PROGRAMMABLE DC POWER SUPPLY

364X

user's manual

SAFETY　　GUIDE

This manual contains the precautions necessary to ensure your personal safety as well as for protection for the products and the connected equipment. These precautions are highlighted with a triangle "**WARNING**" symbol in this manual and are marked according to the danger levels as follows:

Danger:

It indicates that if appropriate precautions are not taken, serious incidents of personal injuries and deaths or significant damages or losses to the properties will be caused.

Caution:

It indicates that if appropriate precautions are not taken, injuries or losses of properties will take place.

Note:

Remind you to pay particular attention to the important information related to the products, disposal of products or the specific part of documents.

Warning:

Only qualified personnel are allowed to debug and operate this equipment. The qualified personnel are specified as those personnel who carry out commissioning, grounding and apply the volume identification to the circuits, equipment and systems according to the available safety practices and standards.

Note:

Only when this product is transported, stored assembled and installed in a proper way and operated and maintained according to the recommendations, can it implement the functions properly and reliably.

The following general safety precautions must be observed during all phases of operation, service, and repair of this instrument. Failure to comply with these precautions or with specific warnings elsewhere in this manual violates safety standards of design, manufacture, and intended use of the instrument. The manufacturer assumes no liability for the customer's failure to comply with these requirements.

⚠ Attention

I. Safety

1. Users should operate according to this manual.

2. There is high voltage inside the instrument, please avoid touching it directly.

3. Please read the user manual carefully before you use the instrument to assure your safety.

4. Ground the Instrument

This product is provided with a protective earth terminal. To minimize shock hazard, the instrument chassis and cabinet must be connected to an electrical ground. The instrument must be connected to the AC power supply mains through a three-conductor power cable, with the third wire firmly connected to an electrical ground (safety ground) at the power outlet.

5.Keep Away From Live Circuits

Operating personnel must not remove instrument covers. Component replacement and internal adjustments must be made by qualified service person. Do not split the components when power cable connected.

Under certain conditions, dangerous voltages may exist even with the power cable removed. To avoid injuries, always disconnect power, discharge circuits and remove external voltage sources before touching components.

6.Do Not Substitute Parts or Modify Instrument

Because of the danger of introducing additional hazards, do not install substitute parts or perform any unauthorized modification to the instrument. Return the instrument to a qualified dealer for service and repair to ensure that safety features are maintained.

II. Connecting the power line

1. Inspect the power selection switch on the back panel, to assure if the selected voltage is the same as environment power voltage. If not, please refer to the notice around the power plug.

2. Before connecting the power supply, please be sure that the switch on the front panel should be in the off position.

3. Connect the power cable to the AC in the power supply and the 3 connector plug. Please be sure that the AC power supply is grounded.

4. Press the switch on the front panel to switch on the instrument and you can start to use it.

III. Fuse

   1. The fuse is at the position of power input part on the back panel, for the purpose of avoiding failure brought by using wrong voltage. Please pay attention to the following items when you change the voltage input and the fuse.

   2. Before changing the voltage and fuse, please be sure that the AC power is switching off, and be sure that there is no other equipment connected to this instrument.

   3. Put a screwdriver into the fuse mounting, press it and the fuse mounting will pop up.

   4. Pull out the fuse, change it according to the label beside the power input plug.

Warning: To avoid damaging the instrument, please be sure to change a suitable type fuse.

   Please refer to the following figure to choose an appropriate fuse in accordance with the line voltage.

Fuse	Line
6.3AT	110V 120V
3.15AT	220V 240V

   If the input voltage needs to be changed, please follow the procedures provided above to use an appropriate fuse, and then set the voltage selecting switch on the back to a proper position (230VAC/115VAC).

Ⅳ. Preparations

   1.The wires and accessories connected to the Eload input terminal shall be fully insulated.

   2.Please turn on the instrument to warm it up for 30 minutes before putting it to use.

   3.Please operate the instrument according to the instructions in the manual strictly.

**364X Series Programmable DC Power Supply
VERSION 3.0**

Programmable DC Power Supply

364X SERIES

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364X Series Programmable DC Power Supply
VERSION 3.0

364X SERIES USER MANUAL

Chapter 1 General Introduction

1.1 General Introduction

The 364X Series Power Supply is a compact programmable DC power supply. It is equipped with backlight LCD display, numerical keypad and rotary knob which make it much easier to use. It offers constant voltage mode and constant current mode. Programming features include over-current protection, maximum output voltage and output power limitation, and 10 parameters storage. It is an essential instrument for scientific research, education, service and so on institutions.

1.2 Specifications

Mode		3644A	3645A	3646A
Number		1	1	1
DC Output	Voltage	0~18V	0~36V	0~72V
	Current	0~5A	0~3A	0~1.5A
	Power(max)	90W	108W	108W
Line Regulation	Voltage	0~3.999V: 0.01% + 3mV 4~18V: 0.02% + 10mV	0~3.999V: 0.01% + 3mV 4~36V: 0.02% + 10mV	0~3.999V: 0.01% + 3mV 4~72V: 0.02% + 10mV
	Current	0.02% + 8mA	0.02% + 8mA	0.02% + 8mA
Load Regulation	Voltage	0.02% + 20mV	0.02% + 10mV	0.02% + 10mV
	Current	0.02% + 15mA	0.02% + 10mA	0.02% + 8mA
Ripple and noise	Voltage	< 1mVrms	< 1mVrms	< 1mVrms
	Current	< 5mArms	< 4mArms	< 3mArms
Programming accuracy at 25°C+/-5°C	Voltage	0.1% + 20mV	0.1% + 20mV	0.1% + 20mV
	Current	0.2% + 20mA	0.2% + 20mA	0.2% + 20mA
Readback accuracy at 25°C+/-5°C	Voltage	0.2% + 20mV	0-19.999V: 0.2% + 20mV 20-36V: 0.2% + 100mV	0-19.999V: 0.2% + 20mV 20-72V: 0.2% + 100mV
	Current	0.2% + 20mA	0.2% + 20mA	0.2% + 20mA
Program resolution	Voltage	0-3.999V: 1mV 4-18V: 10mV	0-3.999V: 1mV 4-36V: 10mV	0-3.999V: 1mV 4-72V: 10mV
	Current	1mA	1mA	1mA
Readback resolution	Voltage	10mV	0-19.999V: 10mV 20-36V: 100mV	0-19.999V: 10mV 20-72V: 100mV
	Current	10mA	10mA	10mA
Protection		Over voltage/Over current/Over power		
AC Input		110/220V AC +/- 15% , 47 to 63HZ		
Operation environment		0-50°C, 80% RH*		

Weight	6.00kg
Dimensions	212.6mm W x 88.1mm H x 250mm D
Software	Free application software PowerMS, ActiveX control and DLL tool support VB / VC++ / DELPHI / LABVIEW
Optional Parts	3311 isolated TTL to RS232 adaptor 3312 isolated TTL to USB adaptor 3313 isolated RS232 to RS485 adaptor 3314 isolated TTL to RS485 adaptor Mounting rack

* 0 to 35 $^{\circ}$C for full rated output. At higher temperatures, the output current is derated 3% per $^{\circ}$C

1.3 Features

1. LCD display with backlight.

2. High resolution measurement.

3. CC/CV mode.

4. Number keypad and rotary knob.

5. Multifunction menu.

6. Over voltage / over current protection.

7. 10 parameters storage.

