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TPEditor User Manual

TPEditor User Manual

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Second version	Chapter 1 and Chapter 3 were updated.	2013/09/30
Third version	All chapters are rearranged, and are updated according to TPEditor. The information related to the new model TP70P is also added to the manual. (Please refer to section 4.1.6, section 4.2.1, section 4.2.2, section 4.2.3, section 4.2.9, section 4.2.10, section 4.2.11, section 4.2.12, section 4.2.13, section 4.2.14, section 4.2.16, section 4.2.18, section 4.2.20, section 4.2.21, section 5.1.8, section 5.2.5, section 5.2.11, Appendix A, and Appendix B for more information about TP70P.)	2014/1/22
Fourth version	<ol style="list-style-type: none">1. TP70P is changed to TP70.2. The description of Full Screen and Refer Device is deleted from section 3.3.3. The description of the buttons used to add/delete a state is added to section 4.2.11, section 4.2.12, and section 4.2.14.4. The description of the functions of the X-Y curves for TP70 series text panels in section 4.2.18 is updated.5. Section 4.2.22 and section 4.2.23 are added.6. The Function Key Setting window in section 5.1.2 is updated.7. Section 5.2.12 is added.8. Section A.1 is updated.	2014/11/21

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1.1 Introduction of TPEditor and System Requirements

TPEditor is programming software for Delta text panels operating on Windows. What users see on the screen of a computer is what they get on the screen of a text panel. Users can immediately see what they design on the screen of a computer. The image displayed on a screen of a computer is the same as the image displayed on the screen of a text panel. The programming adopted by TPEditor is object-oriented programming. Users can drag an object in the page editing area in TPEditor to another position, change the appearance of an object, or change the size of an object. They can easily use TPEditor to edit the contents of a text panel.

1.1.1 Characteristics

- It supports Delta TP series text panels.
- It provides a simple operating environment, and abundant elements used to edit the image that appears on a screen.
- It supports traditional Chinese, simplified Chinese, and English.
- It provides tools which can be used to set a recipe and macros.
- Users can set passwords and levels.

1.1.2 System Requirements

Before using TPEditor, users have to make sure that an operating system meets the requirements in table 1-1.

Table 1-1 System requirements

Item	System requirement
Operating system	Windows 2000/NT/ME/XP/Vista/7/8
CPU	Pentium 1.5 G or above
Memory	256 MB or above (A memory having a capacity of 512 MB or above is recommended.)
Hard disk drive	Capacity : 100 MB or above
CD-ROM drive	For installing software It is optionally required.
Monitor	Resolution: 800×600 or above (The resolution recommended is 1366×768.)
Keyboard/Mouse	A general keyboard/mouse, or devices compatible with Windows
Printer	A printer with a driver for Windows (It is used to print the image that appears on a screen, and is optionally required.)

Item	System requirement	
RS-232 port	For connecting to a TP series text panel	One of them is used, but the TP series text panel which is connected must have a corresponding port.
USB port	For connecting to a TP series text panel	

*1. The functions and specifications mentioned above are only applicable to TPEditor version 1.90 or above. The older versions are not equipped with the complete functions.

1.1.3 Installing TPEditor

If an older version of TPEditor has been installed on a computer, users have to uninstall it before installing TPEditor. (Please refer to section 1.1.4 for more information about uninstalling TPEditor.)

- (1) Start a Windows 2000/NT/Me/XP/Vista/7/8 operating system. The users have to log on as an administrator.
- (2) Put a TPEditor CD in the CD-ROM drive, or download the installation program from the Delta official website <http://www.deltaww.com>. (Before the installation program downloaded from the website is installed, it has to be decompressed.)
- (3) Click **Start**, and then click **Run...** to open the **Run** window. Specify a path which denotes the installation file in the **Open** box, and then click **OK**. The users can also double-click the installation file to execute the installation program. Please see Figure 1-1.

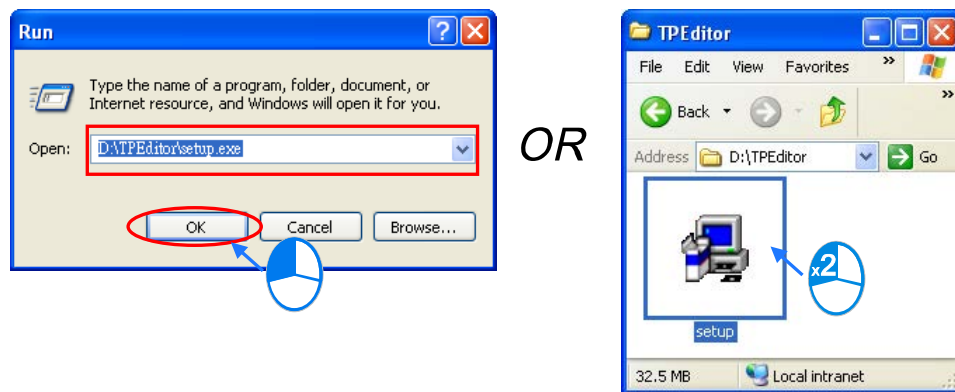


Figure 1-1 Installation

1

- (4) After the **InstallShield Wizard** window appears, click **Next**, as shown in Figure 1-2.

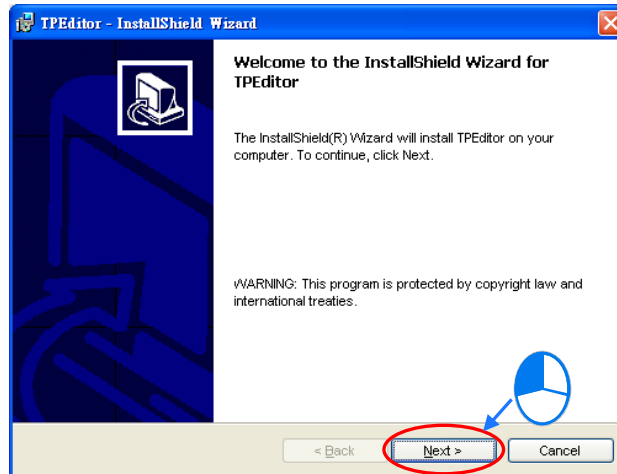


Figure 1-2 Process of installing TPEditor

- (5) Type related information in the **User Name** box and the **Organization** box, and then click **Next**, as shown in Figure 1-3.

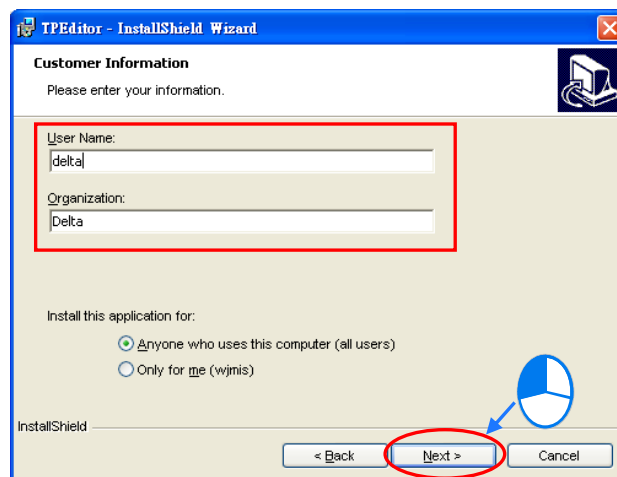


Figure 1-3 Process of installing TPEditor

- (6) Leave the default path unchanged, or click **Change...** to change the path. Click **Next** to proceed to the next step, as shown in Figure 1-4.

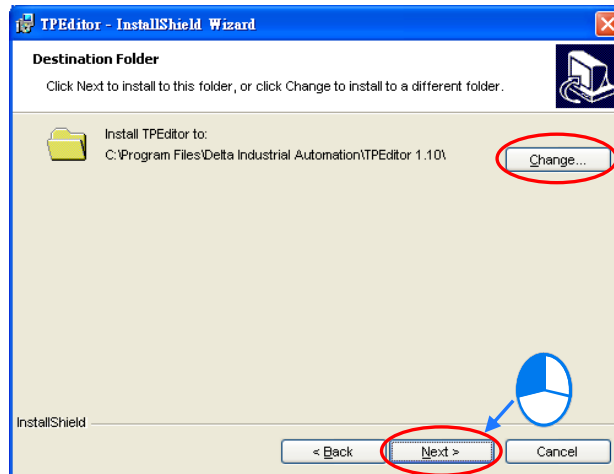


Figure 1-4 Process of installing TPEDITOR

(7) Check the installation information, and then click **Install**, as shown in Figure 1-5.

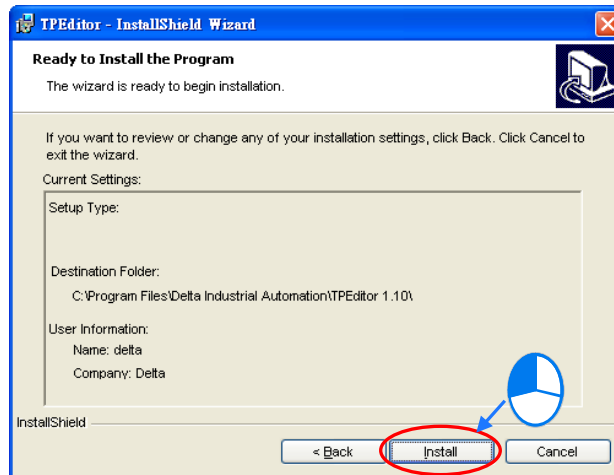


Figure 1-5 Process of installing TPEDITOR

(8) After TPEDITOR is installed, shortcuts to the program are created on the desktop and the **Start** menu. Click **Finish** to complete the installation, as shown in Figure 1-6.

1

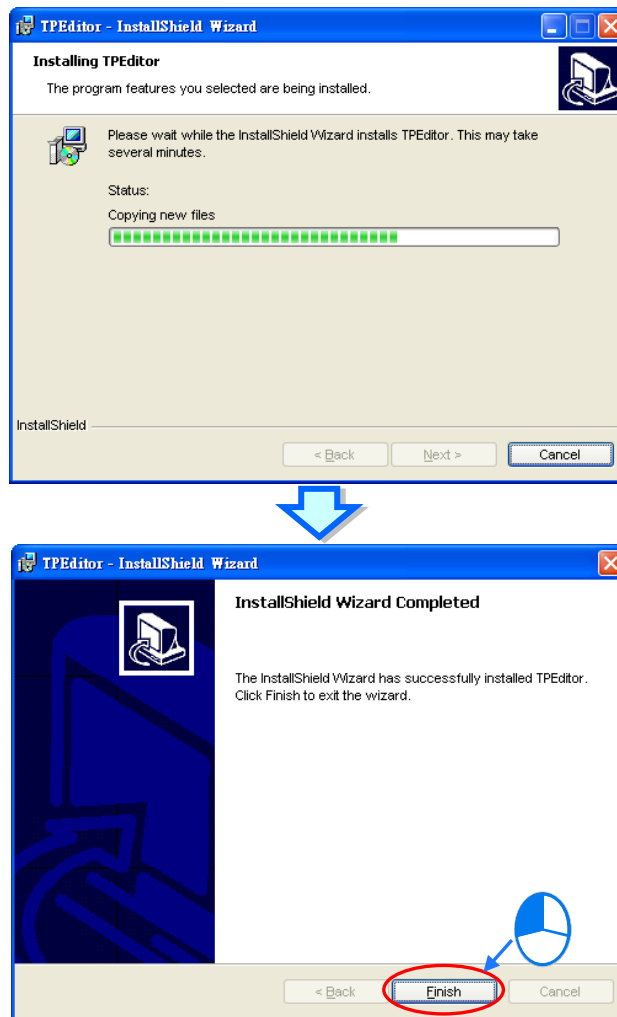


Figure 1-6 Completing the installation of TPEditor

1.1.4 Uninstalling TPEditor

(1) There are two methods of uninstalling TPEditor.

- Method 1: Open the **Control Panel** window, and click **Add or Remove Programs**. In the **Currently installed programs** box, click **TPEditor x.xx**, and then click **Remove**, as shown in Figure 1-7.

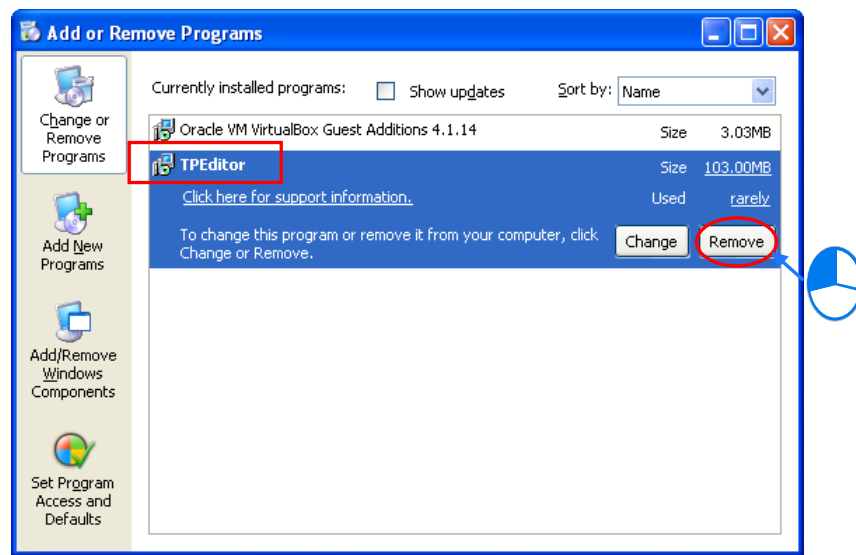


Figure 1-7 Uninstalling TPEditor

- Method 2: **Start>Programs>Delta Industrial Automation>PLC>TPEditor x.xx>Uninstall**
(Please see Figure 1-8.)

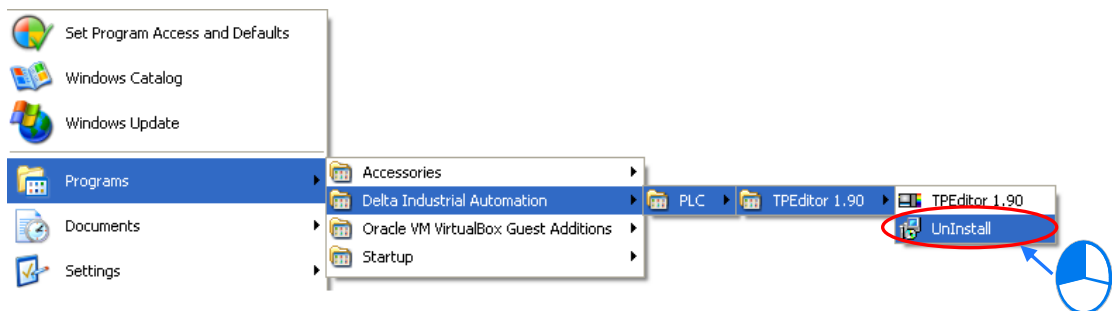


Figure 1-8 Uninstalling TPEditor

(2) After users click **Yes**, TPEditor will be removed, as shown in Figure 1-9.

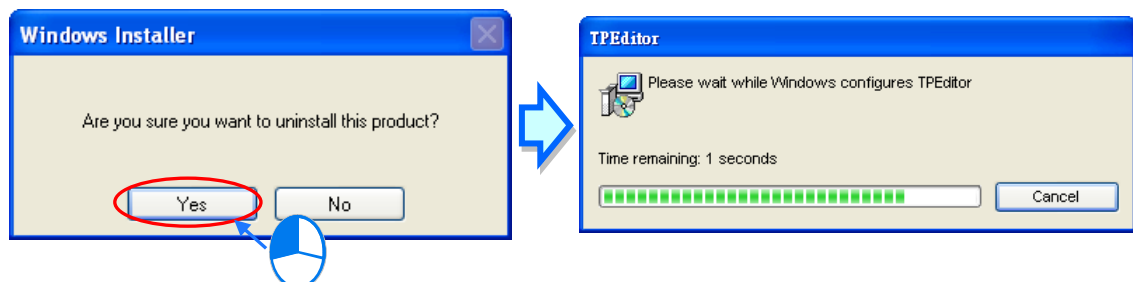


Figure 1-9 Process of uninstalling TPEditor



MEMO

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2.1 Guide to Starting TPEditor and Introduction of the Environment

2.1.1 Starting TPEditor

2

After TPEditor is installed, shortcuts to the program will be created on the desktop and the **Start** menu. Users can click the shortcut on the **Start** menu or double-click the shortcut on the desktop to start TPEditor. Besides, several TPEditor windows are allowed. The users can start TPEditor again in the same way, as shown in Figure 2-1.

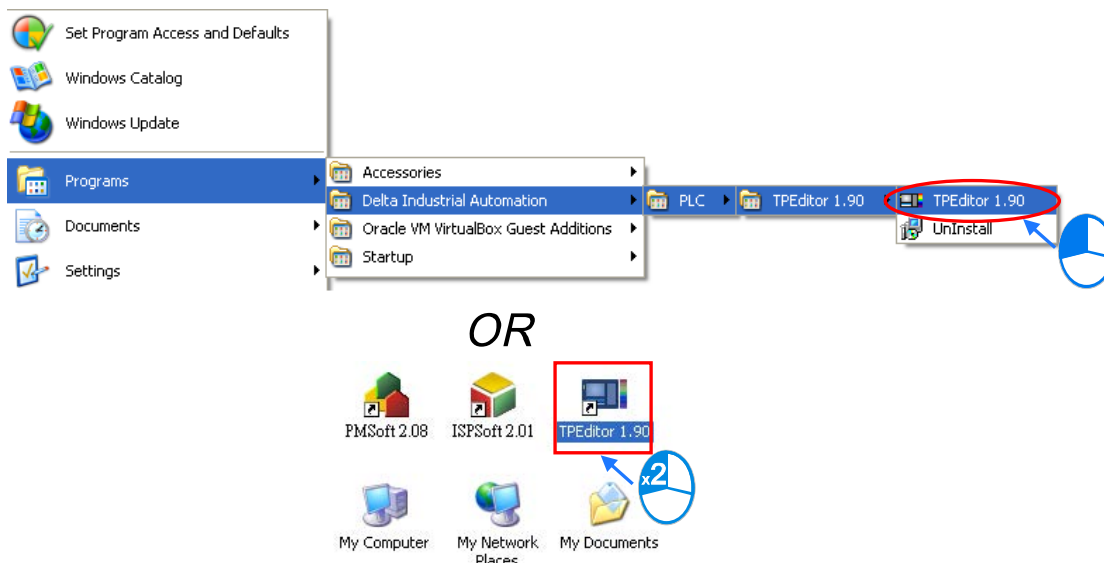


Figure 2-1 Starting TPEditor

After the welcome screen disappears, the **Delta TPEditor** window will appear. There are basic functions available to the users, as shown in Figure 2-2.

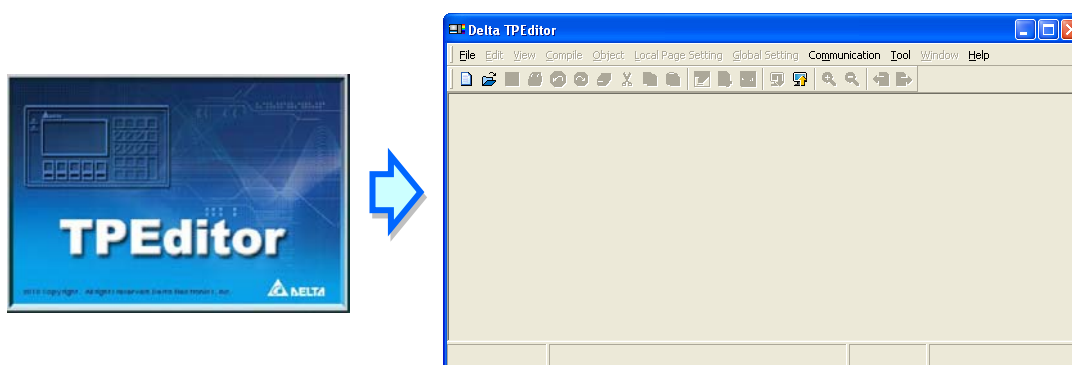


Figure 2-2 Delta TPEditor window

After  on the toolbar is clicked, a new project will be created, as shown in Figure 2-3.

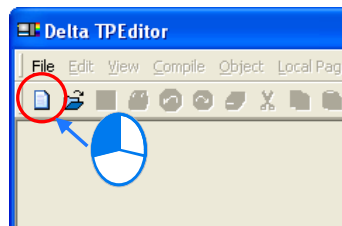


Figure 2-3 Creating a new project

In the **New Project** window, select a device type in the **Set Device Type** drop-down list box, select a model in the **TP Type** drop-down list box, and type a file name in the **File Name** box. After the users click **OK**, a new project will be created, as shown in Figure 2-4.

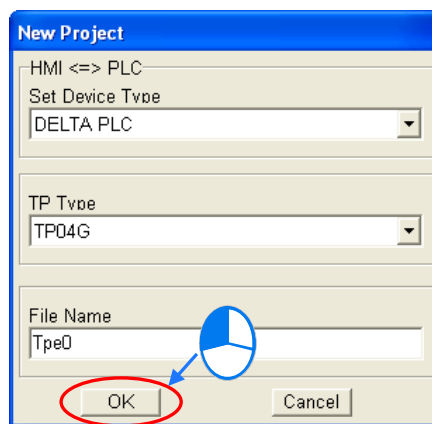


Figure 2-4 Selecting a model

If the new project created is saved, it will be opened next time TPEditor is started.

2.1.2 Screen of TPEditor

After a new project is created, the screen of TPEditor will appear, as shown in Figure 2-5.

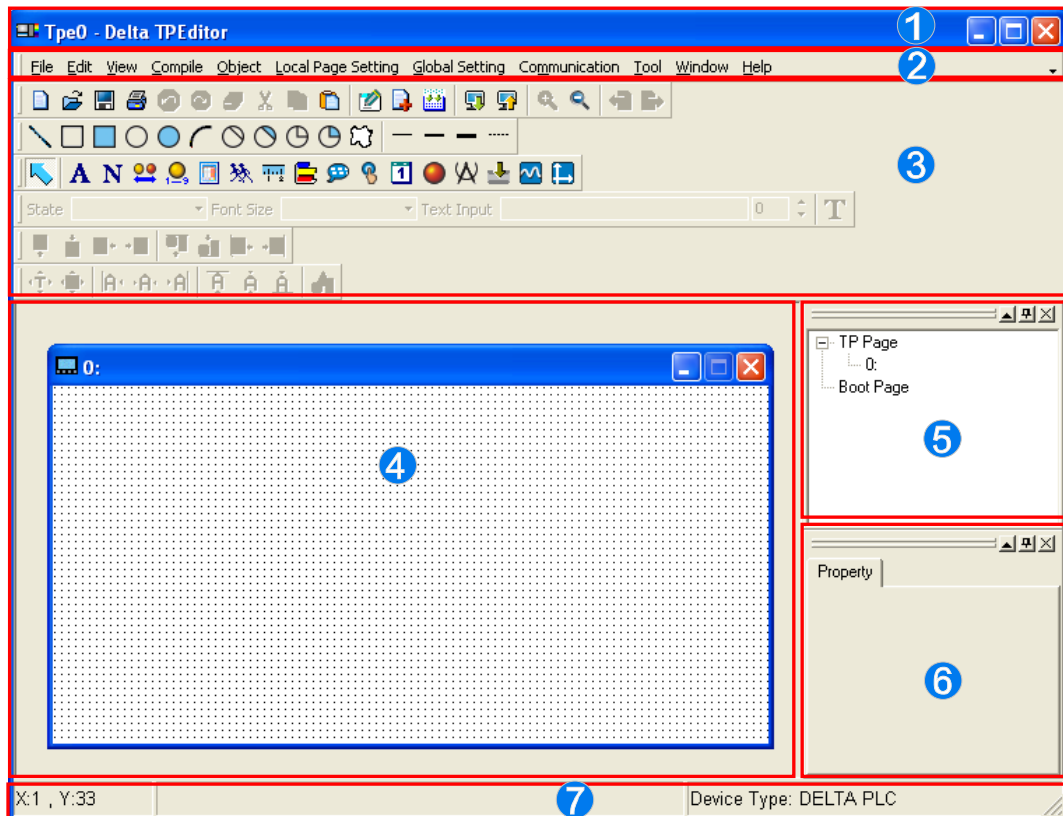


Figure 2-5 Screen

- ❶ Window title: It displays the name given to the file which is edited.
- ❷ Menu bar: There are eleven menus.
- ❸ Toolbar: There are six toolbars.
- ❹ Page editing area: Users can edit a page that a text panel displays in this area.
- ❺ Page management area: The pages which have been created are listed in this area. Users can open any page in this area.
- ❻ Object inspection area: The information about the object which is clicked is displayed in this area.
- ❼ Status bar: The name of the object selected, and the coordinates of the object selected in the page editing area are displayed.

2.1.3 Menu Bar

There are eleven menus in the menu bar, as shown in Figure 2-6. The items on the menus vary with the editing work carried out and the item clicked. The items shown in grayscale can not be clicked. Besides, different models support different items. A brief introduction of the menu bar is presented here, and a more detailed introduction of the menu bar will be presented in the following chapters.

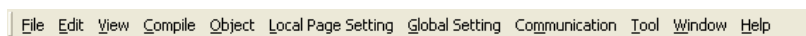


Figure 2-6 Menu bar

- **File:** It is used to access a file, as shown in Figure 2-7. Please refer to section 3.1 for more

information.

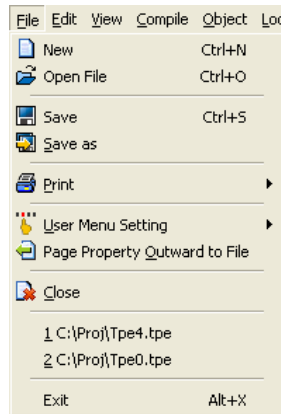


Figure 2-7 Menu bar—File

- **Edit:** It provides the functions needed for editing a project, as shown in Figure 2-8. Please refer to section 3.2 for more information.

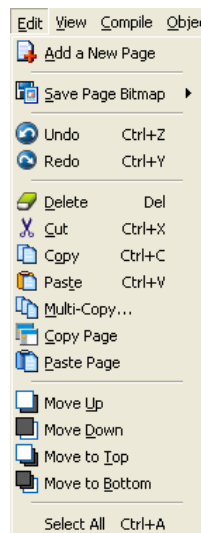


Figure 2-8 Menu bar—Edit

- **View:** It is used to view pages, and set the way in which a work environment is displayed, as shown in Figure 2-9. Please refer to section 3.3 for more information.

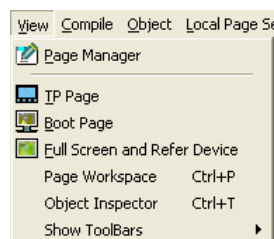


Figure 2-9 Menu bar—View

- **Compile:** It is used to compile the setting on the screen and a text panel, as shown in Figure

2-10. Please refer to section 3.4 for more information.

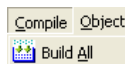


Figure 2-10 Menu bar—Compile

2

- **Object:** It provides the objects which can be used and edited in a text panel, as shown in Figure 2-11. Please refer to chapter 4 for more information.

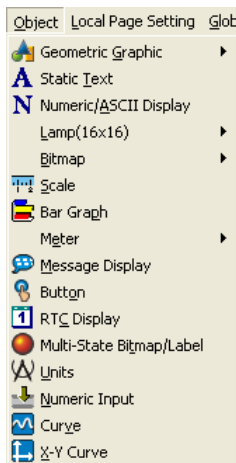


Figure 2-11 Menu bar—Object

- **Local Page Setting:** It provides the functions which can be used to set particular pages in a text panel, as shown in Figure 2-12. Different models support different items. Please refer to section 5.1 for more information.

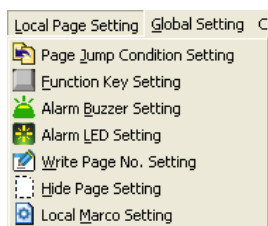
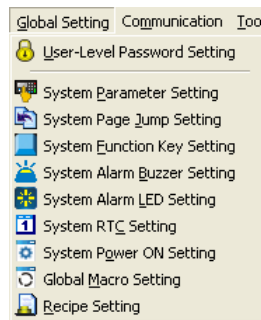


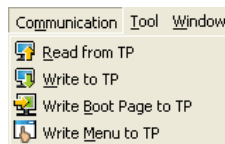
Figure 2-12 Menu bar—Local Page Setting

- **Global Setting:** It provides the functions which can be used to set a text panel as a whole. It is applicable to all the pages in a text panel. However, if the setting of a particular page in a text panel conflicts with the setting of all the pages in the text panel, the setting of the particular page will have priority. Please see Figure 2-13. Different models support different items. Please refer to section 5.2 for more information.

Figure 2-13 Menu bar—**Global Setting**

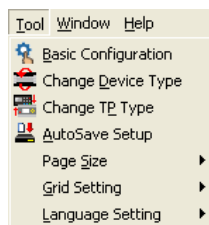
- **Communication:** It provides the functions needed for downloading data from the computer to a text panel and uploading data from a text panel to the computer, as shown in Figure 2-14.

Please refer to section 3.5 for more information.

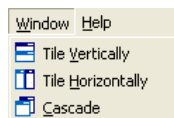
Figure 2-14 Menu bar—**Communication**

- **Tool:** It is used to set the communication between the computer and a text panel, and the environment in TPEditor, as shown in Figure 2-15. Different models support different items.

Please refer to section 3.6 for more information.

Figure 2-15 Menu bar—**Tool**

- **Window:** It is used to arrange the pages which are edited, as shown in 2-16. Please refer to section 3.7 for more information.

Figure 2-16 Menu bar—**Window**

- **Help:** It provides the information about the version of TPEditor, and TPEditor User Manual, as shown in Figure 2-17. Please refer to section 3.8 for more information.

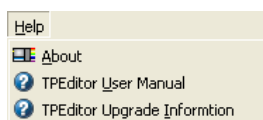


Figure 2-17 Menu bar—Help

2

2.1.4 Toolbars

There are six toolbars. Users can rapidly click buttons on toolbars to carry out editing work. Some common functions that the menu bar has are on toolbars. The buttons which can be clicked vary with the editing work carried out and the item clicked. The buttons shown in grayscale can not be clicked. Please refer to the following chapters for more information about the usage of the buttons on the toolbars.

- **Standard toolbar:** It provides common functions that the menu bar has, as shown in Figure 2-18.



Figure 2-18 Standard toolbar

- **Object toolbar:** It provides the object buttons that the model selected supports, as shown in Figure 2-19.



Figure 2-19 Object toolbar

- **Geometric object toolbar:** It provides buttons used for drawing simple figures. Users can click a geometric figure they need on the toolbar by intuition, as shown in Figure 2-20.

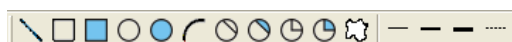


Figure 2-20 Geometric object toolbar

- **Object arrangement toolbar:** It provides the buttons needed for adjusting the positions of objects and arranging objects, as shown in Figure 2-21. Users can move an object or several objects in the page editing area downward/upward/leftward/rightward by means of ///. Besides, the users can align several objects up/down/left/right by means of ///.



Figure 2-21 Object arrangement toolbar

- **Image/Text toolbar:** It provides the buttons needed for adjusting the positions of the text or the images in an object, and selecting an image file, as shown in Figure 2-22. After is clicked, the text in an object can be moved. After is clicked, the images in an object can be moved. After is clicked, an image file which has been saved can be opened. Users can horizontally align the text or the images in an object left by means of , horizontally center the text or the






images in an object by means of , horizontally align the text or the images in an object right by means of , vertically align the text or the images in an object up by means of , vertically center the text or the images in an object by means of , and vertically align the text or the images in an object down by means of .



Figure 2-22 Image/Text toolbar

- **Fast toolbar:** It provides the functions needed for changing the state of an object, typing text, and setting a font, as shown in Figure 2-23.

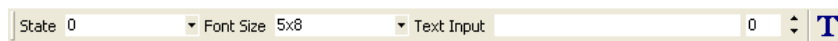


Figure 2-23 Fast toolbar

2.1.5 Page Editing Area

The page editing area is an area for designing or editing a page. It is the area which is displayed on the screen of a text panel. After users click **Button** on the **Object** menu, or click **Button** on the object toolbar, they can click where they want to begin the selection of an area in the page editing area, hold down the left mouse button, and drag the cross over the area that they want to select, as shown in Figure 2-24. A button will be inserted into the area selected after the users release the left mouse button.

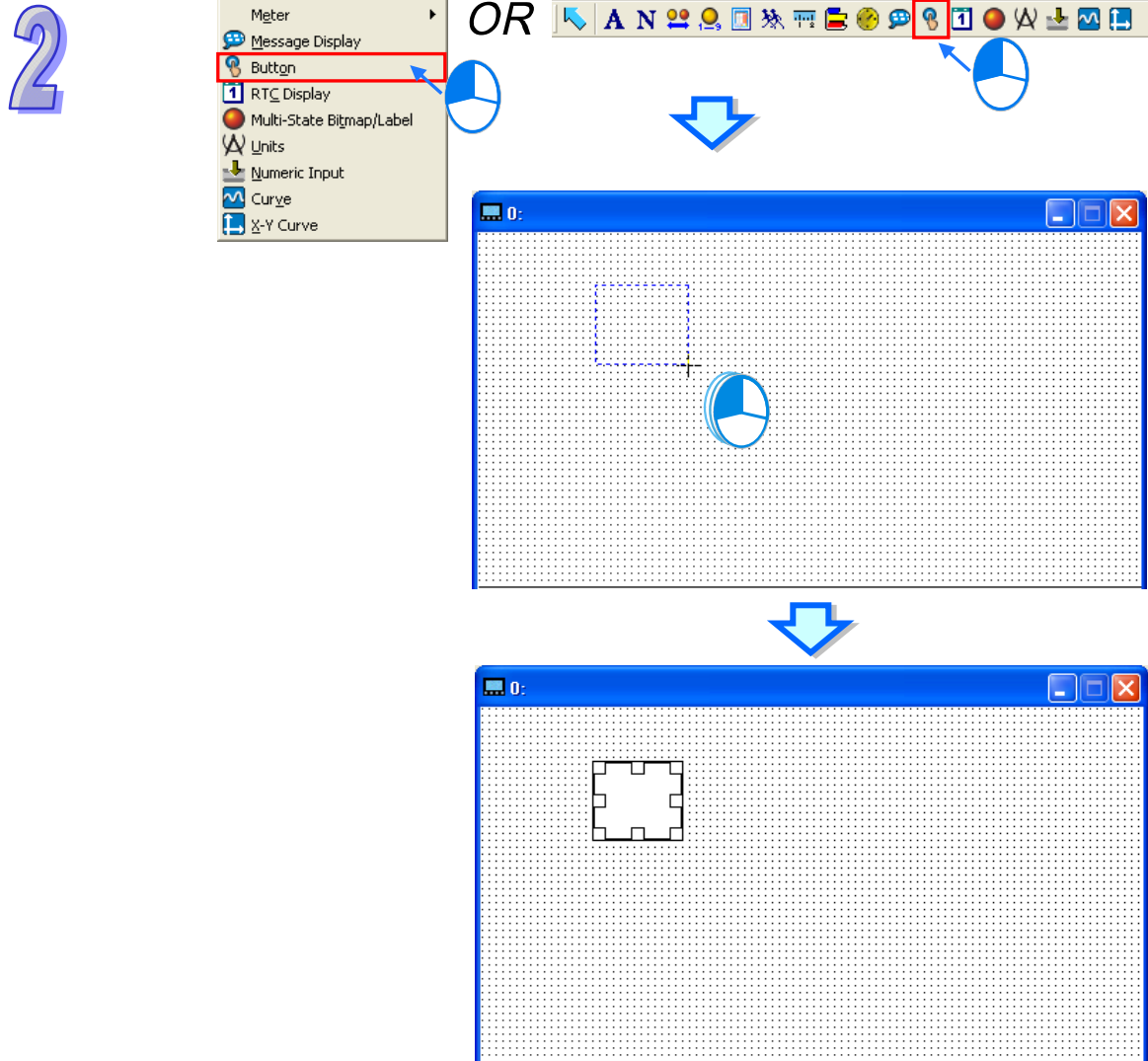


Figure 2-24 Page editing area

After the users click the button in the page editing area, the button will be selected, as shown in Figure 2-25.

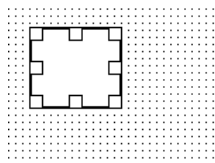


Figure 2-25 Object which is selected

If users want to change the size of the button selected, they can click the frame of the button

selected, hold down the left mouse button, and drag ← or ↑, as shown in Figure 2-26.

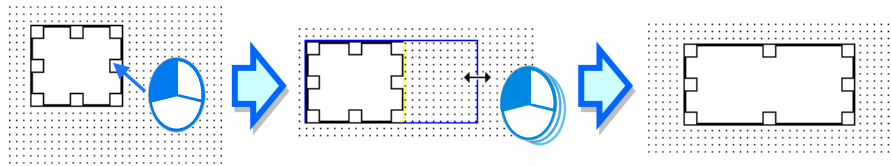





Figure 2-26 Changing the size of an object

After the users click  on the object toolbar, the mouse's motion will translate into the motion of  in the page editing area. The users can select a single object, or drag  over the objects that they want to select. Besides, they can cut/copy/paste the objects in the page editing area by means of the menu bar, the standard toolbar, a context menu, or a keyboard shortcut.

After the users double-click an item in the page editing area, the window used for setting the object will be opened, as shown in Figure 2-27.

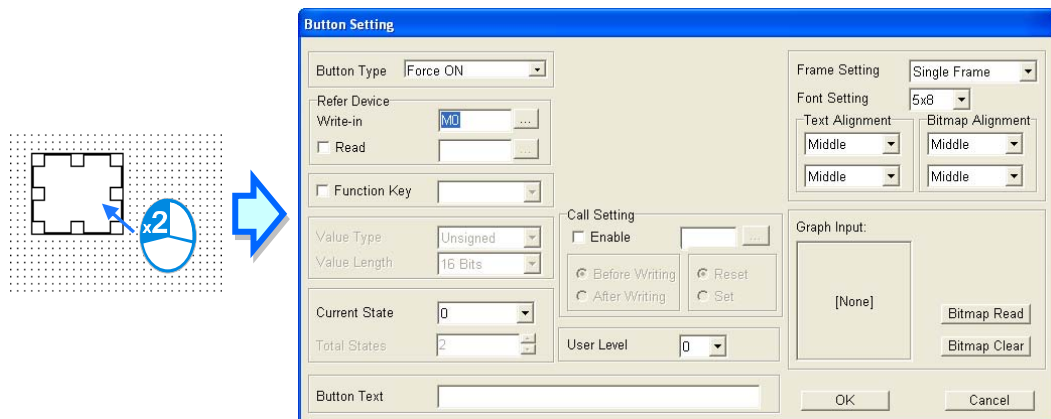


Figure 2-27 Window used for setting an object

After the users click the page editing area, a context menu will appear, as shown in Figure 2-28. Common functions that the menu bar and the standard toolbar have are on the context menu.

Undo	Ctrl+Z
Redo	Ctrl+Alt+Z
Select All	
Copy Page	
Paste Page	
Delete	Del
Cut	Ctrl+X
Copy	Ctrl+C
Paste	Ctrl+V
Multi-Copy...	
Move Up	
Move Down	
Move to Top	
Move to Bottom	
Page Jump Condition Setting	
Function Key Setting	
Alarm Buzzer Setting	
Alarm LED Setting	
Hide Page Setting	
Write Page No. Setting	

Figure 2-28 Context menu

2.1.6 Page Management Area

The pages which have been created are listed in the page management area, as shown in Figure 2-29. The pages which have been created are listed under **TP Page**. At least one page whose number is 0 exists. **Boot Page** is the welcome page displayed on the screen of a text panel. It can not be added or deleted. After users click a page in the page management area, the page will be displayed in the page editing area.

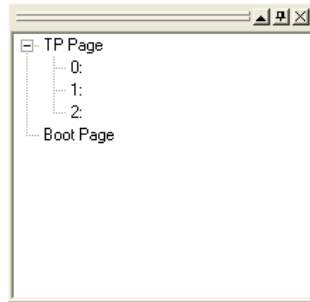


Figure 2-29 Page management area

After the users click the page management area, a context menu will appear, as shown in Figure 2-30.

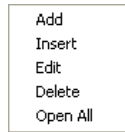



Figure 2-30 Context menu

The three buttons  are in the upper right corner of the page management area. They can be used to enlarge, hide, and close the page management area.

2.1.7 Object Inspection Area

After users select an object in the page editing area, the property of the object will be displayed in the object inspection area. The users can directly change the properties of the object, as shown in Figure 2-31.

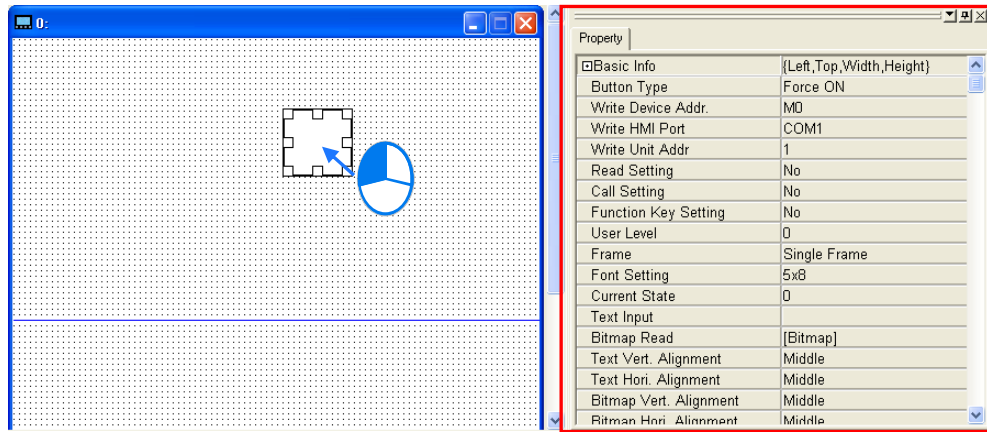



Figure 2-31 Object inspection area

If a geometric object is selected, several objects are selected, or no object is selected, the object inspection area will be a blank area.

The three buttons  are in the upper right corner of the page inspection area. They can be used to enlarge, hide, and close the page inspection area.

2.1.8 Status Bar

The status bar displays information about the current state of the software, as shown in Figure 2-32.

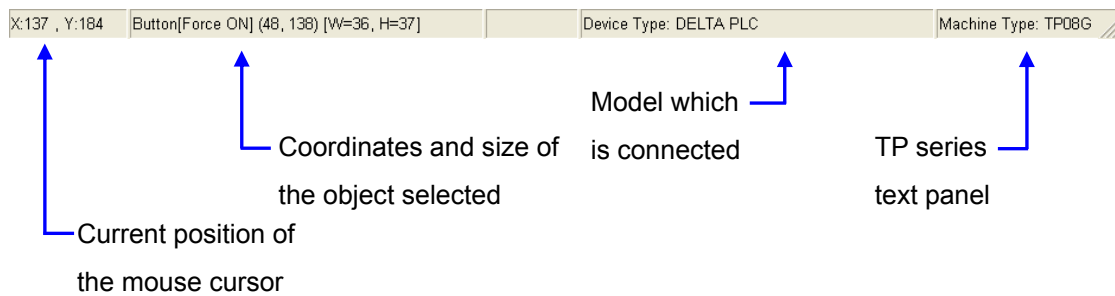


Figure 2-32 Status bar

MEMO

2


Chapter 3 Basic Editing Functions


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3.1 Menu Bar—File

3.1.1 New and Open File

If users want to create a new project, they have to click **New** on the File menu, or  on the standard toolbar. Please refer to section 2.1.1 for more information.

If the users want to open a document which has existed in a hard disk drive, they have to click **Open File** on the **File** menu, or  on the standard toolbar, as shown in Figure 3-1. In the **Open** window, the users have to select a path and a file. The file which can be selected is a .tpe file. After the users click **Open**, the file selected will be opened.

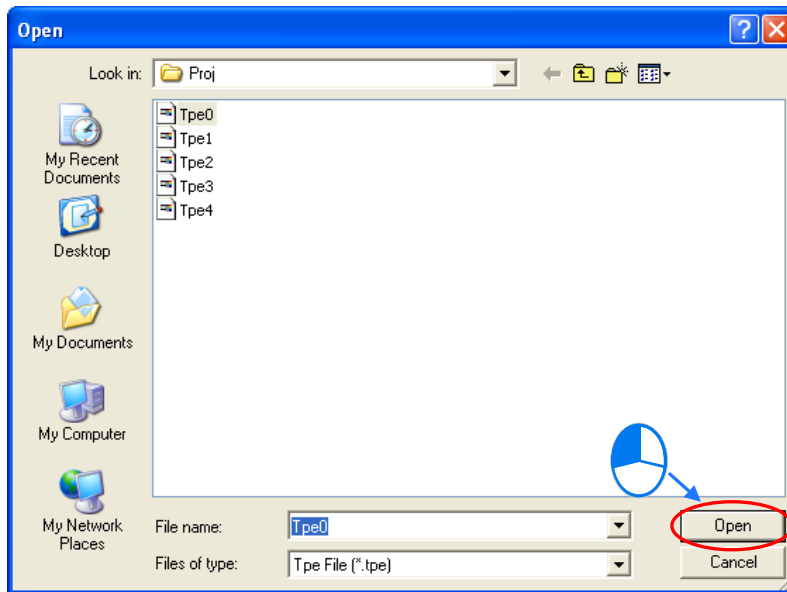




Figure 3-1 Opening an old file

3.1.2 Save and Save as

When users edit a file, they can click **Save** on the **File** menu, or  on the standard toolbar. If a file is saved for the first time, the **Save As** window will appear, as shown in Figure 3-2. In the **Save As** window, the users have to specify a path, type a filename, and click **Save**. If the users click **Save** on the **File** menu, or  on the standard toolbar again, the file will be overwritten.

If the users click **Save as** on the **File** menu, the **Save As** window will appear. The users can save the file edited in another path, or with another filename.

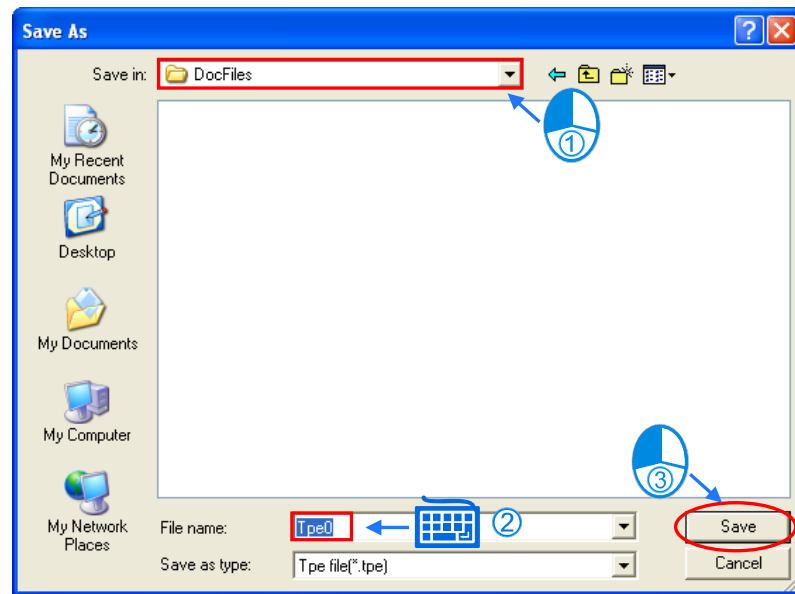



Figure 3-2 Save As window

3.1.3 Print

After users finish designing pages, they can print pages. If the users want to print the general pages they design, they have to point to **Print** on the **File** menu, and then click **Print TP Page** on the menu which appears, or alternatively click  on the standard toolbar. The **Print TP Page** window which appears is as shown in Figure 3-3. If the users want to print the boot page they design, they have to point to **Print** on the **File** menu, and then click **Print Boot Page** on the menu which appears. After the users select checkboxes and set a printer in the **Print TP Page** window/**Print Boot Page** window, they can click **Preview** to preview the pages/boot page which will be printed. After the users click **Print**, pages/a boot page and data will be printed.

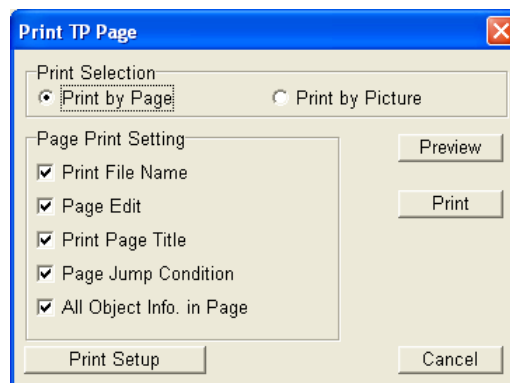


Figure 3-3 Printing general pages

3.1.4 User Menu Setting

TPEditor allows users to design the menus and the messages which are needed in the language they want to use. In addition to the built-in languages in TPEditor, the users can use other languages. Take a TP04G series text panel for instance. The usage of **User Menu Setting** on the

File menu is described below.

