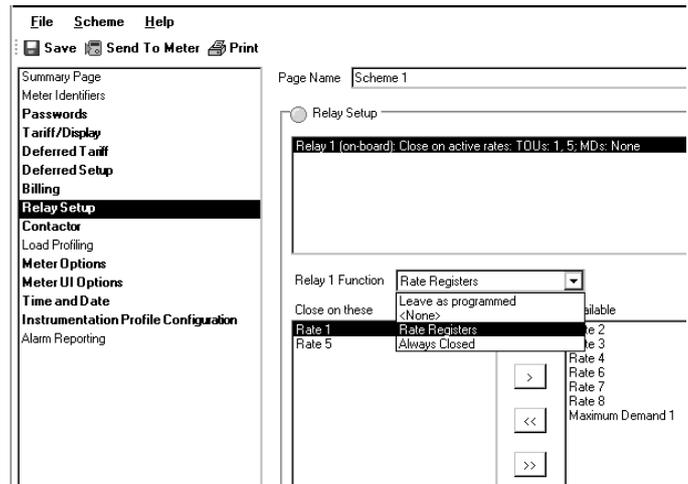
To select a value, use the < button

To deselect a value, use the > button

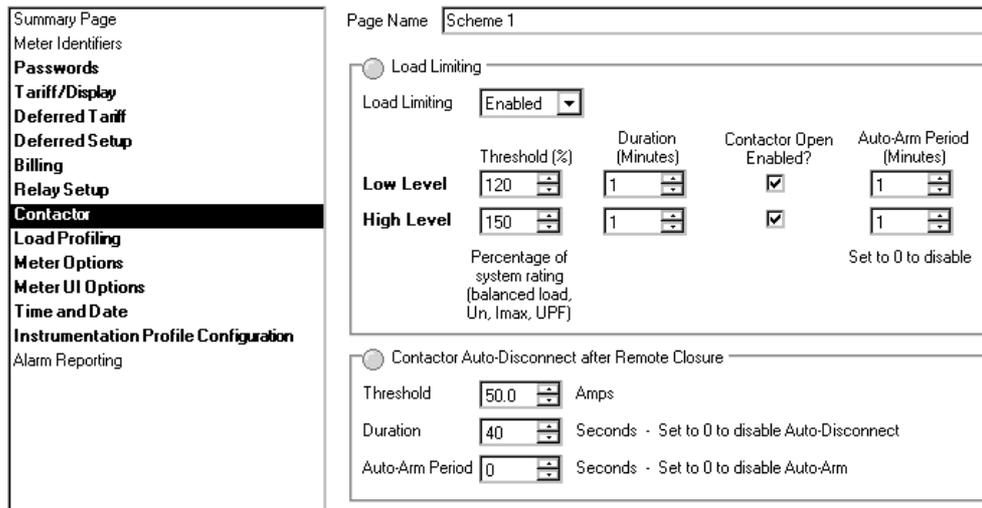
To select all value, use the << button

To deselect all value, use the >> button

There is an option to keep the relay permanently closed



### 3.5.9 Contactor



#### Load Limiting

The load limiting can be enabled or disabled

The meter opens the contactor if the average value of the system power is above the lower threshold level for a long period of time, or exceeds the higher threshold for a short period of time

**Lower trip level threshold** - Range 0 - 120% (in 0.5% steps) of system rating (balanced load, Un, Imax, UPF)

**Lower trip level duration** - 1 to 10 minutes (Duration in which the average system power is allowed to exceed the lower trip level before the contactor opens)

**Contactor open enabled** - Load limiting can be configured to open the contactor and log the event if levels are exceeded (box checked) or leave the contactor closed and log the event (box unchecked)

**Auto arm period** - The time that must elapse before the contactor can be closed (Range 1 to 255 minutes). Set to zero to disable the Auto Arm Period

**Higher trip level threshold** - Range 0 - 150% (in 0.5% steps) of system rating (balanced load, Un, I<sub>max</sub>, UPF)

**Higher trip level duration** - 1 to 8 minutes (Duration in which the average system power is allowed to exceed the upper trip level before the contactor opens)

**Contactor open enabled** - Load limiting can be configured to open the contactor and log the event if levels are exceeded (box checked) or leave the contactor closed and log the event (box unchecked)

**Auto arm period** - The time that must elapse before the contactor can be closed (Range 1 to 255 minutes). Set to zero to disable

**Contactor Disconnect After Remote Closure**

Limits can be applied to the contactor auto-disconnect after the contactor has been closed remotely

