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Chapter 6. Object

Object is designed for meet the specific demand,generally speaking one object realizes a function,but some object must finish the specific function with the assistance correlated with Object or PLC.The following form shows:

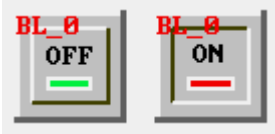
Object	Correlate Object	Explanation
Numeric Input Extend	Function Key	The keyboard is created by the function key
ASCII Input Extend	Function Key	The keyboard is created by the function key
Indirect Window	Window	Window that has already been created
Direct Window	Window	Window that has already been created
Alarm Scan	Alarm Display , Alarm Bar	Alarm information show by the alarm display or alarm bar.
Alarm Display	Alarm Scan	Show the information from "Alarm Scan"
Alarm Bar	Alarm Scan	Show the information from "Alarm Scan"
Trend Display Plot	Data Transfer	When the project has a lot of "Trend Display Plot", can cooperate with " Data Transfer " component , raise and pursue the renewal speed of surface
Event Log	Event Display	Shown the information of log-in by " Event Display "
Event Display	Event Log	The information shown is logged in by " Event Log "
PLC Control	PLC	PLC procedure controls the operation of the function

Most object support "bit" or "word" address type (only "Numeric Input Extend" can operate double word) ,because some PLC has "Double words" address type ,so some driver of PLC will "Double word" is it change to make with " word ",user is it pay special attention to operation instructions ,PLC of driver to need.

6.1 Bit Lamp



A Bit Lamp displays the ON or OFF states of a designated PLC address. If the bit status is OFF, the state 0 shape is displayed. If the bit status is ON, the state 1 shape is displayed. The corresponding label is also displayed if Use Label is enabled.



Procedure to place a Bit Lamp

1. Click Bit Lamp icon ,the following popup dialog displays:

Create Bit Lamp Object

General Shape Label

Description : |

Read address

Device type : LB Device address : 0

Aux.

Attribute

Function : Normal

OK Cancel Apply Help

2. Fill in General Tab Items:

Description:A reference name that you assign to the Bit Lamp. (not displayed)

Read Address:PLC location address of "Bit Lamp"

Attribute:

Normal:

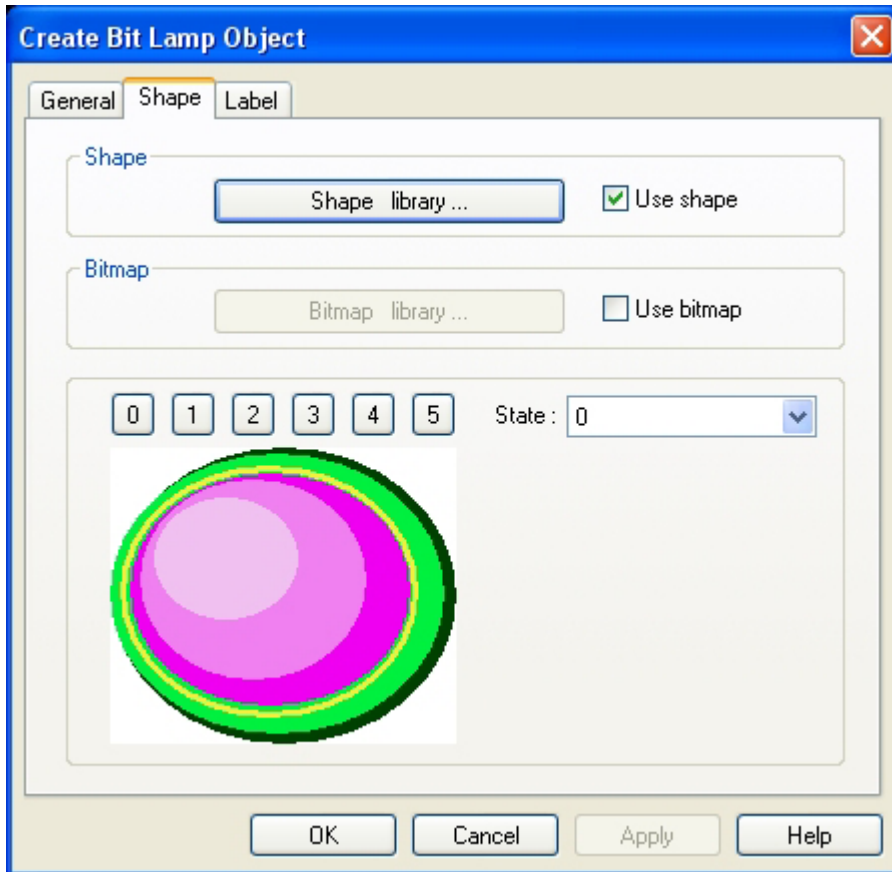
only the corresponding shape is displayed which doesn't blink.

ON Blink State 0 or 1:

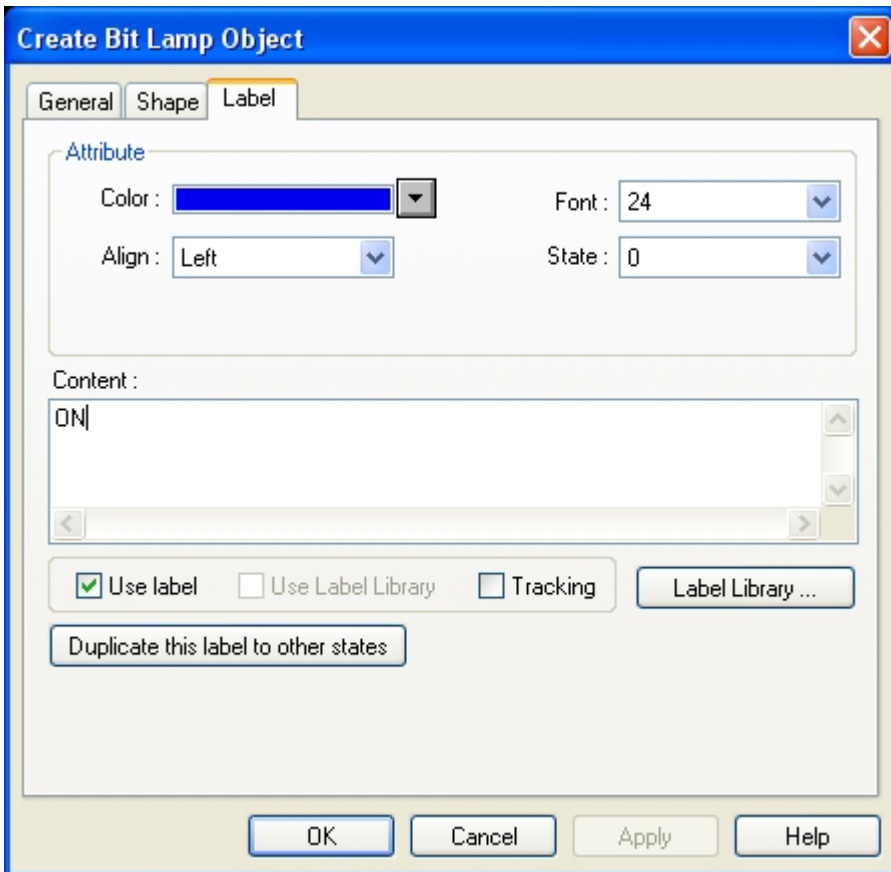
Show the figure of 0 as "Read Address" state ,for OFF ;Show the figure of 1 as the state ,for ON.

And show the result of blinking , the frequency glimmers set up from "Break time".

3. Click the Shape Tab: Select a shape or a bitmap to display the corresponding OFF and ON states.



4. Go to the Label Tab and fill in Attribute and Content fields for corresponding OFF and ON states.

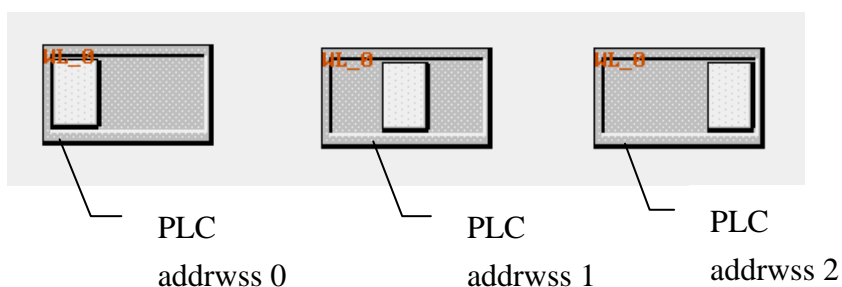


5. Click OK.

6.2 Word Lamp

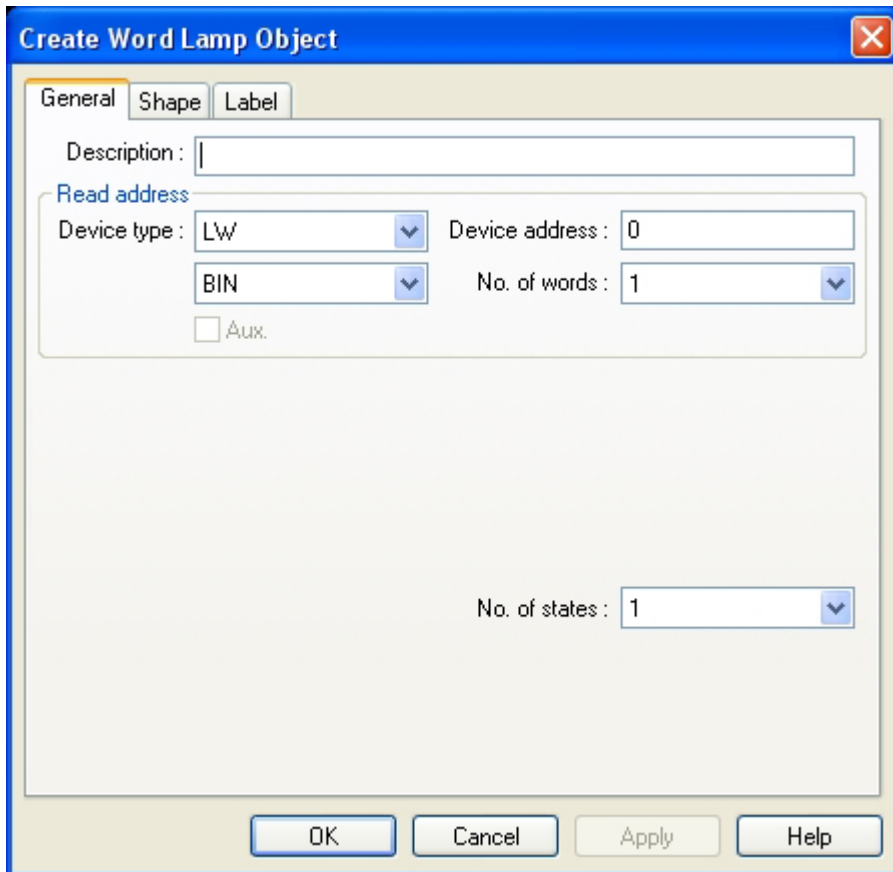


A Word Lamp changes state according to the value in the designated word address of PLC. If the value equals to 0, the first shape is displayed. If the value equals to 1, the second shape is displayed, and so on. The corresponding label for the state is also displayed if “Use Label” is checked.



Procedure to place a Word Lamp

1. Click Word Lamp icon



2. Fill in General Tab Items:

Description: A reference name that you assign to the Word Lamp. (not displayed)

Read Address: PLC Word that controls the Word Lamp state, shape and label.

Data format: Defines data from the controller as BIN or BCD

No. of states: Appoint all quantity of states.

3. Go to Shape Tab. Select Shape or bitmap to display the corresponding states.

4. Go to Label Tab. Fill in text.

5. Click OK to place the word Lamp on the window. Position the word Lamp and resize it if necessary. Adjust the label position as desired.

Data format types

BIN (binary format) Decimal numbers are encoded by bit weight

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
2^{15}	2^{14}	2^{13}	2^{12}	2^{11}	2^{10}	2^9	2^8	2^7	2^6	2^5	2^4	2^3	2^2	2^1	2^0

BCD (binary coded decimal format) Decimal numbers are encoded by bit weight per 4-bit nibble

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
10^3				10^2				10^1				10^0			

Examples : The Read address raw data is $(10010100)_{\text{BIN}} =$

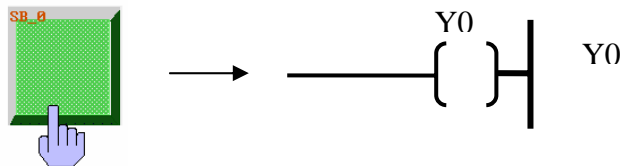
$$1*2^7 + 0*2^6 + 0*2^5 + 1*2^4 + 0*2^3 + 1*2^2 + 0*2^1 + 0*2^0 = 128 + 16 + 4 = (148)_{\text{DEC}}$$

The Read address raw data $(1001\ 0100)_{\text{BCD}} = 9*10^1 + 4*10^0 = 94$ [$(1001)_2 = (9)_{10}$, $(0100)_2 = (4)_{10}$]

6.3 Set Bit

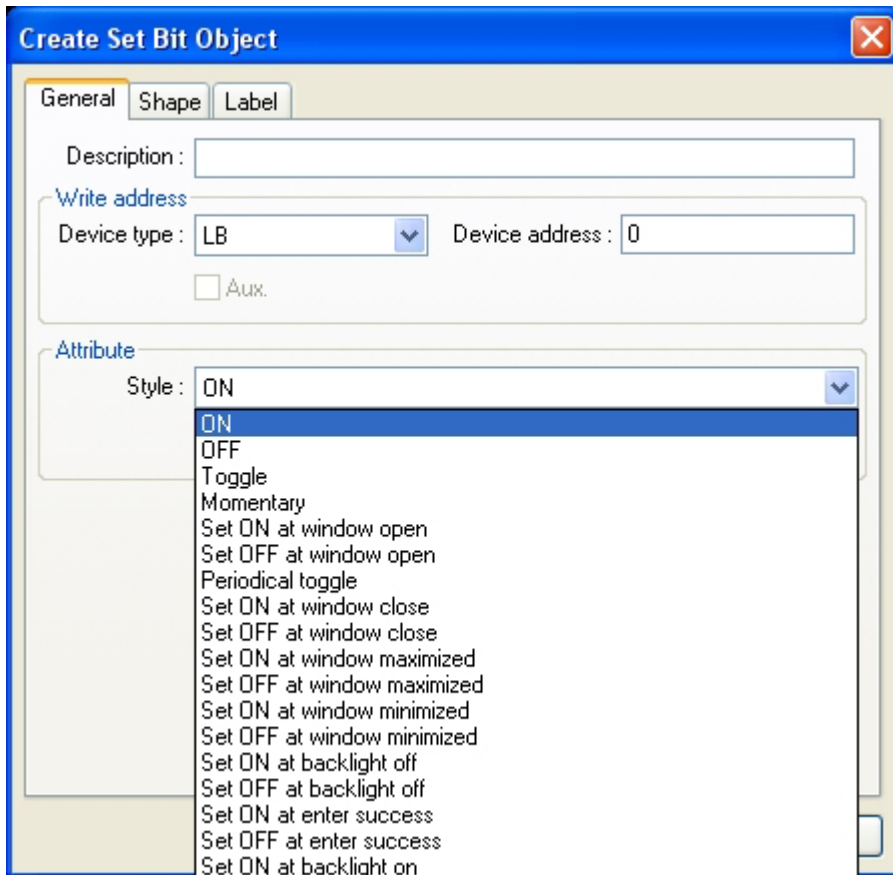


The Set Bit Part defines a touch area, that when activated, changes the ON or OFF state of a specified bit.



Procedure to place a Set Bit

1. Click Set Bit icon
2. Fill in General Tab:



Description: A reference name that you assign to the Set Bit Part. (not displayed)

Write Address: Address of PLC that is acted on by the Set Bit action.

Style: Consult the attached list of this festival.

3. Go to Shape Tab. Select Shape or Bitmap to display graphics that represent the touch area.
4. Go to Label Tab: Fill in fields to denote states.
5. Click OK .Position the Set Bit part and resize it.

Set Style Functions

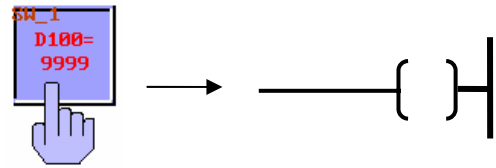
Set Style	Description
ON	When the Set Bit Part is pressed, the designated Device address is turned ON. The state continues (keeps ON) even after release.
OFF	When the Set Bit Part is pressed, the designated Device address is turned OFF. The state continues (keeps OFF) even after release.
Toggle	Every time the Set Bit Part is pressed, the designated PLC bit is complemented (ON->OFF, OFF -> ON)
Momentary	When the Set Bit Part is pressed and keep holding, the designated Device address is turned ON,Whether when the Set Bit Part is freedom,the designated Device address is return OFF.

Set ON at window open	When the window containing this Set Bit Part is opened, the designated PLC address is turned ON.
Set OFF at window open	When the window containing this Set Bit Part is opened, the designated PLC address is turned OFF.
Periodical toggle	Changes the state of the designated bit at a regular interval as selected in the Interval dropdown.
Set ON at window close	When the window containing this Set Bit Part is closed, the designated PLC address is turned ON. (the operation is suitable for Local Bit (or LW))
Set OFF at window close	When the window containing this Set Bit Part is closed, the designated PLC address is turned OFF. (the operation is suitable for Local Bit(or LW))
Set ON at window maximized	When the window containing this Set Bit Part is maximized, the PLC Device address is turned ON.
Set OFF at window maximized	When the window containing this Set Bit Part is maximized, the designated PLC address is turned OFF.
Set OFF at window minimized	When the window containing this Set Bit Part is minimized, the designated PLC address is turned OFF.
Set ON at window minimized	When the window containing this Set Bit Part is minimized, the designated PLC address is turned ON.
Set ON at backlight off	When the backlight is turned off, the designated PLC address is turned ON.
Set OFF at backlight off	When the backlight is turned off, the designated Device address is turned OFF.
Set ON at enter success	When a function key with the ENT attribute is pressed in response to a Numeric Input or ASCII Input part and the attempt to write the data succeeds, the designated PLC address is turned ON.
Set OFF at enter success	When a function key with the ENT attribute is pressed in response to a Numeric Input or ASCII Input part and the attempt to write the data fails, the designated PLC address is turned OFF.

6.4 Set Word



The Set Word Part defines a touch area that when activated you can write a predefined value (constant) to the designated PLC address.



Procedure to place a Set Word

1. Click Set Word icon
2. Fill in General Tab content:

Create Set Word Object

General Shape Label

Description: |

Write address

Device type: LW Device address: 0

BIN

Aux.

Attribute

Set style: Periodical JOG++

Inc. value: 0 Upper limit: 0

Break time: 0.1 second

OK Cancel Apply Help

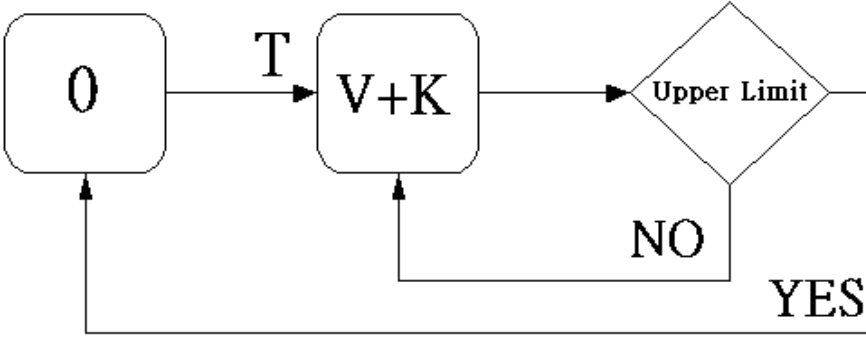
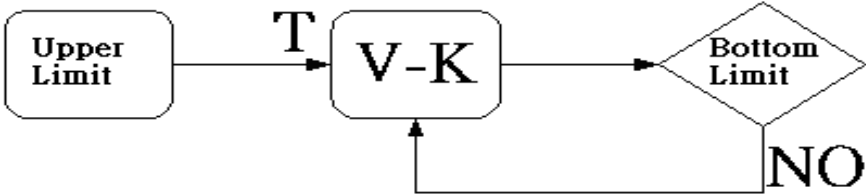
Description: A reference name that you assign to the Set Word (not displayed)

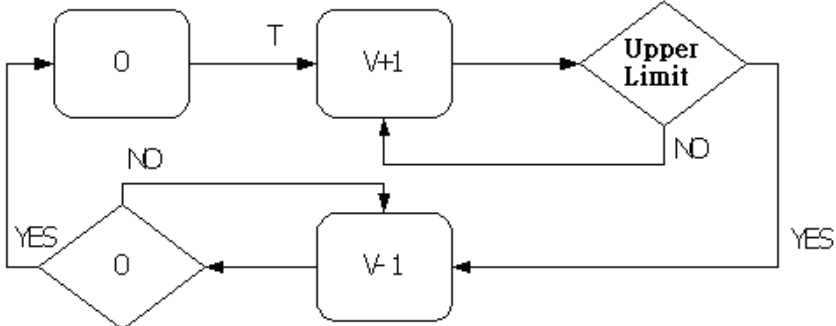
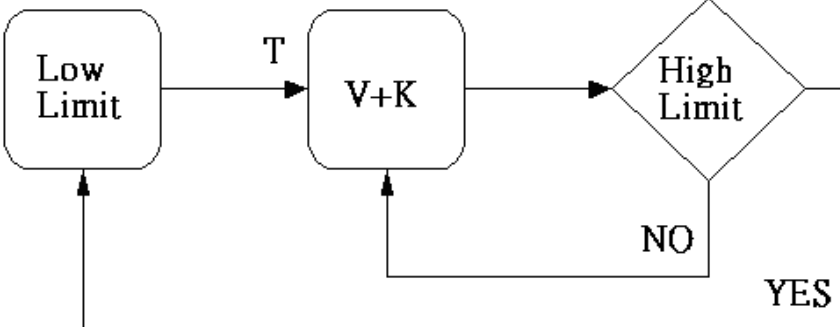
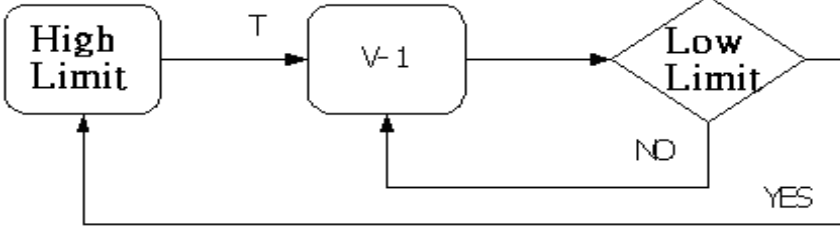
Write Address: Word in the MMI/PLC that is affected by the Set Word control. Data in the register may be interpreted as Binary or BCD information. (See note on Word Lamp Part)

Set Style: Please refer to the following graph.

3. Go to Shape Tab: Select Shape or Bitmap to display graphics that represent the touch area.
4. Go to Label Tab: Fill in fields to denote states.
5. Click OK, position the Set Word part and resize it if necessary.

Set Style Functions

Set Style	Description
Set constant	When pressed, preset Set value data is written to the designated PLC device address.
Add Value(JOG+)	Every time pressed, the Inc. value is added to the designated word If the result is not larger than Upper limit
Sub Value(JOG-)	Every time pressed, the Dec. Value is subtracted from the value of the designated word if the result is not less than Bottom Limit.
JOG++	When pressed, the Inc. value is added to the designated word at regular intervals as specified by JOG delay and JOG speed if the result is not larger than Upper limit.
JOG--	When pressed, the Dec. value is subtracted from the value of the designated word at regular intervals as specified by JOG delay and JOG speed if the result is not less than Bottom limit.
Set at window open	When the window containing this part is opened, the Set value data is written to the designated word.
Periodical JOG++	<p>This Attribute becomes active automatically when the window is active. The Inc. value is added to the designated word, if the result is not larger than Upper limit. Once the upper limit is reached or exceeded, the value returns to zero and incrementing begins again.</p> 
Periodical JOG--	<p>This Attribute becomes active automatically when the window is active. The Dec. value is subtracted from the designated word, if the result is not less than Bottom limit. Once the bottom limit is reached or exceeded, decrementing stops.</p> 
Set at window close	Set value data is written to the designated word automatically when the window containing it is closed. The function is effective for LW (Local Word) and LB (Local Bit)

<p>Periodical bounce</p>	<p>This Attribute becomes active automatically when the window is active. The Inc. value is added to the value of the designated word until the Upper limit is reached. Then the Inc value is subtracted from the designated word until zero is reached. This cycle is repeated until the window becomes inactive.</p>  <pre> graph LR Start((0)) -- T --> Vplus1[V+1] Vplus1 --> UL{Upper Limit} UL -- NO --> Vplus1 UL -- YES --> Vminus1[V-1] Vminus1 --> Z{0} Z -- YES --> Vminus1 Z -- NO --> Start </pre>
<p>Step up</p>	<p>This Attribute becomes active automatically when the window is active. The value is incremented by 1 at regular intervals as specified by the Break time until the High limit is reached. Then the value is reset to the Low limit.</p>  <pre> graph LR LL[Low Limit] -- T --> VplusK[V+K] VplusK --> HL{High Limit} HL -- YES --> LL HL -- NO --> VplusK </pre>
<p>Step down</p>	<p>This Attribute becomes active automatically when the window is active. The Value is decremented at regular intervals as specified by the Break time until the Low limit is reached. Then the Value is reset to the High limit.</p>  <pre> graph LR HL[High Limit] -- T --> Vminus1[V-1] Vminus1 --> LL{Low Limit} LL -- YES --> HL LL -- NO --> Vminus1 </pre>
<p>Set at window maximized</p>	<p>Set value data is written to the designated word automatically when the window containing it is maximized.</p>
<p>Set at window minimized</p>	<p>Set value data is written to the designated word automatically when the window containing it is minimized.</p>
<p>Set at backlight off</p>	<p>Set value data is written to the designated word automatically when the backlight is turned off.</p>

Note: T= the periodic action

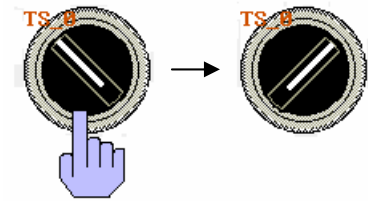
V= the data in the register

K= the incremental (decremental) parameter

6.5 Toggle Switch



The toggle switch is a combination of Bit Lamp and Set Bit. It represents the ON/OFF status of a PLC bit address, and defines a touch area, when activated, it can put the corresponding location address as ON or OFF.



Procedure to place a Toggle Switch.

1. Click Toggle Switch icon
2. Fill in General Tab:

Description: A reference name that you assign to the Toggle Switch. (not displayed)

A screenshot of the 'Create Toggle Switch Object' dialog box. It has three tabs: 'General', 'Shape', and 'Label'. The 'General' tab is active. It contains the following fields:

- Description: A text input field.
- Read address: A section with 'Device type' set to 'LB' and 'Device address' set to '0'. There is an unchecked 'Aux.' checkbox below it.
- Write address: A section with 'Device type' set to 'LB' and 'Device address' set to '0'. There is an unchecked 'Aux.' checkbox below it.
- Attribute: A section with 'Switch style' set to 'ON'. A dropdown menu is open, showing options: 'ON', 'OFF', 'Toggle', and 'Momentary'.

At the bottom, there are four buttons: 'OK', 'Cancel', 'Apply', and 'Help'.

Read address: Bit that controls the Toggle Switch state, shape and label

Write address: Bit that is affected by the Toggle Switch Set Style.

Switch style: See Switch Style Functions below.

3. Go to Shape Tab: Select Shape or Bitmap to display graphics that represent the touch area.

4. Go to Label Tab: Fill in fields to denote states.

5. Click OK to place the Toggle Switch part on the window. Position the Toggle Switch part and resize it.

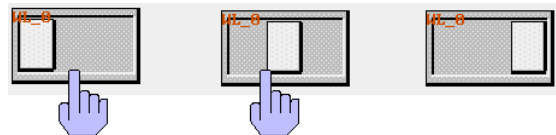
Switch Style Functions

Switch Style	Description
ON	When the Set Bit Part is pressed, the Write address is turned ON. The state is the same even after release.
OFF	When the Set Bit Part is pressed, the Write address is turned OFF. The state is the same even after release.
Toggle	Every time the Set Bit Part is pressed, the Write address state is changed one time (ON→OFF, OFF →ON)
Momentary	Only while the Set Bit Part is pressed, is the Write address turned ON. When the switch is released, the Write address is turned OFF.

6.6 Multi-State Switch



The Multi-State Switch is a combination of Word Lamp and Set Word. It displays a different state depending on the value of the PLC monitor word address (maximum of 32 states) It also defines a touch area that when activated, writes a specified data to the PLC word address, which may be the same as or the different from the Read address.



Create Multistate Switch Object

General Shape Label

Description:

Read address

Device type: LW Device address: 0

BIN No. of words: 1

Aux.

Write address:

Device type: LW Device address: 0

BIN No. of words: 1

Aux.

Attribute

Switch style: JOG+ No. of states: 1

OK Cancel Apply Help

Procedure to place a Multi-State Switch

1. Click Multi-State Switch icon

2. Fill in General Tab:

Description: Reference text assigned to the Multi-State Switch (not displayed).

Read Address: Word in the PLC that controls the Multi-State Switch state, shape and label. Data in the register transfer to Binary or BCD format.

Write Address: Word in the PLC that is controlled by the Multi-State Switch Style. Data in the register transfer to Binary or BCD format.

No. of words is restricted to 1.

No. of states: The number of states is restricted to a maximum of 32 states. The value of 1 means one state only.

3. Go to Shape Tab: Select Shape or Bitmap to display word states.

4. Go to Label Tab: Fill in fields to denote states.

5. Click OK to place the Multi-State Switch part on the window. Position the Multi-State Switch part and resize it.

Switch Style Functions:

Set Style	Description
JOG+	The value in the designated write address is increased by one when the Multi-State Switch is pressed. If the value is equal to the No. of states, 0 is returned to the register.
JOG-	The value in the designated write address is decreased by one when the Multi-State Switch is pressed. If the value is equal to zero, -1 is returned to the register.

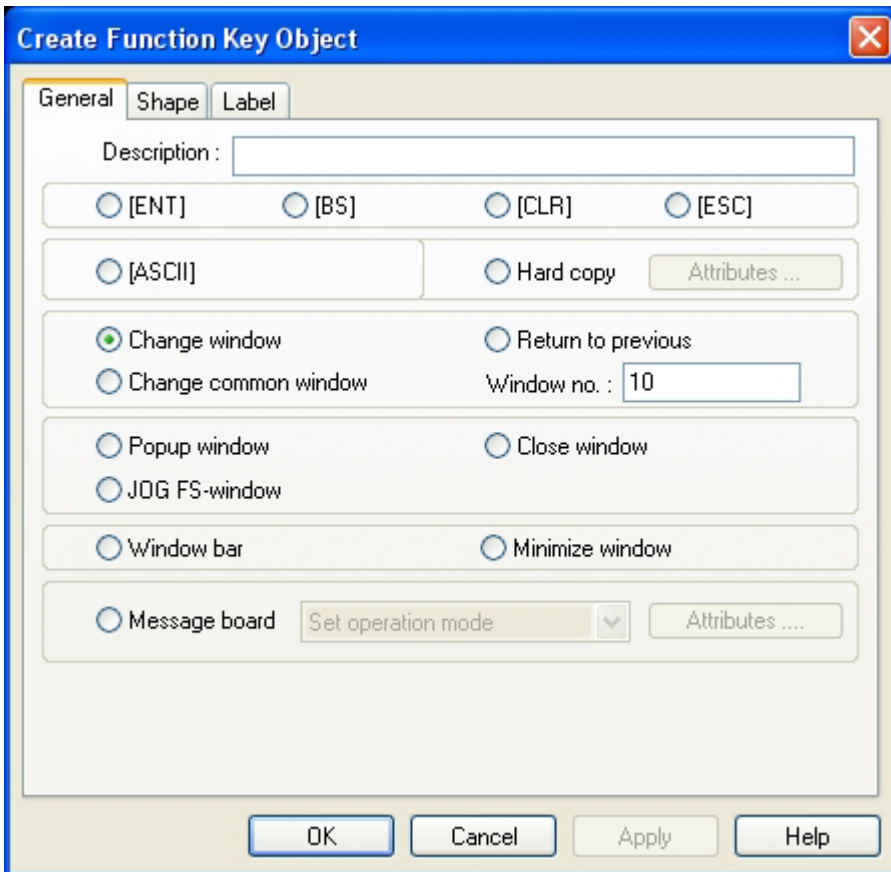
6.7 Function Key



Function key is used for changing windows, inputting numeric or ASCII codes, maximizing, minimizing or moving windows, designing message board or printing, etc.

Procedure to place a Function Key

1. Click Function Key icon.



2.Fill in general Tab Items:

Description: Referenc name assigned to the Function Key (not displayed).

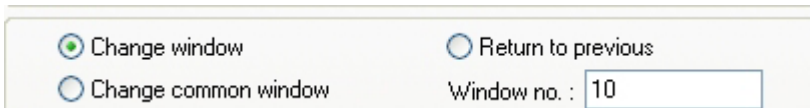
Function: Select the type of function.

3.Go to Shape Tab : Select Shape or Bitmap to display function key that represent the touch area.

4.Go to Label Tab: Fill in fields to denote states.

5.Click OK to place the Function Key on the window. Position the Function Key part and resize it.

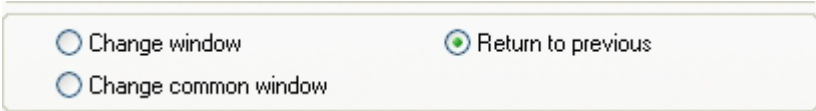
6.7.1 Change Window



If the function key is set as “Change Window”, when the function key is pressed (activated), the current window display (including the child windows of the current window) terminates and changes to the window designated by “Window No.”

6.7.2 Return to Previous

This function terminates the existing window and recalls the last active window. It’s valid to Base window.



For example: If window 21 was replaced by window 32, and window 32 has a Function defined as Return to Previous, then ,when it is pressed, window 32 is terminated and window 21 is displayed.

