

## Operation Manual of K\_View

Revision A, July 2006

### Part 2



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Cermate Software Inc.

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## 2-6 Object

The object menu provides all objects designing operation. For example, buttons, numerical entry and lamp...etc.

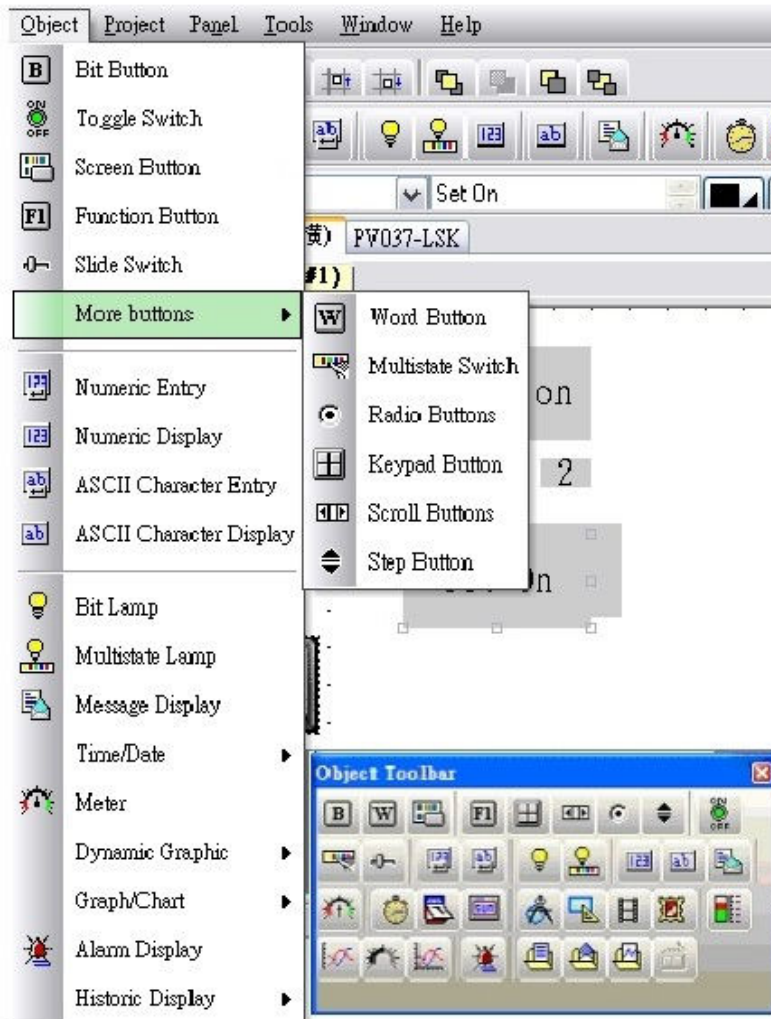


Figure 2-6 Object drop down menu

To add a button on the working area, click bit button, then move the mouse to the screen working area, and left click the mouse.

To move a button, move cursor on the button first. When the cursor turns to a cross arrow, press the left key of mouse to move the button to any place on this working area.

To change the size of a button, click the button first to see some checks on it. Move these checks to change the size.

### 2-7-1. Button/Switch

K\_View provides several buttons to be selected. The functions of these buttons are as following. When pressing or releasing buttons, the HMI will execute specified functions.

| Button menu   |                     | Icon                                                                                | Functions                                                                                                                                                                                                               |
|---------------|---------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bit Button    |                     |    | It's a touchable button, which is started to control ON/OFF of a bit from the PLC, to read bits through PLC and to control changing of objects text/graphic static. There are five selections.                          |
|               | Set ON button       |    | Press the button to set the specified bit ON. Release or press the button again and the bit remain ON.                                                                                                                  |
|               | Set OFF button      |    | Press the button to set the specified bit OFF. Release or press the button again and the bit remain OFF.                                                                                                                |
|               | Momentary ON        |    | Press this button to set the specified bit ON. Release the button to turn the bit OFF.                                                                                                                                  |
|               | Momentary OFF       |    | Press this button to set the specified bit OFF. Release the button to turn the bit ON.                                                                                                                                  |
|               | Invert button       |  | Press this button to set the specified bit ON. When release, the bit remain ON. Press again to set OFF the bit.                                                                                                         |
| Toggle switch |                     |  | Press this button to let the Panel read the specified bit status. If the bit is OFF, set it to ON. When release, the bit remain ON. On the contrary, If the bit is ON, set it to OFF. When release, the bit remain OFF. |
| Screen button |                     |  | There are four selections :                                                                                                                                                                                             |
|               | Open screen         |  | Press this button to open a specified screen.<br>In Properties :<br>"Acknowledge alarm"→The HMI received alarm messages<br>"Notification"→Trig a specified bit while switching screens.                                 |
|               | Close Screen        |                                                                                     | Press this button to close the operating screen.                                                                                                                                                                        |
|               | Close & Open Screen |                                                                                     | Press this button to close the operating screen and open a specified screen.                                                                                                                                            |
|               | Previous Screen     |  | Press this button to go to previous screen.                                                                                                                                                                             |

|                                   |                                                                                     |                                                                                                                                                                                                                                                                             |
|-----------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Word button                       |    | There are five selections:                                                                                                                                                                                                                                                  |
| Set Constant                      |    | Touch this button to send an assigned Constant to specified data registers of P.L.C..                                                                                                                                                                                       |
| Enter Value                       |    | Touch this button to show a build-in TEN-KEY for uses to enter value. When press ENTER on the TEN-KEY the HMI sends the value to specified data registers of P.L.C..                                                                                                        |
| Enter Password                    |    | Touch this button to get a password entering window.                                                                                                                                                                                                                        |
| Add                               |    | Touch this button to let HMI read data from specified registers of P.L.C. After adding an assigned constant, the HMI sends calculated value to specified registers of P.L.C..                                                                                               |
| Subtract                          |    | Touch this button to let HMI read data from specified registers of P.L.C. After subtracting an assigned constant, the HMI sends calculated value to specified registers of P.L.C..                                                                                          |
| Multistate Switch                 |    | The default state at 0 and total state number is 3.<br>Press once to send state 1(S1) to the PLC, press twice to send state 2 (S2) to the PLC and press 3 times to send state0 (S0) to the PLC. Do this cycle forward or backward. There are maximum 256 states can be set. |
| Radio button                      |  | It's an object with maximize 256 states which allows to operate one state each time than send the signals to specified bits of P.L.C.                                                                                                                                       |
| Key Pad button                    |  | Press this button to use and design key pad button.                                                                                                                                                                                                                         |
| Scroll button                     |  | To use scroll button when watching trend graphics or alarm messages.                                                                                                                                                                                                        |
| Home/End buttons                  |                                                                                     | Press this button to go to Home/End page.                                                                                                                                                                                                                                   |
| PgUp/PgDn(PgLeft/Pg Right)buttons |                                                                                     | Press the button to go to next page/previous page, left page/right page.                                                                                                                                                                                                    |
| Pause button                      |                                                                                     | Press this button to pause.                                                                                                                                                                                                                                                 |
| Clear button                      |                                                                                     | Press this button to clear data.                                                                                                                                                                                                                                            |
| Step button                       |  | Touch this button to let HMI read data from specified registers of P.L.C. After adding or subtracting an assigned constant, the HMI sends calculated value to specified registers of P.L.C.                                                                                 |

|                               |                                                                                   |                                                                                                                                                                                                    |
|-------------------------------|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Slide switch                  |  | Press this button and move up or down, left or right to change value.                                                                                                                              |
| Function button               |  | To design keypads, printing, changing screen, moving window screen, minimize window screen and Text properties settings. There are 17 selections, from increase brightness to execute application. |
| Increase Brightness           |                                                                                   | Touch this button to increase brightness of the HMI.<br>(The PanelExpress doesn't offer the function)                                                                                              |
| Decrease Brightness           |                                                                                   | Touch this button to decrease brightness of the HMI.<br>(The PanelExpress doesn't offer the function)                                                                                              |
| Save Brightness               |                                                                                   | Touch this button to save the brightness settings.                                                                                                                                                 |
| Show Password Table           |                                                                                   | Touch the button to list a password table.                                                                                                                                                         |
| Log In                        |                                                                                   | Touch the button to show a password entering key-pad for users to login.                                                                                                                           |
| Log Out                       |                                                                                   | Touch the button to log out. While logging out, the HMI sets to the lowest user level=0.                                                                                                           |
| Print Screen                  |                                                                                   | Touch this button to print assigned area.(Hardcopy)                                                                                                                                                |
| Turn Backlight Off            |                                                                                   | Press once to close backlight.                                                                                                                                                                     |
| Acknowledge Alarm             |                                                                                   | Touch this button to acknowledge showed alarms.<br>Only after acknowledgement, HMI can continue working.                                                                                           |
| Show Sub-connection Table     |                                                                                   | Press this button to see a next communication setting information table.                                                                                                                           |
| Increase Value by one         |                                                                                   | Touch this button to read value from specified registers of P.L.C. After adding the read value by 1, the HMI sends calculated value to specified registers of P.L.C.                               |
| Decrease Value by one         |                                                                                   | Touch this button to read value from specified registers of P.L.C. After subtracting the read value by 1, the HMI sends calculated value to specified registers of P.L.C.                          |
| Select Next Data Entry Object |                                                                                   | Press this button to show the next data entry object.                                                                                                                                              |

|  |                                   |  |                                                              |
|--|-----------------------------------|--|--------------------------------------------------------------|
|  | Select Previous Data Entry Object |  | Press this button to move to previous data entry object.     |
|  | Change Language #1~#10            |  | Selects languages for maximize 10 languages.                 |
|  | Restart Panel Application         |  | Press button to restart the panel.                           |
|  | Enter Panel Setup Mode            |  | Press this button to see the Panel Setup screen.             |
|  | Write Recipe to PLC               |  | Write recipe to PLC.                                         |
|  | Read Recipe from PLC              |  | Read recipe from PLC.                                        |
|  | End Transparent Communication     |  | Press this button to end the transparent communication mode. |
|  | Set Time and Date                 |  | Set system time and date of HMI.                             |

## 2-6-1-1. General setting

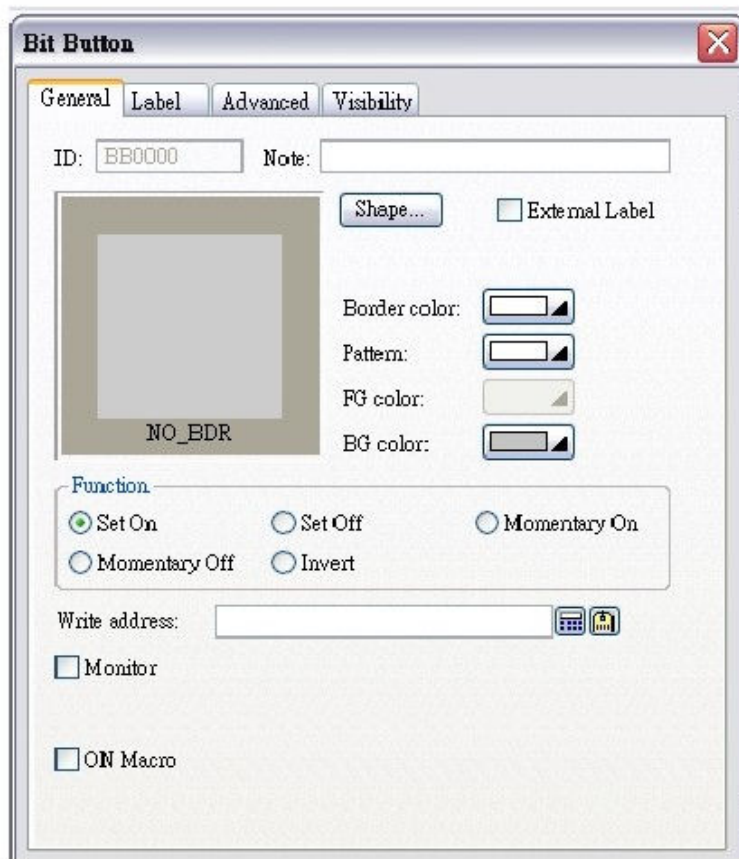


Figure 2-7 Object properties dialogue \_ bit button general setting

ID : K\_View will give an object number as system setting.