- (1) After users point to **User Menu Setting** on the **File** menu, they can click **TP-02**, **TP-04**, **TP-05**, or **TP-08** on the menu which appears. If the users click **TP-04**, 21 user menus will appear, as shown in Figure 3-4.

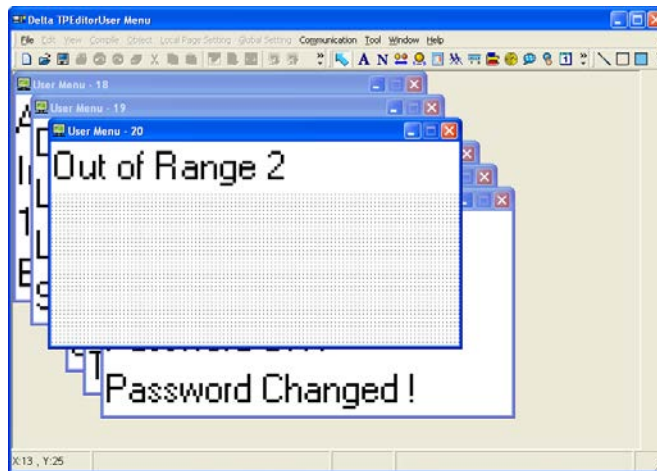


Figure 3-4 **User Menu Setting**

- (2) The users can edit the menus in the language they want to use. Owing to the fact that the functions and the sizes of the menus have been defined, the users can not change the functions and the sizes of the menus. They can only change the languages which are used.
- (3) The users can select a page they want to modify, and then move the pointer to the item which they want to modify. After the users double-click the item, the **Static Text Setting** window will appear. The user can edit the item in the language they want to use in the window, as shown in Figure 3-5.

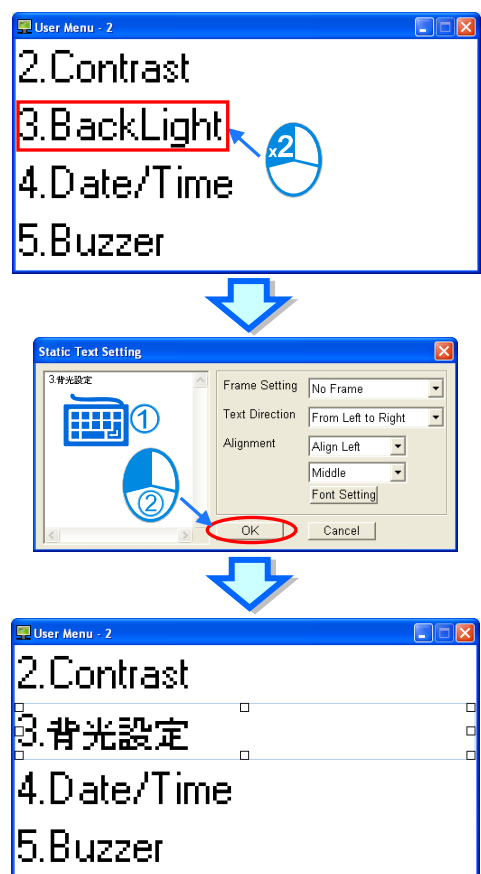


Figure 3-5 Modifying a user menu

- (4) After the users edit the menu they want to modify, they have to touch **1. D/L AP TP04G** ← PC on the screen of the TP04G series text panel used. “WAIT COMM...” will be displayed on the screen of the TP04G series text panel used after **1. D/L AP TP04G** ← PC is touched.
- (5) The users have to click **Write Menu to TP** on the **Communication** menu. **Write Menu to TP** is usually shown in grayscale. Only when the **User Menu Setting** mode is used can **Write Menu to TP** be clicked. After the users click **Write Menu to TP**, the 21 user menus will be downloaded to the TP04G series text panel used.
- (6) The users have to touch **TP04G SETUP** on the main menu displayed on the screen of the TP04G series text panel used. They have to touch Language, press Enter on the panel, and select **USER DEFINE**. After **USER DEFINE** is selected, the user-defined language can be used, as shown in Figure 3-6.

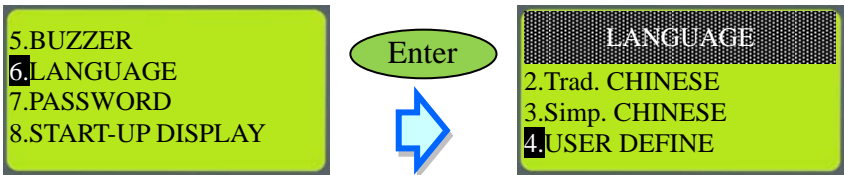


Figure 3-6 Menus displayed on the screen of a TP series text panel

3.1.5 Page Property Outward to File

Users can export the property of a page as a .txt file or a .xls file. After the users click **Page Property Outward to File** on the **File** menu, the **Page Property Display** window will appear, as shown in Figure 3-7.

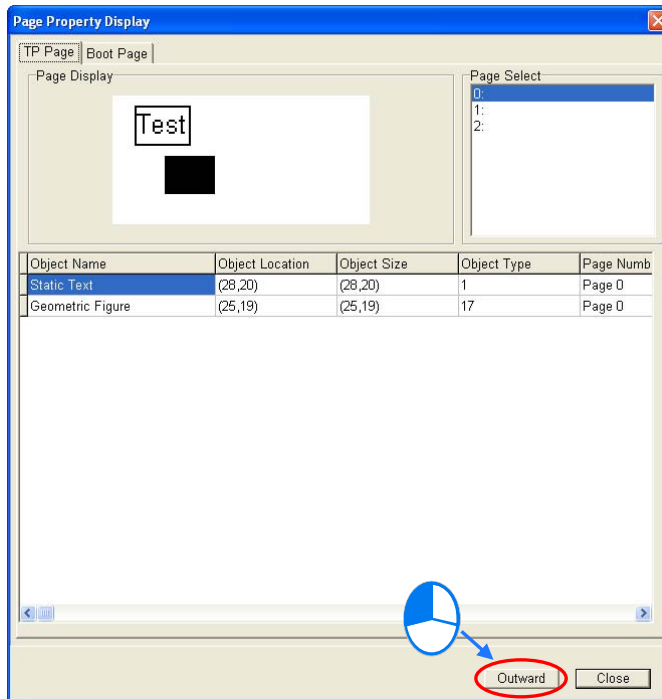


Figure 3-7 Exporting the property of a page

The users can select a page in the **Page Property Display** window. After the users click **Outward**, the **Outward to...** window will appear, as shown in Figure 3-8. The users have to select a file format (.txt or .xls) in the **Outward to...** window. After the users click **OK**, the property of a page will be exported.

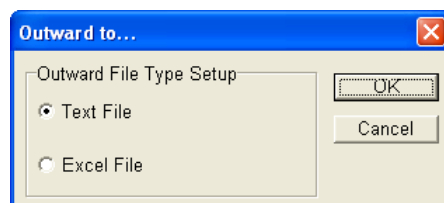


Figure 3-8 Selecting a file format

3.1.6 Other Functions


The remaining items on the **File** menu are described below.

- **Close**: After users click **Close** on the **File** menu, the current project will be closed, and the initial screen will appear.
- **File list**: The files which have been saved are listed on the **File** menu. Users can click a file which they want to open.

- **Exit:** After users click **Exit** on the **File** menu, TPEditor will be closed.

3.2 Menu Bar—Edit

The items on the **Edit** menu are described below.

- **Add a New Page:** After users click **Add a New Page** on the **File** menu, or  on the standard toolbar, a new page will be added to the page editing area,
- **Save Page Bitmap:** User can save the current page in a clipboard or a file. If **Save to Clipboard** is clicked, the current page can be pasted into another editor. If **Save to File** is clicked, the **Save As** window will appear, as shown in Figure 3-9. The users have to set a path, and type a filename in the **Save As** window. Besides, the current page is saved as a .bmp file.

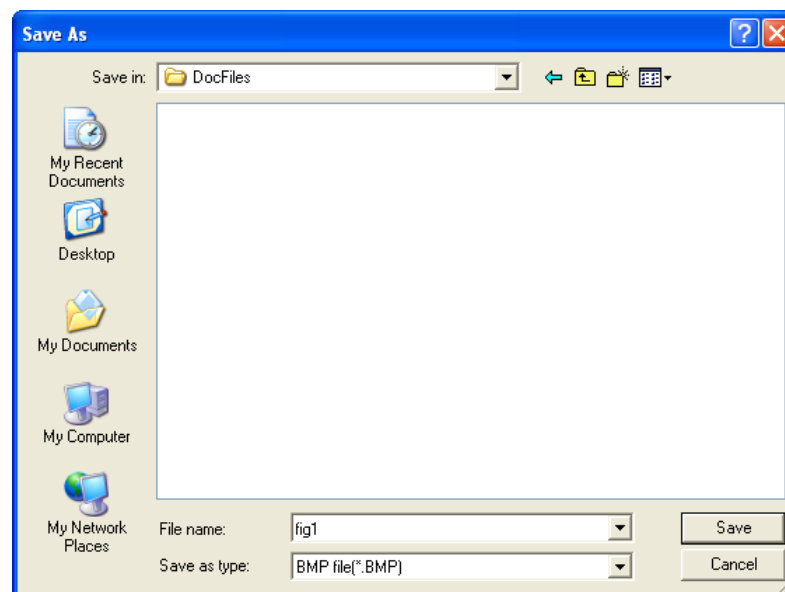



Figure 3-9 Saving a page in a file

- **Undo:** Undoing the last action
- **Redo:** Redoing an action which has been undone
- **Delete:** Deleting the object selected on a page
- **Cut:** Cutting the object selected on a page
- **Copy:** Copying the object selected on a page
- **Paste:** Pasting the object copied or cut into a page.
- **Multi-Copy...:** Creating several copies of an object at a time, and arranging them
- **Copy Page:** Copying all the objects on the current page
- **Paste Page:** Pasting all the objects copied on a page into the current page
- **Move Up:** When objects stack in individual layers, users can move the object selected up within the stack one layer at a time.
- **Move Down:** When objects stack in individual layers, users can move the object selected down within the stack one layer at a time.

- **Move to Top:** When objects stack in individual layers, users can move the object selected to the top of the stack in one move.
- **Move to Bottom:** When objects stack in individual layers, users can move the object selected to the bottom of the stack in one move.
- **Select All:** Selecting all the objects on the current page.

3.3 Menu Bar—View

The items on the **View** menu are described below.

- **Page Manager:** Users can preview and manage the pages which are created. After the users click **Page Manager** on the **View** menu, or  on the standard toolbar, the **Page Manager** window will appear, as shown in Figure 3-10. The users can type a title in the **Page Title** box, add pages, delete pages, and open all the pages which are created.

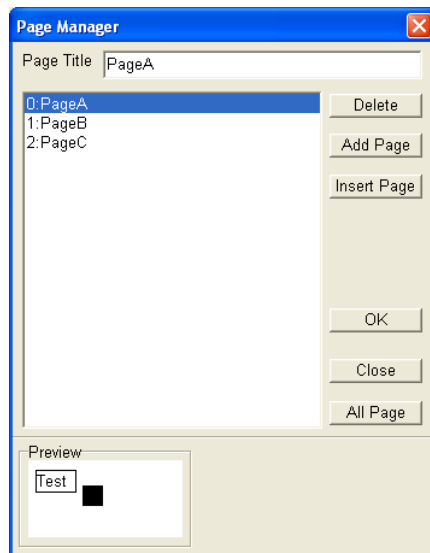



Figure 3-10 **Page Manager** window

- **TP Page:** Users can switch between the boot page created and a TP page created. After **TP Page** is clicked, a TP page will be displayed.
- **Boot Page:** Users can switch between the boot page created and a TP page created. After **Boot Page** is clicked, the boot page created will be displayed.
- **Page Workspace:** The page management area can be displayed or hidden. Users can manage the general pages and the boot page created.
- **Object Inspector:** The object inspection area can be displayed or hidden. Users can edit the property displayed in the object inspection area.
- **Show Toolbars:** The standard toolbar, the object toolbar, the geometric object toolbar, the object arrangement toolbar, the image/text toolbar, and the fast toolbar can be displayed or hidden.

3.4 Menu Bar—Compile

After users finish designing pages and setting functions, they can click **Build All** on the **Compile** menu, or  on the standard toolbar. After a project is compiled, it can be downloaded to a TP series text panel, and the window showing that the compiling of the project is successful will appear, as shown in Figure 3-11.

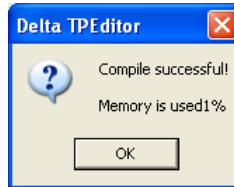




Figure 3-11 Window showing that the compiling of a project is successful

3.5 Menu Bar—Communication

3.5.1 Read from TP




If users want to read the data in a TP series text panel to TPEditor, they have to click **Read from TP** on the **Communication** menu, or  on the standard toolbar. The users may need to press keys on the TP series text panel used. Please refer to section 6.1 for more information.

3.5.2 Write to TP

If users want to write the data in TPEditor to a TP series text panel, they have to click **Write to TP** on the **Communication** menu, or  on the standard toolbar. The users may need to press keys on the TP series text panel used. Please refer to section 6.1 for more information.

3.5.3 Write Boot Page to TP

If users want to write the boot page in TPEditor to a TP series text panel, they have to open the boot page, and click **Write Boot Page to TP** on the **Communication** menu. If another page is opened, **Write Boot Page** can not be clicked.

If the model used is a TP02G series text panel, a TP04G series text panel, TP04G-AL-C series text panel, a TP04G-AL2 series text panel, a TP05G series text panel, a TP08G series text panel, or a VFD-C series keypad, the users have to touch **1. D/L AP TP model type**  PC on the screen of the text panel used. After **1. D/L AP TP model type**  PC is touched, "WAIT COMM..." will be displayed on the screen of the text panel used, and the window showing the percentage of progress in downloading the boot page will appear in TPEditor. Please refer to section 6.1 for more information. If the model used is not a TP02G series text panel, a TP04G series text panel, TP04G-AL-C series text panel, a TP04G-AL2 series text panel, a TP05G series text panel, a TP08G series text panel, or a VFD-C series keypad, the users do not need to touch **1. D/L AP TP model type**  PC.

3.5.4 Write Menu to TP

If users want write the user menus in TPEditor to a TP series text panel, they have to execute the function of **User Menu Setting** on the **File** menu, and click **Write Menu to TP** on the **Communication** menu. If another page is opened, **Write Menu to TP** can not be clicked.

After the users touch **1. D/L AP TP model type** ← PC on the screen of the text panel used, "WAIT COMM..." will be displayed on the screen of the text panel used, and the window showing the percentage of progress in downloading the boot page will appear in TPEditor. Please refer to section 6.1 for more information.

3.6 Menu Bar—Tool

3.6.1 Basic Configuration

Basic Configuration on the **Tool** menu is used to set the text panel used. Users can set **PC<=>TP Communication Setting**, **TP<=>PLC Protocol**, and **TP Other Setting**. The items which can be set vary with the model used. After the users click **Basic Configuration** on the **Tool** menu, the **Basic Configuration** window will appear, as shown in Figure 3-12.

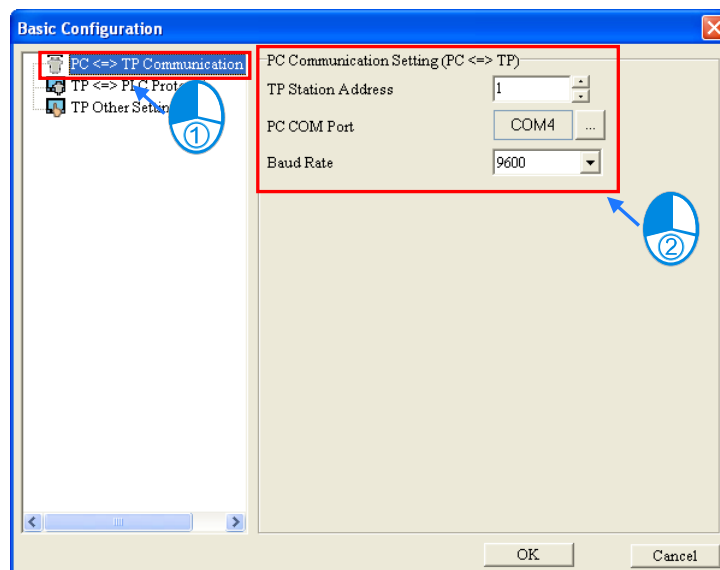


Figure 3-12 Basic Configuration window

- **PC<=>TP Communication Setting:** Users can set the communication between a TP series text panel and the computer. The value in the **TP Station Address** box is in the range of 0 to 255, and must be the same as the station address of the TP series text panel used. The communication port in the **PC COM Port** box is the communication port connected to the computer. The value in the **Baud Rate** drop-down list box is in the range of 9600 to 115200. Please see Figure 3-12.
- **TP<=>PLC Protocol:** Users can set the communication between a TP series text panel and the equipment connected to the TP series text panel, as shown in Figure 3-13.

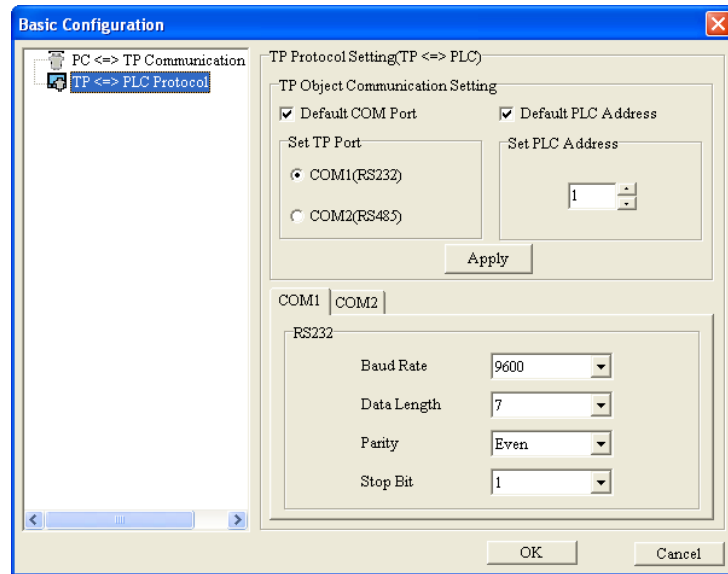


Figure 3-13 TP<=>PLC Protocol

In the **TP Object Communication Setting** section, users can set a default communication port and a default station address. After a default communication port and a default station address are set, the communication address and the station address in the **Refer Device** window will be the default communication port and the default station address. Please refer to section 4.1.1 for more information. The communication parameters of the TP series text panel used must be the same as the communication parameters of the equipment connected to the TP series text panel used.

- TP Other Setting:** Users can set the hardware of the TP series text panel used, such as the station address of the TP series text panel used, and the brightness of the backlight that illuminates the screen of the TP series text panel used. The functions supported vary with the model used. If the users select a value in the **Backlight Setting** box, the backlight that illuminates the screen of the TP series text panel used will last for the time set. If the value selected in the **Backlight Setting** box is 0, a backlight will always illuminate the screen of the TP series text panel used. If the **Download PC Time** checkbox is selected, the time of the clock in the computer will be downloaded to the real-time clock in the TP series text panel used. If the users select the **Enable** checkbox in the **Upload/Download Protect Password Setting** section, and type a password, they are asked to type the password when they upload/download the project created. In the **Start-Up Menu Display** section, the users can select the **TP Default** checkbox, or the **User Define** checkbox. The users can set the time for which the boot screen selected lasts. Please see Figure 3-14.

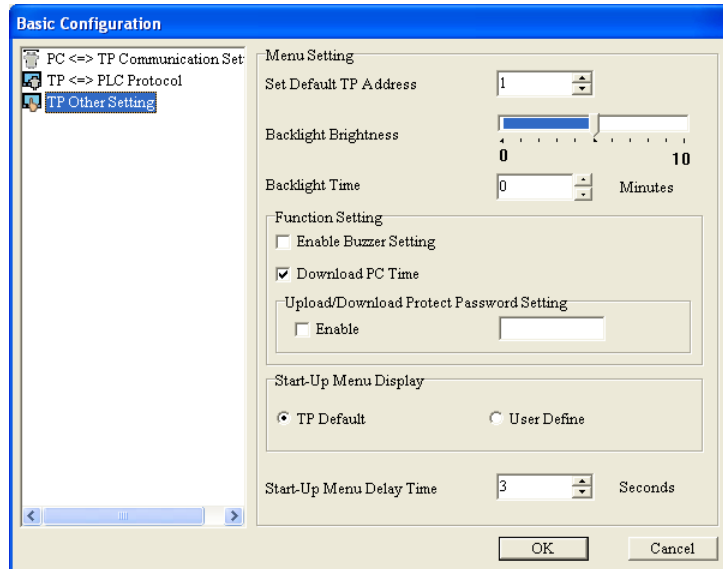


Figure 3-14 TP Other Setting

3.6.2 Change TP Type

Users can change the TP series text panel selected from a TP series text panel whose screen is smaller to a TP series text panel whose screen is bigger, and set the keys corresponding to function keys. Note: The users can not change the TP series text panel selected from a TP series text panel whose screen is bigger to a TP series text panel whose screen is smaller. After the users click **Change TP Type** on the **Tool** menu, the **TP Type Map Table** window will appear, as shown in Figure 3-15.

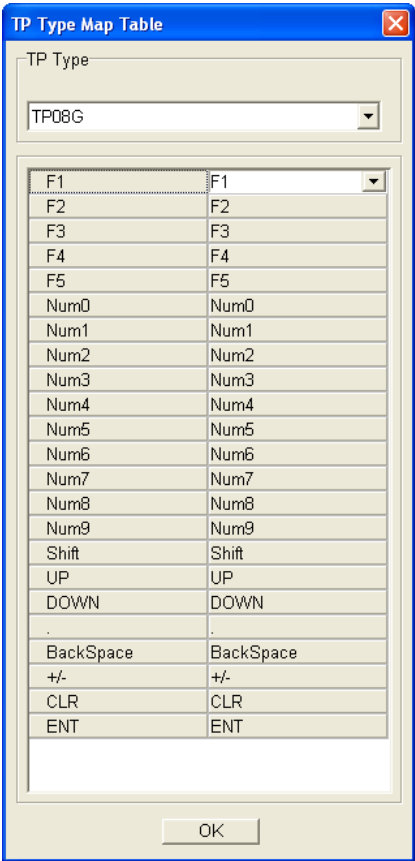



Figure 3-15 Change TP Type

3.6.3 AutoSave Setup

Users can set the time when a file is saved. If the users select the **Enable** checkbox and the **Saving at begging to compile** option button in the **AutoSave Setup** window, the project created is saved before it is compiled whenever **Build All** on the **Compile** menu, or  on the standard toolbar is clicked. If the users select the **Enable** checkbox, and set an interval in the **AutoSave Setup** window, the project created will be automatically saved after the period of time set passes. After **AutoSave Setup** on the **Tool** menu is clicked, the **AutoSave Setup** window will appear, as shown in Figure 3-16.

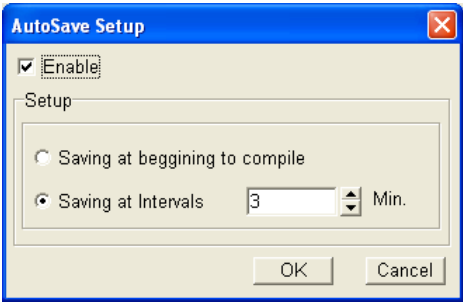


Figure 3-16 AutoSave Setup window

3.6.4 Other Functions

- **Page Size:** Users can set the sizes of the pages created. They can set the sizes of the pages created individually, or set the sizes of all the pages created at a time. The three sizes which can be selected are 100%, 200%, and 400%. The sizes supported vary with the model used.
- **Grid Setting:** If users select **Grid On**, there will be dots used as reference dots for locating coordinates on the pages created. If **Grid Off** is selected, there will be no dots on the pages created.
- **Language Setting:** Users can set an interface language. They can select traditional Chinese, simplified Chinese, English, or Russian.

3

3.7 Menu Bar—Window

The items on the **Window** menu are described below.

- **Tile Vertically:** Tiling the pages created vertically
- **Tile Horizontally:** Tiling the pages created horizontally
- **Cascade:** Putting the pages created in a single stack

3.8 Menu Bar—Help

The items on the **Help** menu are described below.

- **About:** The information about TPEditor is displayed, as shown in Figure 3-17.

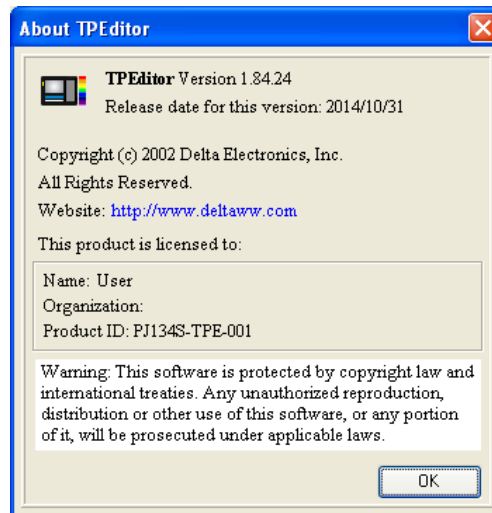


Figure 3-17 About

- **TPEditor User Manual:** An electronic version of TPEditor User Manual is provided.
- **TPEditor Upgrade Information:** The differences among versions of TPEditor are described.

Chapter 4 Setting Objects

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4.1 Basic Setting Items

The basic setting items which usually appear in an object setting window, a page setting window, or a system setting window are described in this chapter. Users use TPEditor to set the multiple functions of a text panel so that the pages that the users design and audio/video interaction can be displayed.

4.1.1 Setting Related Devices

Related devices correspond to certain objects, pages, or functions of a system. If the value in a related device is changed, the function to which the related device corresponds will be changed. For example, the function of a lamp or the function of a buzzer will be changed if the value in the related device corresponding to the function is changed. The values or states written into related devices can be used as the input of operations in a program.



In object setting windows, page setting windows, and system setting windows, there are buttons used to open the **Refer Device** window. Users can set a related device in the **Refer Device** window. If the **PLC** option button is selected, the users can select a device name such as **T**, **C**, or **M** in the **Device Name** drop-down list box. If the **TP** option button is selected, the users can select a device name such as **@V** in the **Device Name** drop-down list box. The value in the **Device Number** box is a decimal value. The users can select the device number they need by clicking numeric buttons. If a related device is in an inverter, the **Device Name** checkbox must not be selected. If the **Device Name** checkbox is not selected, **\$** will appear in the **Device Name** drop-down list box. **\$** represents the absolute address of a parameter in an inverter. The users have to type an absolute address in the **Device Number** box if the **Device Name** checkbox is not selected. For example, a related device can be D10 or T1 in a PLC, or \$2003 in an inverter.

The users can select the communication port connected to the equipment that the TP series text panel used monitors in the **Connect Com** drop-down list box. For example, the users can select COM1 (RS-232 port) or COM2 (RS-485/RS-422 port). After the users set a related device in the **Refer Device** window, they have to click **OK**.

The **Refer Device** window for TP02G series text panels, TP04G series text panels, TP04G-AL-C series text panels, TP04G-AL2 series text panels, TP04G-BL-C series text panels, TP04G-BL-CU series text panels, TP05G series text panels, and TP08G series text panels is as shown in Figure 4-1.

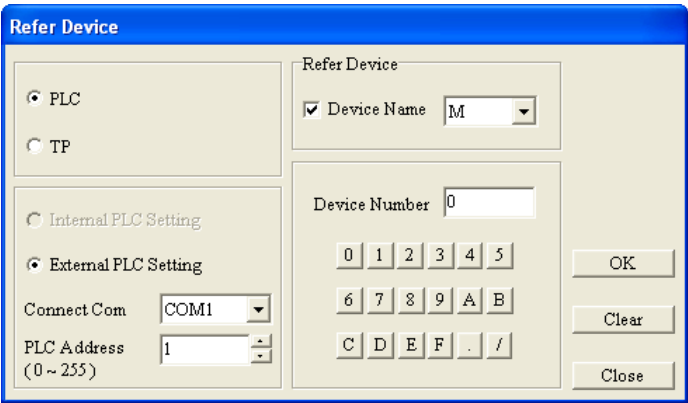


Figure 4-1 Refer Device window

The **Refer Device** window for TP04P series text panels and TP70 series text panels is as shown in Figure 4-2. In addition to the functions mentioned above, the users can select the **External PLC Setting** option button if the related device they set is a register in a PLC, or select the **Internal PLC Setting** option button if the related device they set is a register in a TP series text panel.

4

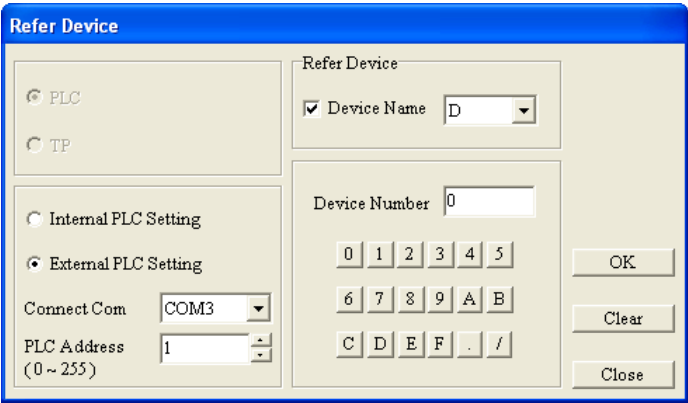


Figure 4-2 Refer Device window

4.1.2 Setting Fonts

Users need to set fonts in some object setting windows. If **Font** in an object setting window is clicked, the **Font** window/**Font Setting** window will appear, as shown in Figure 4-3. In the **Font** window, the users can select the font, the font style, the size, and the script that they want to use.

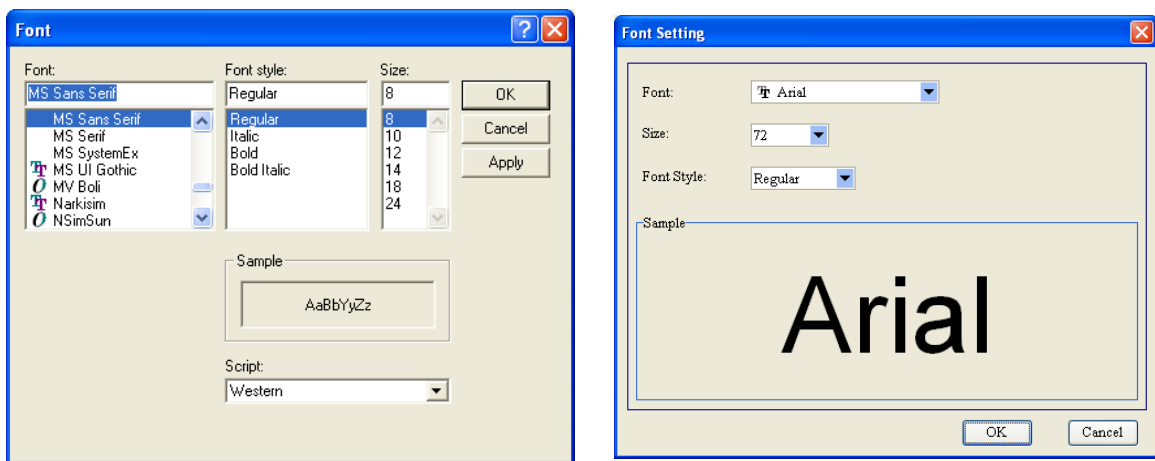


Figure 4-3 **Font** window/**Font Setting** window

4

The **Text Direction** drop-down list box in an object setting window is used to set the direction of text displayed on the screen of a TP series text panel. The users can select **From Bottom to Top**, **From Top to Bottom**, **From Right to Left**, or **From Left to Right** in the **Text Direction** drop-down list box. The **Alignment** drop-down list boxes in an object setting window are used to set the position of text. The users can select **Align Left**, **Align Right**, or **Middle** in the upper **Alignment** drop-down list box, and select **Align Top**, **Align Bottom**, or **Middle** in the lower **Alignment** drop-down list box. Please see Figure 4-4.

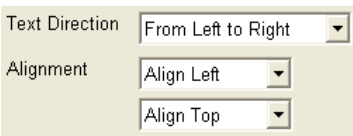


Figure 4-4 **Text Direction** and **Alignment**

4.1.3 Setting the Appearances of Objects

Users can set frames and images in some object setting windows. The **Frame Setting** drop-down list box in an object setting window is used to set the way in which an object frame is displayed. The users can select **No Frame**, **Single Frame**, **Double Frame**, **Thick Frame**, **Dot Frame**, or **Dotted Line Frame** in the **Frame Setting** drop-down list box, as shown in Figure 4-5.



Figure 4-5 **Frame Setting**

If an object in which an image can be inserted is used, the users can click **Bitmap Read** in the object setting window for the object. After the users select an image file in the **Open** window, and click **Open**, an image will be displayed on the object used, as shown in Figure 4-6.

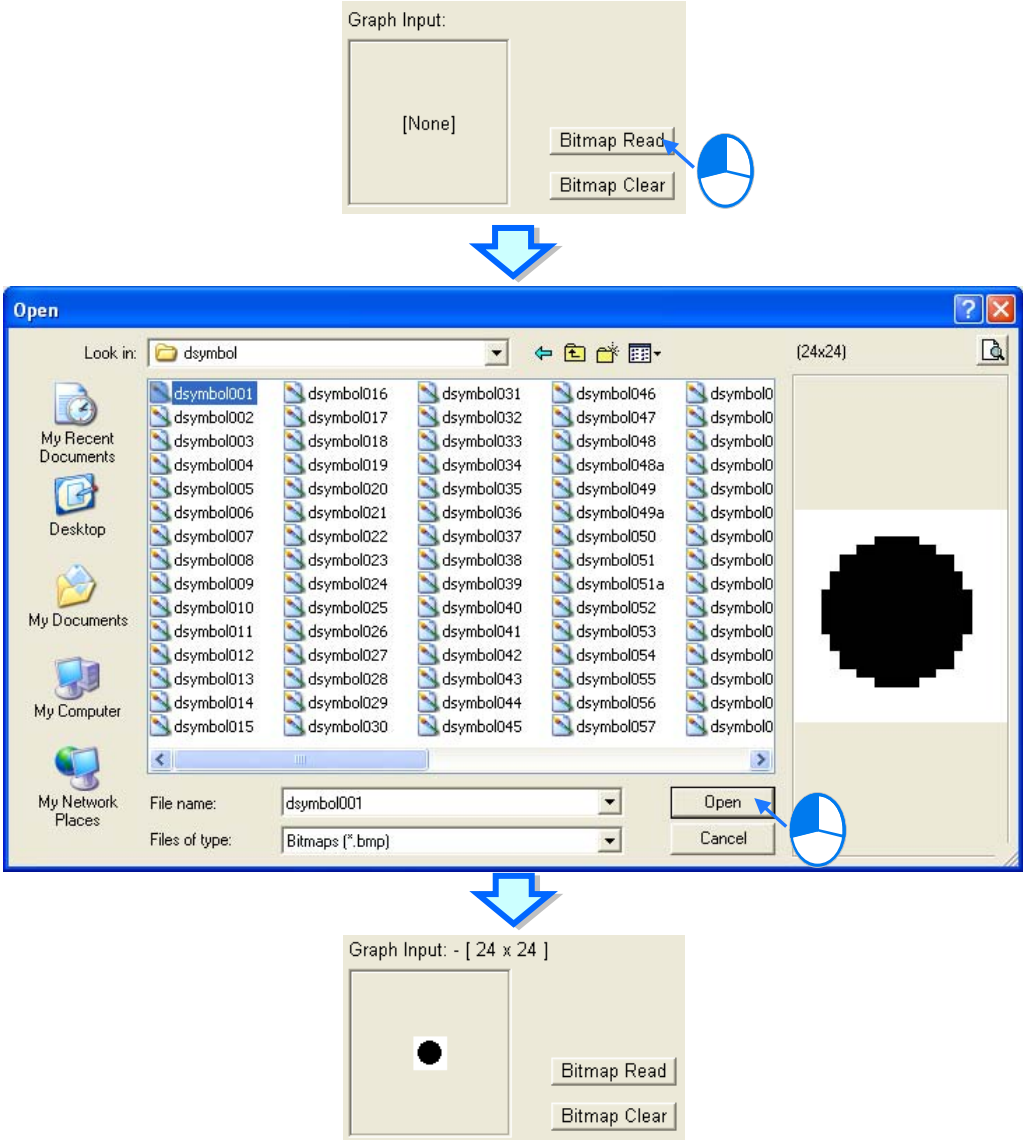


Figure 4-6 Graph Input

The drop-down list boxes in the **Bitmap Alignment** section are used to set the position of the image inserted in the object. The users can select **Align Top**, **Align Bottom**, or **Middle** in the upper drop-down list box, and select **Align Left**, **Align Right**, or **Middle** in the lower drop-down list box. If a color model is used, the users can set colors. If the users select the **Enable 3D Style** checkbox, they can select a width in the **Border Width** box, as shown in Figure 4-7.

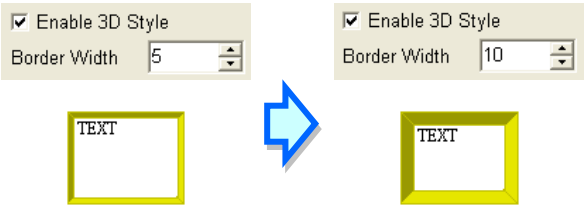


Figure 4-7 Change in the width of a three-dimensional frame (TP70 series text panel)

After the users click the **Border Color** button, the **Font Color** button, or the **Background Color** button, the **Color** window will appear. The users can select a color in the **Color** window, as shown in Figure 4-8.

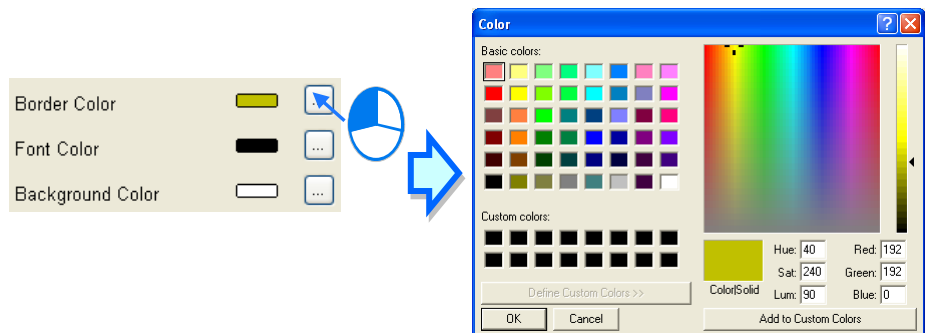


Figure 4-8 Setting a color (TP70 series text panel)

4.1.4 Setting Numeric Objects

In the object setting window for a numeric object, users can set an operation. After the users select the **Arithmetic** checkbox and click **...**, the **Operations Setting** window will appear, as shown in Figure 4-9. After the users click **OP** in the **Operations Setting** window, they can select an operator. After the users click **...** in the **Operations Setting** window, they can set an operand in the **Refer Device** window. After the users click **CLR**, setting values will be cleared.

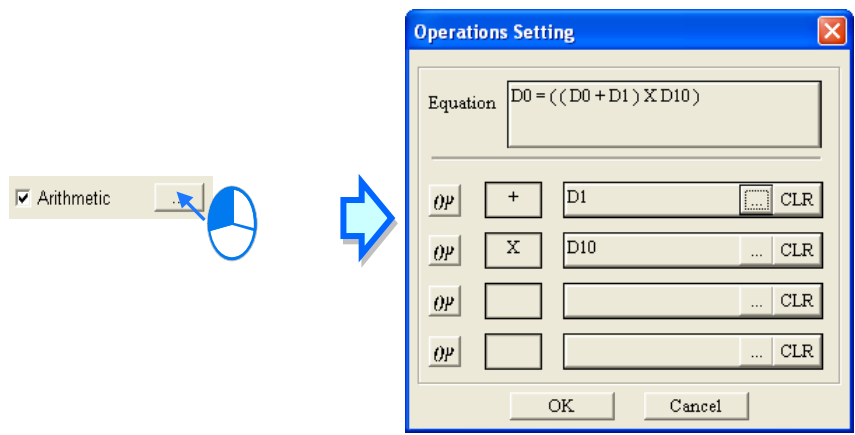


Figure 4-9 Operations Setting window

In the object setting window for a numeric object, the users can select a data length in the **Value Length** drop-down list box, and select a data type in the **Value Type** drop-down list box.

4.1.5 Setting Buttons

Users can set a button in the way described below. The **Write-in** box is used to set a related device to which a value or a state is written when the function key corresponding to the button selected in the **Button Type** drop-down list box is pressed. The **Read** box is used to set a related device which is read when the function key corresponding to the button selected in the **Button Type** drop-down list box is pressed. If the **Read** checkbox is not selected, the value or the state which is read is the

same as the value or the state which is written when the function key corresponding to the button selected in the **Button Type** drop-down list box is pressed.

If the **Enable** checkbox is selected, the users can set a related device, and the related device can be reset or set before a value or a state is written into the related device or after a value or a state is written into the related device, as shown in Figure 4-10.

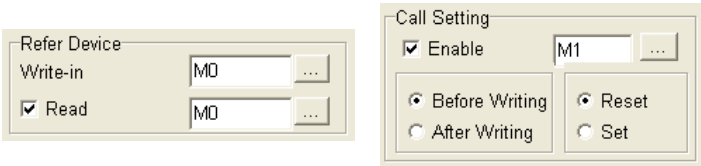


Figure 4-10 **Write-in, Read, and Call Setting**

If the **Function Key** checkbox is selected, the users can select a function key. When the function key selected is pressed, the button corresponding to the function key will be enabled. Please see Figure 4-11.



Figure 4-11 **Function Key**

The users can set user levels in some object setting windows. Please see Figure 4-12. If the value selected in the **User Level** drop-down list box is 0, there will be no user level. The user levels arranged in ascending order are 1~4. If a user level is set for an object, the users are asked to type a password when the function key corresponding to the object is pressed. After the users type a password belonging to the user level set, or a password belonging to a higher user level, the object corresponding to the function key pressed will be enabled. Please refer to section 5.2.1 for more information about setting user-level passwords.



Figure 4-12 **User Level**

The users can type text in the **Button Text** box for the states of a button. When a state of the button is changed, the text corresponding to the state is also changed. Alternatively, the users can double-click the **Button Text** box, and then type text in the **All States Table** window, as shown in Figure 4-13.

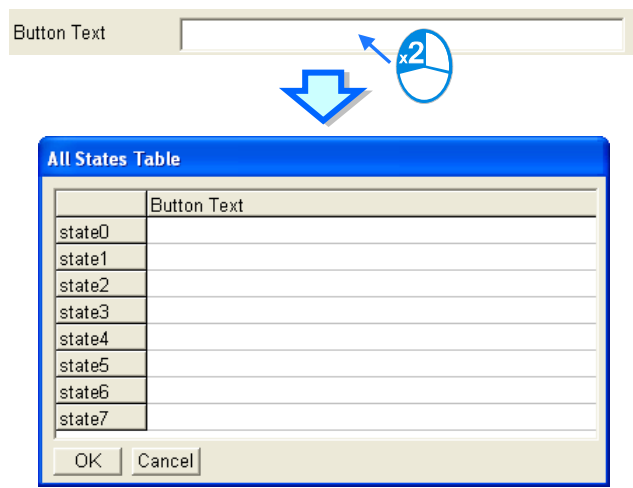


Figure 4-13 Button Text

4

4.1.6 Setting Locks

Some objects in some models support the setting of locks. After users select the **Read** checkbox in the **Interlock Setting** section, they can click **...**. The **Refer Device** window will be opened after **...** is clicked. Please refer to section 4.1.1 for more information. The users can select **ON** or **OFF** in the **State** drop-down list box. In Figure 4-14, the related device selected in the **Interlock Setting** section in the object setting window for an object is **M1**, and the state selected in the **State** drop-down list box is **OFF**. When M1 is OFF, the object is locked, and can not operate. If the state selected in the **State** drop-down list box is **ON**, the object is locked when M1 is ON.

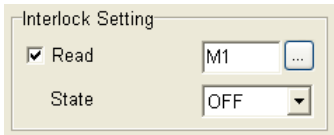


Figure 4-14 Interlock Setting

4.2 Descriptions of Objects

The objects which can be selected are on the **Object** menu, or on the object toolbar and the geometric toolbar. Please refer to section 2.1.5 for more information about editing objects. After users double-click an object, the object setting window for the object will be opened. Different models support different objects. Please refer to appendix A for more information.

4.2.1 Geometric Graphic

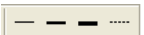
Users can select the images and the lines they need. They can point to **Geometric Graphic** on the **Object** menu, or click a button on the geometric object toolbar, and then click a line type on . Please see Figure 4-15. The users can use **Polygon** to make a shape with any number of sides. To draw a polygon, the users need to drag the pointer to draw a straight line. Then, the users need to click each point where they want additional sides to appear. They have to double-click when they are done.



Figure 4-15 **Geometric Graphic**

There are no object setting windows for the geometric objects in general models. If a TP70 series text panel is used, the object setting window for a geometric object will be as shown in Figure 4-16. The users can select a border color. If the users select the **Solid** checkbox, they can select a background color. If the transparent color selected is the same as the background color selected, the background color will become transparent.

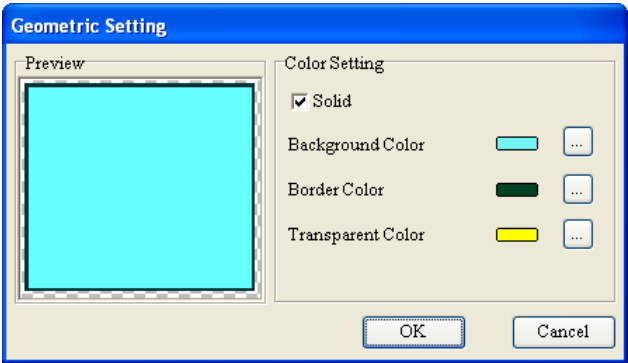



Figure 4-16 **Geometric Setting** window (TP70 series text panel)

A geometric image displayed on the screen of a TP70 series text panel is as shown in Figure 4-17.



Figure 4-17 **Geometric Graphic** (TP70 series text panel)

4.2.2 Static Text

If users want to insert text in a page, they can click **Static Text** on the **Object** menu, or  on the object toolbar.

The **Static Text Setting** window for general models is as shown in Figure 4-18. The users can type text in the text editing read. They can set a frame, adjust the position of the text typed, and adjust the direction of the text typed. After the users click **OK**, the text typed will be inserted in a page. Static text is as shown in Figure 4-19.

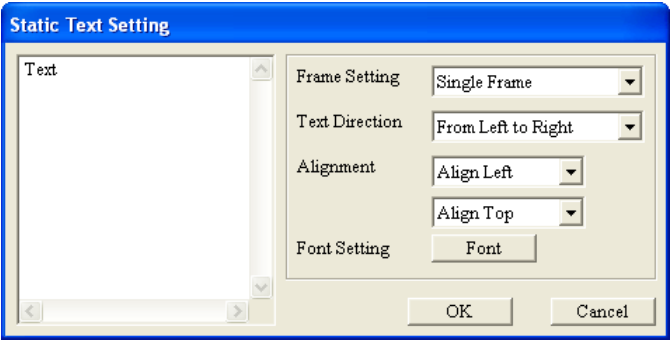


Figure 4-18 **Static Text Setting** window



Figure 4-19 **Static text**

4

The **Static Text Setting** window for TP70 series text panels is as shown in Figure 4-20. In addition to the setting items mentioned above, the users can set colors. When the users set static text, they can view the changes made to the static text in the **Preview** section. Static text in a TP70 series text panel is as shown in Figure 4-21.

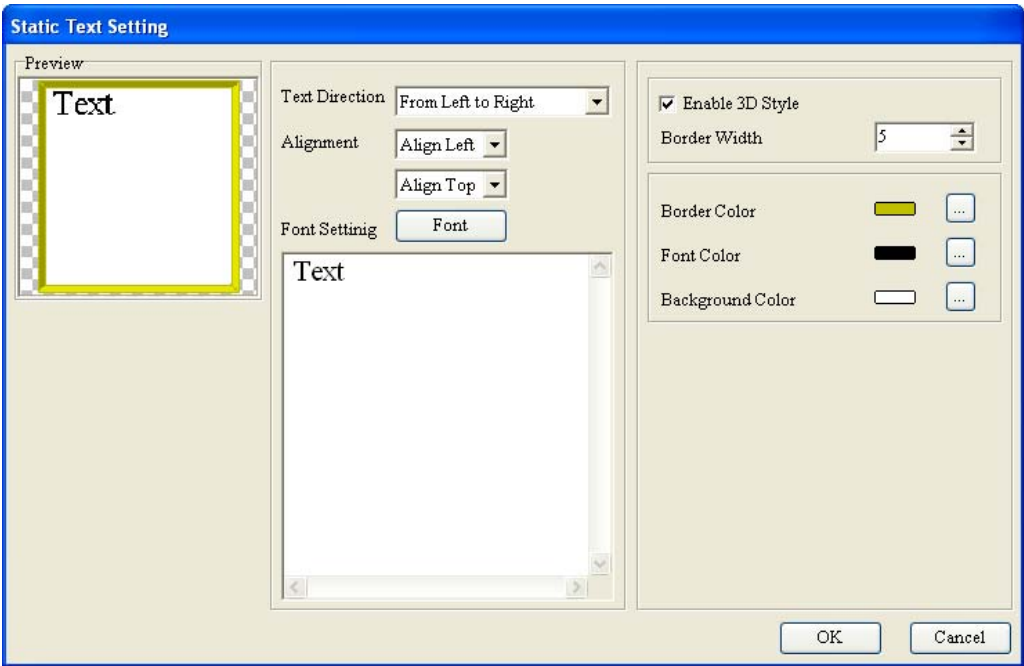


Figure 4-20 **Static Text Setting** window (TP70 series text panel)



Figure 4-21 **Static text** (TP70 series text panel)

4.2.3 Numeric/ASCII Display

A TP series text panel can read a related device, and the value in the related device can be displayed on the screen of the TP series text panel. If users want to insert a numeric display in a page, they can click **Numeric/ASCII Display** on the **Object** menu, or **N** on the object toolbar. The **Numeric/ASCII Display** window for general models is as shown in Figure 4-22. After the users click **...** in the **Refer Device** section, the **Refer Device** window will be opened. Please refer to section 4.1.1 for more information.