Contactor Auto-Disconnect after Remote Closure

Threshold	<input type="text" value="42.0"/>	Amps
Duration	<input type="text" value="01:00:06"/>	Set to 00:00 to disable Auto-Disconnect
Auto-Arm Period	<input type="text" value="04:12"/>	Set to 00:00 to disable Auto-Arm

**Threshold** - If the contactor current is above the set threshold (Range 0 to 120A) and set duration, the contactor will open

**Duration** - The duration (Range 00:00 to 18:12:15) the contactor current must be above the set threshold before the contactor will automatically disconnect. The auto-disconnect can be disabled by setting the duration to 0

**Auto-arm Period** - The period (Range 0 to 04:15) before the contactor can be auto-armed after the expiry of the set duration

**3.5.10 Load Profile Definition (4 Channels)**

Page Name

Demand Period

Demand Period

Load Profile Definition (max. 4 channels)

Import W                       Export var

Export W

Q1 Inductive Import

Q2 Capacitive Import

Q3 Inductive Export

Q4 Capacitive Export

VA 1

Import var

Clear Load Profile Data

Clear all load profile data (WARNING: data cannot be recovered after this operation)

**Demand Period** - The Demand Period can be set to 1, 2, 3, 4, 5, 6, 10, 15, 20, 30 or 60 minutes

**Load Profile Definition** - Up to 120 days of data for any 4 channels listed below

Import

Export

Q1 inductive import

Q2 capacitive import

Q3 inductive export

Q4 capacitive export

VA 1

Import var

Export var

**Clear Load Profile Data** (Administrator only)

This option allows an Administrator to clear the meter load profile data. Note that this option should be used with care, as once load profile data has been cleared it cannot be recovered

**3.5.11 Meter Options****Clock**

The Clock Source can be set to Crystal or a.c. supply. The source is normally set to a.c. supply. In the event of a power failure the crystal will support meter timekeeping until power is restored

**Load/Instrumentation Profile Daylight Savings**

Load Profiling and Instrumentation Profiling Daylight Savings can be programmed independently

They can be programmed to:

Observe Daylight Savings

No Daylight Savings

Page Name

Clock | Register Format | Date Format | Communications | Error-Handling

Clock Source

Clock Source

Load Profiling DLS

Daylight Savings Configuration

Instrumentation Profiling DLS

Daylight Savings Configuration

**Register Formats**

The screenshot shows the 'Register format' configuration window. It has tabs for 'Clock', 'Register format', 'Date format', 'Communications', and 'Error handling'. The 'Register format' tab is active. There are two radio buttons, with the first one selected. Below are two main sections:

- Cumulative registers:**
  - Decimal point style: 123.45
  - Number of digits: 7
  - Number of decimals: 2
  - Example Register Value: 1234567890123.456
  - Displayed As: 67890.12 k
- Demand registers:**
  - Number of digits: 5
  - Number of decimals: 2
  - Example Register Value: 34567890123.456
  - Displayed As: 890.12 k

**Decimal Point Style** - The Decimal Point Style can be set to a Full Stop or a Comma

**Number of Digits** - The Number of Digits for both Cumulative and Demand Registers can be configured to 5, 6 or 7

**Number of Decimals** - The number of Decimal Places for both Cumulative and the Demand Register can be configured to 0, 1 or 2

**Date Format**

Date Format - The Date Field Order can be configured to mm dd yy or dd mm yy

The screenshot shows the 'Date Format' configuration window. It has tabs for 'Clock', 'Register Format', 'Date Format', 'Communications', and 'Error-Handling'. The 'Date Format' tab is active. There is a radio button which is selected. Below it is a 'Date Field Order' dropdown menu set to 'mm dd yy'. Above the window, a 'Page Name' field contains 'Scheme 2'.

**Communications**

Serial Port Baud Rate - The Communications Baud Rate between the meter and the module can be configured to 300, 600, 1200, 2400, 4800 or 9600 baud

The screenshot shows the 'Serial Port Baud Rate' configuration window. It has tabs for 'Clock', 'Register format', 'Date format', and 'Communication'. The 'Communication' tab is active. There is a radio button which is selected. Below it is a 'Baud Rate' dropdown menu with the following options: 300 Baud, 600 Baud, 1200 Baud, 2400 Baud (highlighted), 4800 Baud, and 9600 Baud.