8. Compact and light-weight.

9. Can be used in parallel connection.

10. Can be controlled by PC.

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1.4 Dimensions and Structure
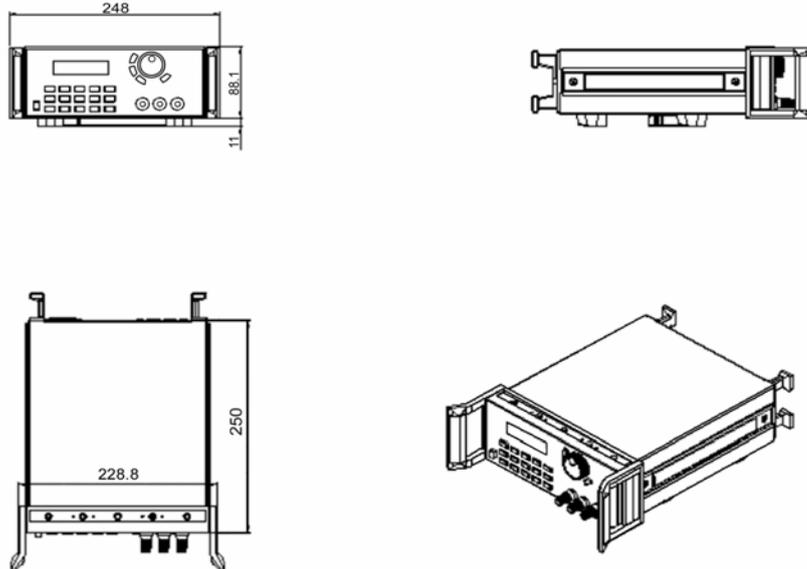
1.4.1 Dimensions

Fig. 1-1 Dimensions of 364X Series Programmable DC Power Supply

1.4.2 Structure

1.4.2.1 Front view

Front panel is for users to operate, and there is one LCD display, one number keypad and one rotary knob. Please see the following pictures.

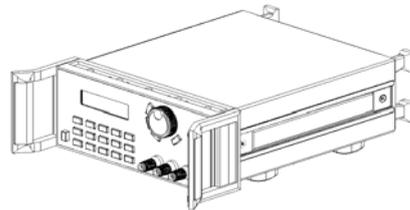Fig. 1-2 Front view of 364X Series DC Power Supply

1. LCD display

Fig. 1-3 LCD Display of 364X Series power supply

The 1st line:

Left: The voltage value. When output is off, this value is the set value, when output is on, this is the actual output voltage value

Right: The actual output current value.

The 2nd line:

Left: The output power value. (Flashing power value means the over power.)

Middle: ON / (OFF), the output state of the power supply.

Right: PC, represents the Power Supply is controlled by the computer.

2. Arrangement of the Keyboard

In general, the keyboard will perform the function of the black words 1st. But in the 2nd mode, it will perform the function of the words in blue.
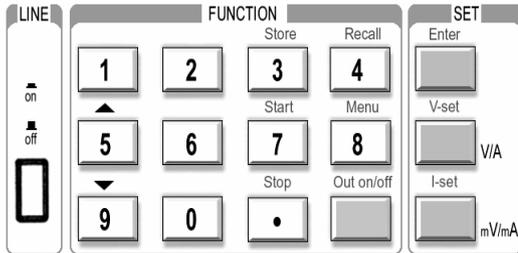

Fig. 1- 4 Keyboard of 364X Series DC power supply

0~9: The number keys

Store: Store the current setting value

Recall: Recall the saved setting value

Menu: The menu operation

Out on/off: Enable/disable the output

Enter: The confirmation key

V-set: Setting voltage value

I-set: Setting current value

▲ : The up moving key

▼ : The down moving key

V/A: Set the voltage as V

    Set the current as A

mV/mA: Set the voltage as mV

    Set the current as mA

3. Rotary knob and function keys

Fig. 1- 5 Rotary knob and function keys

Left Operation: The left moving key

Right Operation: The right moving key

ESC: Escape key

OK: Confirmation key
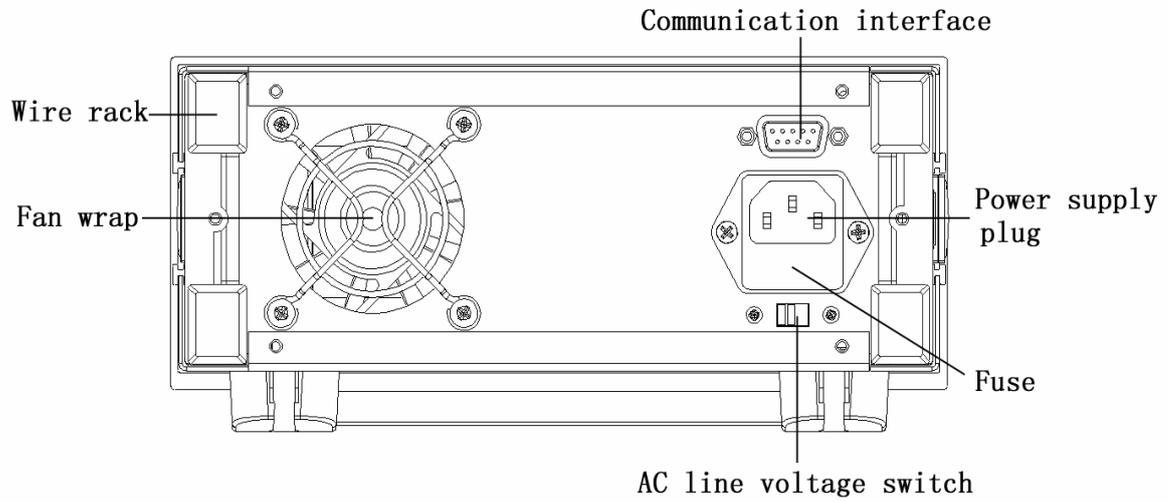
Rotary knob: The rotary dial

1.4.2.2 Back view

Fig. 1-6 Back view

The fuse can be changed easily by using a small flat screw driver. Replaced with a T3.15A fuse.