Note : Enters descriptions for this object.

Shape : Sets shapes of objects.

Such as frames, border color, patten, fore ground color, back ground color settings. There are different color settings for different HMI models, such as, selecting 16 greys for mono models and 256/65535 colors for color models.

External Label : Selects ☐ External Label to have a External Label window. You can set the referent parameters or enter descriptions for the object.

Function : There are 5 selective functions.

Set ON : Touches this button to set the written bit to ON, when releases, the bit keeps ON.

Set OFF : Touches this button to set the written bit to OFF, when releases, the bit keeps OFF.

Momentary ON : Touches this button to set the written bit to ON, when releases, the bit turns OFF.

Momentary OFF : Touches this button to set the written bit to OFF, when releases, the bit turns ON.

Invert : Touches this button to set the written bit to Invert. For example, if the written bit is ON, touches the button will set the bit to OFF, when releases, the bit remains OFF. On the contrary, if the written bit is OFF, touches the button will set the bit to ON, when releases, the bit remains ON.

Write address : Specifies the written bit.

Monitor: Selects ☒ Monitor monitor to let the object change different contents by monitoring the values of bits.

Monitor address :

Reads PLC monitoring bits. Chooses ☒ Monitor address identical to write address to set the monitoring addresses the same as writing addresses. If not chooses the function, the addresses can be set to different device numbers.

ON Macro : For specified macros. Selects Macro to see a open and close macro windows for users to design macros.

## 2-6-1-2. Label

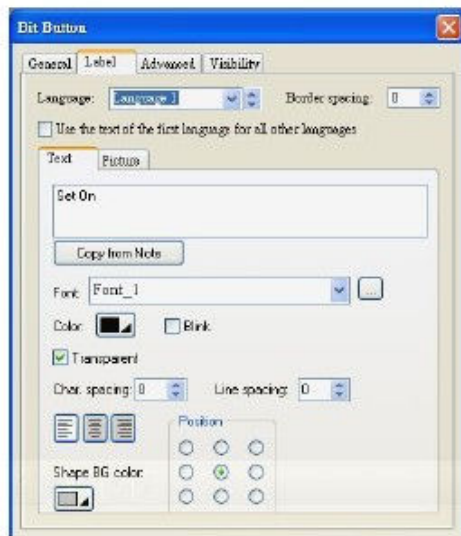


Figure2-8 Object properties dialogue \_bit button label

Language : Selects languages from Language 1-n. You have to set the number of languages from Project > Language before using.

Border spacing : Specifies the dots from border to texts.

Text/Picture : Sets the referent text contents and graphics.

Font : Set the font style and size, color, blink, transparent, character spacing, line spacing.

Shape BG color : Specifies label shape and background colors.

## 2-6-1-3. Advanced

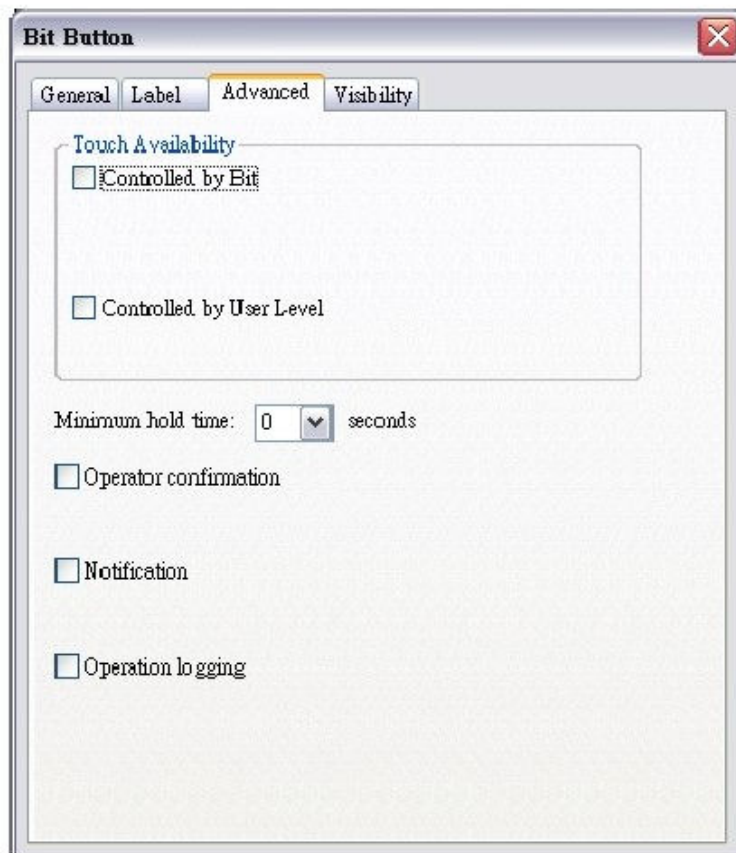


Figure 2-9 Object properties dialogue \_bit button advanced settings

Touch availability : Selects "Control by bit" to write to PLC while the specified bits activated.

If also selects "control by user level", the users' level should higher than the specified level to operate this button.

Minimum hold time : Presses for a specified time to send the button signals to PLC.

Operator confirmation : HMI requests "Acknowledge" automatically. After press "YES", the HMI writes signal of the pressed button to PLC.

Maximum waiting time : Time to wait for "Acknowledgment". The HMI will cancel the operation after time is up.

Notification : Press this button to send the on/off message from a specified bit to another bit.

Operator logging : Selects Operator logging to save events into historic data loggers.

## 2-6-1-4. Visibility

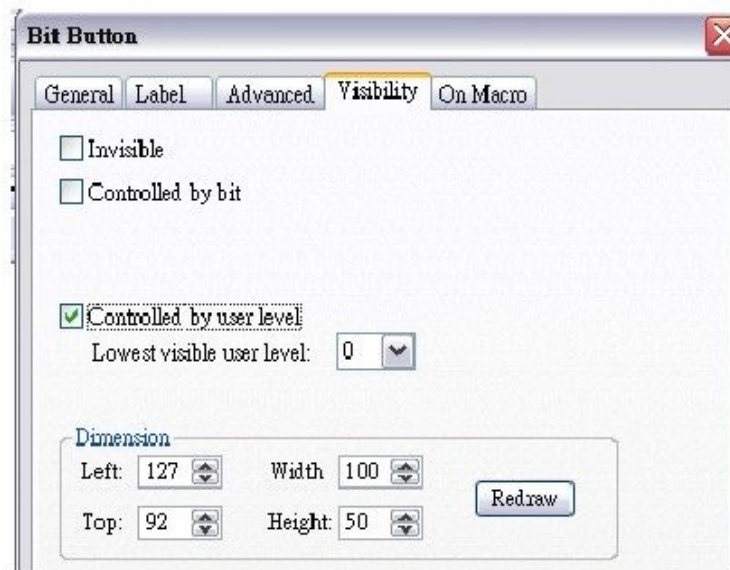


Figure 2-10 Object properties dialogue \_bit button visibility settings

Invisible: Selects invisible to hide this button only. It's still workable.

Controlled by bit : Selects ☐ Controlled by bit to display this button and enable the touch control while the specified bit activated.

Controlled by user level: Selects ☒ Controlled by user level to display this button and enable the touch control while the user level higher than the specified user level.

## 2-6-1-5. External Label

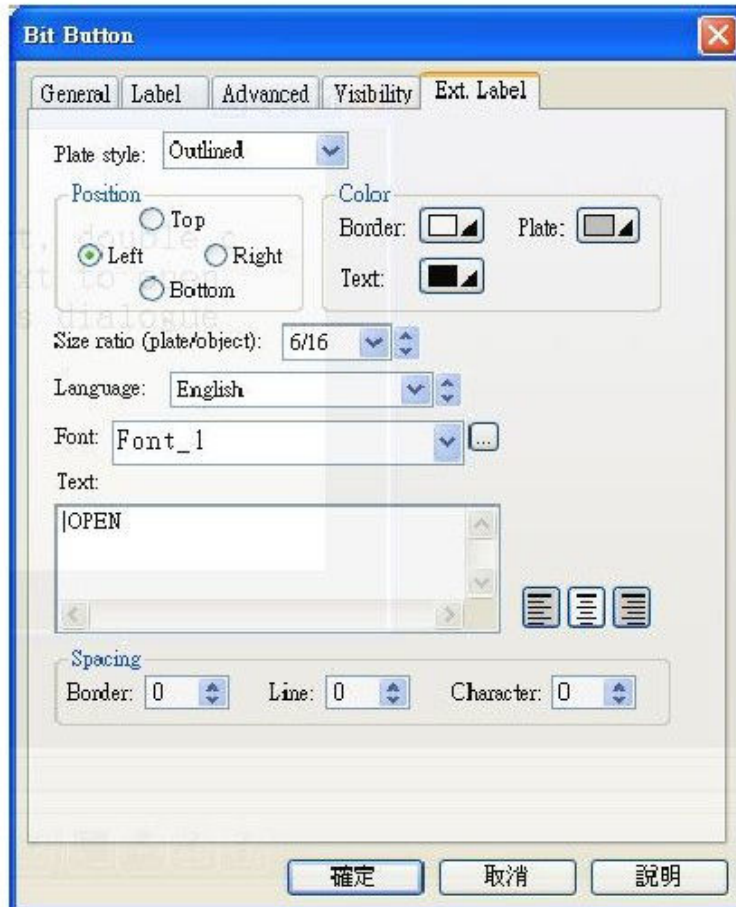


Figure 2-11 Object properties dialogue \_bit button external label settings

The external label is descriptions of objects.

Shape: There are four shapes, such as, Transparent, Flate, Outlet, Raised.

Position: Sets the external label on Top , Buttom, Right, Left of the object.

Color: Sets the color of Border, Plate(background), Text.

Size ratio (plate/object): Sets size of ratio ( for plate object only).

Language: Sets the display language.

Font: Sets the fonts.

Text: Specifies the diaplay texts.

Spacing: Specifies the space of border, lines and characters.

## 2-6-1-6. Button Macro

ON Macro : Touches this button to excute ON Macro program.

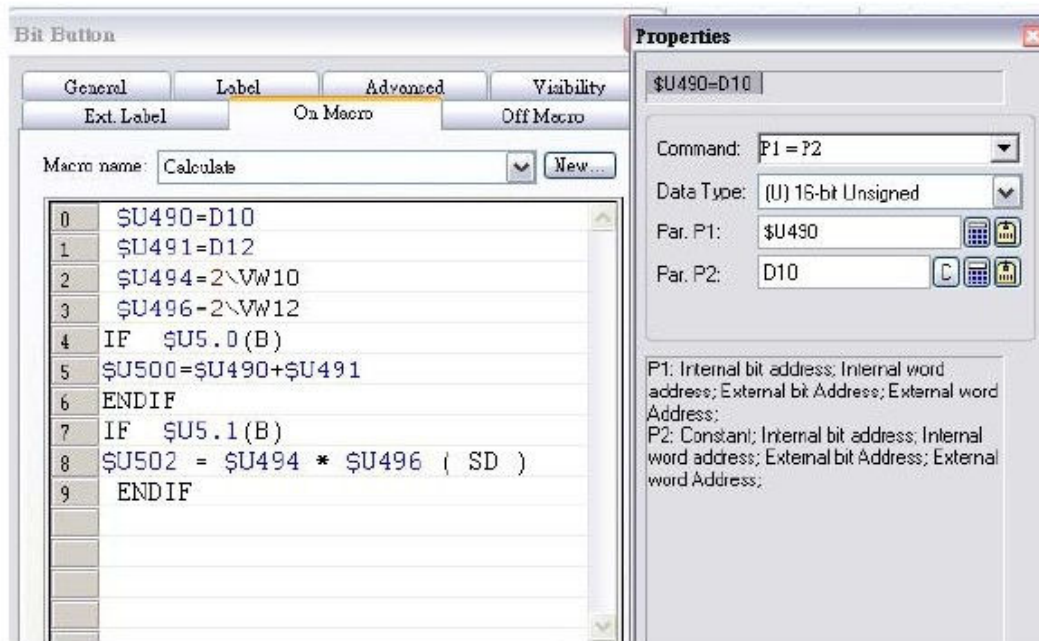


Figure2-12 Bit button \_ON Macro setting dialogue

OFF Macro : Touches the button to excute OFF Macro program.