6.7.3 Change Common Window

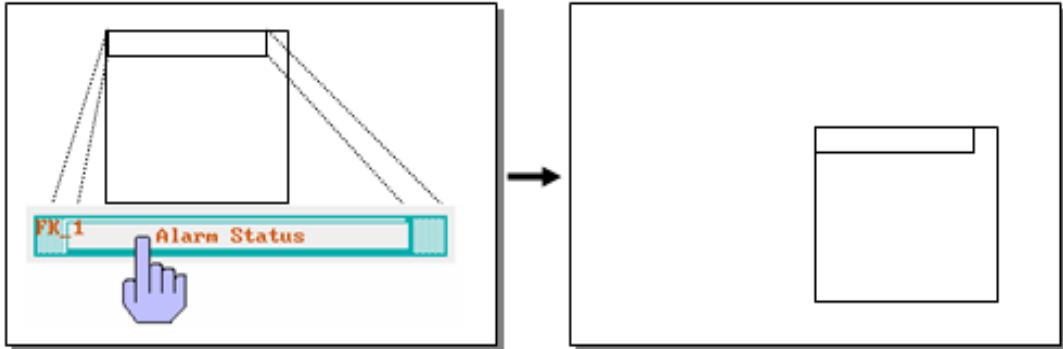


If the function key is set as “Change Common Window”, when the touch area is pressed, the current common window display is replaced by the new common window designated.

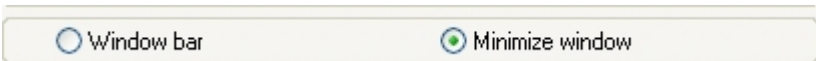
6.7.4 Window Bar



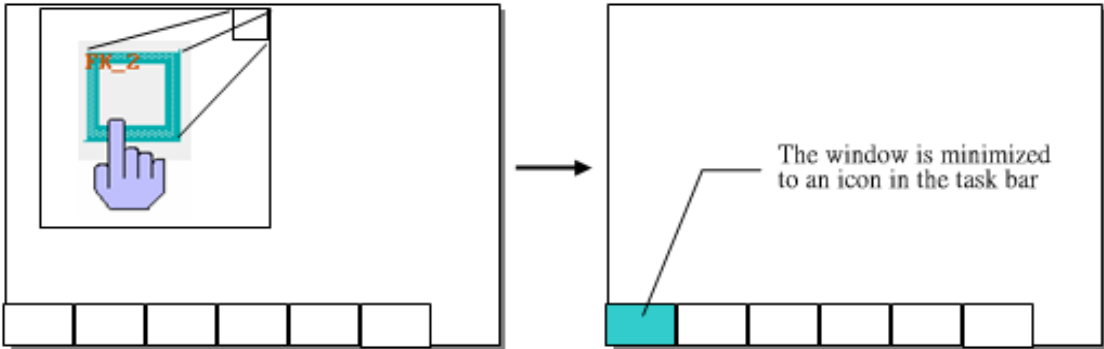
A function key defined with “Window Bar” attribute is used to move the position of a window on the screen. A Popup window can make use of this function. The window is moved by touching the window bar area then touching a second position, the window is moved to that place.



6.7.5 Minimize Window



When the function key is pressed, the window is minimized to an icon in the task bar. A touch on the window’s icon returns to the original window.

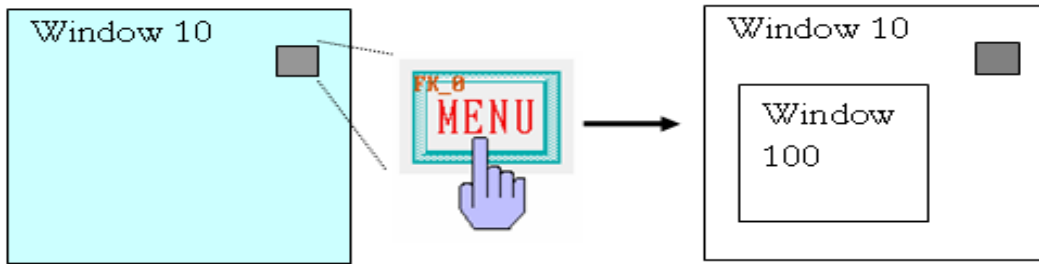


Note: The Minimize Window function works only if when [Task button] on [System Parameters]/[General] is open.

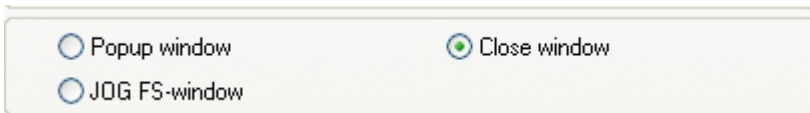
6.7.6 Popup Window



If the function key is set as “Popup Window”, when the touch area is pressed , the window designated by Window No is displayed on top of the base window. The existing window(s) are not closed.



6.7.7 Close Window



This is the method for operators to close Popup Windows, but not for direct or indirect window, This is because opening or closing the direct(indirect) window is controlled by the bit(or word) while Close Window function key only closes the popup window but not to control the data in the register.

6.7.8 JOG FS-Window



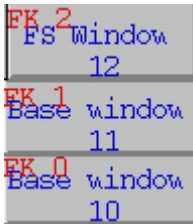
This function changes the popup window that appears when the Fast Selection, Task Bar button is pressed. The changed winow should be the same size as the Fast Selection window (window No 4).

We have already finished introducing the function key which has controlled the window, have now let us make an example which control the window.

(1)Create a new project, and save it.

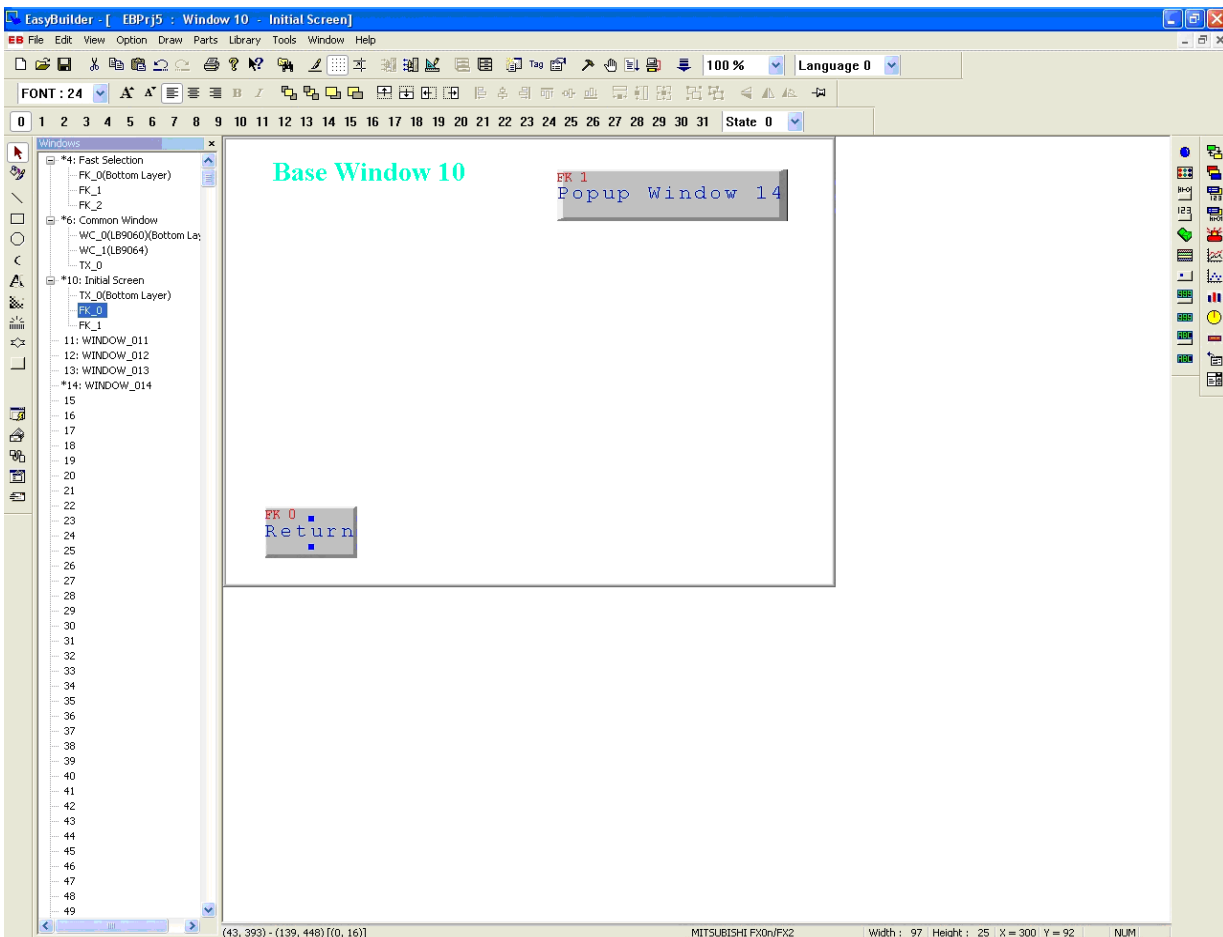
(2)Create Fast Select Window 4 ,Common Window 6 ,Basic Window 11 ,Basic Window 12 , the Basic Window 13 , Basic Window 14 separately, among them take 12 of windows and there is the unanimous the sizes 4 window (here (100, 35)),window want not smaller than window size not basic ofing size 14 (here (640, 480)).

(3)Put 3 function keys on window 4, namely 2 [Change Window] the function key is differentiated and can be switched over to window 10 and window 11, the function key of one [JOG FS-Window], can switch over to window 12.As the picture shows:



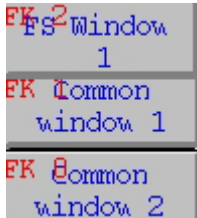
(4)Put a text object at window 6, show the text as " Common Window 6 "

(5)The window 10 put one text object, show text as "Basic window 10 ",and two function key one of [Return to Previous], the other one for [Popup Window],the second window can popup window 14.As the picture shows:



(6)Put a text object at window 11, show text as "Basic indow 11 ",and one function key of [Return to Previous].

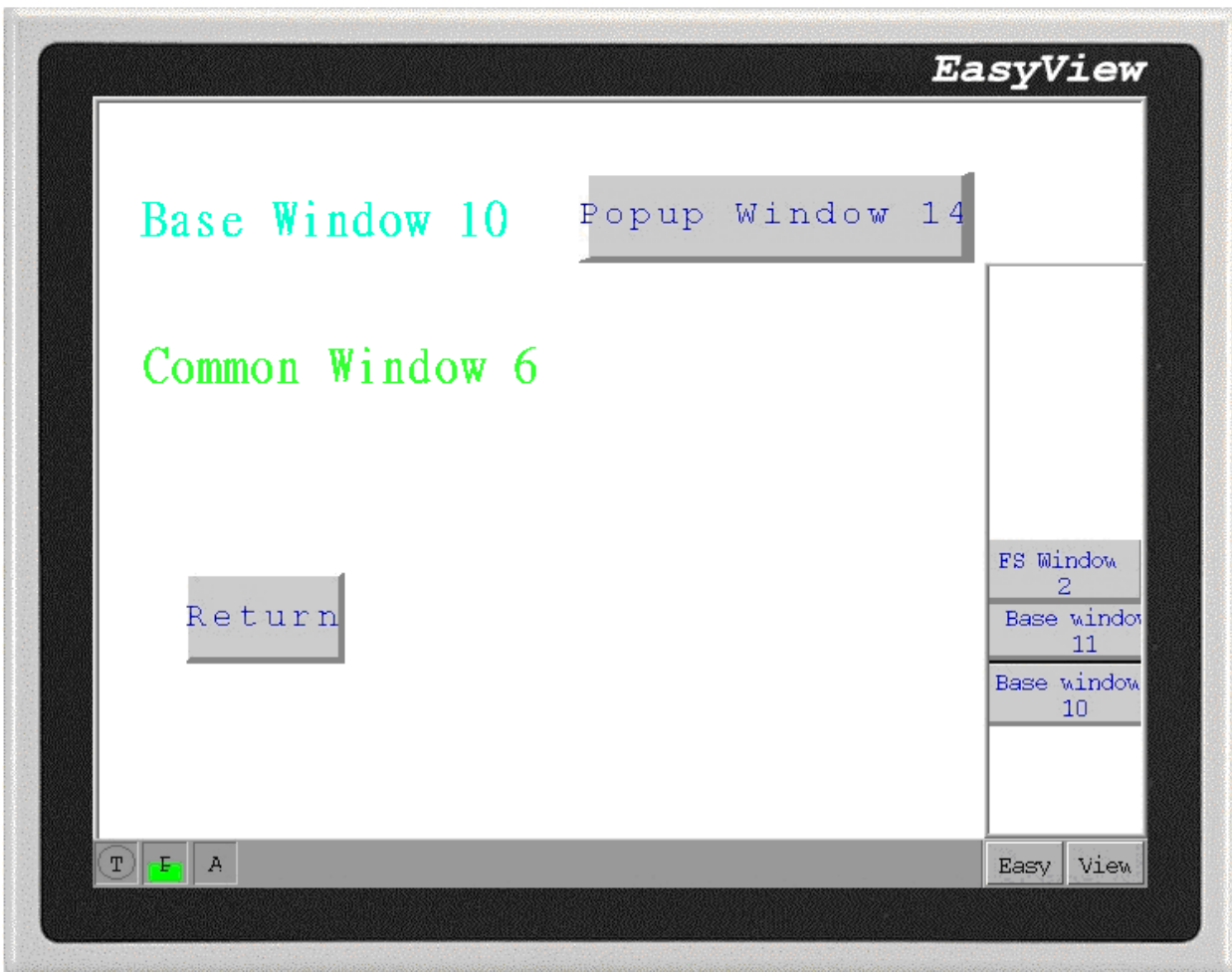
(7)Put the function key of one [JOG FS-Window] at window 12, can switch over the function key of 4 , 2 windows [Change Common Window] , switch over to window 6 and window 13 respectively. As the picture shows:



(8)Put a text object at window 13, show text as "Common Window 13"

(9)Put a Window Bar at window 14, show the content in order to " Popup window ", and 2 function keys of [Minimize Window]and[Close Window].

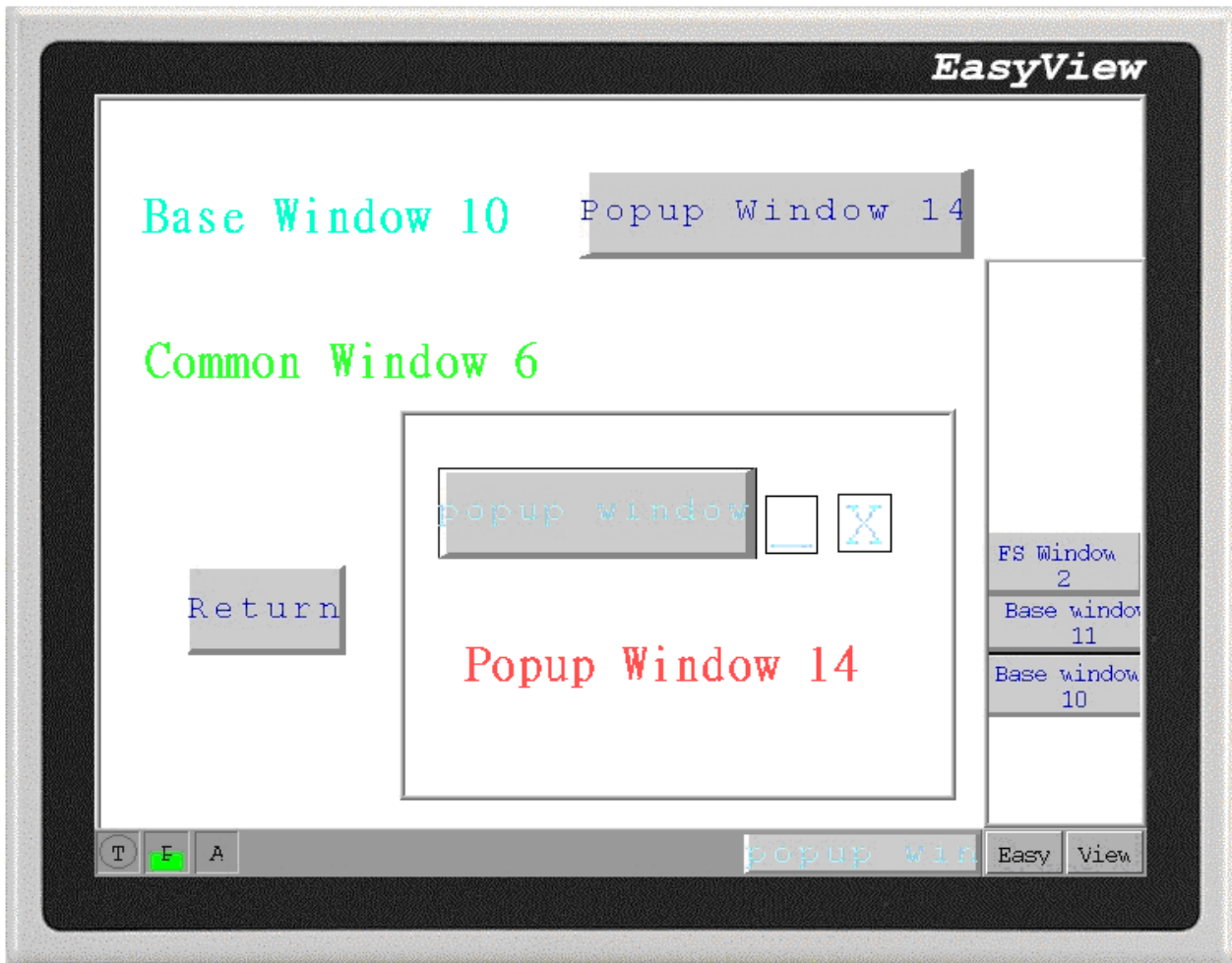
(10)Finish setting up , [save], [compile],[on (off) line simulation] or [download],can show the result in the picture.



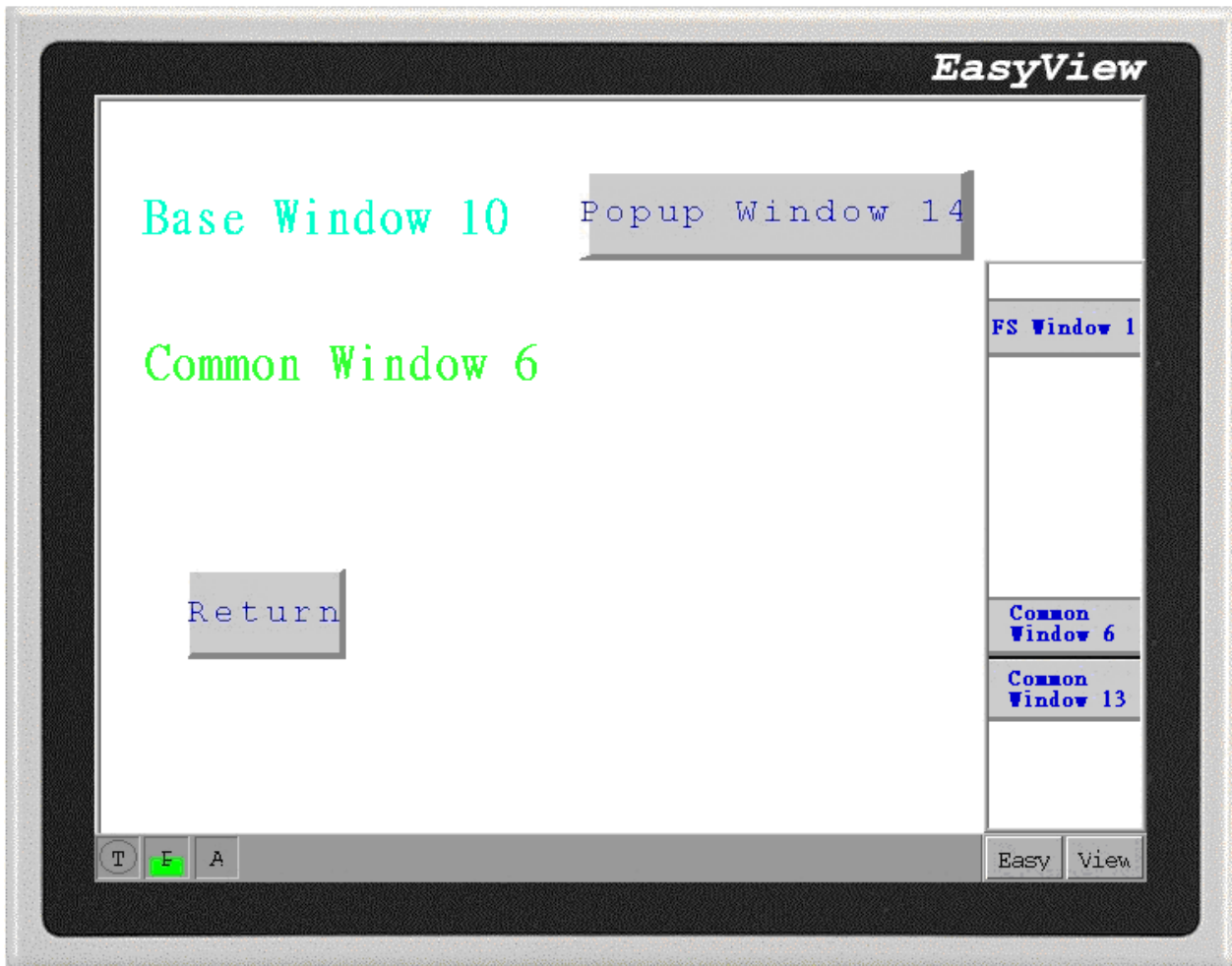
(11)Push [return] after use the button to switch over from window 10 to window 11 in the Fast Select Window , will return to window 10, the ones that push [return] in window 10 will return to window 11.

(12)Push [Popup Window] in window 10 , will spring window 14.(You can operate to the thing that

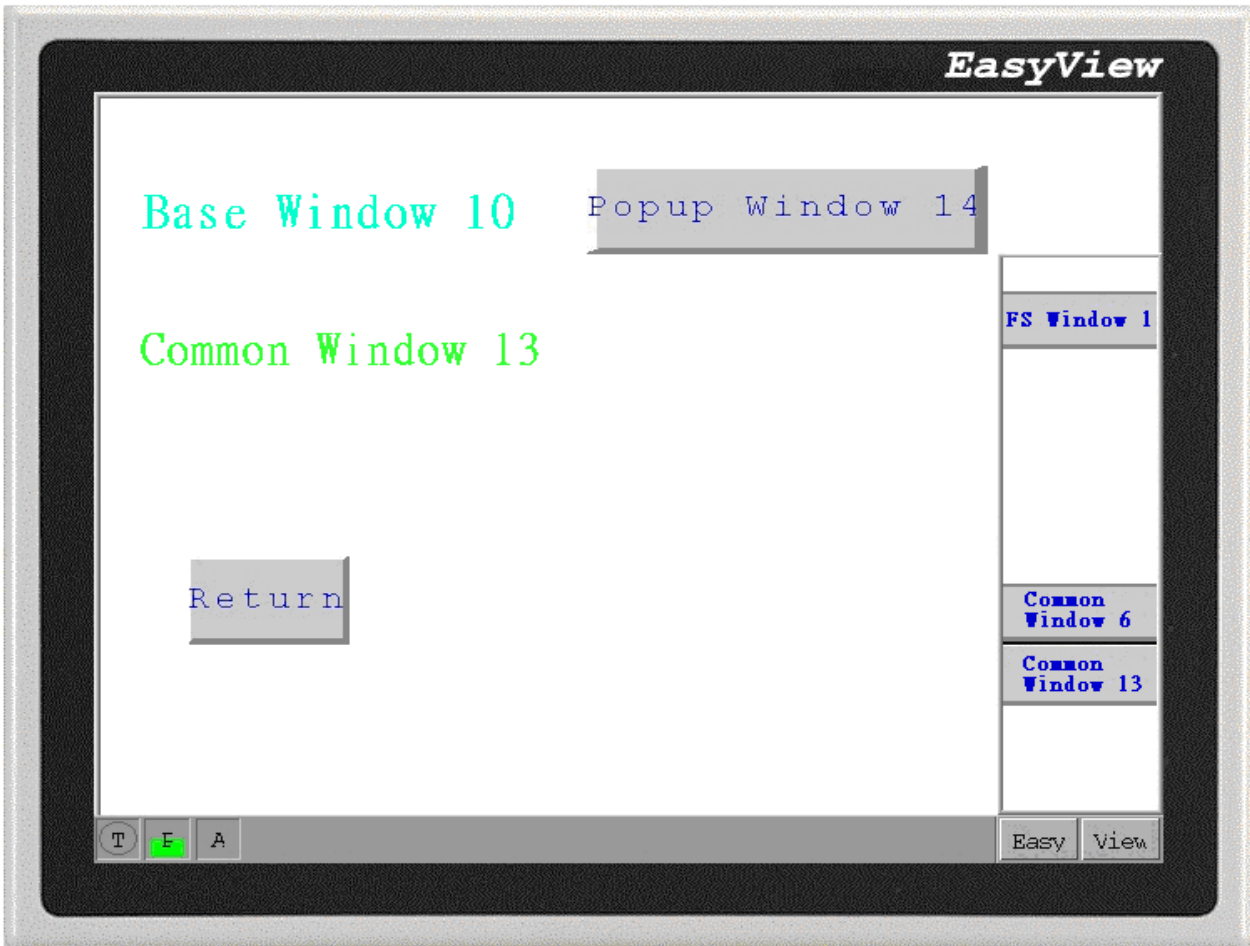
it moves , minimizes , closes etc.)



(13) Choose [FS window 2] in Fast Select Window , will switch over to the 2nd Fast select window.



(14) Push [Common window 2 or 1], can switch over and show the Common window back and forth.



6.7.9 Character Codes and Creating a Keypad

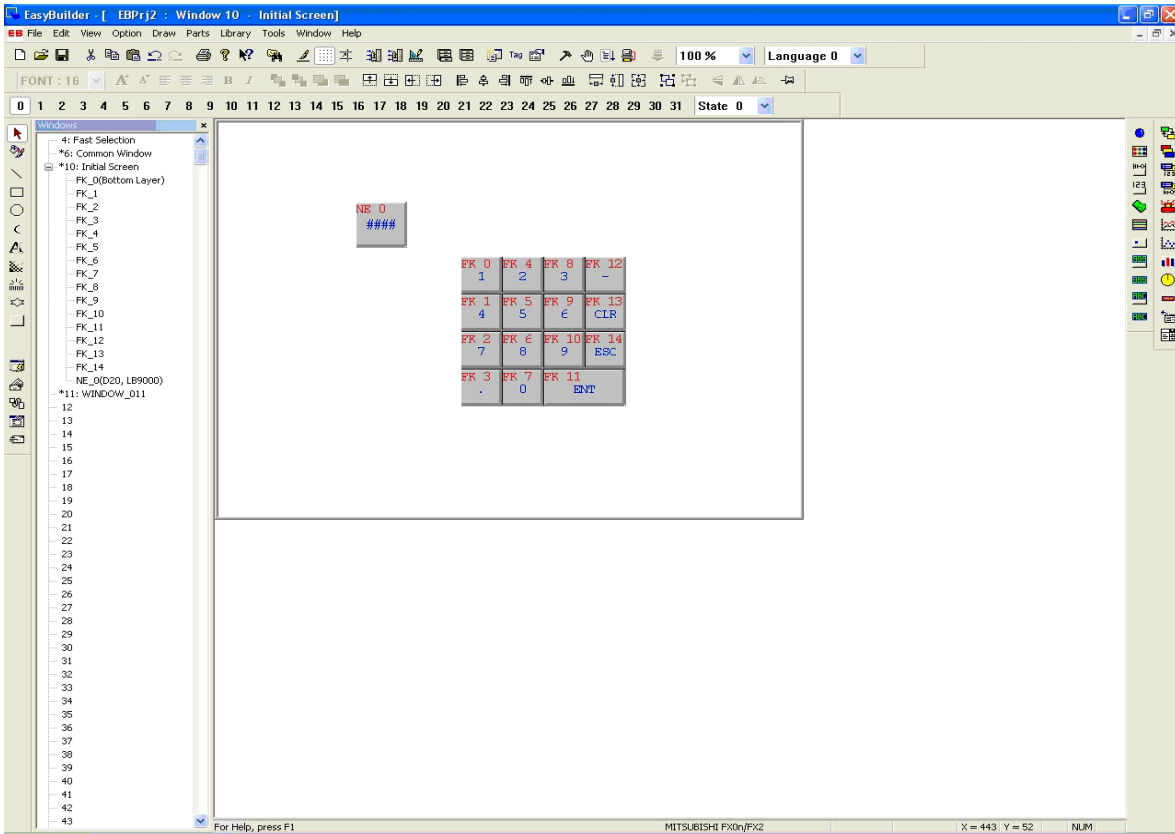


A keypad is composed of a variety of function keys with different ASCII codes(0,1,2.....and a,b,c.....) and special keys “ENT” (Enter), “BS” (Backspace), “CLR” (Clear) and ”ESC” (Escape). Since any character can be assigned to a function key, specialized keypads can be made for any application. Keypads are used with the Numeric and ASCII Input Parts to change their values.

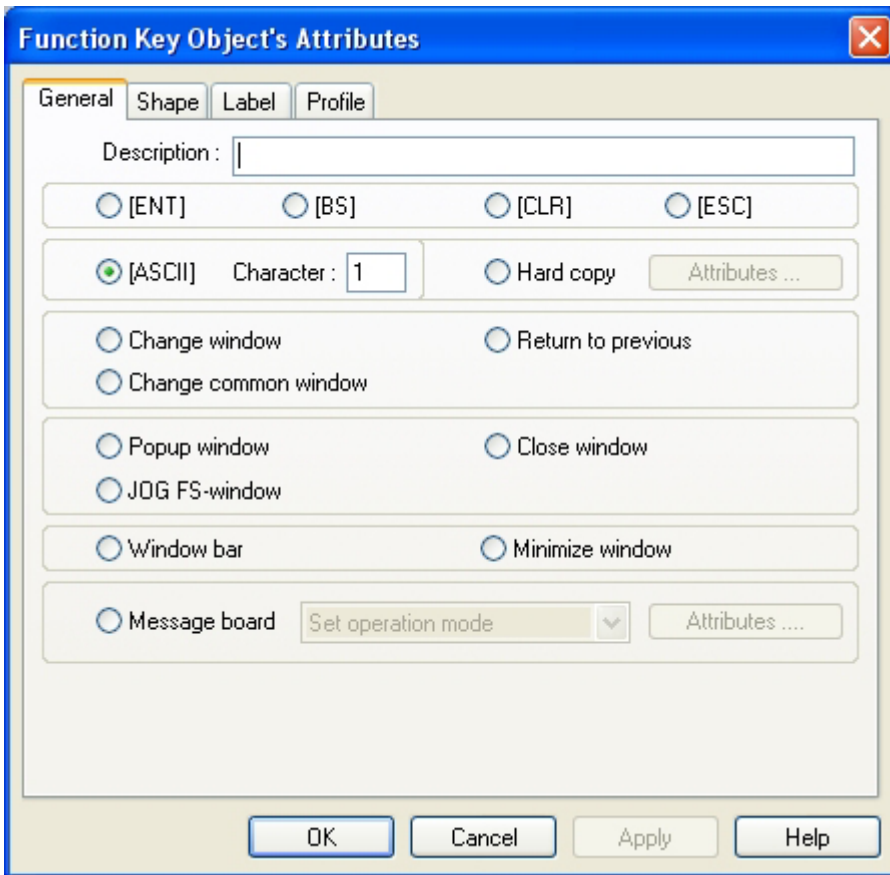


How to create a typical Numeric keypad?

By creating one function key then duplicating it, changing its character code 0,1,2,3,4,5,6,7,8,9, ENT, BS, CLR and arranging the keys in a regular pattern, a keypad can be created as below:



FK_0 is created as following:



Other function key (FK_1~FK_14) are set for: ASCII(2)~ASCII(9) , ASCII(0) , ENT , CLR , BS ,
 - , " "

Create Numeric Input object:

Numeric Input Extend Object's Attributes

General Numeric Shape Font Profile

Description : |

Read address

Device type : D Device address : 20

BIN No. of words : 1

Aux.

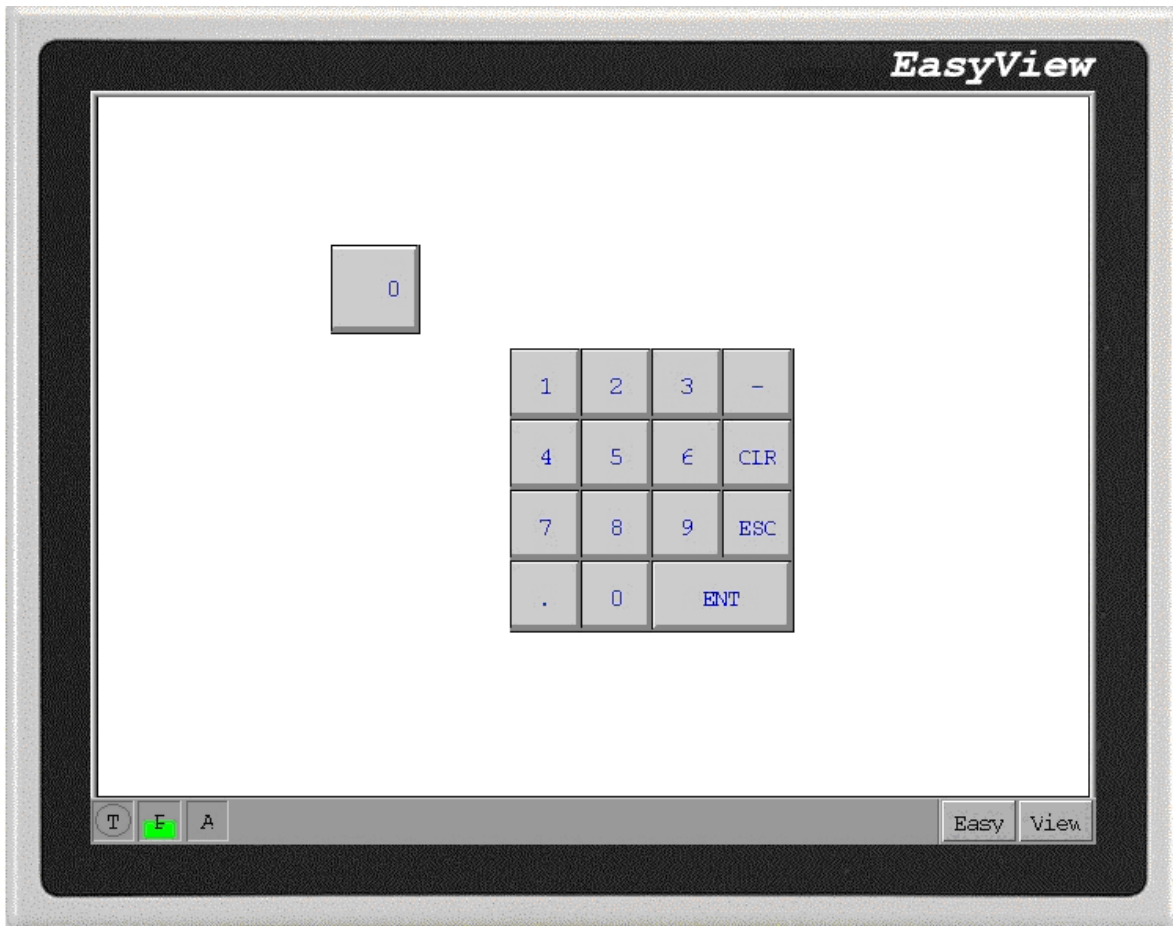
Trigger address :

Device type : LB Device address : 9000

Aux.

