

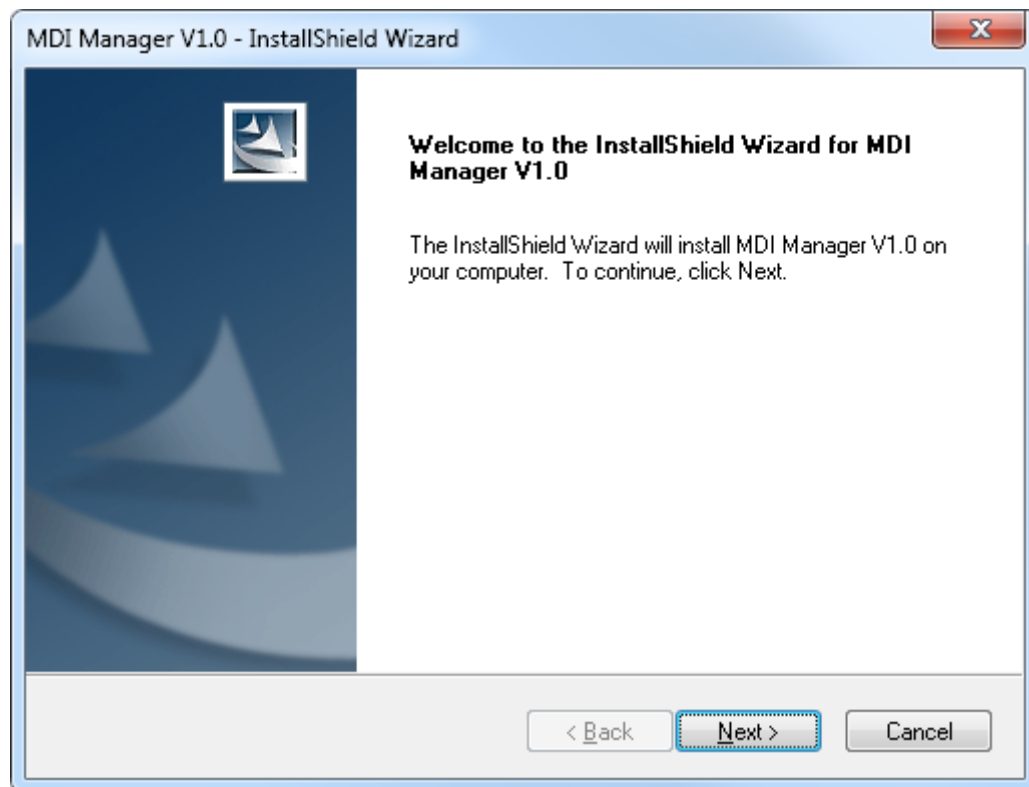


PMC-509 MDI Manager Guide

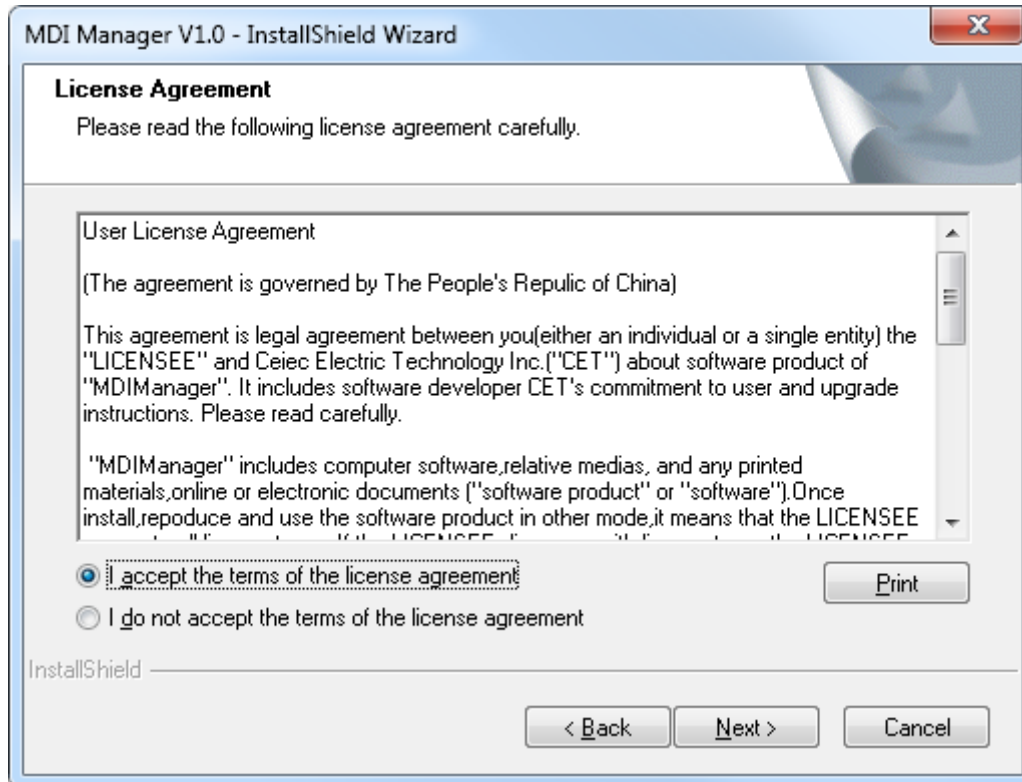
Revision 1

Installation

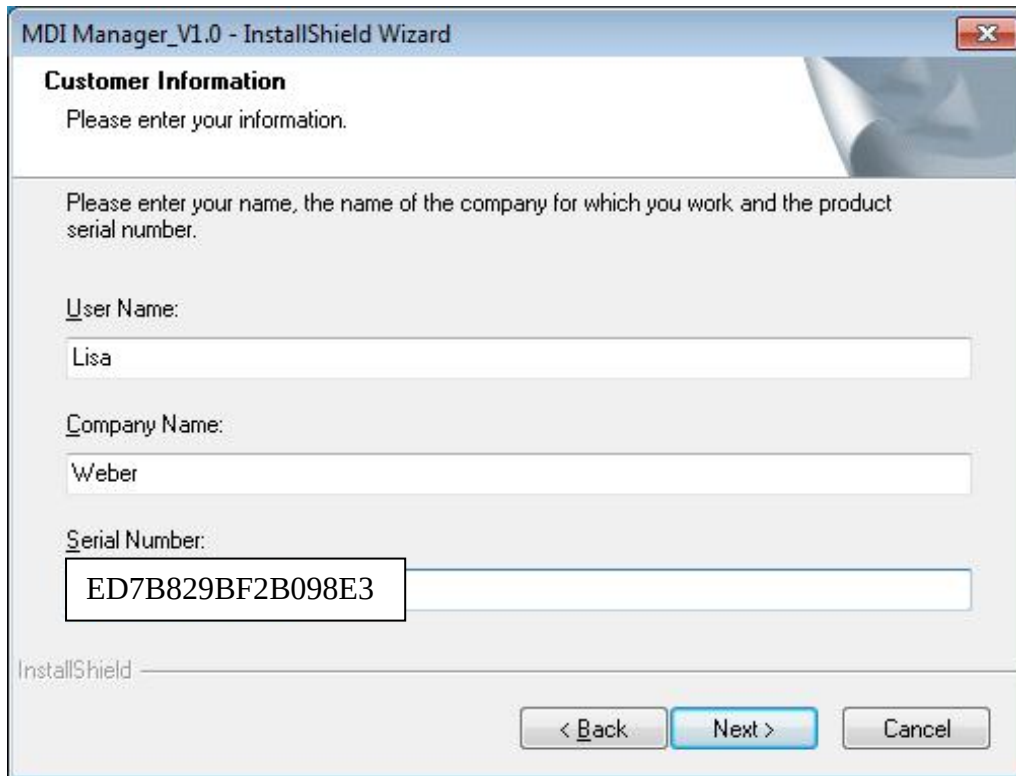
Run the **MDI Manager** Installation Utility and follow the instructions. Click **Next**.