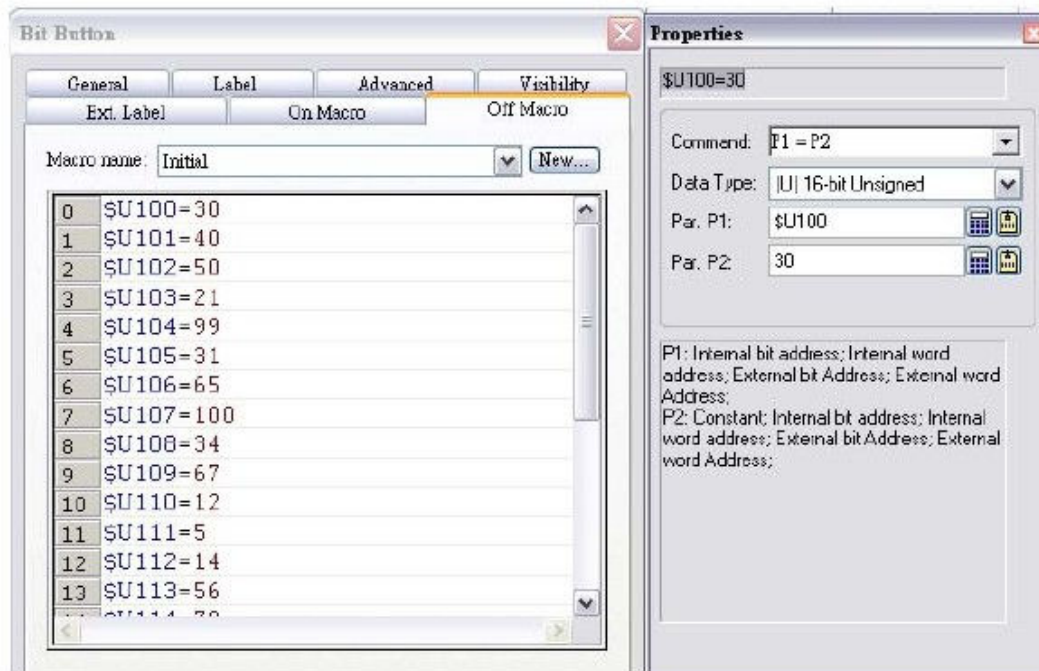
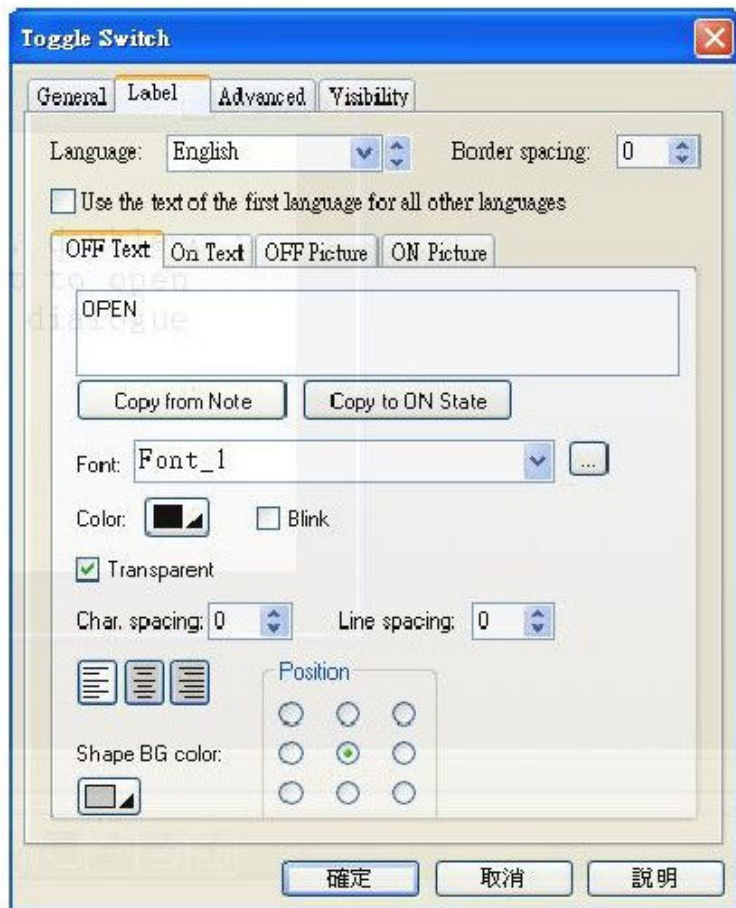


Figure 2-13 Bit button \_OFF Macro setting dialogue.

## 2-6-2. Toggle Switch



Presses this button once to set the bit ON and, when release, the bit remains ON. Presses again to set OFF the bit.

Touches this button to set the bit of written address to Invert. For example, when a specified bit is ON before pressing, after pressing, the bit turns to OFF. While releasing, the bit remains OFF. On the contrary, when a specified bit is OFF before pressing, after pressing, the bit turns to ON. While releasing, the bit remains ON.

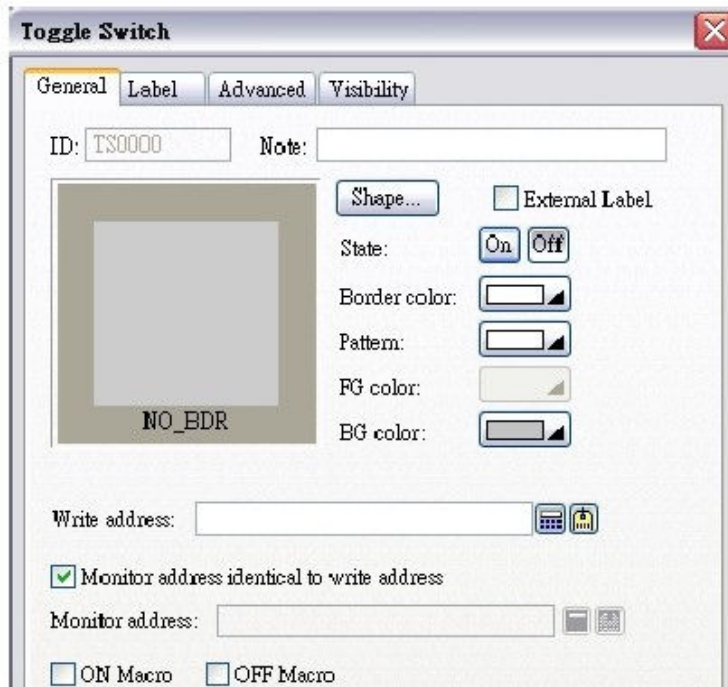


Figure 2-14 Object properties dialogue \_Toggle Switch



Difference between Toggle Switch and Invert button.

The Toggle Switch provides ON Macro and OFF Macro, however the

Notice !010

Invert Button does not provide ON Macro and OFF Macro.

## 2-6-3. Screen Button

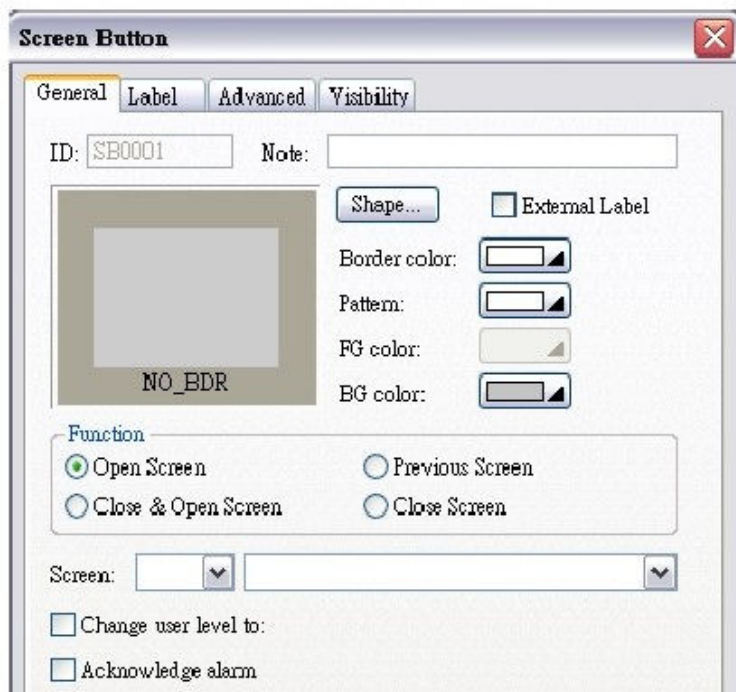


Figure 2-15 Object properties dialogue \_screen button

Functions: There are four selections

1. Open Screen : Touch this button to open specified normal screen, window screen, or menu screen.
2. Previous Screen : Touch this button to open previous screen.
3. Close & Open Screen : Touch this button to open specified window screen and close the operating window screen.
4. Close Screen : Touch this button to close the operating window screen.

Other functions

"Change user level to"→Changes user level.

"Acknowledge Alarm"→HMI received alarm message.

Advanced

"Touch Availability"→When the specified bit activated, the HMI changes screens.

"Notification"→While changing screen, trig a bit.

## 2-6-4. Slide Switch



Touches and hold the cursor of this button, moves right and left or up and down to modify values by changing position. While releasing, the HMI write the modified value to PLC. The function is similar to stimulatory entering SW. It's convenient to adjust speed of motors, rotation rate, time and object display color.

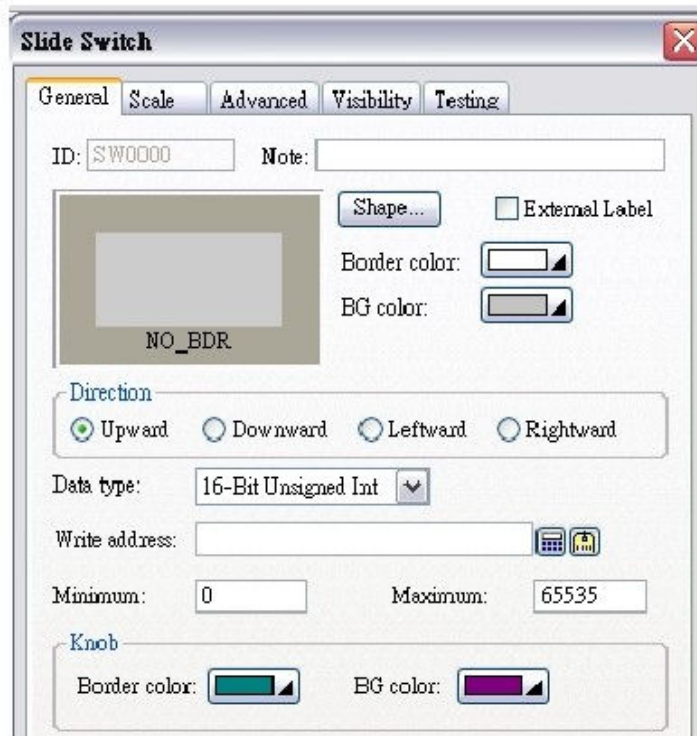


Figure 2-16 Object properties dialogue \_Slide switch

Direction : Specifies increasing direction.

Knob : Specifies border color and background color.

Scale : To set the scale of the slide switch in the scale setting dialogue box.