OK Cancel Apply Help

After creating, [Save], [Compile],[On-line(Off-line) simulation] or [Download], the display shows as below. When Numeric Input object is activated, function keys (FK_0~FK_14) become Numeric Input keypad.



6.7.10 Message Board

Please refer to Ch.9.

6.7.11 Print

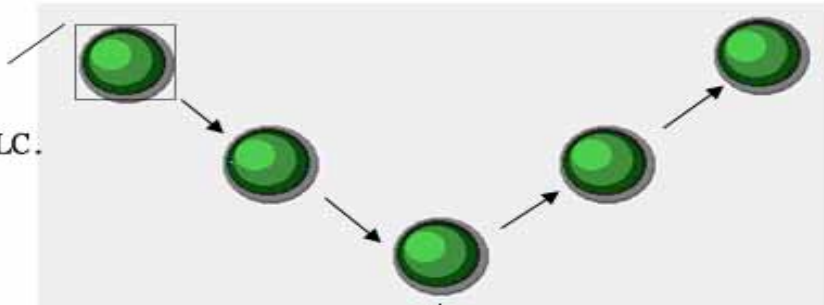
Please refer to Ch.11 [Print]

6.8 Moving Shape



The Moving Shape tool is used to place an object in a window at a location specified by the PLC. The state and the absolute location of the shape in the window depend on the current values of three continuous PLC registers. Generally speaking, the first register controls the state of the object and the second one controls the horizontal position (X), and the third one controls the vertical position (Y).

The coordinate position is controlled by PLC.



Procedure to place a Moving Shape

1. Click Moving Shape icon
2. Fill in General Tab Items:

Create Moving Shape Object

General Shape Label

Description :

Read address

Device type : LW Device address :

BIN Aux.

Attribute

Style : X axis only

No. of states : 1

Input low : Input high :

Description: A reference name that you assign to the Moving Shape. (not displayed)

Read Address: Word in the PLC that controls the Moving Shape state, position and label.

Attribute: see the table below.

3. Go to Shape Tab: Select Shape or Bitmap to move and display states.

4. Go to Label Tab: Fill in fields to denote states, if desired

5. Click OK to place the Moving Shape on the window (x=1, Y=0) and then position and resize it.

Attribute Functions

Up to 32 different states can be assigned to the Moving Shape Part. The Read address should be 0 when the state is set to 1 or the object isn't displayed. The corresponding address of Read address from 0~31 is from 1~32. Position is controlled by the Read Address Device as shown in the table below. (X stands for horizon; Y stands for verizon axis)

Control by PLC	X	Y	X & Y
Read Data	Two words	Two words	Three words
Read Address	Shape or Bitmap State	Shape or Bitmap State	Shape or Bitmap State
Read Address+1	X position	Y position	X position
Read Address+2	-	-	Y position

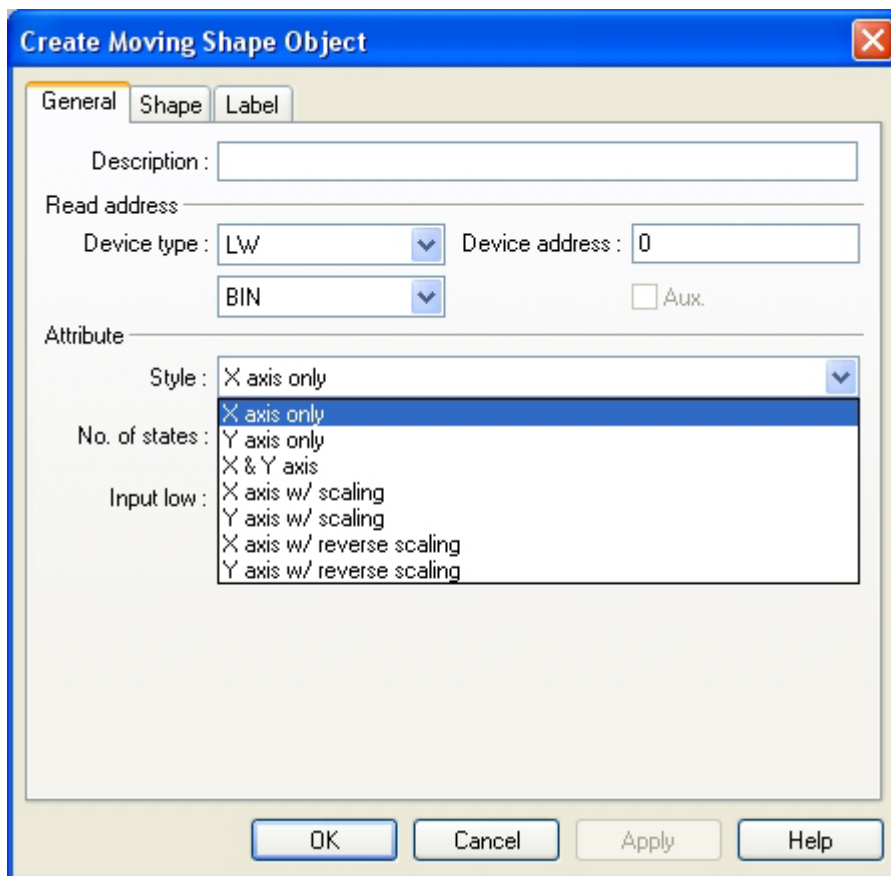
When scaling is used, scaling is performed as follows:

Display value = [(reading value – Input min) / (Input max – Input min)] * (Scaling max – Scaling min)

When reverse scaling is used, scaling is performed as follows:

Display value = [(Input max – reading value) / (Input max – Input min)] * (Scaling max – Scaling min)

Possible selections:



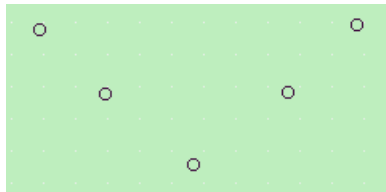
Style Functions:

X axis only	The Moving Shape object Only move horizontally on X,on the same time Input max(or min) isn't result. The first register records the state of the object and the second one records the position.
Y axis only	The Moving Shape object Only move vertically on X,on the same time Input max(or min) isn't result. The first register records the state of the object and the second one records the position.
X & Y axis	The Moving Shape object move on the both X and Y,on the same time Input max(or min) isn't result. The first register records the state of the object and the second one records the position of X and the third one records the position Y.
X axis w/ scaling	The Moving Shape object Only move horizontally on X, the corresponding moving position is set up by inputing data and proportion. (If the 0~1000 of PLC is read but you want the corresponding position is 0~640, the values of Input low and Input high can be set for 0,1000 and the values of Scaling low and Scaling high can be set for 0,640) The first register records the state of the object and the second one records the position.
Y axis w/ scaling	The Moving Shape object Only move vertically on Y, the corresponding moving position is set up by inputing data and proportion. (If the 0~1000 of PLC is read but you want the corresponding position is 0~480, the values of Input low and Input high can be set for 0,1000 and the values of Scaling low and Scaling high can be set for 0,480) The first register records the state of the object and the second one records the position.
X axis w/ reverse scaling	Move the direction contrary to(X axis w/ scaling)
Y axis w/ reverse scaling	Move the direction contrary to(Y axis w/ scaling)

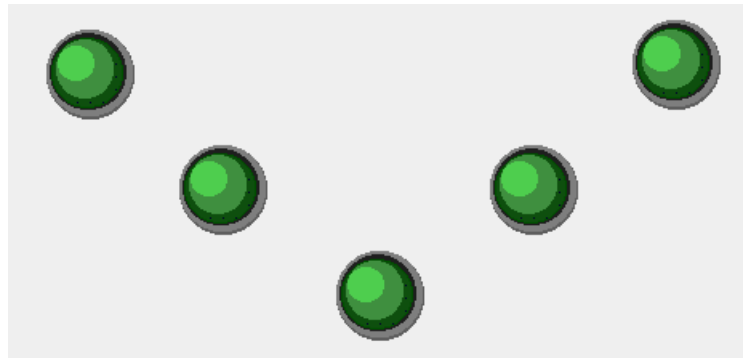
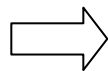
6.9 Animation



The Animation Part is used to place an object on the screen at a specified location determined by a predefined path and data in the PLC. The state and the absolute location of the shape on the screen are controlled by current reading value of two continuous PLC registers. Typically, the first register controls the state of the object and the second controls the position along the predefined path. When the PLC position register changes value, the shape or bitmap jumps to the next position along the path.



Preserving the route



The figure will be moved in corresponding preserving the route.

Procedure to place an animation

1. Click Animation icon
2. Click on screen to define the path and stopping points (points of track) for the object to travel. Right-click to end the path.

Animation Object's Attributes

General | Shape | Label | Profile

Description :

Read address

Device type : LW Device address :

BIN No. of words : 2

Aux.

No. of states : 1

OK Cancel Apply Help

3. Double click the animation object to edit Attributes.

4. Fill in General Tab:

Description: A reference name that you assign to the Animation. (not displayed)

Read Address: Word in the PLC that controls the Animation state, position and label.

[Read Address +1] is the word address to control the position. The data in the register is defined as Binary or BCD format. The number is limited to 2 here.

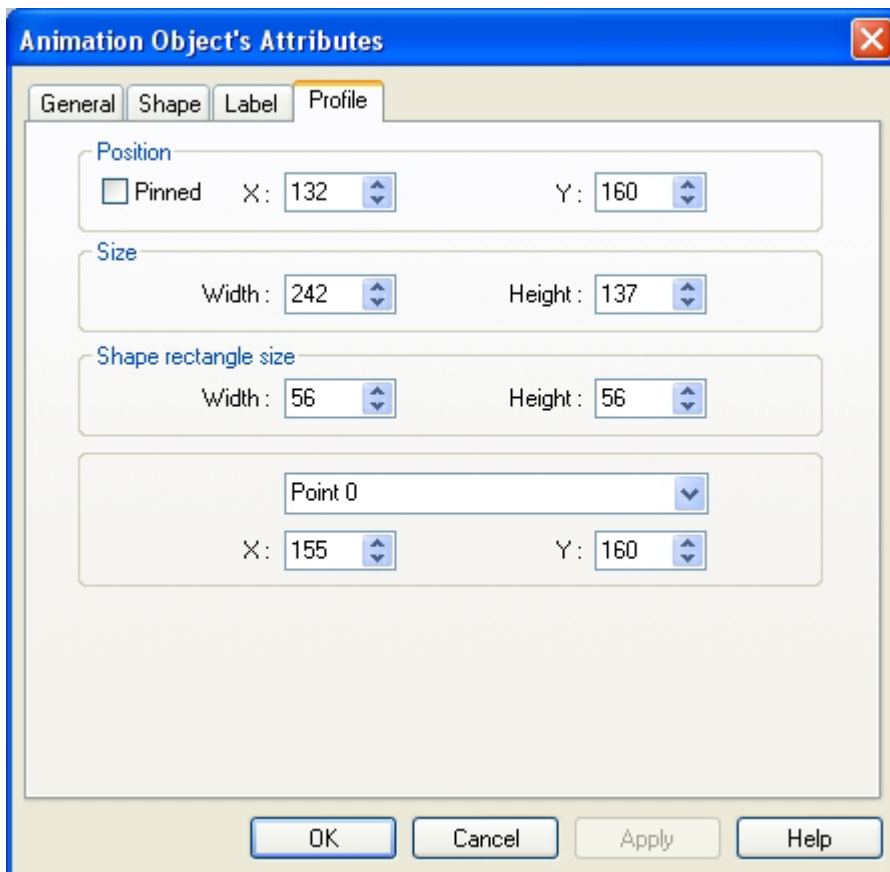
No. of states: Select the total number of states for the object. This determines what state of the shape or bitmap is displayable at stops along the path.

5. Go to Shape Tab: Select Shape or Bitmap to move and display states.

6. Go to Label Tab: Fill in text to denote states.

7. Go to the Profile tab:

The Profile tab settings shows as following:



Position: The location of the upper left-hand corner of the Animation area.

Size: The dimensional area on the screen that the outside edge of the path occupies.

Shape Rect. Size: The area of the shape or bitmap that is used in the Animation.

Points 0 (1,2,3....) : The track can be repositioned by selecting the point number. Point 0 is the first point of the path, point 1 is the second point of the path and so on. X,Y are the corresponding coordinates.

8. Click OK to complete the setup.

Assign the read address:

Read Address	Shape or Bitmap State
Read Address+1	The position number on the predefined path.

The following is an example of an animated object:

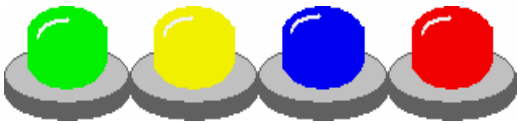
Add an animated object as following:

Read Address : LW1(bin format)

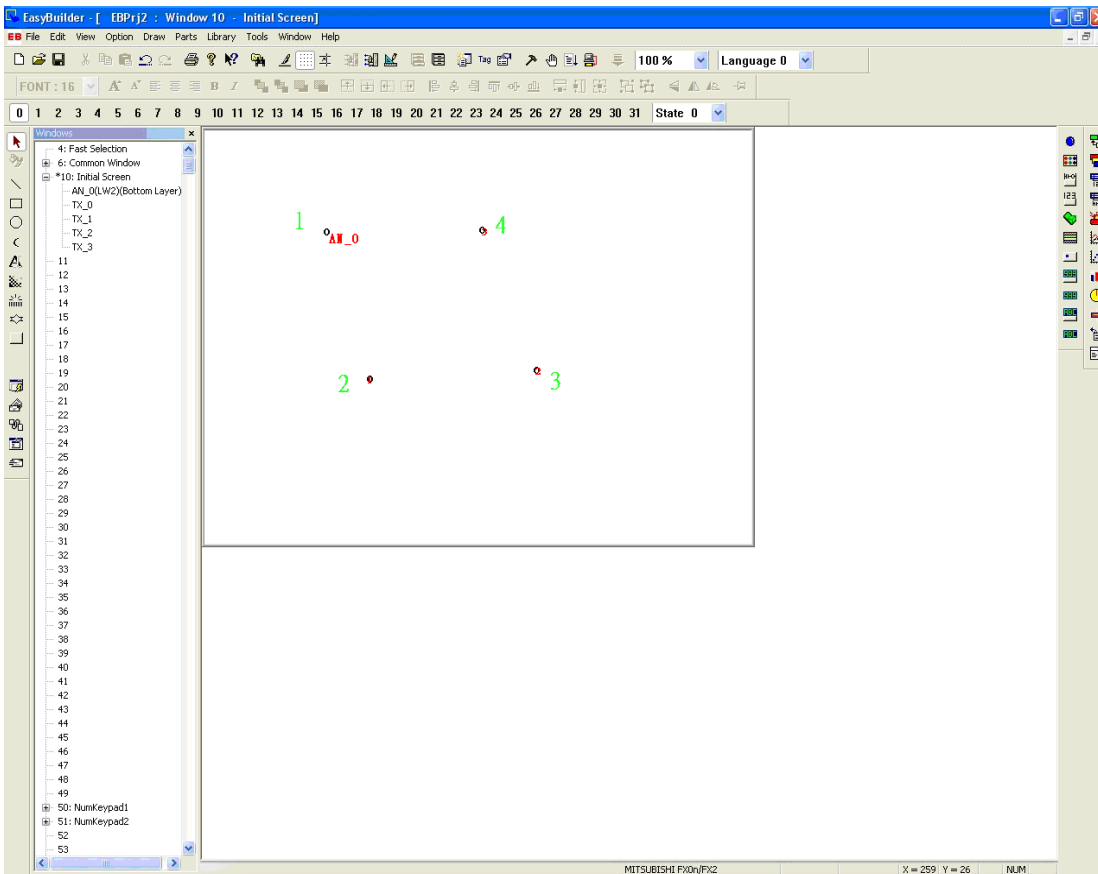
No. of state : 4

Shape selection :

State 0 State 1 State 2 State 3

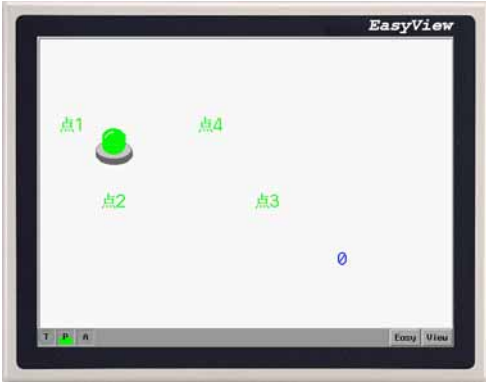


The predefined path as below:



(1)When LW1=0 , LW2=0:

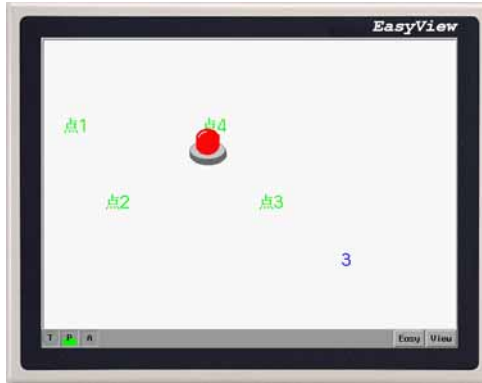
(2)When LW1=1 , LW2=1:



(3)When LW1=2 , LW2=2:



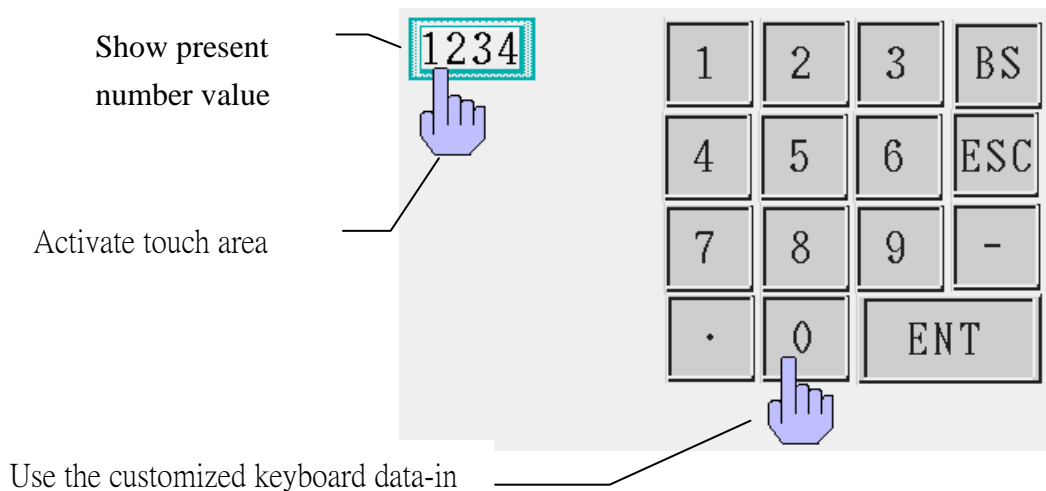
(4)When LW1=3 , LW2=3:



6.10 Numeric Input Extend



A Numeric Input Extend Part displays the current reading of a designated PLC register data and the data in the register can be changed by keypad. If the Trigger address bit is active, when the area of the shape is touched, a flashing cursor indicating input via keypad is activated. Use an already displayed keypad made of function keys to enter numeric data to the PLC register.



Procedure to place a Numeric Input Extend

The screenshot shows the 'Create Numeric Input Extend Object' dialog box. The 'General' tab is selected. The 'Description' field is empty. The 'Read address' section has 'Device type' set to 'LW', 'Device address' set to '0', 'Format' set to 'BIN', and 'No. of words' set to '1'. The 'Trigger address' section has 'Device type' set to 'LB' and 'Device address' set to 'Q'. There are 'Aux.' checkboxes for both sections. At the bottom are 'OK', 'Cancel', 'Apply', and 'Help' buttons.

1. Click Numeric Input Extend icon

2. Fill in General Tab Items:

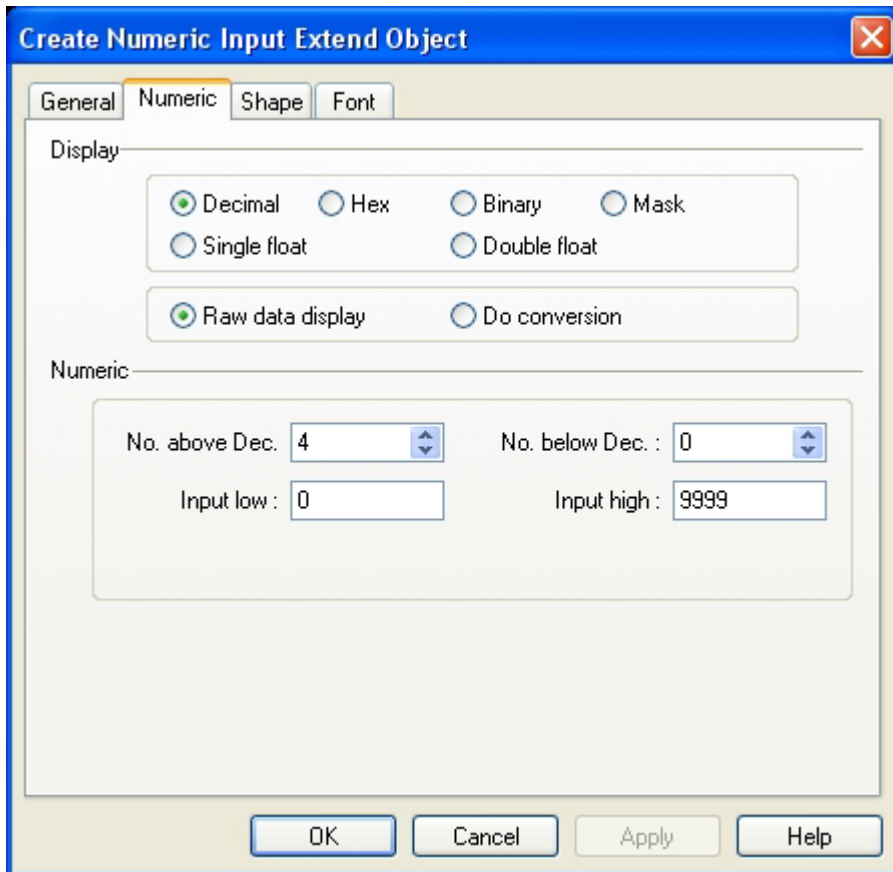
Description: A reference name that you assign to the Numeric Input Extend. (not displayed)

Read Address: Word in the PLC that is displayed and modified by the Numeric Input Extend Tab.

The data is changed to Binary or BCD format (参閱多段指示燈元件). The number here is limited to 1(16 Bits) or 2 (32 Bits).

Trigger Address: Bit in the PLC that controls the ability to enter data into the Read Address. If bit is OFF, data entry is disabled.

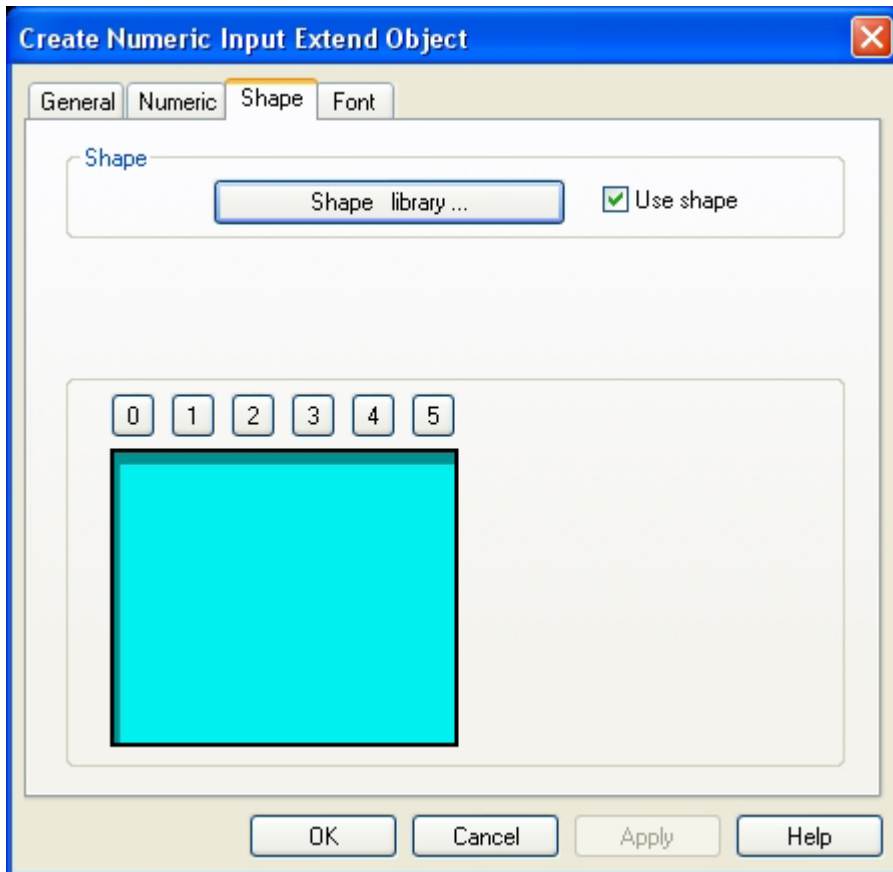
3. Fill in Numeric Tab items:



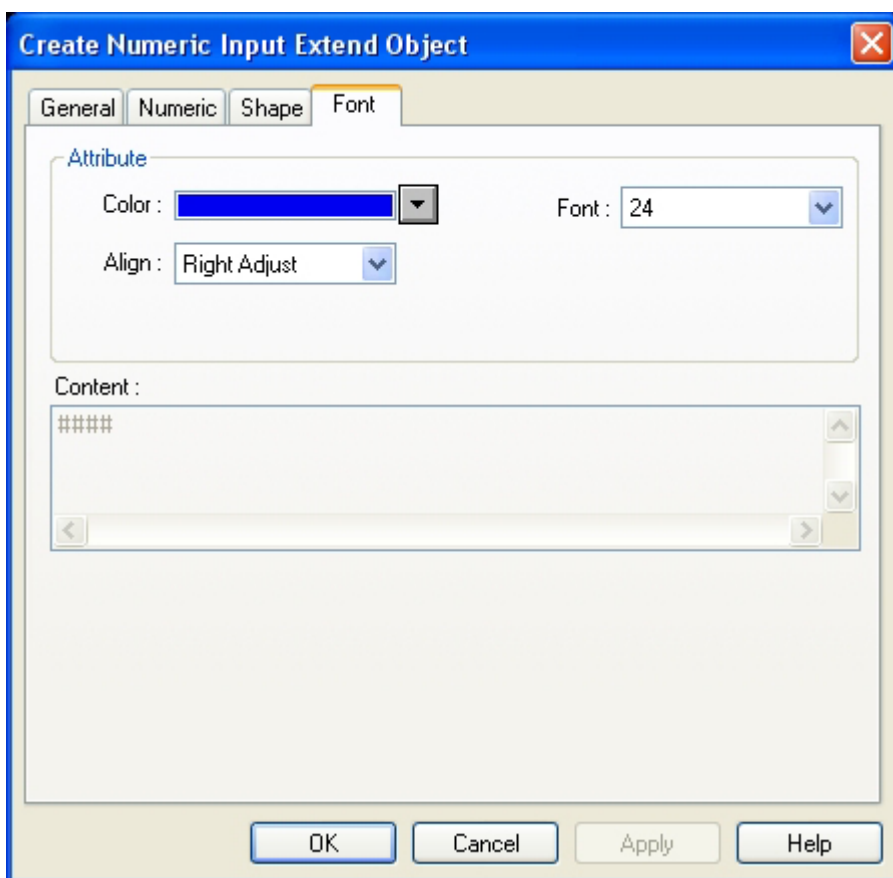
Display : Control the format of the data display. See the context as below.

Numeric : Set up the position of the Decimal point and the Max. and Min value.

4. Go to Shape Tab: Select Shape or Bitmap to enhance the effect of the display.



5. Fill in Numeric Tab items: Set up the Font, Color and Align of the display.



6. Click OK to place the Numeric Data part on the window.

The format of the numeric display:

Decimal:

For Raw data Display, the reading value is displayed in its original value as a decimal number in the range Two attributes appear after selecting the decimal system:

Raw data display : Display the raw data and arrange the data according to the No. below Dec.If the No. below Dec. is 2, the number "14561" displays as 145.61.

Do conversion : The reading value is converted to engineering units before display.

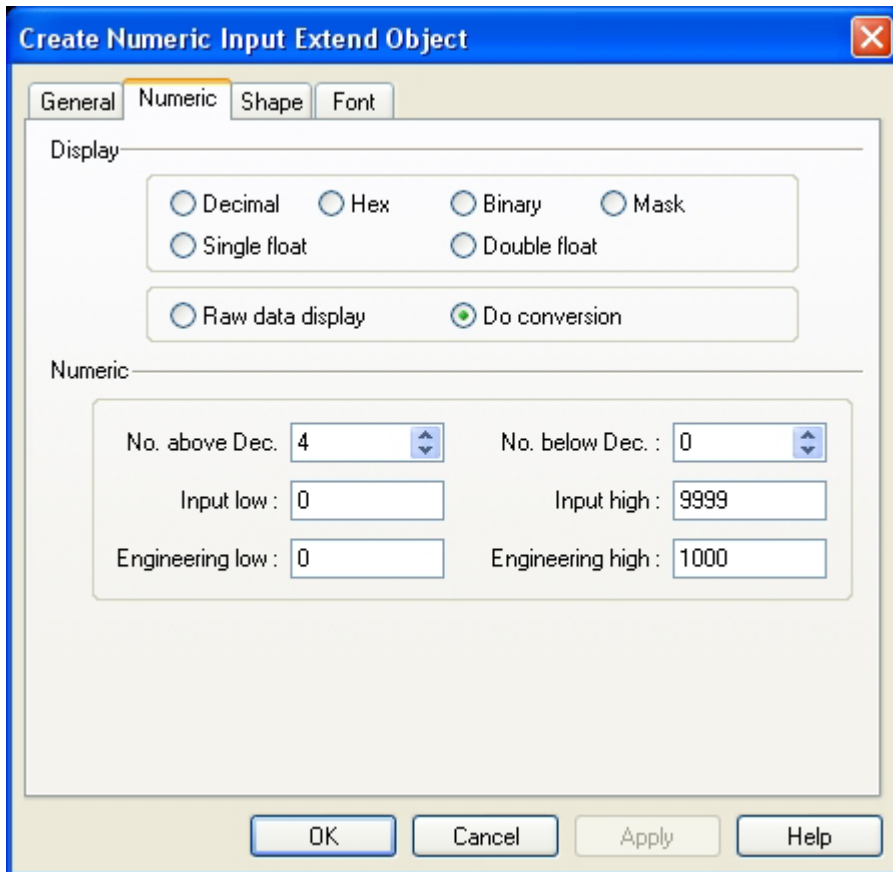
Scaling is performed as follows:

Display value = Engineering max{[(reading value–Input min) * (Engineering max–Engineering min)] / (Input High – Input min)}

The changing value will show the data according to the establishment of " the above -figure number of the decimal point " and " -figure number under the decimal point ". For example if change the -figure number as 123.456 but under the decimal point of number value =2, more than -figure number of decimal point =3, number value shows that as " 123.45 ", the last datum has been removed after changing.