Select **I accept the terms of License Agreement** and then click **Next** to continue.



Enter the **User Name**, **Company Name** and **Serial Number** provided. Click **Next** to continue.



The image shows a Windows-style dialog box titled "MDI Manager_V1.0 - InstallShield Wizard". It has a standard Windows window frame with a title bar, a close button (X), and a maximize button. The dialog is divided into sections. The first section is titled "Customer Information" and contains the text "Please enter your information." Below this is a larger section with the text "Please enter your name, the name of the company for which you work and the product serial number." This section contains three input fields: "User Name:" with the text "Lisa", "Company Name:" with the text "Weber", and "Serial Number:" with the text "ED7B829BF2B098E3". At the bottom of the dialog, there is a status bar that says "InstallShield" and three buttons: "< Back", "Next >", and "Cancel".

MDI Manager_V1.0 - InstallShield Wizard

Customer Information

Please enter your information.

Please enter your name, the name of the company for which you work and the product serial number.

User Name:
Lisa

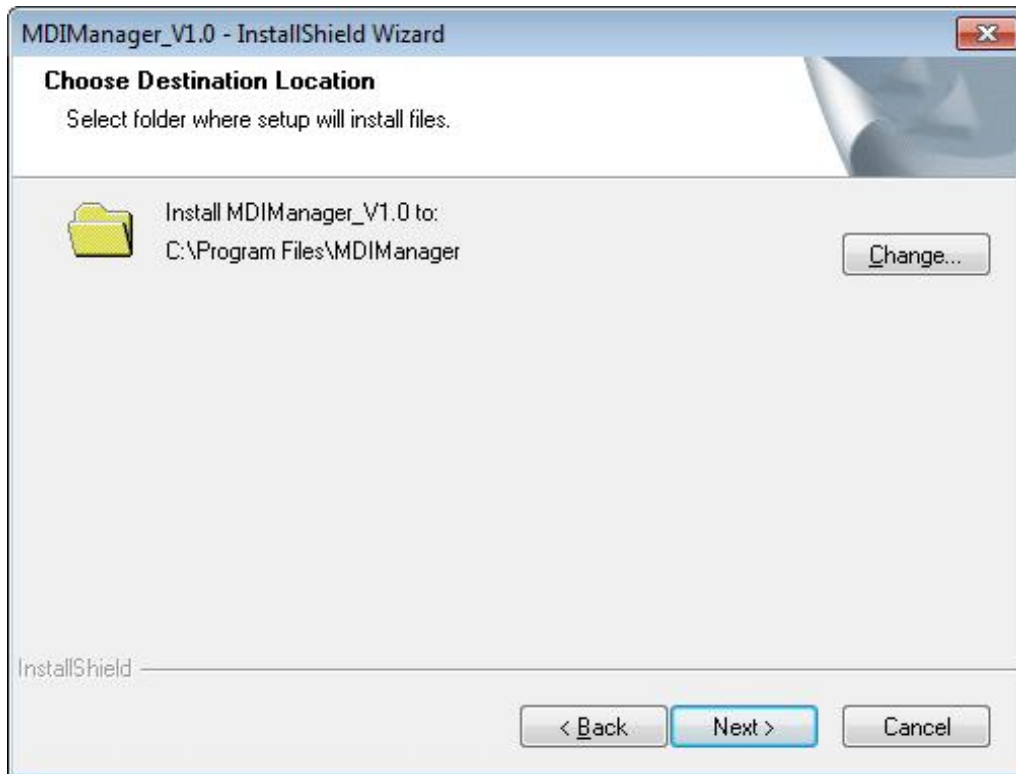
Company Name:
Weber

Serial Number:
ED7B829BF2B098E3

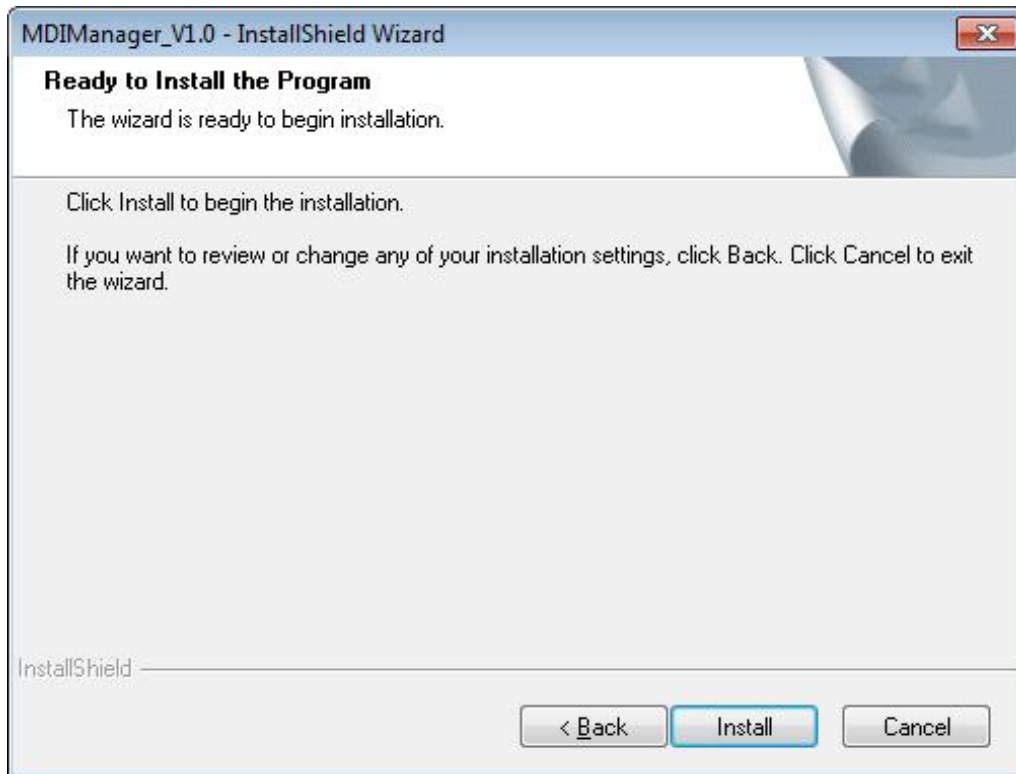
InstallShield

< Back Next > Cancel

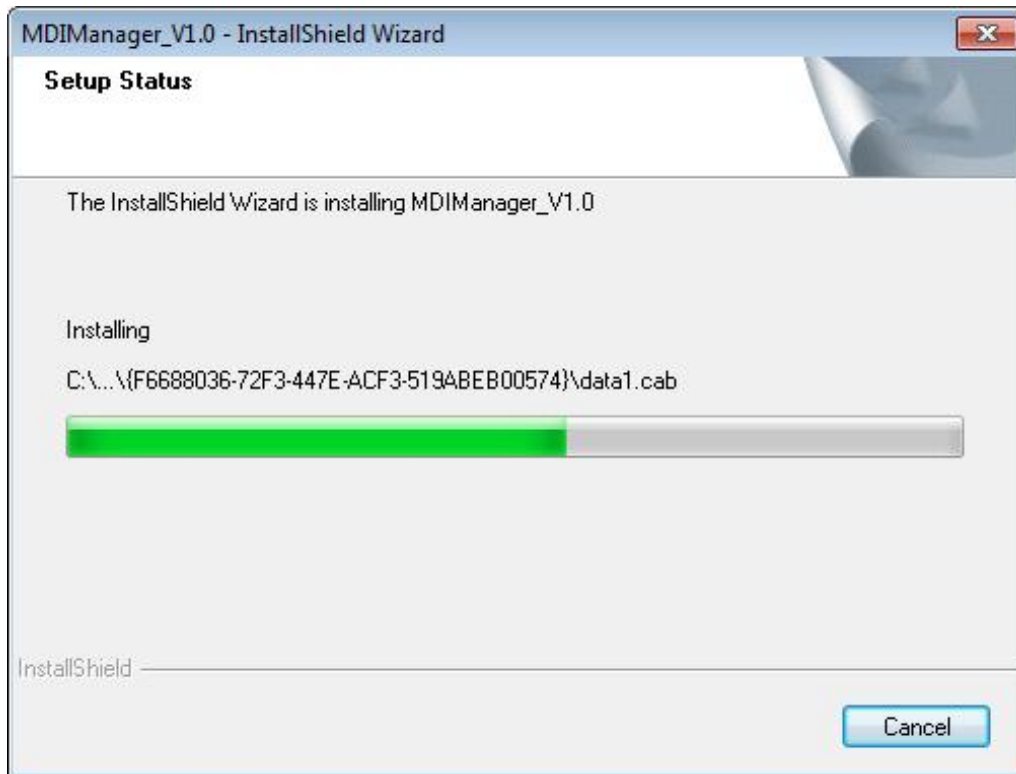
Click **Change** to choose a different installation folder and then click **Next** to continue.



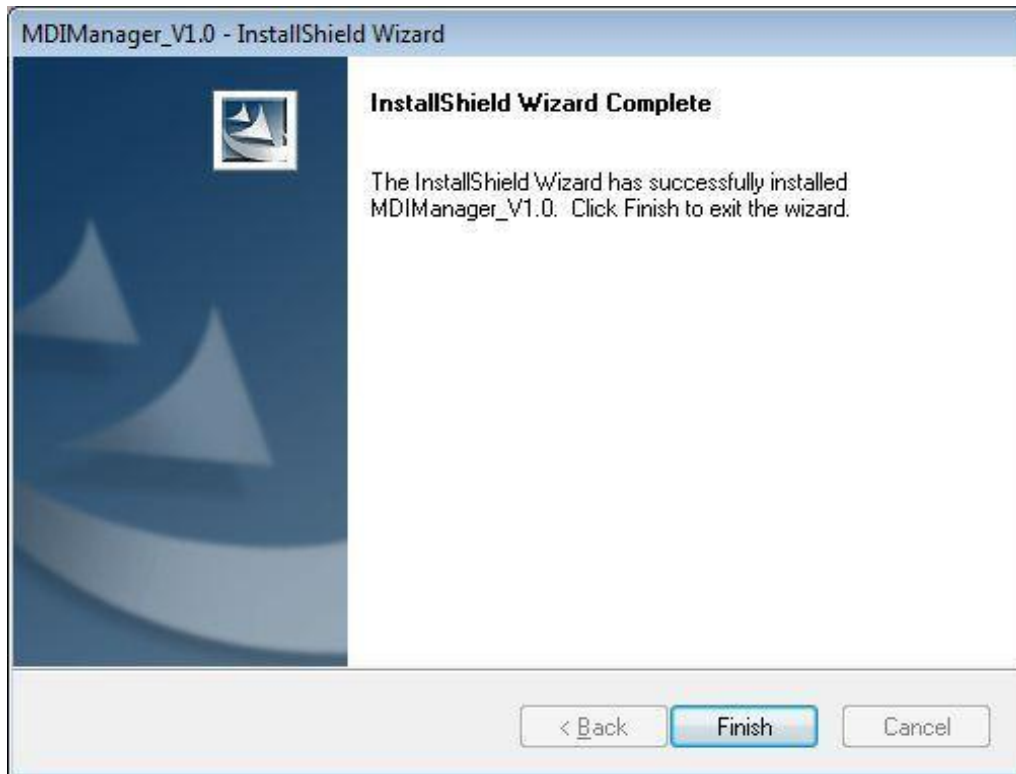
Click **Install** to start the installation process.



Wait for the installation process to complete.



When the installation is finished, the following window appears. Click **Finish** to complete the process.