Chapter 2 Operation
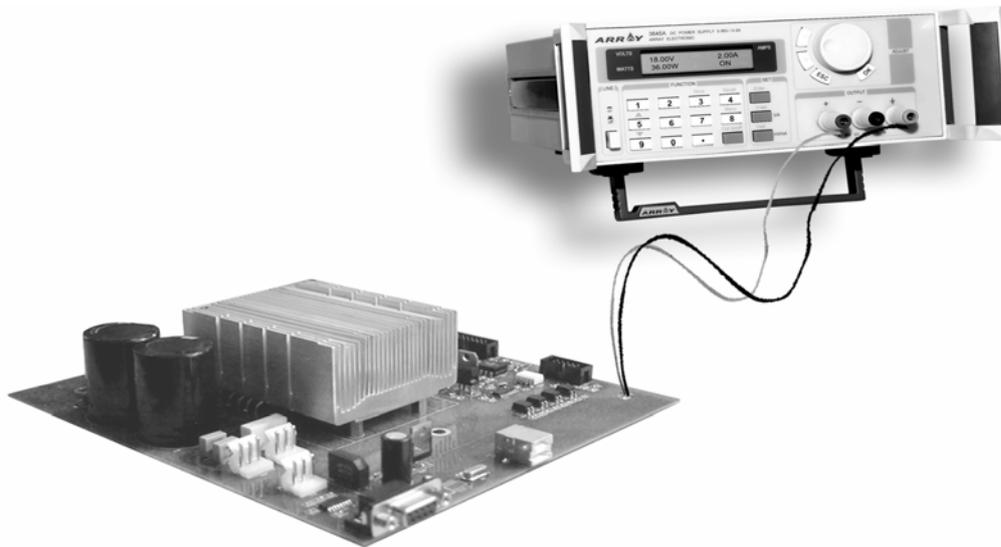
2.1 Connect the Power Supply to the load

Fig. 2-1 Connect the Power Supply to the load

2.2 Main functions

1.Setting the output voltage

2.Setting the current limit

3. Output On/Off

4. Store parameters

5. Recall parameters

2.2.1 Setting the output voltage

364X series power supply provides two methods to set the output voltage: by the number keypad and by the rotary knob. Please see the following operation procedure.

Procedure	Operation details	LCD display
Step 1	Press "V-set"	Input Password
Step 2	Enter the password (if the keyboard isn't locked, please go to step4)	Input Password ****
Step 3	Press the "OK" button, the original set value will be displayed on the LCD. (It will return to step 2 if your password is wrong)	Set Volt = 0.000V New=
Step 4	Enter the new voltage value with the number keypad or rotate the dial to adjust the value	Set Volt =0.000V New= 10V
Step 5	Press "V/A" or "mV/mA" button to confirm	Set Volt = 10.00V New=10.00V
Step 6	Press ESC to go back to the main menu	
You can exit the voltage set operation at any point by pressing the ESC key		

For example, set the output voltage to 24.3V

1. Setting by number keyboard

Step1. Press "V-set" button;

Step2. Enter the password by using the number keypad (if the keypad isn't locked, please go to step 4);

Step3. Press "OK" button (if the password is wrong, please go to step2 for reentering);

Step4. Press "2", "4", "." and "3" button to enter the voltage value;

Step5. Press "V/A" button.

2. Setting by Rotary knob

(1) If the keypad isn't locked, directly rotate the "Rotary knob", and the voltage will be continually changed from the previews value according to the rotation. At the beginning, the cursor will be shown on the last number of the value which is indicated on the LCD, you can move the cursor to each number by using " ◀ " and " ▶ " buttons, and then rotate to change the number, and let it stay at 24.3 V.

(2) If the keypad is locked

Step1. Press "V-set" button;

Step2. Enter the password by using the number keypad;

Step3. Press OK button (if the password is wrong, please go to step2 for reentering);

Step4. Rotate the Rotary knob to change the value, the operation is the same as item(1);

Step5. Press "V/A" button to confirm.

2.2.2 Setting the current limit

During actual operation, if a load change causes the current limit to be exceeded, the power supply will automatically crossover to the constant current mode at the preset current limit and the output voltage will drop proportionately.

For example, when output voltage=10V, load R=10 Ohm, then the load current should be V/R = 1 A. If the current value is set to 1.50A, the power supply works in CV mode, the actual current value should be displayed on the LCD as 1.00A. If the load resistor drops to 5 Ohm, the current will increase. When the current exceed 1.5A, the power supply will change to CC mode, and the output voltage will drop down to7.5V to maintain the actual current value to 1.5A.

To set the current, please follow this operation procedure:

Procedure	Operation details	LCD display
Step 1	Press "I-set"	Input Password
Step 2	Enter the password (if the keyboard isn't locked, please go to step4)	Input Password ****
Step 3	Press the "OK" button, the original set value will be displayed on the LCD. (It will return to step 2 if your password is wrong)	Set Curr = 1.00A New=
Step 4	Enter the new current value with the number keypad or rotate the dial to adjust the value	Set Curr = 1.00A New= 1.50
Step 5	Press "V/A" or "mV/mA" button for confirmation	Set Curr =1.50A New= 1.50A
Step 6	Press ESC to go back to the main menu	
You can exit the current set operation at any point by pressing the ESC key		

2.2.3 Output On/Off

Press the "Out on/off" button to enable/disable the power output. This key toggles between two states, when the output is off, pressing this button will turn the output on, and vice versa.

2.2.4 Store parameters

364X series power supply can store up to 10 sets of parameters in its nonvolatile memory for later recall.

These parameters include 1) output voltage; 2) current limit; 3) maximum output voltage; 4) maximum output power; 5) keypad locked/unlocked; 6) Baud rate; 7) Communication address.