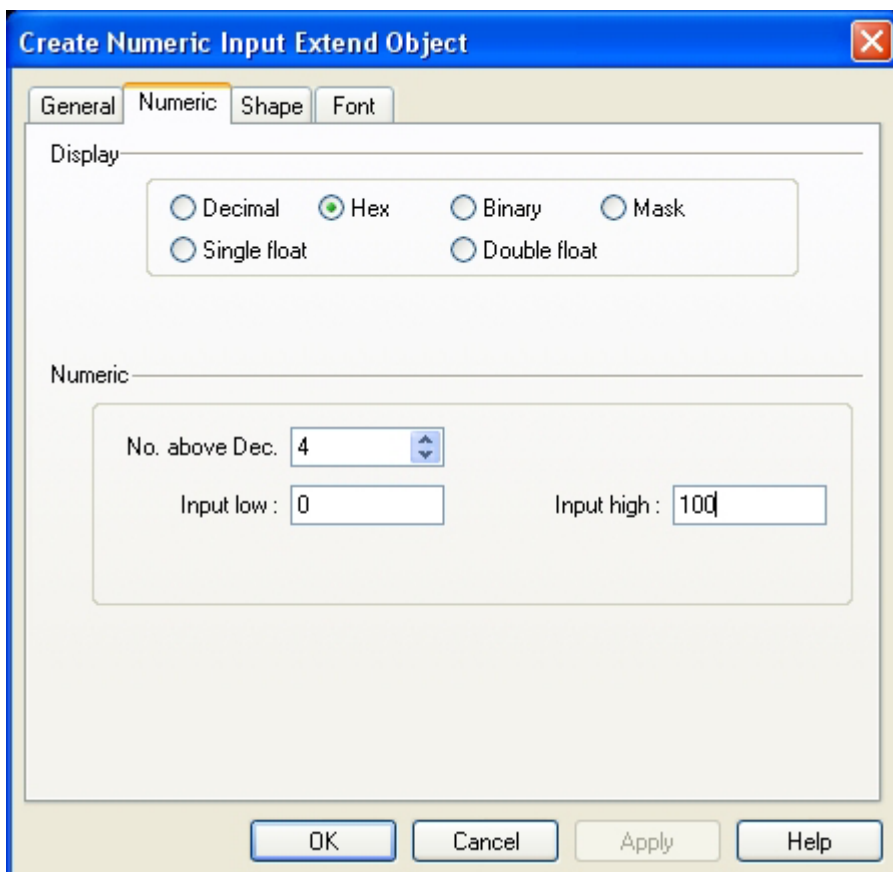
Example: If the range of the input data is 0~1000, and the value written in the PLC is 0~100 (namely for relation of 0.1 times),should set up as follows:

Input lower limit =0, input upper limit =100, the lower limit of the project amount =0, the upper limit of the project amount =1000, the following picture shows:



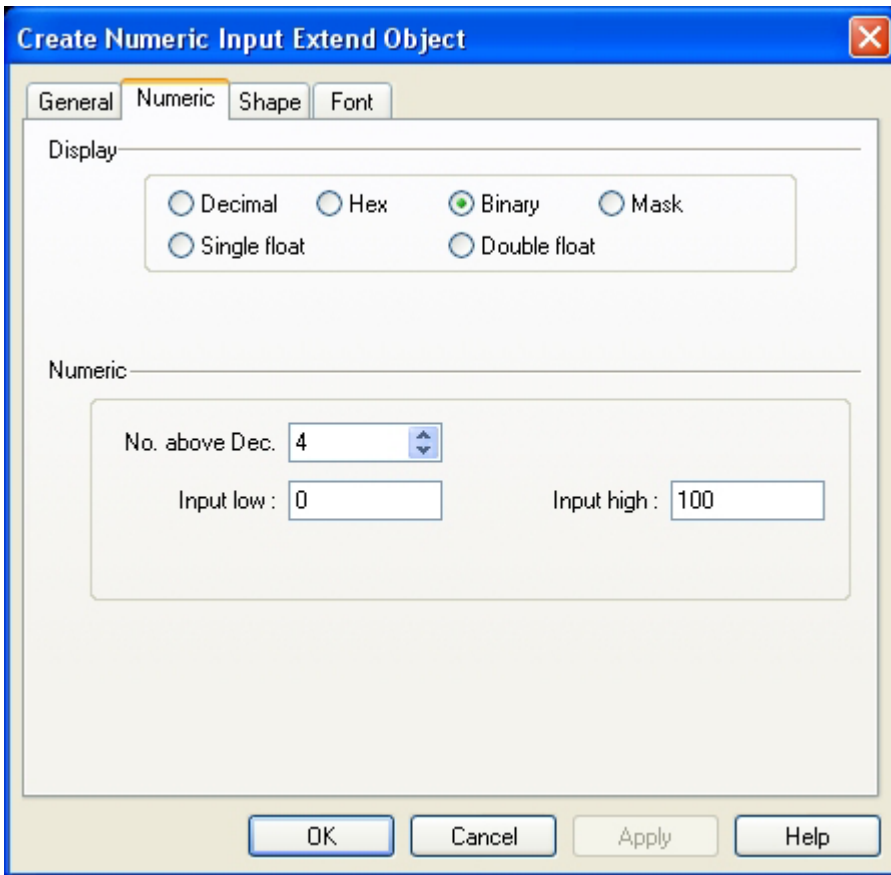
Hexadecimal: The number is displayed in hex (0~9, A~F) format. Scaling is disabled.

FFFF



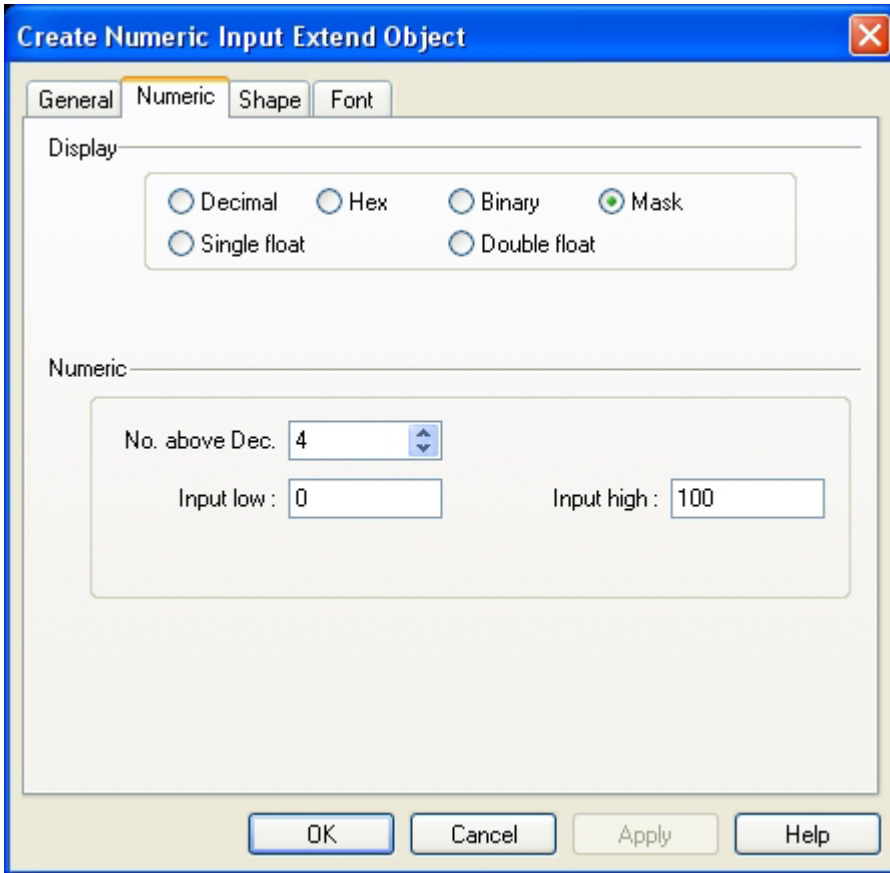
Binary: The number is displayed in binary (0 & 1) format. Scaling is disabled.

1111111111111111



To sexadecimal number system and the binary scale form, inputting the maximum and inputting the minimum regards as agreeing with the binary scale data.

Mask: Displays only “*****” and ignores the reading value. This is used for security code input. Its proportion of conversion and decimal point, etc. have selected and has been all neglected.



Single float: Data in the controller is translated from a 32 bit IEEE Floating-Point format to a decimal number and displayed.

Double float: Data in the controller is translated from a 64 bit IEEE Floating-Point format to a decimal number and displayed.

At the time of the data entry of the decimal system, if choose to " show initial data " , input the minimum and input the restriction range that the maximum will be regarded as the effective data-in , if choose " the project data are changed " , the project changes the maximum and project and changes the restriction range that the minimum will be regarded as the effective data-in.

Do conversion, so: Write into the number value of PLC = $\{[(\text{Input the data} - \text{Engineering lower limit}) * (\text{Input upper limit} - \text{Input lower limit})] / (\text{Engineering higher limit} - \text{Engineering lower limit})\} + \text{input lower limit}$.

Single precision floats format (32 bit)

S	e[30:23]	f[22:0]
3	30	22
1	23	0

Single precision mode	Value
$0 < e < 255$	$(-1)^s \times 2^{e-127} \times 1.f$
$e=0 ; f \neq 0$	$(-1)^s \times 2^{-126} \times 0.f$

e=0 ; f=0	$(-1)^s \times 0.0$
s=0 ; e=255 ; f=0	The positive number is infinitely great
s=1 ; e=255 ; f=0	The negative number is infinitely great
s=0 or 1 ; e=255 ; f!=0	Naught

Double precision float format(64 bit)

S	e[62:52]	f[51:32]
6	62	51
3	52	32

f[31:0]

31

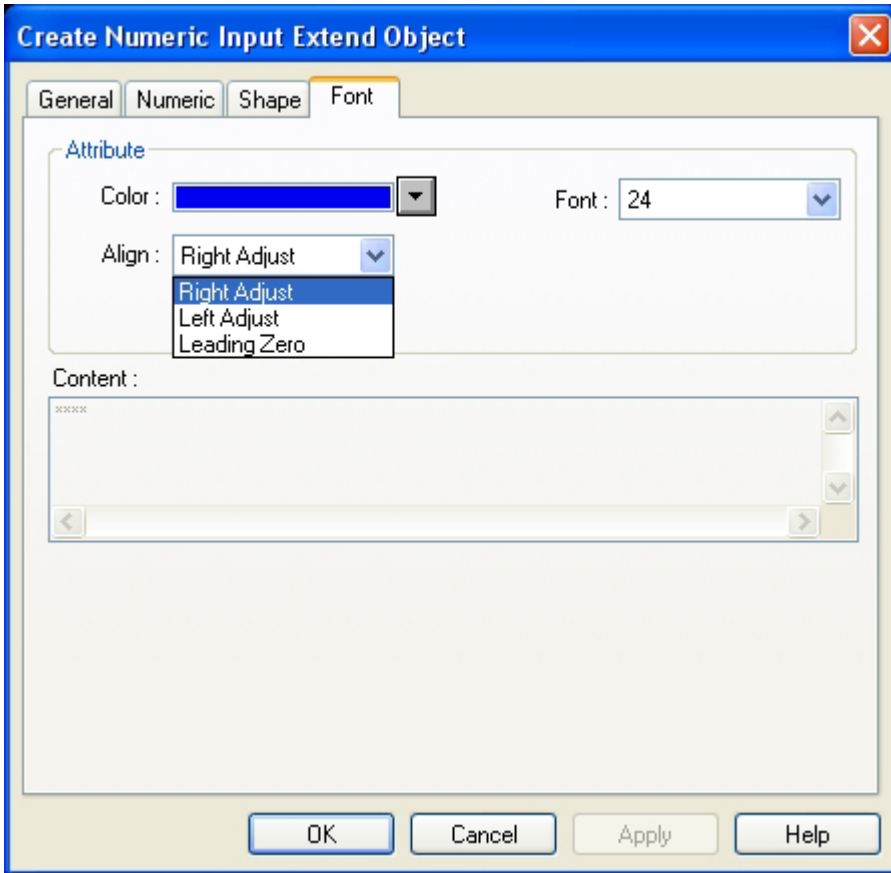
0

Double precision mode	Value
$0 < e < 2047$	$(-1)^s \times 2^e \times 1.f$
e=0 ; f != 0	$(-1)^s \times 2^{-1022} \times 0.f$
e=0 ; f=0	$(-1)^s \times 0.0$
s=0 ; e=2047 ; f=0	The positive number is infinitely great
s=1 ; e=2047 ; f=0	The negative number is infinitely great
s=0 or 1 ; e=2047 ; f!=0	Naught

The form above is according to 754 standard ones of IEEE, the mode of the algorithm is appointed by the standard of IEEE binary scale floating dot arithmetic.

Font attribute is set up:

Can appoint the size that number value show with the color and align the way here. The size of script available is 8 , 16 , 24, 32, 48, 64, 72 and 96. The aline way selects and is only suitable for decimal.



If the form shown is set up for " the above -figure number of the decimal point " =5, " -figure number under the decimal point " =0, the number value read is 123, there are several kinds as follows of forms shown :

Right Adjust	1 2 3
Left Adjust	1 2 3
Leading Zero	0 0 1 2 3

6.11 Numeric Data



A Numeric Data Part displays the current reading of a designated PLC register data. Data is displayed as text; no shape or bitmap can be associated with this part.

1234

Procedure to place a Numeric Data

1. Click Numeric Data icon

A screenshot of the 'Create Numeric Data Object' dialog box. The dialog has a blue title bar with a close button. It contains three tabs: 'General', 'Numeric', and 'Font'. The 'General' tab is active. It features a 'Description' text field. Below it is a 'Read address' section with a 'Device type' dropdown menu set to 'LW', a 'Device address' text field set to '0', a 'BIN' dropdown menu, and a 'No. of words' dropdown menu set to '1'. There is also an unchecked 'Aux.' checkbox. At the bottom, there are four buttons: 'OK', 'Cancel', 'Apply', and 'Help'.

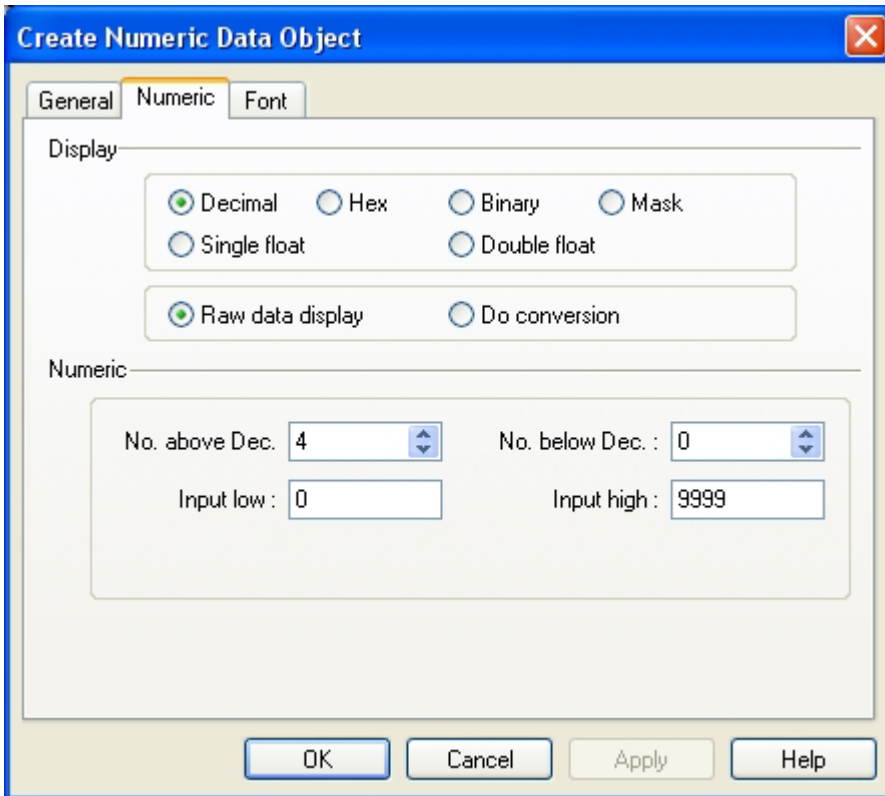
2. Fill in General Tab Items:

Description: A reference name that you assign to the Numeric Data. (not displayed)

Read Address: Word in the PLC that is displayed and modified by the Numeric Data Tab. Data format is defined data as

binary or BCD. The number here is limited to 1 (16 bits) or 2 (32 bits)

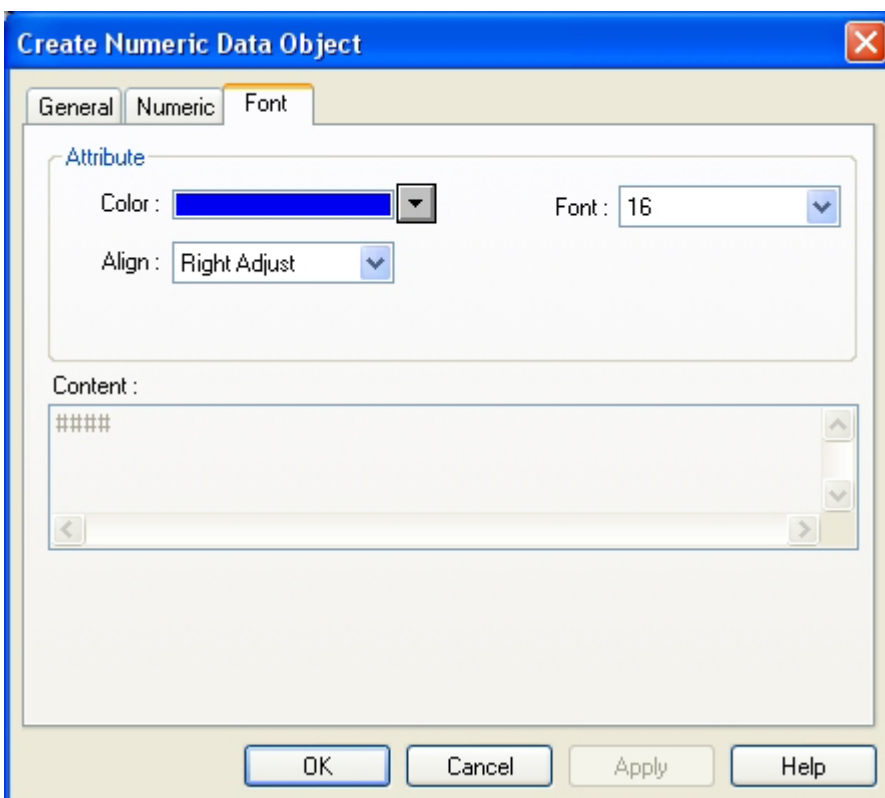
3. Fill in Numeric Tab items: See previous section on Numeric Input Extend.



Display: Control the display format of the data.

Value : Set up the position of the decimal point.

4. Go to Font Tab: Fill in attributes of the displayed digits. See Numeric Input Extend



5. Click OK to place the Numeric Data part on the window.

6.12 ASCII Input Extend

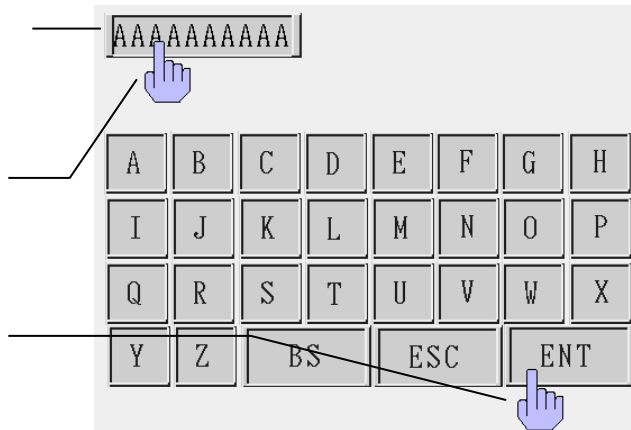


ASCII Input Extend displays current value of the PLC register data as decoded by the standard ASCII character table. When the trigger bit is active, ASCII Input is available through the alphanumeric keypad. Entered data is put into consecutive PLC registers starting with the “Read address”. The ASCII code saved in the low bit displays on the left-hand side and the code saved in the high bit displays on the right-hand side.

Value read is solved and translated and shown by ASCII yard

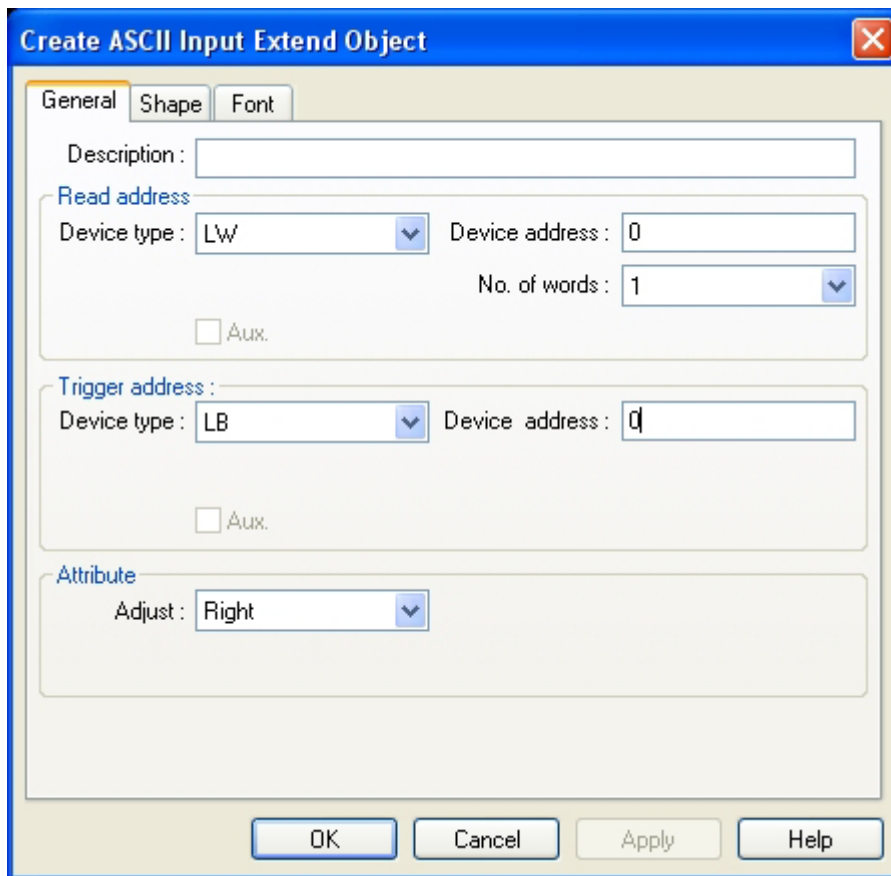
Activate touch area and enter the introduction state

Input from the keyboard



Procedure to place an ASCII Input

1 Click ASCII Input Extend icon



2. Fill in General Tab Items:

Description: A reference name that you assign to the ASCII Input. (not displayed)

Read Address: Word or words in the PLC that is displayed and modified by the ASCII Input. (up to

16 words may be addressed in this manner, each word contains 2 ASCII characters)

Trigger Address: Bit in the Controller that controls the ability to enter data into the Read Address. If bit is OFF, data entry is disabled.

Attribute: Select to Left or Right justify the ASCII characters as they are displayed.

3. Go to Shape Tab: Select Shape or Bitmap to display the state.

4. Go to Font Tab: Fill in the Color and Font attributes of the displayed data.

5. Click OK to place the ASCII Input Extend part on the window.

The memory way in ASCII Input Extend is explained as follows:

1[Attribute]/[Adjust]Choose[Left]

When input character "A"



The Highest(Word)		2(Word)		1(Word)		The lowest(Word)	
High-order byte	Low-order byte	High-order byte	Low-order byte	High-order byte	Low-order byte	High-order byte	Low-order byte
20(H)	20(H)	20(H)	20(H)	20(H)	20(H)	20(H)	41(H)
							A

When input character "AB"



The Highest(Word)		2(Word)		1(Word)		The lowest(Word)	
High-order byte	Low-order byte	High-order byte	Low-order byte	High-order byte	Low-order byte	High-order byte	Low-order byte
20(H)	20(H)	20(H)	20(H)	20(H)	20(H)	42(H)	41(H)
						B	A

When input character "ABC"



The Highest(Word)		2(Word)		1(Word)		The lowest(Word)	
High-order byte	Low-order byte	High-order byte	Low-order byte	High-order byte	Low-order byte	High-order byte	Low-order byte
20(H)	20(H)	20(H)	20(H)	20(H)	43(H)	42(H)	41(H)
					C	B	A

2[Attribute]/[Adjust]Choose[Right]

When input character "A"



The Highest(Word)		2(Word)		1(Word)		The lowest(Word)	
High-order byte	Low-order byte	High-order byte	Low-order byte	High-order byte	Low-order byte	High-order byte	Low-order byte
41(H)	20(H)	20(H)	20(H)	20(H)	20(H)	20(H)	20(H)
A							

When input character "AB"



The Highest(Word)		2(Word)		1(Word)		The lowest(Word)	
High-order byte	Low-order byte	High-order byte	Low-order byte	High-order byte	Low-order byte	High-order byte	Low-order byte
42(H)	41(H)	20(H)	20(H)	20(H)	20(H)	20(H)	20(H)
B	A						

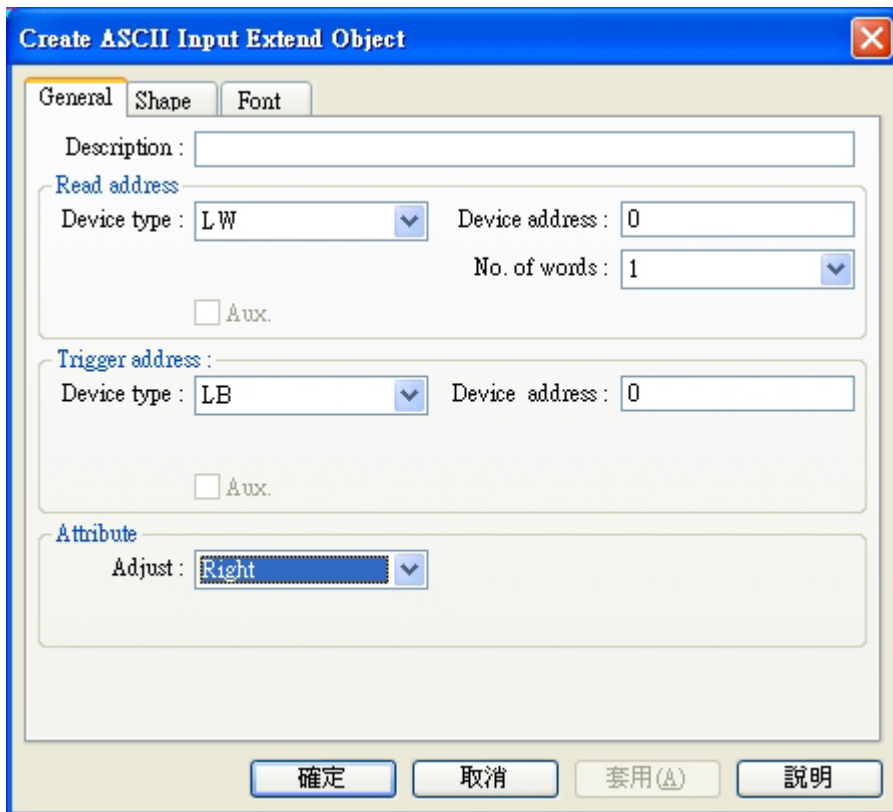
When input character "ABC"



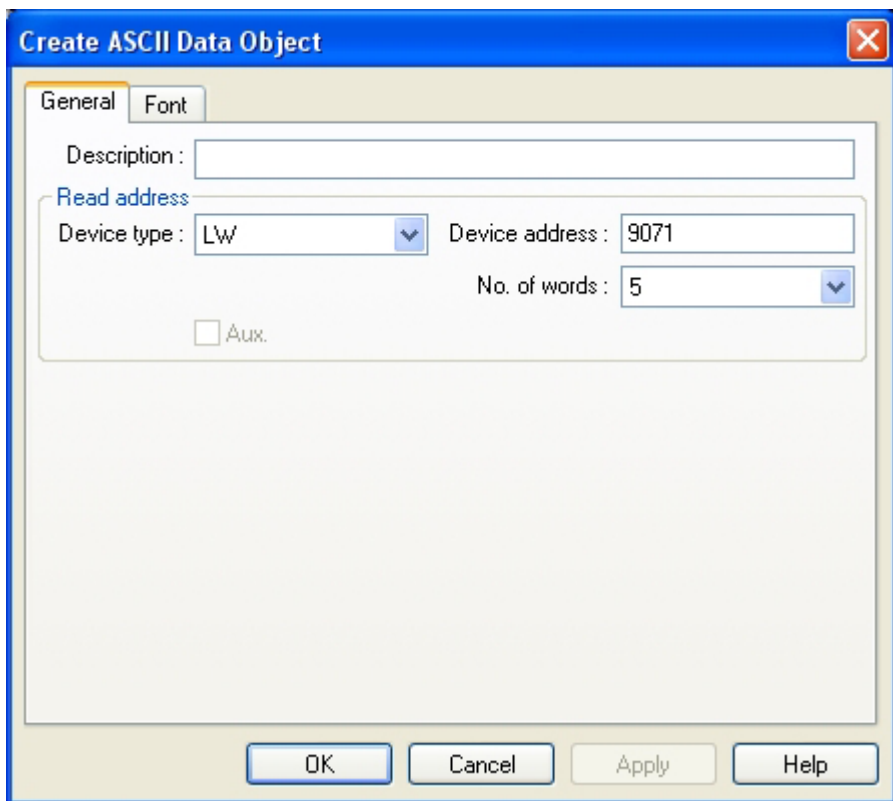
The Highest(Word)		2(Word)		1(Word)		The lowest(Word)	
High-order byte	Low-order byte	High-order byte	Low-order byte	High-order byte	Low-order byte	High-order byte	Low-order byte
43(H)	42(H)	41(H)	20(H)	20(H)	20(H)	20(H)	20(H)
C	B	A					

Users are used to in the data-in , can show the content of introduction at the same time on the keyboard, then put a text display component on the keyboard, let it read the corresponding data between LW9060-LW9075.

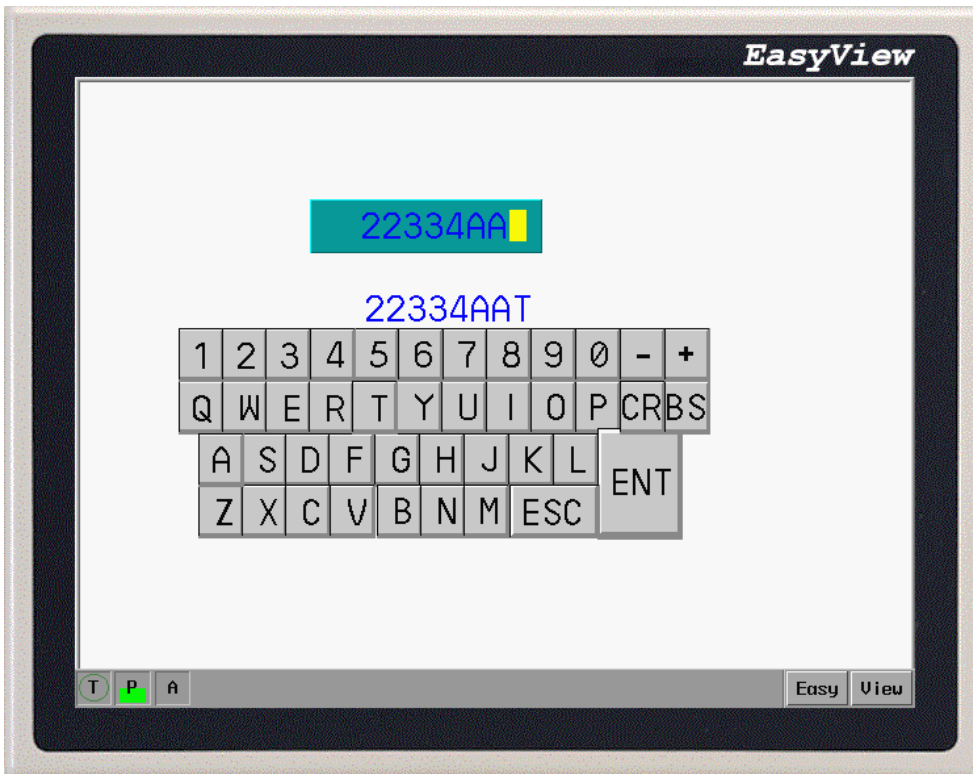
Creat a new project and adding a ASCII Input Extend Object to window 10, it is set up as follows:



Adding a keyboard and a ASCII Data, this object is set up as follows:



Put the keyboard and this object together, [save], [compile],[on(off)- line simulation] or [download],pursue not showing its if operation result:



If the number of words that this ASCII Data Object should show is X, then its equipment address should be (9075 - X +1).

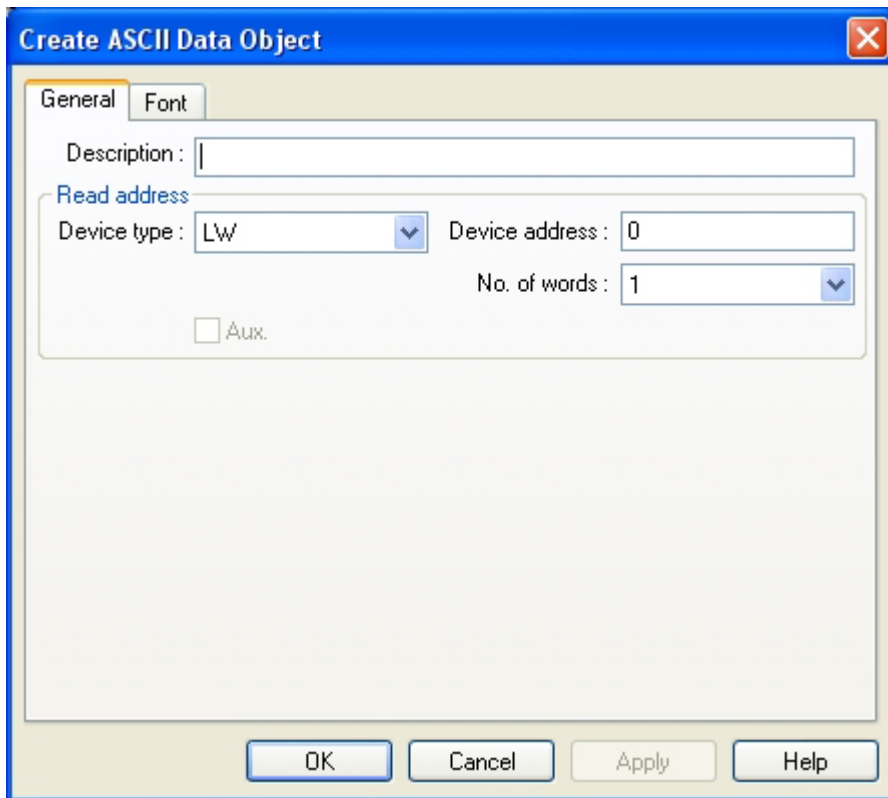
6.13 ASCII Data



ASCII Data displays the current value of the PLC register data. The data is decoded by standard ASCII characters table. ASCII yard that the low byte exists shows that on the left, the display that the high byte exists is on the right.