**Slide Switch** [X]

General **Scale** Advanced Visibility Testing

☒ Scale

Position

☒ Left ☐ Right

Color: 

Number of Major Ticks: 4

Number of Sub Divisions: 3

☒ Axis

☒ Marks

Font: ☒ 6x8 ☐ 8x12

Minimum: 0

Maximum: 100

Total Digits: 3

Fractional Digits: 0

## 2-6-5. Word Button

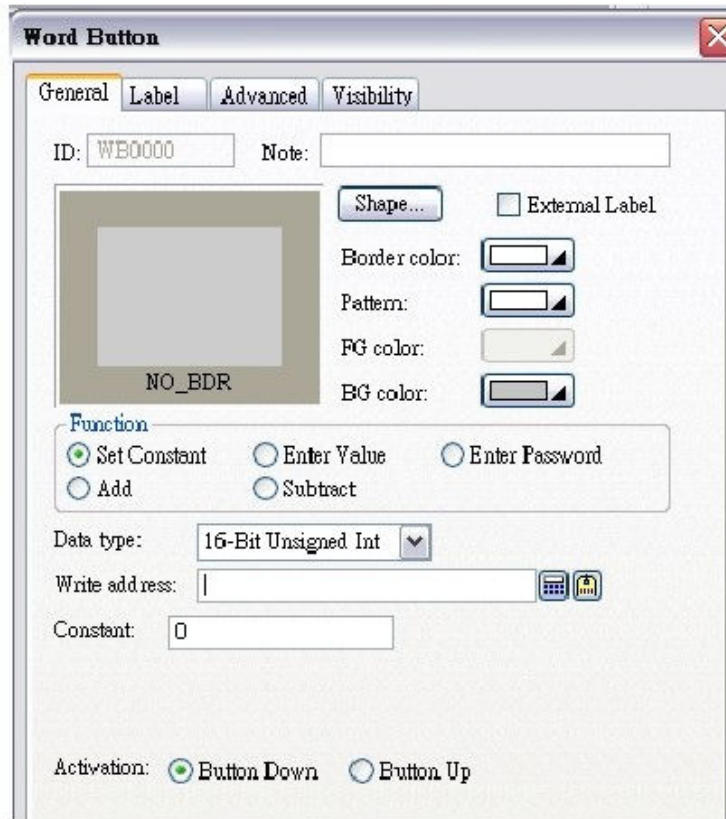


Figure 2-17 Object properties dialogue \_word button

There are 5 selections.

Functions : There are five selections.

1. Set Constant : Touch this button to sent a specified constant to P.L.C. data registers.
2. Enter Value Touch this button to show the build-in TEN-KEY on the screen. You can enter :  
value here, when press ENTER, the HMI sends the value the P.L.C.
3. Enter Password : Touch this button to get a password entering window.
4. Add : Touch this button to let HMI read data from specified registers of P.L.C. After adding  
an assigned constant, the HMI sends calculated value to specified registers of P.L.C.
5. Subtract : Touch this button to let HMI read data from specified registers of P.L.C. After  
subtracting an assigned constant, the HMI sends calculated value to specified registers of  
P.L.C.

Activation (Button down) : Press the button to activate the function.

Activation (Button up) : Press and release to ativate the button. Holds the button does not  
activate.

## 2-6-6. Multistate Switch



Touches this button to read value from specified PLC registers. After adding or subtracting an assigned constant, the HMI writes the calculated value to the specified PLC registers.

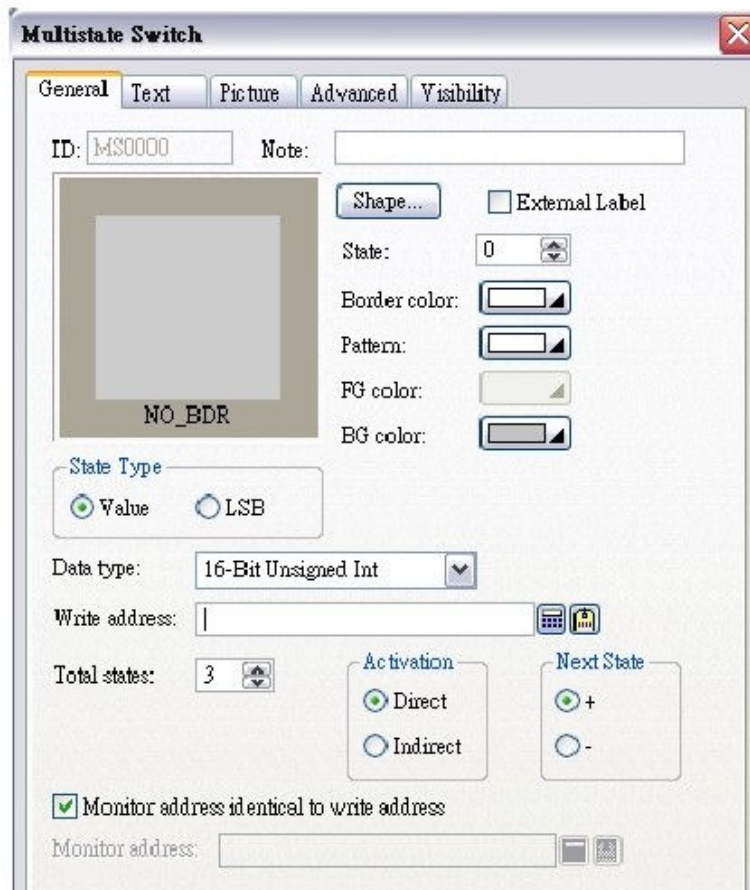


Figure 2-18 Object properties dialogue \_Multistate button

State type: There are two types, Value and LSB.

State order: To show the orders of setp buttons.

Number of states: The maximum value is 255 when sets state type to Value. If sets the state type to LSB, then the maximum state of the 16 bits positive integer is 16/ the maximum value of the 32 bits positive intergal is 32.

Activation: Direct and Indirect.

Next state: Sets the states order to "+1" or "-1" for value and "shift left" or " shift right" for LSB.

## 2-6-7. Radio Buttons



There are many states in a radio button. Select one state for each operation to write the data to the specified PLC Bits. Select LSB to have 16 or 32 states, however choose Numeric to have 256 states. When selects LSB the coordinated Bits will be set to ON, other Bits will be set to OFF.

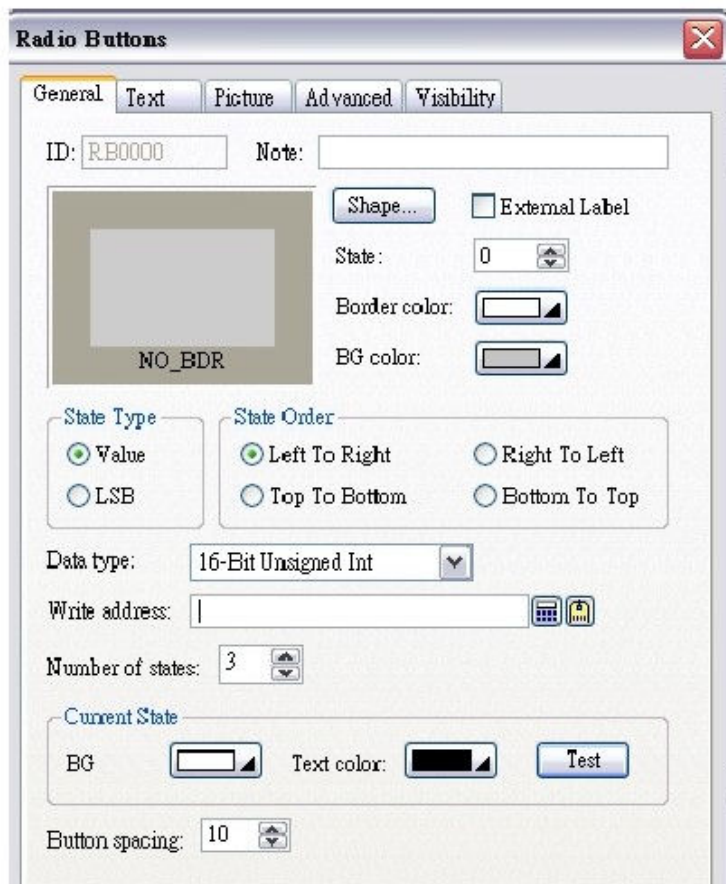


Figure 2-19 Object properties dialogue \_radio button

State type: There are two types, Value and LSB.

State order: To show the orders of setp buttons.

Number of states: The maximum value is 255 when sets state type to Value. If sets the state type to LSB, then the maximum value of the 16 bits positive integer is 16/ the maximum value of the 32 bits positive intergal is 32.

Button spacing: The space between 2 buttons.

## 2-6-8. Keypad Button



Touched this button to see a TEN-KEY for users to enter value, while pressing ENTER, the

HMI writes the entered value to PLC data registers.

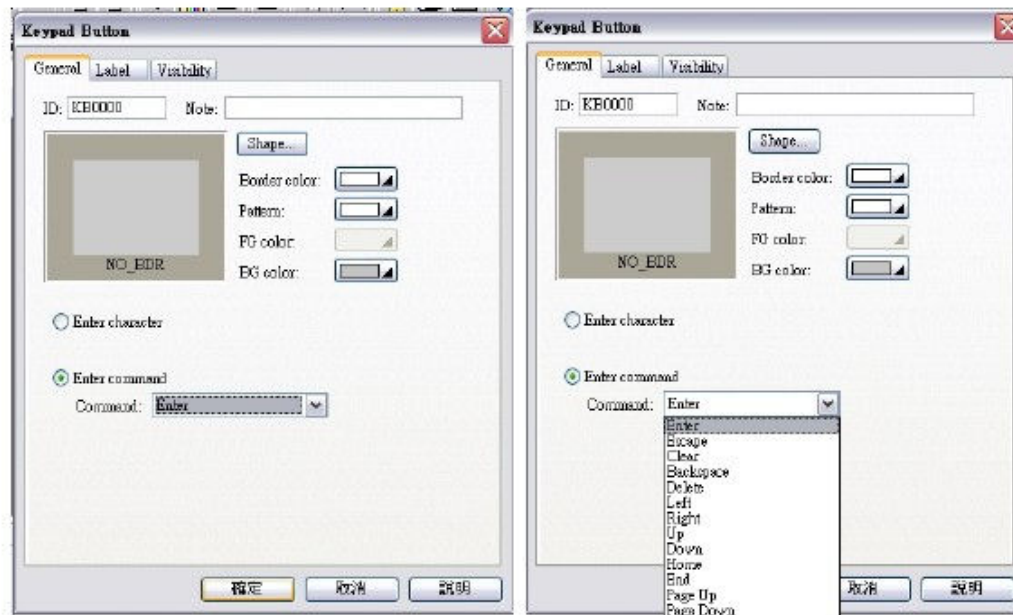


Figure 2-20 Object properties dialogue \_keypad button

Enter character: Writes the build-in character codes to specified addressed.

Enter command: Excutes build-in function to excute commands.

## 2-6-9. Scroll Buttons



Uses the scroll buttons, by scrolling, pausing and clearing data to see historic data bases. If the HMI equipped with battery backup memory, the users can review data which saves into the storage data bases before power off.

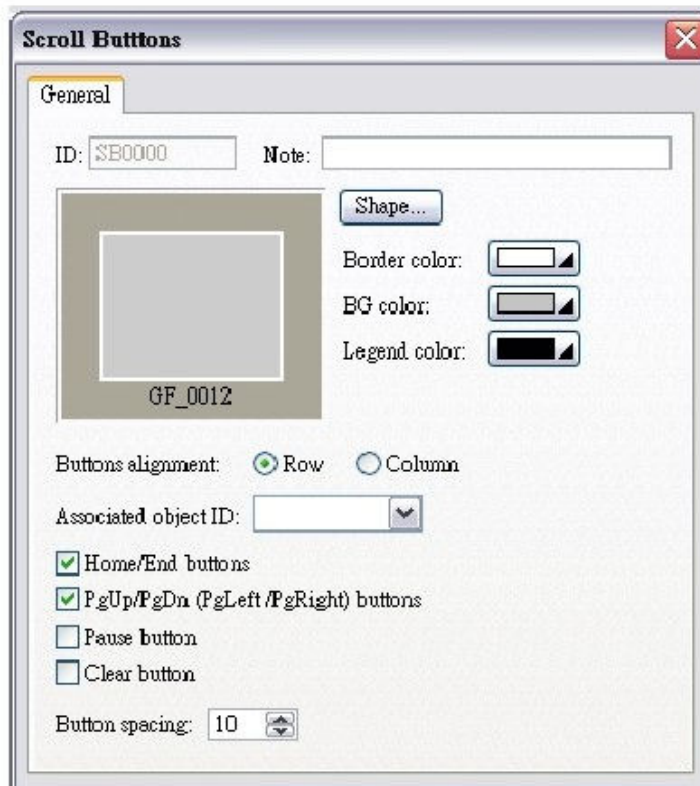


Figure 2-21 Object properties dialogue \_scroll button

Home/End: Displays historic data from home or end.