**Error Handling**

**Clock Fail Action Mode** - If the clock fails the clock fail action mode can be set to:

- Continue as normal
- Do Billing Reset then Continue
- Do Billing Reset then Freeze the Tariff

**Reverse Run Configuration** - can be configured to:

- Log events
- Do not log events

**Voltage Monitoring** - The voltage monitoring can be set within the following limits:

- Under-voltage Threshold - 150 to 300 Volts      Confirmation Time - 2 to 65535 seconds
- Over-voltage Threshold - 150 to 300 Volts      Confirmation Time - 2 to 65535 seconds

**Long Power Fail**

The AS230 meter can be programmed to record a long power fail if the meter has lost power for a time greater than the programmed threshold

Threshold Duration 0 to 65535 minutes

**3.5.12 Meter UI Options**

The Meter UI Options are shown above

**Dial Test Mode**

Enables or Disables the Dial Test Mode

## Display Options

**Auto-Cycle Step Duration** - can be set between 2 and 30 seconds in two second steps. This is the time each display is displayed in auto-cycle mode

**No Button Time-out** - can be set between 5 and 600 seconds in 5 second steps. The meter will switch from step mode to auto-cycle mode if the pushbutton has not been pressed for the selected time

Display Timing

Auto-cycle step duration

No button time-out

## Billing Reset Lockout

**The Billing Reset Lockout** - can be set to minutes (0 to 254), Until the End of the Hour or Until the End of the Day

Billing Reset Lockout

Lockout

Minutes

## Reverse Run Indications

**The Reverse Indications** - displays the Reverse Run Icon on the display (if enabled)



## Error Icon

**The Error Icon** - displays the Error Icon if an error occurs (If enabled)



## Quadrant Icon

**The Quadrant Icon** - displays the Power Flow Direction Indication (If enabled)



## Communication Indicators

**The Communication Indicators** - shows the icon for the current communications session (Optical, HAN, or WAN if enabled)



## External Message Override

An external message can be sent by the Head End System that will override all displays. The message can only be cancelled by a long press of the pushbutton

The message is enabled by checking the external message override checkbox

### 3.5.13 Time & Date

Meter Time Adjustment

Set to PC/HHU clock

Gradually adjust to PC/HHU clock

Daylight saving dates for the current year(2008). These will automatically adjust for different years

Daylight Saving Setup

Daylight Saving

	Week	Week Day	Month	At (hour)
Advance On	Last	Sunday	March	1
Retard On	Last	Sunday	October	3
Adjust By	1 hour(s)			

Meter Time & Date allows the meter time to be adjusted in the following ways:

1. Set the Meter Time to the PC (or HHU) Clock Time
2. Gradually adjust the Meter Time (by 5 seconds every integration period), until the Meter Time matches the PC Clock Time. The maximum time a meter can be adjusted is 7.5 minutes. Password Level 2 allows Time Adjust

#### Daylight Savings

Daylight Savings can be advanced or retarded by 1 or can be disabled

Enter the Week (First to fourth, last), Week day, Month and Hour for Advance and Retard for Daylight Savings. Week/Last will action Daylight Savings on the last Week day of the month

Daylight saving dates for the current year(2009). These will automatically adjust for different years

Daylight Saving Setup

Daylight Saving

	Week	Week Day	Month	At (hour)
Advance On	Last	Sunday	March	1
Retard On	Last	Sunday	October	3

**Note.** Daylight Saving cannot be set to Advance or Retard across a midnight boundary

**Example:** Set Advance on Week (Last), Weekday (Sunday), Month (March) at Hour (1). Adjust by Hour (1). The hour time advances to 2

### 3.5.14 Instrumentation Profile Configuration

Up to 8 Instrumentation Channels can be configured for the following values:

- Current
- Volts
- Power Factor
- Active Power
- Reactive Power
- Apparent Power
- Frequency
- Phase Angle

The values can be stored as:

- Average
- Maximum
- Minimum
- Last

#### Instrumentation Period

The available Instrumentation Periods are shown opposite

### 3.5.15 Alarm Reporting

The Alarm Reporting Mask allows the User to select which alarms are to be reported to the Head End System

Use < to select an alarm to be reported

Use > to remove an alarm from the available alarms list

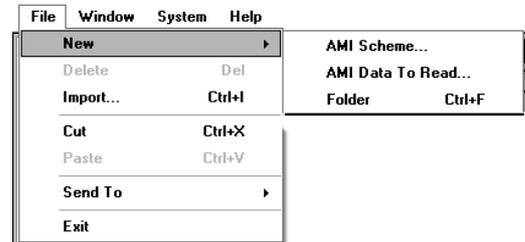
A full list of alarms is given in Appendix 2