Operation

Introduction

The MDI Manager software is specifically designed to be used with the PMC-509 MDI for the monitoring of the maximum current demands, substation and transformer temperatures of the pedestal substations. The MDI Manager allows the users to view real-time information and download Data Recorder Log from the PMC-509s. However, the MDI Manager software is not designed for performing device configuration. The PMC Setup software should be used instead for that purpose.

The MDI Manager software requires MS Office 2007 or later to be installed for its export functions. If no MS Office or an earlier version is installed, the MDI Manager software will export the data in a CSV file instead.

The MDI Manager supports two Installation Types:

1. Single Device
 - One PMC-509 Type A (6 Current inputs and 3 RTD inputs), or
 - One PMC-509 Type B (9 Current inputs)
2. Double Device
 - One PMC-509 Type A (6 Current inputs and 3 RTD inputs), and
 - One PMC-509 Type B (9 Current inputs)

The MDI Manager software is designed with ease of use in mind. Therefore, the operator is not required to perform any communication setup with the MDI Manager software. However, this requires the PMC-509s for the two Installation Types to conform to the following communication settings, which are already programmed into the PMC-509s by default when they leave the factory:

1. Baud rate = 9600
2. Communication Format = 8E1 (8 Data bits, Even Parity, 1 Stop bit)
3. PMC-509 Type A (6 Current inputs and 3 RTD inputs) with Unit ID = 100
4. PMC-509 Type B (with 9 Current inputs) with Unit ID = 101

Acronyms / Terminologies

The following is a list of acronyms / terminologies used throughout this document:

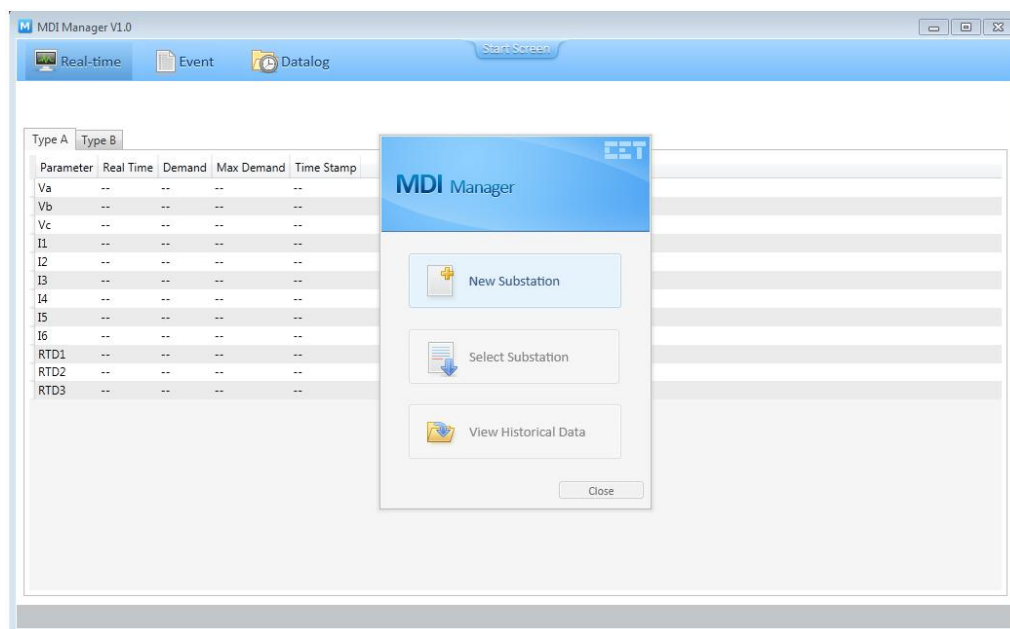
1. MDI - Maximum Demand Indicator
2. MFM - Multi-Function Measurement
3. PMC-509 Type A - the PMC-509 is equipped with 6 Current Inputs and 3 RTD Inputs
4. PMC-509 Type B - the PMC-509 is equipped with 9 Current Inputs

Starting MDI Manager

The MDI Manager can be started in two ways:

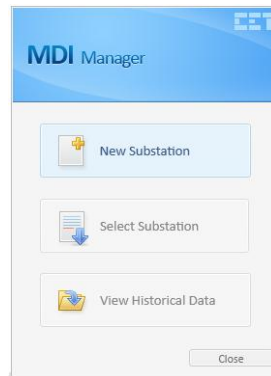
1. Double click on the MDI Manager shortcut icon  on the desktop.
2. Select from Window's Program List. For windows 7, click  ->All Programs-> MDI Manager_V1.0 -> MDI Manager.

The MDI Manager's main interface appears as follows.

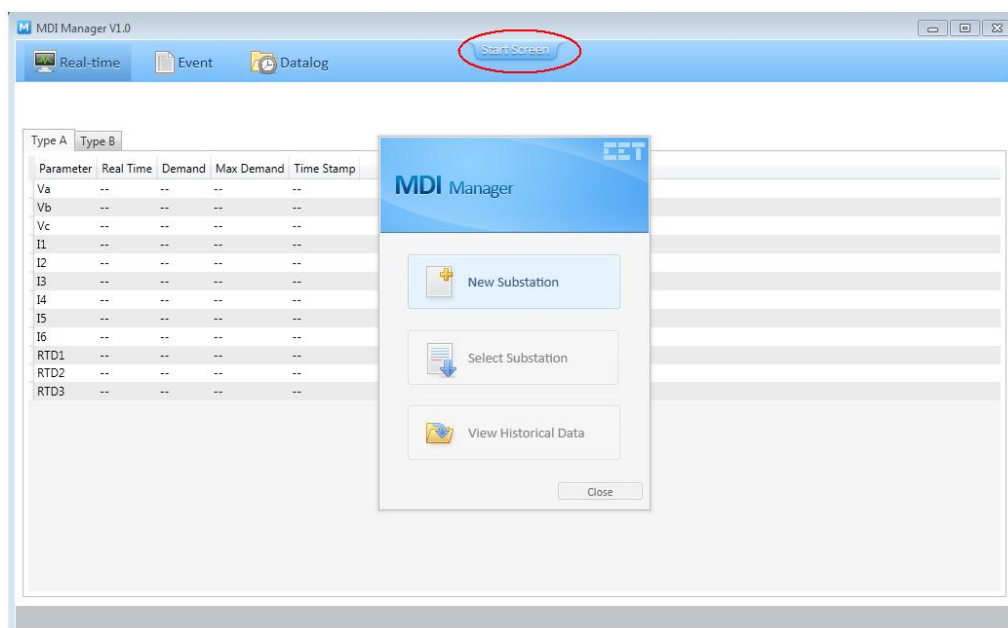


MDI Manager Options

Upon entering the MDI Manager software, the Start Screen is displayed with the following options: New Substation, Select Substation and View Historical Data.

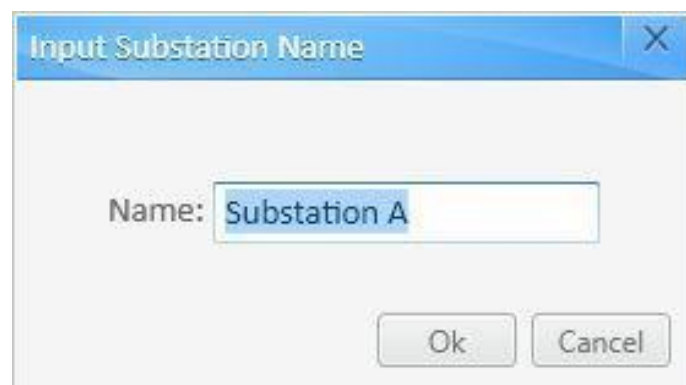


If the user does not select any of the options in this dialog box but clicks Close instead, the dialog box will be closed, and the user will return to the Main Display area of the MDI Manager software. The user can re-open the Start Screen at any time by clicking the Start Screen icon near the centre of the Title Bar, as illustrated below.



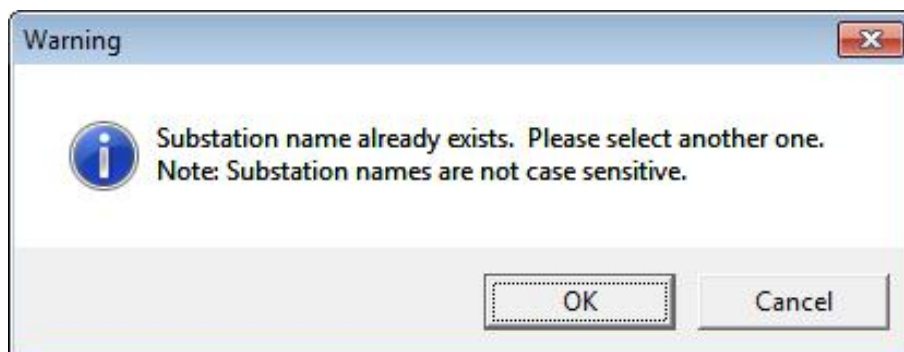
New Substation

The New Substation option allows the user to create a new substation by specifying the substation name. It would be a good practice to enter the actual substation name here for future access to the historical data of this substation. The naming convention follows the standard Windows naming practice where a file name cannot contain any of the following characters: \ / : * ? " < > |