Procedure to place an ASCII Data Part

1. Click ASCII Data icon



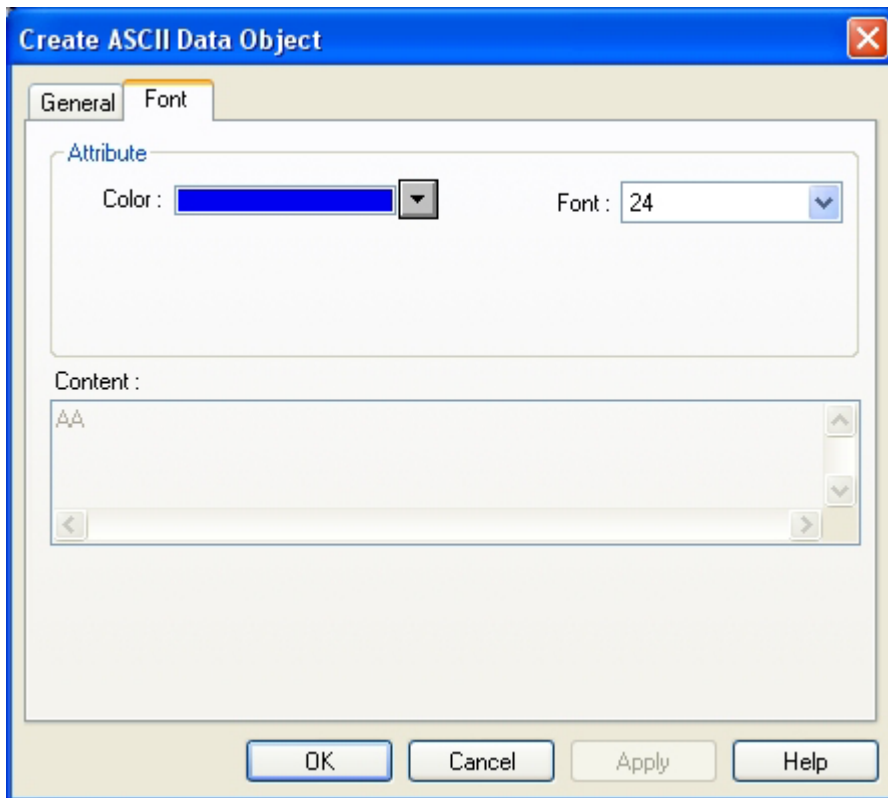
2.Fill in General Tab Items:

Description: A reference name that you assign to the ASCII Input. (not displayed)

Read Address: Word or words in the PLC that is displayed and modified by the ASCII input (up to 16 words may

be addressed in this manner, each word contains 2 ASCII characters).

3.Go to Font Tab: Fill in the Color and Font attributes of the displayed data.

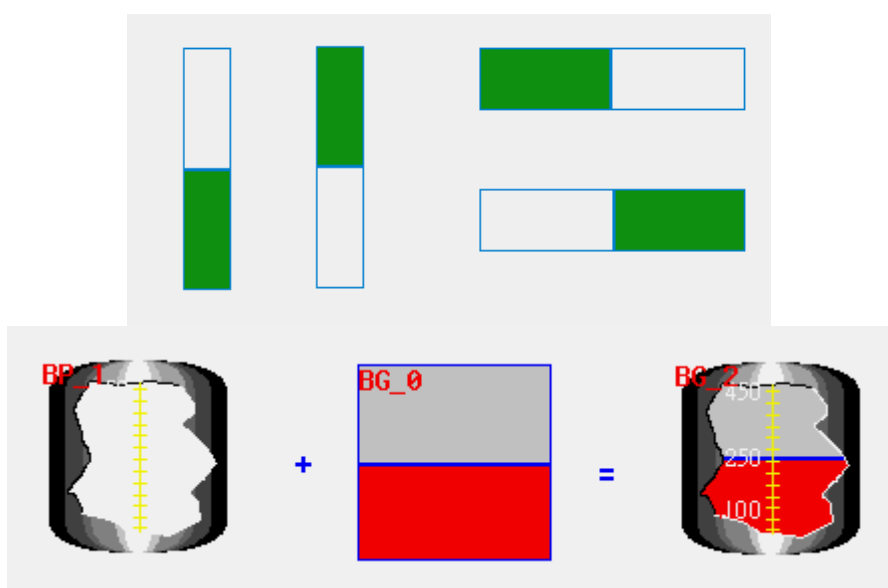


4. Click OK to place the Numeric Data Part on the window.

6.14 Bar Graph

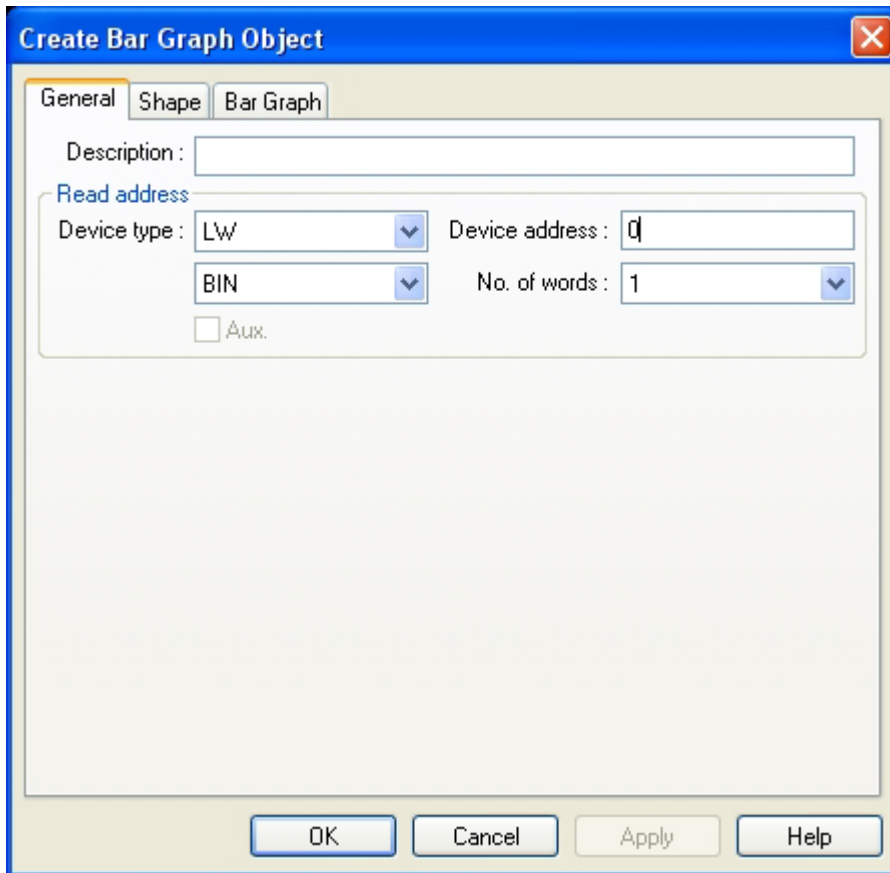


The Bar Graph displays PLC register data as a bar graph in proportion to its value by the SPAN and ZERO settings. As the pictures below, users can design any shape of the bar graph.



Procedure to place a Bar Graph

1. Click the Bar Graph Tool, the dialog appears:



2. Fill in General Tab Items:

Description: A reference name that you assign to the Bar Graph. (not displayed)

Read Address: The Word that are used to control the Bar Graph display.

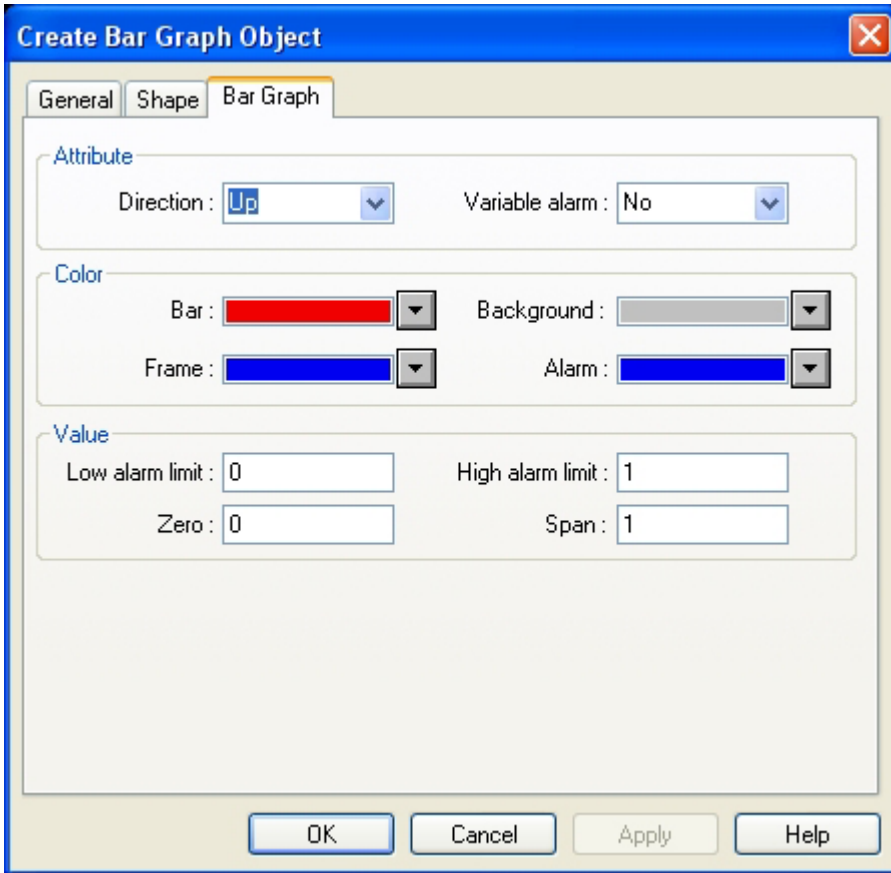
Data format: Defines data from the controller as binary BCD.

No. of words: Restricted to 1 or 3. Three words are needed when variable alarm is selected. The Bar Graph continuously retrieves 3 data words, one for data and one each for high and low alarm limits.

One word is needed when fixed alarms are selected.

3. Fill in Shape Tab Items to select suitable graph for enhancing the effect of the display. Seldom need to dispose the figure for the excellent picture.

4. Go to Bar Graph Tab and make settings as below.



5. Click OK to position the Bar Graph and resize it if necessary.

Bar Graph

Here we define the direction, alarm available or not, color and value of the bar graph.

Attribute :

Direction: Up, Down, Left and Right.

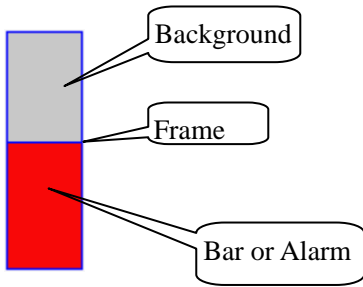
Variable alarm:

Yes: The high and low alarm limits are retrieved from PLC data registers as described below. They are changeable. When the Read Address is between the high and low alarm limits, the bar graph is in the non-alarm situation. When it above or under the limit value, the graph is under the alarm situation. The color displays according to the alarm colors set up.

No: The high and low limits are set from the value of the Bar Graph. It's fix after the setting.

Variable Alarm	YES	NO
Read Address	Bar graph data	Bar graph data
Read Address+1	Low alarm	--
Read Address+2	High alarm	--

Color: Set Bar, Background, Frame and Alarm bar colors.



The filled bar percentage is calculated as follows:

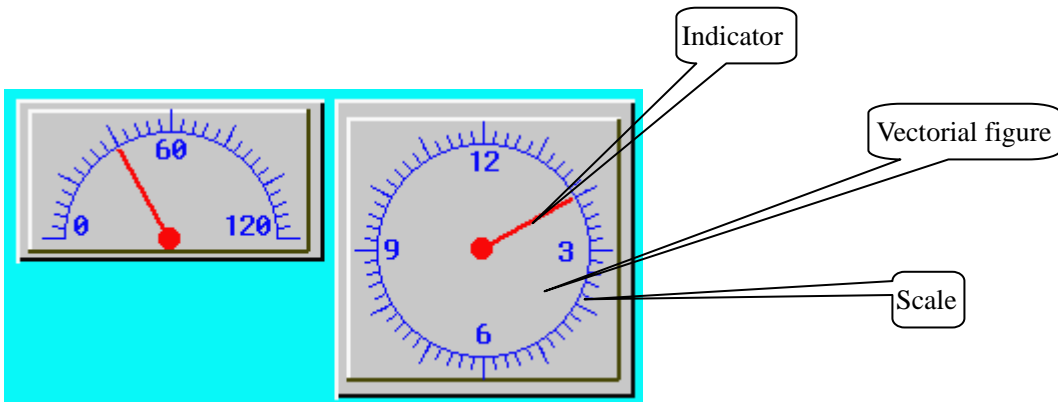
$$\% \text{ of filled bar} = [(\text{Register value} - \text{Zero}) / (\text{Span} - \text{Zero})] * 100\%$$

Low/High alarm limit: if “Variable alarm is No”, the high and low alarm limits are entered here.

6.15 Meter Display



The Meter displays PLC register data as an angular indicator in proportion to its value as defined by the SPAN and ZERO setting.



Procedure to place a Meter

1. Click the Meter Tool

Create Meter Display Object

General Meter Display

Description:

Read address

Device type: LW Device address: 0

BIN No. of words: 1

Aux.

OK Cancel Apply Help

2. Fill in General Tab Items:

Description: A reference name that you assign to the Meter (not displayed)

Read Address: PLC word that used to control the displayed value.

Create Meter Display Object

General Meter Display

Indicator

Style 1

Up half Full up Full bottom 3 / 4 full

Style 2

Up half Full up Full bottom 3 / 4 full

Color

Arm:

Value

Zero: 0 Span: 1

OK Cancel Apply Help

Data format: Defines data from the controller as binary or BCD

No. of words: Restricted to 1

3. Go to Meter Display make selections and fill in fields as desired.

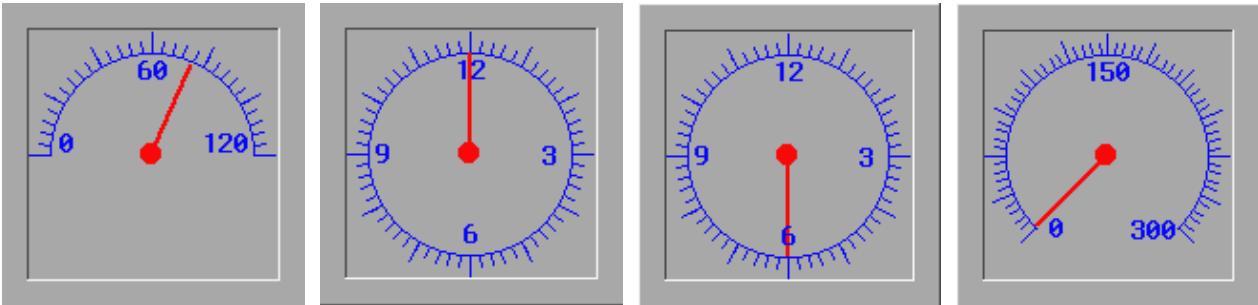
4. Click OK to position the Meter and resize it

Color: set indicator color.

Percentage of angle (relative to 180° for Half circle and 360° for Full circle) = $[(Register\ value - Zero)/(Span - Zero)] * 100\%$

Indicator style:

Style 1(2) : Up half, Full up (down) and 3/4 full.



Up half

Full up

Full Down

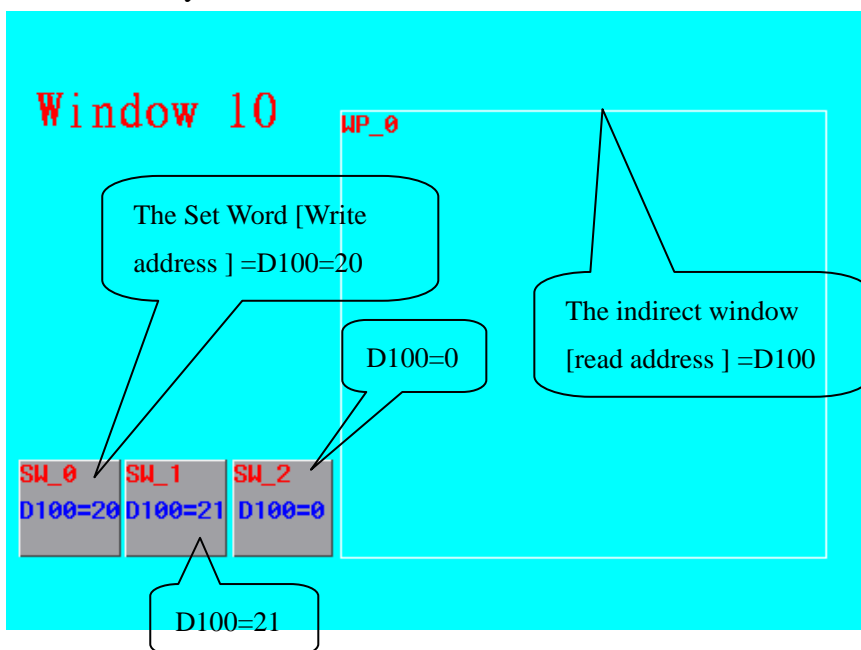
3/4 full

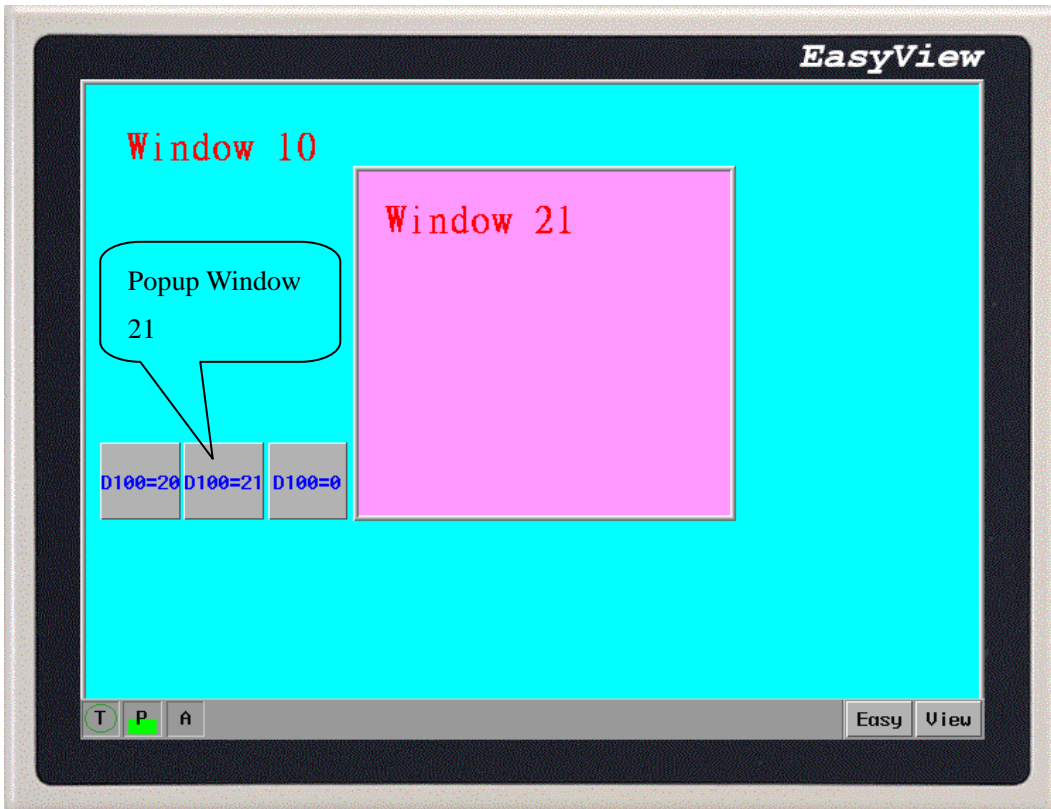
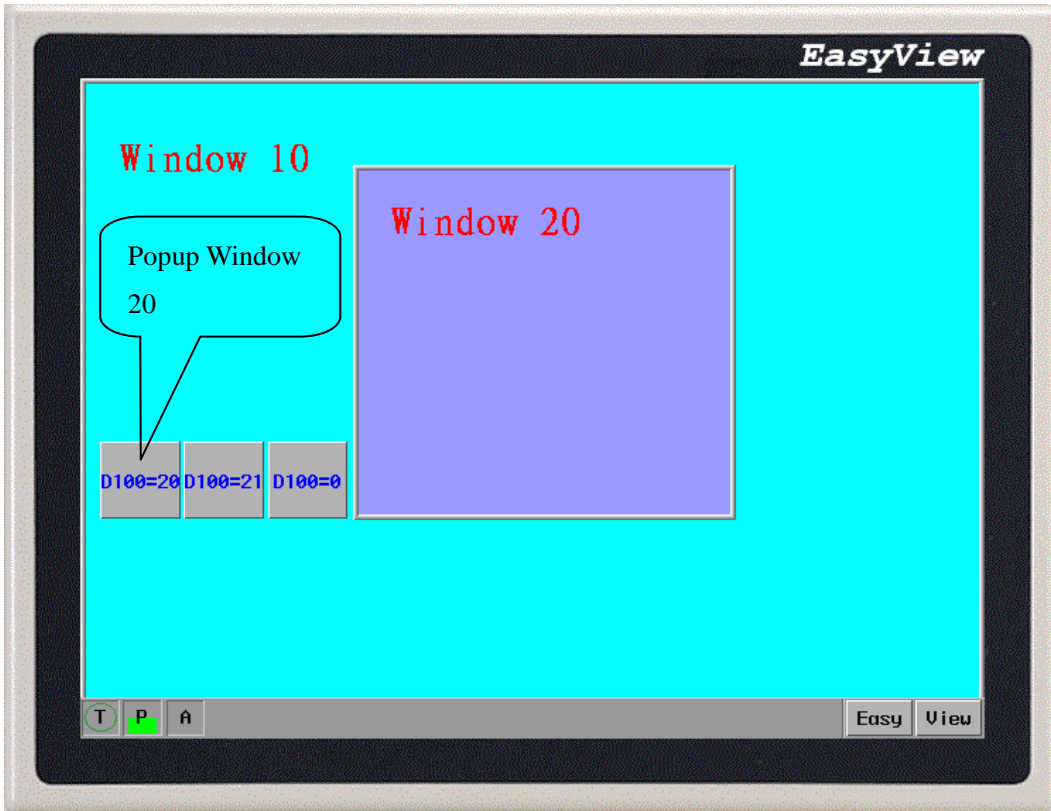
Notice: The indicator will generally cooperate with the component use of the scale, will strengthen the operation result of the indicator with the scale. It please consult 3.5.6 chapter [menu]/[drawing] scale some content not relevant.

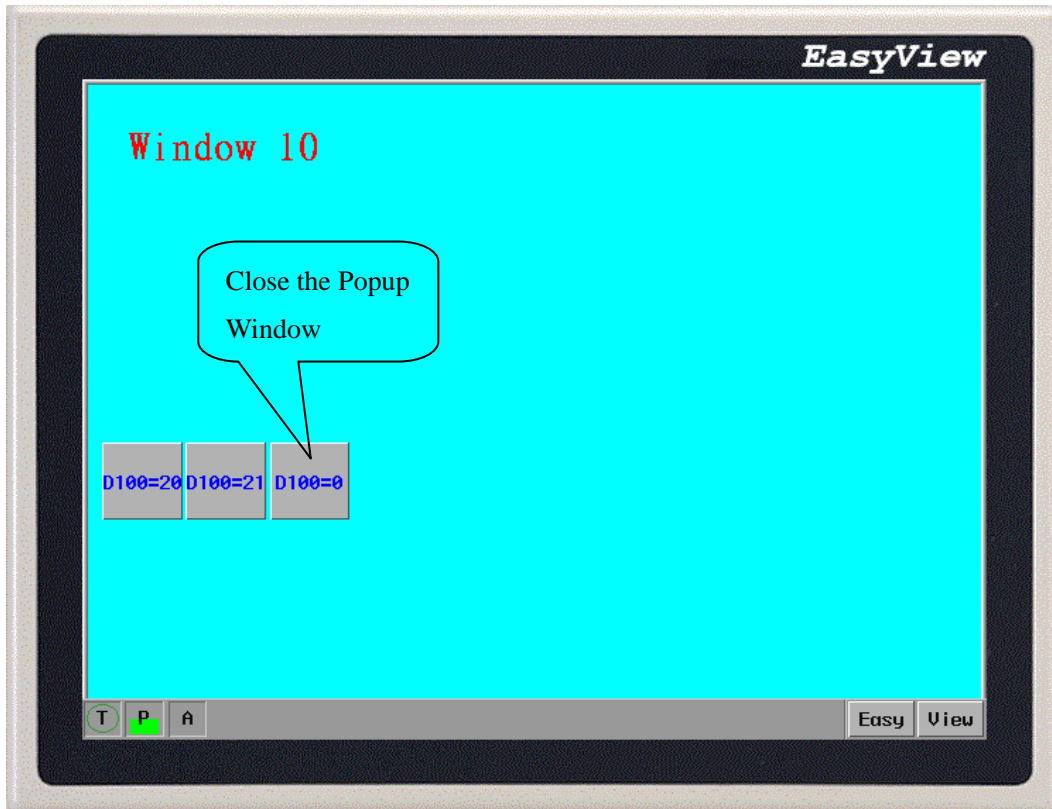
6.16 Indirect Window



The Indirect Window places a defined child window area over the current window. Usually their size is smaller than a full window. The Windows are then displayed in the Indirect Window frame as called by a PLC data register. There is no limitation to the maximum Indirect Windows on each screen. However, at run time, only 6 windows at the most can be displayed simultaneously on each screen. Set Read Address to 0 to close the window.

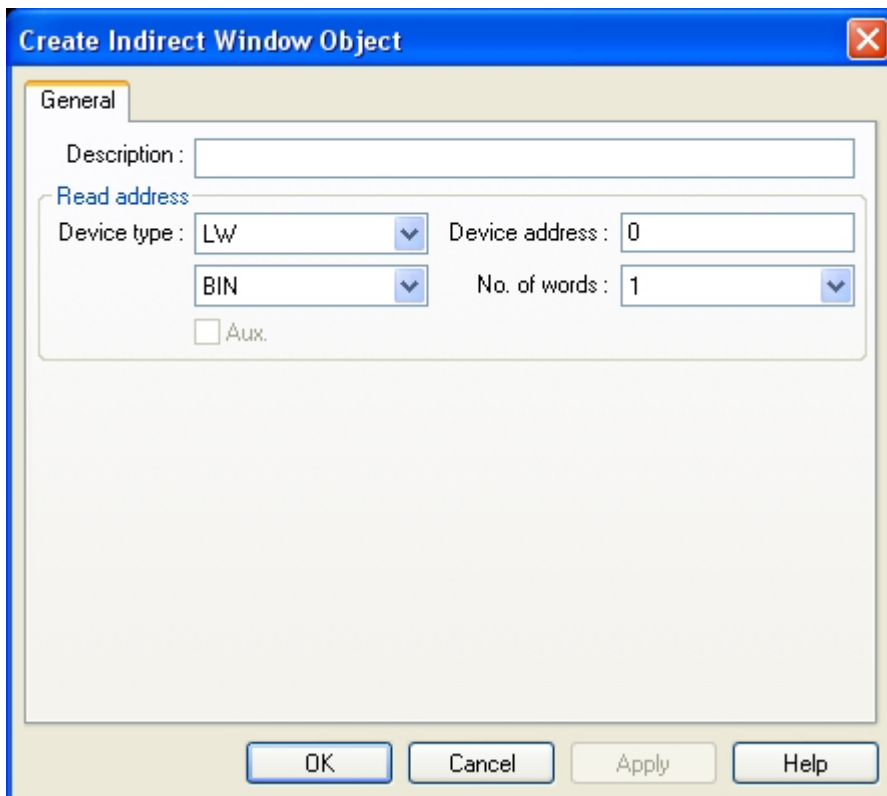






Procedure to place an Indirect Window

1. Click the Indirect Window Tool
2. Fill in General Tab Items:



Read address: Word in the PLC that determines which window is displayed in the Indirect Window area. When change the value of the register, the designated window pops up. For example, if the value is 20, window number 20 pops up. When the value is 0, pop-up window is closed.

3. Click OK to position the Indirect Window and resize it

The display area of the popup window is restricted by the size of the indirect window. The popup window outside the boundary of the indirect window isn't displayed. Add function button parts "Window Bar" or "Minimize Window" to reposition and minimize the features. (Refer to "Window Bar" and "Minimize Window" in the Function Key Part section.)

Popup windows of direct(indirect) windows: A window is controlled by a bit address(direct window) or word address(indirect window). Once a bit or a word activates, the corresponding popup window appears. When the value is zero, the window is closed.

Task bar: If have [window bar]and[Minimize window] with the function key at the window sprung, then spring a window each time, will reserve a little icon for this window on the task bar . Push the window little icon at the bar can wave upper strata most to reach the screen corresponding window in task. Double click the icon can minimize window , is it can recover window to the reset condition to hit.

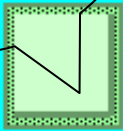
6.17 Direct Window



The Direct Window places a defined child window area over the current window. Popup window is displayed within the border of the direct window. Typically, direct window is the same size as the popup window. There's no limit to the number of the direct window. However, at run time, a maximum of six windows can be displayed simultaneously. The open or close of the window is controlled by the bit address, but not by Function Key. When "ON" is assigned to the bit address the popup window appears.

Window 10

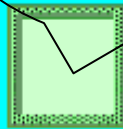
The Toggle Switch, [Read address] & [Write address] are the same. (M10)



The Direct window [Read address]=10, the window number is 20.

Window 10

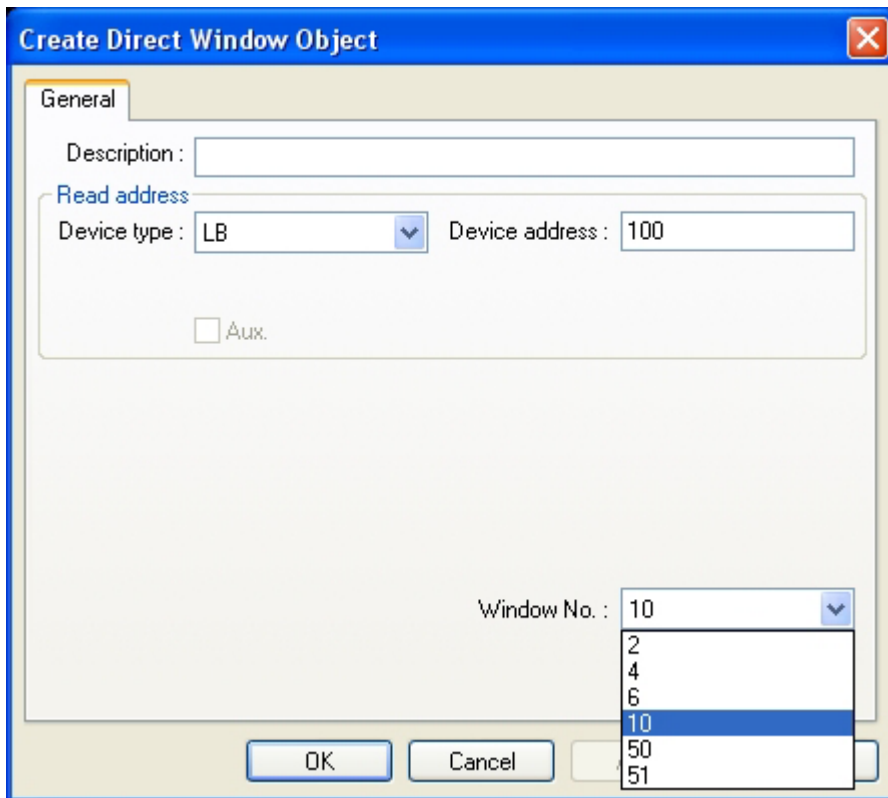
Push the Toggle Switch, [Read address] and [Write address] to all turn into ON, spring window 20.



Window 20

Procedure to place a Direct Window

1. Click the Direct Window Tool
2. Fill in General Tab Items:



Description: A reference name that you assign to the Direct Window. (not displayed)

Read Address: Bit in the PLC that calls the Direct Window.

Window No.: The window number assigned to the Direct Window

3. Click OK to position the Direct Window where you want it to pop-up and resize

The size of the window limits the area of display. The window area outside of the window boundary is clipped. Function Button parts “Window Bar” and “Minimize Window” can be assigned to the window to enable repositioning and minimizing. (Refer to “Window Bar” and “Minimize Window” in the Function Key Part section.)

6.18 Alarm Scan



Alarm Messages are displayed on Alarm Display and Alarm Bar parts. The message to be displayed must first be registered in the Alarm Scan list. A bit controls each message. If the bit activates the alarm (ON or OFF), the corresponding message is displayed. (This object is only for alarm register)

Procedure to add/modify alarm messages

Address	Alarm	Content
0: LB0	On	Alarm

1. Click Alarm Scan icon to pop up the Alarm Scan Object message summary screen.
2. Click on the Add button to add a new message or click on the Setting button to modify an existing message.

Fill in the Attributes Dialog:

Read address
Device type : LB Device address : 0
 Aux.

Attribute
Alarm : On Off Category : 0

Text
Content : Alarm
Color : Font : 16
 Use label library Label Library ...

OK Cancel

Read Address: specifies the PLC bit address that triggers the message.

Alarm

ON: displays this message when the bit is ON.

OFF: displays this message when the bit is OFF.

Category – alarm category

Text: Enter the message Content text, text Color and Font size. The default font is 16.

3. Click OK, the message appears in Alarm Scan message summary box.

In order to take full use of communication bandwidth, it is recommended that a block of continuous PLC bit devices be used for the Alarm Scan list. For example: Use Bits 100 to 199 to control the display of all alarm Messages so that one read command retrieves Bits 100 to 199 all at once instead of one bit at a time.

6.19 Alarm Display



Warning information shows that the component will show all warning information touched off in the area that is established. A content shown is the same for the content and reporting to the police that it shows, are all the warning information about a certain nodal switch (location address). After a warning information is produced, must be when this location address is switched over to the non-warning state again, this warning information will just be dispelled automatically, otherwise warning information will show all the time, namely in warning state all the time. (this component only shows warning information, must be by the component wanted to show in component log-in of "warning information log-in")

Procedure to add Alarm Display

1 Click Alarm Display icon

2 Fill in General Tab Items:

Create Alarm Display Object

General

Description:

Read address

Device type: Device address:

No. of words:

Aux.