## 4 Data to Read

### 4.1 Saving a New Reading

Right click on Scheme/New/AMI Data to Read

Name the Page and select the Readings to be read



Page Name

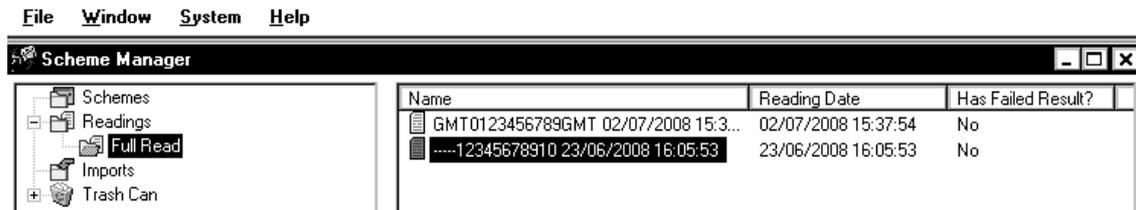
<p>Register Values</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Current Values</li> <li><input checked="" type="checkbox"/> Instantaneous Parameters</li> </ul>	<p>Scheme Pages</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Meter Identifiers</li> <li><input checked="" type="checkbox"/> Tariff/Display</li> <li><input checked="" type="checkbox"/> Deferred Tariff</li> <li><input checked="" type="checkbox"/> Deferred Setup</li> <li><input checked="" type="checkbox"/> Billing</li> <li><input checked="" type="checkbox"/> Relay Setup</li> <li><input checked="" type="checkbox"/> Contactor</li> <li><input checked="" type="checkbox"/> Load Profiling</li> <li><input checked="" type="checkbox"/> Meter Options</li> <li><input checked="" type="checkbox"/> Meter UI Options</li> <li><input checked="" type="checkbox"/> Time and Date</li> <li><input checked="" type="checkbox"/> Instrumentation Profile Configuration</li> <li><input checked="" type="checkbox"/> Alarm Reporting</li> </ul>
<p>Other Information</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Hardware</li> <li><input checked="" type="checkbox"/> Security Data</li> </ul>	
<p>Instrumentation Profile Data</p> <ul style="list-style-type: none"> <li><input checked="" type="radio"/> All Data</li> <li><input type="radio"/> Number of Days</li> <li><input type="radio"/> By Date</li> </ul>	
<p>Load Profile Data</p> <ul style="list-style-type: none"> <li><input checked="" type="radio"/> All Data</li> <li><input type="radio"/> Number of Days</li> <li><input type="radio"/> By Date</li> </ul>	
<p>Historical Registers</p> <ul style="list-style-type: none"> <li><input checked="" type="radio"/> All Historical Values</li> <li><input type="radio"/> Specified Number of Sets</li> </ul>	

Save the Page

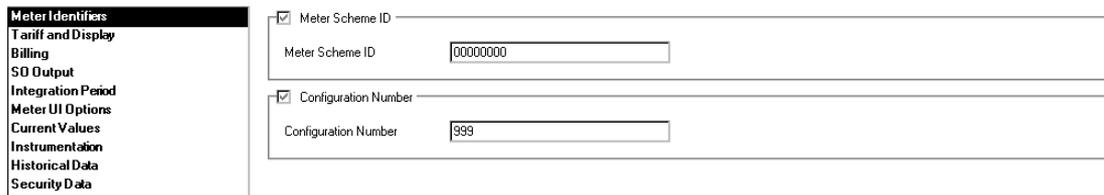
## 5 Readings

### 5.1 Viewing Readings

To view Readings, select the Reading to be viewed



Double click on the Reading



**Has Failed Result?** - This will be set to **Yes** if one (or more) items have failed to read

Select the Required Reading

#### Reading Options

Right click on the Reading to display the dialog opposite

**Open** - Opens the File

**New** - Allows a New Folder to be created

**Delete** - Deletes the File

**Cut** - Selects the File ready for pasting to the Clipboard

**Paste** - Pastes the File from the Clipboard

**Rename** - Allows the Reading to be Renamed

**Send to Printer** - Sends the Reading to the Printer

**Send to HTML** - Saves the File as an HTML File

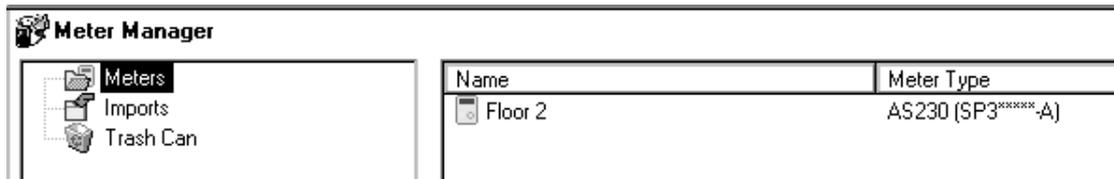
**Send to CSV** - Saves the File as a CSV File