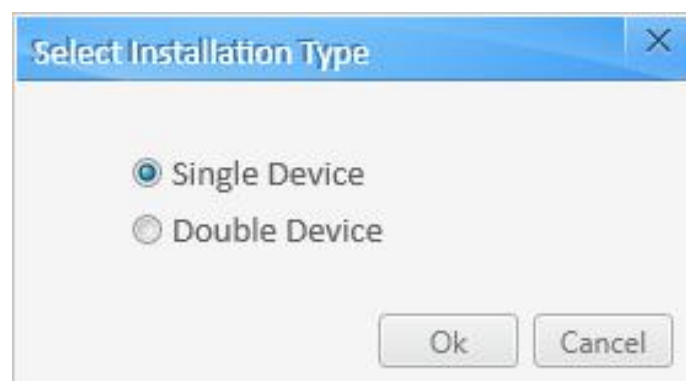
A dialog box titled "Input Substation Name" with a close button (X) in the top right corner. It contains a text input field labeled "Name:" with the text "Substation A" entered. Below the input field are two buttons: "Ok" and "Cancel".

The following Warning appears if the substation name already exists.



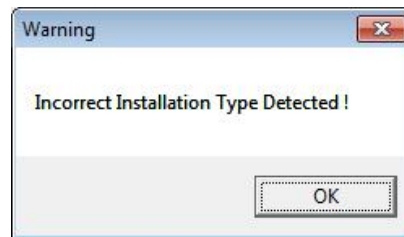
A warning dialog box titled "Warning" with a close button (X) in the top right corner. It features an information icon (i) on the left. The text inside reads: "Substation name already exists. Please select another one. Note: Substation names are not case sensitive." At the bottom, there are two buttons: "OK" and "Cancel".

After entering the substation name, the user is then requested to select the Installation Type, whether it's Single Device or Double Device installation.

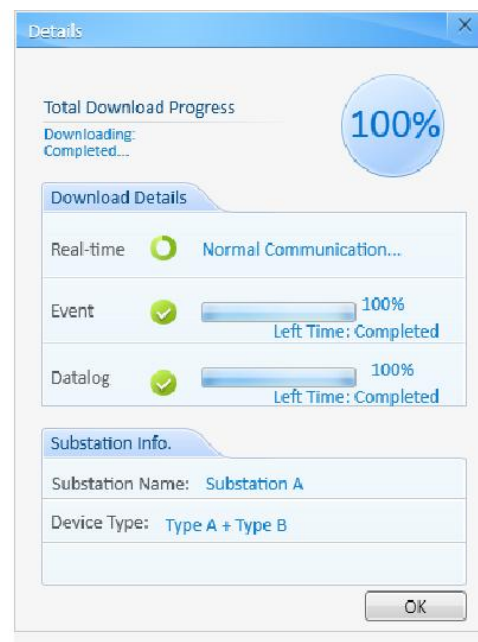
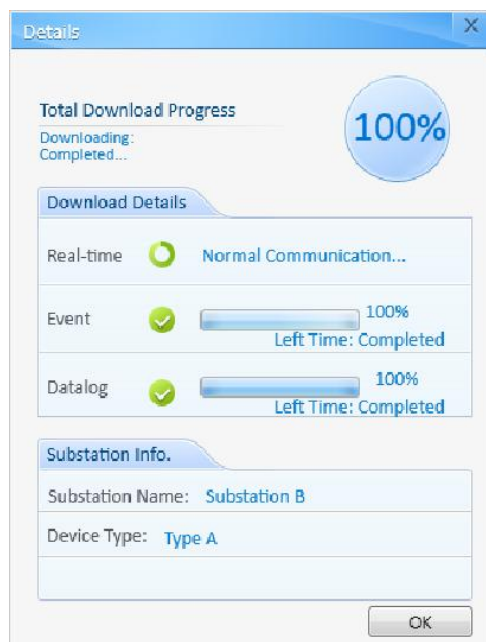


A dialog box titled "Select Installation Type" with a close button (X) in the top right corner. It contains two radio button options: "Single Device" (which is selected) and "Double Device". At the bottom, there are two buttons: "Ok" and "Cancel".

For Single Device installation, the MDI Manager software expects to find only one device, either Type A (Unit ID = 100) or Type B (Unit ID = 101) on the RS485 bus. If the software detects that there are more than one device on the RS485 bus, the following Warning appears to alert the user that the incorrect Installation Type might have been selected.



Select the Installation Type and then click OK. The following window appears (Type A and Type A + B shown).



If there are no communication errors, the MDI Manager software will automatically start downloading all historical data from the PMC-509s' on-board Data Recorder. The amount of time it takes the MDI Manager software to complete the download depends on how much historical data is currently inside the PMC-509s. The Details dialog boxes shown above give the user an indication of the Download Progress. It is estimated that the MDI Manager would take about 2 hours to download one-year worth of data recorded at 10 minutes interval. However, it's not necessary to wait until the download progress is completed to view the information. The user can close the Details dialog box any time by clicking OK and then choose the Datalog menu item to view the log data as they are being downloaded.

If the MDI Manager software has trouble communicating with the PMC-509s, please check to make sure that the PMC-509s' communication settings match those as described in Section 2.1 above.

The following illustrates the parameters recorded by the PMC-509s every 10 minutes:

1. PMC-509 Type A (6xI + 3xRTD):

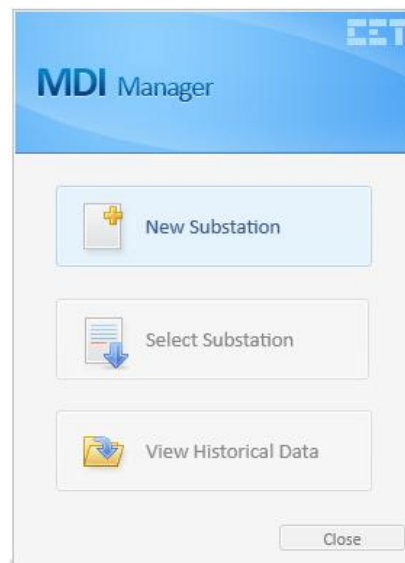
- Va, Vb, Vc
- I1 Demand, I2 Demand, I3 Demand, I4 Demand, I5 Demand, I6 Demand
- RTD1 Demand, RTD2 Demand, RTD3 Demand

2. PMC-509 Type B (9xI):

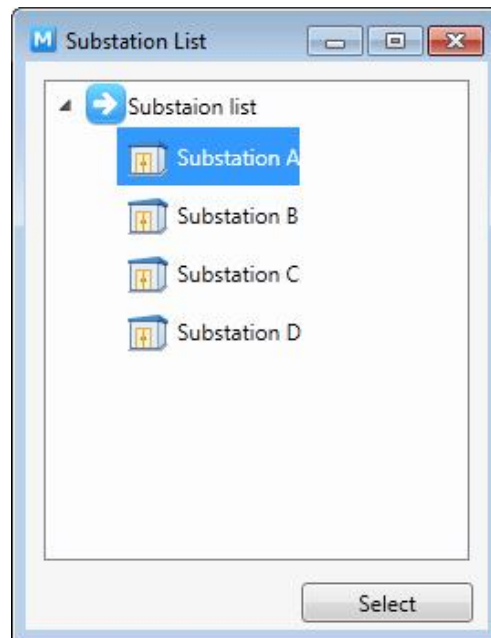
- Va, Vb, Vc
- I1 Demand, I2 Demand, I3 Demand, I4 Demand, I5 Demand, I6 Demand, I7 Demand, I8 Demand, I9 Demand