The store operation is as follows:

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Procedure	Operation details	LCD display
Step1	Press " Store " button	Input Password
Step 2	Enter the password (if the keyboard isn't locked, please go to step4)	Input Password ****
Step 3	Press "OK" button. (It will return to step 2 if your password is wrong)	SAVE <u>1</u>
Step 4	Enter the memory address (1 to 10) using the number key or rotate the rotary knob to change the address	SAVE <u>*</u>
Step 5	Press the "Enter" button for confirmation. It will return to Step 4 if the address is out of the range.	
You can exit the Store operation at any point by pressing the ESC key		

2.2.5 Recall parameters

To recall the parameters previous stored in the 364X, please follow this operation procedure:

Procedure	Operation details	LCD display
Step1	Press " Recall " button	Input Password
Step 2	Enter the password (if the keyboard isn't locked, please go to step4)	Input Password ****
Step 3	Press "OK" button. (It will return to step 2 if your password is wrong)	Recall <u>1</u>
Step 4	Enter the memory address (1 to 10) using the number key or rotate the rotary knob to change the address	Recall <u>*</u>
Step 5	Press the "Enter" button for confirmation. It will return to Step 4 if the address is out of the range.	
You can exit the recall operation at any point by pressing the ESC key		

2.3 Menu operation

The Menu operation offers some setting and adjusting functions. The operation and functions are as following.

Procedure	Operation details	LCD display
Step1	Press " Menu " button	Input Password
Step 2	Enter the password (if the keyboard isn't locked, please go to step4)	Input Password ****
Step 3	Press the "OK" button (It will return to step 2 if your password is wrong)	Max Voltage Set Max Power Set
Step 4	The LCD displays the menu functions. Use the UP and DOWN keys to select a function.	Max Voltage Set Max Power Set Rotary Knob Set Initial Out Set Volt. Save Set Baud Rate Set Address Set Key Lock Clear Save Date Load Default Exit
Step 5	Press "Enter" for confirmation	
	You can exit the Menu operation at any point by pressing the ESC key	

2.3.1 Setting the maximum output voltage

When you select the "Max Voltage Set" function, the LCD will display:

Max Volt. = 24.00 V

New=   _V

Set the maximum output voltage by using the number keyboard or the rotary knob, then press "Enter" for confirmation.

2.3.2 Setting the maximum power

When you select the "Max Power Set" function, the LCD will display:

```
Max Power=108.00W

New=      _W
```

Set the maximum output power by using the number keyboard or the rotary knob, then press "Enter" for confirmation.

2.3.3 Enable/disable the rotary knob

The "Rotary Knob Set" function is to enable or disable the rotary knob. When you select the "Rotary Knob Set" function, the LCD will display:

```
Sw Enable Def *

Sw Disable
```

Use the UP and DOWN keys or the rotary knob to select, and press "Enter" to confirm.

2.3.4 Setting initial output state

The "Initial Out Set" function is used to set the output state (conditions) when switching on the 364X Power Supply the next time it is used.

Select "Ini. Out Save" to save the current output state before switching off.

If the current output is on, next time the 364X is switched on, the output will be in the "ON" mode;

If the current output is off, the next time the 364X is switched on, the output will be in the "OFF" mode.

Selecting "Ini. Clear Def", will ensure that the output is in the "OFF" mode each time the 364X Power Supply is switched on.

```
Ini. Out Save

Ini. Clear Def *
```

Use the UP and DOWN keys or the rotary knob to select, and press "Enter" to confirm.

2.3.5 Save voltage setting

The "Volt. Save Set" function is to set whether to save the voltage setting. Select "Save Out Volt.", the set voltage value will be saved in nonvolatile memory, and couldn't be lost even if the 364X is switched off. When switching on the next time, the voltage value will be automatically reloaded. Select "Don't Save Def", the default value (0V) will be loaded every time switching on.

```
Save Out Volt.

Don't Save Def*
```

Use the UP and DOWN keys or the rotary knob to select, and press "Enter" to confirm.

2.3.6 Setting Baud Rate

This function is used to set the communication baud rate.

When you select "Baud Rate Set" function, the LCD will display :

```
BaudRate=4800

BaudRate=9600

BaudRate=19200

BaudRate=38400
```

Select the Baud Rate by using the UP and DOWN keys or the rotary knob, then press "Enter" for confirmation.

2.3.7 Setting communication address (0~31)

This function is used to set the address of the power. To communicate with the computer or other equipment, the 364X power supply must be assigned an address.

When you select "Address Set" function, the LCD will display:

```
Address Set=**

New=
```

Set the address by using the number keyboard or the rotary knob, and then press "Enter" for confirmation. The valid address range is from 0 to 31.

2.3.8 Key Lock

This function is used to lock the keyboard to keep the 364X from unauthorized operation. Only the person with the correct password is allowed to operate the power supply. Select the "Key Lock" function, the LCD will display:

```
Enter Password
```

Enter a 4 numbers password, then press "Enter" to confirm.

2.3.9 Clear saved data

This function is to clear the parameters stored in the 364X's nonvolatile memory.

When you select "Clear Save Data" function, the LCD will display:

```
Clear *
```

Enter the memory address you want to clear, then press the "Enter" key.

2.3.10 Load Default

This function is to restore all the parameters to the factory setting.

Select "Load Default" function, the LCD will display:

```
Don't Load

Load Default
```

Select "Load Default", and press "OK" to restore to the factory setting.

2.3.11 Exit

Select "Exit" to exit the menu operation.

Chapter 3 Installation of the PowerMS Software

3.1 Connect the Power Supply to PC

      With the optional communication adapter, you can connect the 364X power supply to your computer through RS-232, USB or RS-485 port. Connect the 364X to a RS-232 port with the 3311 adapter, to a USB port with the 3312, to a RS-485 with the 3314. If your computer doesn't have an RS-485 port, you may choose the 3313 RS-232=>RS-485 adapter.
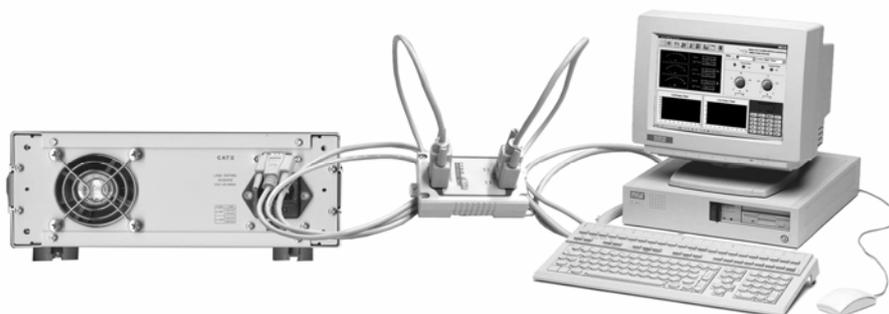