Open...	Enter
New	▶
Delete	Del
Cut	Ctrl+X
Paste	Ctrl+V
Rename	Ctrl+R
Send To Printer...	Ctrl+P
Send To HTML...	Ctrl+H
Send To CSV...	Ctrl+E

## 6 Meter Manager

### 6.1 Meter Manager Introduction

The Meter Manager is used to organise the systems meters. It is used to invoke the Meter Information Editor



The Meter Manager consists of three components

**Meters** - This is a list of meters available on the system. It allows Meter Connection Information, Identifiers and Security Information to be stored

**To Enter a New Meter** - Right click in the right hand pane of the Meter Manager

Select New Meter and name the meter

**Import** - Schemes/meter that have been set up in other AMI Master Units can be imported and placed in the Schemes/meter Import folder

**Trash Can** - All files deleted from the Meter Manager are transferred to the Trash Can. They can be transferred back to the Meter Manager if required. Once deleted from the Trash Can the files are no longer available to the system

#### Meter Manager Context Menu

The features of the Context Menu are shown opposite. The menu is made available by selecting a meter and right clicking the mouse in the right pane of the Meter Manager

Live Link (See Section 6.2)

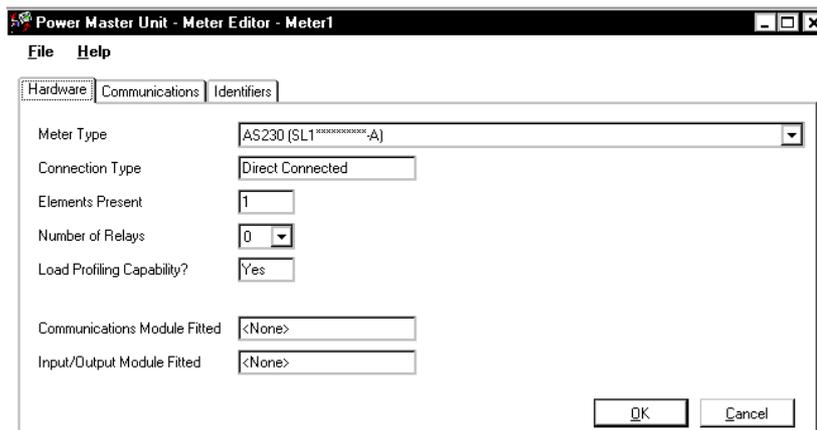
Contactor Control (See Appendix 1)

Open...	Enter		
<b>New</b>		Folder	Ctrl+F
Delete	Del	Meter...	Ctrl+N
LiveLink	Ctrl+L		
Contactor Control	Ctrl+T		
Cut	Ctrl+X		
Paste	Ctrl+V		
Rename	Ctrl+R		
Send To Export File...	Ctrl+O		

#### Meter Information Editor

This Editor is used to reference data related to a specific meter and its location, the type of communications and security information. To open the Information Editor, in the Meter Editor, double click on a meter

The dialog is divided into three Tabs, Communications, Hardware and Identifiers



**Hardware**

Information on the Meter Type, Connection Type, Number of Elements, Number of Internal Relays and Plug in Modules can be entered (see above)

**Communications**

This page allows the Communications Parameters to be entered

**File Help**

Hardware **Communications** Identifiers

Type

Name

COM Port

Password (Level 1)

Password (Level 2)

Password (Level 3)

**To Enter a Connection** - Press the Select Connection button

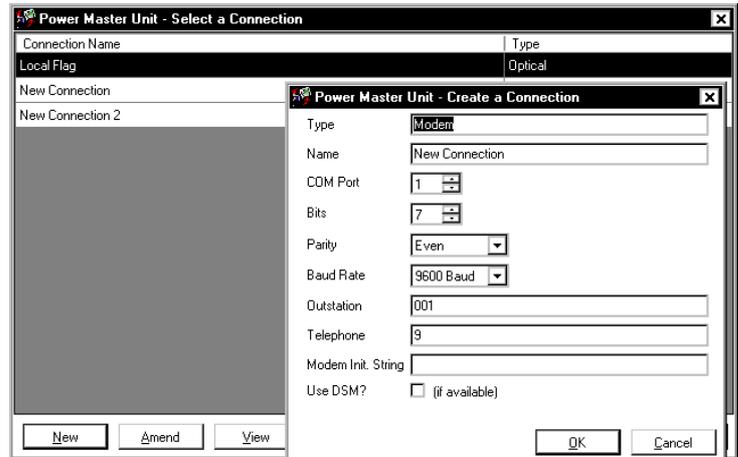
Select New

Select the Type of Connection (Optical, RS232, Modem, Network)