Select Substation

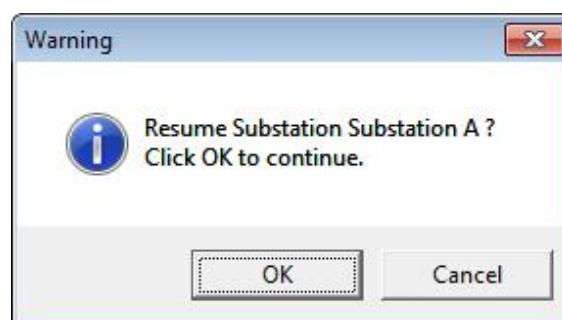
The Select Substation option allows the user to resume the downloading of data for a substation that has previously been created. The MDI Manager software will continue to download historical data from the PMC-509s from where it stopped last time.



The Substation List dialog box appears when Select Substation is selected.

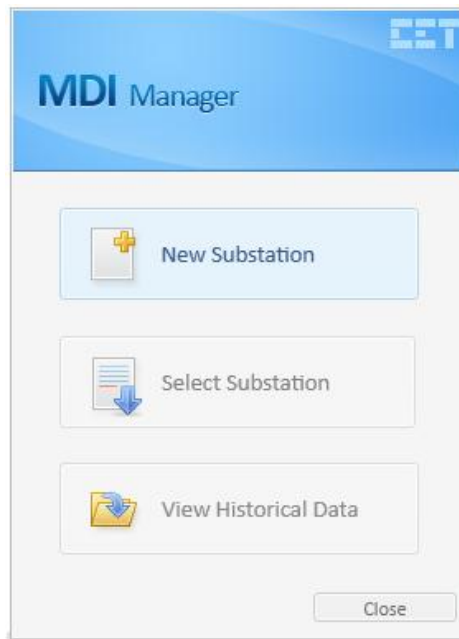


The following Warning appears when you select a substation name. The user should make sure that the correct substation name is selected before resuming data download. Incorrect substation selection will cause data from the different substations to be saved together.

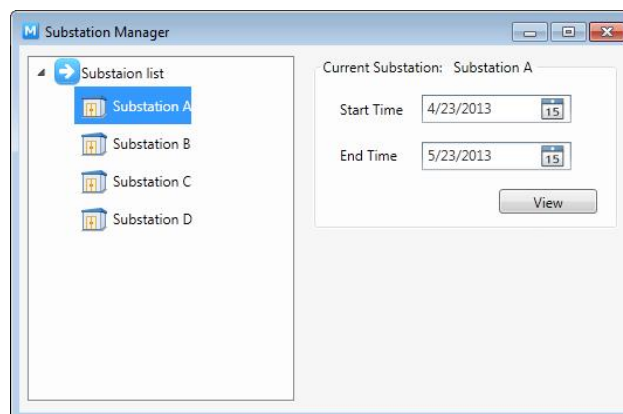


View Historical Data

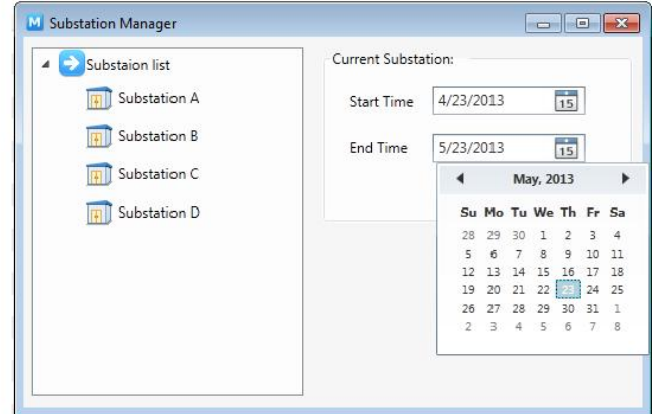
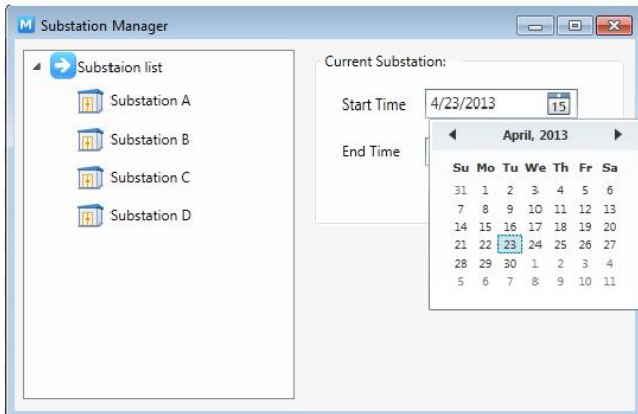
Select the View Historical Data option to view the historical data for a particular substation that has been uploaded by the MDI Manager software in a previous session. This option will not attempt to communicate with the PMC-509(s).



The Substation Manager dialog box appears when the View Historical Data option is selected. The user can view the historical data of a particular substation between Start Time and End Time by clicking on the View button.

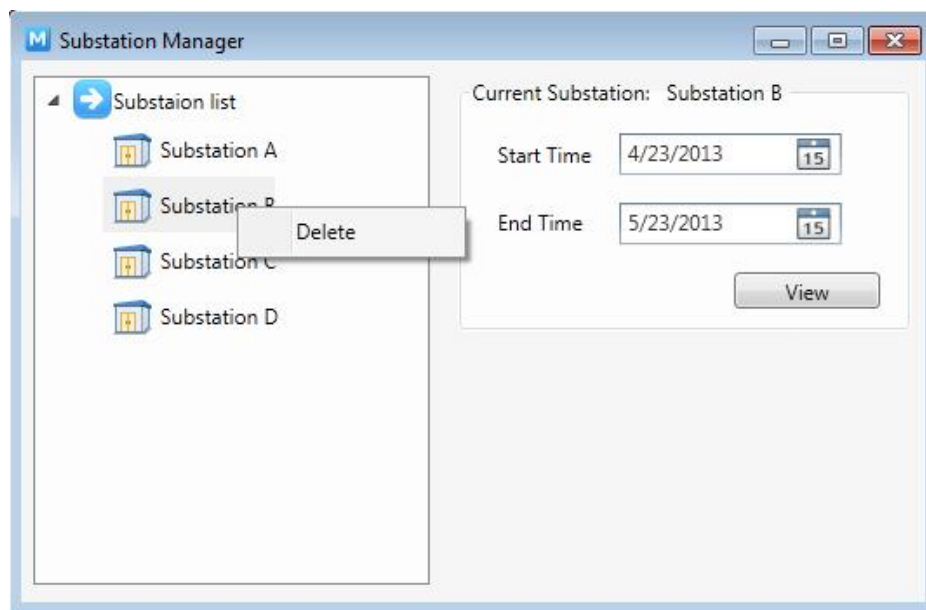


The user can select the Start Time and End Time by clicking  (Start and End Time shown).