PgUp/PgDn or PgLeft/PgRight: Displays historic data by page up /page down or page left / page right.

Pause: Pauses displaying the current historic data.

Clear: Clears current historic data.

## 2-6-10. Step Buttons



Touches this button to read value from specified PLC registers. After adding or subtracting an assigned constant, the HMI writes the calculated value to specified PLC registers.

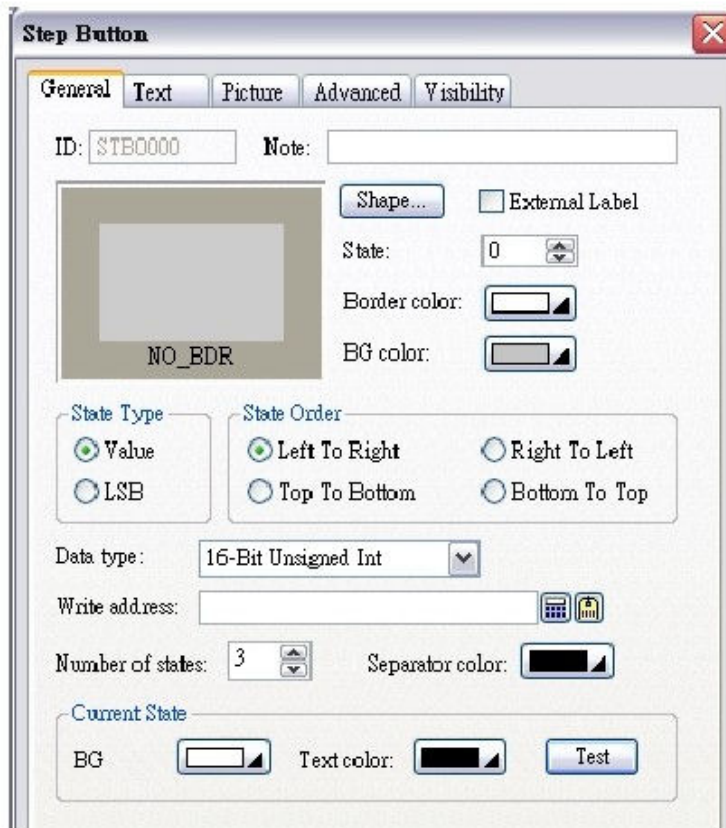


Figure 2-22 Object properties dialogues \_Step Button

State type: There are two types, Value and LSB.

State order: To show the orders of setp buttons.

Number of states: The maximum value is 255 when sets state type to Value. If sets the state type to LSB, then the maximum value of the 16 bits positive integer is 16/ the maximum value of the 32 bits positive intergal is 32.

## 2-6-11. Numeric Entry



Touches the Numeric Entry button to see a build-in TEN-KEY on the screen for users to enter numerals. While pressing ENTER, the HMI sends numerals to specified PLC registers.

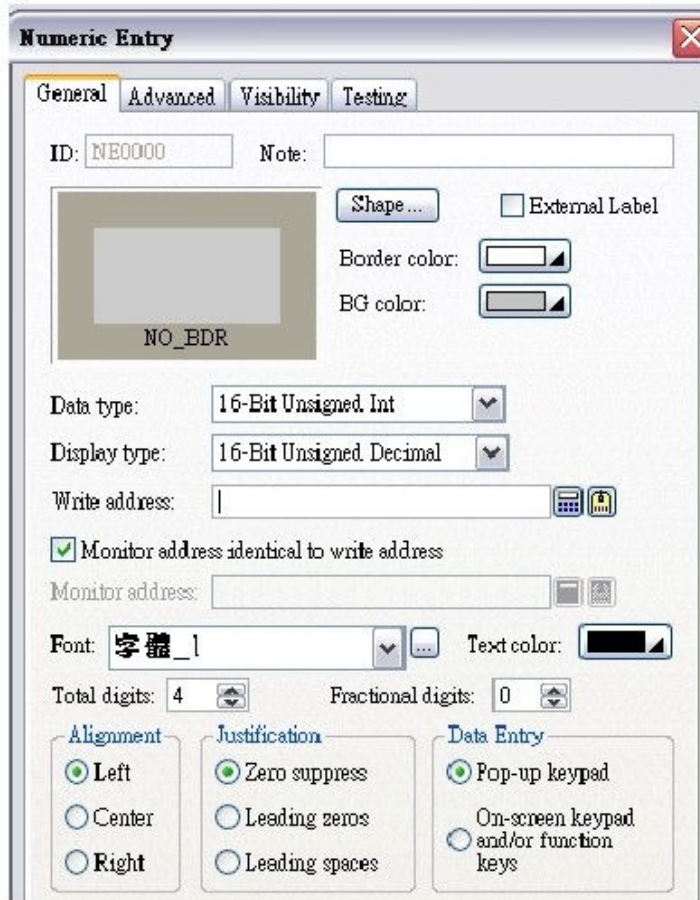
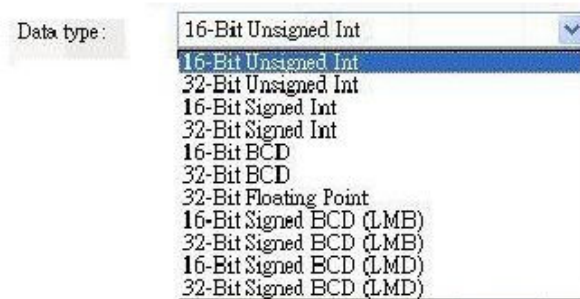


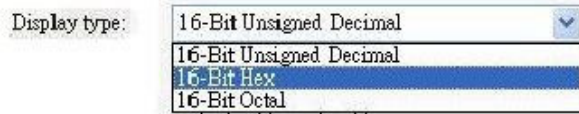
Figure 2-23 Object properties dialogue box\_numeric entry



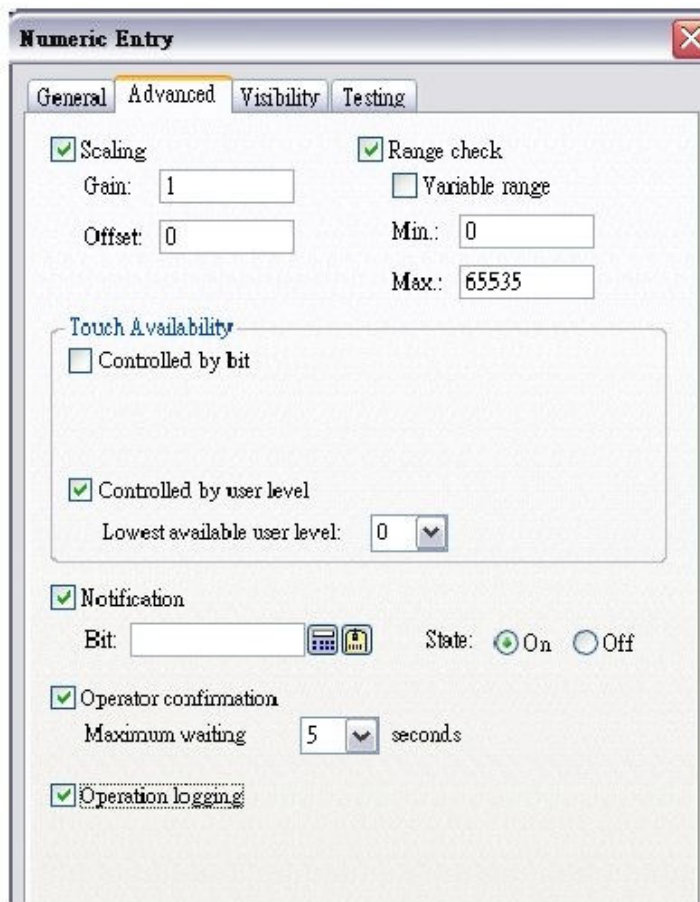
Data Type : There are several data format type, 16-bit unsigned int., 32-bit unsigned int., 16-bit signed int., 32-bit signed int., etc.. LMB express if left

most bit as 1 then the value is negative. LMD express if left most digit (4 bits) as F then the value is negative.

Display Type : The K\_View supports three display types, such as 16-Bit Unsigned Decimal(0-65535), 16Bit Hex (0-FFFF) and 16-Bit Octal(0-77777)



Numeric Entry : There are Pop-up keypad and On-screen keypad and/or function keys.



Scaling: Only when the 16-Bit Unsigned Decimal provides this function. The scaling formula is  $Y=aX+b$ .

$Y$ =Panel display value/ display value,  $X$ = PLC actual writing value,,  $a$ =Gain value,  $b$ =Offset value.

If sets  $a=0.5$ ,  $b=2$ , when enter 10 to the HMI ( $Y=10$ ), PLC will write 16( $X=16$ ).

Notification : Enter Setting value, the HMI will set the notified bit as 1 (on) or 1 (off). The bit must be cleared by PLC to 0 (off) to make sure the next operation be correct.

## 2-6-12. Numeric Display



The HMI reads specifies PLC data registers to display the read value on the screen (without entering function). See Figure 2-24.

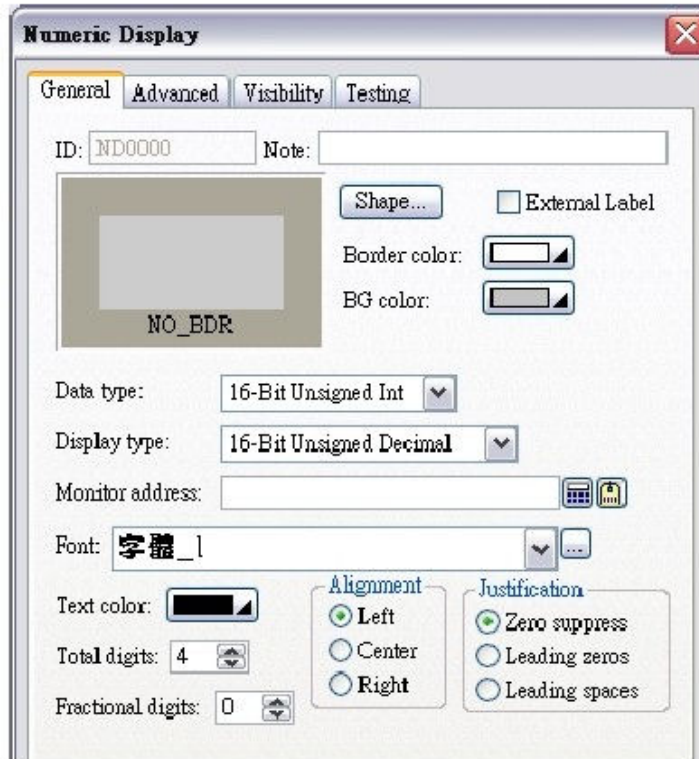


Figure 2-24 Object properties dialogue \_Numeric Display

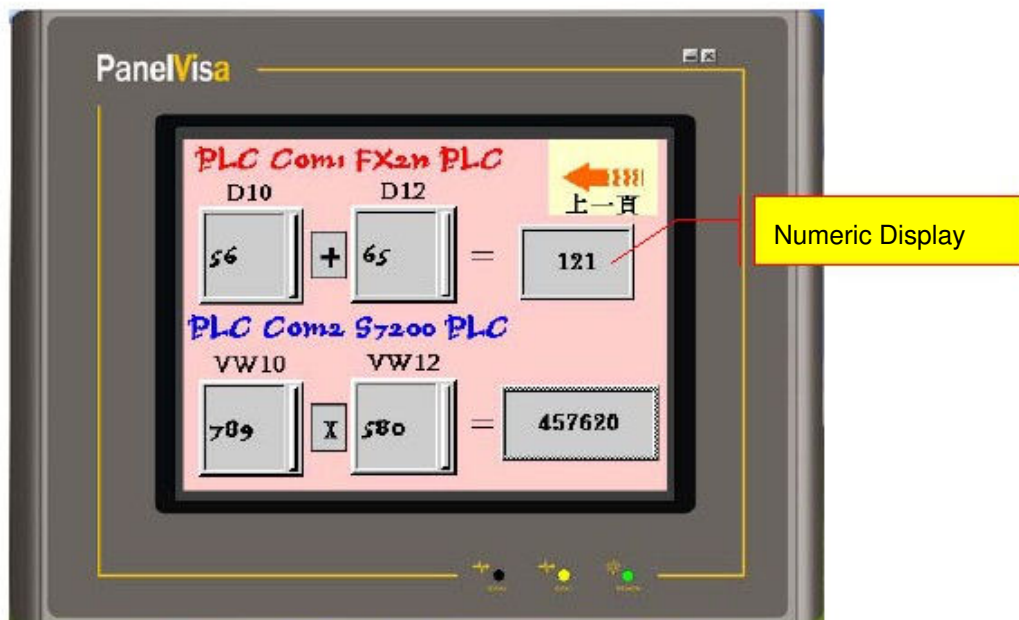


Figure 2-25 Numeric Display Objects

## 2-6-13. ASCII Character Entry



Touches the ASCII character entry button to see a build-in ASCII character keypad on the screen for users to enter maximum 20 characters. While pressing ENTER, the HMI sends characters in ASCII codes to specified PLC registers.