Attribute

Display line: Char. length:

OK Cancel Apply Help

Description: A reference name that you assign to the Alarm Display. (not displayed)

Read Address : The Read Address controls the scrolling, up and down, of the alarm display window. If the read address is N, the information of N-1 is ignored and displays the information of N on the first row.

Data format :BIN or BCD

No. of words :fixed to 1

Display line:Assign the number of lines to a window. (unit:16 pixels)

Char. Length:Assign the number of characters to a line.(unit:8 pixels)

For example:The font of the characters are 24(24*24pixels) ° Display line is 5 , Char. Length is 30.

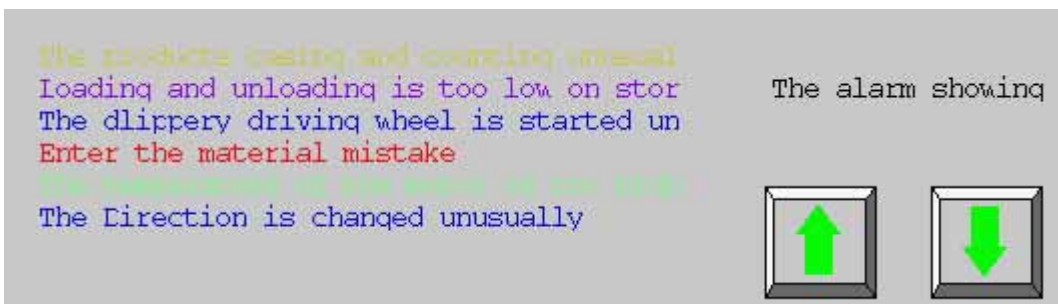
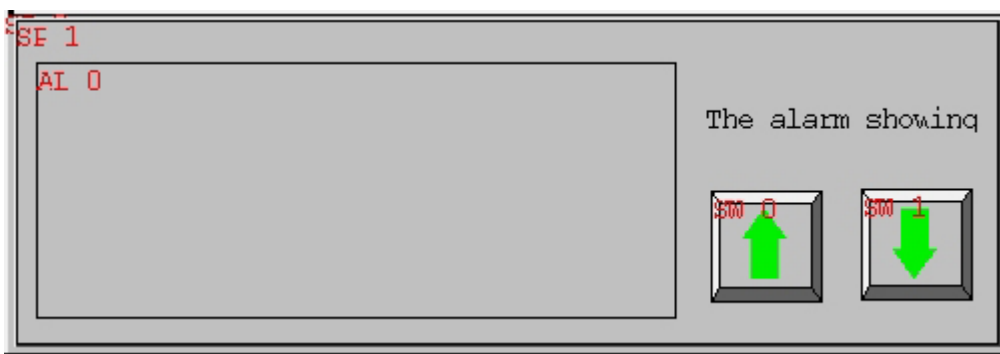
```
Enter the material mistake
The temperature of the motor is too high
The Direction is changed unusually
```

3Click OK to place and position the Alarm Display where desired.

Example of an Alarm Display:

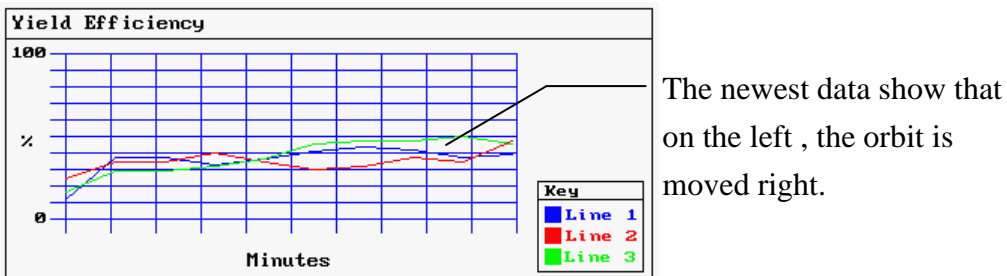
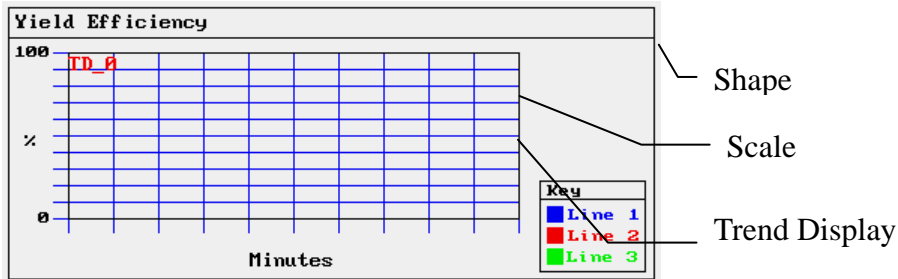
A Shape (SP_0) is used for the background rectangle.The Shape SP_1 shows the sunken viewing area.Some TEXT is placed on the Shape(AL_0) to identify what is being displayed. Two Set Word parts (SW_6, SW_7) are used to increment and decrement the alarm register.

The actual Alarm Display part is placed on top of the shape and the alarm messages appear as below:



6.20 Trend Display

The Trend Display periodically retrieves a block of PLC data and displays the trend data over time. As each sampling period elapses, the new data is read from the PLC and inserted towards the right side of the trend graph. It shows that has real time.



An example of a typical trend display is shown above. A Shape is used for the background and Scales are added to show relative information about the trend. The trend display is then placed on the Shape.

Procedure to add a Single page Trend Display

1. Click Trend Display icon.
2. Fill in General Tab Items:

The screenshot shows a dialog box titled "Create Trend Display Object" with a blue header bar and a close button (X) in the top right corner. The dialog has two tabs: "General" (selected) and "Trend".

Under the "General" tab, the following settings are visible:

- Page type:** A dropdown menu set to "Single page".
- Sampling time:** A text box containing "1" followed by the label "seconds".
- Plot point:** A text box containing "10".
- Read address:** A section containing:
 - Device type:** A dropdown menu set to "LW".
 - Device address:** A text box containing "0".
 - Device type:** A second dropdown menu set to "BIN".
 - No. of channel:** A dropdown menu set to "1".
- Aux.:** An unchecked checkbox.

At the bottom of the dialog, there are four buttons: "OK", "Cancel", "Apply", and "Help".

Page type: Select Single page. Single page is a simple trend display which displays the data selected from the active screen and don't reserve the historical data.

Sampling time: Time between point plots in seconds.

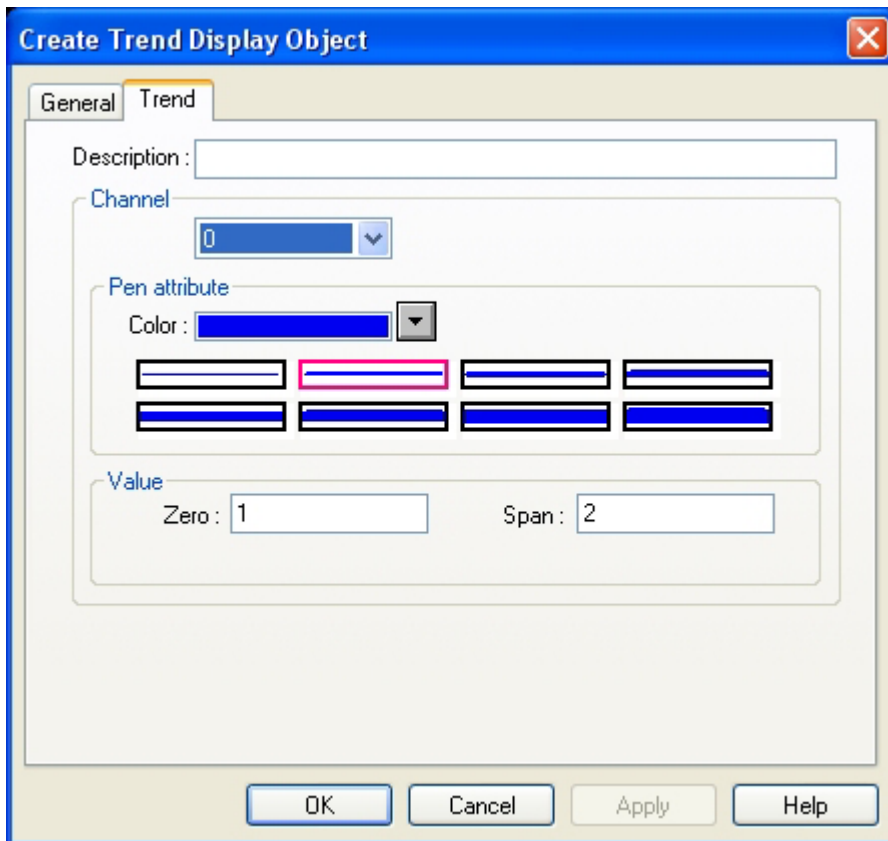
Plot point: the number of sample points displayed across the length of the chart.

Read address: Specify the PLC word address of the first Trend data pen, the second Trend data pen starts at read address + 1, and the third starts at read address + 2, etc.

Take a sample and count: Sample that the picture shows counts .

No. of Channel: The number of PLC data words retrieved is the same as No. of Channel, one word per channel.

3. Fill in the Trend Tab: Select the "Channel" to view each channel's settings.



Description: A reference name that you assign to the Trend Display. (not displayed)

Channel: Can choose anychannel to set up it . Choose 0 to choose the 1st channel promptly, choose 1 to be article 2,analogize sequentially.

Pen attribute: Specify the Trend Color and pen thickness for the channel.

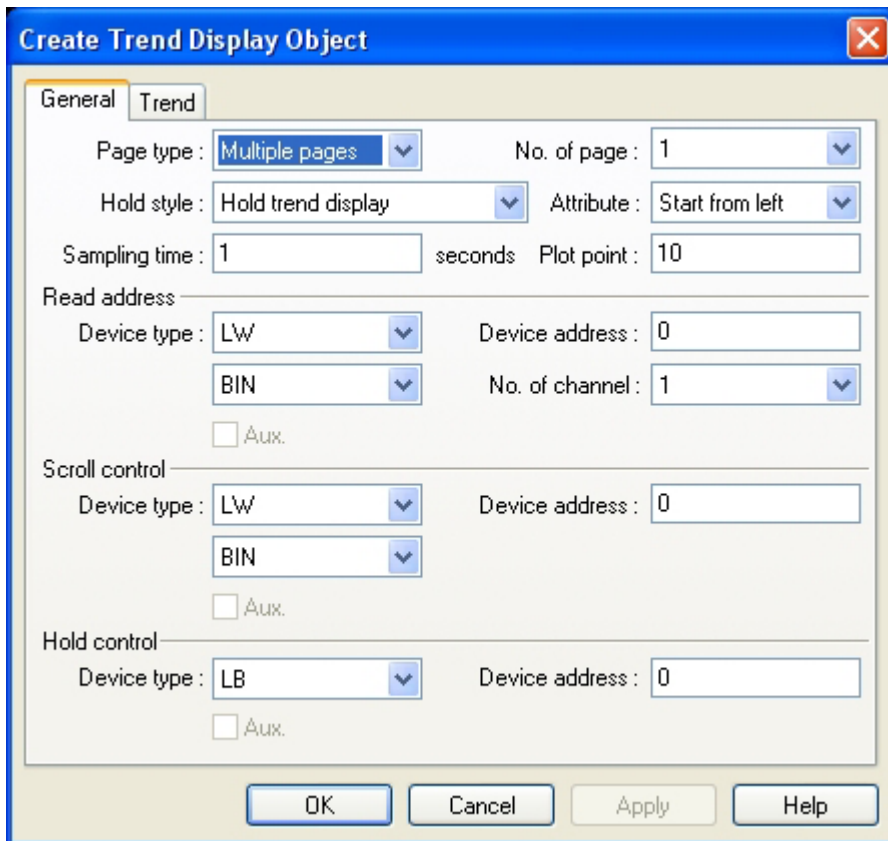
Value: Set the zero and span for each channel.

4. Click OK to position and resize the Trend Display

Procedure to add a Multiple pages Trend Display

1Click Trend Display icon

2Fill in General Tab Items:



Page type: Select Multiple pages.

Multiple pages allows a trend display to be extended. Data is plotted as before but it is not lost Data is stored in the memory for backup. The maximum is 30 history pages for looking up.

Hold style: Determines how the trend reacts when the hold bit is activated. Hold trend display simply prevents further updates until the Hold bit is turned off. Hold trend display & clear stops the trend update and clears out all pages of the trend. When the Hold style turns to OFF, the trend display resumes

Attribute: Start from left selects to have the trend pens start from the left and traverse the display before scrolling begins.

Start from the right begins the pens scrolling from right to left from the first sample onwards.

In other words " the pen moves the paper " and way that " the paper start writing ". Their show that the directions all roll and show from the left right.

Sampling time: Time between point plots, the unit is second.

Plot point: The number of sample points displayed across the length of the Trend Display part.

Note: The plot point includes the points of two side boundaries.If 20 is selected, the screen is divided into 19 pieces.Therefore, if the screen is going to be divided into 20 pieces, 21 should be selected.

Read address: Specify the PLC word address of the first trend data pen, the second trend data pen starts at read address

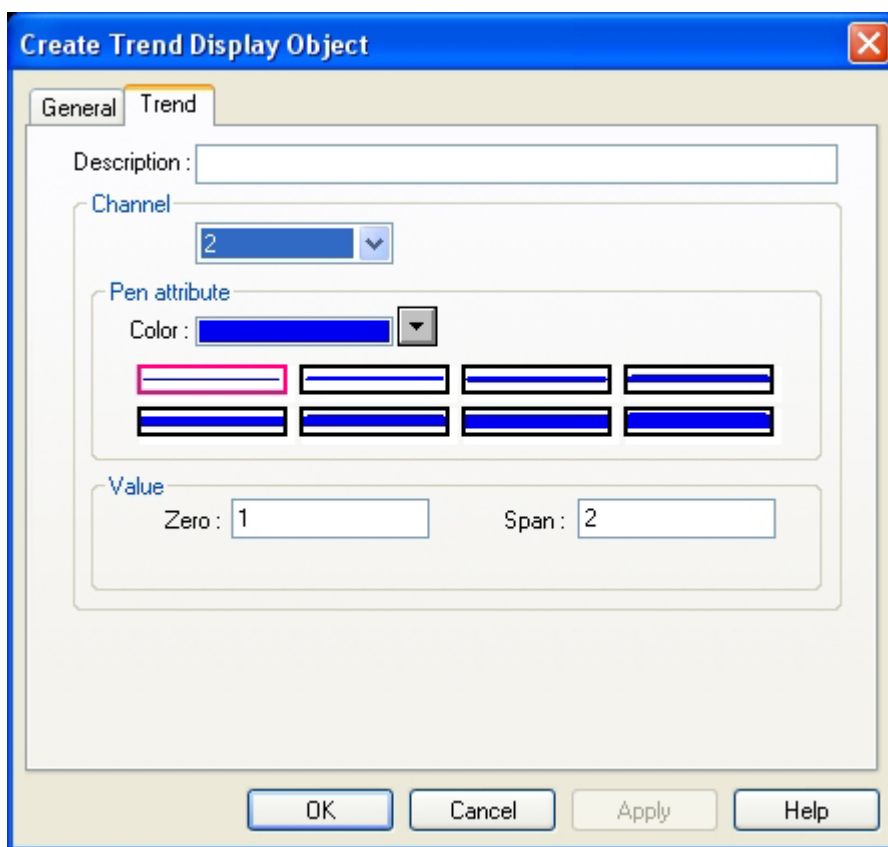
+ 1, and the third starts at read address + 2, etc.

No. of Channel: The number of PLC data words retrieved is the same as No. of Channel, one word per channel. Up to

16 channels can be specified for a trend.

Scroll control: The address of the register that determines which portion of the multiple page display is being shown on the screen. Each increment of the value in the scroll register moves the Trend display from one sample plot to the left. Can set up two pieces of number value and establish the component, the equipment address of this component and equipment address which looks through page control are the same. Set these first two components as and added, one is set as and reduced, can be used for controlling the trend picture like this to looked through the page forward and translate pages backward.

Hold control: The bit that controls the trend update. See Hold style above.



3. Fill in the Trend Tab: Select the “Channel” to set each channel.

Description: A reference name that you assign to the Trend Display. (not displayed)

Pen attribute: Specify the Trend Color and pen thickness for the channel.

Value: Set the zero and span for each channel.

4. Click OK to position and resize the Trend Display.

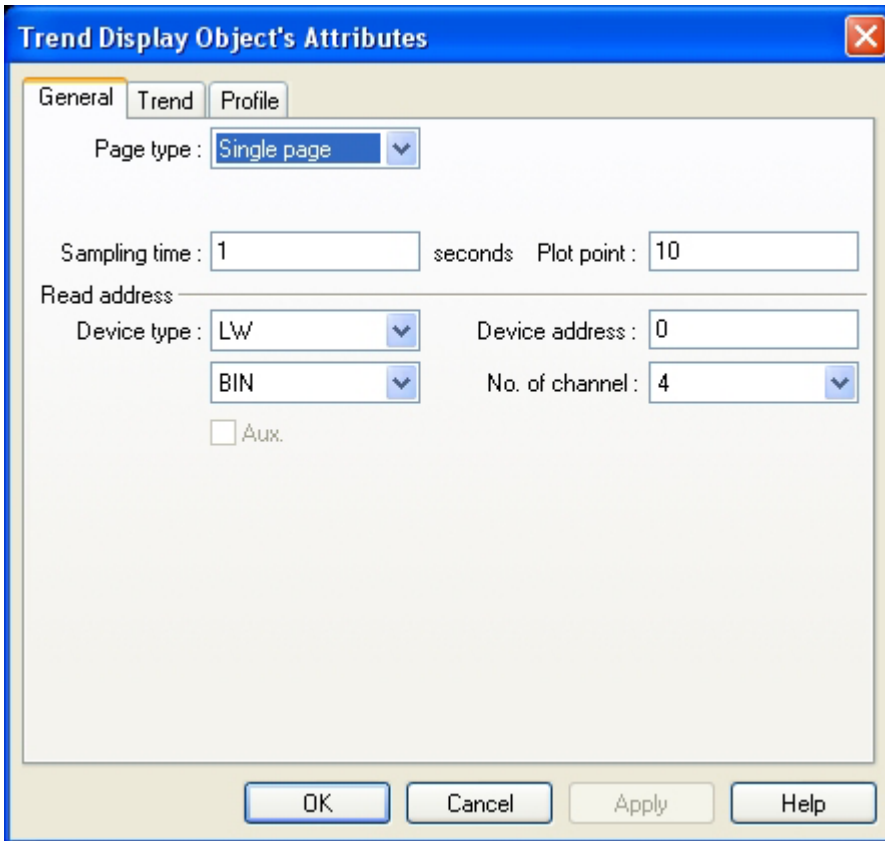
Now come to do a form page trend display and example of many page trend display separately.

1. Single page trend display

Newly build a project and save at first.

In [editor]/[systematic parameter] in set up by correct one PLC the types and parameter.

Add a form page trend display object. Its [time of taking a sample] is one second, it is 10 to take a sample and count, it is 4 that the orbit is counted , the following picture shows:



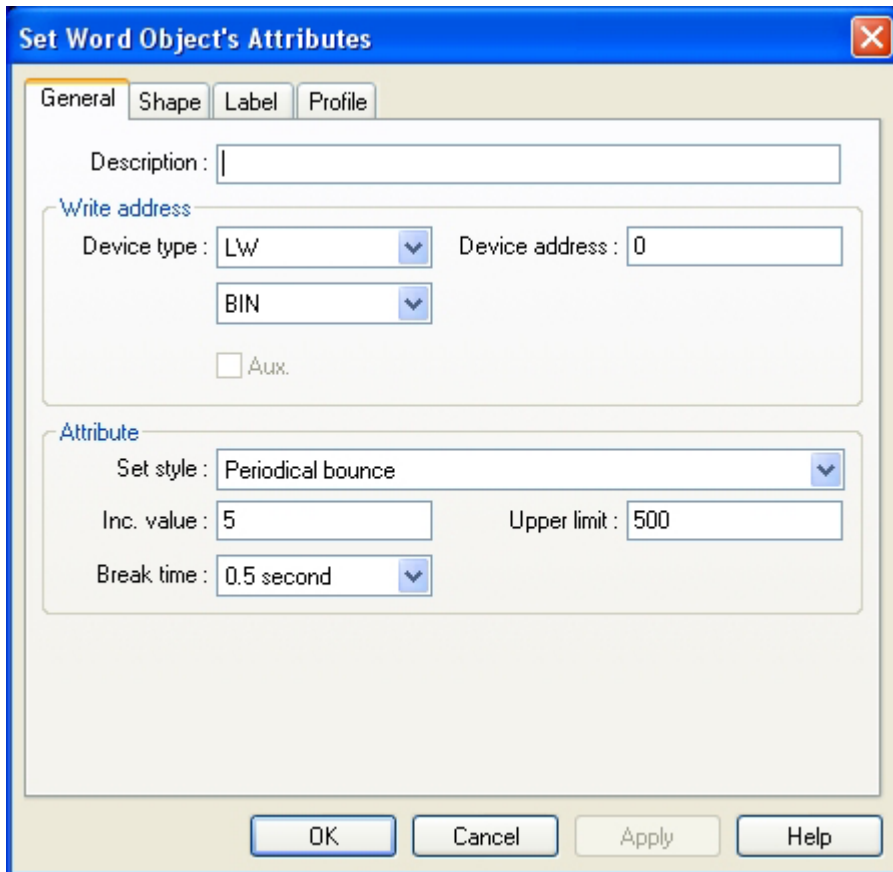
In [trend display] in set up 4 channel because separately it blue for the trajectories, the red, the green, purple. Minimums are all 0, the maximum is 500 , 1000 respectively, 1500, 2000.

Adjust the size of the trend picture component.

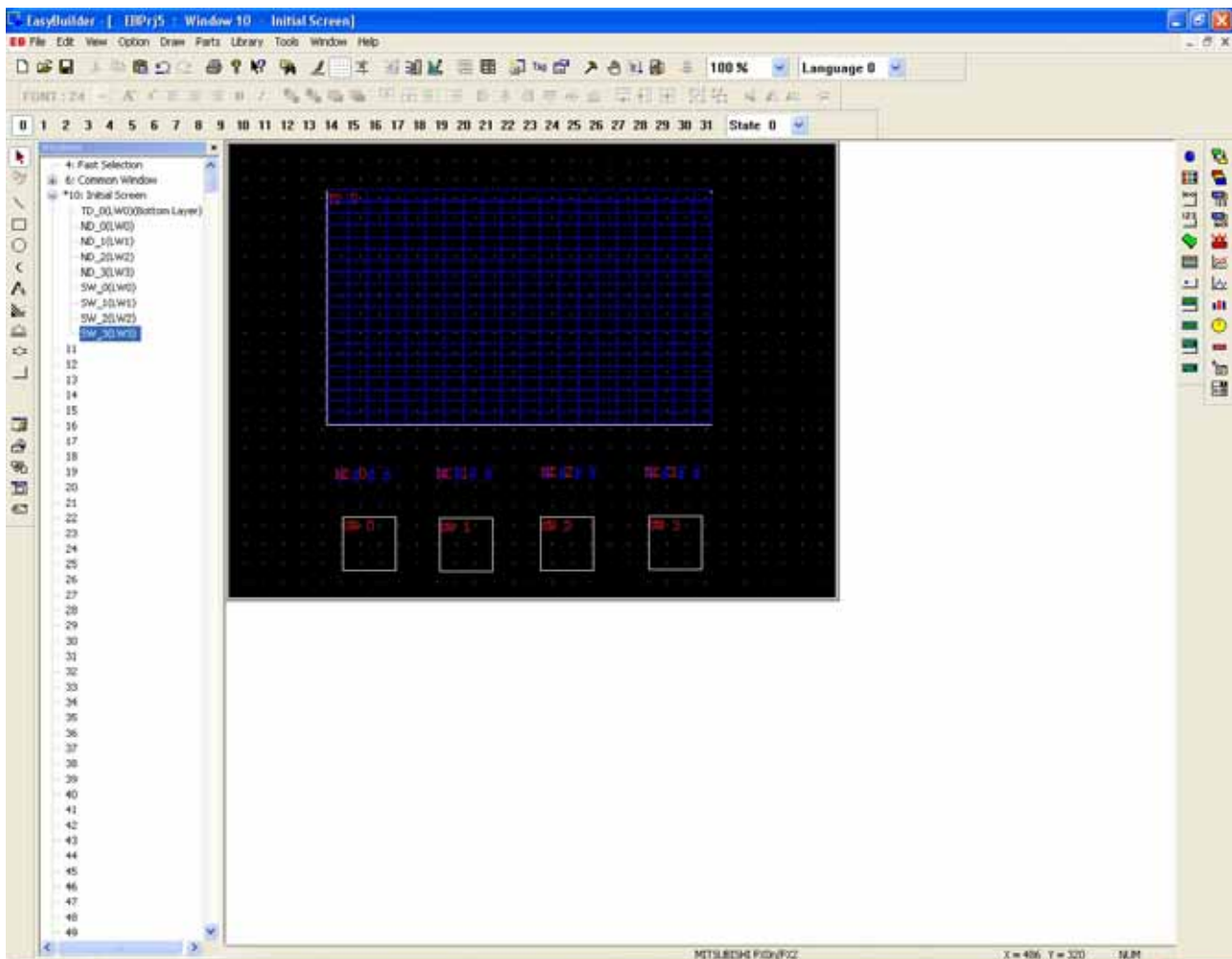
Add 2 scale object , one is horizontal, one is vertical, their partition is all 20. Add 2 scale object , one is horizontal, one is vertical, their partition is all 20. Hand in them to transform into the net together, and pay attention to above object pile of trend display: The size of these 3 object (2 scale and a trend picture) must be unanimous and totally overlap together.

Add 4 Numeric Data objects, show LW0 separately, LW1, the number value of LW2 and LW3.

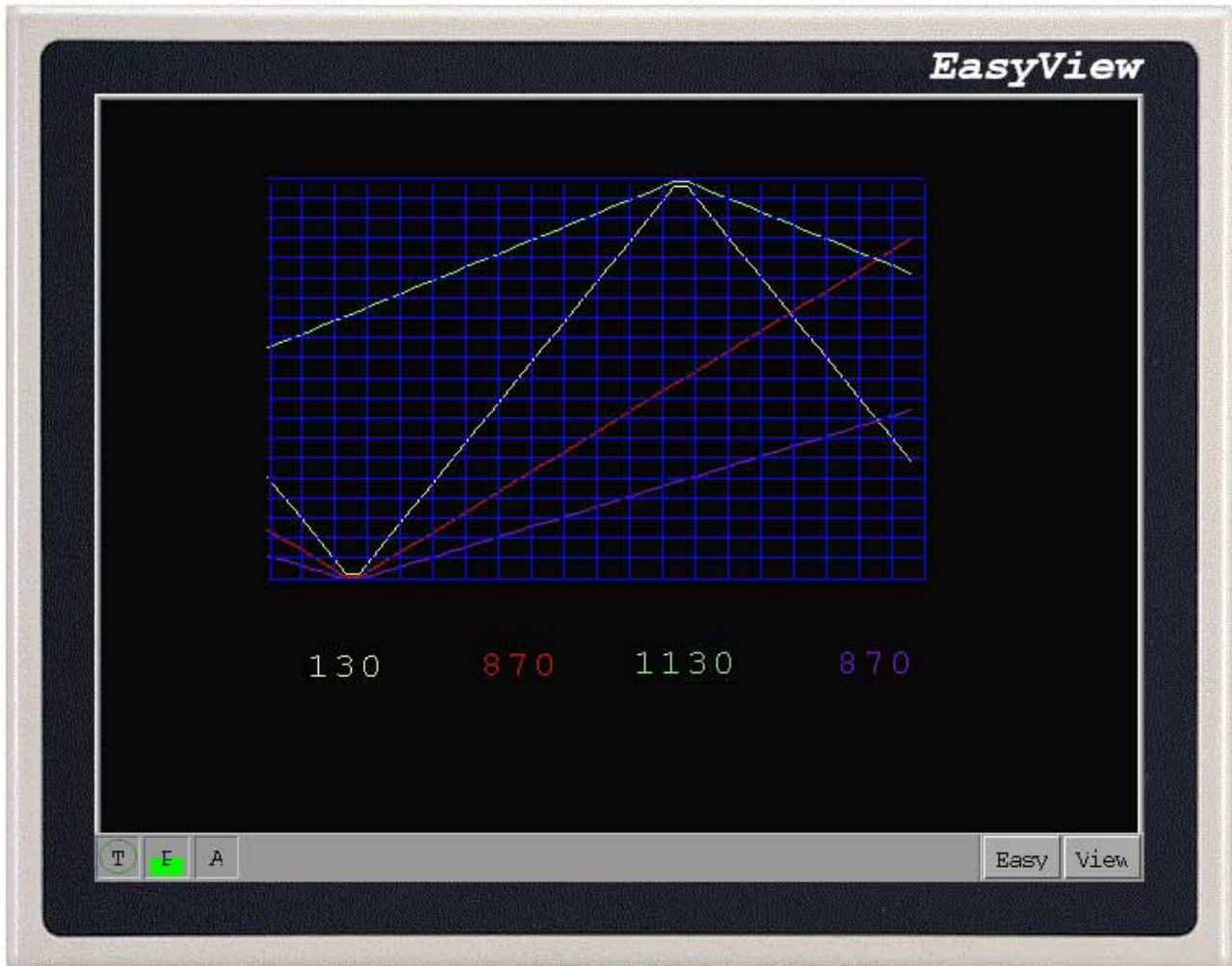
Add 4 Set Word object many state establish component , part of LW0, LW1, the data of LW2 and LW3 carry on the cycle circulation change. Its corresponding minimum is all 0, the maximum is 500 , 1000 respectively, 1500, 2000. The progressively increasing value is 10, frequency is 0.5 seconds.



Result set up finally:



Result operated finally :

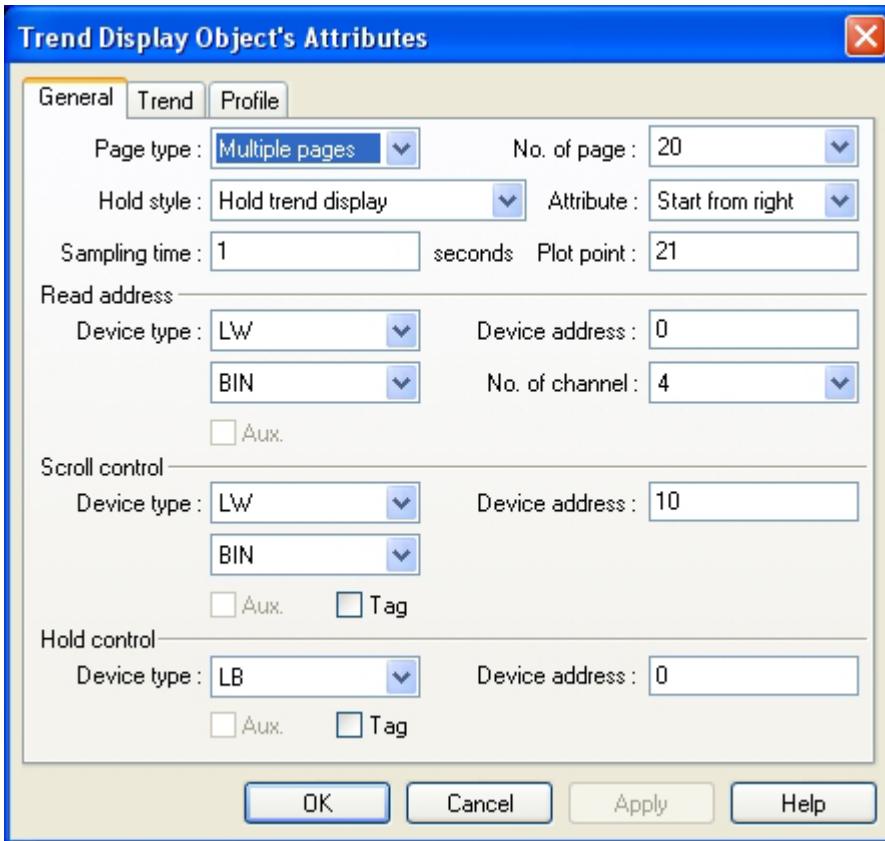


2.Many page trend display

Newly build a project and save at first.

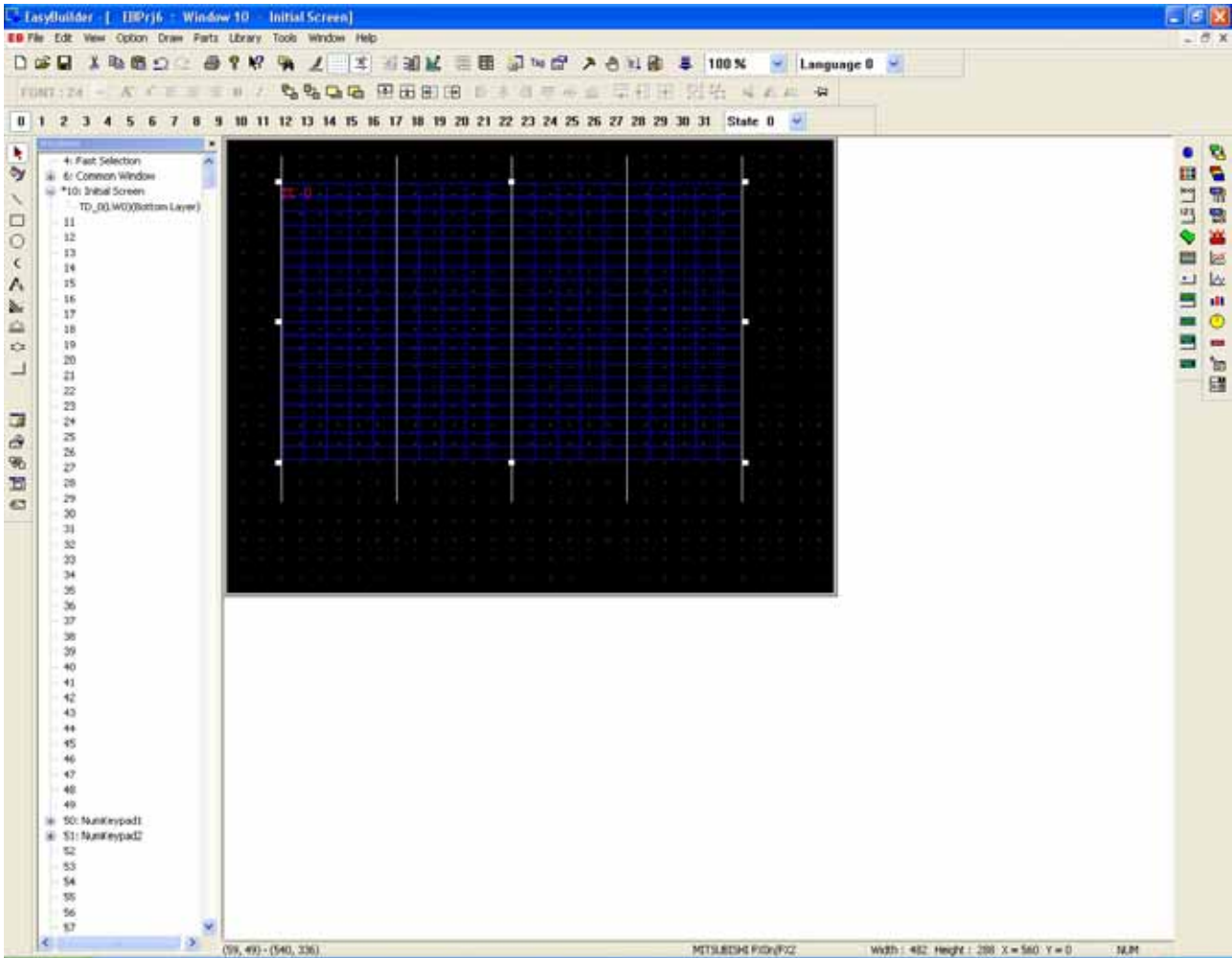
In [editor]/[systematic parameter] in set up by correct one PLC the types and parameter.