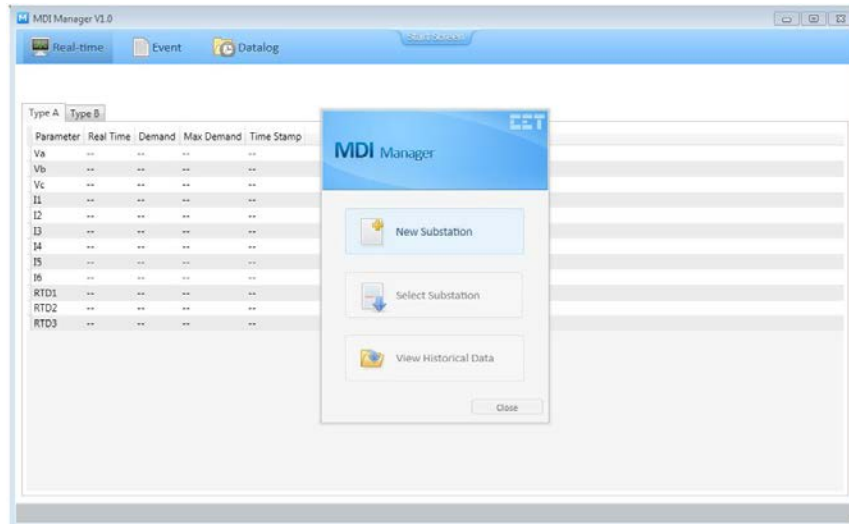
Removing an existing substation

The user can delete a substation in the Substation Manager dialog box by right-clicking on the substation name and then select Delete as shown below. Please exercise caution when doing this because all data associated with the substation will be permanently removed.



MDI Manager's Main Display

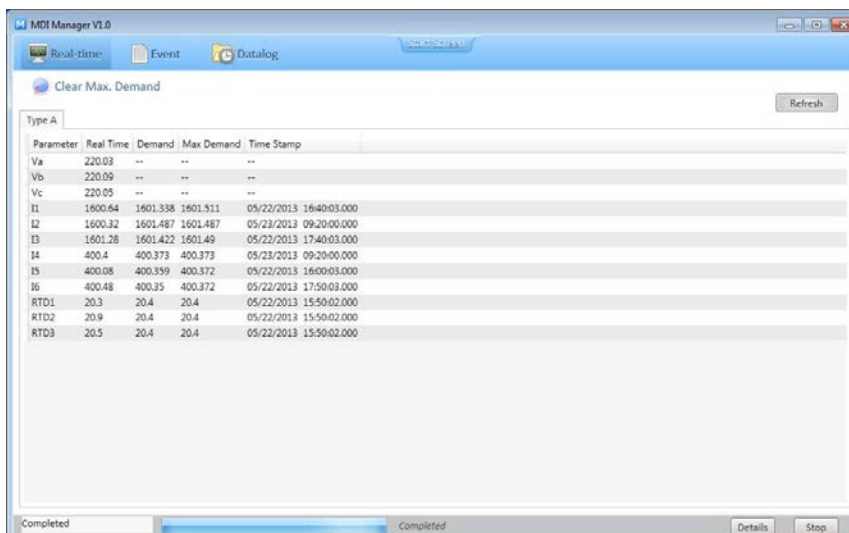
There are three menu items in the Main Display: Real-time, Event and Datalog



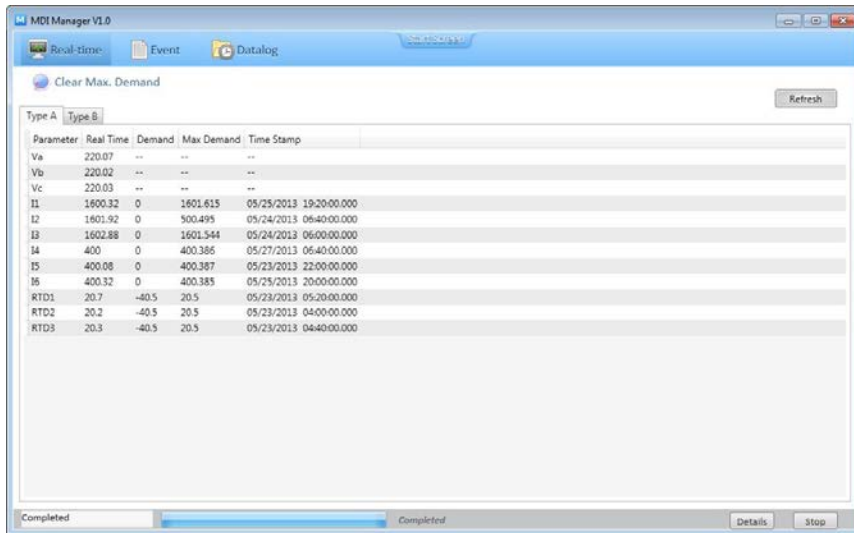
Real-time

Choose this option to view the real-time measurements. Automatic refresh of the real-time data is disabled for optimised performance. Click Refresh to manually refresh the data.

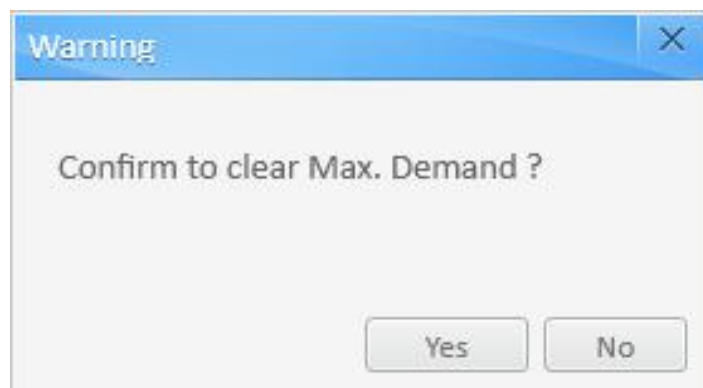
Single Device:



Double Device:



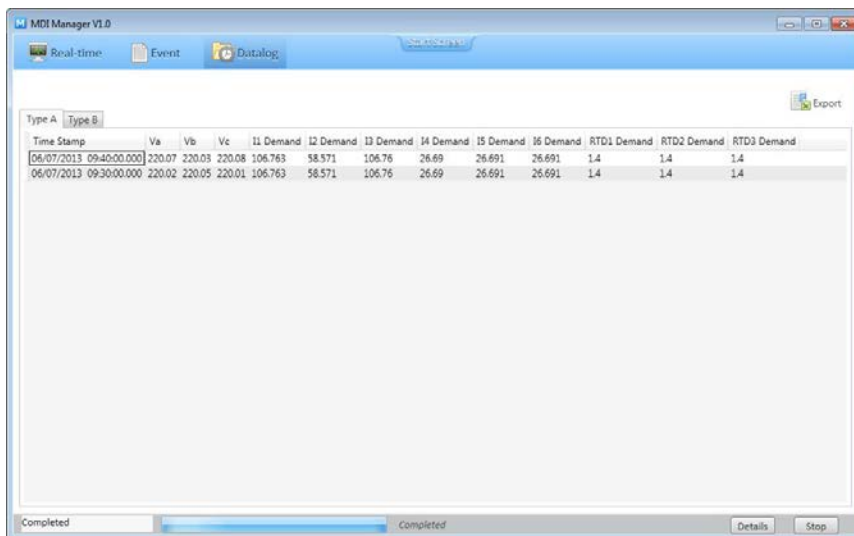
The Clear Max Demand option allows the user to clear the PMC-509's Peak Demands. The following box appears if this option is chosen, select Yes to confirm.