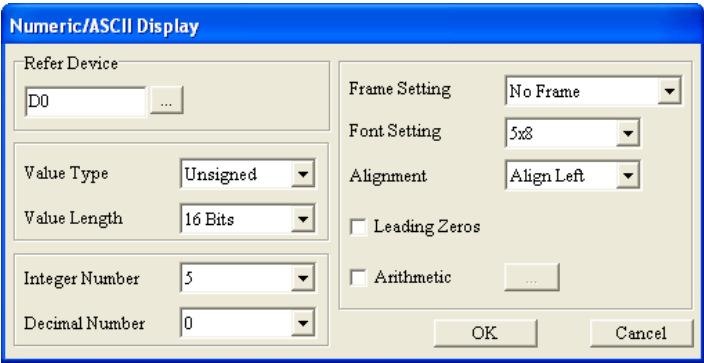


Figure 4-22 Numeric/ASCII Display window

The **Integer Number** drop-down list box is used to set the number of integral places, and the **Decimal Number** drop-down list box is used to set the number of decimal places. Suppose that the value in T0 is 500 (the time interval that T0 measures is 50 seconds). If the value selected in the **Integer Number** drop-down list box is 3, and the value selected in the **Decimal Number** drop-down list box is 0, 500 will be displayed. If the value selected in the **Integer Number** drop-down list box is 3, and the value selected in the **Decimal Number** drop-down list box is 1, 50.0 will be displayed. The **Leading Zeros** checkbox is used to set the way in which a value is displayed. Take 324836 for instance. If the value selected in the **Integer Number** drop-down list box is 6, the value selected in the **Decimal Number** drop-down list box is 2, and the **Leading Zeros** checkbox is not selected, the value displayed will be 3248.36. If the value selected in the **Integer Number** drop-down list box is 6, the value selected in the **Decimal Number** drop-down list box is 2, and the **Leading Zeros** checkbox is selected, the value displayed will be 003248.36. A numeric display is as shown in Figure 4-23.



Figure 4-23 Numeric/ASCII Display

The **Numeric/ASCII Display Setting** window for TP70 series text panels is as shown in Figure 4-24. In addition to the setting items mentioned above, the users can set colors. When the users set a numeric display, they can view the changes made to the numeric display in the **Preview** section.

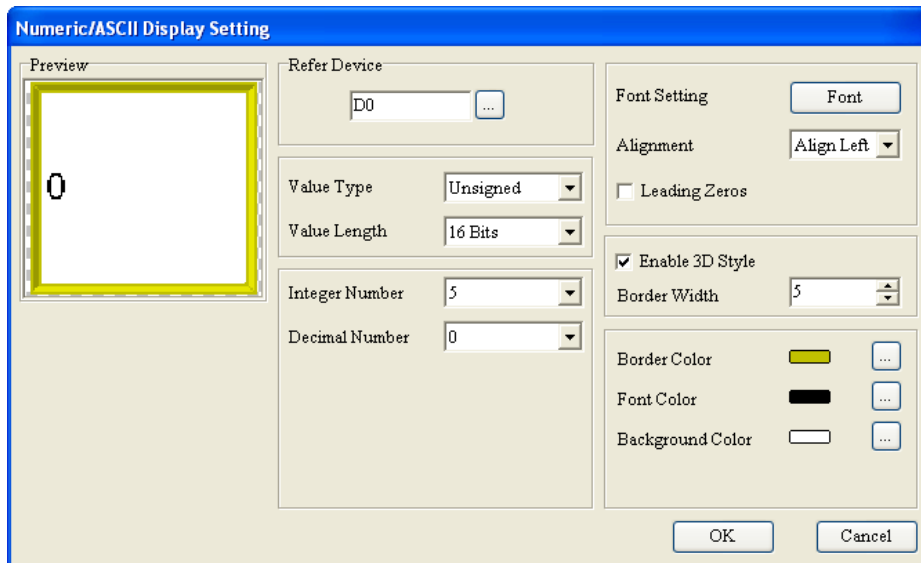



Figure 4-24 **Numeric/ASCII Display Setting** window (TP70 series text panel)


A numeric display displayed on the screen of a TP70 series text panel is as shown in Figure 4-25.



Figure 4-25 **Numeric/ASCII Display** (TP70 series text panel)

4.2.4 Bit Lamp

A bit lamp corresponds to a related device. It is displayed on the screen of a TP series text panel. If users want to insert a bit lamp in a page, they can point to **Lamp** on the **Object** menu, and click **Bit Lamp** on the context menu which appears, or directly click  on the object toolbar.

The **Bit Lamp Setting** window is as shown in Figure 4-26. After the users click  in the **Refer Device** section, the **Refer Device** window will be opened. Please refer to section 4.1.1 for more information. The images corresponding to the states of the related device selected are set in the **Bitmap Setting** section. A bit lamp is as shown in Figure 4-27.

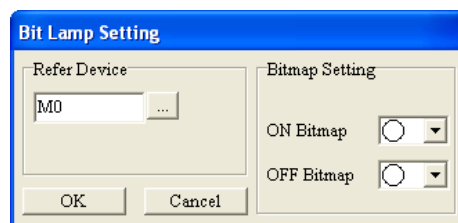




Figure 4-26 **Bit Lamp Setting** window



Figure 4-27 **Bit Lamp**

4.2.5 Word Lamp

The value in a related device can be compared with the values corresponding to state 0~state 4. If the value in a related device is greater than or equal to the value corresponding to a state, the word lamp corresponding to the state will be displayed on the screen of the text panel used. If users want to insert a word lamp in a page, they can point to **Lamp** on the **Object** menu, and click **Word Lamp** on the context menu which appears, or directly click  on the object toolbar.

The **Word Lamp Setting** window is as shown in Figure 4-28. After the users click  in the **Refer Device** section, the **Refer Device** window will be opened. Please refer to section 4.1.1 for more information.

There are five states (state 0~state 4). The users can set the images corresponding to the four states, and they can set range values for the four states. If the value in the related device set is greater than or equal to a range value, the image corresponding to the state for which the range value is set will be displayed. Suppose that the **From Max to Min** option button in the **Display Sequence** section is selected, the range value for state 0 is 300, and the range value for state 1 is 100. If the value in the related device set is greater than or equal to 300, the image corresponding to state 0 will be displayed. If the value in the related device set is greater than or equal to 100, and is less than 300, the image corresponding to state 1 will be displayed.

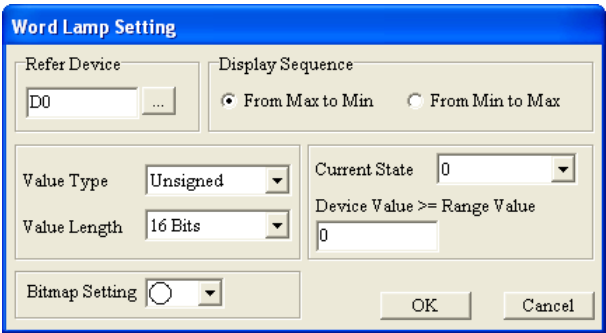


Figure 4-28 Word Lamp Setting window

The users can double-click the **Device Value >= Range Value** box, and then type values in the **All States Table** window, as shown in Figure 4-29.

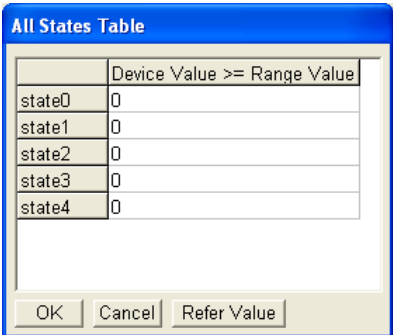


Figure 4-29 All States Table window

After the users click **Refer Value**, the **Edit Range Calculator** window will appear, as shown in Figure 4-30. After the users select states, and type values in the **Upper Bound** box and the **Lower Bound** box, range values will be calculated automatically, and will be brought back to the **All States Table** window.

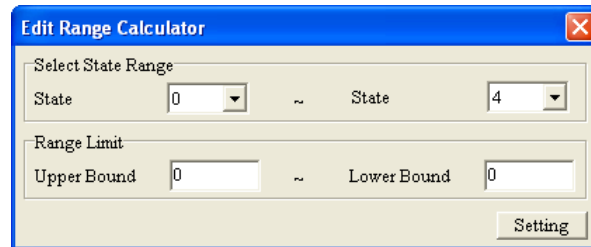



Figure 4-30 **Edit Range Calculator** window

4

A word lamp is like a bit lamp.

4.2.6 Static Bitmap

If users want to insert a static image in a page, they can point to **Bitmap** on the **Object** menu, and click **Static Bitmap** on the context menu which appears, or directly click  on the object toolbar. The users have to select a file in the **Open** window. TP70 series text panels support .gif files, and other models support .bmp files. TPEditor provides images. The images are in the **BmpGroup** folder in the **TPEditor x.xx** folder, as shown in Figure 4-31.

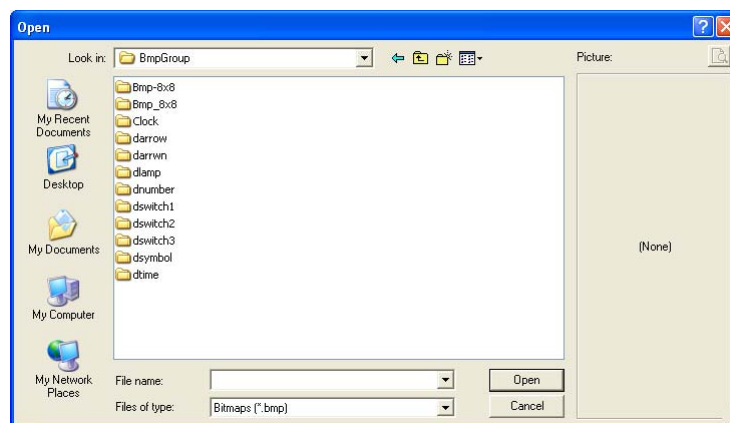



Figure 4-31 **Open** window


A static image is as shown in Figure 4-32.



Figure 4-32 **Static Bitmap**

4.2.7 Dynamic Bitmap

The value in a related device can be compared with the values corresponding to states. If the value in a related device is greater than or equal to the value corresponding to a state, the image corresponding to the state will be displayed on the screen of the text panel used. A dynamic image is different from a static image because the image displayed corresponds to a state. If users want to insert a dynamic image in a page, they can point to **Bitmap** on the **Object** menu, and click **Dynamic Bitmap** on the context menu which appears, or directly click  on the object toolbar.

The Dynamic Bitmap Setting window is as shown in Figure 4-33. After the users click  in the **Refer Device** section, the **Refer Device** window will be opened. Please refer to section 4.1.1 for more information.

If the **Bit** option button is selected, the value in the **Total States** box will be 2, and the value which can be selected in the **Current State** drop-down list box will be 0 or 1. If the **Value** option button is selected, the maximum value which can be set in the **Total States** box will be 255, the current states which can be set will vary with the value set in the **Total States** box, and the value which can be selected in the **Current State** drop-down list box will be in the range of 0 to 254. In Figure 4-34, the **Value** option button is selected.

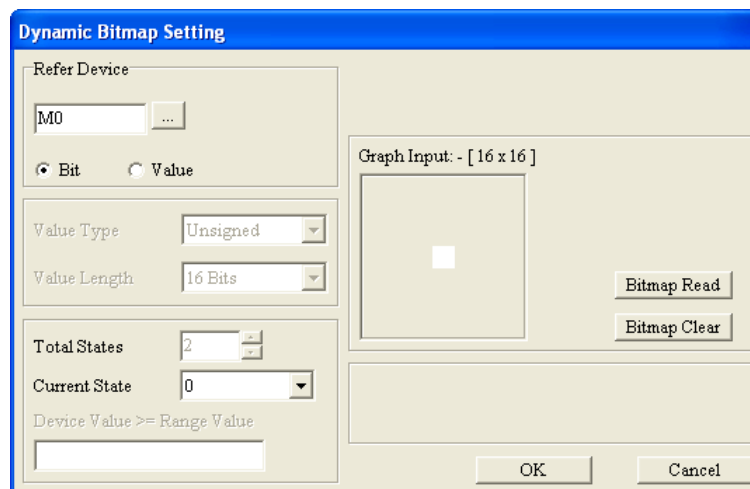


Figure 4-33 Dynamic Bitmap Setting window

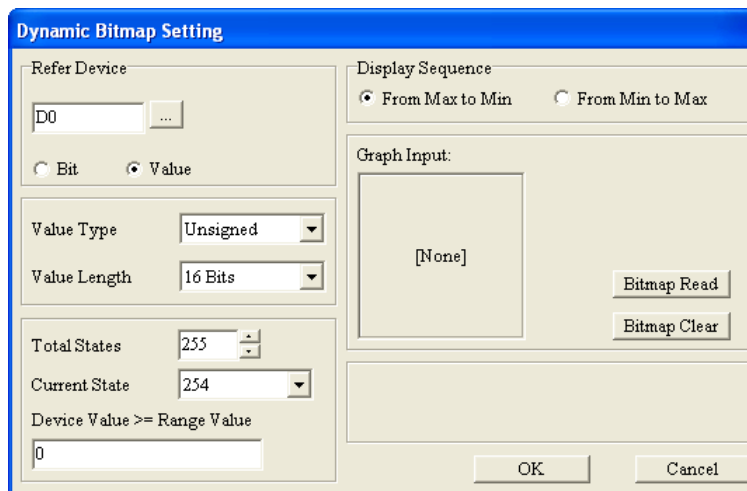



Figure 4-34 Dynamic Bitmap Setting window

4

After the users click **Bitmap Read**, the **Open** window will be opened. The users have to select an image file in the **Open** window. The files which are supported are .bmp files. The users can set the images corresponding to the states which can be set, and they can set range values for the states. If the value in the related device set is greater than or equal to a range value, the image corresponding to the state for which the range value is set will be displayed. Suppose that the **From Max to Min** option button in the **Display Sequence** section is selected, the range value for state 0 is 300, and the range value for state 1 is 100. If the value in the related device set is greater than or equal to 300, the image corresponding to state 0 will be displayed. If the value in the related device set is greater than or equal to 100, and is less than 300, the image corresponding to state 1 will be displayed.

If the **Value** option button is selected, the users can double-click the **Device Value >= Range Value** box, and then type values in the **All States Table** window. After the users click **Refer Value**, the **Edit Range Calculator** window will appear. After the users select states, and type values in the **Upper Bound** box and the **Lower Bound** box, range values will be calculated automatically, and will be brought back to the **All States Table** window. Please refer to section 4.2.5 for more information.

4.2.8 Scale

If users want to insert a scale in a page, they can click **Scale** on the **Object** menu, or  on the object toolbar.

The **Scale Setting** window is as shown in Figure 4-35. The **Scale Position** drop-down list box is used to set the position of a scale. The users can select **Top**, **Bottom**, **Left**, or **Right** in the **Scale Position** drop-down list box. They can select **Normal Direction** or **Opposite Direction** in the **Scale Side** drop-down list box. If **Normal Direction** is selected, numbers will be arranged in ascending order from left to right or from top to bottom. If **Opposite Direction** is selected, number will be arranged in ascending order from right to left or from bottom to top. The value in the **Max Value** box

is the maximum value which will be displayed, and the value in the **Min Value** box is the minimum value which will be displayed. The **Main Scale** box and the **Sub Scale** box are used to set the precision of the scale which will be inserted in a page. A scale is as shown in Figure 4-36.

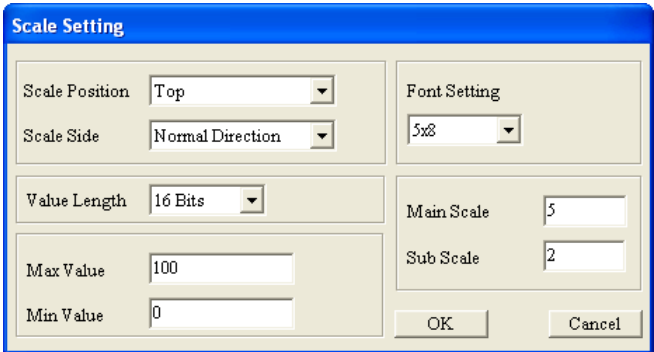


Figure 4-35 Scale Setting window

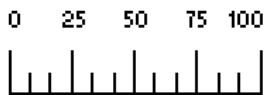




Figure 4-36 Scale

4

4.2.9 Bar Graph

The value in a related device can be represented by a bar displayed on the screen of a text panel. If users want to insert a bar in a page, they can click **Bar Graph** on the **Object** menu, or  on the object toolbar.

The **Bar Graph Setting** window for general models is as shown in Figure 4-37. After the users click  in the **Refer Device** section, the **Refer Device** window will be opened. Please refer to section 4.1.1 for more information.

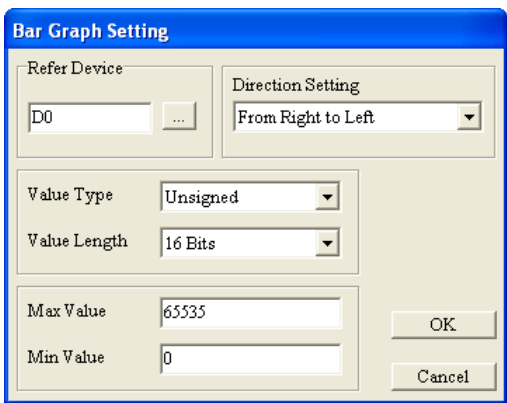


Figure 4-37 Bar Graph Setting window

The **Direction Setting** drop-down list box is used to set the direction of the bar which will be inserted in a page. The value in the **Max Value** box is the maximum value which can be displayed, and the value in the **Min Value** box is the minimum value which can be displayed. After the text

panel used read the related device set, the value in the related device will be represented by a bar displayed on the screen of the text pane. A bar is as shown in Figure 4-38.



Figure 4-38 Bar Graph

The **Bar Graph Setting** window for TP70 series text panels is as shown in Figure 4-39. In addition to the setting items mentioned above, the users can set colors. When the users set a bar, they can view the changes made to the bar in the **Preview** section.

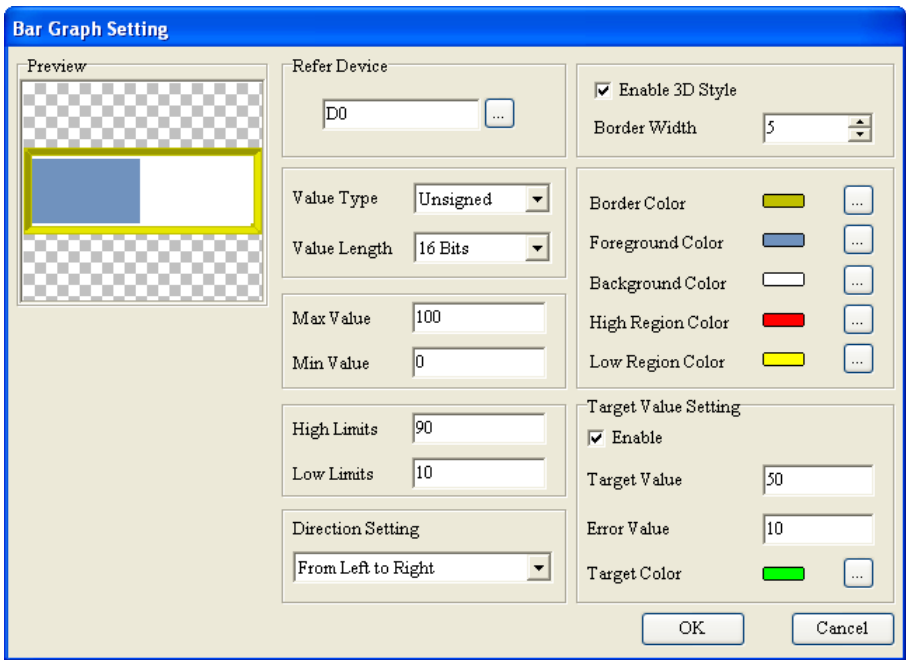


Figure 4-39 Bar Graph Setting window (TP70 series text panel)

If the value in the related device set is less than the lower limit set, the color of the foreground of the bar set will be changed from the foreground color set to the low region color set. If the value in the related device set is greater than the upper limit set, the color of the foreground of the bar set will be changed from the foreground color set to the high region color set. If the value in the related device set is in the range of the target value set minus the error value set to the target value set plus the error value set, the color of the foreground of the bar set will be changed from the foreground color set to the target color set. Suppose the value in the **Target Value** box is 50, and the value in the **Error Value** box is 5. If the value in the related device set is in the range of 45 to 55, the color of the foreground of the bar set will become the target color set. If the value in the related device set is in the range of the target value set minus the error value set to the target value set plus the error value set, and is less than the lower limit set, the color of the bar set will be the low region color set. If the value in the related device set is in the range of the target value set minus the error value set to the target value set plus the error value set, and is greater than the lower limit set, the color of the bar


set will be the high region color set.


A bar displayed on the screen of a TP70 series text panel is as shown in Figure 4-40.



Figure 4-40 **Bar Graph** (TP70 series text panel)

4.2.10 Circle Meter

The value in a related device can be represented by the number to which the pointer on the dial of a meter points. If users want to insert a circular meter in a page, they can point to **Meter** on the **Object** menu, and click **Circle Meter** on the context menu which appears, or directly click  on the object toolbar.

The **Circle Meter Setting** window for general models is as shown in Figure 4-41. After the users click  in the **Refer Device** section, the **Refer Device** window will be opened. Please refer to section 4.1.1 for more information. The **Main Scale** box and the **Sub Scale** box are used to set the precision of the scale on the circular meter which will be inserted in a page. The **Integer Num** drop-down list box is used to set the number of integral places, and the **Decimal Num** drop-down list box is used to set the number of decimal places. Suppose that the value in the related device set is 500. If the value selected in the **Integer Num** drop-down list box is 3, and the value selected in the **Decimal Num** drop-down list box is 0, 500 will be displayed. If the value selected in the **Integer Num** drop-down list box is 3, and the value selected in the **Decimal Num** drop-down list box is 1, 50.0 will be displayed.

4

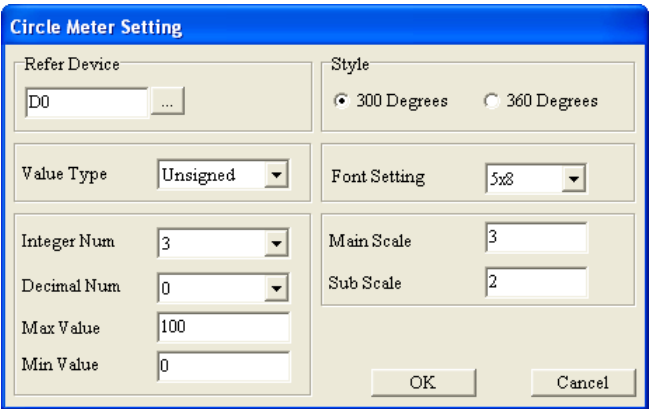


Figure 4-41 **Circle Meter Setting** window

In the **Style** section, the users can select the **300 Degrees** option button or the **360 Degrees** option button. One revolution that the pointer on the meter set makes is equal to 300 degrees or 360 degrees, as shown in Figure 4-42.

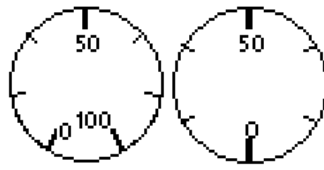



Figure 4-42 300 degree circular meter and 360 degree circular meter

There are three tabs in the **Circle Meter Setting** window for TP70 series text panels. After the users click the **Property** tab, they can set a related device, as shown in Figure 4-43. After the users click  in the **Refer Device** section, the **Refer Device** window will be opened. Please refer to section 4.1.1 for more information.

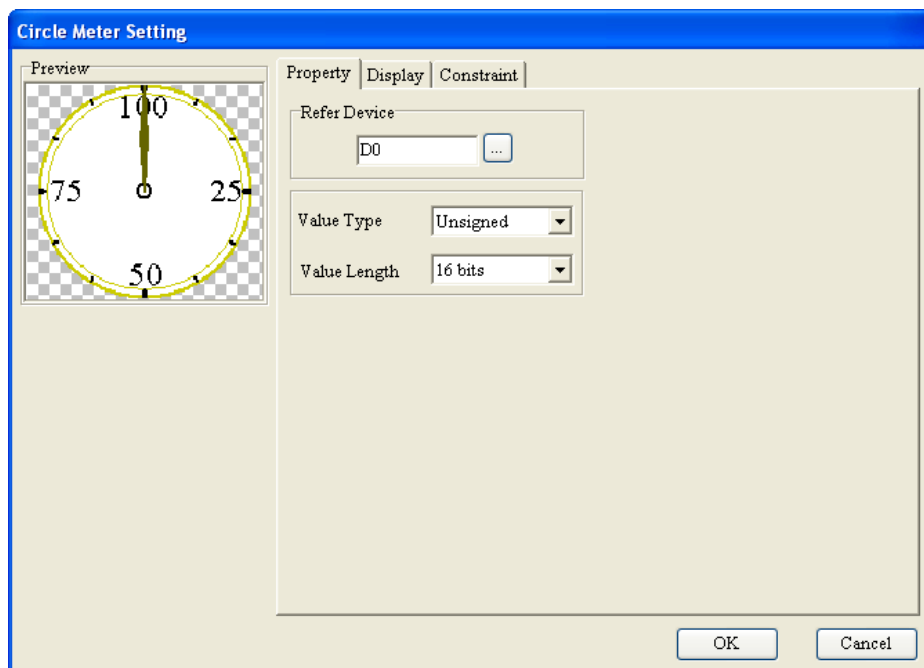


Figure 4-43 **Circle Meter Setting** window—**Property** tab (TP70 series text panel)

After the users click the **Display** tab, they can set the appearance of the circular meter which will be inserted in a page, as shown in Figure 4-44. The **Main Scale** box and the **Sub Scale** box are used to set the precision of the scale on the circular meter which will be inserted in a page.

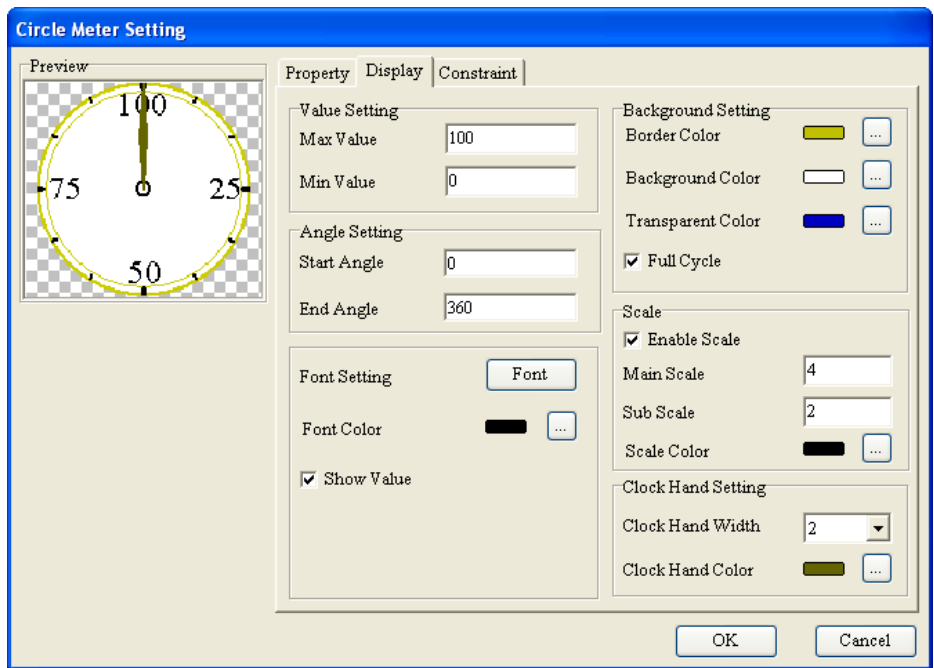


Figure 4-44 **Circle Meter Setting** window—**Display** tab (TP70 series text panel)

In the **Angle Setting** section, the users can set a starting angle and a terminal angle. If the value in the **Start Angle** box is 30, and the value in the **End Angle** box is 330, the scale on the circular meter which will be inserted in a page will be in the range of 30 degrees to 330 degrees, as shown in Figure 4-45.



Figure 4-45 **Circle Meter** (TP70 series text panel)

If the **Full Cycle** checkbox is not selected, the dial which is not in the range of the starting angle set to the terminal angle set will not be displayed, as shown in Figure 4-46.



Figure 4-46 **Circle Meter** (TP70 series text panel)

The **Constraint** tab is used to set a constraint range, as shown in Figure 4-47. After the users click the **Enable Constraint Setting** checkbox, they can set an upper limit and a lower limit, and selecting a high region color and a low region color. In Figure 4-47, the color of the part below the lower limit 20 is blue, and the color of the part above the upper limit value 80 is red, and the color of the remaining par is yellow.

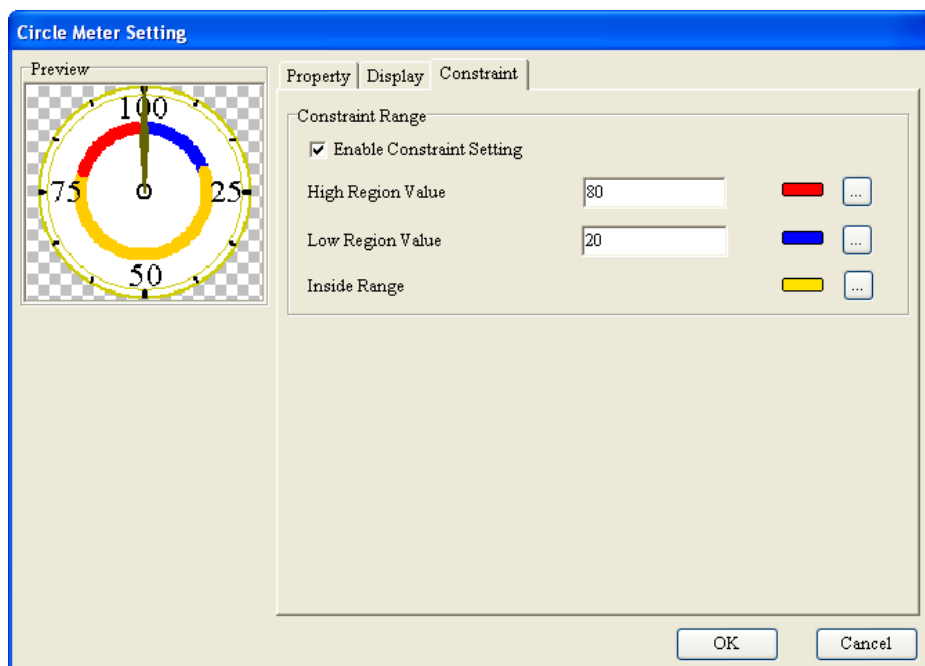




Figure 4-47 Circle Meter Setting window—Constraint tab (TP70 series text panel)

4.2.11 Message Display

The state of a related device or the value in a related device can be represented by a message displayed on the screen of a text panel. If users want to insert a message display in a page, they can click **Message Display** on the **Object** menu, or  on the object toolbar.

The **Message Display Setting** window for general models is as shown in Figure 4-48. After the users click  in the **Refer Device** section, the **Refer Device** window will be opened. Please refer to section 4.1.1 for more information.

If the **Bit** option button is selected, the value in the **Total States** box will be 2, and the value which can be selected in the **Current State** drop-down list box will be 0 or 1. If the **Value** option button is selected, the maximum value which can be set in the **Total States** box will be 255, the current states which can be set will vary with the value set in the **Total States** box, and the value which can be selected in the **Current State** drop-down list box will be in the range of 0 to 254. In Figure 4-49, the **Value** option button is selected. After the TP series text panel used reads the related device set, the message corresponding to the state of the related device or the value in the related device will be displayed on the screen of the TP series text panel. The message displayed can only be text, and can not be images. The **Scroll Display** drop-down list box is used to set the way in which text is displayed. The text corresponding to a state can be slid across the screen of the text panel used from bottom to top, from top to bottom, from right to left, or from left to right in accordance with the interval selected in the **Conversion Interval** drop-down list box. If the **Blink** option button is selected, a message blinks when it is displayed on the TP series text panel used.

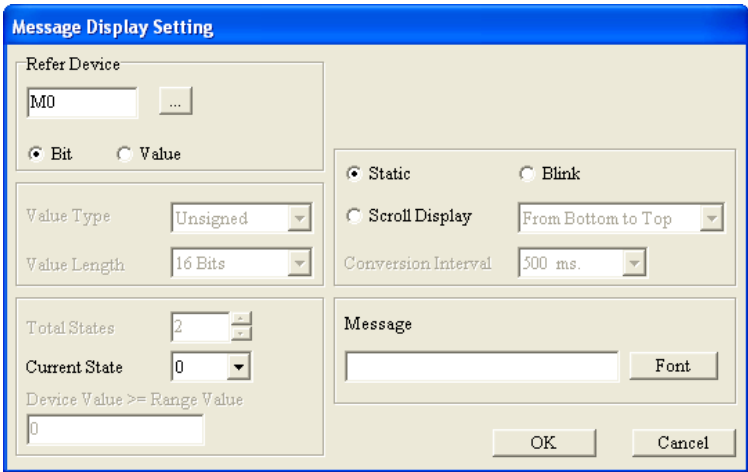


Figure 4-48 Message Display Setting window

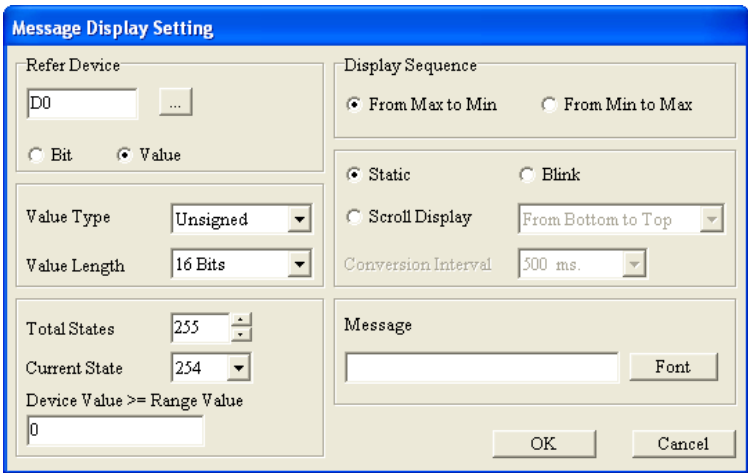


Figure 4-49 Message Display Setting window

The users can set the messages corresponding to the states which can be set, and they can set range values for the states. If the value in the related device set is greater than or equal to a range value, the message corresponding to the state for which the range value is set will be displayed. Suppose that the **From Max to Min** option button in the **Display Sequence** section is selected, the range value for state 0 is 300, and the range value for state 1 is 100. If the value in the related device set is greater than or equal to 300, the message corresponding to state 0 will be displayed. If the value in the related device set is greater than or equal to 100, and is less than 300, the message corresponding to state 1 will be displayed.

The users can double-click the **Message** box, and then type values and messages in the **All States Table** window, as shown in Figure 4-50. After the users click **Refer Value**, the **Edit Range Calculator** window will appear. After the users select states, and type values in the **Upper Bound** box and the **Lower Bound** box, range values will be calculated automatically, and will be brought back to the **All States Table** window. Please refer to section 4.2.5 for more information.

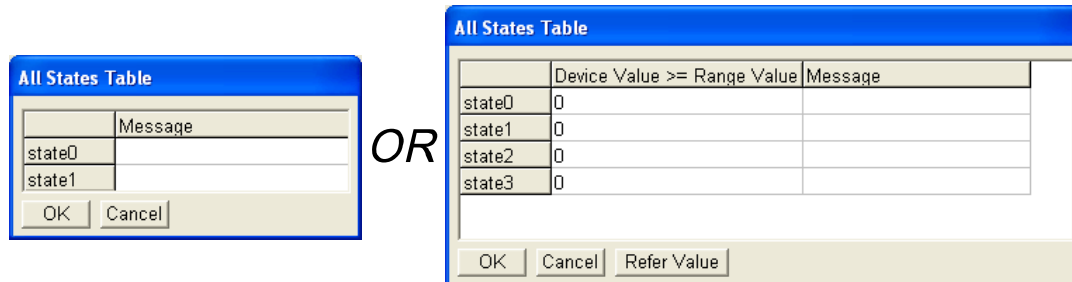



Figure 4-50 **All States Table** window

A message display is as shown in Figure 4-51.



Text

Figure 4-51 **Message Display**

4

There are two tabs in the **Message Display Setting** window for TP70 series text panels. After the users click the **Property** tab, they can set a related device, as shown in Figure 4-52. After the users click  in the **Refer Device** section, the **Refer Device** window will be opened. Please refer to section 4.1.1 for more information.

If the **Bit** option button is selected, the value in the **Total States** box will be 2, and the value which can be selected in the **Current State** drop-down list box will be 0 or 1. If the **Value** option button is selected, the maximum value which can be set in the **Total States** box will be 255, the current states which can be set will vary with the value set in the **Total States** box, and the value which can be selected in the **Current State** drop-down list box will be in the range of 0 to 254. In Figure 4-52, the **Value** option button is selected.

If the **Value** option button is selected, the users can select the state which needs to be added or deleted in the window which appears after they click  or .

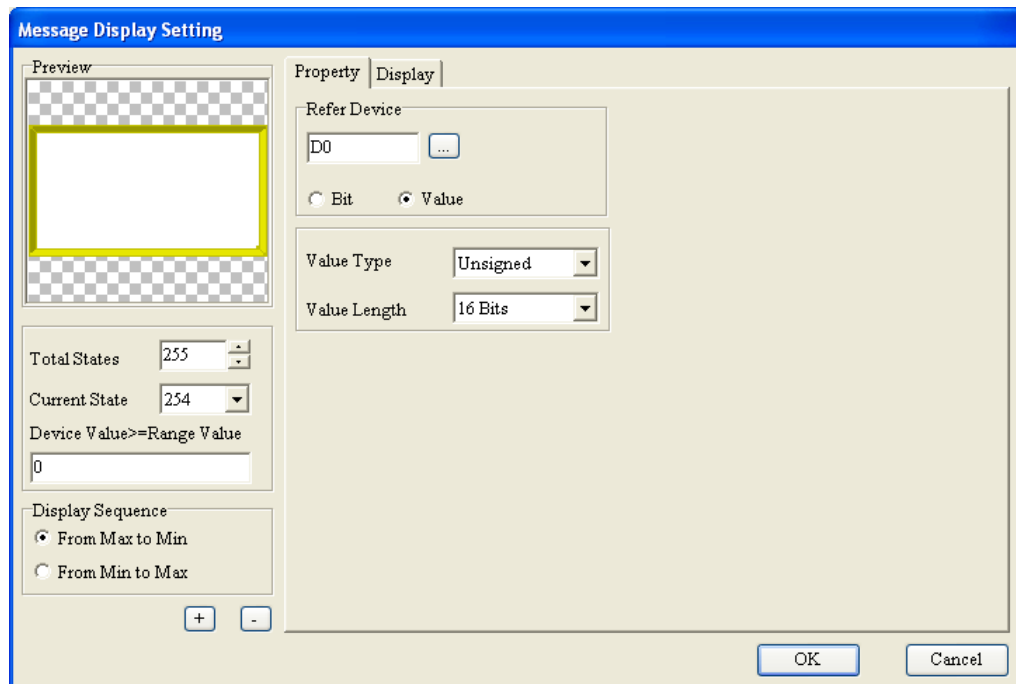


Figure 4-52 **Message Display Setting** window—**Property** tab (TP70 series text panel)

After the users click the **Display** tab, they can set the appearance of the message display which will be inserted in a page, as shown in Figure 4-53. When the users set a message display, they can view the changes made to the message display in the **Preview** section. The users can double-click the **Message** box, and then type values and messages in the **All States Table** window. After the users click **Refer Value**, the **Edit Range Calculator** window will appear. After the users select states, and type values in the **Upper Bound** box and the **Lower Bound** box, range values will be calculated automatically, and will be brought back to the **All States Table** window. Please refer to section 4.2.5 for more information.

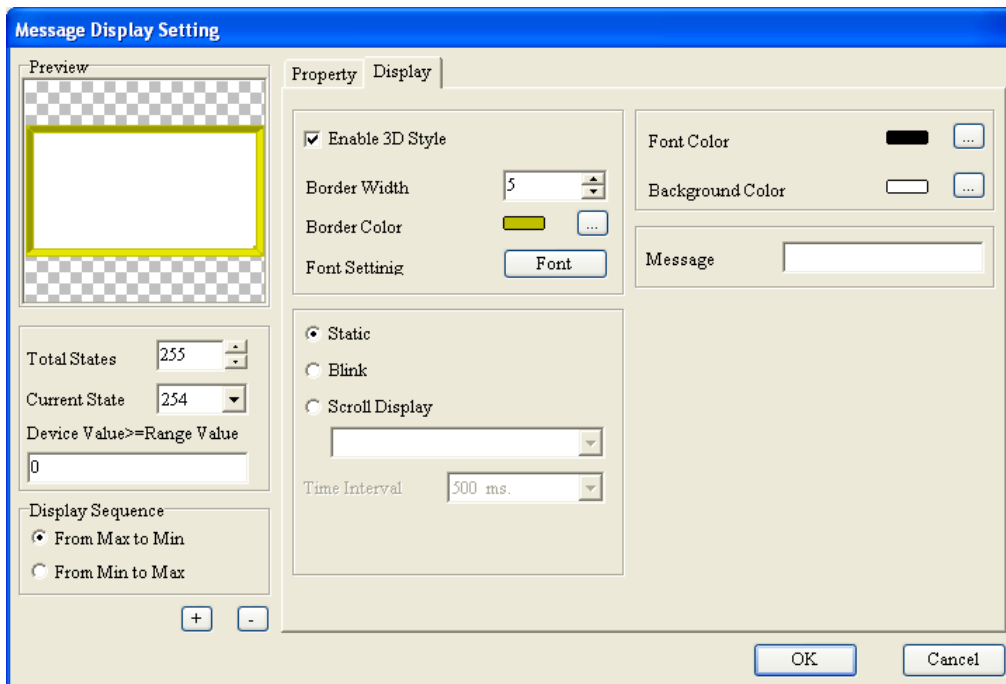



Figure 4-53 Message Display Setting window—Display tab (TP70 series text panel)

The users can set the messages corresponding to the states which can be set, and they can set range values for the states. If the value in the related device set is greater than or equal to a range value, the message corresponding to the state for which the range value is set will be displayed. Suppose that the **From Max to Min** option button in the **Display Sequence** section is selected, the range value for state 0 is 300, and the range value for state 1 is 100. If the value in the related device set is greater than or equal to 300, the message corresponding to state 0 will be displayed. If the value in the related device set is greater than or equal to 100, and is less than 300, the message corresponding to state 1 will be displayed.

4.2.12 Button

In order to fill actual requirements, TPEditor provides several types of buttons. If users want to insert a button in a page, they can click **Button** on the **Object** menu, or  on the object toolbar.

The items in the **Button Type** drop-down list box in the **Button Setting** window are described below.

- **Force ON**: When a **Force ON** button on a TP series text panel is pressed, the device related to the button is ON. After the button is released, the device related to the button will still be ON.
- **Force OFF**: When a **Force OFF** button on a TP series text panel is pressed, the device related to the button is OFF. After the button is released, the device related to the button will still be OFF.
- **Pulse ON**: When a **Pulse ON** button on a TP series text panel is pressed, a signal going from low to high is sent to the device related to the button.

- **Pulse OFF:** When a **Pulse OFF** button on a TP series text panel is pressed, a signal going from high to low is sent to the device related to the button.
- **Push On/Off:** When a **Push On/Off** button on a TP series text panel is pressed, the device related to the button is ON. After the button is released, the device related to the button will still be ON. When the button is pressed again, the device related to the function is OFF. After the button is released, the device related to the button will still be OFF.
- **Momentary:** When a **Momentary** button on a TP series text panel is pressed, the device related to the button is ON. After the button is released, the device related to the button will be OFF.
- **Multi-State:** Whenever a **Multi-State** button on a TP series text panel is pressed, the state of the device related to the button is changed. In the **Multi-State Setting** section, users can select the **Bit** option button, the **Value** option button, or the **LSB** option button.
- **Input Value:** When an **Input Value** button on a TP series text panel is pressed, a window appears. The value that users type in the window is the value written to the device related to the button.
- **Constant Setting:** When a **Constant Setting** button on a TP series text panel is pressed, the value set is written to the device related to the button.
- **Increase:** When an **Increase** button on a TP series text panel is pressed, the value in the device related to the button increases by one increment.
- **Decrease:** When a **Decrease** button on a TP series text panel is pressed, the value in the device related to the button decrease by one decrement.
- **Page Jump:** When a **Page Jump** button on a TP series text panel is pressed, the page selected will be displayed.
- **Password and Setting:** When a **Password and Setting** button on a TP series text panel is pressed, a window appears. Users can modify passwords and user levels in the window.
- **Screen Scroll:** When a **Screen Scroll** button on a TP series text panel is pressed, lines are scrolled up or down.
- **Recipe Write/Read:** When a **Recipe Write/Read** button on a TP series text panel is pressed, a recipe is written to the device related to the button, or the recipe in the device related to the button is read.
- **Clock Display Setting:** When a **Clock Display Setting** button on a TP series text panel is pressed, a setting window appears.
- **PLC Link Setting:** When a **PLC Link Setting** button on a TP series text panel is pressed, a setting window appears.

The items in the **Button Setting** window vary with the button type selected.

- If **Force ON**, **Force OFF**, **Pulse ON**, **Pulse OFF**, **Push On/Off**, or **Momentary** is selected, the **Button Setting** window will be as shown in Figure 4-54. If users select **Momentary**, they can not select a user level.

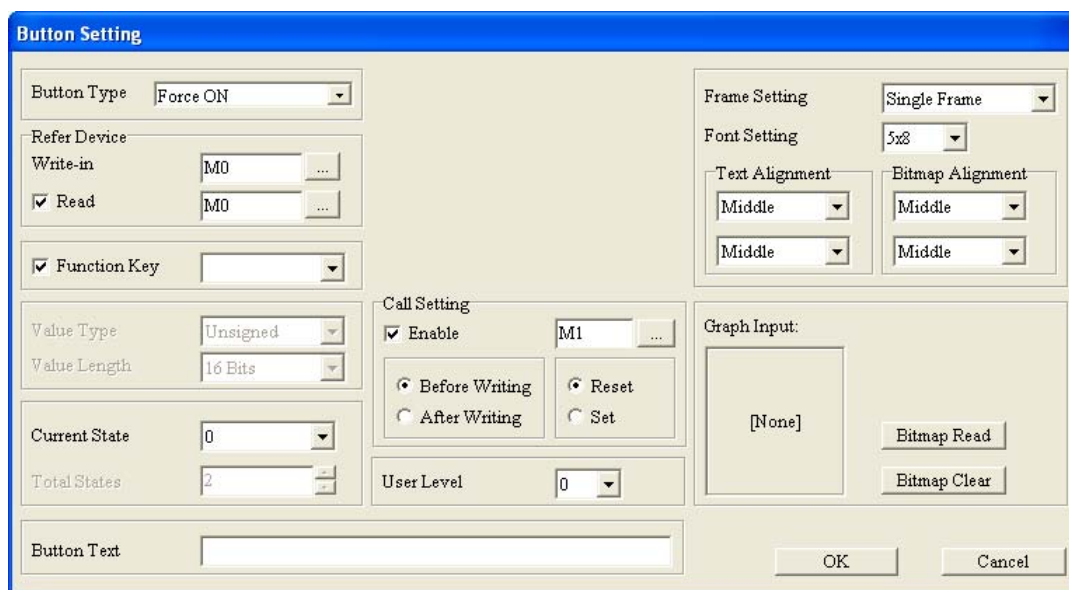



Figure 4-54 **Button Setting** window

The **Refer Device** window will be opened after  is clicked. Please refer to section 4.1.1 for more information. The **Function Key** drop-down list box is used to select a function key on the TP series text panel used. The user levels arranged in ascending order are 1~4. If a user level is set for a button, the users are asked to type a password when the function key corresponding to the button is pressed. After the users type a password belonging to the user level set, or a password belonging to a higher user level, the button corresponding to the function key pressed will be enabled. The user level selected can be used only if the users set levels and passwords in the **User-Level Password Setting** window. After the users click **User-Level Password Setting** on the **Global Setting** menu, the **User-Level Password Setting** window will appear. Please refer to section 5.2.1 for more information.