Adding more than one page trend display pbject, the institute shows that its attribute is set up as follows:



It is 21 to pay attention to taking a sample and count. Reading the address as LW0, it is 4 that the orbit is counted , in this way LW0 reads LW3 is the materials sources of 4 channel. It is LW10 to look through page control , can be used for looking over the historical materials. Retentive control LB0 can stop reading the materials of the trajectory .

The color of setting up 4 trajectories sequentially is red , green , purple , blue, minimums are all 0, the maximum is 500 , 1000 , 1500 respectively, 2000. Add 2 scale components and 5 vertical lines, as drawn:



Add 4 Set Word objects, control LW0 , LW1 , LW2 separately, LW3, the establishment of these 4 components is totally the same, among them LW0 is set up as follows:

Create Set Word Object

General Shape Label

Description :

Write address

Device type : LW Device address :

BIN

Aux.

Attribute

Set style : Periodical bounce

Inc. value : Upper limit :

Break time : 0.1 second

OK Cancel Apply Help

And then add increase and reduction that 2 Set Word objects controlled LW10, in order to control and look through the page forward or backward, among them control the component increased to set up as follows:

Set Word Object's Attributes

General Shape Label Profile

Description :

Write address

Device type : LW Device address :

BIN

Aux.

Attribute

Set style : JOG++

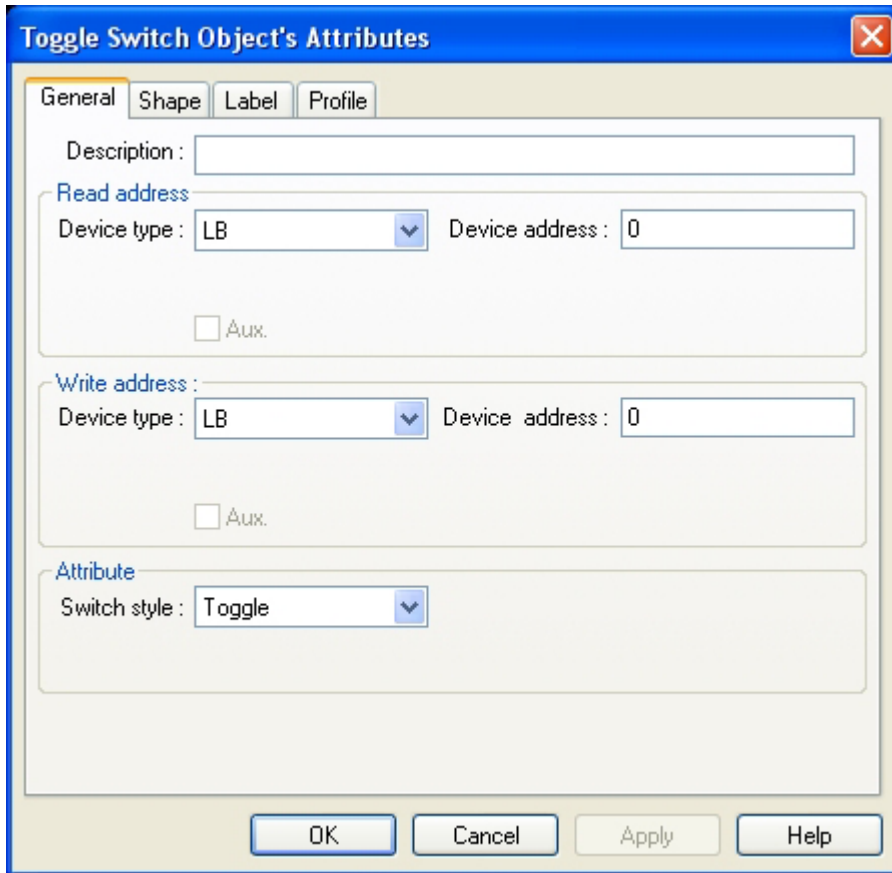
Inc. value : Upper limit :

JOG delay : 0.5 second JOG speed : 0.1 second

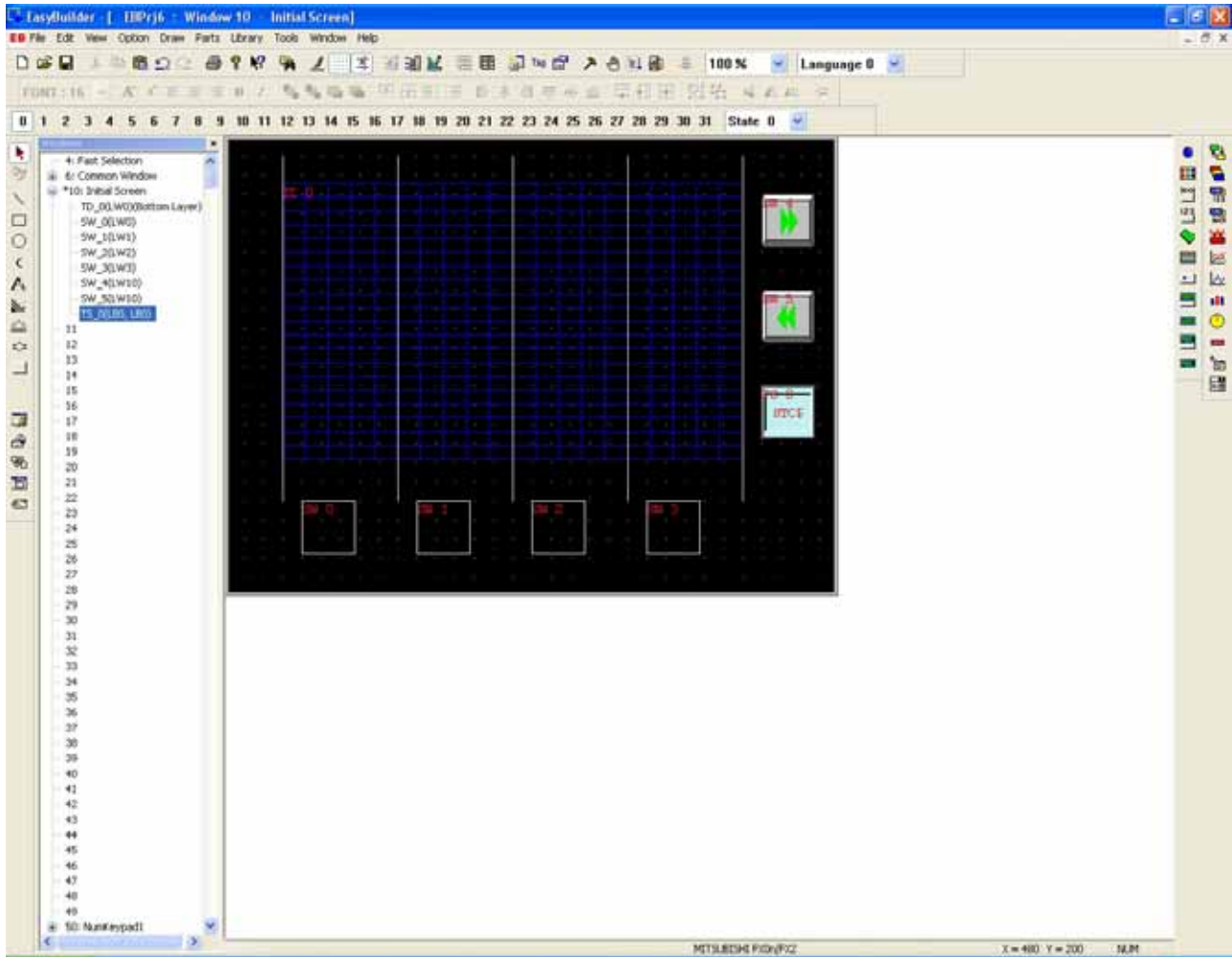
OK Cancel Apply Help

Controlling the component reduced, its [write address] is LW10 too, [attribute] /[type] for decreasing progressively,decreasing value 5, go to limit 0.

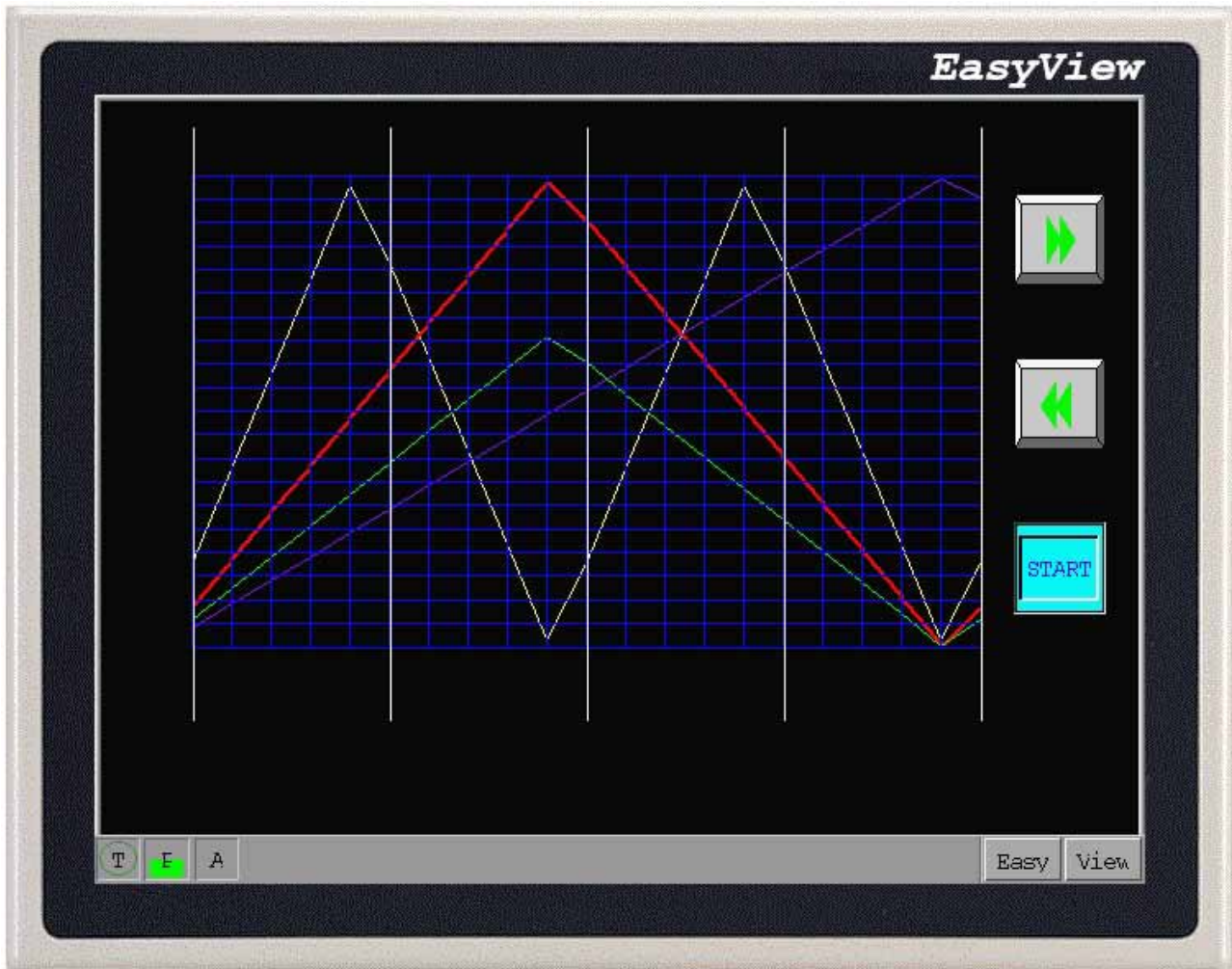
Add a Toggle Switch over the switch , controls the switch of LB0 , delay reading the materials in order to control the trend display, it is set up as follows:



Window 10 shows as follows finally:



[save], [compile], [off-line simulation], the following picture of operation result of it shows:



Push [stop], the trend display will be too static to move . Pay attention to observing and looking through movements of the page at this moment. Is it look through to carry out once movement of page, trend display reference position of coordinate of on the left move 5 most (is it look through Set Word object set for to control, namely [increase value] or [decreasing value] number value,this piece there is number value 5) take a sample by distance that order. There are some of 21 samples in all on the screen, the scale just divides the screen into 20 squares for 20 partition, each square is distances that 2 samples are clicked.

6.21 Alarm Bar



The area where Alarm bar will locate in Alarm bar shows by way of horse race light that what touched off preserved alarm information, this alarm information must be about nodal address of some the unit, this location address is touched off until warning stated alarm information will roll and show from right left. Alarm will have rolled until this location address has been switched over to the non- warning state continuously all the time . Log-in in alarm information must be in object in advance . (This object only shows alarm information, must be by object wanted to show in object log-in of " Alarm Scan ") In [systematic parameter] [generally] in [Alarm bar] partly it last Alarm bar speed roll, u.i.:

The screenshot shows the 'System Parameter Setting' dialog box with the 'General' tab selected. The 'Alarm bar' section is highlighted, showing the following settings:

- Task button:** Attribute: Enable, Position: Right, Background color: (empty), Text: Left adjust
- Alarm bar:** Pixels per scroll: 32, Scroll speed: 25.5
- Other settings:** No. of windows: 6, Password: 0, Startup window no.: 10, Back light saver: 0, Cursor color: Yellow, Buzzer: Enable
- Common window:** Popup window: Normal, Attribute: Below base screen
- Extra. no. of event:** 0, RTC source: Internal RTC
- Print:** Printer: None, Print sequence number: , Print time tag: , Extended time format(D:H:M): , Print date tag: , Extended date format(Y/M/D): , No error detection: No error detection
- Message board window No.(0, 10~1999):** 0

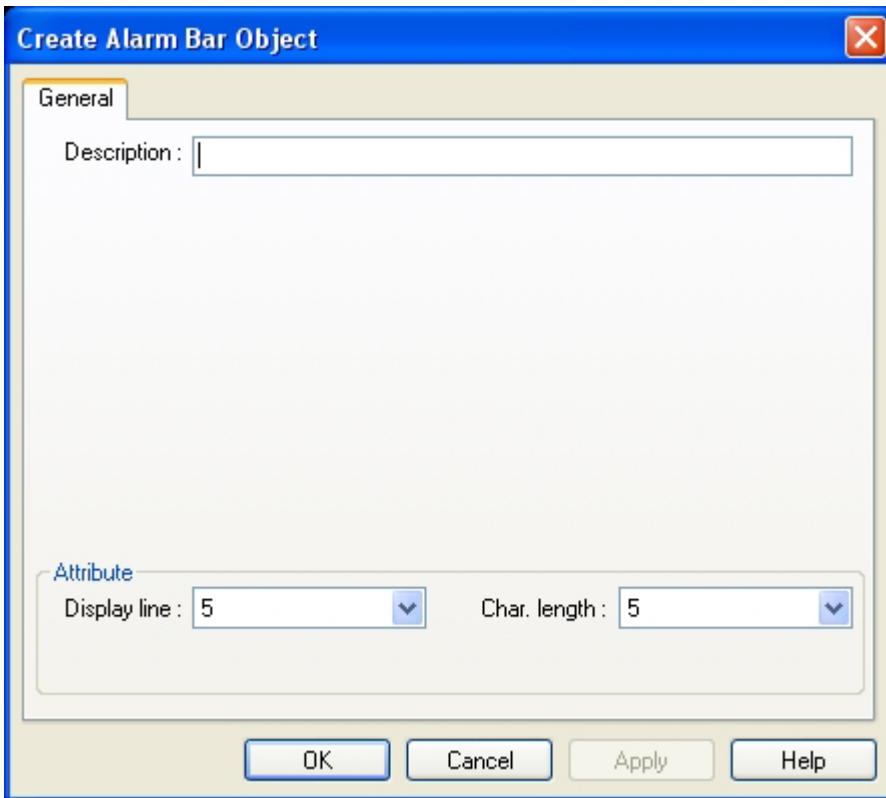
Buttons at the bottom: OK, Cancel, Apply, Help

The larger the value of Pxels per scroll or Scroll peed are, the faster the display scrolls.

Procedure to add Alarm Bar

1. Click the Alarm Bar Tool

2. Fill in General Tab Items:



Description: A reference name that you assign to the Alarm Bar. (not displayed)

Display line: Specifies the height of the window, in lines, at one message per line. All messages are displayed as size 16 or 24 font. Two lines are required for size 24 font.

Char. length: Specifies the width of the window in 16 point characters. Namely if set as 20, it is the English letter of 16 to then show 20 pieces of script or 10 pieces of script are Chinese characters of 16, can show that 10 pieces of script are English letters of 24 too , or can show that about 7 pieces of script are Chinese characters of 24 .

3. Click OK to place and position the Alarm Bar where desired.

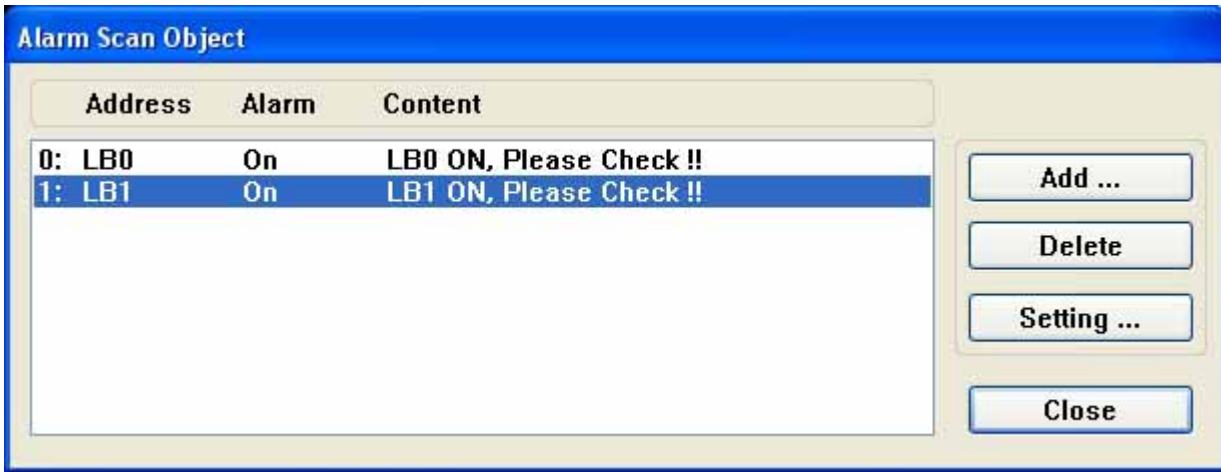
Example: Create an Alarm Bar

Create a new project.

Set scroll speed from [Edit]/[System parameters]/[General]

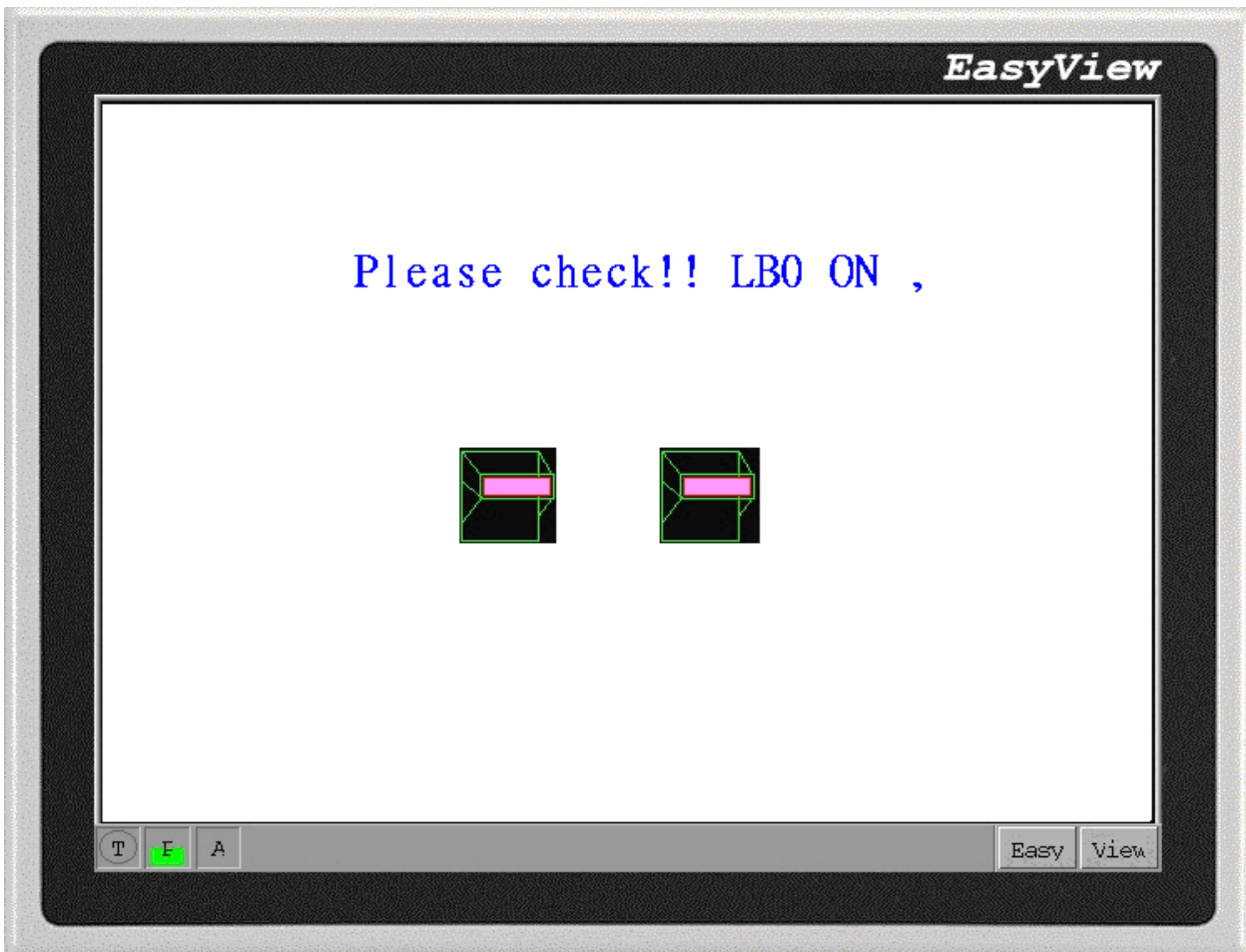
Add an Alarm Bar object on window10 and set the Display line and Char. Length 2 and 40 respectively.

Click [Alarm Display] icon and enter the list. Add two alarm information as below:



Add two switches to control the ON and OFF of LB0 and LB1 respectively.

[Save].[Compile], [Online (Offline) simulation] or [Download], the result as follows:



The state of ON or OFF of LB0 and LB1 directly triggers the alarm message display of an Alarm Bar.

6.22 Recipe Transfer Object



Recipe Transfer Object can transmit the data from the prescription card of the touch-sensitive screen to PLC , can transmit from PLC to the touch-sensitive screen . Ask to consult chapter 8 in detailed content.

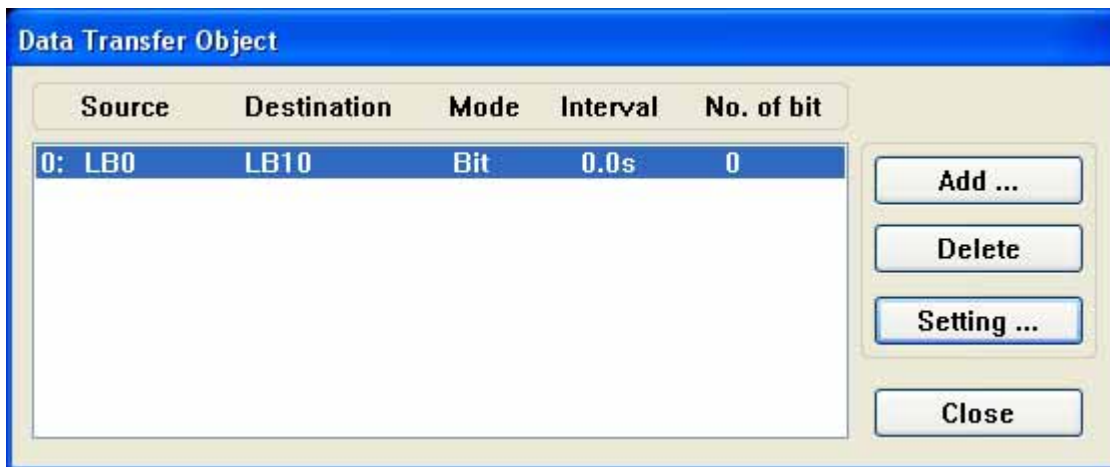
6.23 Data Transfer



This part is used to periodically transfer data from PLC to HMI or HMI to PLC . Data Transfer functions are always active no matter what screen is being displayed. Data may be single or multiple bit or word data. The main function is to speed up the update rate of the screens.

Procedure to create a Data Transfer function.

1. Click Data Transfer Tool to pop up the Data Transfer summary screen.



Click on the Add button to create a new Data Transfer function or click on the Setting icon to modify an existing Data Transfer function. If you click on the Delete button, the current highlighted function is deleted.

2. Assign options in the Data Transfer Object dialog box.

Data Transfer Object

Description :

Source address

Device type : LB Device address : 0

Aux.

Destination address

Device type : LB Device address : 10

Aux.

Attribute

Address mode : Bit Interval : 0.0 second

No. of bits : 0

OK Cancel

Description: A reference name that you assign to the Data Transfer. (not displayed)

Source address: The starting address of the bit or word to transfer.

Destination Address: The starting address of the bit or word that receives the data.

Attribute:

Address mode : Set Address mode to transfer Bit or Word data. Select Bit data, the attribute dialog shows as above. Select Word data, the attribute dialog shows as below.

Data Transfer Object

Description :

Source address

Device type : LW Device address : 0

No. of words : 1 Aux.

Destination address

Device type : LW Device address : 10

Aux.

Attribute

Address mode : Word Interval : 0.0 second

OK Cancel

Number of Bits :The number of consecutive bits is to be transfered.

Interval: The Interval selection is the frequency rate (0.0 to 25.5 seconds) at which the block transfer is repeated. An Interval of 0.0 transfers the data once at power up.

Click OK to return to Data Transfer summary dialog.

3. Click Close in the Data Transfer Object dialog when all desired Data Transfer functions have been programmed.

When there is a lot of Trend display in a project, its data amount is bigger, the speed may be relatively slow, if use Data Transfer Object, can accelerate the speed that the data upgrade greatly . So long as all set the addresses which read the data of these Trend displays as the continuous one, use a all right once of Data Transfer Object to read the datum that reaches 16 words (Word) from PLC most, can guarantee the continuity of Trend display in this way, will not influence the renewal speed of the touch-sensitive screen. The following form shows for 3 Trend displays:

Object	Device Type	Begin address	Data amount (Word)	Time of taking a sample (second)
Trend Display 1	DM	0	5	1(50~100ms)
Trend Display 2	DM	5	3	1(50~100ms)
Trend Display 3	DM	8	3	1(50~100ms)

The touch-sensitive screen divides into 3 times and reads materials that DM0 touched DM8, it takes 3 seconds altogether. When use Data Transfer Object, the following form shows:

Object	Device Type	Begin address	Data amount (Word)	Time of taking a sample (second)
Transfer Object	DM->LW	0	11	1(50~100ms)
Trend Display 1		0	5	(0ms)
Trend Display 2		5	3	(0ms)
Trend Display 3		8	3	(0ms)

It only needs to read data once altogether. Its time taken of communication is short. Achieve the speed of communication and purpose to accelerate renewal speed of picture of accelerating like this.

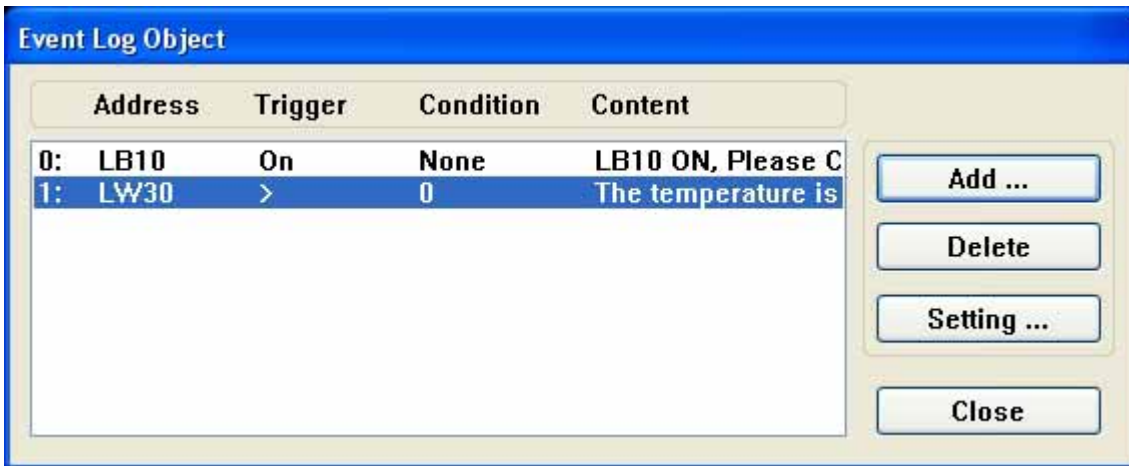
6.24 Event Log

Event Log Messages are displayed on the Event Display Part. The message to be displayed on the Event Display must first be registered in the Event Log list. A bit or word device controls each message. If the bit or word device activates (either ON/OFF or value limit), the corresponding message is displayed in the Event Display.

(This object is just for logging in the event. Event is displayed from Event Display.)

Procedure to add/modify the Event Log

1. Click Event Log Tool



2. Select the [Add] button to add a new message or select [Setting] to modify the current information.

3. Fill in Attributes Dialog:

Address type: Select Bit or Word address type.

Read Address: Specifies the PLC bit or word address that triggers the message.

Attribute:

Event Trig.

Bits: ON: displays message when bit is ON.

OFF: displays message when bit is OFF.

Event Log Object's Attributes

Address type :

Read address

Device type : Device address :

Aux.

Attribute

Event trigger : On Off

Print : On trigger Return to normal

Category :

Text

Content :

Color : Font :

Use label library

Write value :

Words: When value in word is less than entered value, use "<" to trigger. When value in word is greater than entered value, use ">" to trigger

Event Log Object's Attributes

Address type : Word

Read address

Device type : LW BIN Aux.

Device address : 30

Attribute

Condition : > 0

Print : On trigger Return to normal

Category : 0

Text

Content : The temperature is higher than 0 degrees !!

Color : █ Font : 24

Use label library Label Library ...

Write value : 21

OK Cancel

Print:

On Trig.: Prints out message when event is triggered.

Return to normal: Prints out message when the event returns to normal state.

Category – Event category (reserved for future use)

Text : Input the context, color and font of the event information.

Note: The inside data in the body of memory can include in Event information.

The format as follows:

nnd : An internal register (LW) number 00-99

%: The starting delimiter

d: The ending delimiter

For example: The Content field is set as "Current temperature value %25dF: HIGH ALARM"

If LW25 = 120 then the message are printed out as "Current temperature value 120F: HIGH

ALARM".To print out current value of PLC register data, first assign a Recipe transfer object or

PLC Control/General Control to move data from the PLC to internal (LW) memory.

Write Value: A value to be written to the Write address of the Event Display when the event is acknowledged. The

value is the window number of the popup indirect window.

4. Click OK, the message appears in the Event Log message summary box.

Note: In order to take full use of communication bandwidth, it is recommended that a block of continuous PLC bit

devices be used for the Event Log list. For example: Use Bits 100 to 199 to control the display of all event messages so that one read command retrieves Bits 100 to 199 all at once instead of one bit at a time.

6.25 Event Display



The Event Display part opens a window to display messages in prioritized order. Various formatting features allow the display of event trigger, acknowledge and return to normal times. The use of the RTC or the retrieve of time from PLC is required for proper display of the time. (This object displays the event only).

Procedure to create an Event Display Part.

1. Click Event Display icon

2. Fill in General Tab Items:

The screenshot shows a dialog box titled "Create Event Display Object" with a blue header and a close button (X) in the top right corner. It has two tabs: "General" (selected) and "Event Display". Under the "General" tab, there is a "Description" text field. Below it is a "Read address" section with "Device type" (LW), "Device address" (0), "BIN" (selected), and "No. of words" (1). There is an unchecked "Aux." checkbox. A similar "Write address" section is below, also with "LW", "0", "BIN", and "1", and an unchecked "Aux." checkbox. At the bottom, there are four buttons: "確定" (OK), "取消" (Cancel), "套用(A)" (Apply), and "說明" (Help).