Fig. 3-1Connect the power supply to PC

3. 2 Software Installation

      3.2.1 Insert the software CD(The CD is included with 3311,3312 or 3313/3314 adpaters) into the CD-ROM drive, double-click My Computer => CD => PowerMS => Setup.exe to start the installation, the Fig. 3-2 will be displayed.
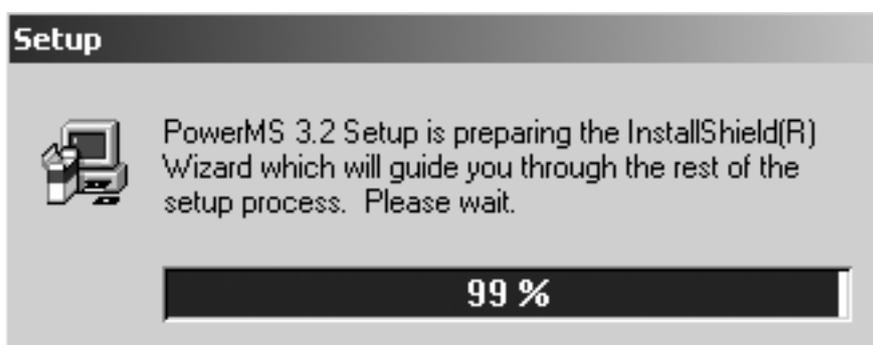
Fig. 3-2 The Initialization of the Installation

3.2.2 The Welcome dialog box displays, press " NEXT " to continue

Fig. 3-3 The Welcome dialog box

3.2.3 The License Agreement dialog box displays. Click "Yes" to accept the License Agreement and proceed with the installation process.

Note: If you do not want to accept the License Agreement, click "No" to abort the installation process.
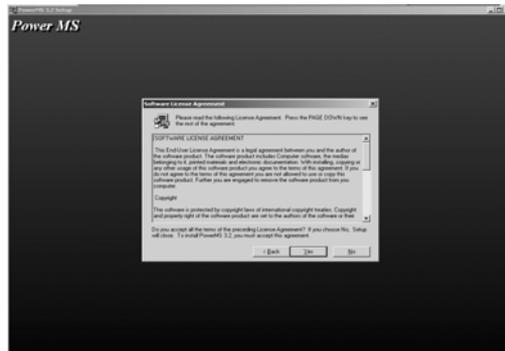
Fig. 3-4 The License Agreement dialog box

3.2.4 The User Information dialog box displays, enter your name and your company's name, then click "Next".
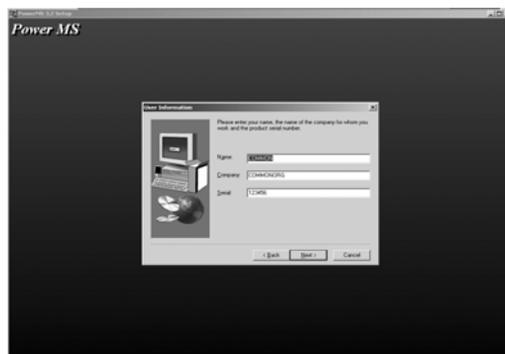
Fig.3-5 The User Information dialog box

3.2.5 The destination folder dialog box displays. The default folder is "C:\Program Files\Array\PowerMS". You may click "Browse" to select other installation path.
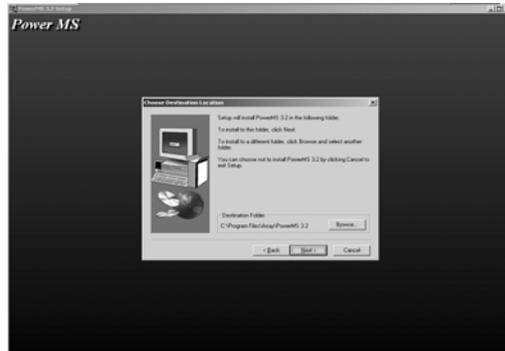
Fig. 3-6 The destination folder dialog box

3.2.6 The installation option dialog box displays. Select "Typical" to install all components or select "Custom" to select installation components.

Fig. 3-7 The Installation option dialog box

3.2.7 The Select Program Folder dialog box displays. Specify a program folder (or leave the default folder), then click "Next".

Fig. 3-8 The Select Program Folder dialog box

3.2.8 Copy the files to your hard disk
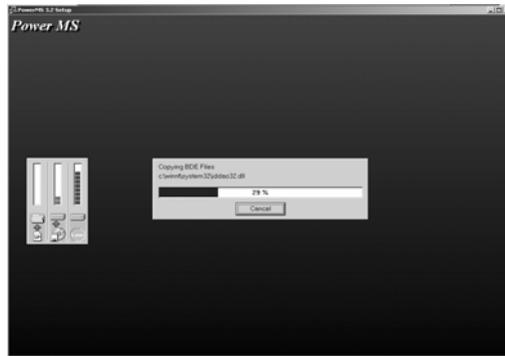
Fig. 3-9 Copy Files

Software installation is complete when finished.

Chapter 4 Introduction

4.1 Running the program

4.1.1 To run the PowerMS program, select "Start=>Program=>Array=>PowerMS" and click "PowerMS *.*" to run the program.

Fig. 4-1 Start the program

4.1.2 The PowerMS startup pattern
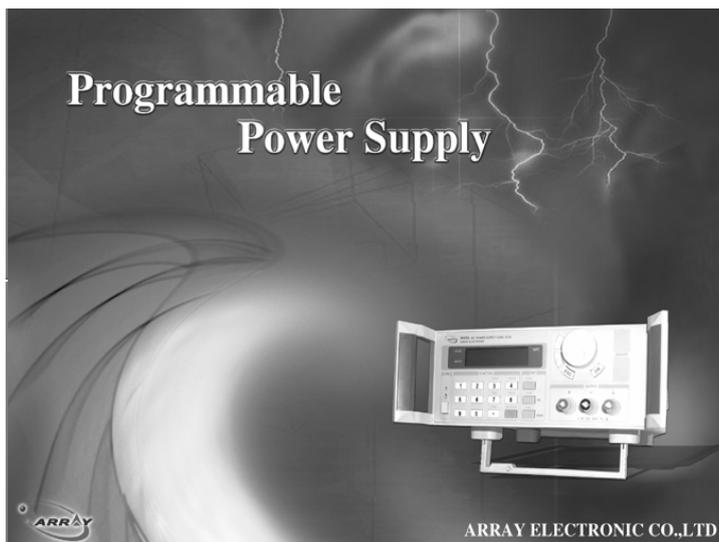
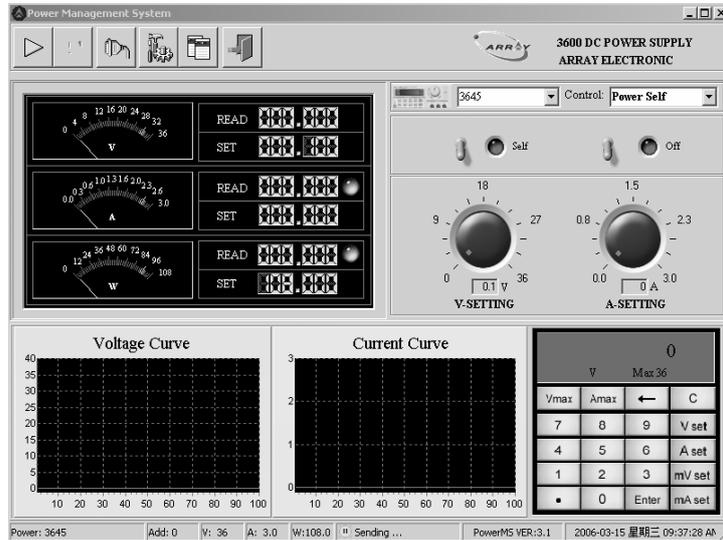Fig. 4-2 The PowerMS startup pattern