If **Force ON**, **Force OFF**, **Pulse ON**, **Pulse OFF**, **Push On/Off**, or **Momentary** is selected, there will be two tabs in the **Button Setting** window for TP70 series text panels, as shown in Figure 4-55 and Figure 4-56. If users select **Momentary**, they can not select a user level.

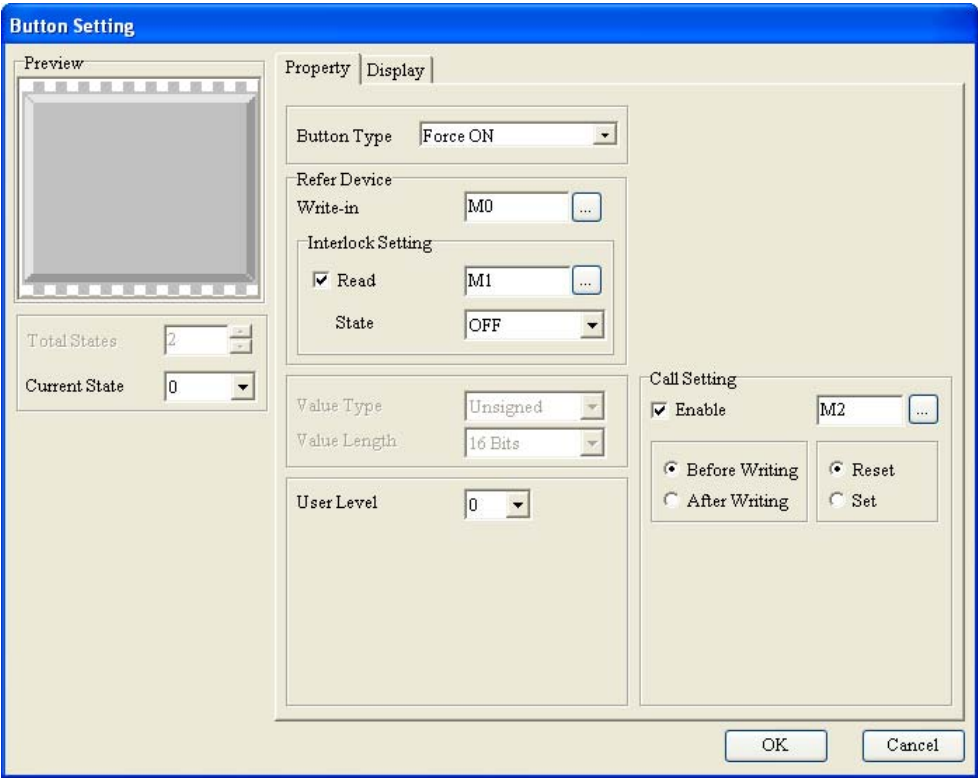


Figure 4-55 **Button Setting** window (TP70 series text panel)

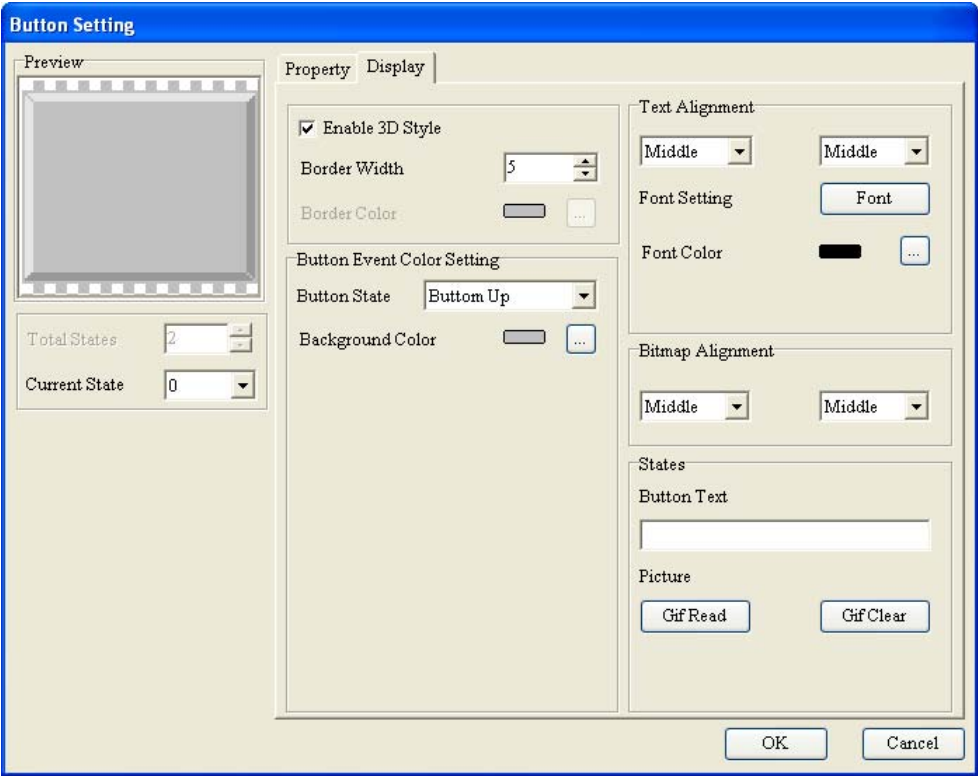


Figure 4-56 **Button Setting** window (TP70 series text panel)

- If **Multi-State** is selected, the **Button Setting** window will be as shown in Figure 4-57.

Figure 4-57 **Button Setting** window

Users can select the **Bit** option button, the **Value** option button, or the **LSB** option button in the **Multi-State Setting** section. If the **Bit** option button is selected, the value in the **Total States** box will be 2, and the value which can be selected in the **Current State** drop-down list box will be 0 or 1. If the **Value** option button is selected, the maximum value which can be set in the **Total States** box will be 255, the current states which can be set will vary with the value set in the **Total States** box, and the value which can be selected in the **Current State** drop-down list box will be in the range of 0 to 254. If the **LSB** option button is selected, the maximum value which can be set in the **Total States** box will be 16, the current states which can be set will vary with the value set in the **Total States** box, and the value which can be selected in the **Current State** drop-down list box will be in the range of 0 to 15.

If **Multi-State** is selected, there will be two tabs in the **Button Setting** window for TP70 series text panels, as shown in Figure 4-58 and Figure 4-59.

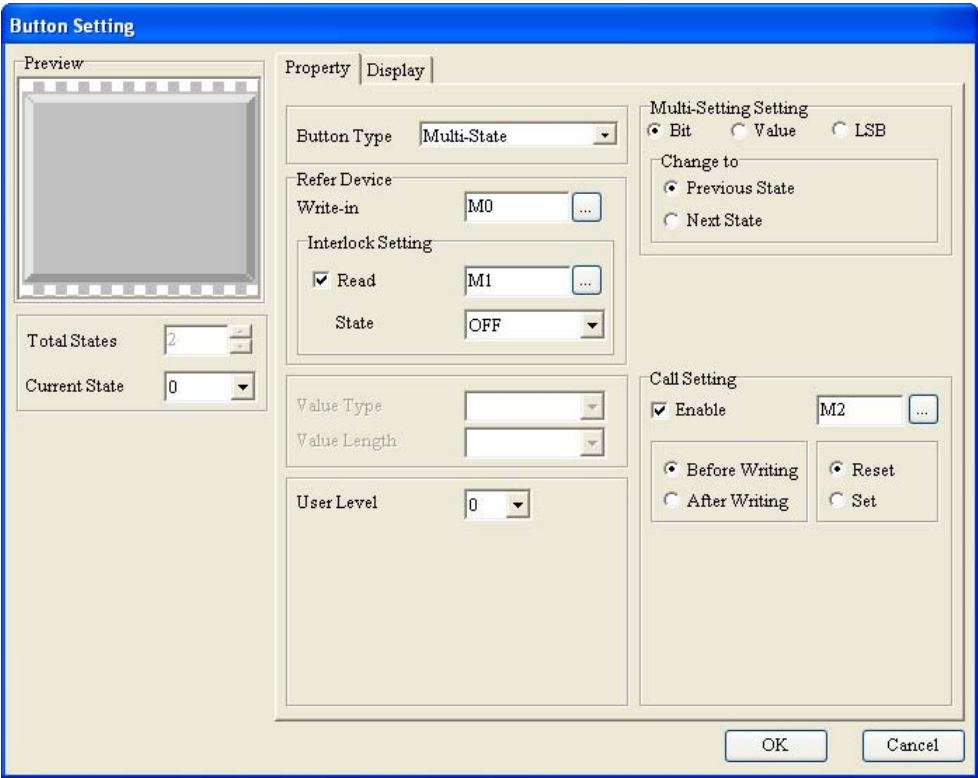


Figure 4-58 **Button Setting** window (TP70 series text panel)

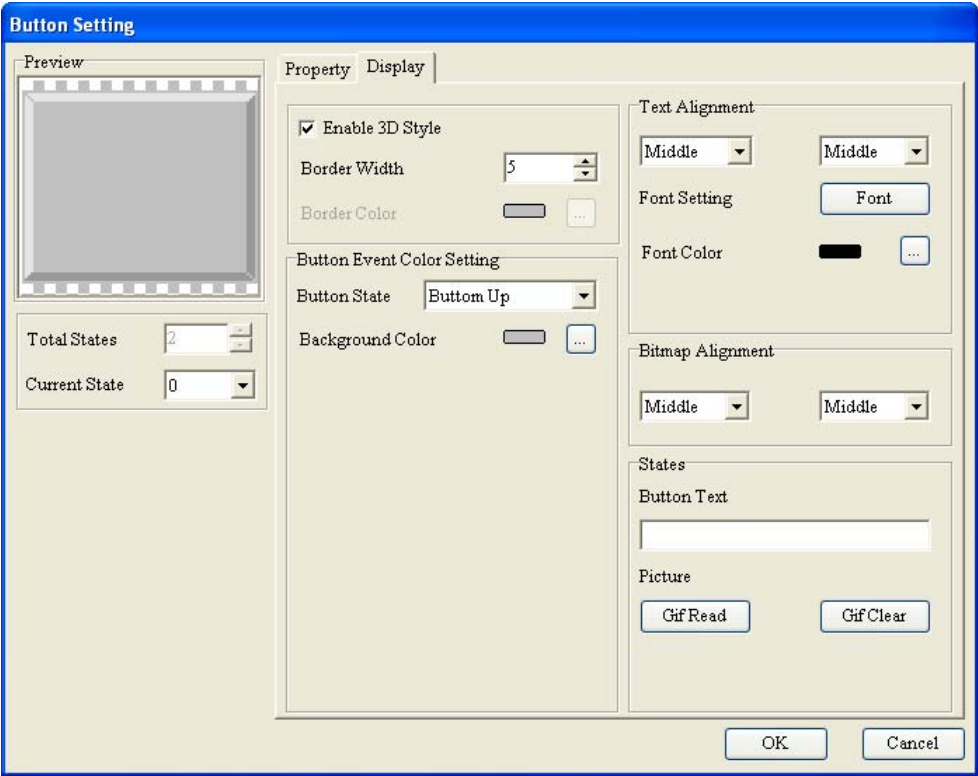




Figure 4-59 **Button Setting** window (TP70 series text panel)

If the **Value** option button or the **LSB** option button is selected, the users can select the state which needs to be added or deleted in the window which appears after they click  or .

- If **Input Value** is selected, the **Button Setting** window will be as shown in Figure 4-60.

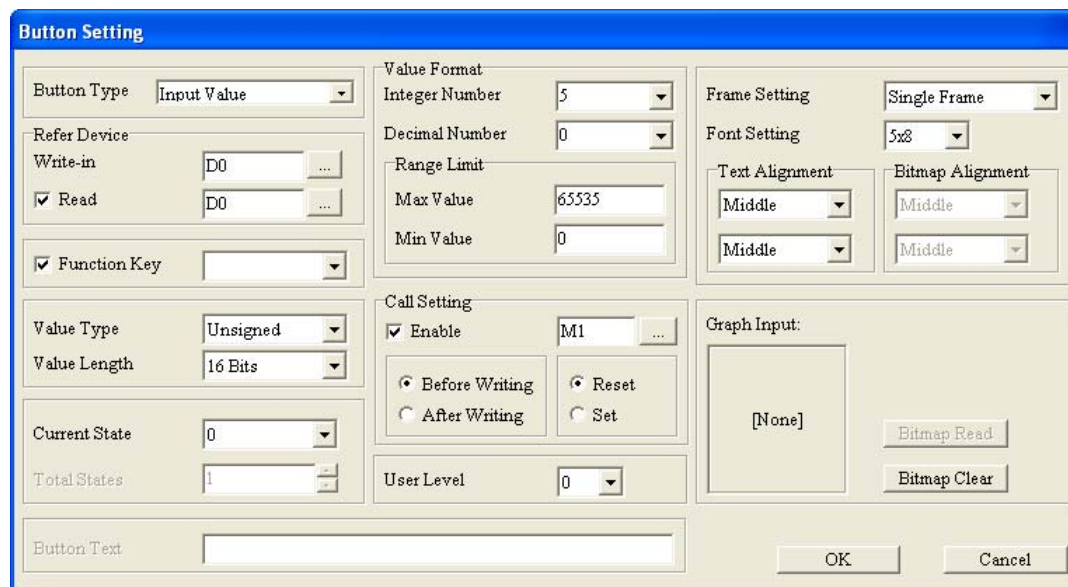


Figure 4-60 **Button Setting** window

In the **Value Format** section, the **Integer Number** drop-down list box is used to set the number of integral places, and the **Decimal Number** drop-down list box is used to set the number of decimal places. In the **Range Limit** section, users can type the minimum value which can be written to the device related to the button set in the **Min Value** box, and the maximum value which can be written to the device related to the button set in the **Max Value** box. The **Integer Number** drop-down list box and the **Decimal Number** drop-down list box are used to set the way in which a value is displayed. If the value selected in the **Integer Number** drop-down list box is 3, the value selected in the **Decimal Number** drop-down list box is 2, and the value in the **Max Value** box is 5000, the maximum value which can be written to the device related to the button set will be 50.00. If the value selected in the **Integer Number** drop-down list box is 3, the value selected in the **Decimal Num** drop-down list box is 2, and the value in the **Max Value** box is 500, the maximum value which can be written to the device related to the button set will be 5.00. However, whether a value is selected in the **Decimal Number** drop-down list box, the value which is actually written to the device related to the button is regarded as an integer. If **Input Value** is selected, there will be two tabs in the **Button Setting** window for TP70 series text panels, as shown in Figure 4-61 and Figure 4-62.

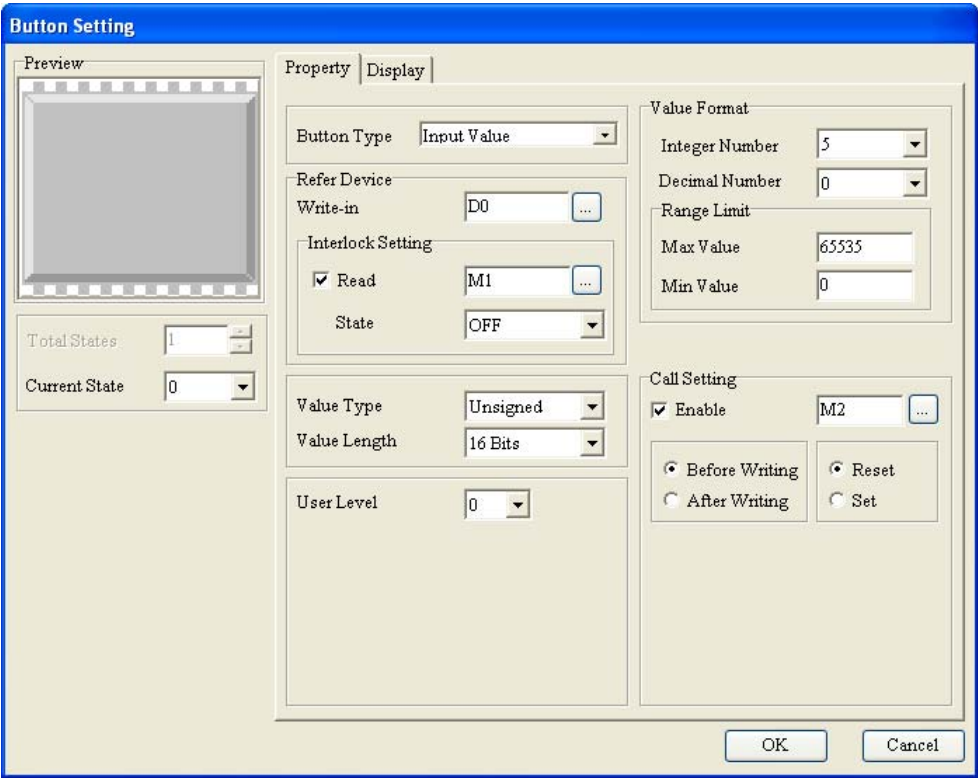


Figure 4-61 **Button Setting** window (TP70 series text panel)

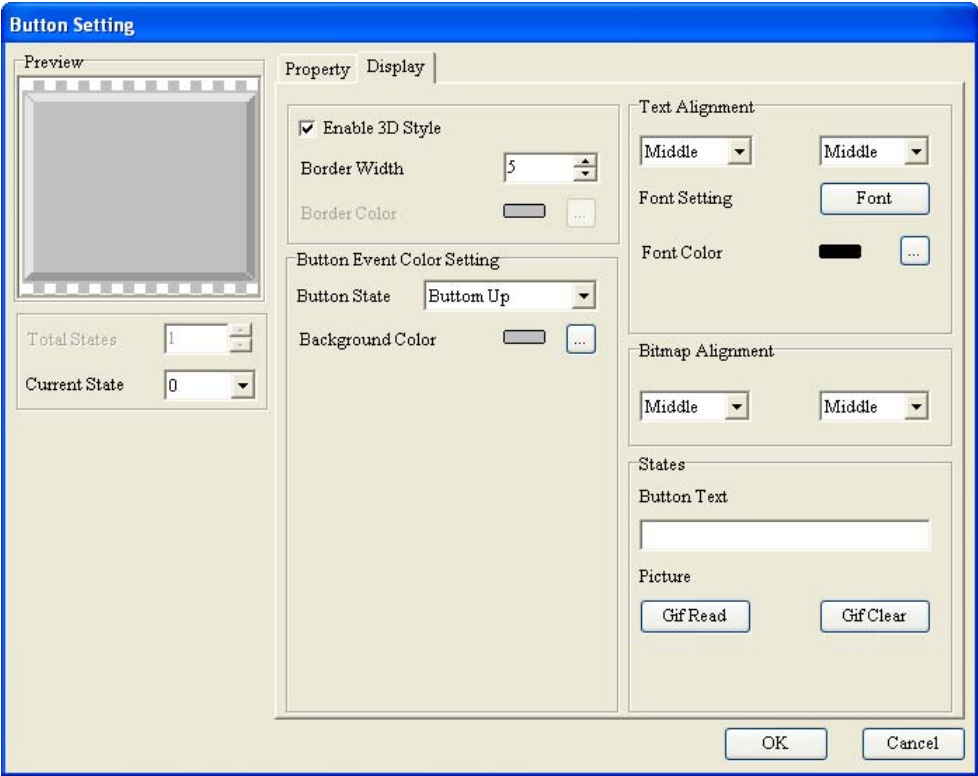


Figure 4-62 **Button Setting** window (TP70 series text panel)

- If **Constant Setting** is selected, the **Button Setting** window will be as shown in Figure 4-63.

Button Setting

Button Type: Constant Setting

Refer Device: Write-in: D0, Read: [empty]

☒ Function Key

Value Type: Unsigned, Value Length: 16 Bits

Current State: 0, Total States: 1

Button Text: [empty]

Constant Setting: [empty]

Frame Setting: Single Frame, Font Setting: 5x8

Text Alignment: Middle, Bitmap Alignment: Middle

Call Setting: ☒ Enable, M1, ☒ Before Writing, ☒ Reset, ☐ After Writing, ☐ Set

Graph Input: [None], Bitmap Read, Bitmap Clear

User Level: 0

OK, Cancel

Figure 4-63 **Button Setting** window

When a **Constant Setting** button on a TP series text panel is pressed, the value typed in the **Constant Setting** section is written to the device related to the button.

If **Constant Setting** is selected, there will be two tabs in the **Button Setting** window for TP70 series text panels, as shown in Figure 4-64 and Figure 4-65.

Button Setting

Preview: [Button Graphic]

Property | Display

Button Type: Constant Setting

Refer Device: Write-in: D0, Read: [empty]

Interlock Setting: ☐ Read, State: [empty]

Value Type: Unsigned, Value Length: 16 Bits

User Level: 0

Constant Setting: [empty]

Call Setting: ☒ Enable, M2, ☒ Before Writing, ☒ Reset, ☐ After Writing, ☐ Set

OK, Cancel

Figure 4-64 **Button Setting** window (TP70 series text panel)

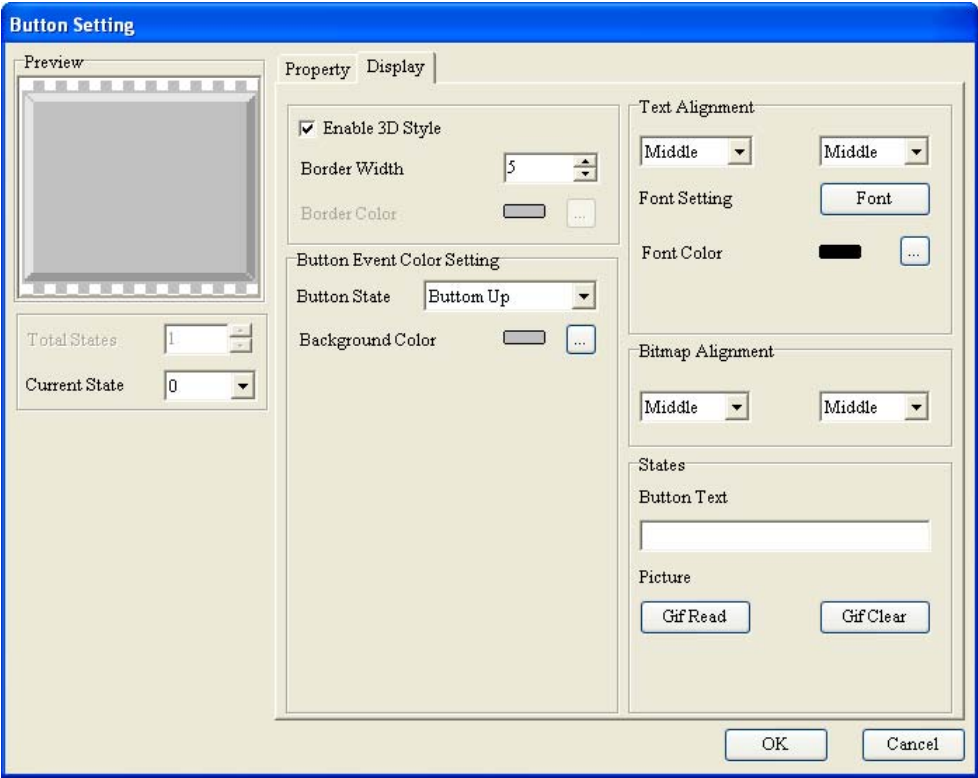


Figure 4-65 **Button Setting** window (TP70 series text panel)

- If **Increase** is selected, the **Button Setting** window will be as shown in Figure 4-66. If **Decrease** is selected, the **Button Setting** window will be as shown in Figure 4-67

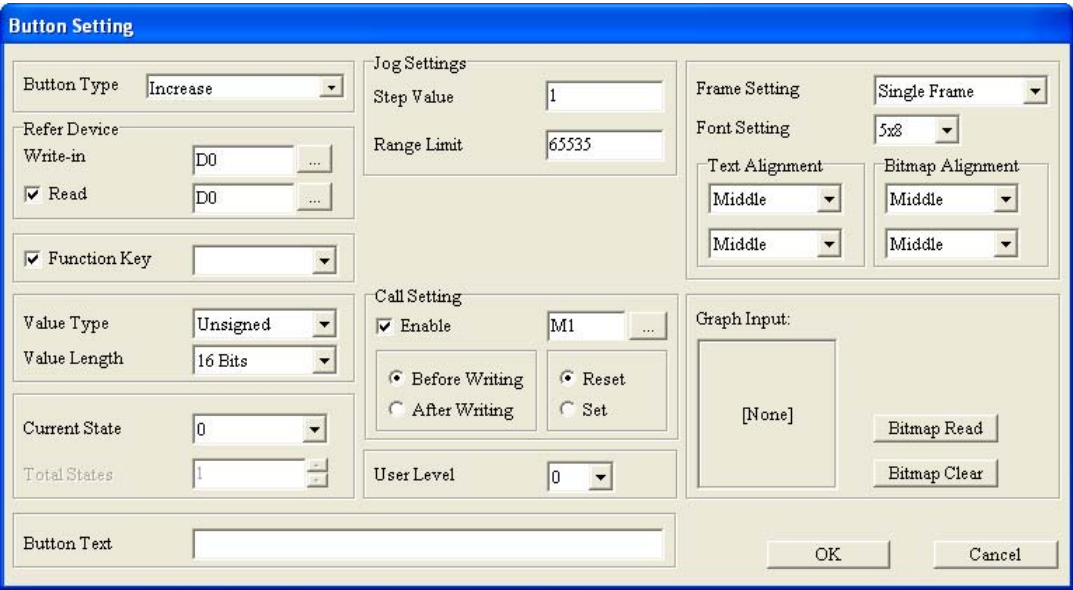


Figure 4-66 **Button Setting** window

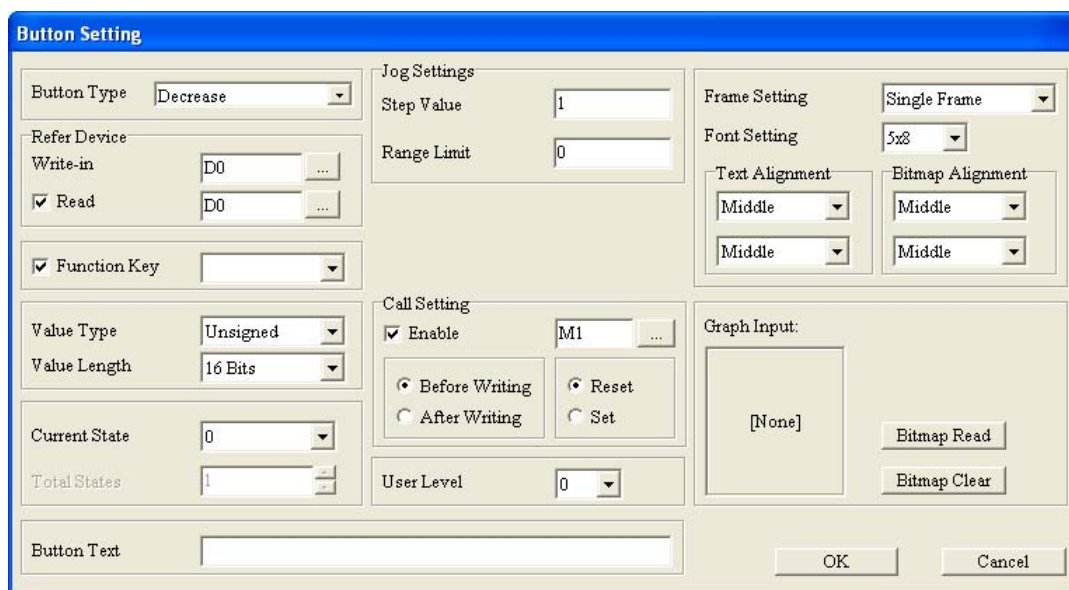


Figure 4-67 **Button Setting** window

In the **Jog Settings** section, the **Step Value** box is used to set the value which is added to or subtracted from the value in the device related to the button set whenever the button is pressed, and the **Range Limit** box is used to set the maximum value to which the value in the device related to the button set can increase or decrease at most. (If **Unsigned** is selected in the **Value Type** drop-down list box, and **32 Bits** is selected in the **Value Length** drop-down list box, the maximum value which can be typed in the **Step Value** box will be 32767. If **Signed** is selected in the **Value Type** drop-down list box, and **32 Bits** is selected in the **Value Length** drop-down list box, the maximum value which can be typed in the **Step Value** box will be 32767. If **Hex** is selected in the **Value Type** drop-down list box, and **32 Bits** is selected in the **Value Length** drop-down list box, the maximum value which can be typed in the **Step Value** box will be FFFF. If **BCD** is selected in **Value Type** drop-down list box, and **32 Bits** is selected in the **Value Length** drop-down list box, the maximum value which can be selected in the **Step Value** box will be 9999.) Suppose 10 is added to the value in the device related to a button whenever the button is presses, and the value in the device related to the button can increase to 1000 at most. If **Increase** is selected in the **Button Type** drop-down list box, the value in the **Step Value** box is 10, and the value in the **Range Limit** box is 1000, the value in the device related to the button set increases by 10 whenever the button is pressed, and the value in the device related to the button set can increase to 1000 at most.

If **Increase** is selected, there will be two tabs in the **Button Setting** window for TP70 series text panels, as shown in Figure 4-68 and Figure 4-69. The setting items in the **Button Setting** window in which **Decrease** is selected are the same as the setting items in the **Button Setting** window in which **Increase** is selected.

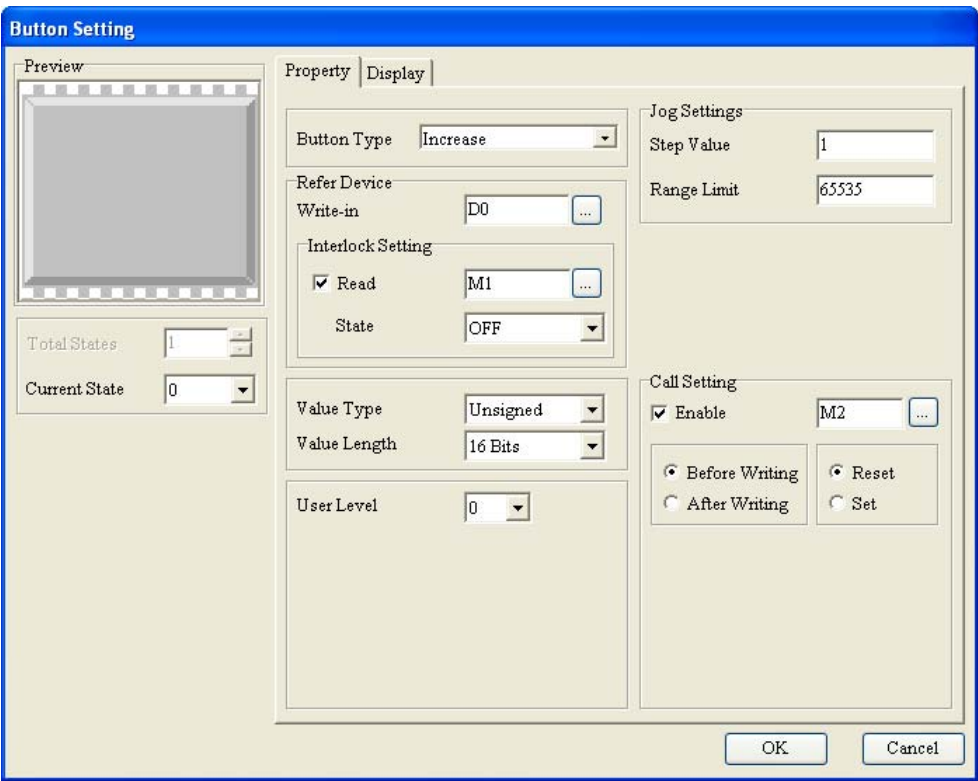


Figure 4-68 **Button Setting** window (TP70 series text panel)

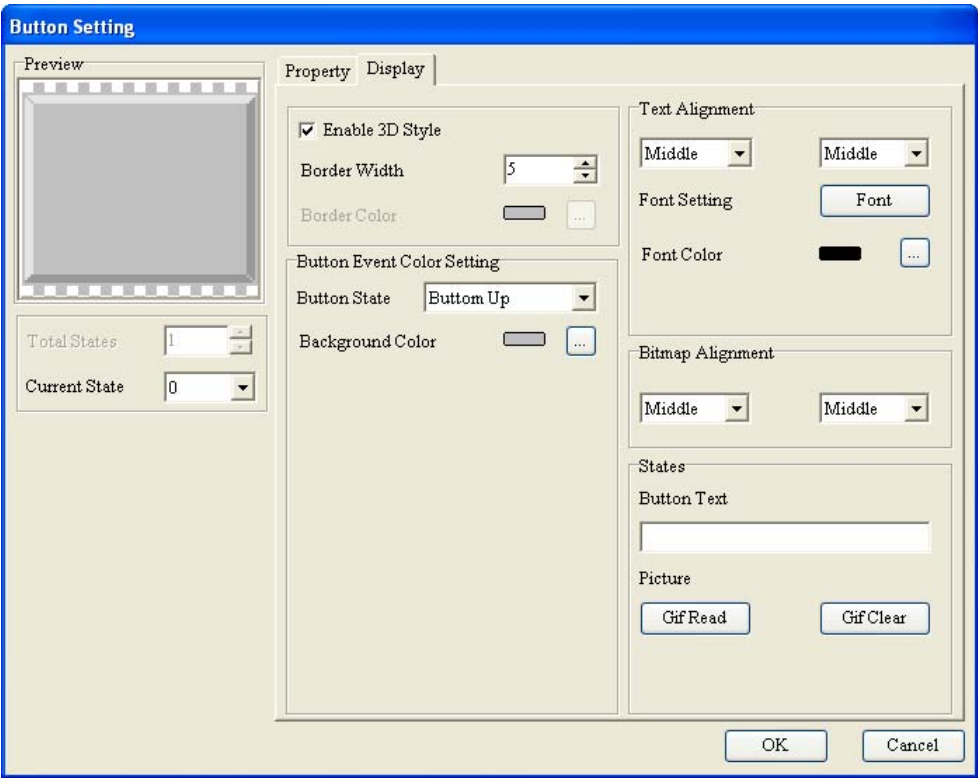


Figure 4-69 **Button Setting** window (TP70 series text panel)

- If **Page Jump** is selected, the **Button Setting** window will be as shown in Figure 4-70.

4

Figure 4-70 **Button Setting** window

If users select a page which has been created in the **Page No** drop-down list box, the page is displayed when the button set is pressed.

If **Page Jump** is selected, there will be two tabs in the **Button Setting** window for TP70 series text panels, as shown in Figure 4-71 and Figure 4-72.

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Figure 4-71 **Button Setting** window (TP70 series text panel)

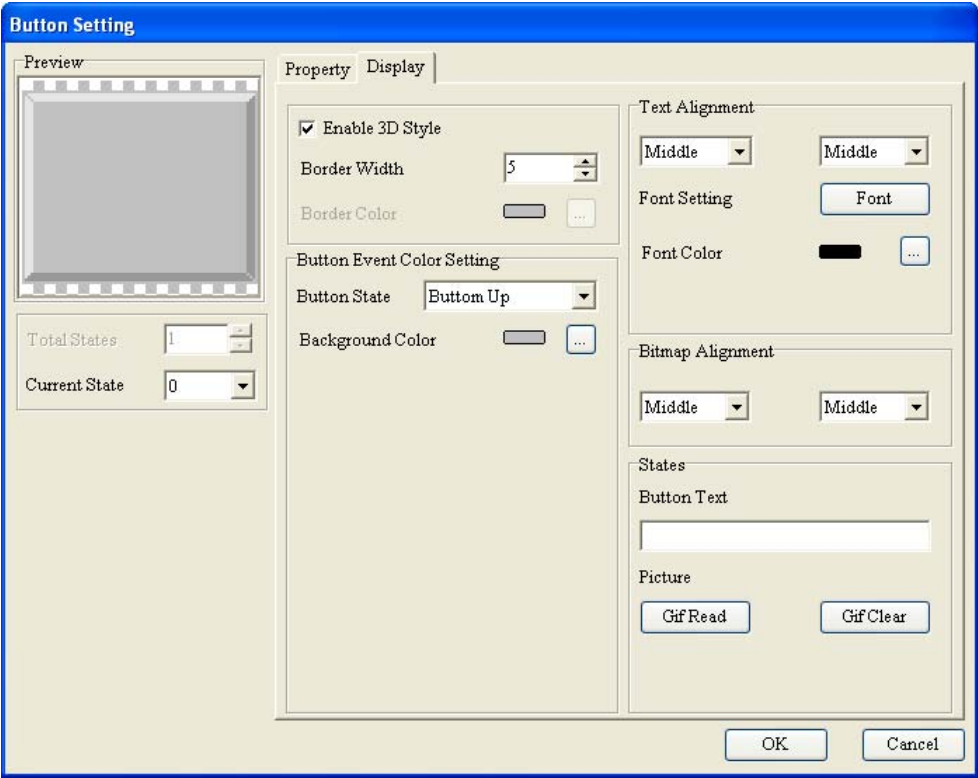


Figure 4-72 **Button Setting** window (TP70 series text panel)

- If **Password and Setting** is selected, the **Button Setting** window will be as shown in Figure 4-73.

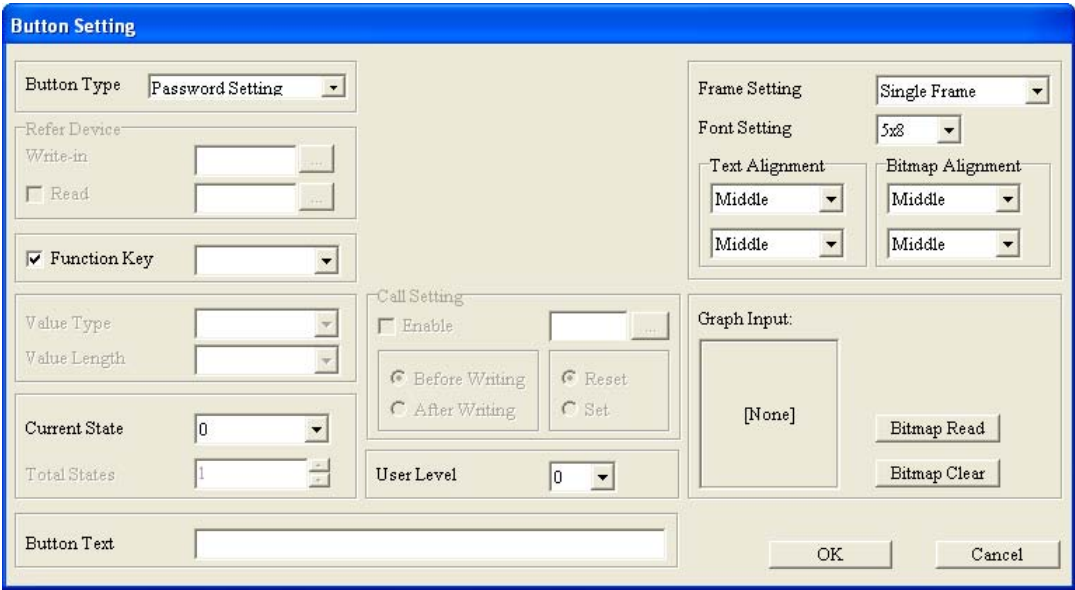


Figure 4-73 **Button Setting** window

If a user level is selected in the **User Level** drop-down list box, users are asked to type a

password when the button set is pressed. After the users type a password belonging to the user level selected, or a password belonging to a higher user level, a password setting page will be displayed. In the password setting page, the users can modify the passwords belonging the user levels lower than the user level selected, and change the user levels lower than the user level selected. The user level selected can be used only if the users set levels and passwords in the **User-Level Password Setting** window. After the users click **User-Level Password Setting** on the **Global Setting** menu, the **User-Level Password Setting** window will appear. Please refer to section 5.2.1 for more information.

If **Password and Setting** is selected, there will be two tabs in the **Button Setting** window for TP70 series text panels, as shown in Figure 4-74 and Figure 4-75.

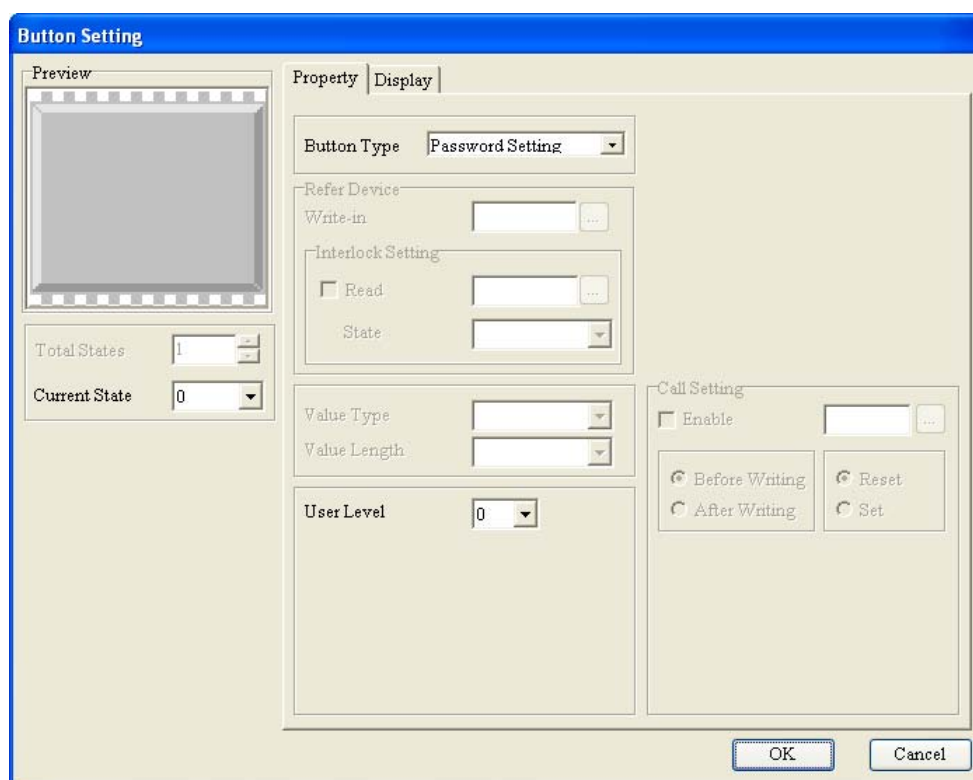


Figure 4-74 **Button Setting** window (TP70 series text panel)

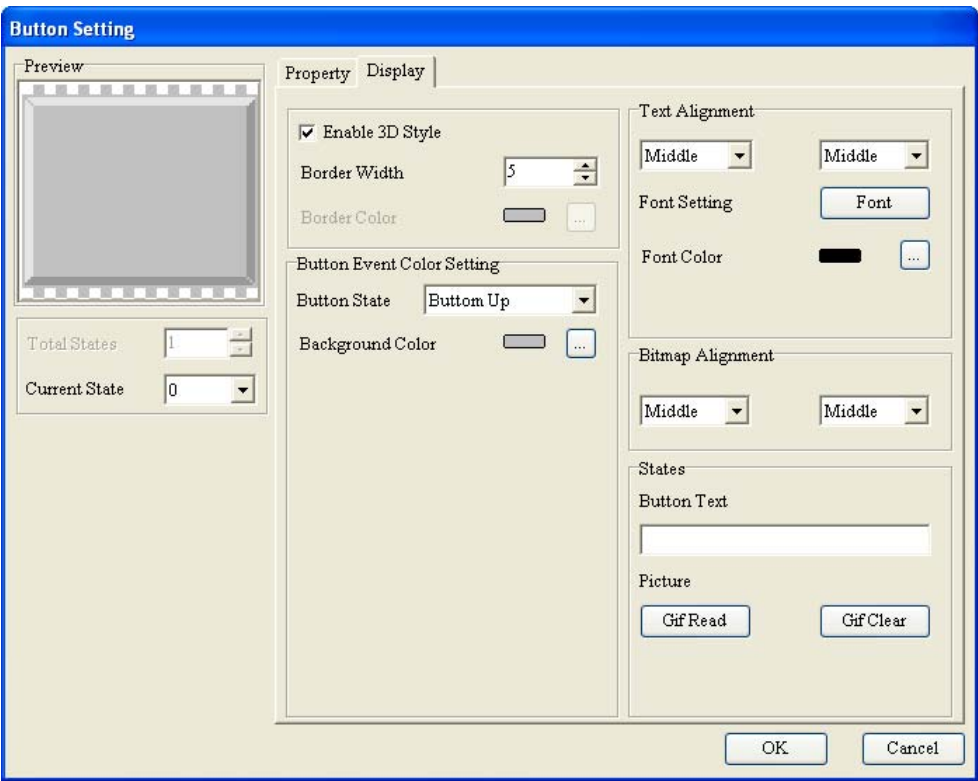


Figure 4-75 **Button Setting** window (TP70 series text panel)

- If **Screen Scroll** is selected, the **Button Setting** window will be as shown in Figure 4-76.

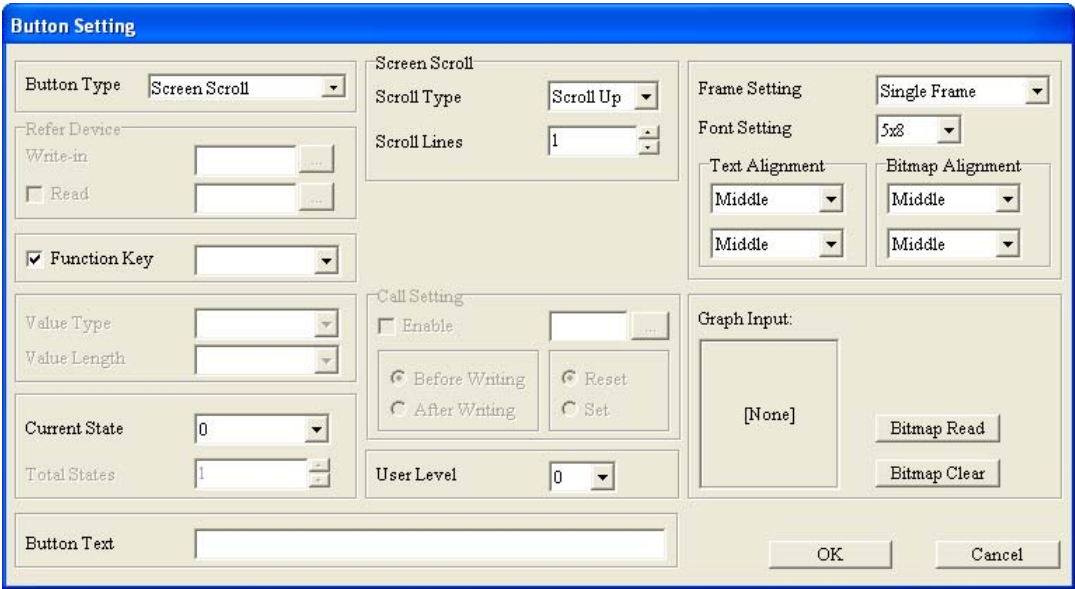


Figure 4-76 **Button Setting** window

Users can select **Scroll Up** or **Scroll Down** in the **Scroll Type** drop-down list box. They can select the number of lines which will be scrolled in the **Scroll Lines** box.

- If **Recipe Write/Read** is selected, the **Button Setting** window will be as shown in Figure 4-77.

Button Setting

Button Type: Recipe Write/Read

Refer Device: Write-in: D0

☒ Function Key

Value Type: Unsigned
Value Length: 16 Bits

Current State: 0
Total States: 1

Button Text:

Recipe Read/Write Setting:
☒ Write
☐ Read

Call Setting:
☐ Enable
☒ Before Writing
☐ After Writing
Reset
Set

User Level: 0

Frame Setting: Single Frame
Font Setting: 5x8
Text Alignment: Middle
Bitmap Alignment: Middle

Graph Input: [None]
Bitmap Read
Bitmap Clear

OK Cancel

Figure 4-77 **Button Setting** window

Before user use this function, they have to set a recipe. Please refer to section 5.2.10 for more information about setting a recipe. If the **Write** option button or the **Read** option button is selected, the recipe set is written to the device related to the button set, or the recipe in the device related to the button set is read when the button is pressed.

- If **Clock Display Setting** is selected, the **Button Setting** window will be as shown in Figure 4-78.

Button Setting

Button Type: Clock Display Setting

Refer Device: Write-in:
Read:

☒ Function Key

Value Type:
Value Length:

Current State: 0
Total States: 1

Button Text:

Call Setting:
☐ Enable
☒ Before Writing
☐ After Writing
Reset
Set

User Level: 0

Frame Setting: Single Frame
Font Setting: 5x8
Text Alignment: Middle
Bitmap Alignment: Middle

Graph Input: [None]
Bitmap Read
Bitmap Clear

OK Cancel

Figure 4-78 **Button Setting** window

When the button set is pressed, a setting window appears. In the setting window, users can set

the year, the month, the day, the week, and the time on the clock in the TP series text panel used.

If **Clock Display Setting** is selected, there will be two tabs in the **Button Setting** window for TP70 series text panels, as shown in Figure 4-79 and Figure 4-80.