Fill in the Meter Information Editor

Use Amend to change details in the Information Editor

Use View to View the information



**Identifiers**

Identifiers allow the Meter Serial Number, the Site id and a description of the meter to be entered

**File Help**

Hardware Communications **Identifiers**

Serial Number

Meter Site Identifier (MSID)

Description

## 6.2 Live Link

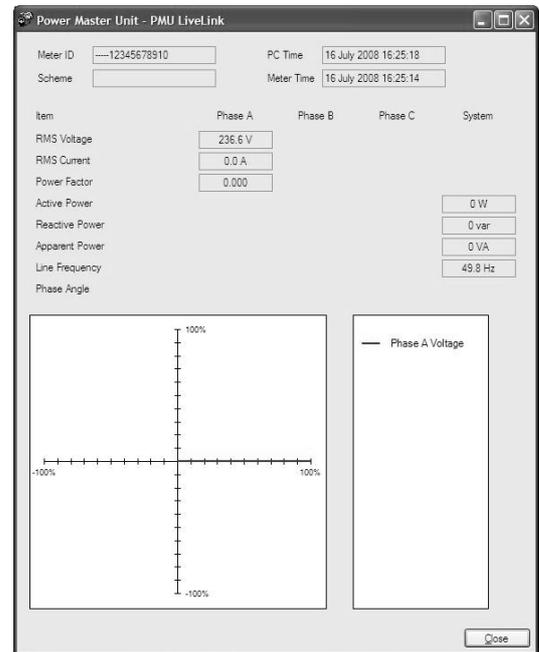
The Live Link software displays instrumentation details as shown in the display opposite

### *Using the software*

Select a Meter from the Meter Manager

Right click and select Live Link

**Note:** Each line of text may take a few seconds to be displayed



## 7 Meter List

### 7.1 The Meter List Components

The Meter List consists of a List of Meters with their associated Schemes. The Meter List brings together meters configured in the Meter Manager, and Schemes created in the Scheme Manager, to create a list of meters and their associated schemes

This is achieved by copying a Meter and a Scheme into the Meter List



**Note:** Multiple schemes can be sent to a meter as a single communications session by attaching the schemes to the meter using drag and drop. It should be noted that if the same scheme page (e.g. display page) is contained in more than one of the schemes, only the page from the last scheme attached is programmed to the meter

#### Meter List Context Menu

The options available from the dropdown list are shown opposite. The Context Menu list is made available by right clicking the mouse in the right pane of the Meter List

<b>New Meter List...</b>	<b>Ctrl+N</b>
<b>Open Meter List...</b>	<b>Ctrl+O</b>
<b>Save Meter List</b>	<b>Ctrl+S</b>
<b>Save Meter List As...</b>	<b>Ctrl+A</b>
<b>Close</b>	<b>Ctrl+L</b>
<b>Delete</b>	<b>Del</b>
<b>Show Conflicts...</b>	<b>Ctrl+E</b>
<b>Execute Meter List</b>	<b>Ctrl+M</b>

#### New Meter List

The New option clears the Meter List ready for a new Meter List to be created

#### Open Meter List

This allows information on the Meter or Meter Scheme to be viewed or edited using Save. A new Meter List can also be created by editing the Meter List and Using the Save As facility

The Scheme is displayed which can now be edited

**Save Meter List** - Allows the current Meter List to be Saved

**Save Meter List As** - Allows the selected Meter List to be saved as a new name

**Close** - Closes an open Meter List

**Delete** - Deletes the selected Meter from the Meter List

**Show Conflicts** - Shows any discrepancies between the scheme and the meter

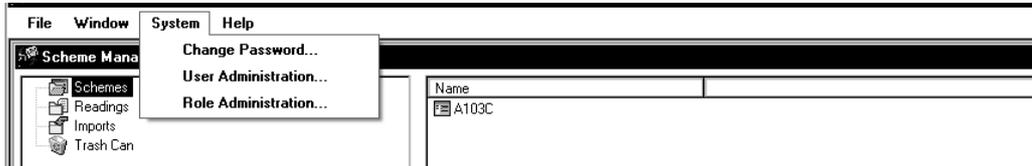
**Execute Meter List** - Execute Meter List is used for communicating with a meter

It is used with the Meter Communications Server to Program or Read

## 8 System Administration

For Administrator Passwords, contact Elster Metering Systems

The Main Toolbar is the same as for Standard User with the exception of the System Menu