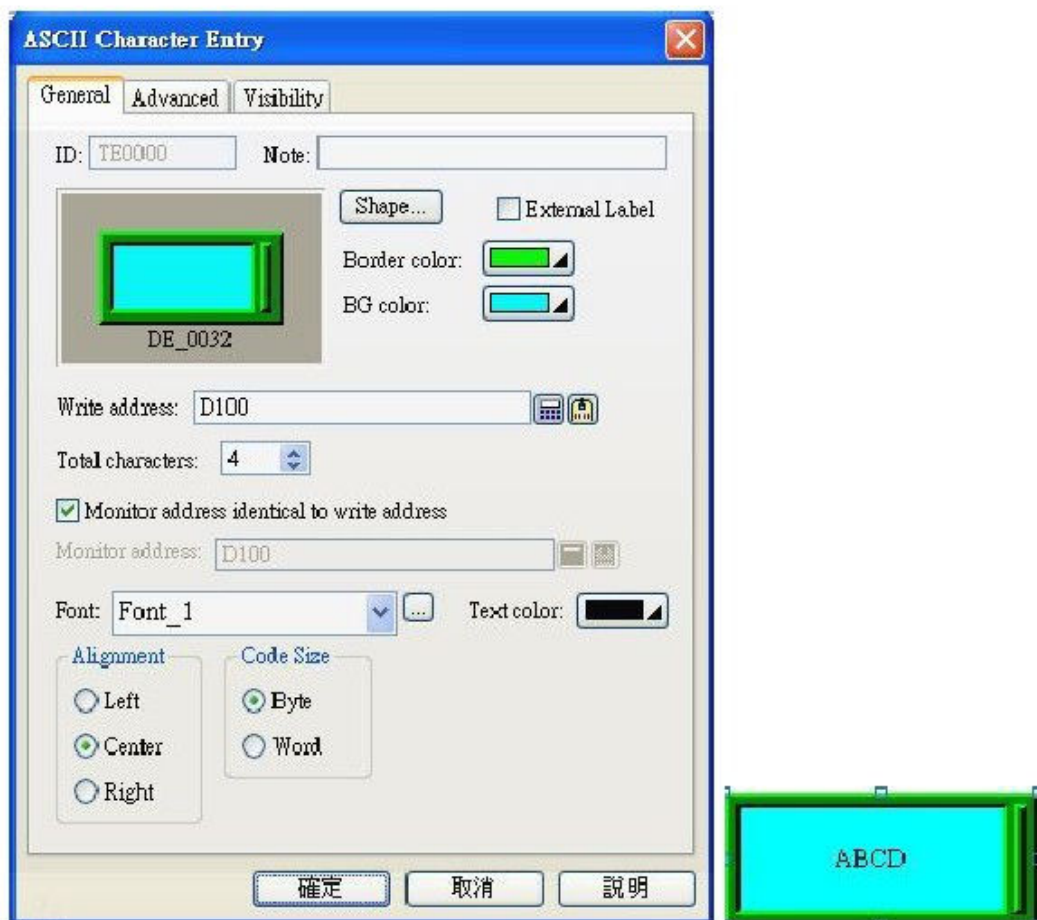


Figure 2-26 Object properties dialogue \_ASCII Character Entry

Total character: The maximum ASCII characters allowed to enter. (2 ASCII characters at one register word)

Alignment : Specifies the entered ASCII characters displaying position.

## 2-6-14. ASCII Character Display

The HMI reads ASCII value from specified PLC data registers to transform ASCII value to

characters displaying on the screen. ( without entering function). See figure 2-27.

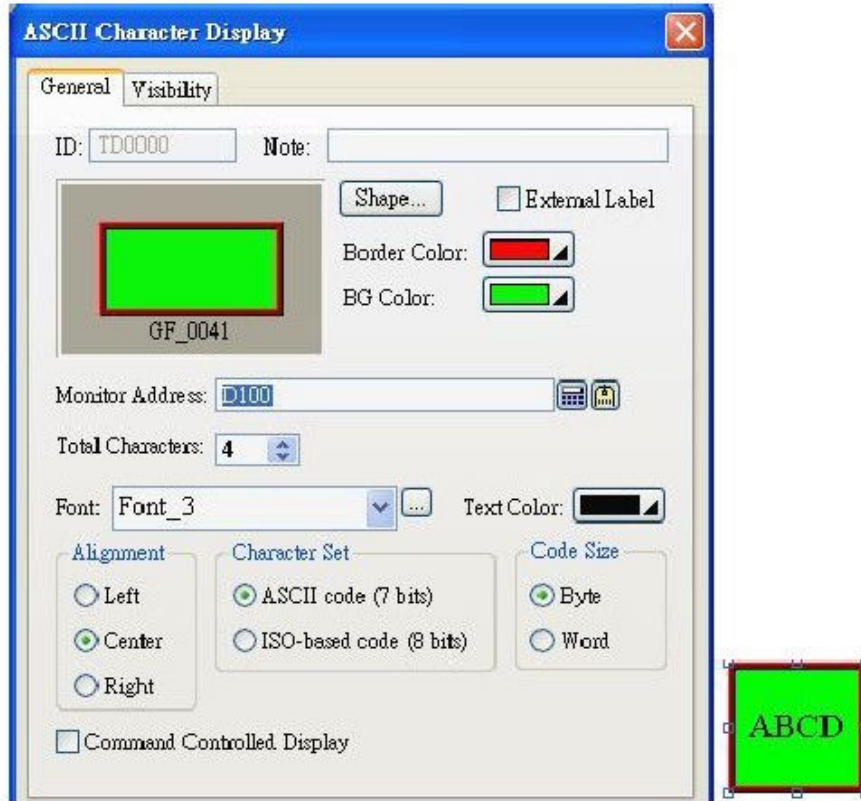


Figure 2-27 object properties dialogue \_ASCII character display

Total Characters : Specifies maximum characters of ASCII character display. (2 ASCII characters at one register word)

Alignment : Specifies the entered ASCII characters displaying position.

Character Set : Allows to specify ASCII characters displaying according to ASCII or ISO codes.

Code Size : By byte or word.

## 2-6-15. Bit Lamp

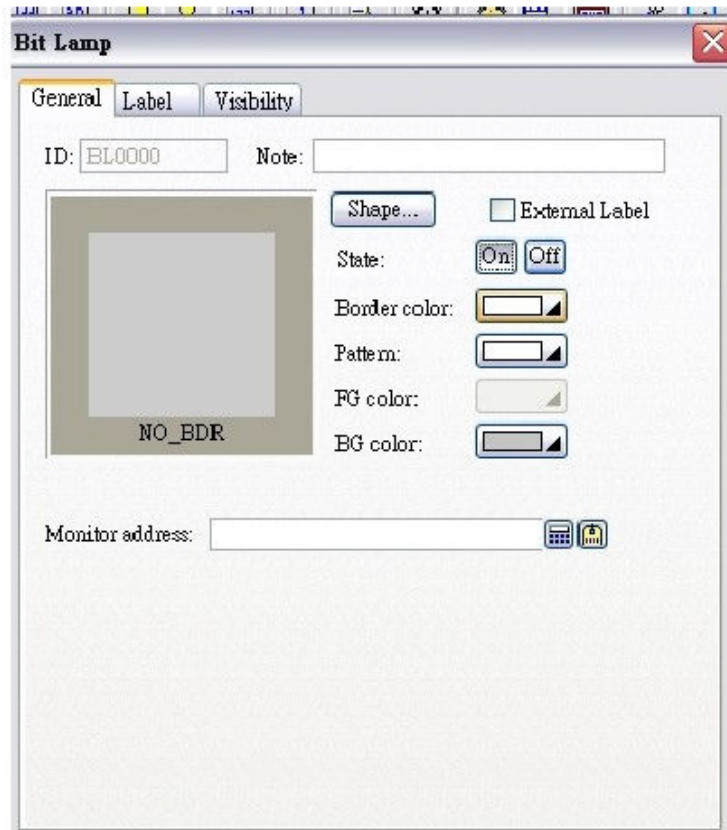


Figure 2-28 Object properties dialogue \_Bit Lamp

Bit lamp : HMI reads value from specified bits of PLC and shows the ON or OFF states of specified bits from PLC. There are two states.

## 2-6-16. Multistate Lamp

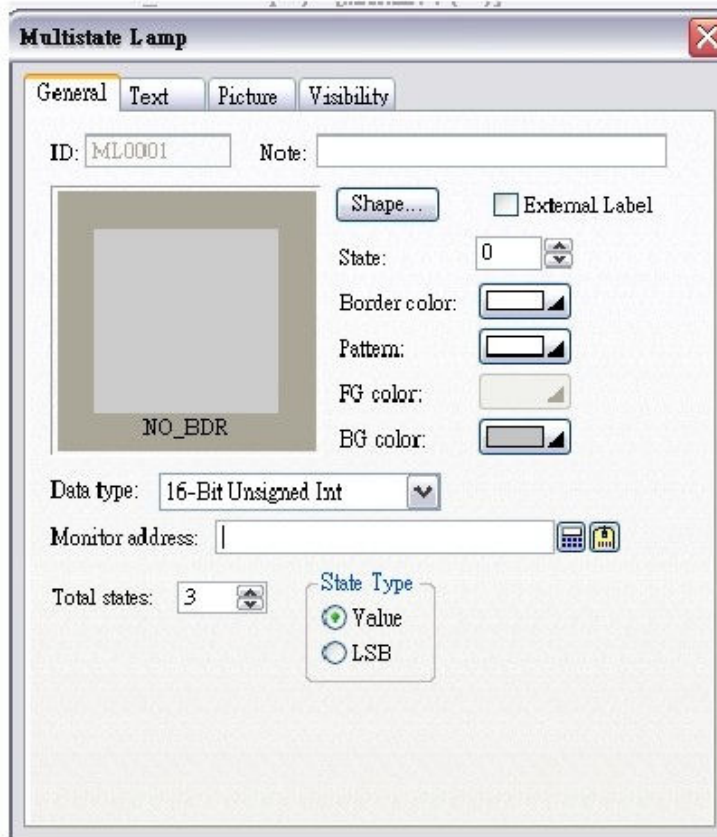


Figure 2-29 Object properties dialogue \_Multistate Lamp

Multistate Lamp : HMI reads value from specified addresses of PLC and shows the coordinate states on HMI. There are 256 states (State type sets Value) or 16 states (State type sets LSB).

## 2-6-17. Message Display



The major difference between Message Display and Multistate Lamp is that Message can show texts only while Lamp can show texts and graphics.

1. Reads bit states or register values to show specified objects on the screen. There are maximum 256 states (selects value), 16 states (LSB) or 2 states (bit) can be designed.
2. Reads bit states or register values to show specified objects on the screen. The marquee moves according to the specified speed from the right to the left.