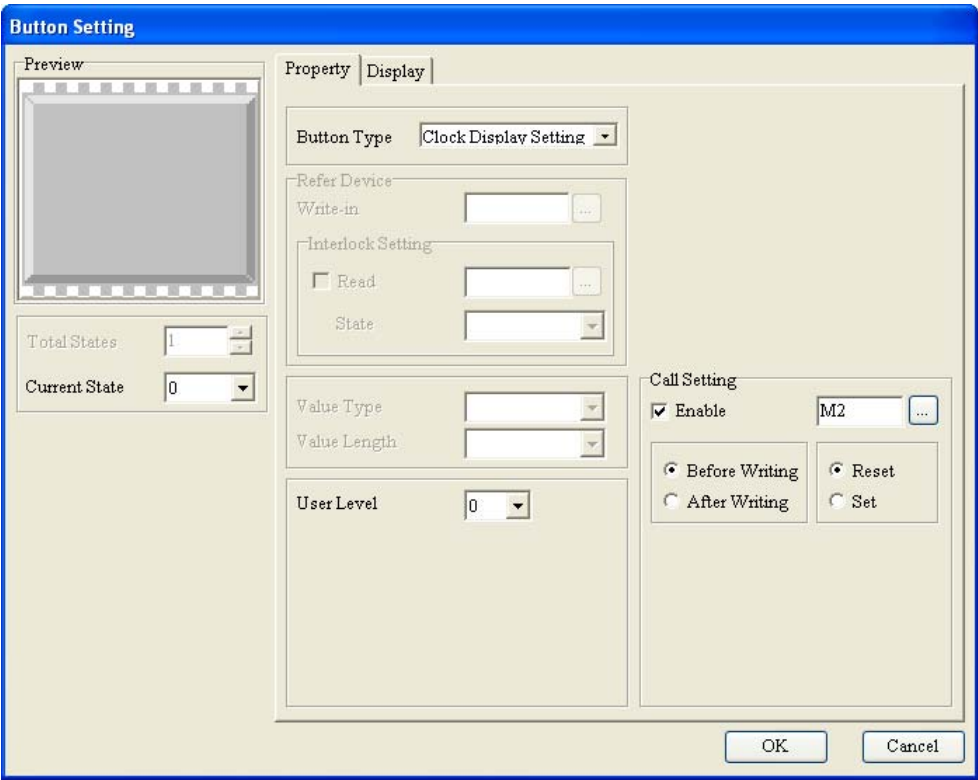


Figure 4-79 **Button Setting** window (TP70 series text panel)

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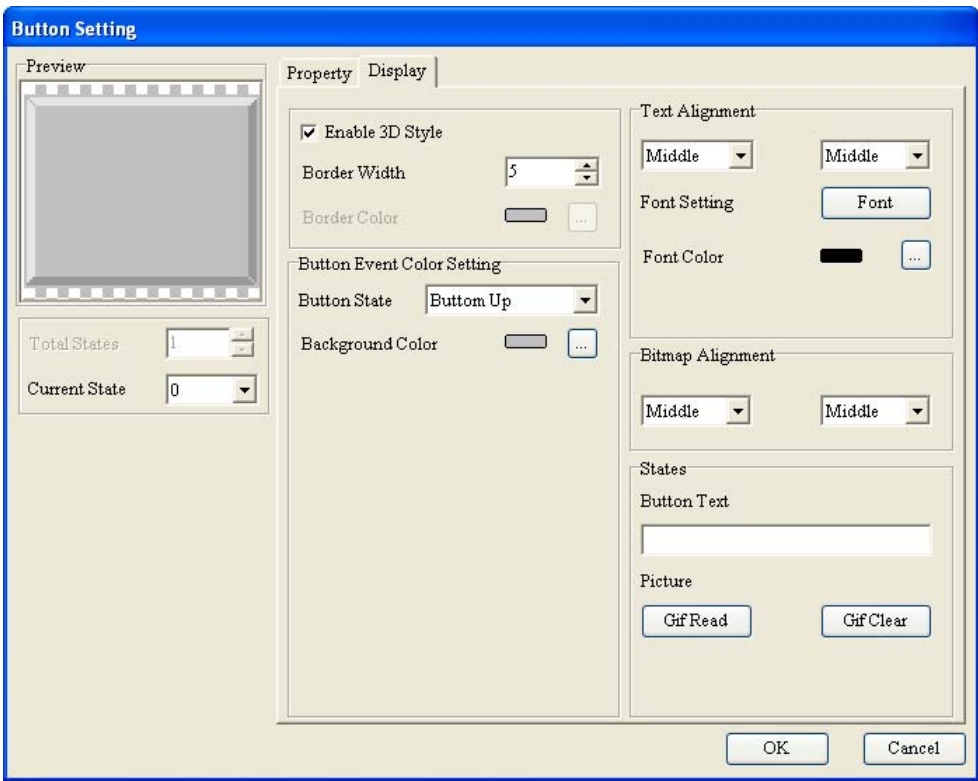


Figure 4-80 **Button Setting** window (TP70 series text panel)

- If **PLC Link Setting** is selected, the **Button Setting** window will be as shown in Figure 4-81.

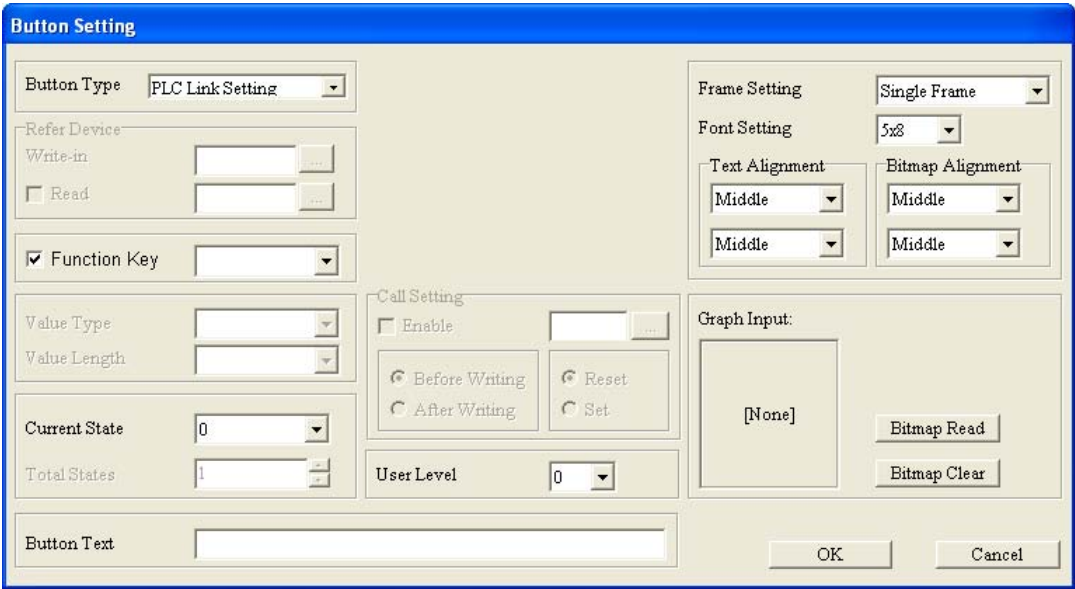


Figure 4-81 **Button Setting** window

When button set is pressed, a setting window appears. In the setting window, users can set a PLC Link.

If **PLC Link Setting** is selected, there will be two tabs in the **Button Setting** window for TP70

series text panels, as shown in Figure 4-82 and Figure 4-83.

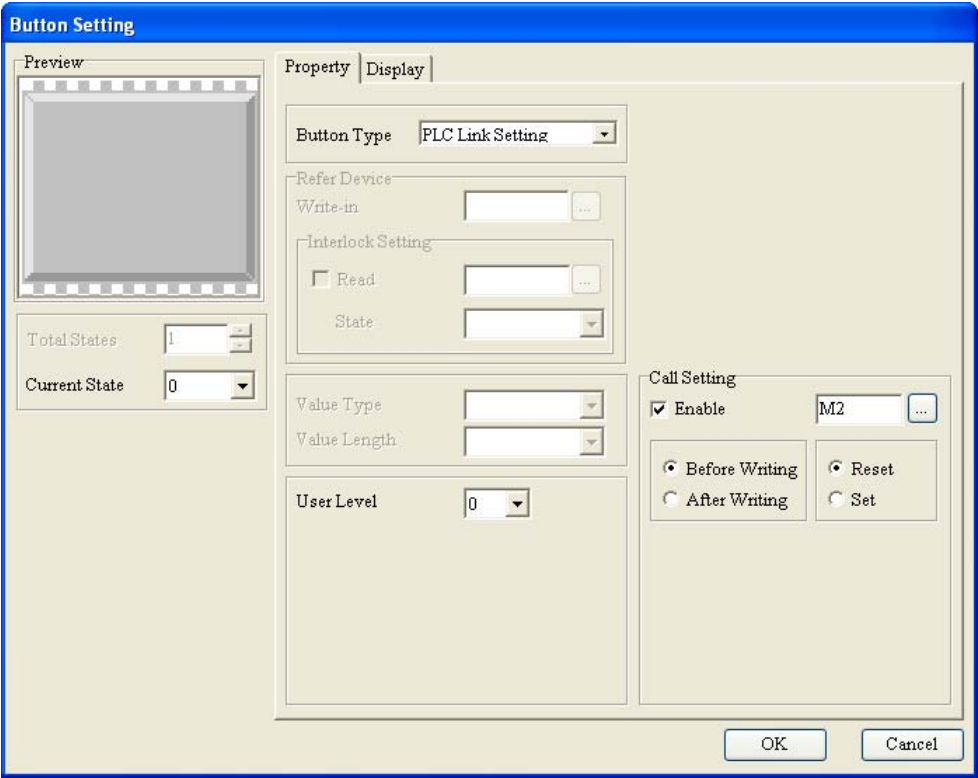


Figure 4-82 **Button Setting** window (TP70 series text panel)

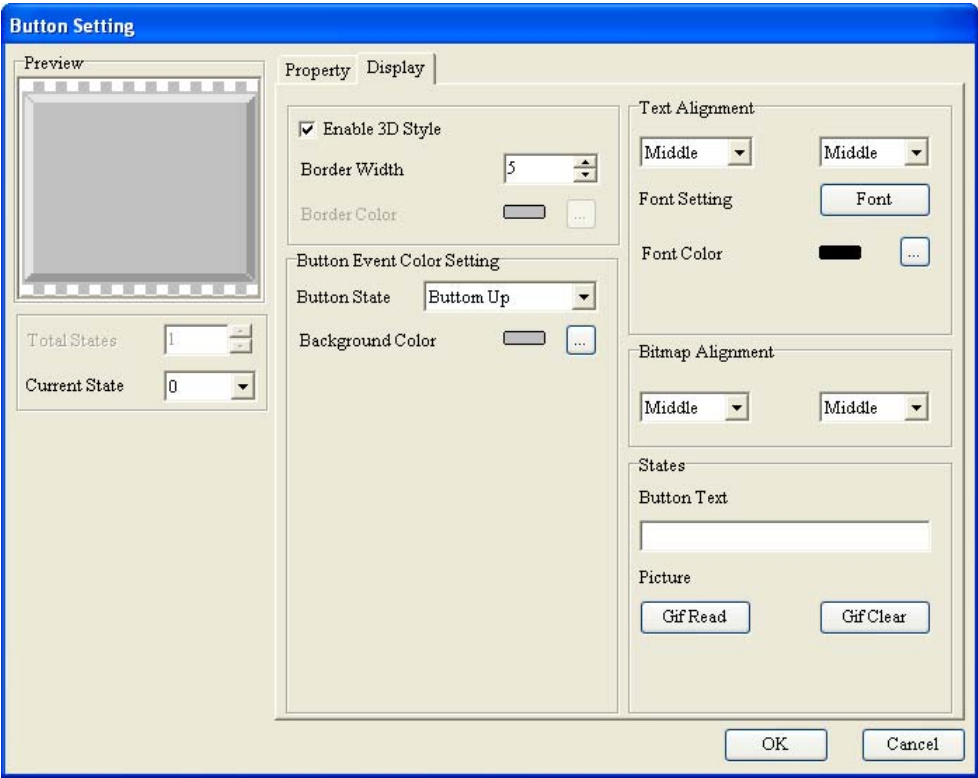




Figure 4-83 **Button Setting** window (TP70 series text panel)

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4.2.13 RTC Display

A real-time clock can be displayed on the screen of the TP series text panel used. The time on the real-time clock can be written to a related device in the equipment which is connected, or the time in a related device in the equipment connected can be read and displayed on the screen of the TP series text panel used. If users want to insert a real-time clock in a page, they can click **RTC Display** on the **Object** menu, or  on the object toolbar.

The **RTC Display Setting** window for general models is as shown in Figure 4-84. After the users click  in the **Refer Device** section, the **Refer Device** window will be opened. Please refer to section 4.1.1 for more information.

If the **TP Time** option button is selected, the time/day/week on the real-time clock in the TP series text panel used will be written to the related devices set, and displayed on the screen of the TP series text panel. If the **PLC Time** option button is selected, the time in the related devices set will be read, and displayed on the screen of the TP series text panel used. The real-time clock inserted in a page can display a time, a week, or a date.

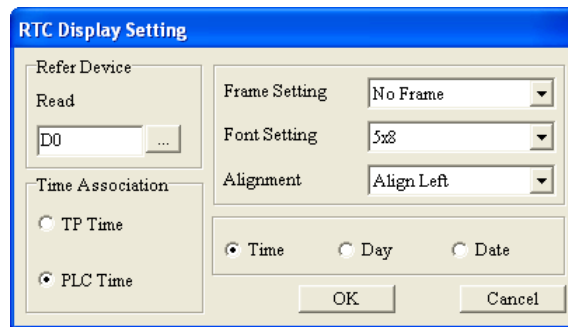


Figure 4-84 RTC Display Setting window

There are two tabs in the **RTC Display Setting** window for TP70 series text panels, as shown in Figure 4-85 and Figure 4-86.

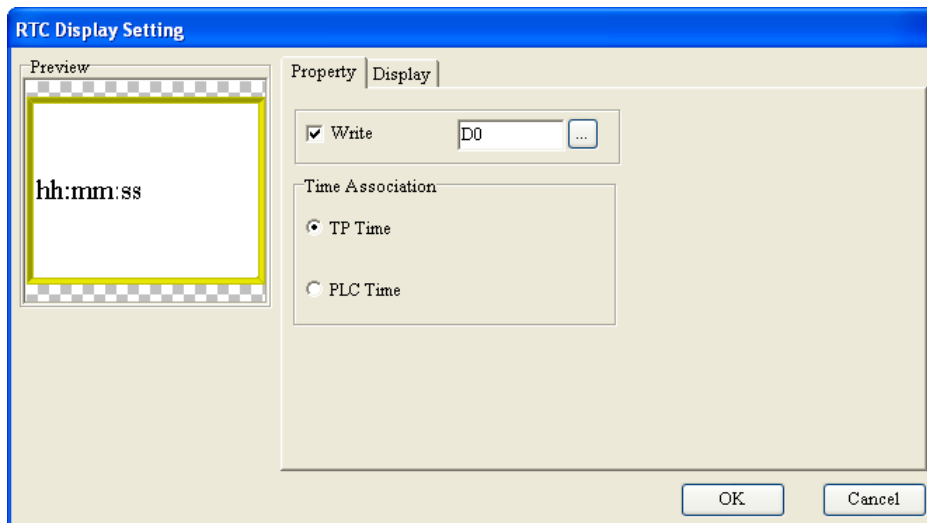


Figure 4-85 RTC Display Setting window (TP70 series text panel)

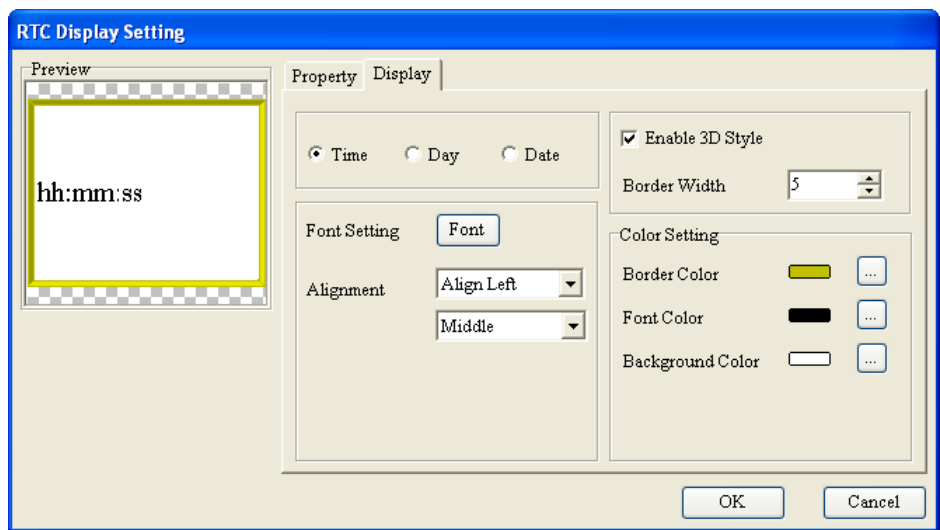




Figure 4-86 RTC Display Setting window (TP70 series text panel)

4.2.14 Multi-State Bitmap/Label

The function of a multi-state image is the same as that of a dynamic image. The difference between a multi-state image and a dynamic image is that text can be inserted in a multi-state image. If users want to insert a multi-state image in a page, they can click **Multi-State Bitmap/Label** on the Object menu, or  on the object toolbar.

The **Multi-State Bitmap/Label Setting** window for general models is as shown in Figure 4-87. After the users click  in the **Refer Device** section, the **Refer Device** window will be opened. Please refer to section 4.1.1 for more information.

If the **Bit** option button is selected, the value in the **Total States** box will be 2, and the value which can be selected in the **Current State** drop-down list box will be 0 or 1. If the **Value** option button is selected, the maximum value which can be set in the **Total States** box will be 255, the current states which can be set will vary with the value set in the **Total States** box, and the value which can be selected in the **Current State** drop-down list box will be in the range of 0 to 254. In Figure 4-88, the **Value** option button is selected.

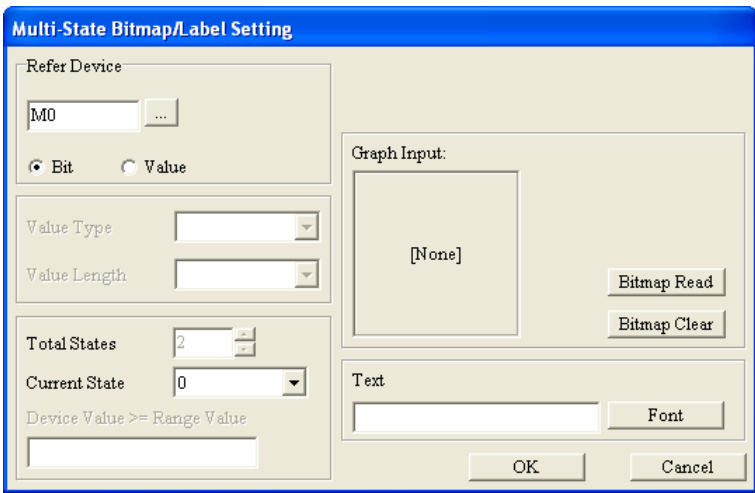


Figure 4-87 Multi-State Bitmap/Label Setting window

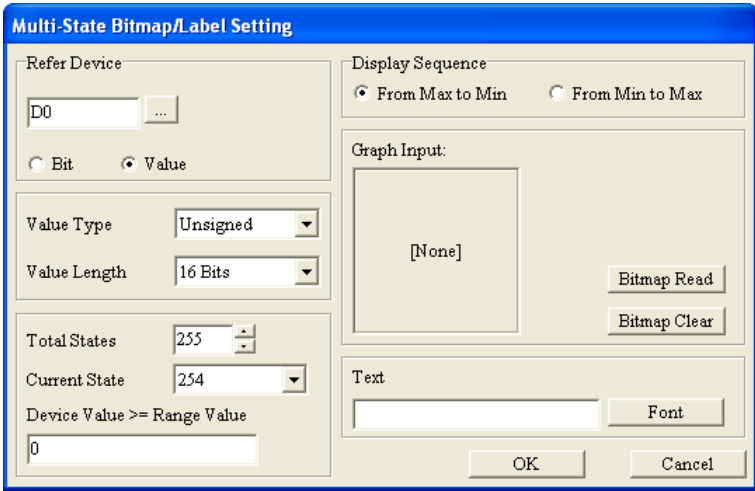


Figure 4-88 Multi-State Bitmap/Label Setting window

After the users click **Bitmap Read**, the **Open** window will be opened. The users have to select an image file in the **Open** window. The files which are supported are .bmp files. The users can set the images corresponding to the states which can be set, and they can set the messages corresponding to the states which can be set. Besides, they can set range values for the states which can be set. If the value in the related device set is greater than or equal to a range value, the image and the message corresponding to the state for which the range value is set will be displayed. Suppose that the **From Max to Min** option button in the **Display Sequence** section is selected, the range value for state 0 is 300, and the range value for state 1 is 100. If the value in the related device set is greater than or equal to 300, the image and the message corresponding to state 0 will be displayed. If the value in the related device set is greater than or equal to 100, and is less than 300, the image and the message corresponding to state 1 will be displayed.

The users can double-click the **Text** box, and then type values and text in the **All States Table**

window, as shown in Figure 4-89. After the users click **Refer Value**, the **Edit Range Calculator** window will appear. After the users select states, and type values in the **Upper Bound** box and the **Lower Bound** box, range values will be calculated automatically, and will be brought back to the **All States Table** window. Please refer to section 4.2.5 for more information.

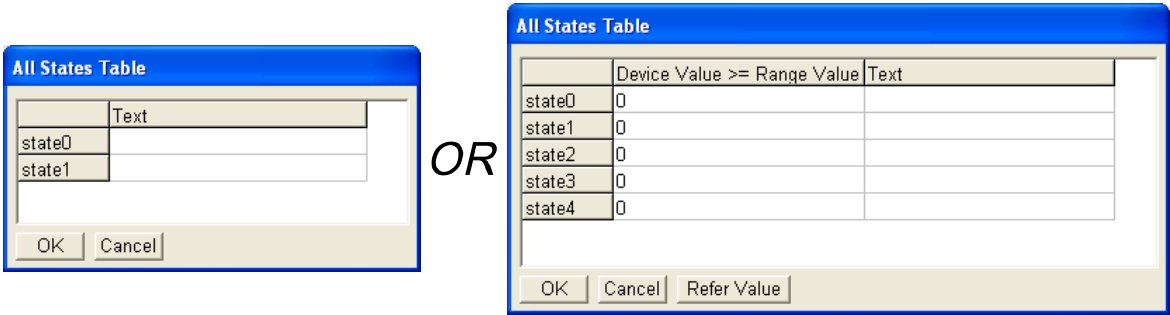


Figure 4-89 All States Table window

There are two tabs in the **Multi-State Bitmap/Label Setting** window for TP70 series text panels, as shown in Figure 4-90 and Figure 4-91.

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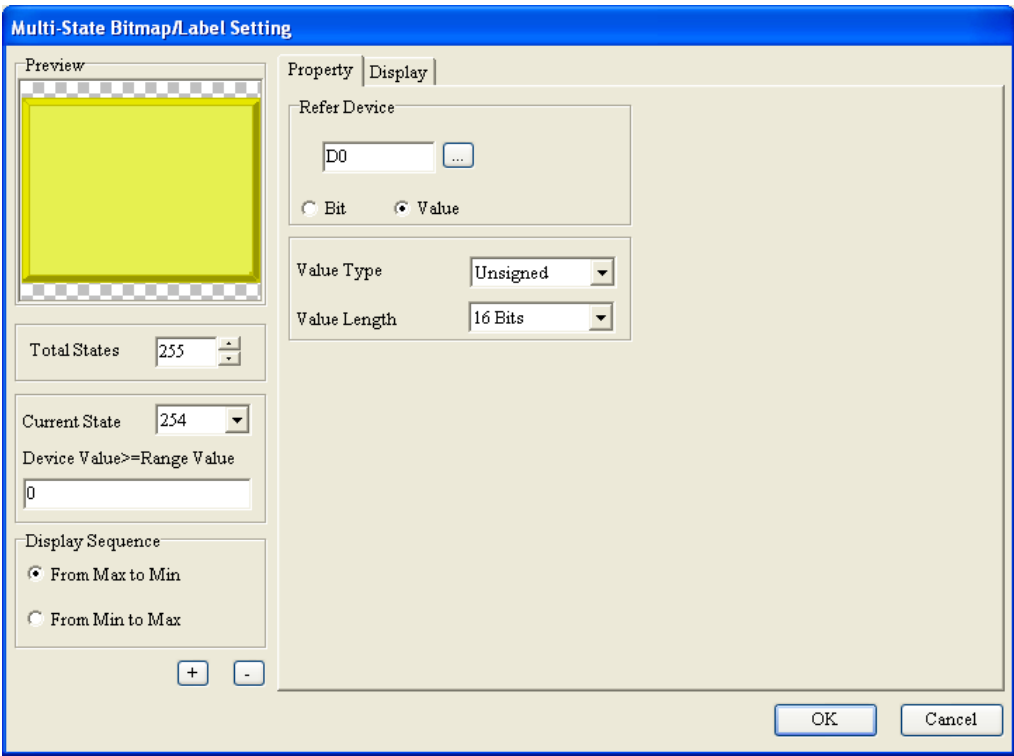


Figure 4-90 Multi-State Bitmap/Label Setting window (TP70 series text panel)

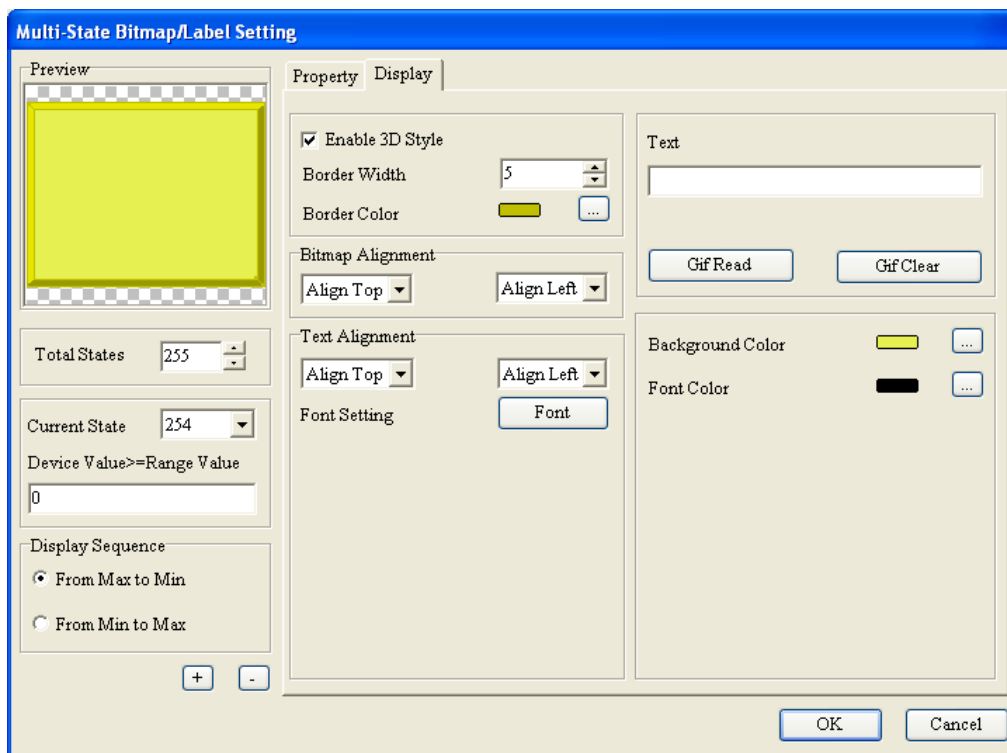


Figure 4-91 Multi-State Bitmap/Label Setting window (TP70 series text panel)

If the **Value** option button is selected, the users can select the state which needs to be added or deleted in the window which appears after they click or .

4.2.15 Units

A unit can be displayed on the screen of a TP series text panel. If users want to insert a unit in a page, they can click **Units** on the **Object** menu, or on the object toolbar.

The **Units Setting** window for general models is as shown in Figure 4-92. After the users select a type in the **Metrology Type** drop-down list box, they can select a unit name in the **Unit Name** drop-down list box.

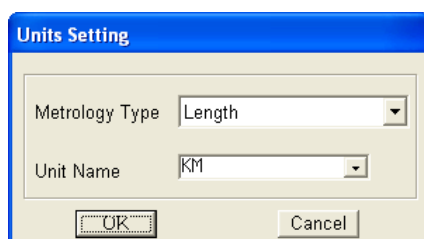


Figure 4-92 Units Setting window

4.2.16 Numeric Input

A numeric input displayed on the screen of a TP series text panel is used to write a value to a related device. If users want to insert a numeric input in a page, they can click **Numeric Input** on the **Object** menu, or on the object toolbar.

The **Numeric Input Setting** window for general models is as shown in Figure 4-93. After the users click [...] in the **Refer Device** section, the **Refer Device** window will be opened. Please refer to section 4.1.1 for more information.

In the **Value Setting** section, the **Integer Number** drop-down list box is used to set the number of integral places, and the **Decimal Number** drop-down list box is used to set the number of decimal places. In the **Limit Setting** section, the users can type the minimum value which can be written to the related device set in the **Min Value** box, and the maximum value which can be written to the related device set in the **Max Value** box. The **Integer Number** drop-down list box and the **Decimal Number** drop-down list box are used to set the way in which a value is displayed. If the value selected in the **Integer Number** drop-down list box is 3, the value selected in the **Decimal Number** drop-down list box is 2, and the value in the **Max Value** box is 5000, the maximum value which can be written to the related device set will be 50.00. If the value selected in the **Integer Number** drop-down list box is 3, the value selected in the **Decimal Num** drop-down list box is 2, and the value in the **Max Value** box is 500, the maximum value which can be written to the related device set will be 5.00. However, whether a value is selected in the **Decimal Number** drop-down list box, the value which is actually written to the related device set is regarded as an integer.

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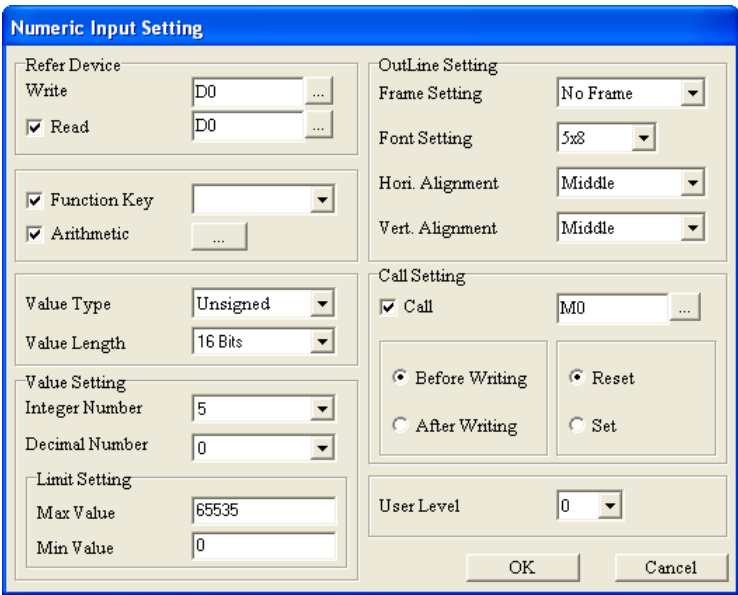


Figure 4-93 Numeric Input Setting window

When the function key corresponding to the numeric input set is pressed, a window appears. The value that the users type in the window is the value written to the related device set. There are two tabs in the **Numeric Input Setting** window for TP70 series text panels, as shown in Figure 4-94 and Figure 4-95.

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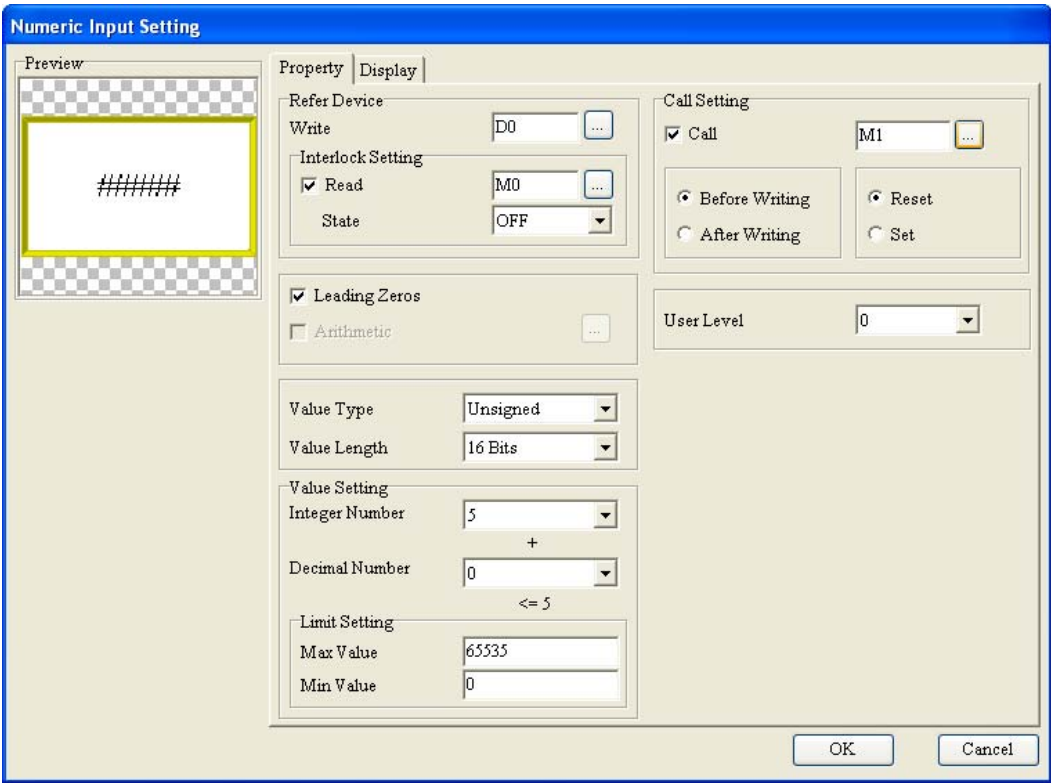


Figure 4-94 Numeric Input Setting window (TP70 series text panel)

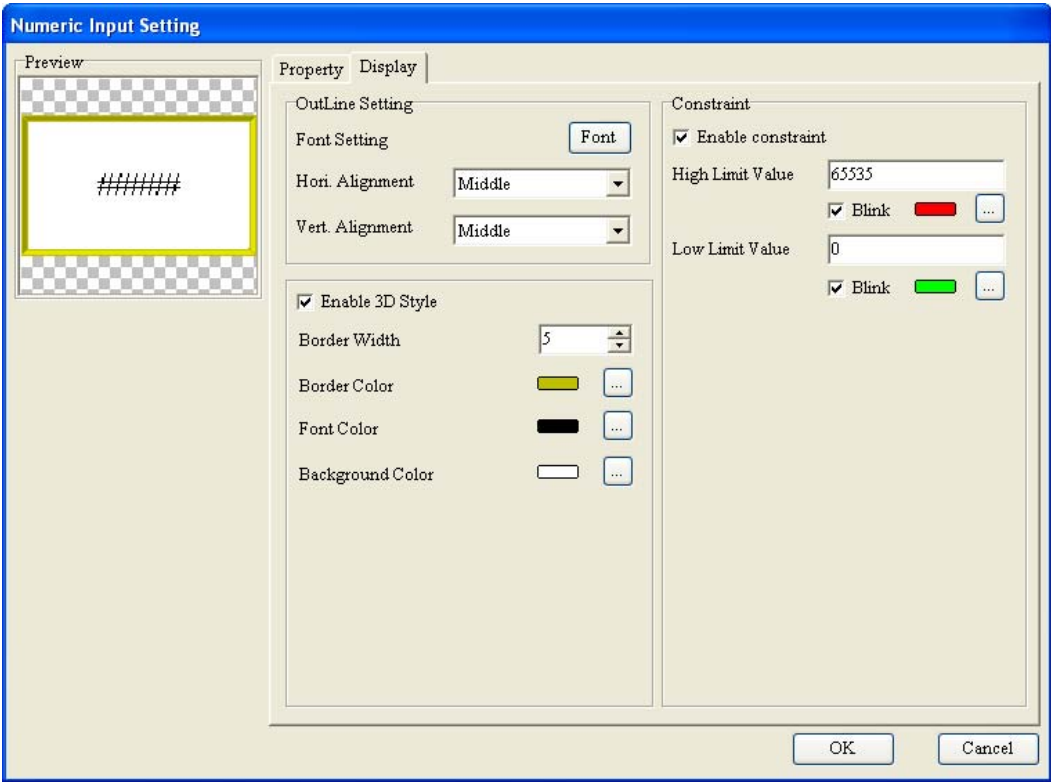




Figure 4-95 Numeric Input Setting window (TP70 series text panel)

4.2.17 Curve

The values in registers can be represented by two curves displayed on the screen of a TP series text panel. If users want to insert curves in a page, they can click **Curve** on the **Object** menu, or  on the object toolbar.

The **Curve Setting** window for general models is as shown in Figure 4-96. After the users click  in the **Refer Device** section, the **Refer Device** window will be opened. Please refer to section 4.1.1 for more information. The value in the **Vertical Max** box indicates the maximum value which can be read, and the value in the **Vertical Min** box indicates the minimum value which can be read. If the value in a register is not in the range of the minimum value set to the maximum value set, it will be not be represented by a point of a curve.

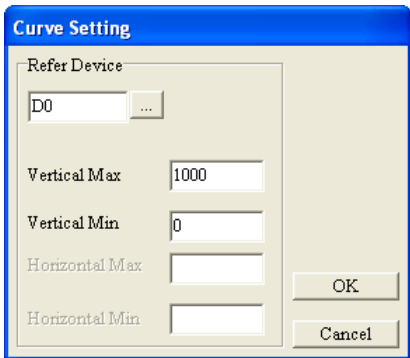


Figure 4-96 **Curve Setting** window

The rule of sampling points is described below. Suppose the related device specified is D0. The number of points which are stored will depend on the value in D0. The maximum number of points which can be sampled will be 100. The odd register numbers (D1, D3...) will be in a group, and the even register numbers (D2, D4...) will be in a group. Two curves can be drawn.

D0=Number of points which are stored

D1=First point of the first curve

D2=First point of the second curve


D3=Second point of the first curve


D4=Second point of the second curve

:

The series of values are represented by curves displayed on the screen of a TP series text panel.

4.2.18 X-Y Curve

The values in registers can be represented by an X-Y curve displayed on the screen of a TP series text panel. If users want to insert an X-Y curve in a page, they can click **X-Y Curve** on the **Object** menu, or  on the object toolbar.

The **X-Y Curve Setting** window for general models is as shown in Figure 4-97. After the users click  in the **Refer Device** section, the **Refer Device** window will be opened. Please refer to section

4.1.1 for more information. The value in the **Vertical Max** box indicates the maximum value which can be plotted along a vertical axis, the value in the **Vertical Min** box indicates the minimum value which can be plotted along a vertical axis, the value in the **Horizontal Max** box indicates the maximum value which can be plotted along a horizontal axis, and the value in the **Horizontal Min** box indicates the minimum value which can be plotted along a horizontal axis. If the value in a register is not in the range of the value typed in the **Vertical Min** box to the value typed in the **Vertical Max** box, or in the range of the value typed in the **Horizontal Min** box to the value typed in the **Horizontal Max** box, it will not be represented by a point of a curve.

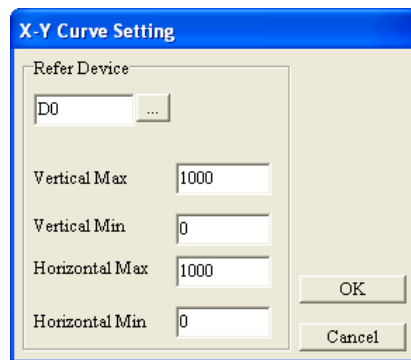


Figure 4-97 X-Y Curve Setting window

The rule of sampling points is described below. Suppose the related device specified is D0. The number of points which are stored will depend on the value in D0. The maximum number of points which can be sampled will be 100. D1 and D2 will define the x-coordinate of the first point and the y-coordinate of the first point, D3 and D4 will define the x-coordinate of the second point and the y-coordinate of the second point, and so on. An X-Y curve can be drawn.

D0=Number of points which are stored

D1=X-coordinate of the first point of a curve


D2=Y-coordinate of the first point of a curve

D3=X-coordinate of the second point of a curve

D4=Y-coordinate of the second point of a curve

:

The series of values are represented by an X-Y curve displayed on the screen of a TP series text panel.

The functions of the X-Y curves for TP70 series text panels are different from those of the X-Y curves for other models. There are three tabs in the **X-Y Curve Setting** window for TP70 series text panels. After the users click  in the **Refer Device** section, the **Refer Device** window will be opened. Please refer to section 4.1.1 for more information. When the users set an X-Y curve, they can view the changes made to the X-Y curve in the **Preview** section.

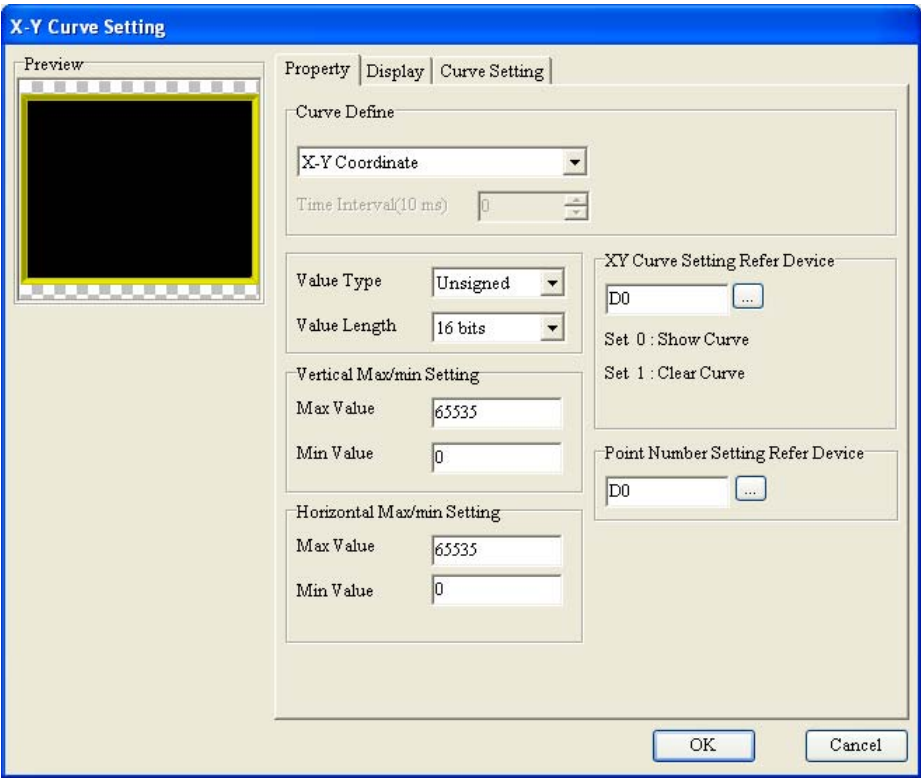


Figure 4-98 X-Y Curve Setting window (TP70 series text panel)

After the **Property** tab is clicked, the **X-Y Curve Setting** window will be as shown in Figure 4-98. The users can select **X-Y Coordinate** or **Time-Y Coordinate** in the **Curve Define** section, as shown in Figure 4-99. If **X-Y Coordinate** is selected, the values in registers will be plotted along the x-axis and the y-axis. If **Time-Y Coordinate** is selected, time coordinates will be used as abscissas, and the value in a register will be sampled in accordance with the interval selected in the **Time Interval** box.

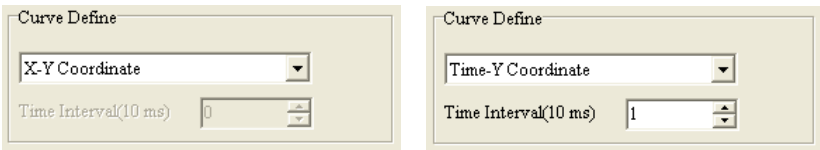


Figure 4-99 Curve Define (TP70 series text panel)

If 0 is written to the register selected in the **XY Curve Setting Refer Device** section when a TP series text panel operates, the values in related devices will be captured and represented by the points of X-Y curves. If 1 is written to the register selected in the **XY Curve Setting Refer Device** section when a TP series text panel operates, the curves which have been drawn will be removed. If 2 is written to the register selected in the **XY Curve Setting Refer Device** section when a TP series text panel operates, the curves which have been created will be removed, and the values in related devices will be captured and represented by the points of X-Y curves. The value in the register

selected in the **Point Number Setting Refer Device** section indicates the number of points which are stored. Please see Figure 4-100.

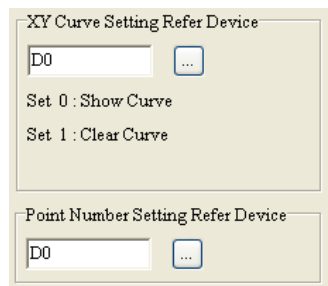


Figure 4-100 XY Curve Setting Refer Device (TP70 series text panel)

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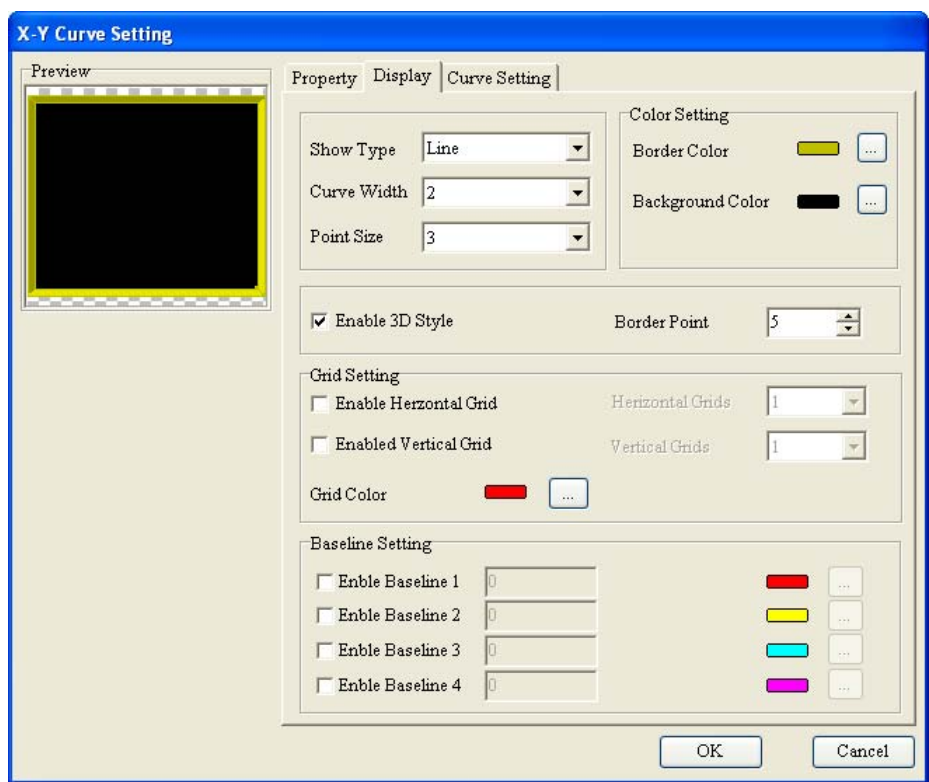


Figure 4-101 X-Y Curve Setting window (TP70 series text panel)

After the **Display** tab is clicked, the **X-Y Curve Setting** window will be as shown in Figure 4-101. The **Show Type** drop-down list box, the **Curve Width** drop-down list box, and the **Point Size** drop-down list box are used to set the appearances of curves and the appearances of points. The users can set the number of horizontal squares and the number of vertical squares in the **Grid Setting** section, as shown in Figure 4-102. They can set baselines in the **Baseline Setting** section. Four baselines at most can be set, as shown in Figure 4-103.