### 8.1 Changing Passwords

Changing Passwords is available to both Standard Users and Administrators

To change passwords -

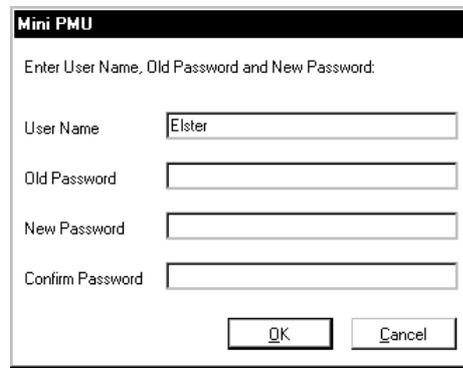
Type in your Old Password

Type in your New Password

Confirm your New Password

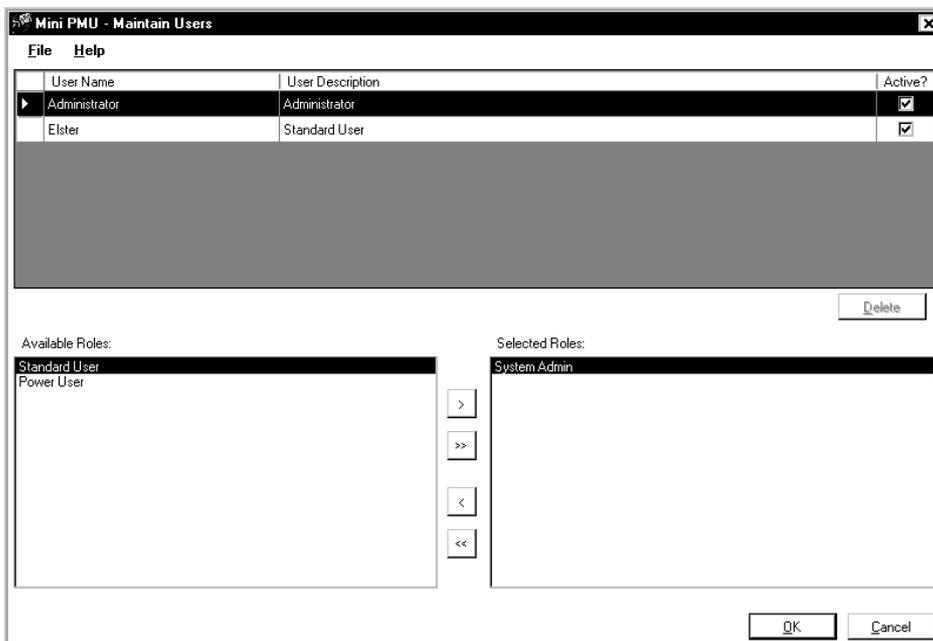
Press OK

Note: All Passwords are case sensitive



### 8.2 System User Administration

User Administration allows the System Administrator to change password and New Users to be added with their roles defined



### Change Password for Selected User

The Selected User Password is changed in exactly the same way as Change Password above



### Add New User

Only the Administrator can add a New User

To add a New User -

Select File/Add New User (the dialogue opposite is displayed)

Enter the New User Name, Description and Password.  
Confirm the Password

Select the New User from the List

Select the Role(s) for the New User from the Available Role list using the < or > buttons

Press OK

A screenshot of a dialog box titled 'Mini PMU'. The dialog contains the text 'Enter details of the new user:' followed by four input fields: 'Name' (containing 'Meter Reader 1'), 'Description' (containing 'Meter Reader'), 'Password' (containing '\*\*\*\*\*'), and 'Confirm' (containing '\*\*\*\*\*'). At the bottom right, there are two buttons: 'OK' and 'Cancel'.

### Copy New User

Copy New User allows an Existing user Profile to be edited to create a New User

To Copy and Edit an Existing Profile -

Select the User to be copied from the user list

Select File/Copy User

Enter the details for the New User

### Role Administration

Role Administration can be amended to alter access. It defines the Access Level of a selected group for each Role

### Power User

Only a Power User can be given permission to change a meters sensitive data such as the meter serial number. Power User must appear in the User Administration/Selected Roles Panel for the role to be available

## Appendix 1

### A1 Contactor Control

The Meter Contactor State can be read remotely and the Contactor State changed using the Contactor Control facility