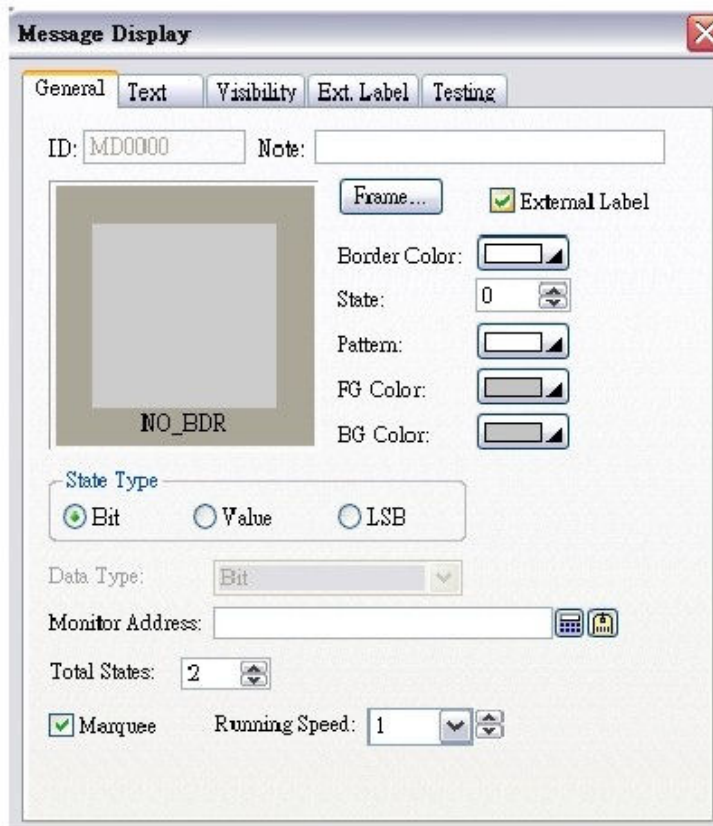


Figure 2-30 Object properties dialogue \_Message Display

Marquee: Sets the marquee moving according to the specified speed.

Running speed: Sets the speed from the slowest 1 to the fastest 10.

## 2-6-18. Time/Date/Week Display



Reads time value from REAL TIME CLOCK to show on the screen.

Reads date value from REAL TIME CLOCK to show on the screen.

Reads week value from REAL TIME CLOCK to show on the screen.

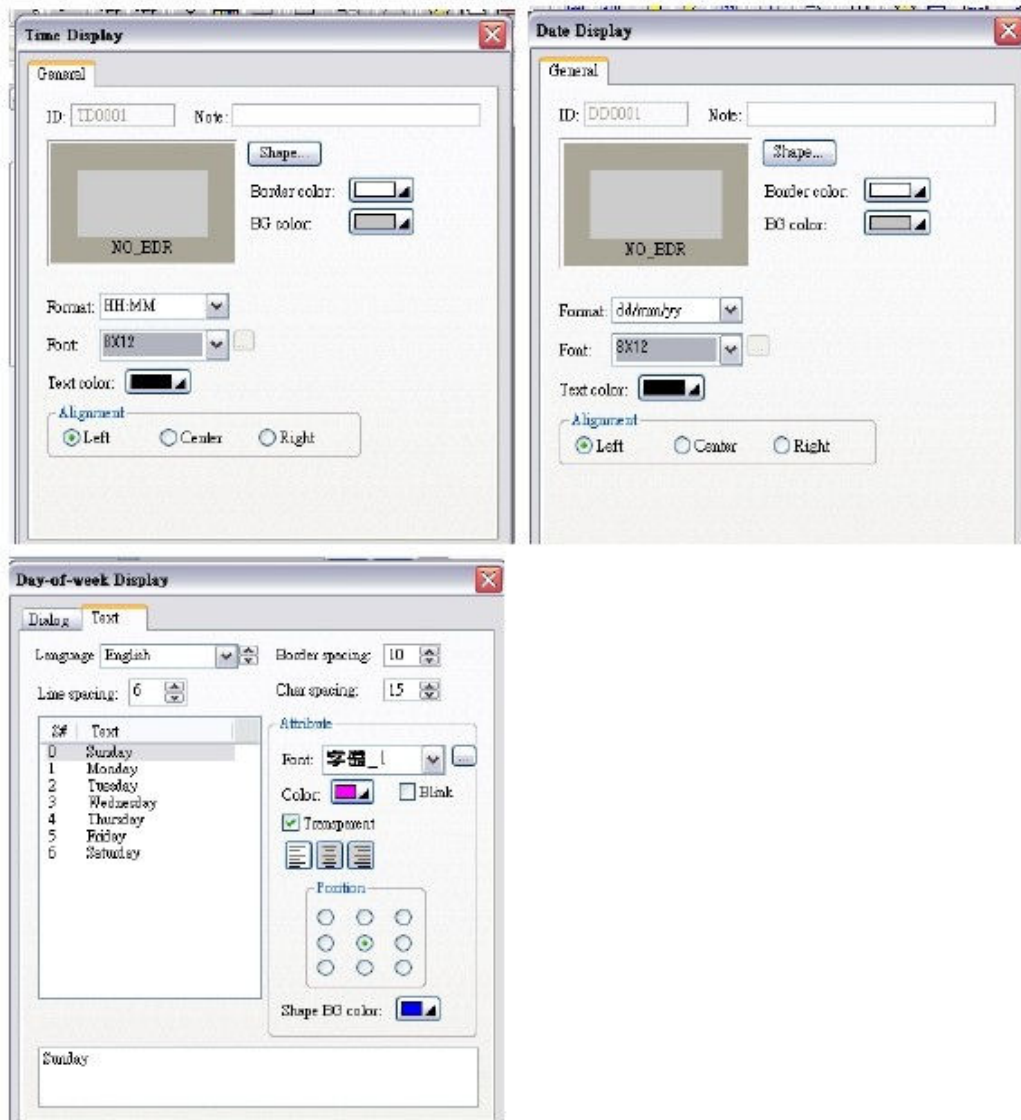


Figure 2-31 Object Properties dialogue \_ Time/Date/Week Display

## 2-6-19. Meter



Reads value from specified registers to display by meter. See Figure 2-32.

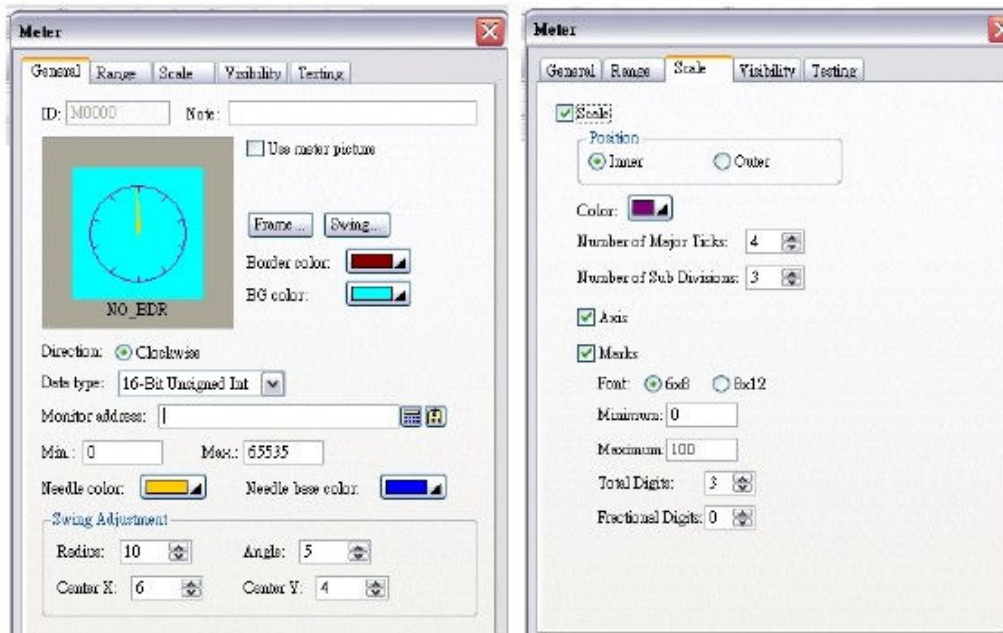


Figure 2-32 Object properties dialogue \_Meter Scale

Direction: There are two kinds, clockwise and counter clockwise.

Needle color: Specifies needle color.

Needle base color: Specifies needle base color.

Swing Adjustment: Specifies radius, center and angle of meters.

Scale position: Specifies scale positions, inner or outer.

## 2-6-20. Dynamic graphic



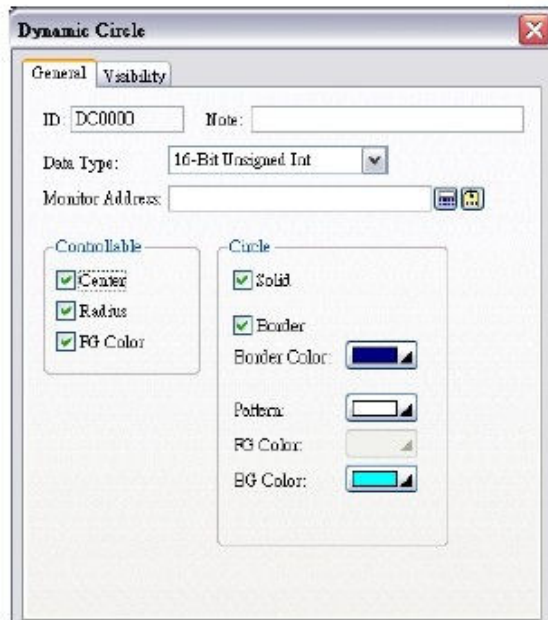
/ Static Picture Display



There are four selections for dynamic graphic which are dynamic Circle, Dynamic Rectangle, Gif Display, and Picture Display.

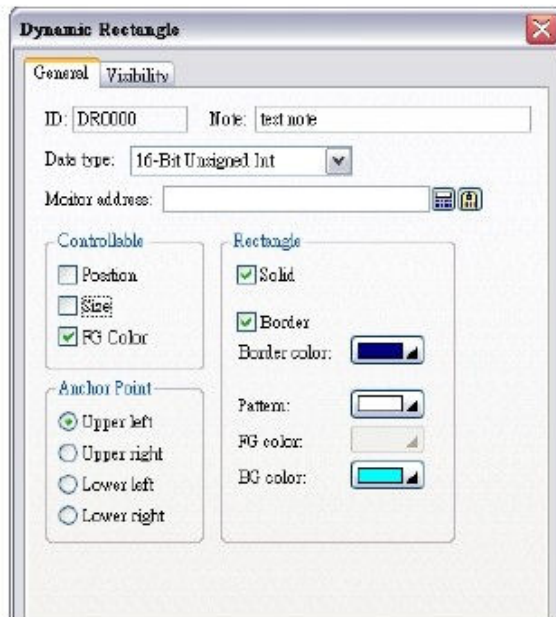
Dynamic Circle : Displays dynamic circle with different center position, radius and FG color controlled by PLC.

Dynamic Rectangle : Displays dynamic rectangle with different position, size and FG color controlled by PLC to have various effects.



Dynamic circle  
Monitor address---D80  
D80---center X-axis position  
D81---center Y-axis position  
D82---Radius  
D83---Pattern

Figure 2-33 object dialogue \_Dynamic Circle



Dynamic rectangle  
Monitor position---\$U200  
\$U200---X-axis position  
\$U201---Y-axis position  
\$U202---width  
\$U203---Height  
\$U204---Pattern

Figure 2-33a Object properties dialogue \_Dynamic Retangle

GIF display:

Displays autoexcuted GIF on screen at specified position.