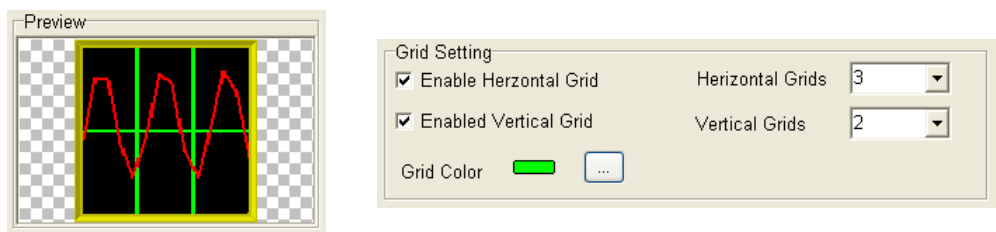


Figure 4-102 **Grid Setting** (TP70 series text panel)

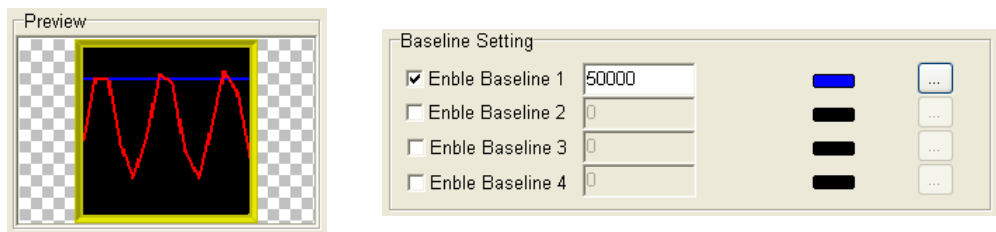


Figure 4-103 **Baseline Setting** (TP70 series text panel)

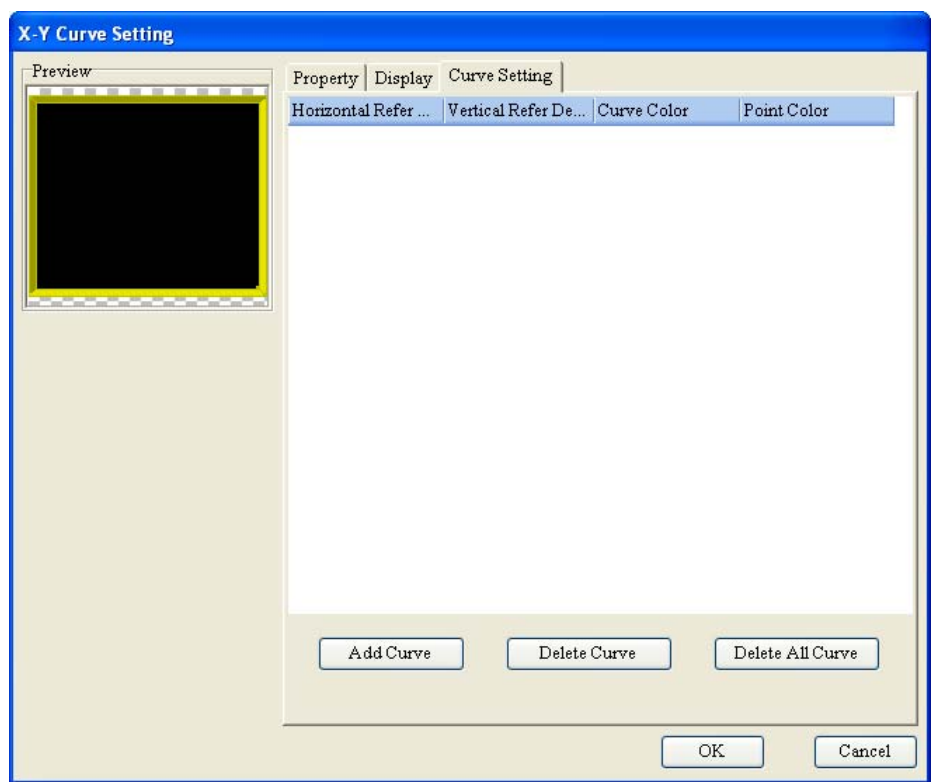


Figure 4-104 **X-Y Curve Setting** window (TP70 series text panel)

After the **Curve Setting** tab is clicked, the **X-Y Curve Setting** window will be as shown in Figure 4-104. The users can add 16 curves at most. After **Add Curve** is clicked, a new curve will be added. After **Delete Curve** is clicked, the curve selected will be deleted. After **Delete All Curve** is clicked, all curves will be deleted.

After the users double-click a new curve which is added, the **Single Curve Setting** window will

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appear, as shown in Figure 4-105.

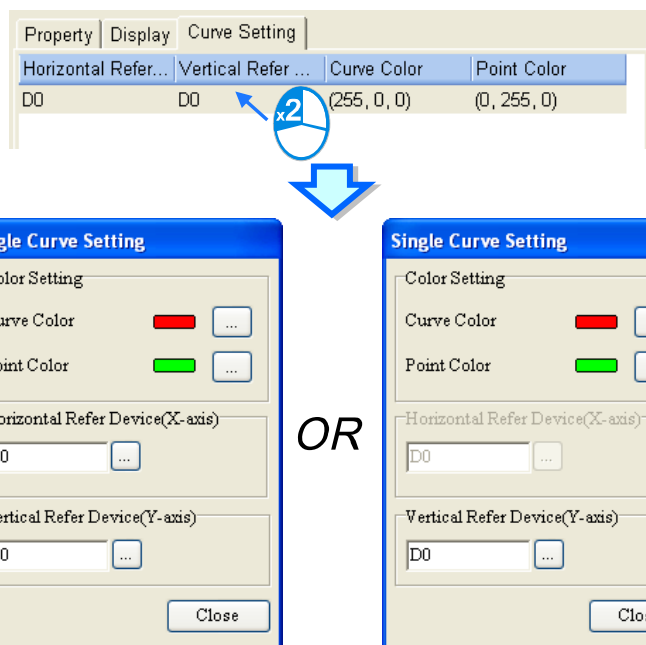


Figure 4-105 **Single Curve Setting** window (TP70 series text panel)

The **Single Curve Setting** window for **X-Y Coordinate** is different from the **Single Curve Setting** window for **Time-Y Coordinate**.

If the users select **X-Y Coordinate** in the **Curve Define** section, they can select a related device in the **Horizontal Refer Device (X-axis)** section and a related device in the **Vertical Refer Device (Y-axis)** section in the **Single Curve Setting** window. Suppose the device selected in the **Point Number Setting Refer Device** section is D0. The number of points which are stored will depend on the value in D0. Suppose the device selected in the **Horizontal Refer Device (X-axis)** section is D10, and the device selected in the **Vertical Refer Device (Y-axis)** section is D20. D10 and D20 will define the x-coordinate of the first point and the y-coordinate of the first point, D11 and D21 will define the x-coordinate of the second point and the y-coordinate of the second point, and so on.

D0=Number of points which are stored

D10=X-coordinate of the first point of a curve

D20=Y-coordinate of the first point of a curve

D11=X-coordinate of the second point of a curve

D21=Y-coordinate of the second point of a curve

:


If the users select **Time-Y Coordinate** in the **Curve Define** section, they can only select a related device in the **Vertical Refer Device (Y-axis)** section in the **Single Curve Setting** window. Suppose the device selected in the **Point Number Setting Refer Device** section is D0. The number of points which are stored will depend on the value in D0. Suppose the device selected in the **Vertical Refer Device (Y-axis)** section is D20. The value in D20 will be sampled in accordance with the interval

selected in the **Time Interval** box, and plotted along the x-axis and the y-axis.

D0=Number of values which is sampled

D20=Target register which is sampled

4.2.19 Delta Products Communication Device Setting

The **Delta Products Communication Device Setting** window helps user rapidly set the input parameters in the equipment which is connected. After  on the object toolbar is clicked, the **Delta Products Communication Device Setting** window will appear, as shown in Figure 4-106.

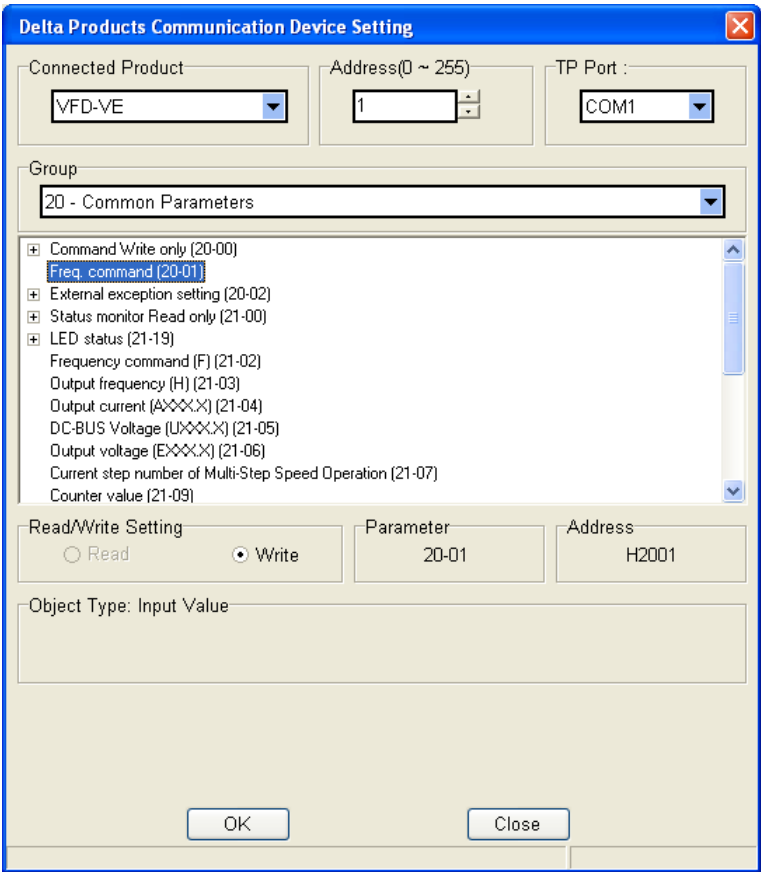



Figure 4-106 **Delta Products Communication Device Setting** window

After the users select the equipment which is connected to the TP series text panel used in the **Connected Product** section, a communication address in the **Address (0~255)** section, and a communication port in the **TP Port** section in the **Delta Products Communication Device Setting** window, the parameter groups listed in the **Group** section and the parameters listed under the **Group** section will change. After the users select a parameter group in the **Group** section and a parameter under the **Group** section, they have to select the **Read** option button or the **Write** option. After the users click **OK** in the **Delta Products Communication Device Setting** window, an object setting window will be opened, as shown in Figure 4-107.

Figure 4-107 **Button Setting** window

After the users set the items in the object setting window, the object set executes the function set when the function key corresponding to the object is pressed.

4.2.20 Alarm

An alarm must be used with a system alarm set in the way described in section 5.2.5. If a condition set is met, an alarm will appear. If users want to insert an alarm in a page, they can click **Alarm** on the **Object** menu, or  on the object toolbar.

The **Alarm Setting** window for TP70 series text panels is as shown in Figure 4-108. The users can select a time format and a data format in the **Display State Format** section. The can set the order in which a date, a time, and an event are arranged in the **Display Order** section. **Event** means a message set in the **System Alarm Buzzer Setting** window. If several alarms are inserted in a page, the messages displayed will be the same.

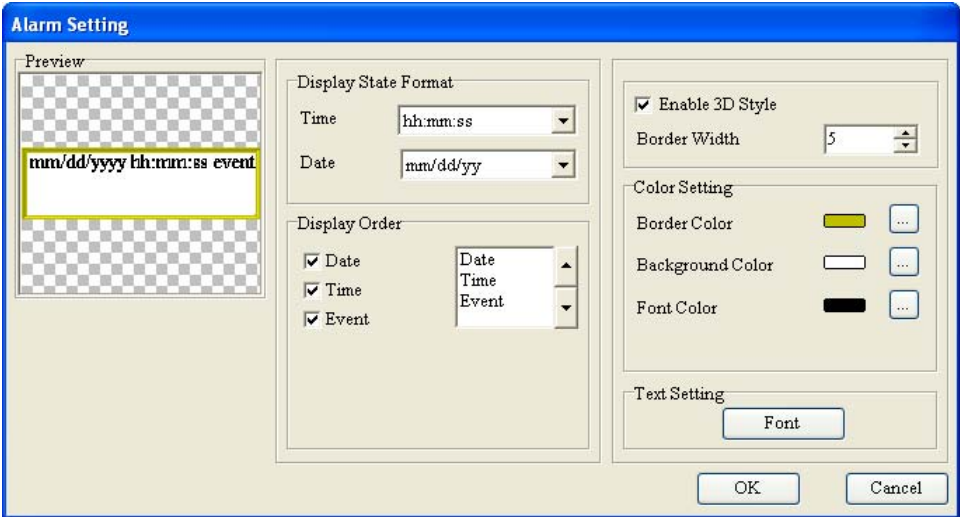


Figure 4-108 **Alarm Setting** window (TP70 series text panel)

An alarm displayed on the screen of a TP70 series text panel is as shown in Figure 4-109.

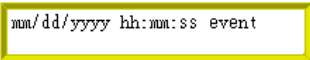




Figure 4-109 **Alarm** (TP70 series text panel)

4.2.21 Slider

Users can write a value to a related device by moving the indicator on a slider displayed on a TP series text panel. If the users want to insert a slider in a page, they can click **Slider** on the **Object** menu, or  on the object toolbar.

There are two tabs in the **Slider Setting** window for TP70 series text panels, as shown in Figure 4-110 and Figure 4-111. After the users click  in the **Refer Device** section, the **Refer Device** window will be opened. Please refer to section 4.1.1 for more information.

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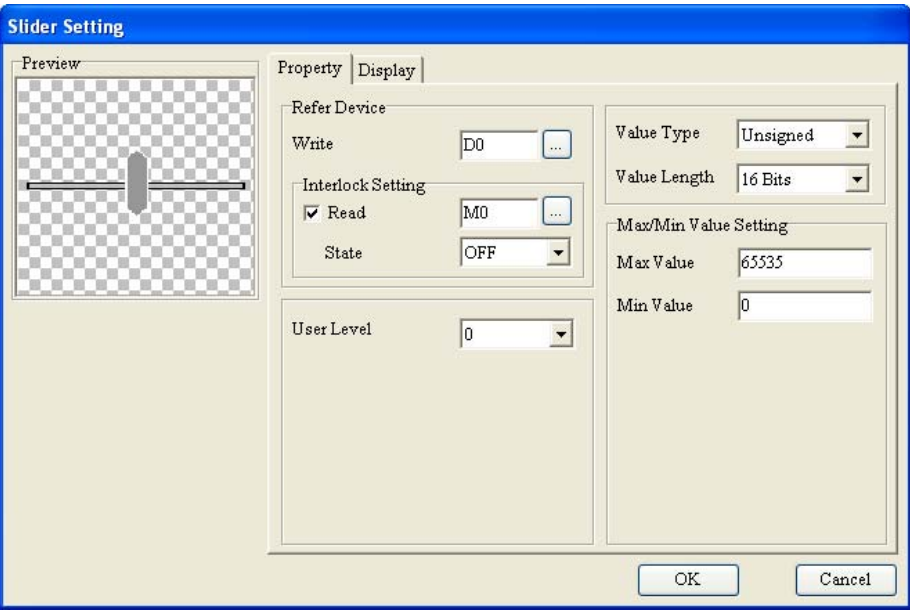


Figure 4-110 **Slider Setting** window (TP70 series text panel)

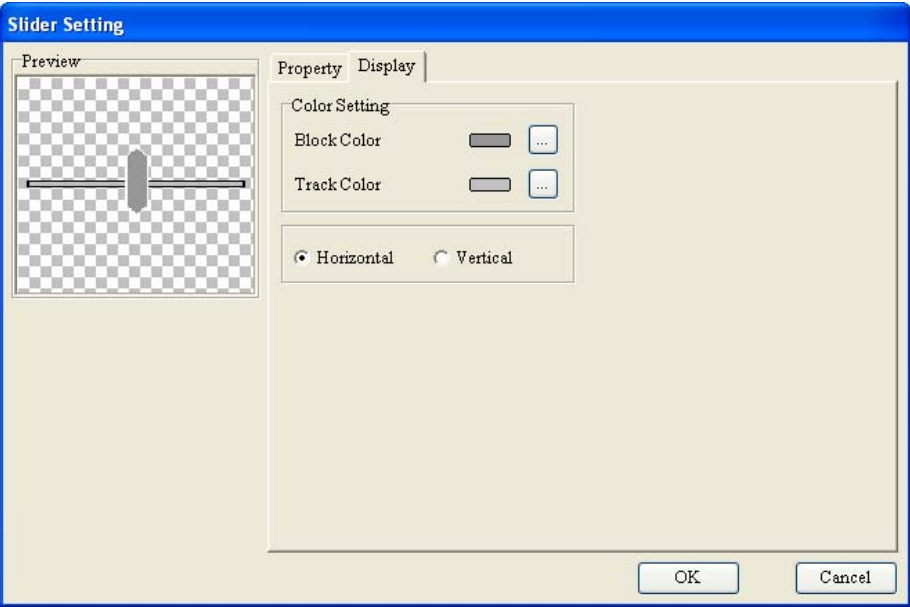


Figure 4-111 **Slider Setting** window (TP70 series text panel)


A slider displayed on the screen of a TP70 series text panel is as shown in Figure 4-112.




Figure 4-112 **Slider** (TP70 series text panel)

4.2.22 Input List

Users can write a value to a related device by inputting a string. If the users click **Input List** on the

Object menu, or  on the object toolbar, an input list will be inserted in a page.

There are three tabs in the **Input List Setting** window for TP70 series text panels, as shown in Figure 4-113~Figure 4-115. After the users click  in the **Refer Device** section, the **Refer Device** window will be opened. Please refer to section 4.1.1 for more information.

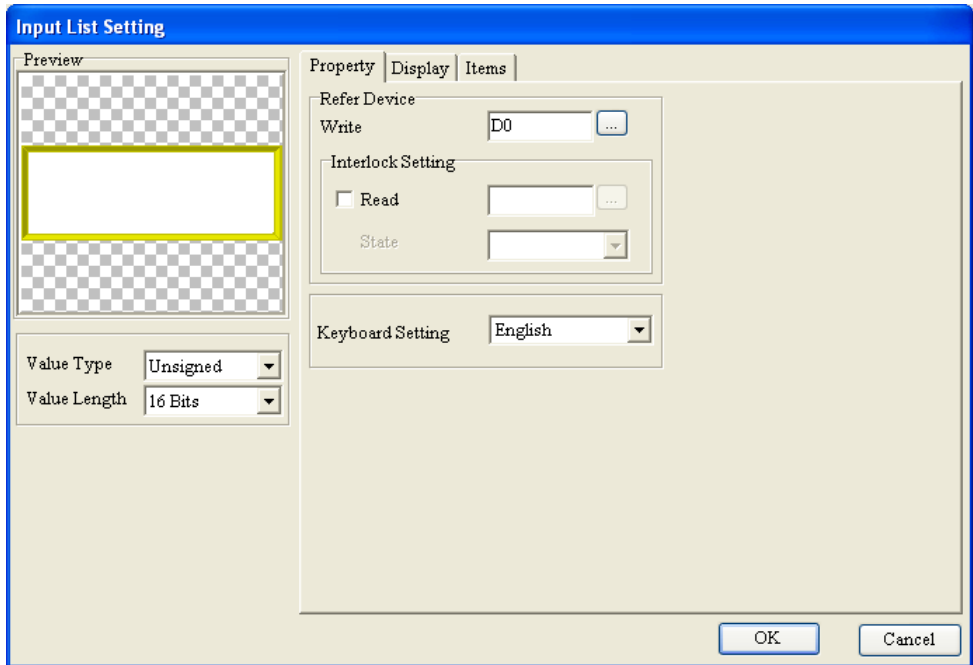


Figure 4-113 **Input List Setting** window (TP70 series text panel)

After the **Property** tab is clicked, the **Input List Setting** window will be as shown in Figure 4-113. The users can select a keyboard type in the **Keyboard Setting** drop-down list box.

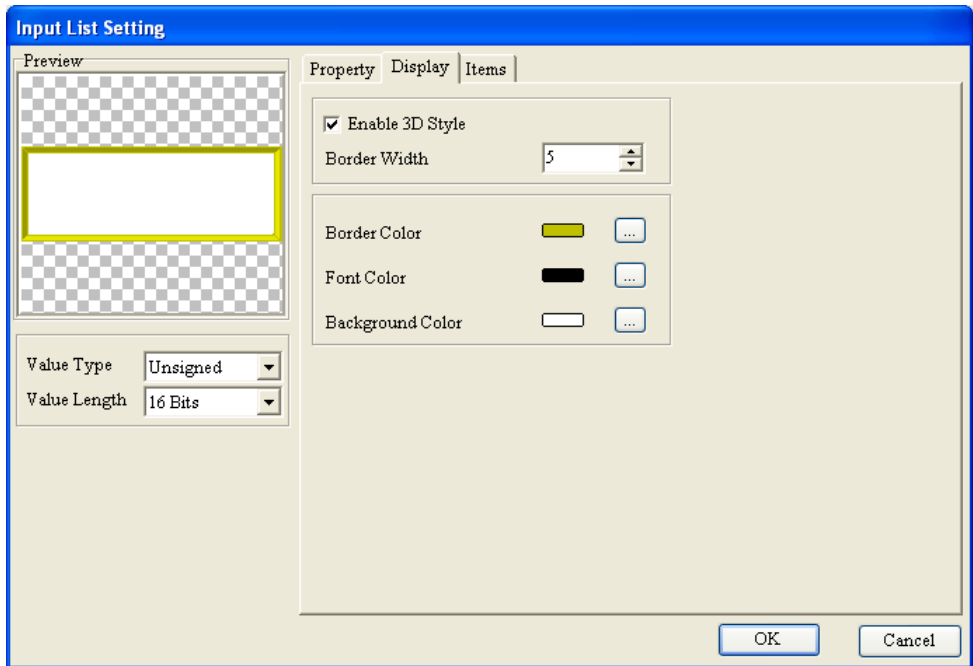


Figure 4-114 **Input List Setting** window (TP70 series text panel)

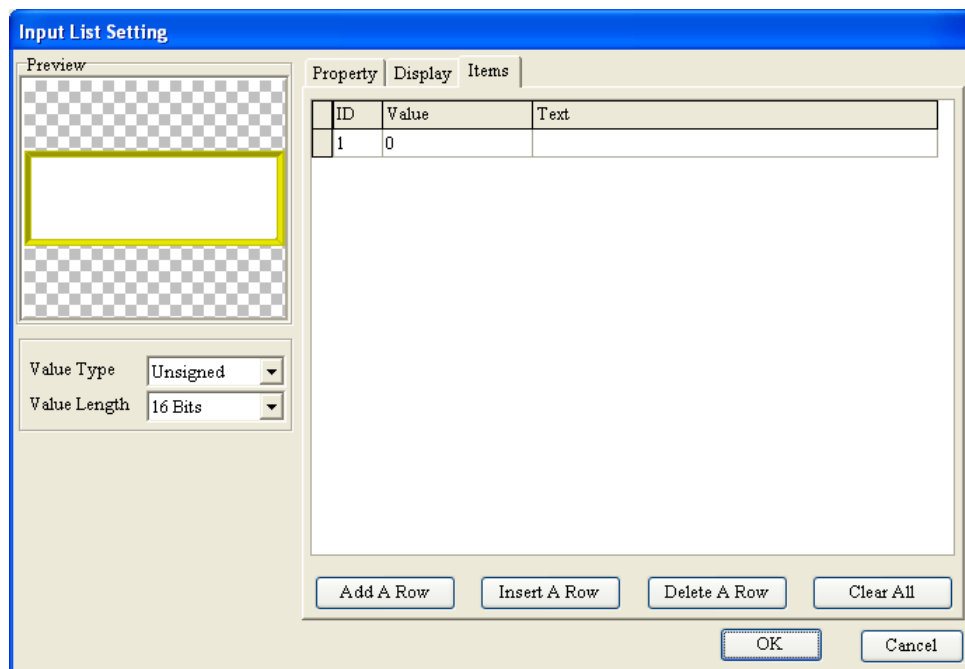


Figure 4-115 **Input List Setting** window (TP70 series text panel)


After the **Items** tab is clicked, the **Input List Setting** window will be as shown in Figure 4-115. After the users click **Add A Row**, they can input a value and text in the row which is added. If the users click **Insert A Row**, a row will be put on the top of the row selected. If the users click **Delete A Row**, the row selected will be deleted. If the users click **Clear All**, all the rows in the **Input List Setting** window will be deleted. If a message defined is input to a TP series text panel when the TP series text panel runs, the value corresponding to the message will be written to a related device.


An input list displayed on the screen of a TP70 series text panel is as shown in Figure 4-116.



Figure 4-116 **Input List** (TP70 series text panel)

4.2.23 ComboBox

Users can write a value to a related device by selecting an item in a combo box displayed on a TP series text panel. If the users want to insert a combo box in a page, they can click **ComboBox** on the **Object** menu, or  on the object toolbar.

There are three tabs in the **ComboBox Setting** window for TP70 series text panels, as shown in Figure 4-117~Figure 4-119. After the users click  in the **Refer Device** section, the **Refer Device** window will be opened. Please refer to section 4.1.1 for more information.

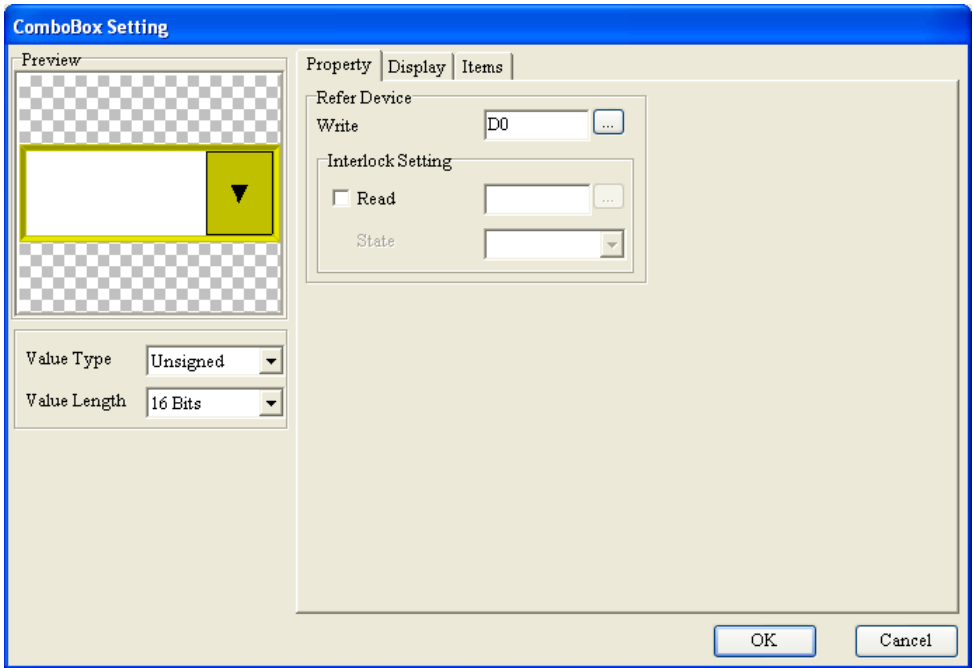


Figure 4-117 **ComboBox Setting** window (TP70 series text panel)

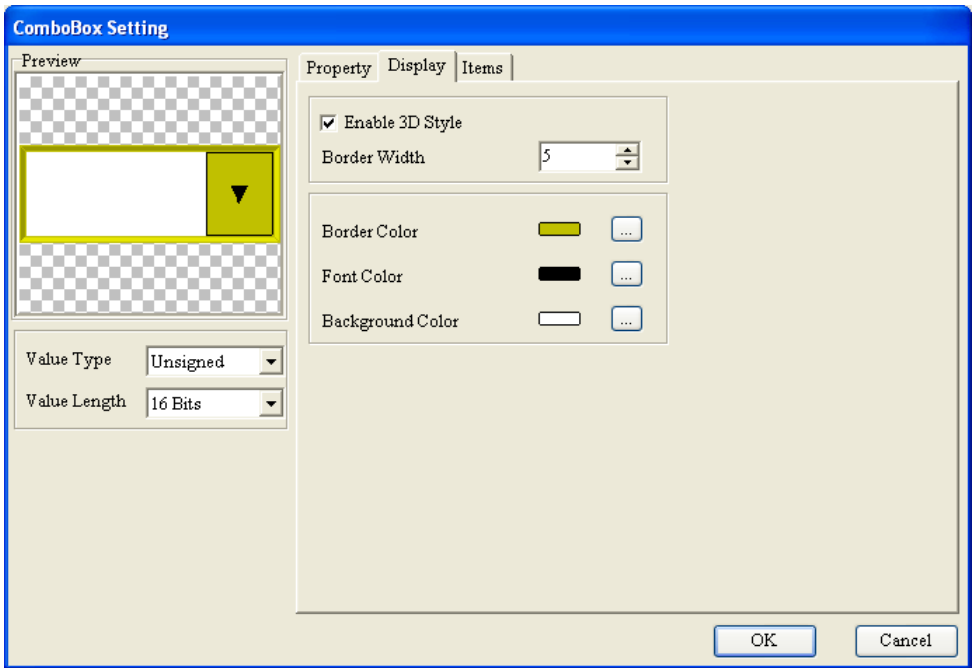


Figure 4-118 **ComboBox Setting** window (TP70 series text panel)

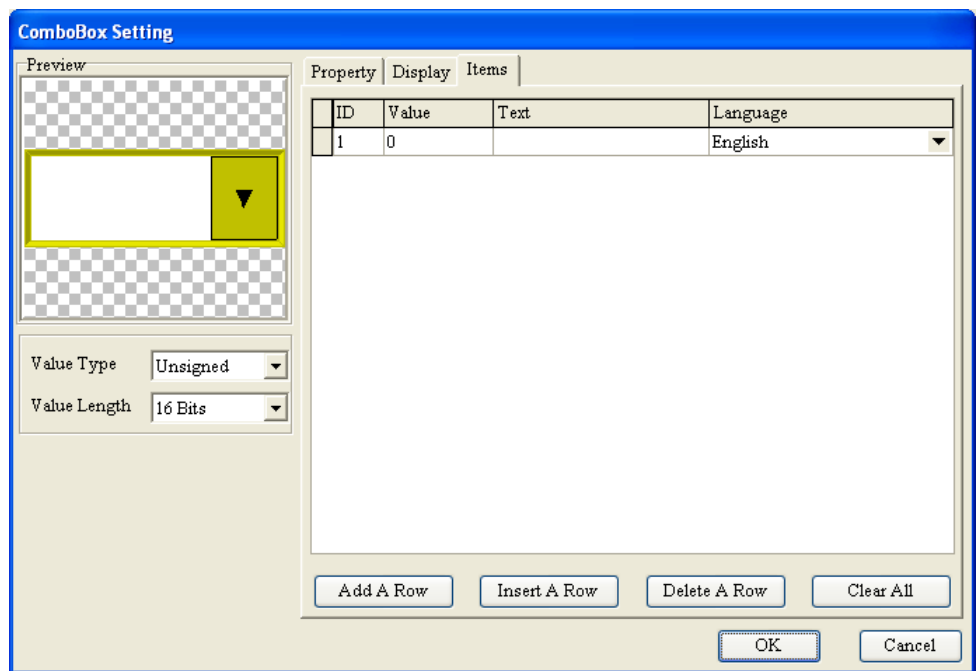


Figure 4-119 **ComboBox Setting** window (TP70 series text panel)

After the **Items** tab is clicked, the **ComboBox Setting** window will be as shown in Figure 4-119. After the users click **Add A Row**, they can input a value and text in the row which is added, and select a language in the **Language** drop-down list box. If the users click **Insert A Row**, a row will be put on the top of the row selected. If the users click **Delete A Row**, the row selected will be deleted. If the users click **Clear All**, all the rows in the **ComboBox Setting** window will be deleted. If an item in a combo box displayed on a TP series text panel is selected when the TP series text panel runs, the value corresponding to the item will be written to a related device. A combo box displayed on the screen of a TP70 series text panel is as shown in Figure 4-120.



Figure 4-120 **ComboBox** (TP70 series text panel)

Chapter 5 Local Page Setting and Global Setting


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5.1 Local Page Setting

The **Local Page Setting** menu provides the functions which can be used to set pages in a TP series text panel, e.g. **Page Jump Condition Setting** and **Function Key Setting**. Each individual page in a TP series text panel can be set, and therefore the TP series text panel can be operated conveniently. Please refer to section 4.1 for more information about basic setting items. Some functions only support some models. Please refer to appendix A for more information.

5.1.1 Page Jump Condition Setting

Page Jump Condition Setting is used to set the conditions of jumping to particular pages. If the condition of jumping to a page is met, the page will be displayed on the screen of the TP series text panel used. After users click **Page Jump Condition Setting** on the **Local Page Setting** menu, or right-click a page and then click **Page Jump Condition Setting** on the context menu which appears, the **Page Jump Condition Setting** window will appear, as shown in Figure 5-1. After the users select the **Enable** checkbox, they can set conditions. After the users click  in the **Refer Device** section, the **Refer Device** window will be opened. Please refer to section 4.1.1 for more information.

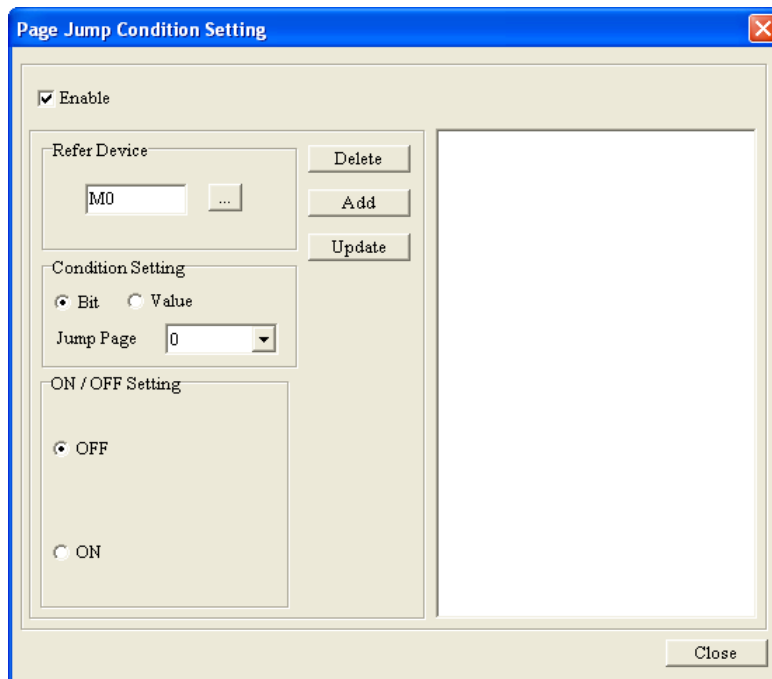



Figure 5-1 **Page Jump Condition Setting** window

After the users select the **Bit** option button in the **Condition Setting** section, they can select the **OFF** option button or the **ON** option button in the **ON/OFF Setting**. The users can select a page which has been created in the **Jump Page** drop-down list box. After the users click , the condition of jumping to the page selected will be added to the box at the right side of the **Page Jump Condition Setting** window. The users can add several conditions of jumping to particular pages.

Twenty conditions at most can be added.

After the users select the **Value** option button in the **Condition Setting** section, they can set a value in the **Value Setting** section. The users can type a value in the **Compare Setting** box, and select =, <, >, >=, <=, or != in the **Compare Setting** drop-down list box. The value in the related device set needs to be compared with the value typed in the **Compare Setting** box. If the users need to delete a condition which has been added, they have to select the condition, and click **Delete**. If the users select a condition, modify the condition, and click **Update**, the condition will be changed.

Please see Figure 5-2. If the related device M0 is OFF, page 0 will be displayed on the screen of the TP series text panel used.

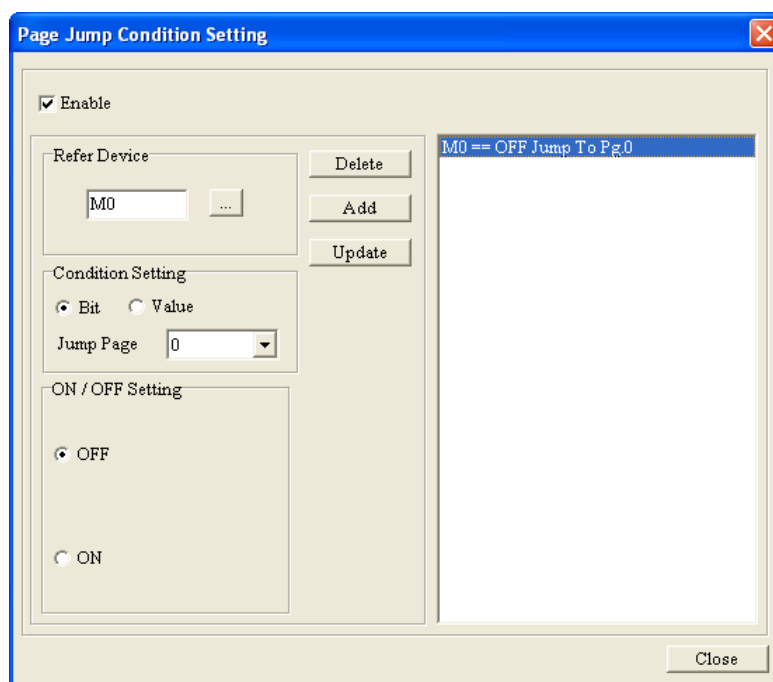


Figure 5-2 Condition which is added

Please see Figure 5-3. If the value in the related device D0 is greater than 100, page 0 will be displayed on the screen of the TP series text panel used.

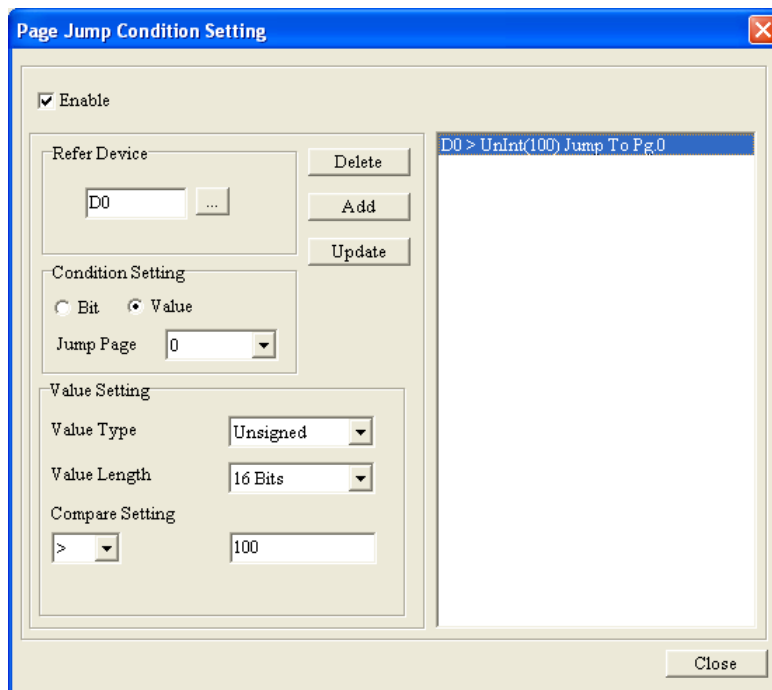


Figure 5-3 Page Jump Condition Setting window

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5.1.2 Function Key Setting

Users can set the functions corresponding to functions keys on a TP series text panel for a page. When a function key is pressed, the function corresponding to the function key is enabled. After the users click **Function Key Setting** on the **Local Page Setting** menu, or right-click a page and then click **Function Key Setting** on the context menu which appears, the **Function Key Setting** window will appear, as shown in Figure 5-4. After the users select the **Enable** checkbox, they can set function keys.

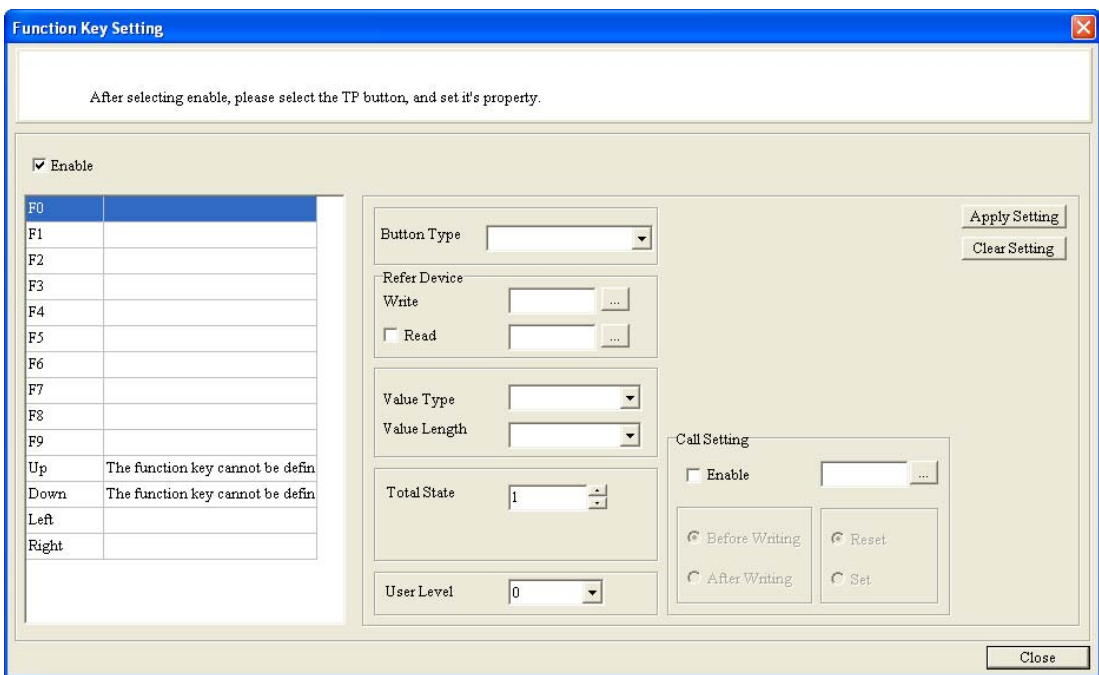


Figure 5-4 Function Key Setting window

The items in the **Button Type** drop-down list box in the **Function Key Setting** window are the same as the items in the **Button Type** drop-down list box in the **Button Setting** window. Please refer to section 4.2.12 for more information. After the users select a function key on the function key list at the right side of the **Function Key Setting** window, they have to select a button type, and set related items. After the users click **Apply Setting**, the button type selected will be written to the list. If users want to delete a button type which has been assigned to a function key, they can click **Clear Setting**. Please see Figure 5-5.

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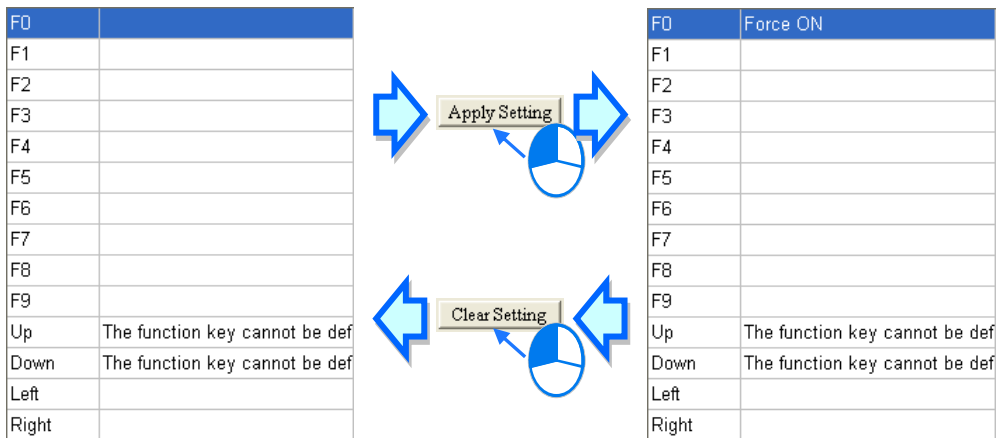


Figure 5-5 Apply Setting and Clear Setting

5.1.3 Alarm Buzzer Setting

Users can set an alarm buzzer for a page. If the condition set is met, the alarm buzzer of the TP series text panel used will sound. After the users click **Alarm Buzzer Setting** on the **Local Page**

Setting menu, or right-click a page and then click **Alarm Buzzer Setting** on the context menu which appears, the **Alarm Buzzer Setting** window will appear, as shown in Figure 5-6. After the users select the **Enable** checkbox, they can set an alarm buzzer. The function can be used only when the **Enable Buzzer Setting** checkbox in the **Basic Configuration** window is selected. Please refer to section 3.6.1 for more information.

If the users select the **Bit** option button, they can select the **OFF** option button or the **ON** option button in the **Bit Setting** section. If the users select the **Value** option button, they have to select a value length and a value type in the **Value Setting** section, type a value in the **Compare Value** box, and select =, <, >, >=, <=, or != in the **Compare Value** drop-down list box. In Figure 5-7, the **Value** option button is selected. If the value in the related device D0 is equal to 100, the alarm buzzer of the TP series text panel used will sound. After the users click ... in the **Refer Device** section, the **Refer Device** window will be opened. Please refer to section 4.1.1 for more information.

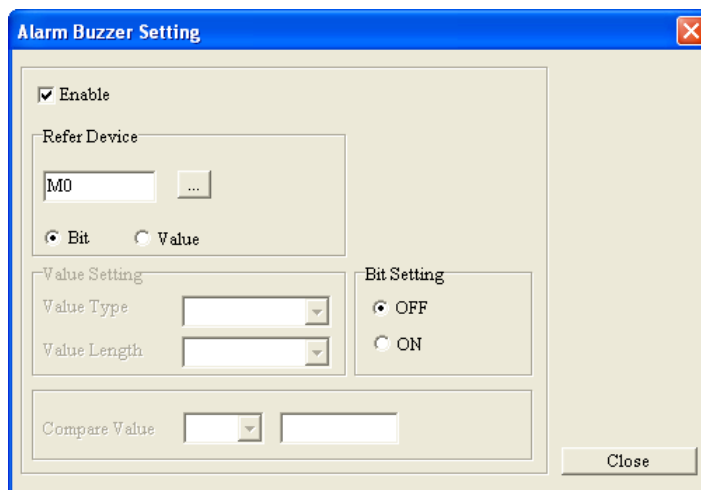


Figure 5-6 Alarm Buzzer Setting window

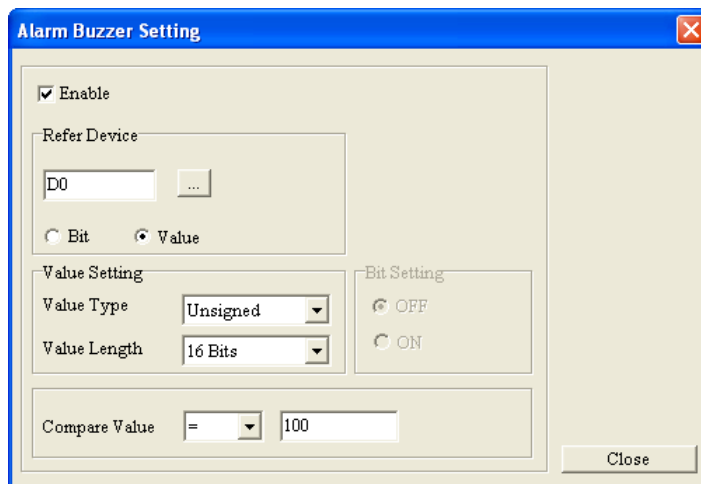



Figure 5-7 Alarm Buzzer Setting window

5.1.4 Alarm LED Setting

Users can set an alarm LED for a page. If the condition set is met, the alarm LED of the TP series text panel used will blink. After the users click **Alarm LED Setting** on the **Local Page Setting** menu, or right-click a page and then click **Alarm LED Setting** on the context menu which appears, the **Alarm LED Setting** window will appear, as shown in Figure 5-8. After the users select the **Enable** checkbox, they can set an alarm LED.

If the users select the **Bit** option button, they can select the **OFF** option button or the **ON** option button in the **Bit Setting** section. If the users select the **Value** option button, they have to select a value length and a value type in the **Value Setting** section, type a value in the **Compare Value** box, and select =, <, >, >=, <=, or != in the **Compare Value** drop-down list box. In Figure 5-9, the **Value** option button is selected. If the value in the related device D0 is equal to 100, the alarm LED of the TP series text panel used will blink. After the users click  in the **Refer Device** section, the **Refer Device** window will be opened. Please refer to section 4.1.1 for more information.