Datalog

Choose this option to view the PMC-509's Data Recorder Log. The Export button at the upper right-hand corner allows the user to export selected information to an Excel or CSV file.

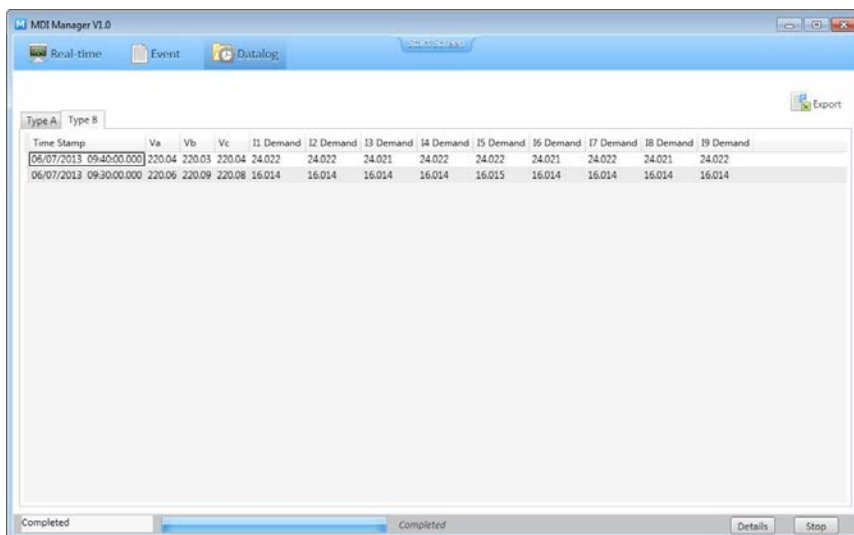
Single Device:



The screenshot shows the MDI Manager V1.0 Datalog window. The 'Datalog' tab is selected. The table displays data for a single device. The 'Export' button is visible in the top right corner. The progress bar at the bottom is labeled 'Completed'.

Type A	Type B	Time Stamp	Va	Vb	Vc	I1 Demand	I2 Demand	I3 Demand	I4 Demand	I5 Demand	I6 Demand	RTD1 Demand	RTD2 Demand	RTD3 Demand
		06/07/2013 09:40:00.000	220.07	220.03	220.08	106.763	58.571	106.76	26.69	26.691	26.691	1.4	1.4	1.4
		06/07/2013 09:30:00.000	220.02	220.05	220.01	106.763	58.571	106.76	26.69	26.691	26.691	1.4	1.4	1.4

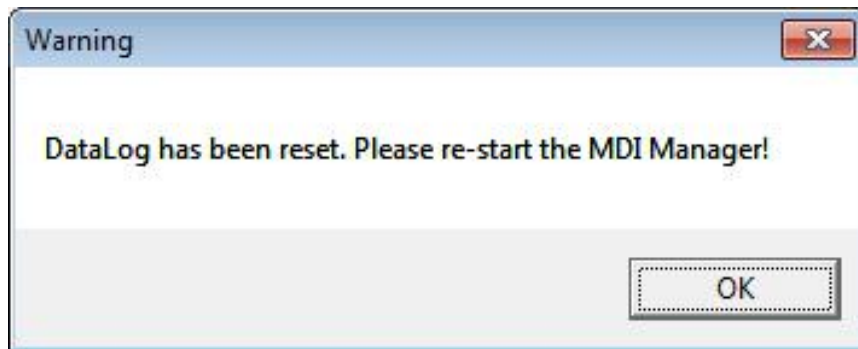
Double Device:



The screenshot shows the MDI Manager V1.0 Datalog window. The 'Datalog' tab is selected. The table displays data for a double device. The 'Export' button is visible in the top right corner. The progress bar at the bottom is labeled 'Completed'.

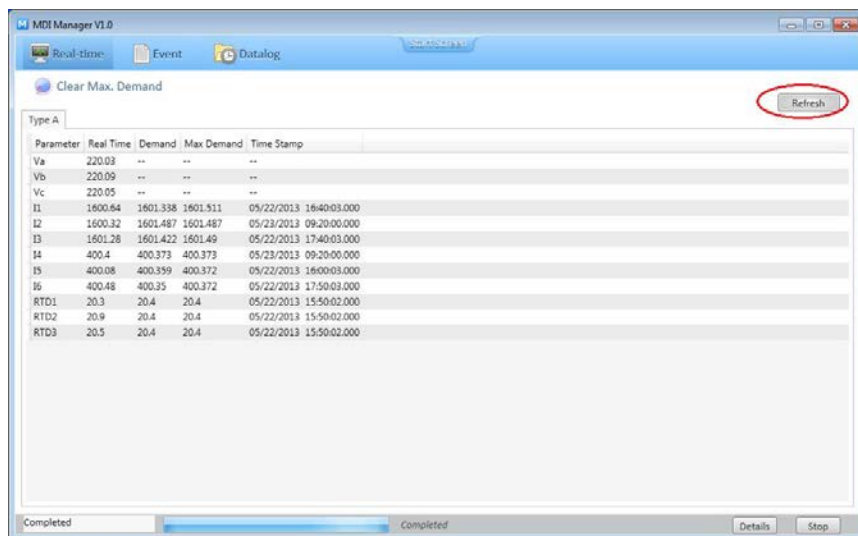
Type A	Type B	Time Stamp	Va	Vb	Vc	I1 Demand	I2 Demand	I3 Demand	I4 Demand	I5 Demand	I6 Demand	I7 Demand	I8 Demand	I9 Demand
		06/07/2013 09:40:00.000	220.04	220.03	220.04	24.022	24.022	24.021	24.022	24.022	24.021	24.022	24.021	24.022
		06/07/2013 09:30:00.000	220.06	220.09	220.08	16.014	16.014	16.014	16.014	16.015	16.014	16.014	16.014	16.014

The following Warning will appear if the Data Recorder settings have been changed. Click OK and the MDI Manager software will close automatically. Please restart MDI Manager in this situation and the user can continue to view the historical data by choosing Select Substation.



Refresh

Automatic updating or refreshing of the real-time data is disabled in order to minimise the amount of time required to upload the historical data from the PMC-509s. The user can click on the Refresh button to manually update the real-time data.



Exiting MDI Manager

Click  at the upper right hand corner to exit the MDI Manager software. The historical data uploaded during the session will be saved automatically into a local file for future access.