4.1.3 The PowerMS Main Window

Fig. 4-3 The PowerMS Main Window

4.1.4 Once the PowerMS software is started, the ![icon] icon is shown on the state bar. Right click this icon, the following menu will be displayed:

Fig. 4-4

"Show": Show the interface.

"Hide": Hide the interface.

"Start Communicate": Start the communication.

"Stop Communicate": Stop the communication.

"About": About PowerMS.

"Quit": Quit the software.

4.2 The Power Supply List

The power supply list lists all registered power on the computer. To make the PowerMS control your power, choose the power you want to use from the power supply list.
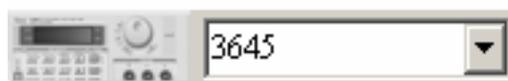
Fig. 4-5 The Power Supply List

4.3 The Control List

To set who controls the power supply: the PC or the power itself; or to enable/disable the power output, select the corresponding instruction from the control list.

Fig. 4-6 Select the Control Instruction

4.4 The Control Switch

The On/Off switch is to turn on/off the output, the Self/PC Control switch is to set who control the power supply: the PC or the power itself.

Fig. 4-7 The Control Switch

4.5 The Tool Buttons

On the top left of the main window, there are 6 tool buttons:

  "Start": Start communication

  "Stop": Stop communication

  "Setting": setting COM Port and recording interval

  "Power Setting": Setting power supply parameters

  "Report": Data report

  "Quit": Quit the PowerMS program
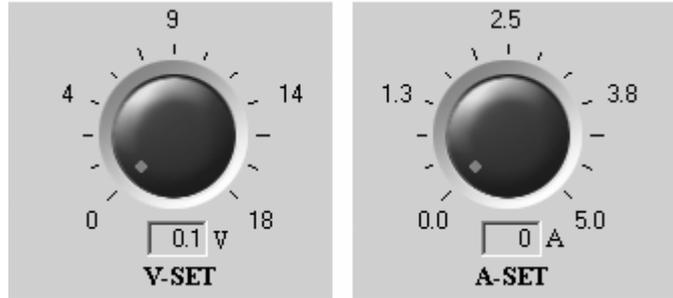
4.6 Keypad and Rotary dial

Fig. 4-8 Voltage and Current setting dial

To quickly modify a parameter (Voltage or Current), put the mouse on the red point of the dial and rotate. To accurately set a parameter, use the keypad.
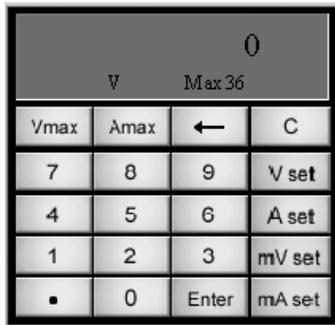

Fig. 4-9 Keypad

Number Keys: 0-9

".": the point key

"C": the cleared key

⟵ : the backspace key

"V": the voltage setting key (Unit: V)

"A": the current setting key (Unit: A)

"mV": the voltage setting key (Unit: mV)

"mA": the current setting key (Unit: mA)

"Vmax": show the max voltage value

"Amax": show the max current value

"Enter": the confirmation key

To set a Voltage: Press the "V set" or "mV set" button, enter the voltage value and then press the "ENTER" button.

To set a Current: Press the "A set" or "mA set" button, enter the current value and then press the "ENTER" button.

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4.7 The Voltage, Amp, Power Meter

The Voltage, Amp, Power Meter show the setting and read back value of voltage, current and power.
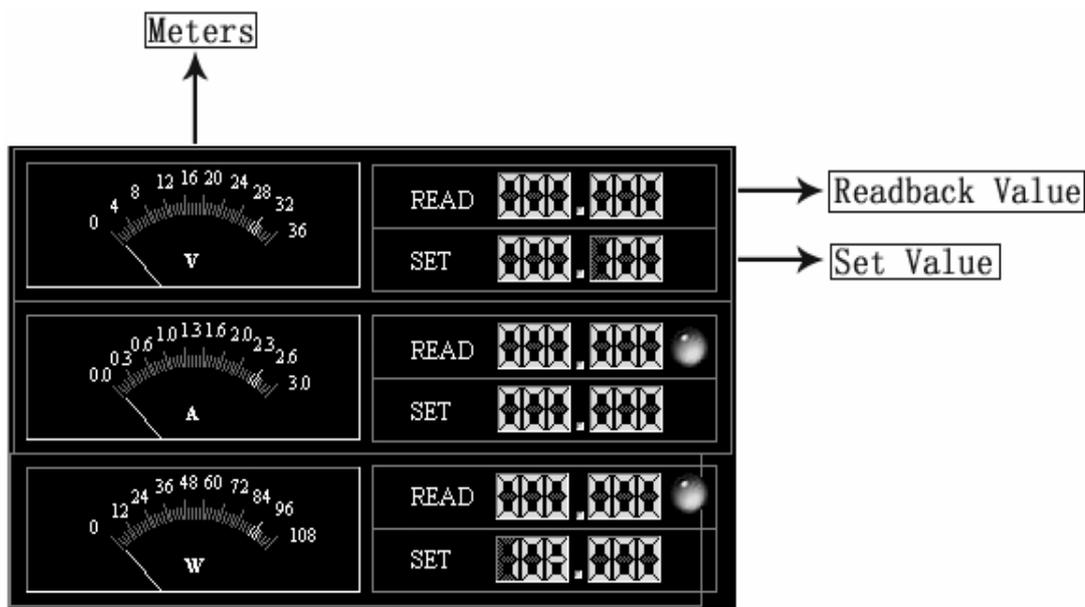