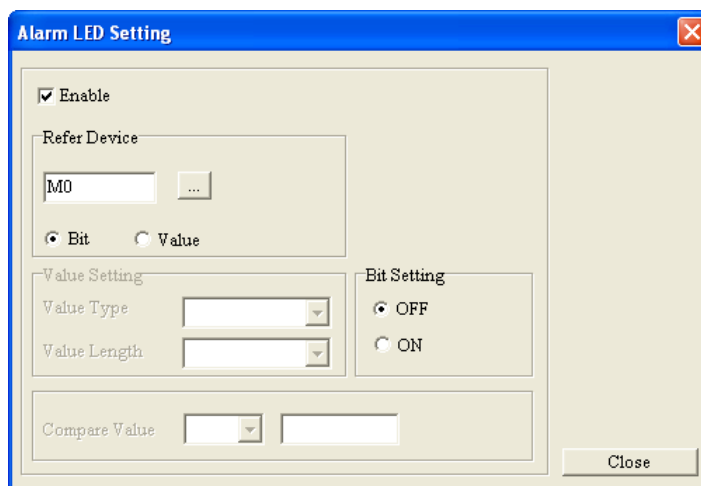


Figure 5-8 Alarm LED Setting window

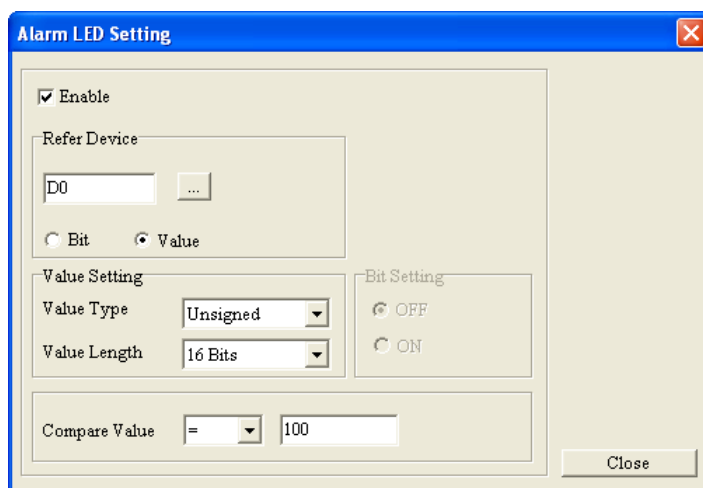


Figure 5-9 Alarm LED Setting window

5.1.5 Write Page No. Setting

Write Page No. Setting is used to write the number assigned to the page which is opened to a device. After users click **Write Page No. Setting** on the **Local Page Setting** menu, or right-click a page and then click **Write Page No. Setting** on the context menu which appears, the **Write Page No. Setting** window will appear, as shown in Figure 5-10. After the users click the **Enable** checkbox, they can click ... in the **Refer Device** section. After the users click ... in the **Refer Device** section, the **Refer Device** window will be opened. Please refer to section 4.1.1 for more information.

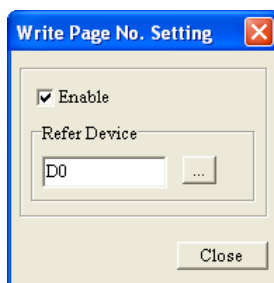


Figure 5-10 Write Page No. Setting window

5.1.6 Hide Page Setting

Hide Page Setting is used to hide the page which is edited. The page which is hidden will not be displayed on the screen of the TP series text panel used if the Up key or the Down key on the TP series text panel is pressed. After users click **Hide Page Setting** on the **Local Page Setting** menu, or right-click a page and then click **Hide Page Setting** on the context menu which appears, **Hide Page Setting** on the **Local Page Setting** menu will be checked. If the users click **Hide Page Setting** on the **Local Page Setting** menu again, the page which is edited will not be hidden. A page which is hidden can be displayed on the screen of a text panel by means of **Page Jump Condition Setting** or a **Page Jump** button. If the users select the **Auto-Re-Define Up/Down Key** checkbox in the **Basic Configuration** window, the **Confirm** window shown in Figure 5-11 will appear. After the

users click **Yes** in the **Confirm** window, the pages which are hidden will become visible. Please refer to section 3.6 for more information.

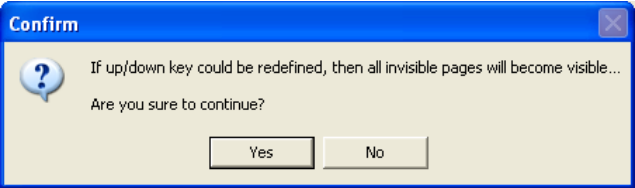


Figure 5-11 **Confirm** window

5.1.7 Local Macro Setting

Local Macro Setting is used to set a macro for a page. If a macro is set for a page, the program set is executed cyclically when the page is displayed. After users click **Local Macro Setting** on the **Local Page Setting** menu, or right-click a page and then click **Local Macro Setting** on the context menu which appears, the **Local Macro Setting** window will appear, as shown in Figure 5-12.

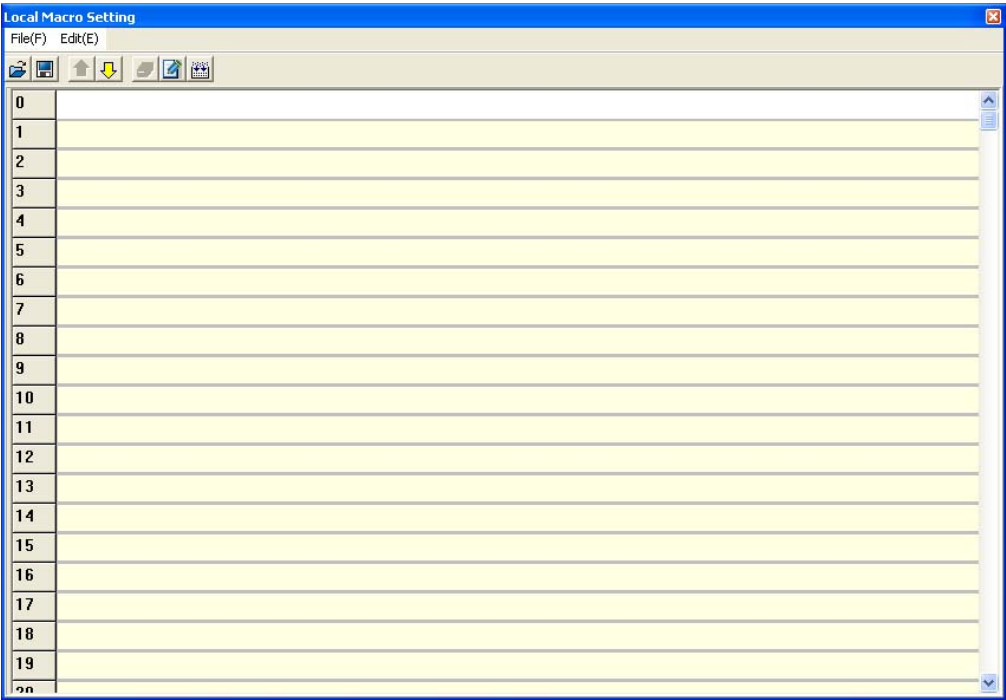



Figure 5-12 Macro editor

The users can directly type instructions in the **Local Macro Setting** window. After they click **Edit Macro Instruction** on the **Edit (E)** menu, or  on the toolbar, the **Macro Instruction Dialog** window will be opened, as shown in Figure 5-13.

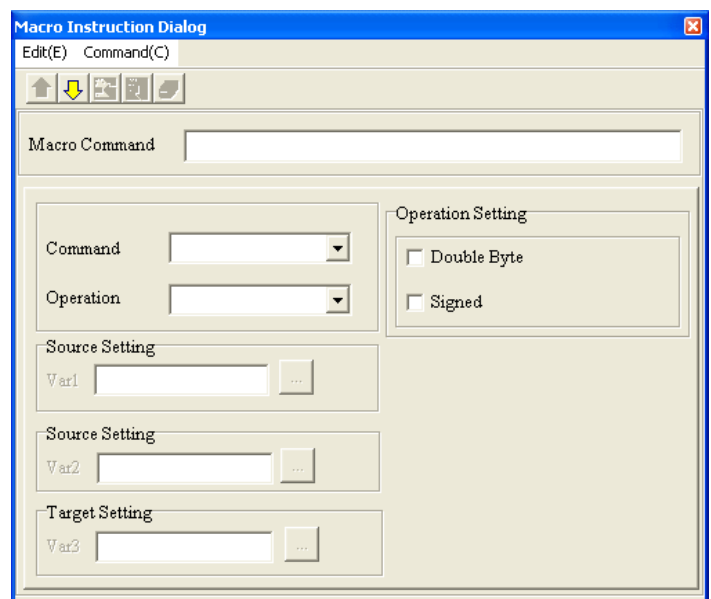


Figure 5-13 Macro Instruction Dialog window

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The users have to select an instruction type in the **Command** drop-down list box, and an applied instruction in the **Operation** drop-down list box. They have to select operands in the **Source Setting** sections and the **Target Setting** section. After the users click , the **Refer Device** window will be opened. Please refer to section 4.1.1 for more information about setting related devices.


Table 5-1 is a macro table.

Table 5-1 Macro

Instruction		Var1	Var2	Var3	Equation
Arithmetic operation	ADD	@V, Kn	@V, Kn	@V	Var3 = Var1 + Var2
	SUB	@V, Kn	@V, Kn	@V	Var3 = Var1 - Var2
	MUL	@V, Kn	@V, Kn	@V	Var3 = Var1 * Var2
	DIV	@V, Kn	@V, Kn	@V	Var3 = Var1 / Var2
	MOD	@V, Kn	@V, Kn	@V	Var3 = Var1 % Var2
Logic operation	AND	@V, Kn	@V, Kn	@V	Var3 = Var1 & Var2
	OR	@V, Kn	@V, Kn	@V	Var3 = Var1 Var2
	XOR	@V, Kn	@V, Kn	@V	Var3 = Var1 ^ Var2
	SHR	@V, Kn	@V, Kn (<16, DW<32)	@V	Var3 = Var1 >> Var2
	SHL	@V, Kn	@V, Kn (<16, DW<32)	@V	Var3 = Var1 << Var2
	NOT	@V, Kn	-	@V	Var3 = NOT Var1

Instruction		Var1	Var2	Var3	Equation
Data moving operation	MOV	@V, D, Kn	-	@V, D	Var1 -> Var3
	BMOV	@V, D	Kn (<32)	@V, D	Var1 (Var2 bytes) -> Var3 (Var2 bytes)
Comparison operation	IF or ELSEIF	@V, Kn	@V, Kn	-	IF (Var1 op Var2)
		@B	ON or OFF	-	IF (Var1 == ON)
		@V, Kn	@V, Kn	True or False	IF ((Var1 op Var2) == 0)
	ELSE	-	-	-	ELSE
	ENDIF	-	-	-	ENDIF
Bit operation	SETB	-	-	@B, M	SETB Var3
	CLRB	-	-	@B, M	CLRB Var3
Other	NOP	-	-	-	NOP
	END	-	-	-	END

@V: Internal register in a TP05/TP08 series text panel; Kn: Constant; D: Internal register in an external PLC; @B: Internal contact in a TP05/TP08 series text panel; M: Internal contact in an external PLC

After the users click **Insert (I)** on the **Edit (E)** menu, or  on the toolbar, the instruction set will be written to the line specified in the **Local Macro Setting** window, as shown in Figure 5-14.

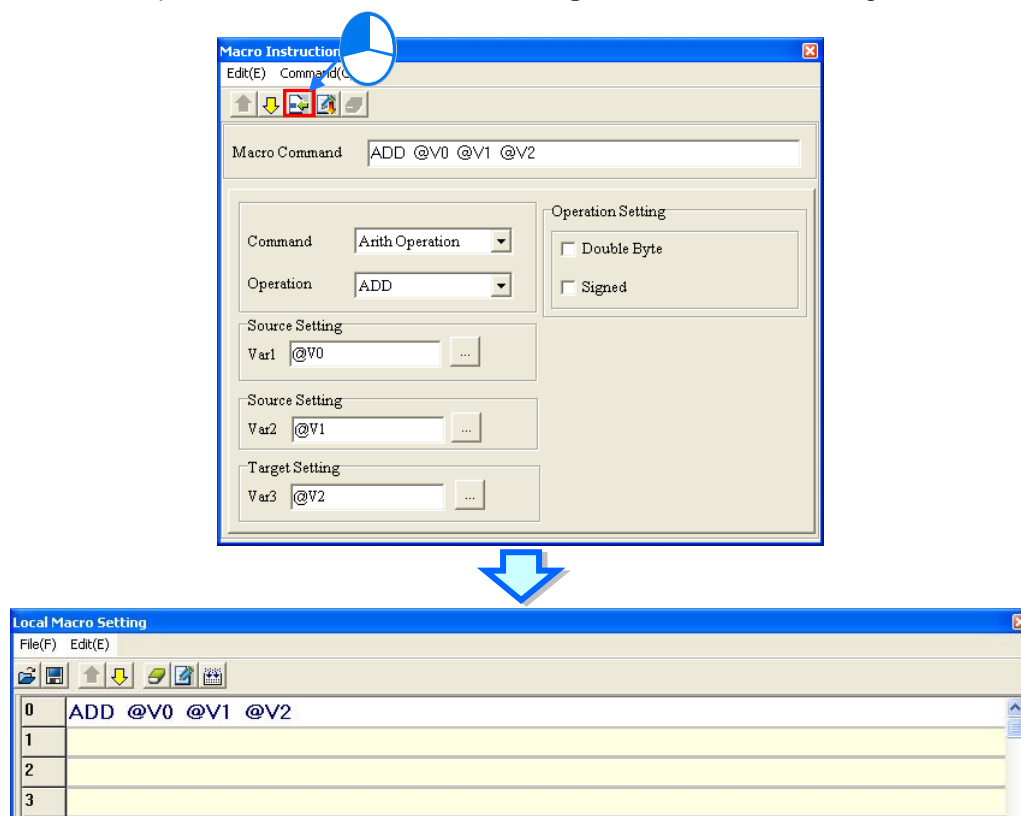



Figure 5-14 Inserting an instruction in a line

In addition to the functions described above, there are other functions in the **Local Macro Setting** window and the **Macro Instruction Dialog** window. The users can use these functions to edit or access files. A macro file is saved as a .mrc file.

After instructions are inserted in lines in the **Local Macro Setting** window, the users have to click  on the toolbar. If there is an error, a message will appear in the box at the bottom of the **Local Macro Setting** window, as shown in Figure 5-15.

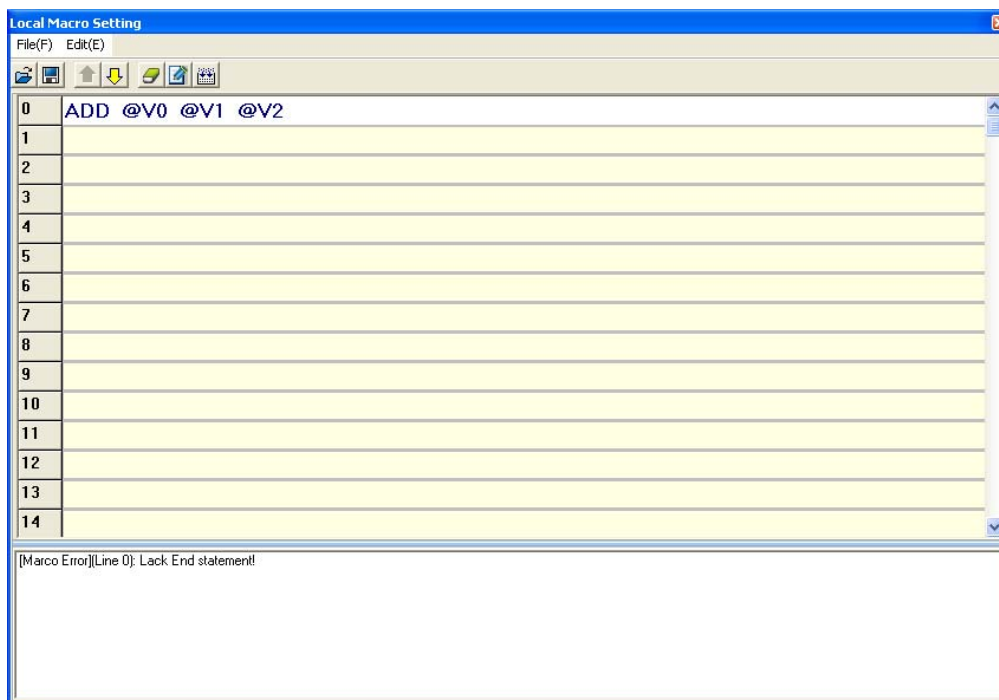


Figure 5-15 Error message

5.1.8 Page Color Setting

Users can change the grounds of the pages in a color model. After the users click **Page Color Setting** on the **Local Page Setting** menu, or right-click a page and then click **Page Color Setting** on the context menu which appears, the **Page Color Setting** window will be opened, as shown in Figure 5-16. The users can select a color in the **Page Color Setting** window.

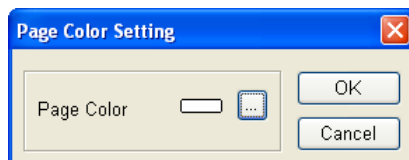


Figure 5-16 Page Color Setting window

5.2 Global Setting

The **Local Page Setting** menu provides the functions which can be used to set a TP series text panel as a whole, e.g. **System Page Jump Setting** and **System Function Key Setting**. A TP

series text panel as a whole can be set, and therefore the TP series text panel can be operated conveniently. Please refer to section 4.1 for more information about basic setting items. Some functions only support some models. Please refer to appendix A for more information.

5.2.1 User-Level Password Setting

User-Level Password Setting is used to set passwords belonging to different levels. After users click **User-Level Password Setting** on the **Global Setting** menu, the **User-Level Password Setting** window will be opened, as shown in Figure 5-17. If a user level is set for an object, the users are asked to type a password when the function key corresponding to the object is pressed. After the users type a password belonging to the user level set, or a password belonging to a higher user level, the object corresponding to the function key pressed will be enabled. If the value selected in a **User Level** drop-down list box is 0, there will be no user level. The user levels arranged in ascending order are 1~4. The password typed in a **Password** box must be composed of six numerals. 000000 can not be a password.

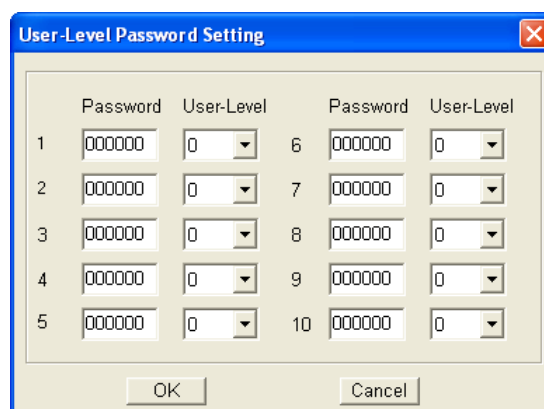


Figure 5-17 **User-Level Password Setting** window

5.2.2 System Parameter Setting

System Parameter Setting is used to set a TP series text panel. After users click **System Parameter Setting** on the **Global Setting** menu, the **System Parameter Setting** window will be opened. The **System Parameter Setting** window for TP04G series text panels, TP04G-AL-C series text panels, TP04G-AL2 series text panels, TP04G-BL-C series text panels, TP04G-BL-CU series text panels, TP05G series text panels, and TP08G series text panels is as shown in Figure 5-18.

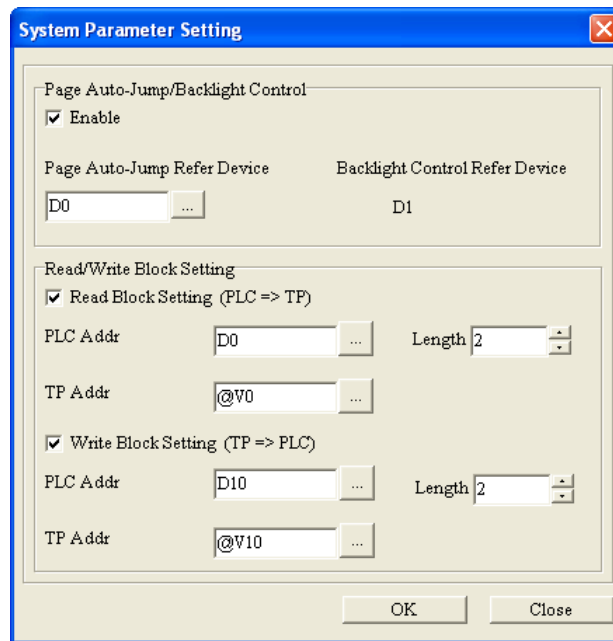


Figure 5-18 System Parameter Setting window

5

After the users select the **Enable** checkbox in the **Page Auto-Jump/Backlight Control** section, they can click . After the users click , the **Refer Device** window will be opened. Please refer to section 4.1.1 for more information. After a value is written to the device set in the **Page Auto-Jump Refer Device** box, the page indicated by the value will be displayed. If the value in the device set in the **Page Auto-Jump Refer Device** box is greater than the number of pages in the text panel used, the original page will still be displayed. After a value is written to the device set in the **Page Auto-Jump Refer Device** box, it will become 0xFFFF whether or not the page indicated by the value is displayed. The device that controls the backlight illuminating the screen of a TP series text panel is the device following the device set in the **Page Auto-Jump Refer Device** box. If the first bit (bit 0) in the device that controls the backlight illuminating the screen of a TP series text panel is 1, the backlight will always illuminate the screen of the TP series text panel. If the first bit (bit 0) in the device that controls the backlight illuminating the screen of a TP series text panel is 0, the backlight will last for the time set.

After the users select the **Read Block Setting (PLC=>TP)** checkbox, they have to select a related device in the **PLC Addr** box, a related device in the **TP Addr** box, and a value in the **Length** box. When a TP operates, the values in the N devices starting from the device set in the **PLC Addr** box will be written to the N devices starting from the device set in the **TP Addr** box. (N is the value selected the **Length** box.)

After the users select the **Write Block Setting (PLC=>TP)** checkbox, they have to select a related device in the **PLC Addr** box, a related device in the **TP Addr** box, and a value in the **Length** box. When a TP operates, the values in the N devices starting from the device set in the **TP Addr** box will be written to the N devices starting from the device set in the **PLC Addr** box. (N is the value selected

the **Length** box.)

The **System Parameter Setting** window for TP04P series text panels and TP70 series text panels is as shown in Figure 5-19.

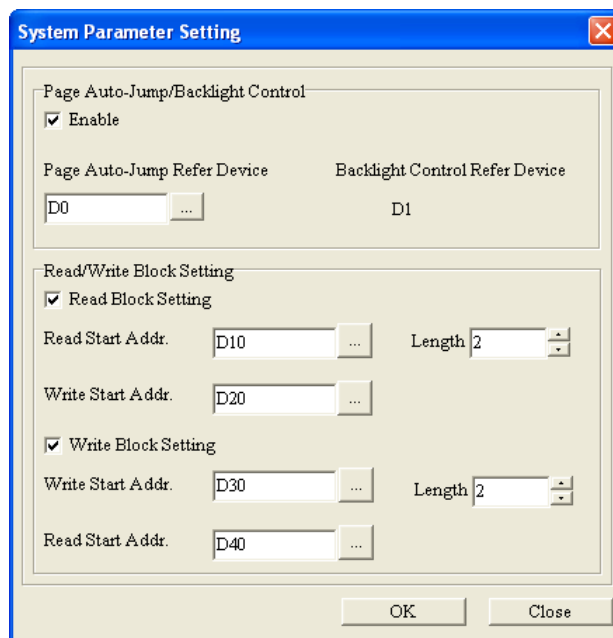




Figure 5-19 **System Parameter Setting** window

After the users select the **Enable** checkbox in the **Page Auto-Jump/Backlight Control** section, they can click . After the users click , the **Refer Device** window will be opened. Please refer to section 4.1.1 for more information. After a value is written to the device set in the **Page Auto-Jump Refer Device** box, the page indicated by the value will be displayed. If the value in the device set in the **Page Auto-Jump Refer Device** box is greater than the number of pages in the text panel used, the original page will still be displayed. After a value is written to the device set in the **Page Auto-Jump Refer Device** box, it will become 0xFFFF whether or not the page indicated by the value is displayed. The device that controls the backlight illuminating the screen of a TP series text panel is the device following the device set in the **Page Auto-Jump Refer Device** box. If the first bit (bit 0) in the device that controls the backlight illuminating the screen of a TP series text panel is 1, the backlight will always illuminate the screen of the TP series text panel. If the first bit (bit 0) in the device that controls the backlight illuminating the screen of a TP series text panel is 0, the backlight will last for the time set.

After the users select the **Read Block Setting** checkbox, they have to select a related device in the **Read Start Addr.** box, a related device in the **Write Start Addr.** box, and a value in the **Length** box. When a TP operates, the values in the N devices starting from the device set in the **Read Start Addr.** box will be written to the N devices starting from the device set in the **Write Start Addr.** box. (N is the value selected the **Length** box.)

After the users select the **Write Block Setting** checkbox, they have to select a related device in the

Write Start Addr. box, a related device in the **Read Start Addr.** box, and a value in the **Length** box. When a TP operates, the values in the N devices starting from the device set in the **Read Start Addr.** box will be written to the N devices starting from the device set in the **Write Start Addr.** box. (N is the value selected the **Length** box.)

5.2.3 System Page Jump Setting

After users click **System Page Jump Setting** on the **Global Setting** menu, the **System Page Jump Setting** window will be opened. The setting items in the **System Page Jump Setting** window are the same as the setting items in the **Page Jump Condition Setting** window. Please refer to section 5.1.1 for more information.

Page Jump Condition Setting on the **Local Page Setting** menu is used to set the conditions of jumping to particular pages for the page which is edited. **System Page Jump Setting** on the **Global Setting** menu is used to set the conditions of jumping to particular pages for all the pages which are created. If the conditions set in the **Page Jump Condition Setting** window conflicts with the conditions set in the **System Page Jump Setting** window, they will be given preference. Twenty conditions at most can be set in the **System Page Jump Setting** window.

5

5.2.4 System Function Key Setting

After users click **System Function Key Setting** on the **Global Setting** menu, the **System Function Key Setting** window will be opened. The setting items in the **System Function Key Setting** window are the same as the setting items in the **Function Key Setting** window. Please refer to section 5.1.2 for more information.

Function Key Setting on the **Local Page Setting** menu is used to set the functions corresponding to functions keys on a TP series text panel for the page which is edited. **System Function Key Setting** on the **Global Setting** menu is used to set the functions corresponding to functions keys on a TP series text panel for all the pages which are created. If the functions corresponding to the function keys set in the **Function Key Setting** window conflicts with the functions corresponding to the functions key set in the **System Function Key Setting** window, they will be given preference.

5.2.5 System Alarm Buzzer Setting

After users click **System Alarm Buzzer Setting** on the **Global Setting** menu, the **System Alarm Buzzer Setting** window will be opened. The setting items in the **System Alarm Buzzer Setting** window are the same as the setting items in the **Alarm Buzzer Setting** window. Please refer to section 5.1.3 for more information.

Alarm Buzzer Setting on the **Local Page Setting** menu is used to set an alarm buzzer for the page which is edited. **System Alarm Buzzer Setting** on the **Global Setting** menu is used to set an alarm buzzer for all the pages which are created. If the condition set in the **Alarm Buzzer Setting** window is different from the condition set in the **System Alarm Buzzer Setting** window, the two conditions


can be used to trigger the alarm buzzer of the TP series text panel used.

Twenty conditions at most can be set in the **System Alarm Buzzer Setting** window for TP70 series text panels. If a condition set is met, an alarm will appear. Please refer to section 4.2.20 for more information about inserting an alarm in a page. If the **Enable Alarm** checkbox is selected, the alarm buzzer of the TP series text panel used sounds when a condition set is met.

If the users select the **Bit** option button, they can select the **OFF** option button or the **ON** option button in the **ON/OFF Setting** section, as shown in Figure 5-20.

Item	Trigger Config.	Call Addr.	Alarm	Message
1	M0 == OFF	M1	ON	

Figure 5-20 **System Alarm Buzzer Setting** window (TP70 series text panel)

If the users select the **Value** option button, they have to select a value length and a value type in the **Value Setting** section, type a value in the **Compare Setting** box, and select =, <, >, >=, <=, or != in the **Compare Setting** drop-down list box. After the users click  in the **Refer Device** section, the **Refer Device** window will be opened. Please refer to section 4.1.1 for more information.

In Figure 5-21, the **Value** option button is selected. If the value in the related device D0 is equal to 100, the alarm buzzer of the TP series text panel used will sound.

Item	Trigger Config	Call Addr.	Alarm	Message
1	D0 = UnInt(0)	M1	ON	


Figure 5-21 System Alarm Buzzer Setting window (TP70 series text panel)

5.2.6 System Alarm LED Setting

After users click **System Alarm LED Setting** on the **Global Setting** menu, the **System Alarm LED Setting** window will be opened. The setting items in the **System Alarm LED Setting** window are the same as the setting items in the **Alarm LED Setting** window. Please refer to section 5.1.4 for more information.

Alarm LED Setting on the **Local Page Setting** menu is used to set an alarm LED for the page which is edited. **System Alarm LED Setting** on the **Global Setting** menu is used to set an alarm LED for all the pages which are created. If the condition set in the **Alarm LED Setting** window is different from the condition set in the **System Alarm LED Setting** window, the two conditions can be used to trigger the alarm LED of the TP series text panel used.

5.2.7 System RTC Setting

System RTC Setting is used to write the time, the week, and the date in a TP series text panel to a related device. After users click **System RTC Setting** on the **Global Setting** menu, the **System RTC Setting** window will appear, as shown in Figure 5-22. After the users click  in the **Refer Device** section, the **Refer Device** window will be opened. Please refer to section 4.1.1 for more information.

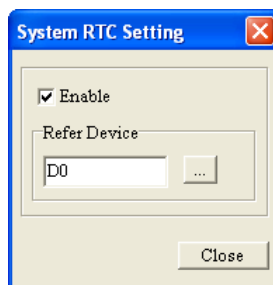


Figure 5-22 System RTC Setting window

5.2.8 System Power ON Setting

If the items in the **System Power ON Setting** window are set, a command will be sent after a system is powered for the time set. After users click **System Power ON Setting** on the **Global Setting** menu, the **System Power ON Setting** window will appear, as shown in Figure 5-23. After the users select the **Enable** checkbox, they can set the items in the **System Power ON Setting** window.

If the users select the **Bit** option button, they can select the **OFF** option button or the **ON** option button in the **Bit Setting** section. If the users select the **Value** option button, they have to select a value length and a value type in the **Value Setting** section, and type a value in the **Value Setting** box. After the users click **...** in the **Refer Device** section, the **Refer Device** window will be opened. Please refer to section 4.1.1 for more information. After a system is powered for the time selected in the **Time Interval Setting** section, the command set will be sent

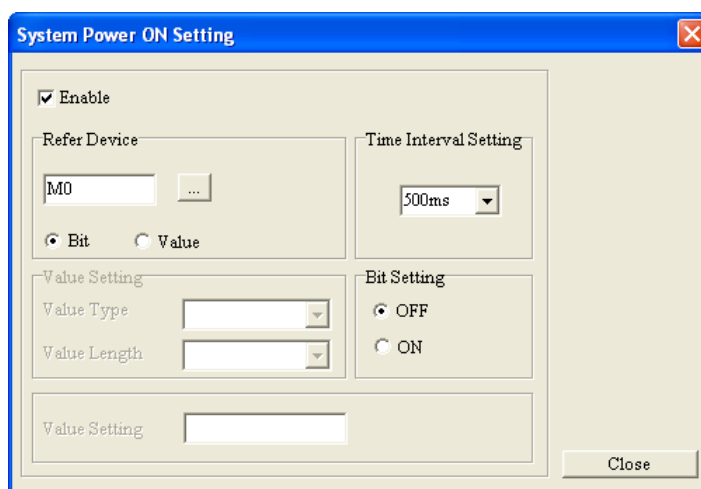


Figure 5-23 System Power ON Setting window

Please see Figure 5-24. After a system is powered for 500 milliseconds, 0 will be written to D0.

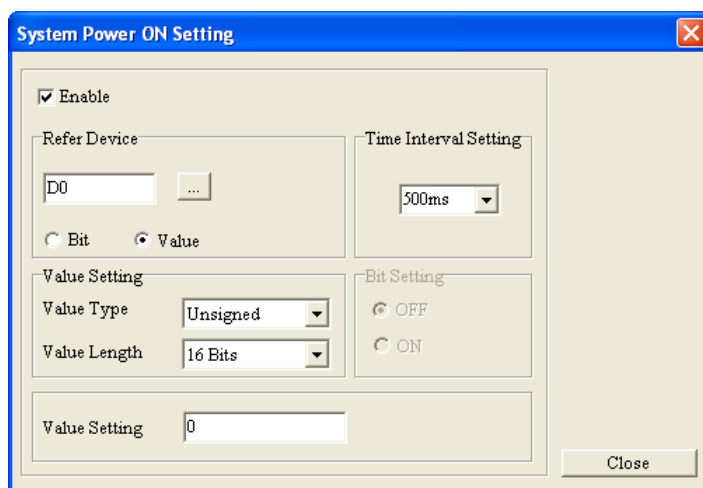


Figure 5-24 System Power ON Setting window

5.2.9 Global Macro Setting

After users click **Global Macro Setting** on the **Global Setting** menu, the **Global Macro Setting** window will appear. The setting items in the **Global Macro Setting** window are the same as the setting items in the **Local Macro Setting** window. Please refer to section 5.1.7 for more information.

Local Macro Setting on the **Local Page Setting** menu is used to set a macro for the page which is edited. **Global Macro Setting** on the **Global Setting** menu is used to set a macro for all the pages which are created. If macros are set by means of **Local Macro Setting** and **Global Macro Setting**, the macros set by means of Local Macro Setting will be executed first. **Global Macro Setting** is only applicable to TP05G series text panels and TP08G text panels.

5.2.10 Recipe Setting

A recipe is composed of several groups of parameters. Different products correspond to different parameters. If a recipe number is changed, the parameters to which it corresponds will be changed. For example, a bread producer needs different proportions of ingredients (e.g. sugar, cream, and flour) for different breads (e.g. toast and cream buns). The value selected in the **Group Number (Row)** box is the number of recipes (the number of bread types), and the value selected in the **Size (Col)** box is the number of ingredient types. The number of recipes multiplied by the number of ingredient types is the number of data in a recipe.

After users click **Recipe Setting** on the **Global Setting** menu, the **Recipe Setting** window will be opened, as shown in Figure 5-25. After the users select the **Enable** checkbox, they can set the items in the **Recipe Setting** window.

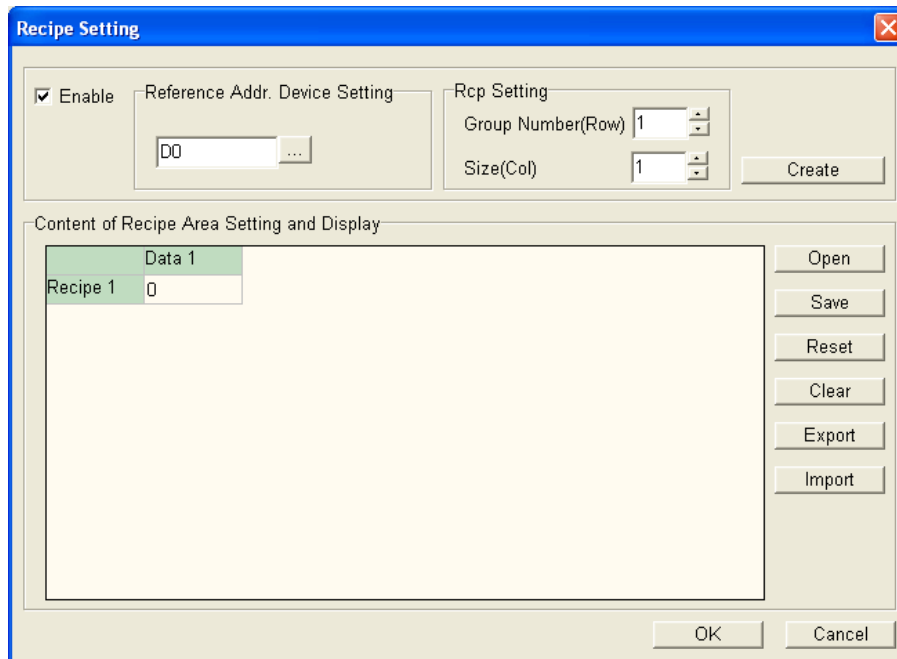


Figure 5-25 Recipe Setting window

The value in the device selected in the **Reference Addr. Device Setting** section indicates a recipe. 0 indicates the first recipe, 1 indicates the second recipe, and so on. After the users click ... in the **Reference Addr. Device Setting** section, the **Refer Device** window will be opened. Please refer to section 4.1.1 for more information. The maximum value which can be selected in the **Group Number (Row)** box is 125, and the maximum value which can be selected in the **Size (Col)** box is 32. After the users click **Create**, they can type values in the table in the box at the bottom of the **Recipe Setting** window. After the users click **OK**, the data set will be saved. If the data set is downloaded to a TP series text panel, it will be stored in a register in the TP series text panel. Please see Figure 5-26.

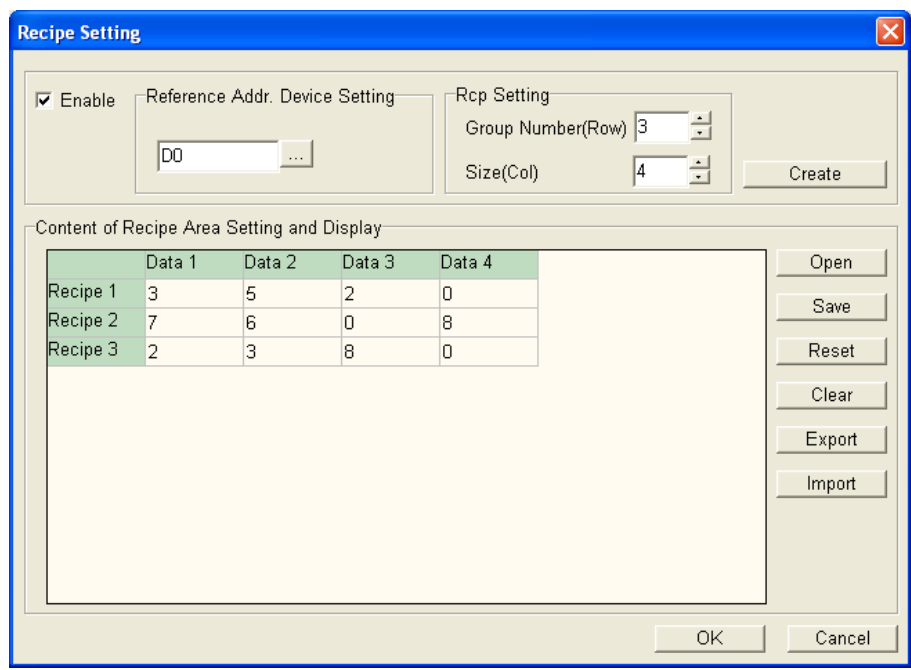


Figure 5-26 **Recipe Setting** window

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If the users click **Save**, the data set will be saved as a .rcp file. If the users click **Open**, they can select a recipe file which they want to open. If the users click **Clear**, the data set will be cleared. If the users click **Reset**, the recipe created will be reset to its factory settings. If the users click **Export**, the recipe created can be saved as a .csv file. If the users click **Import**, they can select a .csv file which they want to open.

If the users want to read a recipe or write a recipe, they have to use a button or a function key. Please refer to section 4.2.12, section 5.1.2, and section 5.2.4 for more information. In Figure 5-27, **Recipe Write/Read** is selected in the **Button Type** drop-down list box. If the **Write** option button is selected, the nth recipe in the TP series text panel used will be written to the related device set. If the **Read** option button is selected, the value in the related device set will be written to the nth recipe in the TP series text panel. n is the value in the device selected in the **Reference Addr. Device Setting** section.

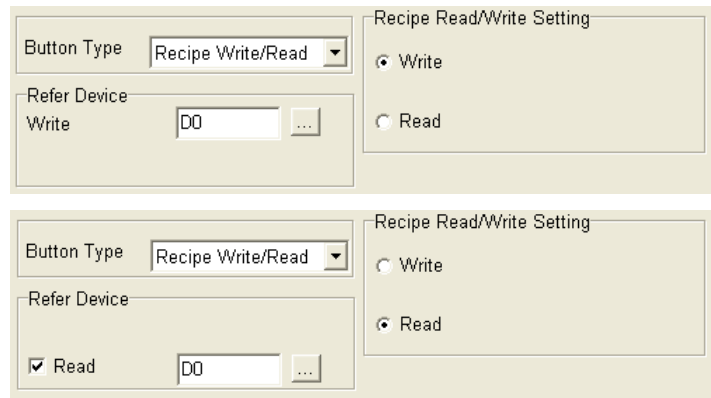


Figure 5-27 **Recipe Write/Read**

5.2.11 Default Page Color Setting

After users click **Default Page Color Setting** on the **Global Setting** menu, the **Default Page Color Setting** window will be opened. The setting items in the **Default Page Color Setting** window are the same as the setting items in the **Page Color Setting** window. Please refer to section 5.1.8 for more information.

Page Color Setting on the **Local Page Setting** menu is used to set the ground of the page which is edited. **Default Page Color Setting** on the **Global Setting** menu is used to set the default ground of a new page which is created. **Default Page Color Setting** is only applicable to TP70 series text panels.

5.2.12 User Re-define Direction Keys

If users redefine the arrow keys on a TP series text panel, the pages which are hidden will become visible. After the users click **User Re-define Direction Keys** on the **Global Setting** menu, the confirmation window which asks the users whether they want to make the pages hidden visible will appear. If the users click **Yes** in the confirmation window, they can redefine the arrow keys.

MEMO

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Chapter 6 Connection and Examples



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6.1 Connection and Uploading/Downloading a Project

After users edit a project in ways described in the previous chapters, they can download the project to a TP series text panel. If the users want to modify the data in a TP series text panel, they can upload the data to a computer. The steps of connecting a TP04G series text panel, the steps of downloading a project to a TP04G series text panel, and the steps of uploading the data in a TP04G series text panel are described in the following sections.

6.1.1 Setting a Connection

After the users press Esc on a TP04G series text panel for a long time, menus will be displayed on the screen of the TP04G series text panel. After the users select **TP04G SETUP** and **COM PORT** by means of Up/Pg UP, Down/Pg Dn, and Enter on the TP04G series text panel, three items will be displayed, as shown in Figure 6-1.

- TP04 PROTOCOL: It is used to set the communication address of the TP series text panel.
- RS232: It is used to set a data transmission speed, a data length, a parity bit, and the number of stop bits.
- RS485: It is used to set a data transmission speed, a data length, a parity bit, and the number of stop bits.

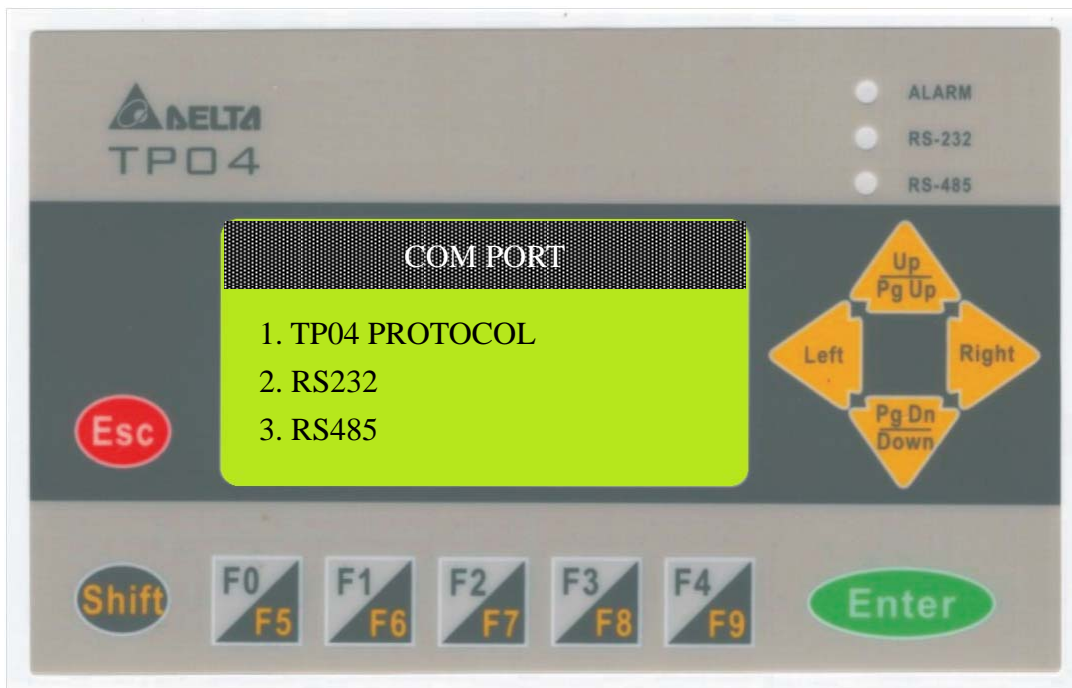


Figure 6-1 Screen of a TP series text panel

After the users click **Basic Configuration** on the **Tool** menu in TPEditor, they have to click **PC<=>TP Communication Setting** in the **Basic Configuration** window. In the **PC Communication Setting (PC<=>TP)** section, the users have to select a station address in the **TP**

Station Address box, a communication port in the **PC COM Port** box, and a data transmission speed in the **Baud Rate** drop-down list box, as shown in Figure 6-2. The station address selected in the **TP Station Address** box must be the same as the station address set in the TP04G series text panel.

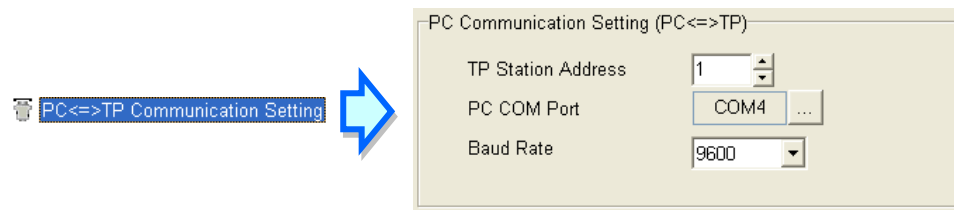


Figure 6-2 Setting communication in a computer

The users have to click **TP<=>PLC Protocol** in the **Basic Configuration** window, and set the communication port which is connected to equipment. They have to select a data transmission speed in the **Baud Rate** drop-down list box, a data length in the **Data Length** drop-down list box, a parity bit in the **Parity** drop-down list box, and the number of stop bits in the **Stop Bit** drop-down list box, as shown in Figure 6-3. After the settings are downloaded to the TP04G series text panel, they will overwrite the settings on menus in the TP04G series text panel.

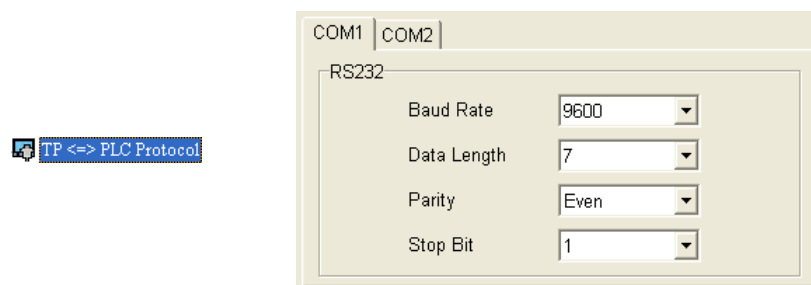


Figure 6-3 Setting communication in a TP series text panel

After the users connect the computer used to the TP04G series text panel according to the instructions in TP04G Instruction Sheet, they can download a project to the TP04G series text panel, and upload the project in the TP04G series text panel. If the users want to connect a TP70 series text panel to TPEditor, they do not need to set the TP70 series text panel, and only need to set TPEditor.

6.1.2 Downloading/Uploading a Project

After users connect a computer to a TP02G series text panel, a TP04G series text panel, TP04G-AL-C series text panel, a TP04G-AL2 series text panel, a TP05G series text panel, a TP08G series text panel, or a VFD-C series keypad according to the instructions in the previous section, they have to touch **1. D/L AP TP model type** **PC** on the screen of the text panel if they want to download data to the text panel. After **1. D/L AP TP model type** **PC** on the screen of the text panel used is touched, "WAIT COMM..." will be displayed on the screen of the text panel used, as

shown in Figure 6-4.

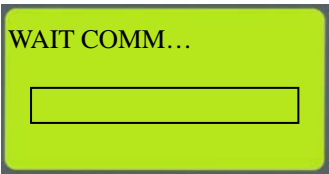



Figure 6-4 WAIT COMM...

After the users click **Write to TP** on the **Communication** menu or  on the standard toolbar, the **Confirm** window will appear. After the users click **Yes** in the **Confirm** window, the window showing the percentage of progress in downloading the project created will appear, as shown in Figure 6-5.

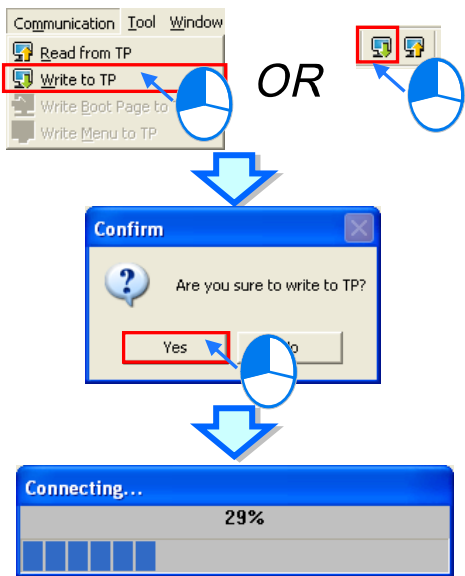


Figure 6-5 Downloading a project

After the users click **Yes** in the **Confirm** window, the progress bar showing the percentage of progress in downloading the project created will be displayed on the text panel used, as shown in Figure 6-6.

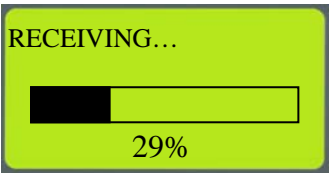




Figure 6-6 RECEIVING...

After the project created is downloaded, a message will appear in TPEditor, and a message will be displayed on the screen of the text panel used, as shown in Figure 6-7.