In the Meter Manager, click on a meter and right click the mouse button

Select Contactor Control from the dropdown list

Comms App will run to display the Contactor Control dialogue

Enter the serial number of the meter

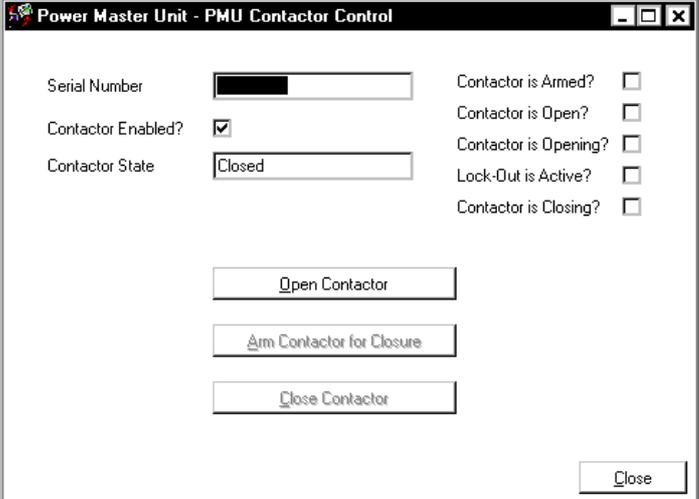
The current state of the contactor will be shown

Check the contactor is enabled

If enabled the contactor state can be changed using the Open Contactor, Arm Contactor or Close Contactor buttons

Load limiting parameters can be changed using the Contactor Dialogue

Note - The state of the contactor will be indicated in the right hand boxes



The screenshot shows a dialog box titled "Power Master Unit - PMU Contactor Control". It contains the following fields and controls:

Serial Number	<input type="text"/>	Contactor is Armed?	<input type="checkbox"/>
Contactor Enabled?	<input checked="" type="checkbox"/>	Contactor is Open?	<input type="checkbox"/>
Contactor State	<input type="text" value="Closed"/>	Contactor is Opening?	<input type="checkbox"/>
		Lock-Out is Active?	<input type="checkbox"/>
		Contactor is Closing?	<input type="checkbox"/>

Below the fields are three buttons: "Open Contactor", "Arm Contactor for Closure", and "Close Contactor". A "Close" button is located in the bottom right corner of the dialog box.

## Appendix 2

### A.2 Meter Alarms

Manufacturing Link Present  
 DLS In Force  
 Active Anti-Creep  
 Remote Comms In Progress  
 Contactor Arm  
 Contactor Position  
 Request Contactor Open  
 Contactor Disconnect Active  
 Request Contactor Close  
 Instrumentation Valid  
 WAN Connected  
 WAN Communications In Progress  
 HAN Connected  
 HAN Communications In Progress  
 Programming Event  
 Password Change Event  
 Long Power Fail Event  
 Power Fail Event  
 Contactor Disconnect Auto-Arm  
 Load Monitor Low Auto-Arm  
 Load Monitor High Auto-Arm  
**Terminal Cover Tamper Event**  
 Main Cover Tamper Event  
 Magnetic Tamper Event  
 Reverse Run Event  
 Transient Reset Event  
 Billing Event  
 Firmware Download Event  
 Meter Error Event  
 Battery Voltage Low Event  
 Optical Communications Session Event  
 Module Communications Session Event  
 Overvoltage Event  
 Undervoltage Event  
 Main Cover Tamper In Progress  
 Terminal Cover Tamper In Progress  
 Magnetic Tamper In Progress  
 Overvoltage Detected  
 Overvoltage Confirmed  
 Undervoltage Detected

Undervoltage Confirmed  
 Load Monitor Low Trip Event  
 Load Monitor High Trip Event  
 Contactor Open Optical  
 Contactor Open Module  
 Contactor Open Load Monitor Low  
 Contactor Open Load Monitor High  
 Contactor Open Disconnect  
 Contactor Arm Optical  
 Contactor Arm Module  
 Contactor Arm Load Monitor  
 Contactor Arm Disconnect  
 Contactor Close Optical  
 Contactor Close Module  
 Contactor Close Button  
 Error IFC Device 0  
 Error IFC Device 1  
 Error IFC Device 2  
 Error IFC Device Unknown  
 Error IFC  
 Error Contactor  
 Error RTC  
 Error Power Fail Backup  
 Error Backup  
 Error Load Profile  
 Error Invalid Demand Period Configuration  
 Error Estimated Battery Life Exceeded  
 Error Instrumentation Profile  
 Error Invalid Instrumentation Period Configuration  
 Error Firmware Checksum Error  
 Error Manufacturing Configuration CE  
 Error Manufacturing Configuration REG\_SP  
 Error Manufacturing Configuration REGISTRATION  
 Error Manufacturing Configuration PROFILES  
 Reactive Anti-Creep  
 Active Power Flow Direction  
 Reactive Power Flow Direction  
 System Reverse Run  
 Data Changed  
 Transient Reset

Transient Reset  
 System Reverse Run Latch  
 Daily Billing Request  
 Maximum Demand Reset  
 Time Synchronisation  
 Software Link Active  
 Dial Test  
 Turbo Mode  
 Local Comms In Progress