Fig.4-10 The Voltage, Amp, Power Meter

4.8 Dynamic Curve

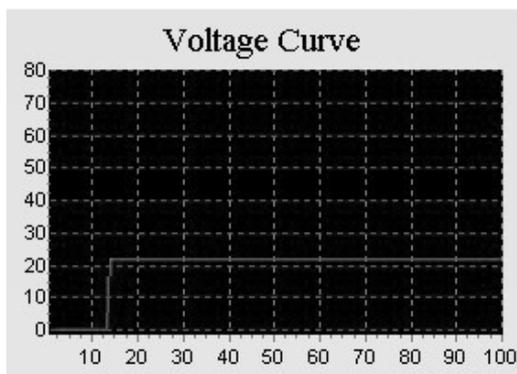These curve show the dynamic states of voltage and current.
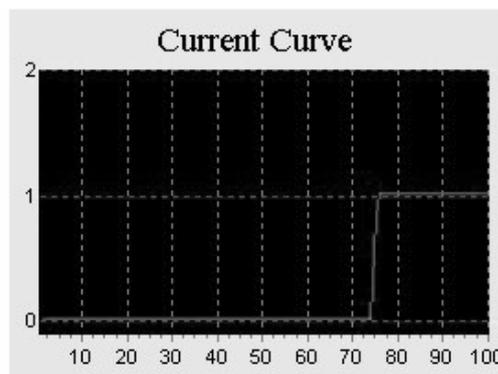

Fig.4-11 The Voltage Curve   Fig.4-12 The Current Curve

You may drag your mouse on the curve to zoom in/out.

4.9 Start Communication

Click the ▷ button to start the communication with the power supply.

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4.10 Stop Communication

Click the ■ button to stop the communication with the power supply.

4.11 Setting

4.11.1 Setting Com port and baud rate

Click the button, select the correct Com port and baud rate. The baud rate setting should be the same as the connected power supply.
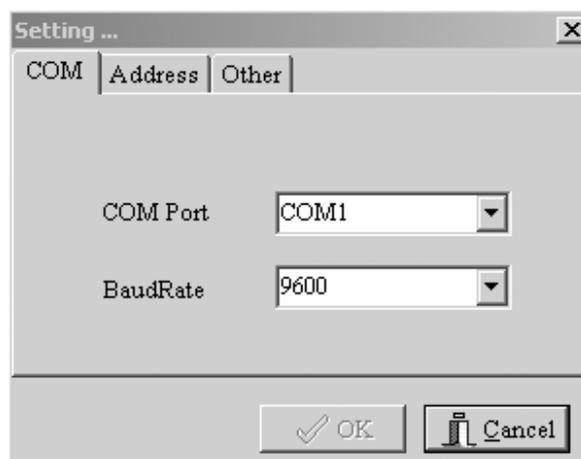
Fig. 4-13 Com Setting Window

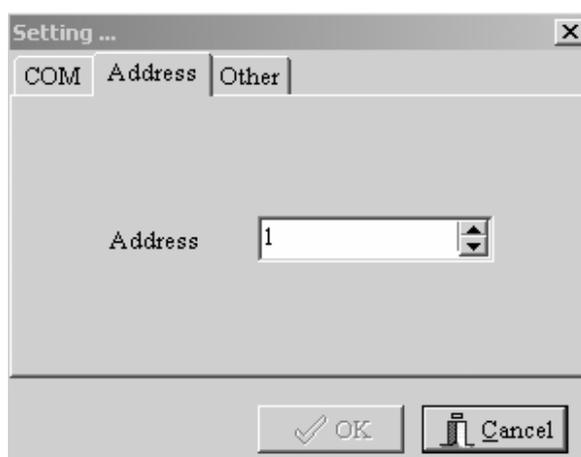4.11.2 Setting power supply address

Fig. 4-14 Address Setting window

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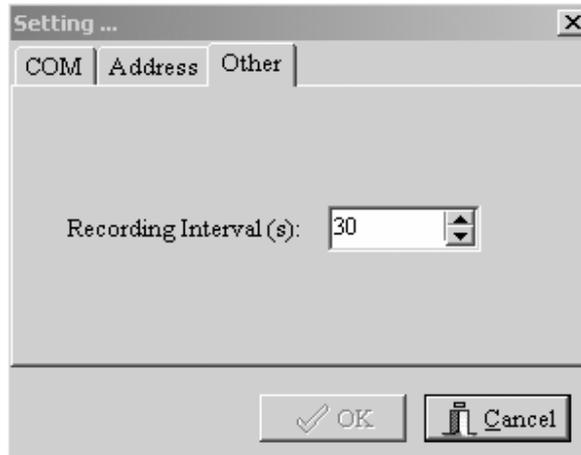
4.11.3 Setting Recording Interval

Fig. 4-15 Setting Recording Interval window

4.12 Power setting

Click the [icon] button, the Power setting window will be displayed.
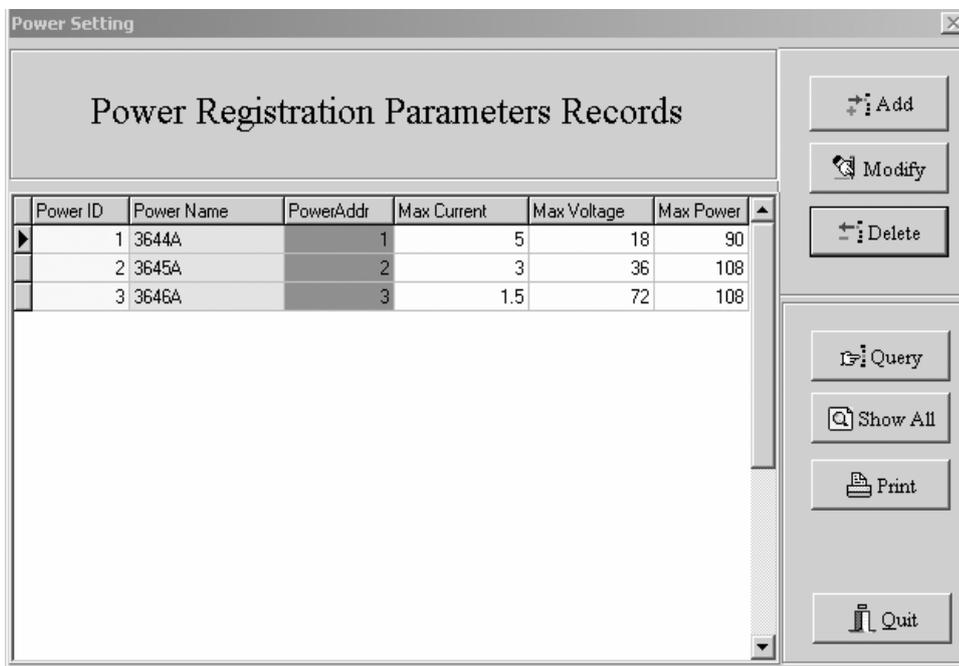

Fig. 4-16 The Power Setting window

The Power Registration Records show the parameters of all registered power supply.