Description: A reference name that you assign to the Event Display. (not displayed)

Read Address: Used to control the scrolling, up and down, of the Event display window. The value in the read address is the relative distance from the event in the topmost line of the display. All active messages are sorted by time, the new events are displayed on the topmost line and previous ones are below it If the value is N, the No. N information will be displayed in the first line..

No. of words: The Read address and write address are fixed at 1 for this part.

Write Address: A word that receives the write value specified in the Event Log's trigger event.

3. Fill in Event Display Tab Items:

Display line: Specify the window height in lines of Font 16 text per line.

Character length: Specify the number of words displayed on each line.

Text space: The number of pixels above and below messages.

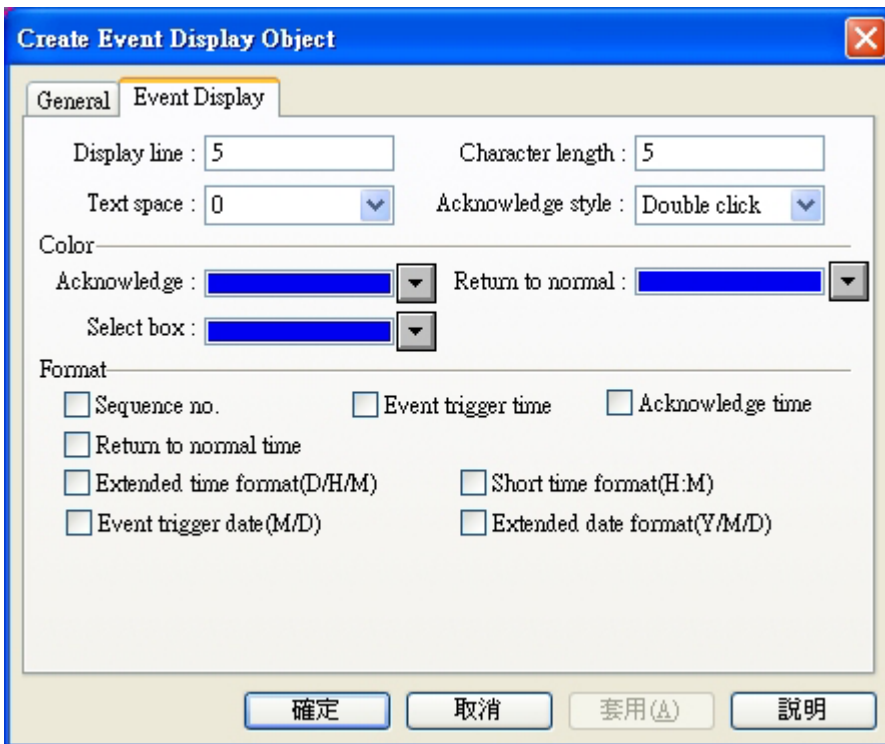
Acknowledge style: Click is touch once. Double click is touch twice quickly.

Color: Colors of message text for different states

Acknowledge: the color after the event information is confirmed.

Return to normal: the color of the time when the event returned to a non-triggered state.

Select box: the color of a dashed line that highlights a selected message.



Format: The information displayed before the message.(such as Sequence No., Event Trig. Time)

Format	Explanation
Sequence No.	The number of the event. Event numbering starts at 0.
Event Trig. time	The time that the event was triggered.
Acknowledge time	The time that the event was acknowledged.
Return to normal time	The time when the event returned to a non-triggered state.
Extended time format	Change the time format in the time tag to Days:Hours: Minutes.
Short time format (H:M)	Change the time format in the time tag to Hours: Minutes.
Event Trig. date	The date when the event occurred. (Month/Day)
Extended date format	Change the date format in the date tag to Year/Month/Day.

No.	Date	Trig. Time	time	normal time	Event
3	2001/05/29	29:10:03	29:10:08	29:10:08	LB10 ON, Please check!!
2	2001/05/29	29:10:03	29:10:08	29:10:08	Temperature > 0 degrees!
1	2001/05/29	29:10:03	29:10:03	29:10:03	LB10 ON, Please check!!
0	2001/05/29	29:10:03	29:10:03	29:10:03	LB10 ON, Please check!!

Note: Be sure to allow sufficient character length to accommodate all information. If the Format information and message text exceeds the Character length, the message is truncated.

4. Click OK to position the par

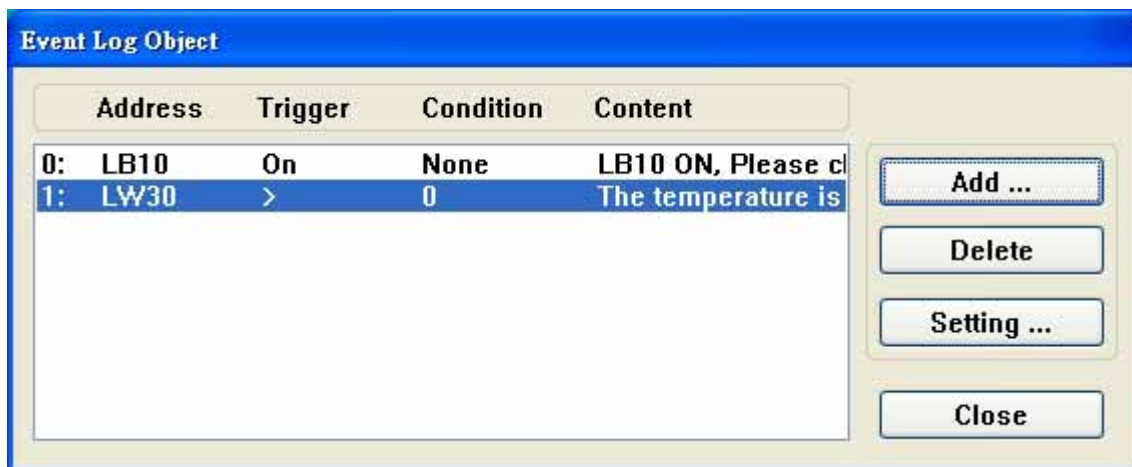
Date/Hour is obtained from [System parameters]/[General]/[RTC resource]. If RTC source is set up for " inside RTC ", because inside RTC lies and must install Recipe Memory Card in Recipe Memory. If Choose PLC then user to use Data Transfer object , periodically retrieve the RTC data from PLC and write to the following address:

Address	Explain	P.S
LW 9010	Second	0 – 59 (BCD format)
LW 9011	Minute	0 – 59 (BCD format)
LW 9012	Hour	0 –23 (BCD format)
LW 9013	Date	0 –31 (BCD format)
LW 9014	Month	0 —11 (BCD format)
LW 9015	Year	0-9999 (BCD format)
LW 9016	Week	0-6 (BCD format)

Now come to do an example about the fact that the incident shows.

1.Project on it establish at first each it is new,in [editor] /[systematic parameter] in choose by correct PLC type and parameter.

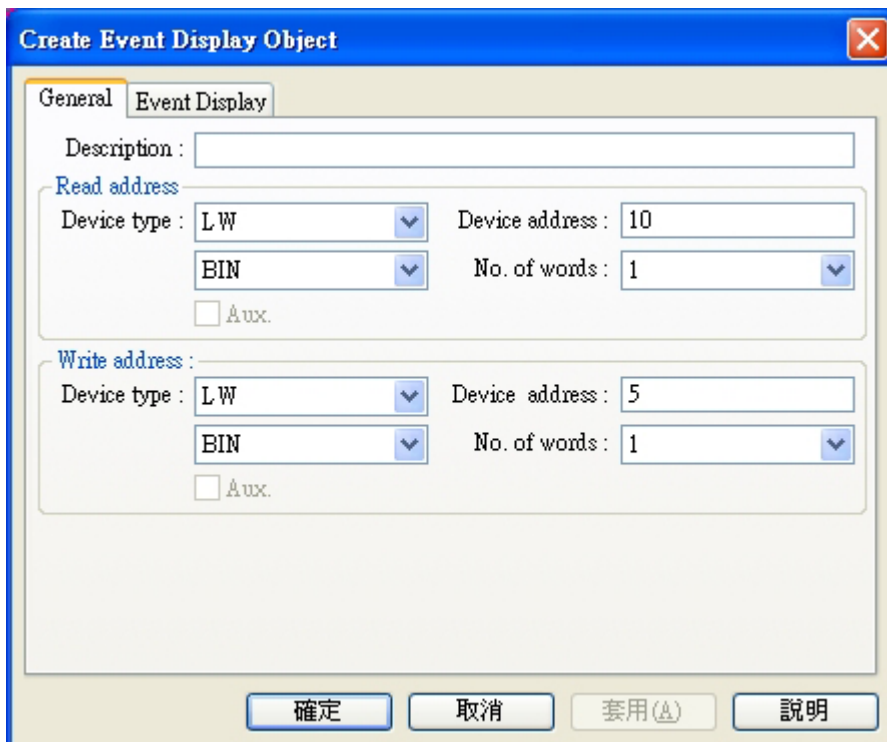
2.In [incident log-in] in add 2 piece incident,show picture:



The first incident among them [the exporting value] is 20, the second incident [the exporting value] is 21.

3. Adding an indirect window in window 10 of project of establishing newly, its [reads address] is LW5.

4. Add an incident to show the component in window 10, u.i.:



Create Event Display Object

General | **Event Display**

Description:

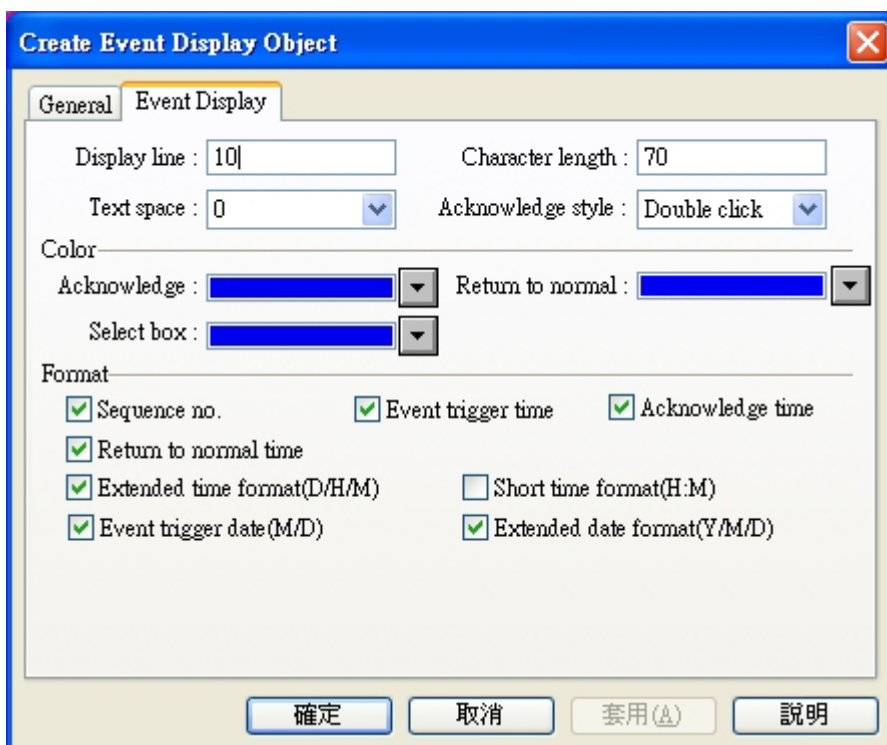
Read address

Device type: LW | Device address: 10
BIN | No. of words: 1
 Aux.

Write address

Device type: LW | Device address: 5
BIN | No. of words: 1
 Aux.

確定 取消 套用(A) 說明



Create Event Display Object

General | **Event Display**

Display line: 10 | Character length: 70
Text space: 0 | Acknowledge style: Double click

Color

Acknowledge: | Return to normal:
Select box:

Format

Sequence no. Event trigger time Acknowledge time
 Return to normal time
 Extended time format(D/H/M) Short time format(H:M)
 Event trigger date(M/D) Extended date format(Y/M/D)

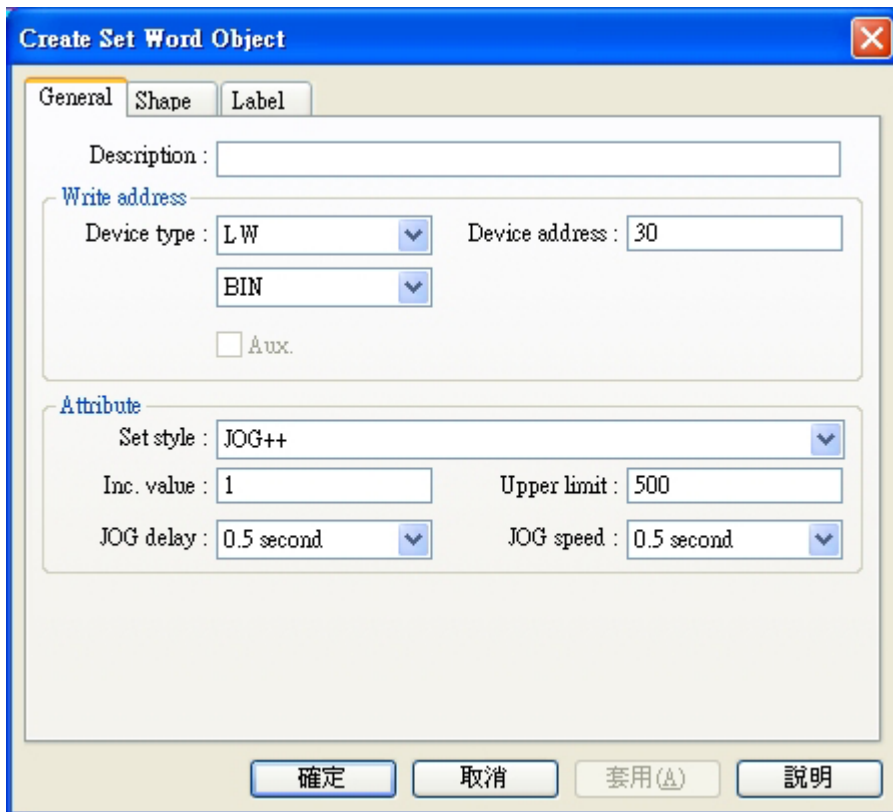
確定 取消 套用(A) 說明

Event display object transfers one shape at bottom, in order to strengthen the result of showing.

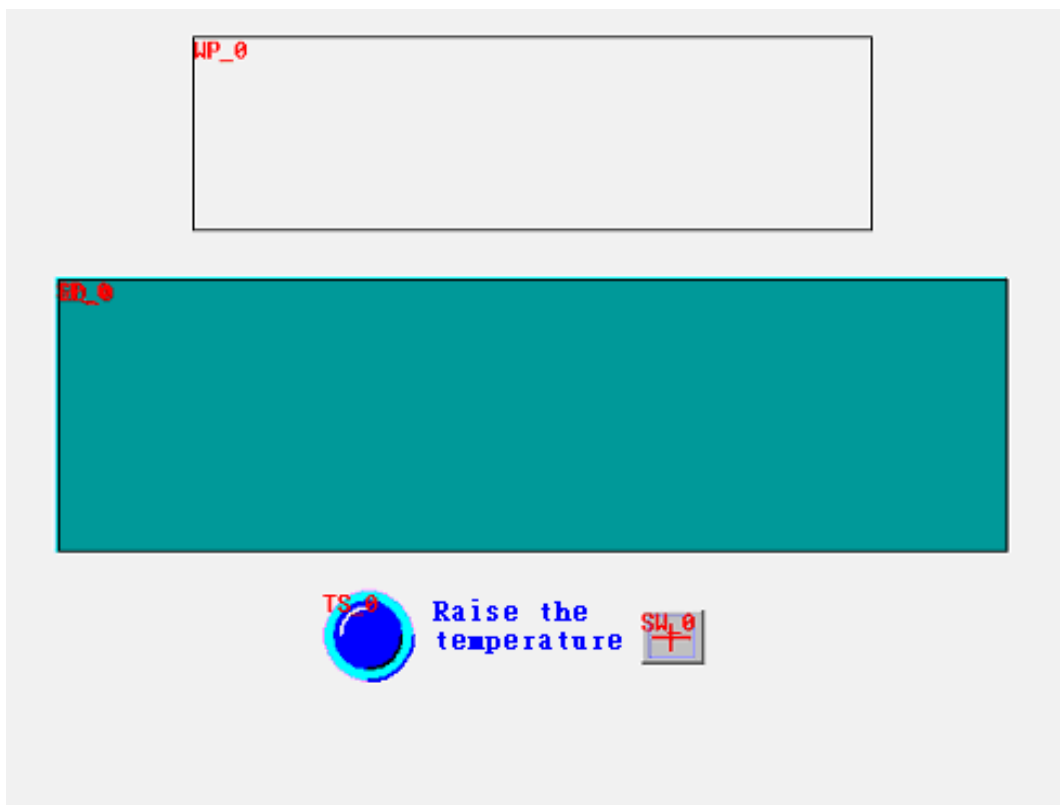
5. Add a switch state that Set Bit object switch controls LB10.

6. Add a text object, show the content in order to " raise the temperature ".

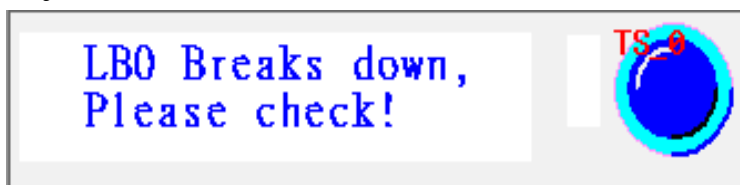
7. Adding one Set word object, it is set up as follows:



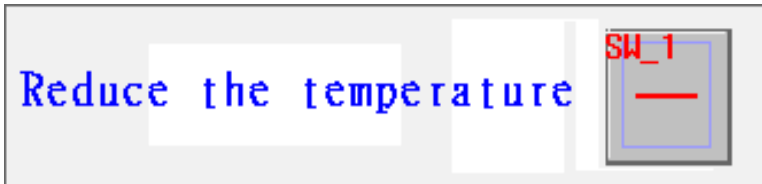
Window 10 is shown by the following picture finally:



8. Creat window is 20, the following picture shows, there are a text object and one Toggle Switch Object which controls LB10.



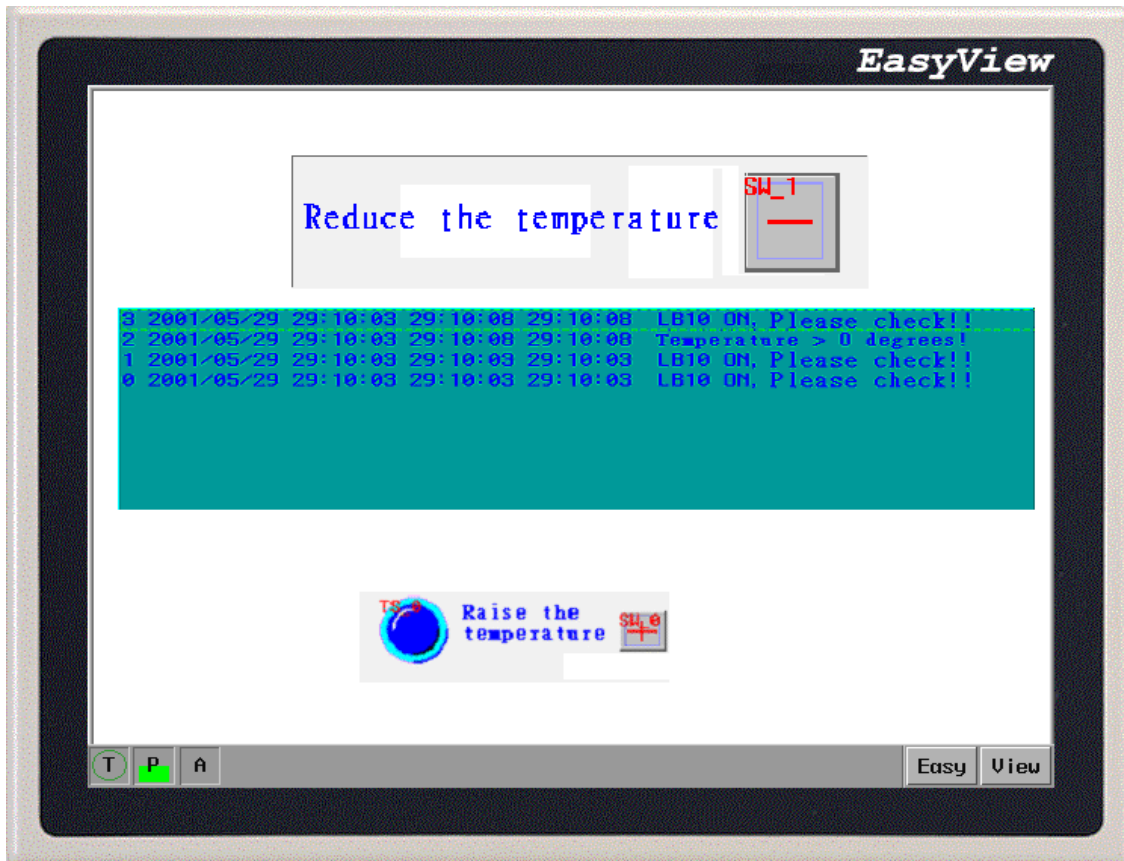
9. Create window 21, the following picture shows, there are a text object and one Set word object.



The establishment of Set word object is as follows:



10. [save], [compile], [on(off)- line imitate] or can't download, this procedure operation result is like the Fig.:



When touch off LB10 or LW30 to the corresponding condition , will present corresponding Event information . In China's log-in The outputs of 2 incidents are worth 20, 21 is the window serial number of event window that will spring when the incident is touched off.

6.26 PLC Control



The PLC control provides a way for the PLC to control HMI system functions.\

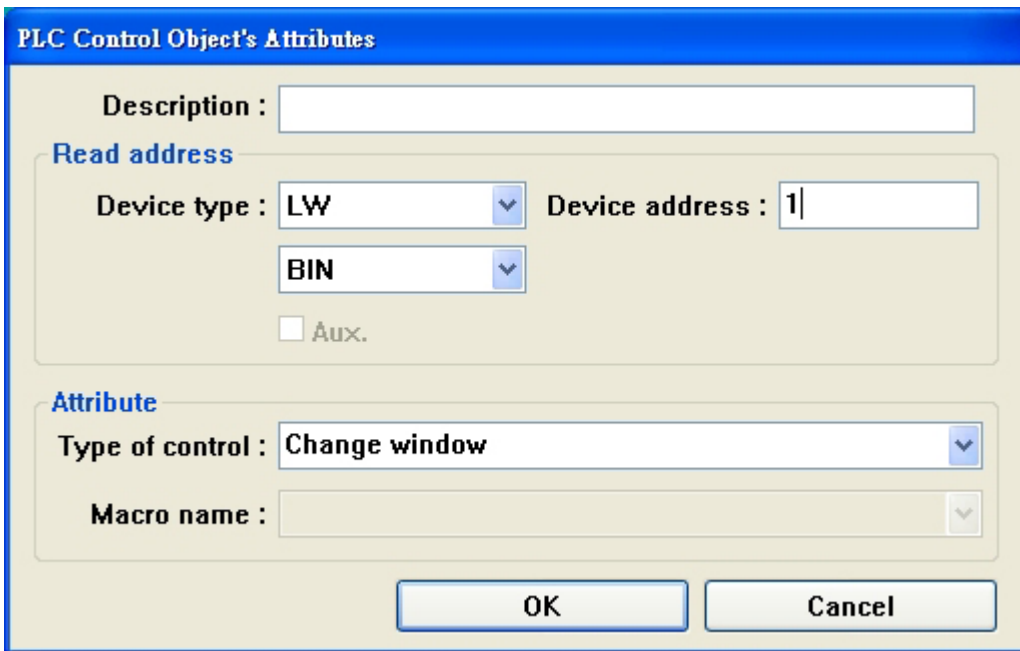
Procedure to create a PLC control function.

1. Click PLC control icon to pop up the PLC control summary screen.



2. Click on the Add button to create a new PLC control function.
 Click on the Setting button to edit an existing PLC control function. If you
 Click on the Delete button and the current highlighted function is deleted.

3. Fill in PLC control dialog:



Read Address: Designates the address of the PLC control register.

Attribute: Assign the operation activated by this function.

Type of control:

See Types of Controls below.

4. Click on the OK button to create the object and exit the dialog.

5. Click on the Close button to exit the PLC Control summary.

Types of Controls

Change Window

This operation uses two addresses. The Read address holds the active window number. If the value stored in the Read address changes to a valid window number, that window number then replaces the currently displayed window. The new window number is moved into the Read Address + 1 register.

Read address	Controls screen changes by number
Read address+1	Destination screen number is written

The screenshot shows a dialog box titled "PLC Control Object's Attributes". It contains the following fields and controls:

- Description:** A text input field.
- Read address:** A section containing:
 - Device type:** A dropdown menu with "LW" selected.
 - Device address:** A text input field containing "0".
 - BIN:** A dropdown menu.
 - Aux.:** An unchecked checkbox.
- Attribute:** A section containing:
 - Type of control:** A dropdown menu with "Change window" selected.
 - Macro name:** A dropdown menu.
- Buttons:** "OK" and "Cancel" buttons at the bottom.

As the example above, the current window is 10. If LW0 is assigned to 20, the current window will change to window 20 and value 20 then be returned LW1.

Change Window precautions:

Whenever function key of one " Change Window " is pushed, will close the present window, and will show the goal window. But PLC its function of controlling the component [Change Window] is similar to " switching over the basic window " the function key, only it is touched off by PLC register but not touched accusing of operating and touching off. When the value of reading the address is changed into a new effective window serial number, will close the window at present and show the window appointed from the address of reading, then the content of reading the address will write and read address +1. This is operated and will when change in value that [read address] only be touched off, and this value changes once and can only carry on the screen once to switch over.

Back light control

The function turns the display's backlight OFF when the Read address turns ON. When the backlight is OFF, a touch reactivates the backlight.

PLC Control Object's Attributes

Description :

Read address

Device type : LB Device address :

Aux.

Attribute

Type of control : Back light control

Macro name :

At this time, the state of LB0 is ON. Retouch LB0 turns the state to OFF so that the backlight goes back to the previous state.

Screen hardcopy

The function use a Read address to control the printout of current screen.If the bit is triggered from OFF to ON, the current screen is printed out. Set the valid printer type from [System parameters]/[General]/[Screen hardcopy]. Please refer to the context of [Screen hardcopy] on Ch.11

Report printout

Prints the screen number designated by the Read address. After the screen is printed, the Read address is set to 0.Please refer to the context of [Report printout] on Ch.11

Back light control (write back)

Turns the display's backlight OFF when the Read address turns ON Whenever the backlight is turned OFF (through PLC control or time-out) the HMI turns the Read address bit OFF in the PLC. When the backlight is OFF, a touch reactivates the backlight.

PLC Control Object's Attributes

Description :

Read address

Device type : LB Device address : 0

Aux.

Attribute

Type of control : Back light control[write back]

Macro name :

As the example above, when the LB3 turns to ON, backlight is off and LB3 is given the order of OFF. When the user touches the screen, the backlight turns to ON but LB3 is still OFF.

Write Data to PLC(current base window)

Can use this to operate when PLC wants to know the serial number of the present basic window. The data content of PLC is serial numbers of the present basic window to deserve and operate returning and giving.

Notice: When switch over the basic window, the touch-sensitive screen will convey the present basic window serial number to the designated word address automatically.

PLC Control Object's Attributes

Description :

Read address

Device type : LW Device address : 0

BIN

Aux.

Attribute

Type of control : Write data to PLC[current base window]

Macro name :

such as pursuing, when one PLC set up as above controls object , will preserve the serial number of present base window in word address LW0.

General PLC Control

This control is used to trigger data transfer to and from the PLC.

The screenshot shows a dialog box titled "PLC Control Object's Attributes". It has a "Description" field. Under the "Read address" section, there are two dropdown menus for "Device type" (currently showing "LW" and "BIN") and a "Device address" field (containing "0"). There is also an "Aux." checkbox. Under the "Attribute" section, there is a "Type of control" dropdown menu (set to "General PLC control") and a "Macro name" dropdown menu. At the bottom, there are "OK" and "Cancel" buttons.

There are four transfer directions:

- 1.PLC——> RW(Recipe Data Register),Read address value=1
- 2.PLC——> LW(Local data memory of touch screen),Read address value=2
- 3.RW(Recipe Data Register)——> PLC,Read address value=3
- 4.LW(Local data memory of touch screen)——> PLC,Read address value=4

Concrete to prove as follows:

Control the component while establishing the communication frame to choose location " General PLC Control " to control in PLC, read type and address of choosing the control register used in the address column, pay attention to regarding single charactering (Word) as the unit, the system will be automatic planning controls the data and chooses the register address in order that " data transmission control the register " as four continuous data registers of the start address with PLC that is established , their concrete meaning and operation method are as follows:

1.Establish the address of reading: He expresses the type of data transmission carried out, as stated, have four kinds in all, used for storing and controlling the code of the type in this register, when the register is written into the new control code, the system carries out corresponding transmission promptly, this register will be restored to the throne is 0 soon after transmit and finish.

2.Establish and read address +1: It shows the size of one of the data transmitted, namely the number of words of one of data transmitted.

3.Establish and read address +2: It shows what needs paying attention to in skew amount of the data register address of PLC in the transmission course is that this skew amount is to in the register " establishing and reading address +4 " And the the speech one, for example regard OMRON PLC as for example fruit PLC controls the address of reading established interchangeably in the component

as DM100, and the start address of one of data of PLC operated while the data in register DM102 are transmitted for 4 is $DM108 = [(100+4+4)]$.

4. Establish and read address +3: It expresses the prescription data register of the touch-sensitive screen in the transmission course (RW), or local address skew amount of data register (LW) skew amount for example above if data of DM103 100 in giving an example, data of touch-sensitive screen of transmission course start address of piece RW (LW) 100 then $= (0+100)$.

Lift the instance of using as follows:

Is it control with PLC data transmission of word is it touch reject data of filling a prescription of the register a initial one the same and heavy with RW200 to get DM100 initial 30 of OMRON PLC to need now In little data one, the method to realize is as follows:

1. supposes at first that we control transmitting with DM10 four initial data registers, should put one PLC and control the component at the window of the touch-sensitive screen first, choose the type to control for PLC in common use, read the address as DM10.

2. next, should confirm the skew amount of the size and address of one of operating data, it is 30 to give the establishing value of DM11, show that it is 30 words to transmit the size of one of the data; It is 86 to give the establishing value of DM12, it is DM100 of PLC that it is initial to show the source operated $= (14+86)$; It is 200 to give the establishing value of DM13, show that the goal address is RW200 $= (0+200)$.

3. needs establishing and transmitting the type code according to the direction of data transmission finally, carry out the transmission course, it is 1 to give the establishing value of DM10, show and carry out data transmission in data one of PLC that will establish the start address that reaches the touch-sensitive screen which establishes the start address to fill a prescription in the memory data one. If it is 3 to establish DM10 value, it is in opposite direction to transmit.

As a same reason, the transmission of two kinds of other directions is operated the samly, just touch and reject the square data memory to turn into local data register LW.

6.27 System Message

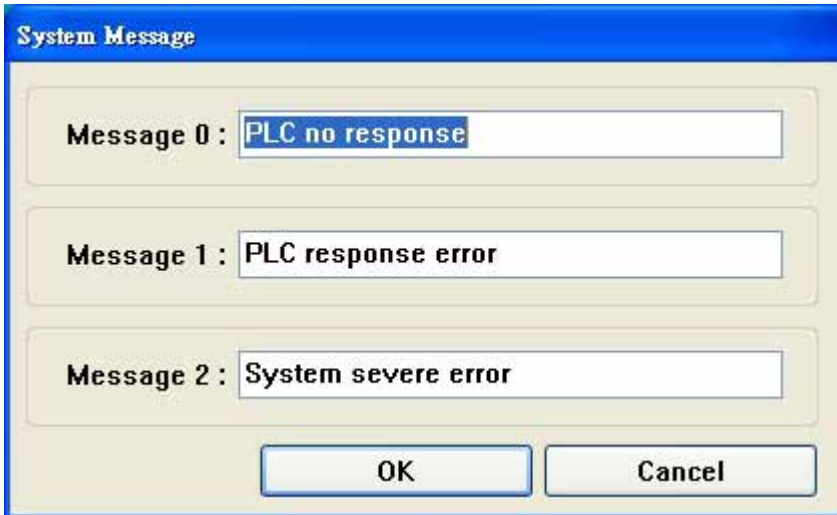


Customize system messages for different languages.

When the display cannot access the PLC, "PLC no response" is displayed.

When the reply message from PLC is different than expected, "PLC response error" is displayed.

When the system runs out of memory or some other fatal error occurs, "System severe error" is displayed.



Procedure to modify system messages

1. Click System Message icon to pop up the system message dialog box.
2. Fill in appropriate text for the content of each message.
3. Press OK to finish the modification.

There are these 3 systematic information that can generally let users revise . For further details , please refer to appendix me about other systematic information [systematic information]

6.28 Object Superpose

If superpose a lot of components together, a lot of special functions will emerge. MT500 can support the superposing of a lot of objects, when touch and accuse of these objects, the procedure will carry out corresponding operation with the different levels order of each object, touched and accused of at first in object of the upper strata the most, then the second layers of object. For example: If 6 (Set Bit/Toggle Switch) objects are superposed together, whether control Y0 (upper strata most) reach Y5 (lower floor most), then when touch and accuse of these objects, MT500 is the executive program in the order of the following separately.

First layer	Y0	Carry out the order of Y0 at first
The second layer	Y1	Carry out the order of Y1
The third layer	Y2	.
4th layer	Y3	.
5th layer	Y4	.
6th layer	Y5	Carry out the order of Y5 finally

Control Y0 to open / close at first, then control Y1 to open / close (the second step), control Y2 to open / close (the third step)Control Y5 to open / close (the 6th step).

User must pay attention to one point: When MT500 meets and switches over the basic window order, it will neglect in the component of this component ground floor and switch over to the goal window directly. The following picture, if Y2, in order to switch over the basic window function key, then the following Y5 of Y3 will be neglected.

First layer	Y0	Carry out the order of Y0 at first
The second layer	Y1	Carry out the order of Y1
The third layer	Y2	Change w\Window
4th layer	Y3	Neglect
5th layer	Y4	Neglect
6th layer	Y5	Neglect

Proposing object that is superposed, the figure don't be over 32.