Figure 6-7 Transmission finished


If the users want to upload the data in a TP series text panel to a computer, they have to click **Read from TP** on the **Communication** menu or  on the standard toolbar, and touch **2. U/L AP model type**  **PC** on the screen of the TP series text panel. If the users want to download the boot page or the user menus in TPEditor to a TP series text panel, they have to follow the instructions in section 3.5. If the users want to download a project to a TP70 series text panel, or upload the data in a TP70 series text panel to a computer, they do not need to set the TP70 series text panel, and only need to click **Write to TP** or **Read from TP** in TPEditor. Besides, the general pages and the boot page designed in TPEditor can be downloaded to a TP70 series text panel simultaneously.

6.2 Examples

Two examples of operating a TP series text panel are provided in section 6.2.1 and section 6.2.2. Before users download a project, they have to set a connection. Please refer to section 6.1.1 for more information. TP04G series text panels are used in the two examples.

6.2.1 Example 1: Designing and Using a Boot Page

Description: A boot page is designed. After the boot page is downloaded to a TP series text pane, the boot page displayed on the screen of the TP series text panel will be the boot page designed.

- Step 1: Start TPEditor. Click **New** on the **File** menu, or  on the standard toolbar. After users select a model, and click **OK** in the **New Project** window, a blank project will be created. After the users click **Boot Page** on the **View** menu, or **Boot Page** in the page management area, the **Boot Page** window will appear, as shown in Figure 6-8.

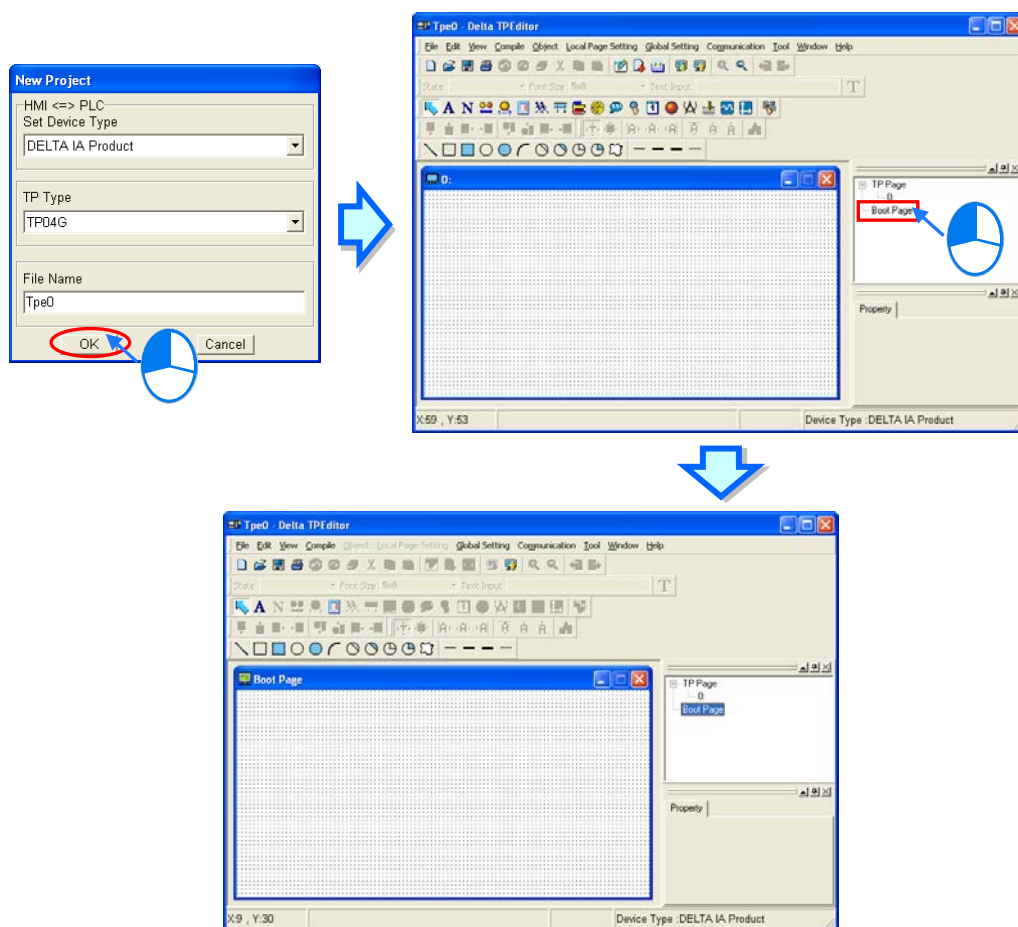


Figure 6-8 **Boot Page** window

- Step 2: Only geometric object, static text, and static images can be inserted in the **Boot Page** window. After the users click **Static Bitmap** on the object toolbar, they can click where they want to begin the selection of an area in the **Boot Page** window, hold down the left mouse button, and drag the cross over the area that they want to select. The object will be inserted into the area selected after the users release the left mouse button, as shown in Figure 6-9.

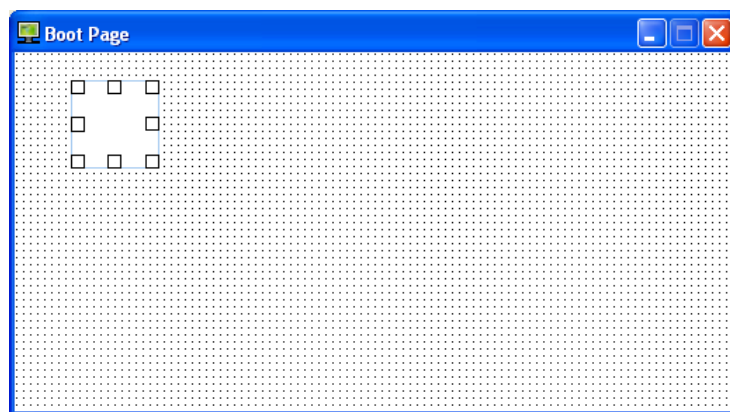



Figure 6-9 Inserting a static image

- Step 3: After the users double-click  in the **Boot Page** window, the **Open** window will appear. The users have to select a .bmp file in the **Open** window. After the users click **Open** in the **Open** window, an image will be inserted in the **Boot Page** window, as shown in Figure 6-10.

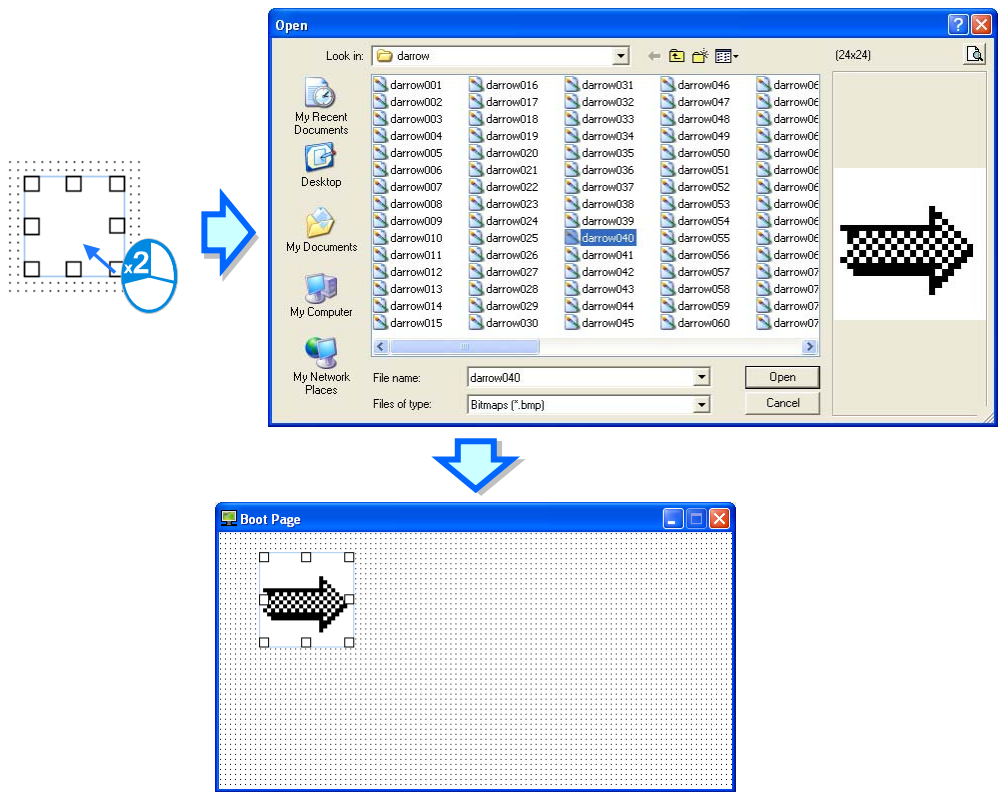



Figure 6-10 Selecting a static image

- Step 4: After the users finish editing a boot page, they can download the boot page. After the users press Esc on the TP04G series text panel used for a long time, menus will be displayed on the screen of the TP04G series text panel. After 1. **D/L AP TP04G**  **PC** on the screen of the TP04G series text panel is touched, “WAIT COMM...” will be displayed on the screen of the TP04G series text panel, as shown in Figure 6-11.

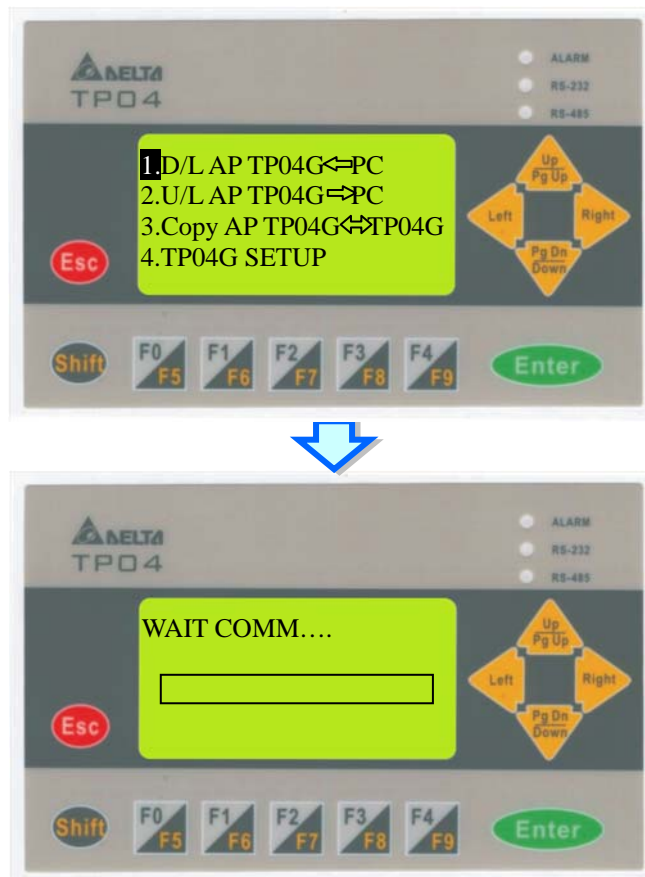


Figure 6-11 Touching 1. D/L AP TP04G ↔ PC

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- Step 5: After the users click **Write Boot Page to TP** on the **Communication** menu, the boot page edited will be downloaded to the TP04G series text panel, and the window showing the percentage of progress in downloading the boot page will appear, as shown in Figure 6-12 The boot page edited does not need to be compiled before it is downloaded.

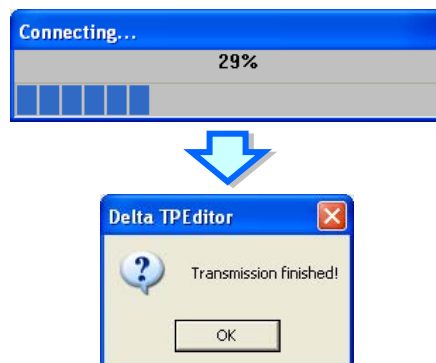


Figure 6-12 Downloading a boot page

- Step 6: The users have to touch **4.TP04G SETUP**, touch **8. START-UP DISPLAY**, and touch **2. USER DEFINE** on the screen of the TP04G series text panel in order, as shown in Figure 6-13. After they set the TP04G series text panel, the boot page displayed on the TP04G series text

panel will be the boot page edited in TPEditor.



Figure 6-13 Setting a user-defined page

- Step 7: After the users power the TP04G series text panel again, the boot page designed will be displayed on the screen of the TP04G series text panel.


Note: The image inserted in the **Boot Page** window can be any image, e.g. a company's logo.

However, the image inserted must be a monochromatic color bitmap, and the maximum size of the image inserted is 128×64. The users can also edit an image by means of an application. If the users want to insert text, it is suggested that the size of the image inserted should not be 128×64.

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6.2.2 Example 2: Connecting a TP Series Text Panel to a Delta PLC

Description: F0 on a TP series text panel is used to control the button corresponding to M0 in a PLC. A PLC program is designed so that the state of M1 varies with the state of M0. The state of M1 is read by the TP series text panel, and is represented by a bit lamp.

- Step 1: Start TPEditor. Click **New** on the **File** menu, or  on the standard toolbar. After users select **DELTA PLC** in the **Set Device Type** drop-down list box, select **TP04G** in the **TP Type** drop-down list box, and click **OK** in the **New Project** window, a blank project will be created, as shown in Figure 6-14.

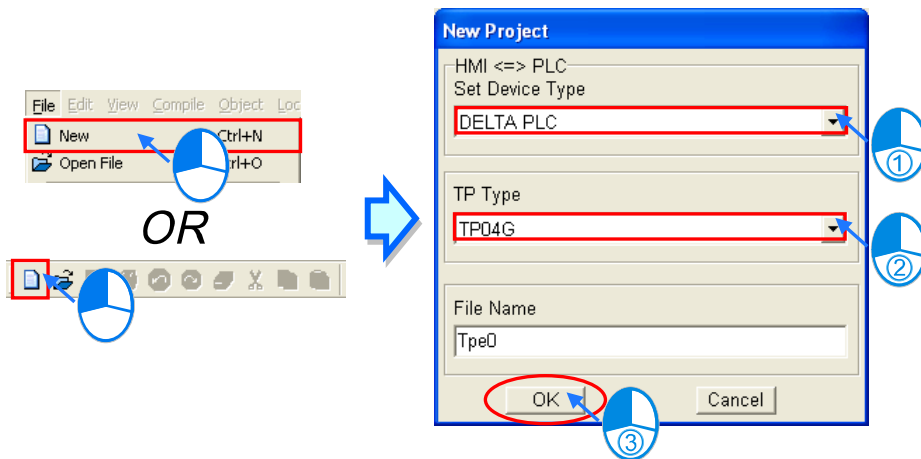




Figure 6-14 Creating a project

- Step 2: After the users click **Button** on the **Object** menu or  on the object toolbar, they can click where they want to begin the selection of an area in the page editing area, hold down the left mouse button, and drag the cross over the area that they want to select. The object  will be inserted into the area selected after the users release the left mouse button, as shown in Figure 6-15.

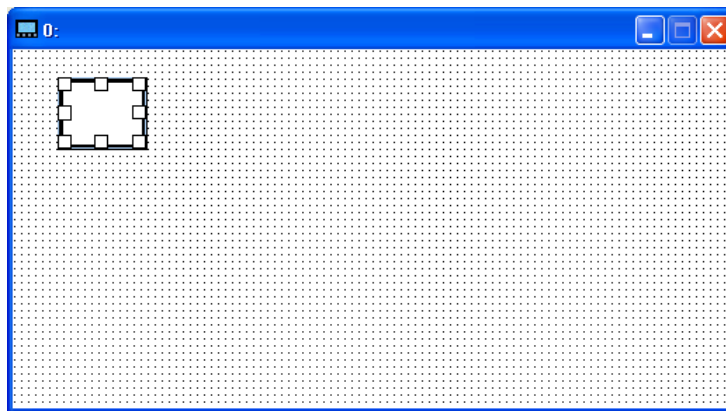


Figure 6-15 Inserting a button


- Step 3: After the users double-click , the **Button Setting** window will appear, as shown in Figure 6-16.



Figure 6-16 Button Setting window

- Step 4: After the users select **Push On/Off** in the **Button Type** drop-down list box, they have to select **F0** in the **Function Key** drop-down list box. After the users select **0** in the **Current State** drop-down list box, they have to type “OFF” in the **Button Text** box. Please see Figure 6-17.

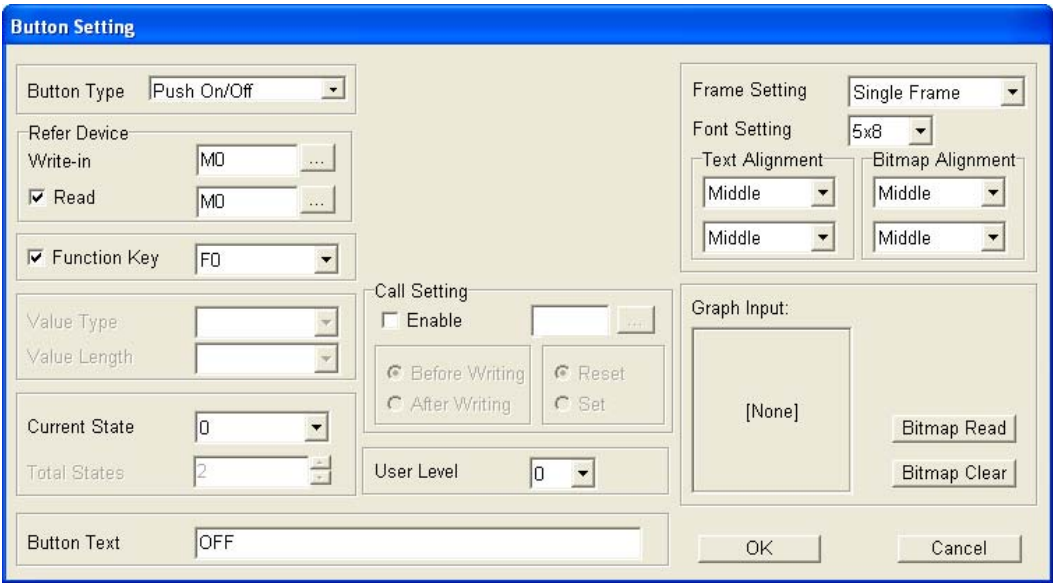


Figure 6-17 Button Setting window

The users have to select a device in the **Write-in** box, and a device in the **Read** box. Please see Figure 6-18. In the **Refer Device** window, the users have to select a communication port in the **Connect Com** drop-down list box, and a communication address in the **PLC Address** box. The related device selected here is M0. After the users click **OK** in the **Refer Device** window, they will return to the **Button Setting** window.

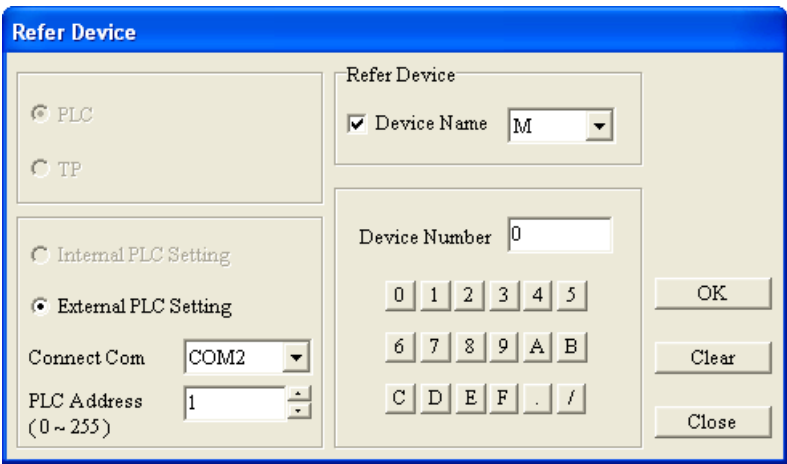


Figure 6-18 Refer Device window

After the users select 1 in the **Current State** drop-down list box, they have to type “ON” in the **Button Text** box, as shown in Figure 6-17. The users have to select 0 in the **Current State** drop-down list box, and then click **OK**.

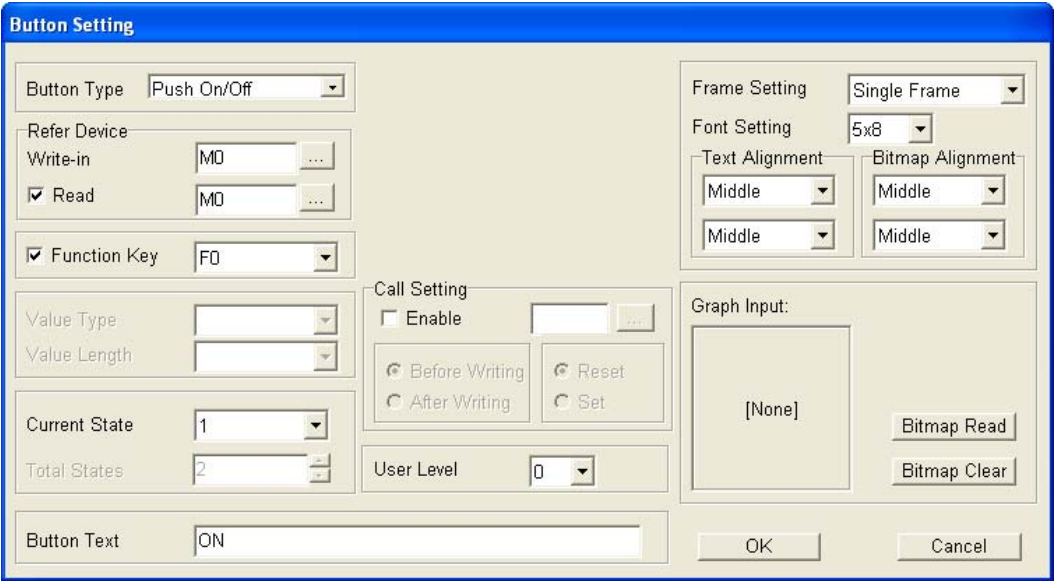


Figure 6-19 Button Setting window

After the button set is inserted in page 0, page 0 will be as shown in Figure 6-20.

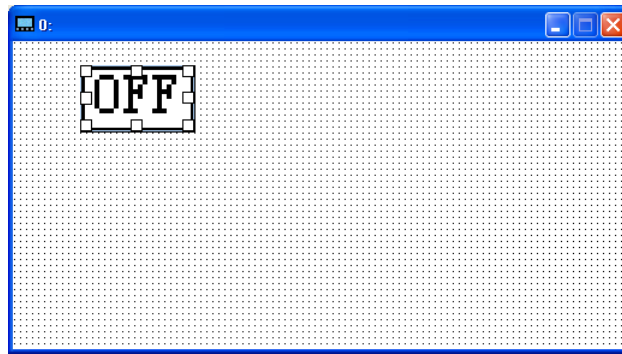


Figure 6-20 Button

- Step 5: The users have to insert a bit lamp in the same way. In the **Bit Lamp Setting** window, the users have to select **M1** in the **Refer Device** section, and select the images corresponding to the states of the related device selected in the **Bitmap Setting** section. A bit lamp is as shown in Figure 4-27. After the users click **OK** in the **Bit Lamp Setting** window, page 0 will be as shown in Figure 6-21.

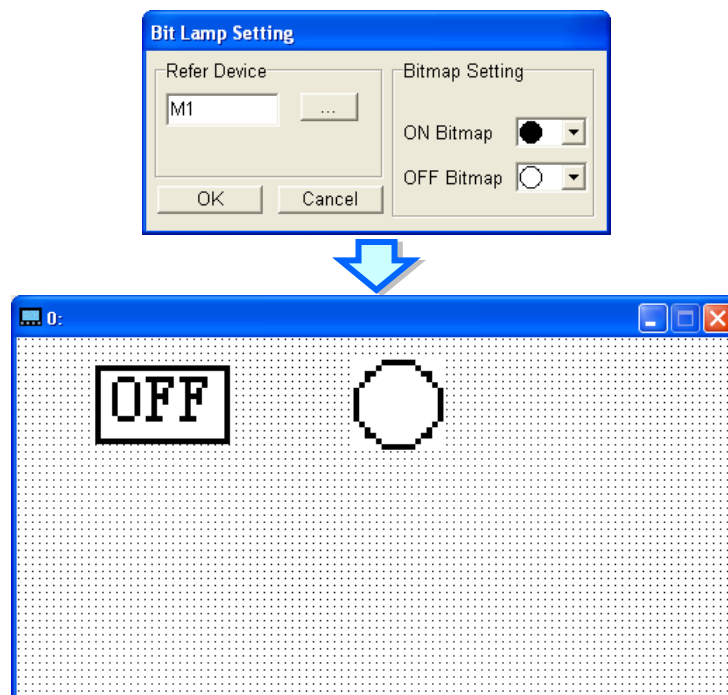



Figure 6-21 Bit Lamp

- Step 6: After the users click **Build All** on the **Compile** menu or  on the standard toolbar, the result of compiling the project created will be displayed, as shown in Figure 6-22.

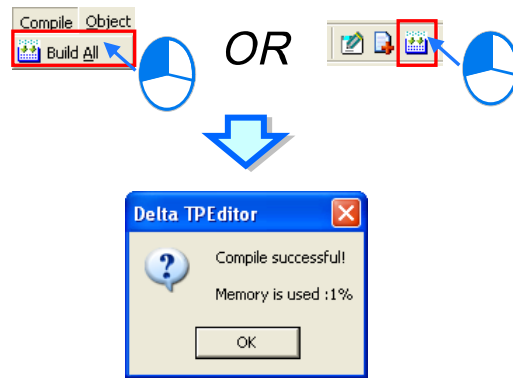


Figure 6-22 Compiling a project

- Step 7: After the users finish designing page 0, they can download the page. After the users press Esc on the TP04G series text panel used for a long time, menus will be displayed on the screen of the TP04G series text panel. After **1. D/L AP TP04G ← PC** on the screen of the TP04G series text panel is touched, "WAIT COMM..." will be displayed on the screen of the TP04G series text panel, as shown in Figure 6-4.
- Step 8: After the users click **Write to TP** on the **Communication** menu, the **Confirm** window will appear. After the users click **Yes** in the **Confirm** window, the page designed will be downloaded to a TP04G series text panel, and the window showing the percentage of progress in downloading the project created will appear, as shown in Figure 6-5.
- Step 9: The users have to design a PLC program, and download it. Please refer to ISPSoft User Manual for more information about writing a PLC program. In this example, the state of M1 varies with the state of M0. Please see Figure 6-23. The users have to set the communication format and the station address of a PLC. Please refer to operation manuals for more information about setting related registers.

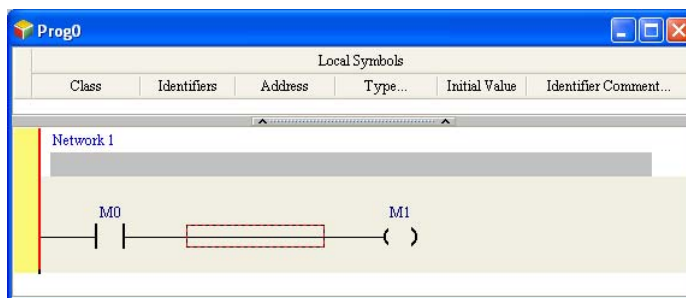


Figure 6-23 PLC program

- Step 10: The users have to connect the TP04G series text panel to a PLC by means of RS-485. The have to connect the positive pin of the RS-485 port on the PLC to the positive pin of the RS-485 port on the TP04G series text panel, and connect the negative pin of the RS-485 port on the PLC to the negative pin of the RS-485 port on the TP04G series text panel. The users have to set the PLC to RUN, and touch **5. EXIT & RUN** on the screen of the TP04G series text

panel. Please see Figure 6-24.

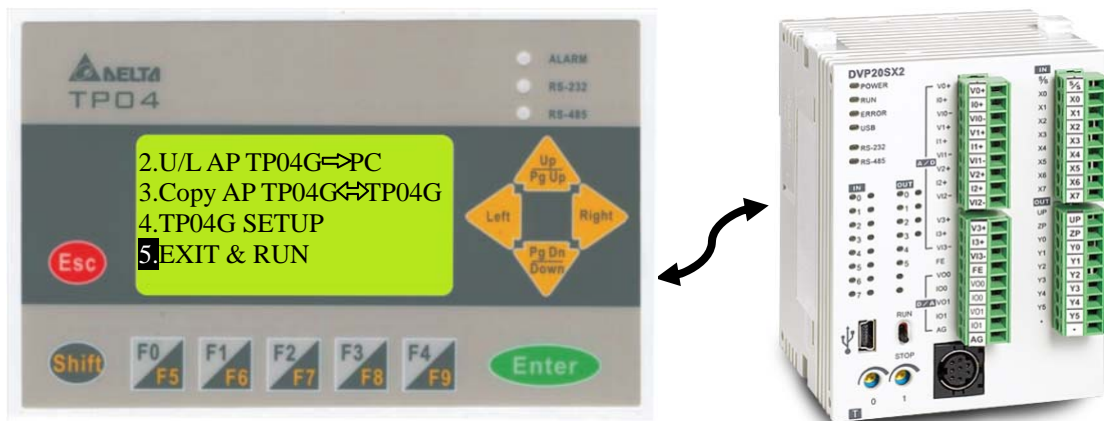


Figure 6-24 Connecting a TP series text panel to a PLC

- Step 11: When the TP04G series text panel is connected to the PLC successfully, the users can press F0 on the TP04G series text panel. The button displayed on the TP04G series text panel corresponds to M0 in the PLC. When the users press F0 on the TP04G series text panel, the state of M0 is changed. The state of M1 is changed by means of the PLC program designed, and the state of M1 is represented by the bit lamp displayed on the TP04G series text panel. Please see Figure 6-25.

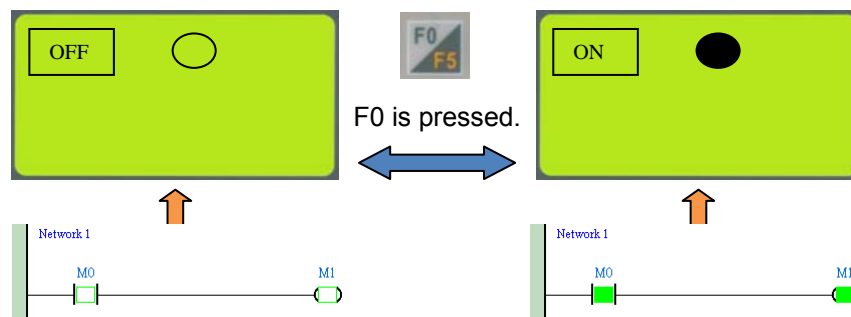


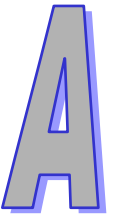
Figure 6-25 Executing a program

Note: If a TP series text panel which functions as a master station is connected to PLCs which function as slave stations in series by means of RS-485, users have to assign different station addresses to the PLCs. 255 slave stations at most can be connected. Pages for multiple connections are designed in the same way as they are for a one-to-one connection. However, the communication addresses set for the objects or functions corresponding to different slave stations are different.

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Appendix A Functions Supported by Models



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A.1 Objects Supported by Models

The objects supported by various models are shown in table A-1. The items supported by a model are indicated by **V**.

Table A-1 Objects supported by models

Object	Model										
	TP04G	TP02G	TP04G-AL-C	TP04G-AL2	TP04G-BL-C	TP04G-BL-CU	TP04P	TP05G	TP08G	VFD-C Keypad	TP70
Static Text	V	V	V	V	V	V	V	V	V	V	V
Numeric/ASCII Display	V	V	V	V	V	V	V	V	V	V	V
Bit Lamp	V	V	V	V	V	V	V	V	V		
Word Lamp	V	V	V	V	V	V	V	V	V		
Static Bitmap	V	V	V	V	V	V	V	V	V	V	V
Dynamic Bitmap		V	V	V	V	V	V	V	V		
Scale	V	V	V	V	V	V	V	V	V	V	
Bar Graph	V	V	V	V	V	V	V	V	V	V	V
Circle Meter	V		V	V	V	V	V	V	V		V
Message Display		V	V	V	V	V	V	V	V		V
Button	V	V	V	V	V	V	V	V	V	V	V
RTC Display	V	V	V	V	V	V	V	V	V	V	V
Multi-State Bitmap/Label	V	V	V	V	V	V	V	V	V	V	V
Units	V	V	V	V	V	V	V	V	V	V	
Numeric Input	V	V	V	V	V	V	V	V	V	V	V
Curve	V		V	V	V	V		V	V		
X-Y Curve	V		V	V	V	V		V	V		V
Alarm											V
Slider											V
Geometric Graphic	V	V	V	V	V	V	V	V	V	V	V
Delta Products Communication Device Setting	V										
Input List											V
ComboBox											V

A.2 Button Types Supported by Models

The button types supported by various models are shown in table A-2. The items supported by a model are indicated by **V**.

Table A-2 Button types supported by models

Button type	Model										
	TP04G	TP02G	TP04G-AL-C	TP04G-AL2	TP04G-BL-C	TP04G-BL-CU	TP04P	TP05G	TP08G	VFD-C Keypad	TP70
Force ON	V	V	V	V	V	V	V	V	V	V	V
Force OFF	V	V	V	V	V	V	V	V	V	V	V
Pulse ON	V	V	V	V	V	V	V	V	V		V
Pulse OFF	V	V	V	V	V	V	V	V	V		V
Push On/Off	V	V	V	V	V		V	V	V		V
Momentary	V	V	V	V	V	V	V	V	V		V
Multi-State	V	V	V	V	V	V	V	V	V		V
Input Value	V	V	V	V	V	V	V	V	V		V
Constant Setting	V	V	V	V	V	V	V	V	V	V	V
Increase	V	V	V	V	V	V	V	V	V		V
Decrease	V	V	V	V	V	V	V	V	V		V
Page Jump	V	V	V	V	V	V	V	V	V	V	V
Password and Setting	V	V	V	V	V	V	V	V	V		V
Screen Scroll			V	V	V	V	V	V	V		
Clock Display Setting			V	V	V	V	V				V
PLC Link Setting							V				V
Recipe Write/Read								V	V		

A.3 Items Supported by Models on the Local Page Setting Menu

The items supported by various models on the **Local Page Setting** menu are shown in table A-3.

The items supported by a model on the **Local Page Setting** menu are indicated by **V**.

Table A-3 Items supported by models on the **Local Page Setting** menu

Item	Model										
	TP04G	TP02G	TP04G-AL-C	TP04G-AL2	TP04G-BL-C	TP04G-BL-CU	TP04P	TP05G	TP08G	VFD-C Keypad	TP70
Page Jump Condition Setting	V	V	V	V	V	V	V	V	V		V
Function Key Setting	V	V	V	V	V	V	V	V	V		
Alarm Buzzer Setting	V	V	V	V	V	V	V	V	V		
Alarm LED Setting	V	V	V	V	V	V	V	V	V		
Write Page No. Setting	V	V	V	V	V	V	V	V	V		V
Hide Page Setting	V	V	V	V	V	V	V	V	V		
Local Macro Setting								V	V		
Page Color Setting											V

A.4 Items Supported by Models on the Global Setting Menu

The items supported by various models on the **Global Setting** menu are shown in table A-4. The items supported by a model on the **Local Page Setting** menu are indicated by **V**.

Table A-4 Items supported by models on the **Global Setting** menu

Item	Model										
	TP04G	TP02G	TP04G-AL-C	TP04G-AL2	TP04G-BL-C	TP04G-BL-CU	TP04P	TP05G	TP08G	VFD-C Keypad	TP70
System Parameter Setting: Page Auto-Jump/ Backlight Control	V		V	V	V	V	V	V	V		V
System Parameter Setting: Read/Write Block Setting			V	V	V	V	V	V	V		V
System Page Jump Setting	V	V	V	V	V	V	V	V	V		V
System Function Key Setting	V	V	V	V	V	V	V	V	V		
System Alarm Buzzer Setting	V	V	V	V	V	V	V	V	V		V
System Alarm LED Setting	V	V	V	V	V	V	V	V	V		
System RTC Setting	V		V	V	V	V		V	V		V
System Power ON Setting	V	V	V	V	V	V	V	V	V		
Global Macro Setting								V	V		
Recipe Setting								V	V		
Default Page Color Setting											V

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Appendix B USB Driver

Contents

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B.1 Installing a USB Driver

The installation of a USB driver on Windows XP is introduced below. If users want to install a USB driver on another operating system, they have to refer to the instructions for the operating system for more information about the installation of new hardware.

- (1) The users have to make sure that a TP series text panel is supplied with power normally. After they connect the TP series text panel to a USB port on the computer with a USB cable, the **Found New Hardware Wizard** window will appear. The users have to select the **No, not this time** option button, and then click **Cancel** in the **Found New Hardware Wizard** window, as shown in Figure B-1.



Figure B-1 Process of installing a USB driver

- (2) The name of the USB device detected is displayed in the window. Please select the **Install from a list or specific location (Advanced)** option button, as shown in Figure B-2.

B

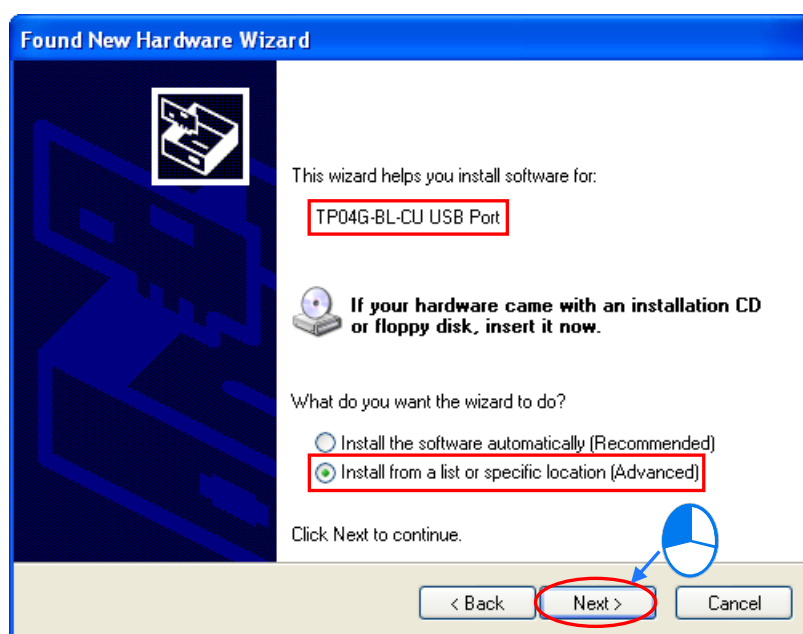


Figure B-2 Process of installing a USB driver

- (3) The Delta TP series text panels which are equipped with built-in USB interfaces are listed in the table below. After TPEditor is installed, the drivers for TP04G-BL-CU series text panels, TP04P series text panels, and TP70P series text panels will be in the folders denoted by the paths in table B-1. If the operating system used is a 32-bit operating system, the users have to select TP_USB.inf. If the operating system used is a 64-bit operating system, the users have to select TP_USB_64.inf.

Table B-1 Models supported and path

Model	Path
TP04G-BL-CU TP04P TP70P	Installation path of TPEditor\USB\

*. The default installation path of TPEditor is C:\Program Files\Delta Industrial Automation\TPEditorx.xx.

The users have to specify the correct path. If a USB driver is gotten in another way, the users have to specify the corresponding path. After the users click **Next**, the installation of the USB driver selected will proceed, as shown in Figure B-3.

B

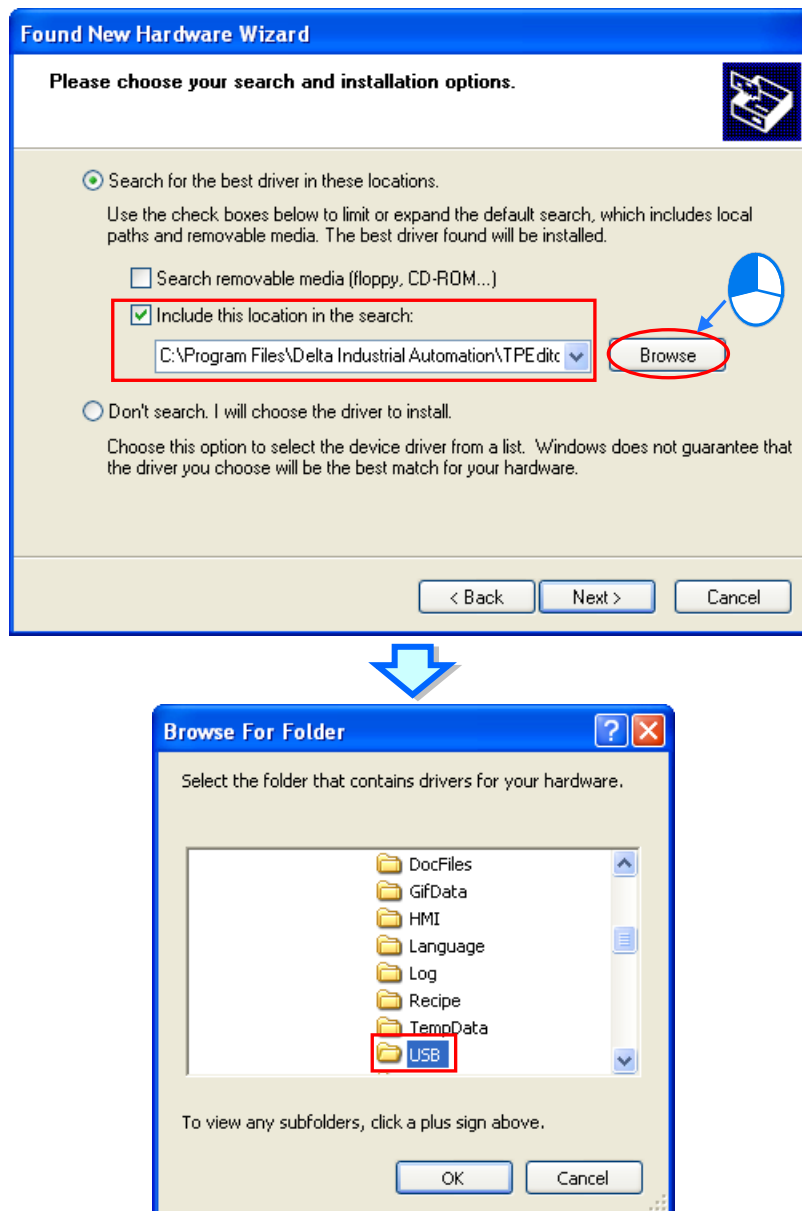


Figure B-3 Process of installing a USB driver

- B** (4) After the correct driver is found in the folder denoted by the path, the system will install the driver. If the **Hardware Installation** window appears during the installation, please click **Continue Anyway**, as shown in Figure B-4.

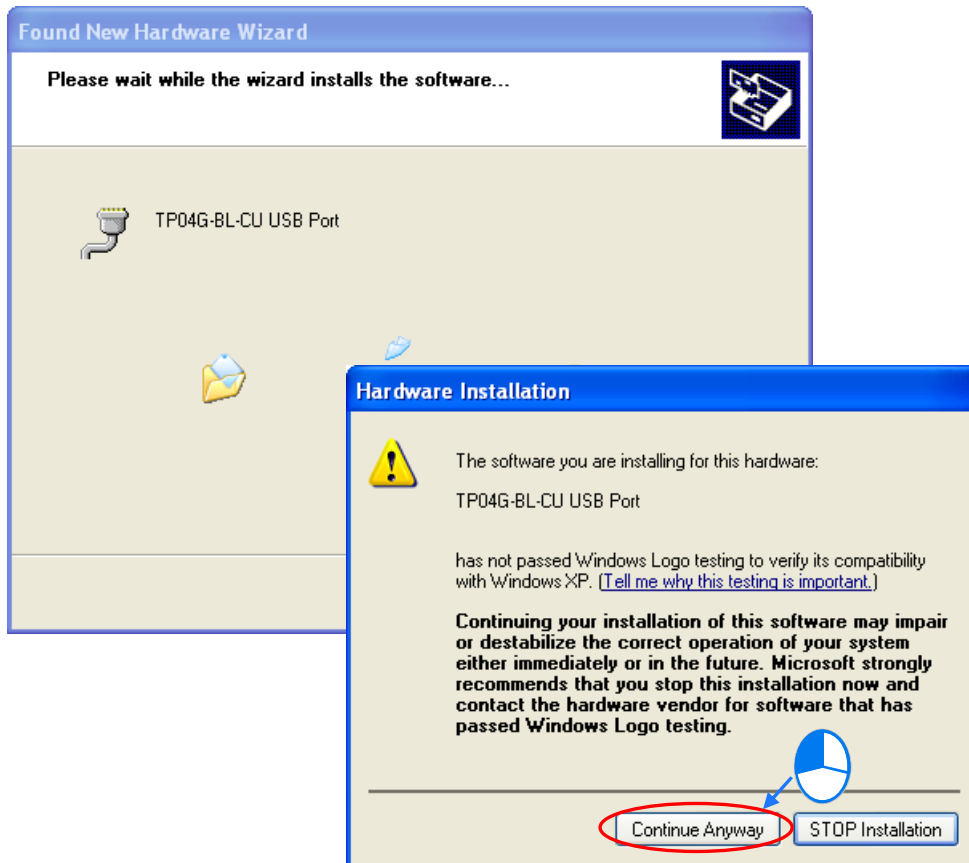


Figure B-4 Process of installing a USB driver

(5) The users have to click **Finish** after the installation finishes, as shown in Figure B-5.

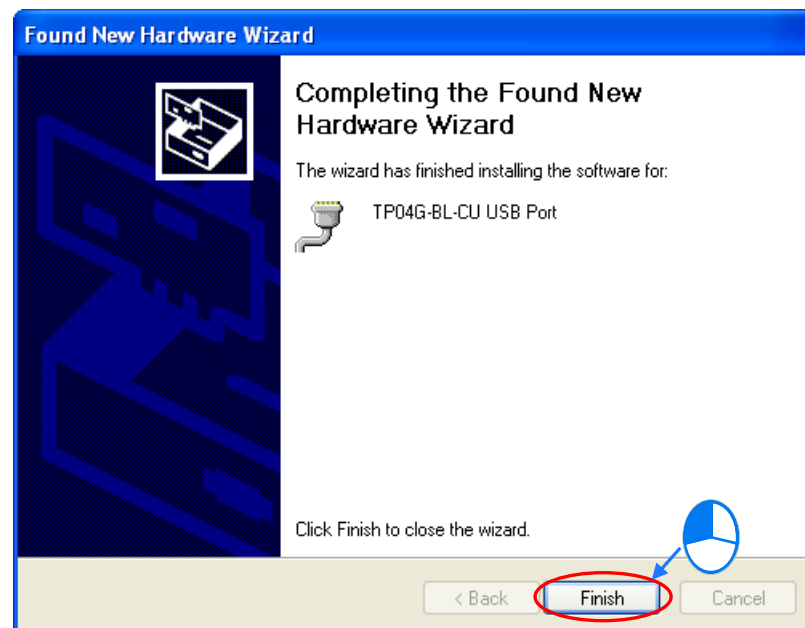


Figure B-5 Process of installing a USB driver

(6) Open the **Device Manager** window after the installation finishes. If the name of the USB device

installed is under **Ports (COM & LPT)**, the installation of the driver is successful. The operating system assigns a communication port number to the USB device, as shown in Figure B-6.

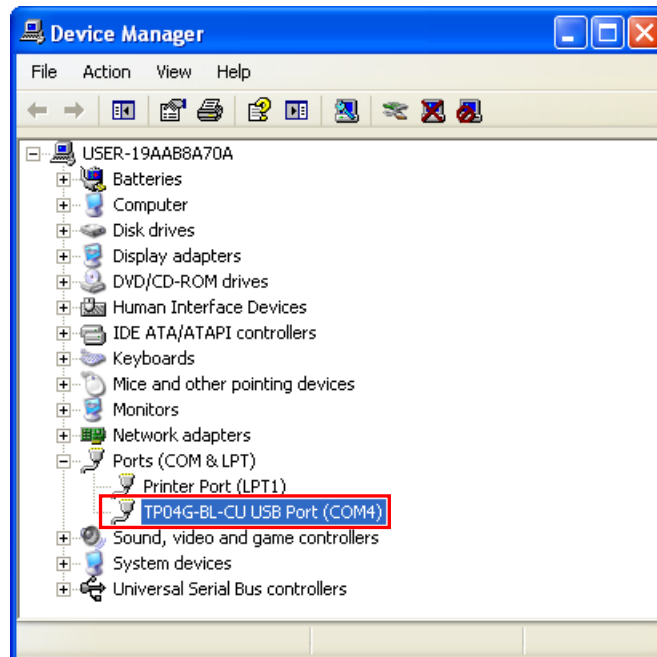


Figure B-6 **Device Manager** window

Additional remark

- If the TP series text panel is connected to another USB port on the computer, the system may ask the users to install the driver again. The users can follow the steps above, and install the driver again. After the driver is installed, the communication port number that the operating system assigns to the USB device may be different.
- If Windows XP SP3 has not been installed on the computer, a warning message will appear during the installation. Users can deal with the problem in either way below.
 - (a) Cancel the installation, install Windows XP SP3, and reinstall the driver according to the steps above.
 - (b) Get the file needed, and specify the path pointing to the file in the **Files Needed** window.

B