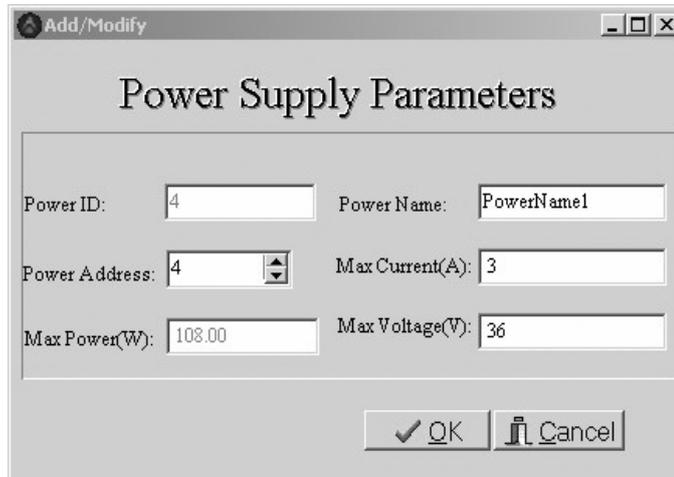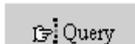To add a new power supply, click the [Add] button.

Fig. 4-17 Add New Power window

Enter the Power Name, Address and the maximum value of voltage, current, power, then press "OK" to confirm. Note: the Power ID is assigned by the software.

Parameter	Explanation	Range
Power Name	Name Of the Power Supply	ASCII
Max Current	The Maximum Output Current	0~5A / 0~3A / 0~1.5A
Max Power	The Maximum Output Power	0~90W / 0~108W / 0~108W
Max Voltage	The Maximum Output Voltage	0~18V/0~36V/0~72V
Power ID	The ID of Power Supply	

To delete a registered power supply, select the power from the Power Registration Records, then click the ⇅Delete button.

To modify a power's parameters, select the power from the Power Registration Records, then click the Modify button.

To query a power supply, click the Query button, then enter the power name you want to query.

To show all the registered power supplies, click the Show All button.

To print the Power Registration Records, click the Print button.

Attention: after the Add, Modify, Delete operation, the program must restart so that the modifications may take effect. The following dialog box will be shown, click "Yes" to close the program, then restart the program from the Start menu.
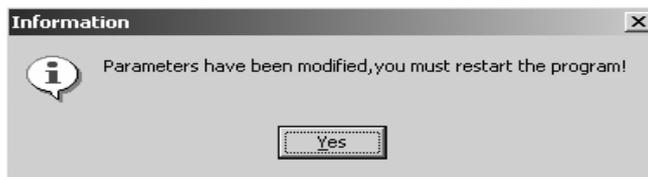
364X Series Programmable DC Power Supply VERSION 3.0

Fig. 4-18 After Add, Modify, Delete operation, the program must restart

4.13 Data Report

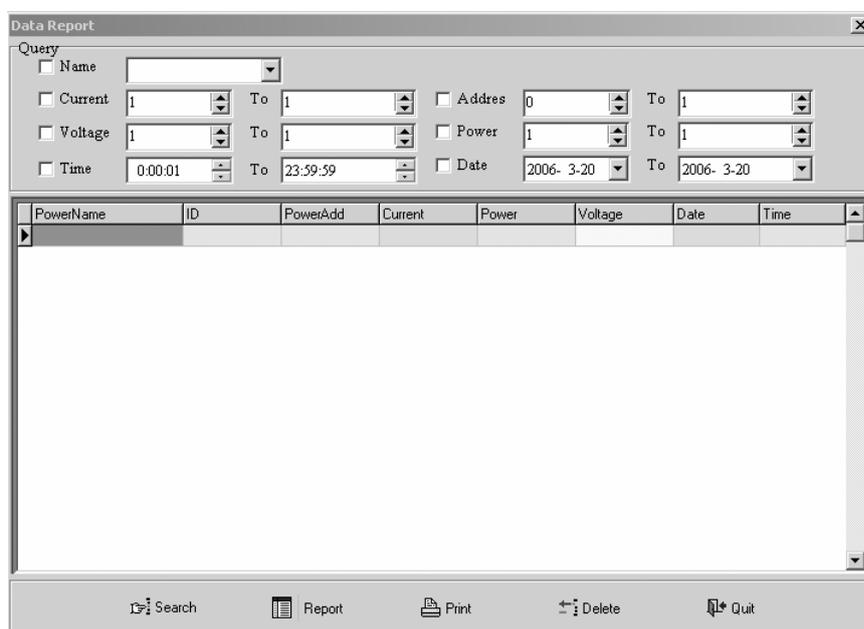Click the [icon] button, the data report window will be shown:

Fig. 4-19 The Data Report window

To search, set the query condition, and then click the "Search" button.

Click the "Report" button to watch the report.

To print this report, click the "Print" button.

To delete historic data, click the "Delete" button.

Quit: quit to the main window.

4.14 The State Bar

| Power: qq | Add: 2 | V: 72 | A: 1.5 | W:108.0 | Sending ... | PowerMS VER:3.2 | 2006-03-21 01:28:41 PM |

Power: the power name

Add: the power address.

V: the max output voltage

A: the max output current

W: the max output power

Sending / Receiving: the communication state.

4.15 Quit the Software

Click the [ ] button to quit the software.

4.16 Use the PowerMS software control your power

Start the PowerMS program, from the Power List, select the power supply you want to use. If the desired power does not appear on the List, use Power Setting to add it.

Click the [ ] button, ensure that the Com port, baud rate and address is the same as that of the power.

Click the [ ] button to start communication. Using the Control Mode switch, set the power in PC control mode. You may now control the power from the computer.

In the event of communications failure, please check the Com port, baud rate and Address settings. Also ensure that the communication cable is firmly and correctly connected.

Chapter 5 Uninstall PowerMS Software

5.1 Uninstall the PowerMS Software

From the Start Menu, select "Program=>Array=>PowerMS=>Uninstall PowerMS" to unstall the software. Remember to quit the program before uninstalling.