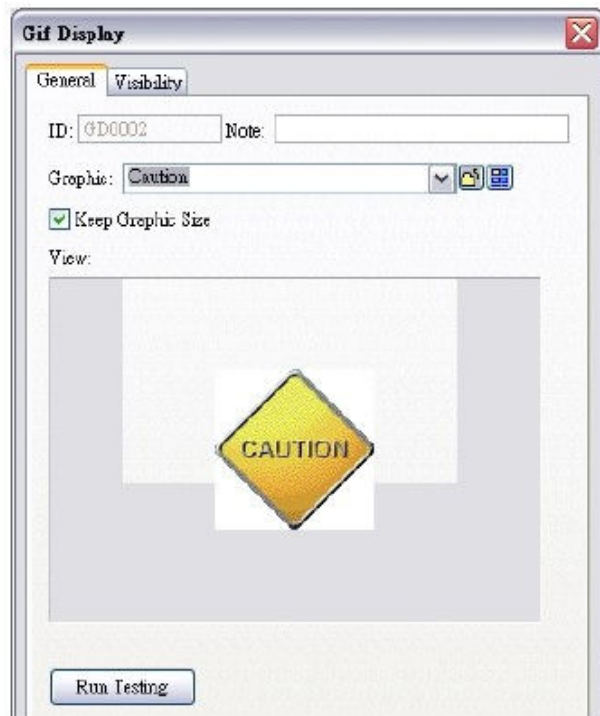


Figure 2-33b Object properties dialogue \_GIF Disply

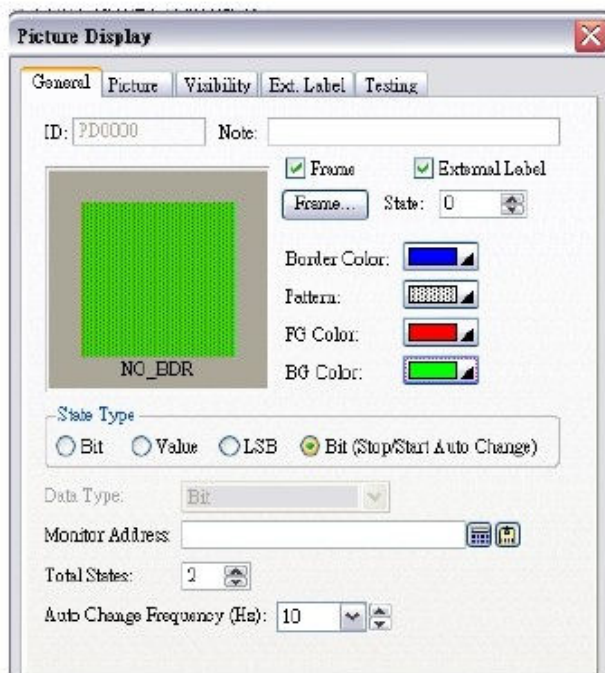


Figure 2-33c Object properties dialogue \_Picture Display

State Type:

Bit(Stop/Start Auto Change)

Auto Change Frequency (Hz):

--- 0.5~10Hz

Picture: Displays xx.bmp and xx.jpg graphics on screen at specified position.

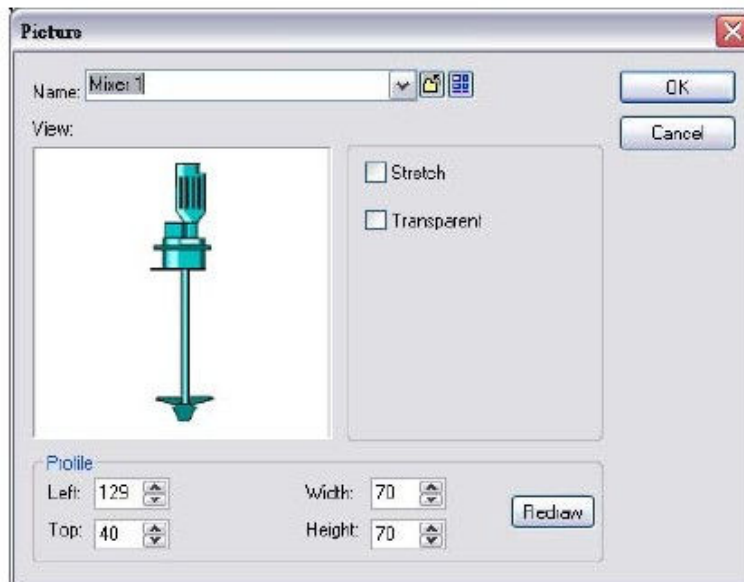


Figure 2-33d Object properties dialogue \_Picture

## 2-6-21. Graph/Chart



Graph : There are two kinds of graphs, bar graph and bipolar bar.

Bar graph : The HMI reads value from specified registers of PLC to transform to bar graphs on the screen. See figure 2-34.

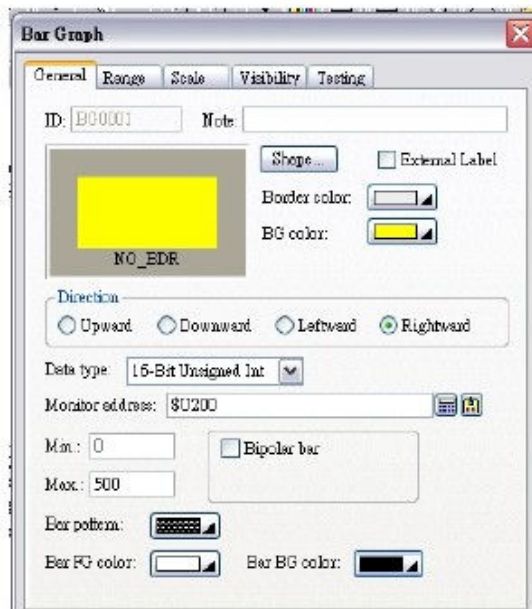


Figure 2-34 Object properties dialogue \_Bar graph

Bipolar bar graph : The HMI compares the value read from specified registers of PLC with Middle point and transforms the difference to bipolar graph on the screen. See the settings in figure 2-35. When the value of PLC is “d100=60”, displays PLC value (60)-Middle point(50)=10, See figure 2-35. When the PLC value (d100=80), displays PLC(80)-Middle point(50)=30>High Limit(25), then changes to a specified color.

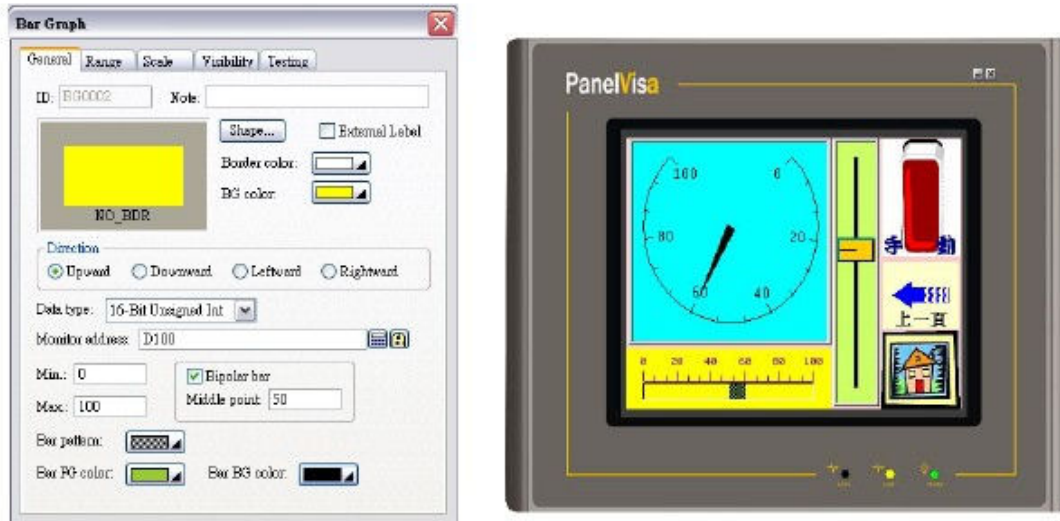


Figure 2-35 Object properties dialogue \_Bipolar Graph

Line Chart : The HMI reads a series of data from specified PLC registers to transform to a Line Chart on the screen. See figure 2-36. A line chart can have maximum 8 lines. The Number of Data Sets and Number of Data Points Per Data Set decide the maximum displaying number of X – coordinate of a Line Chart.

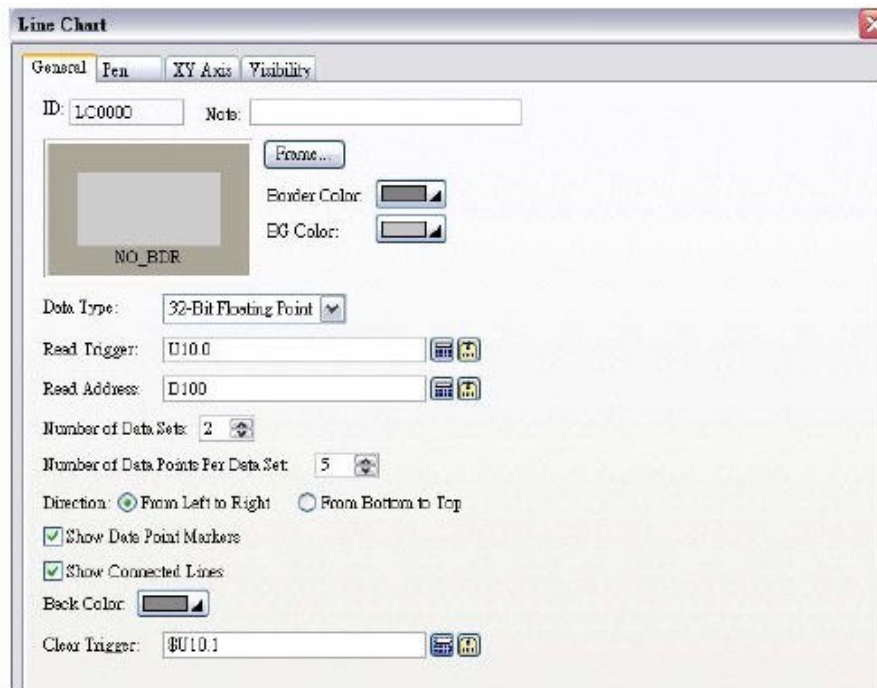


Figure 2-36 Object properties dialogue \_Line Chart

Number of Data Sets: The maximum curves the Line Chart can make. ( the maximum data is 8 )

Number of Data Points Per Data Set: The total number of each curve can make. (from 2 to 255).

The sampling rule is described as below.

Stes the read address at D100, 2 curve.

D100=Actual sampling numbers.

D101=The first point of the first curve.

D102= The first point of the second curve.

D103= The second point of the second curve.

D104= The second point of the second curve.

:

:

When the trigger bit=ON, HMI will transform a series of values to a Line Chart displaying on the screen.



The trigger bit and the clear trigger bit can be set from the object properties dialogue box.

Notice ?013

Pie Graph : The HMI reads values of specified registers from PLC, transforms them to a round circle on the screen and shows the read values of PLC registers in a Pie Graph.

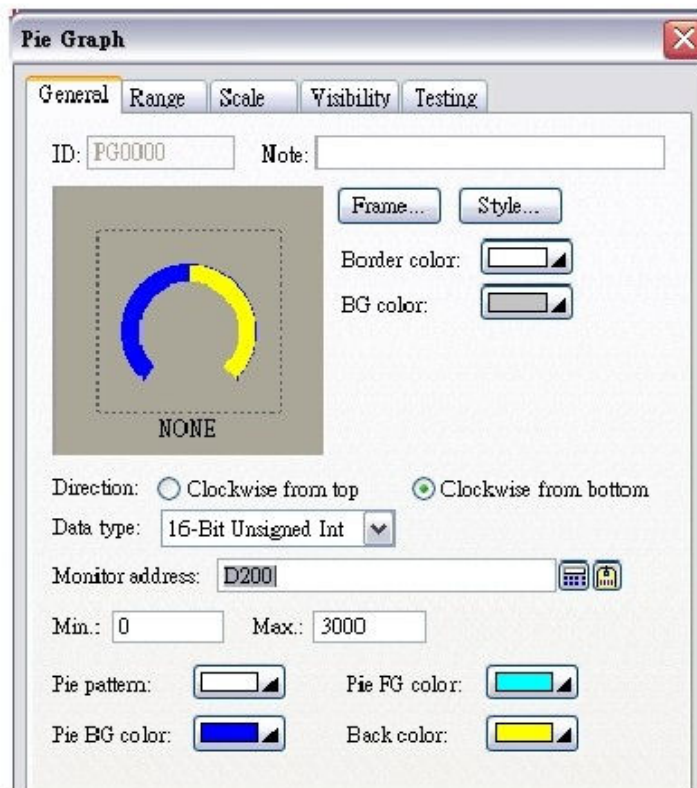


Figure 2-37 Object properties dialogue \_Pie Graph

Direction: Sets the value displaying directions of a Pie Graph. There are two directions, Clockwise from top and Clockwise from bottom side.

Scatter Chart : The HMI reads a series of value from PLC registers and transforms them to a dual axis chart on the screen as shown in figure 2-40. A scatter chart may have at most 8 curves.

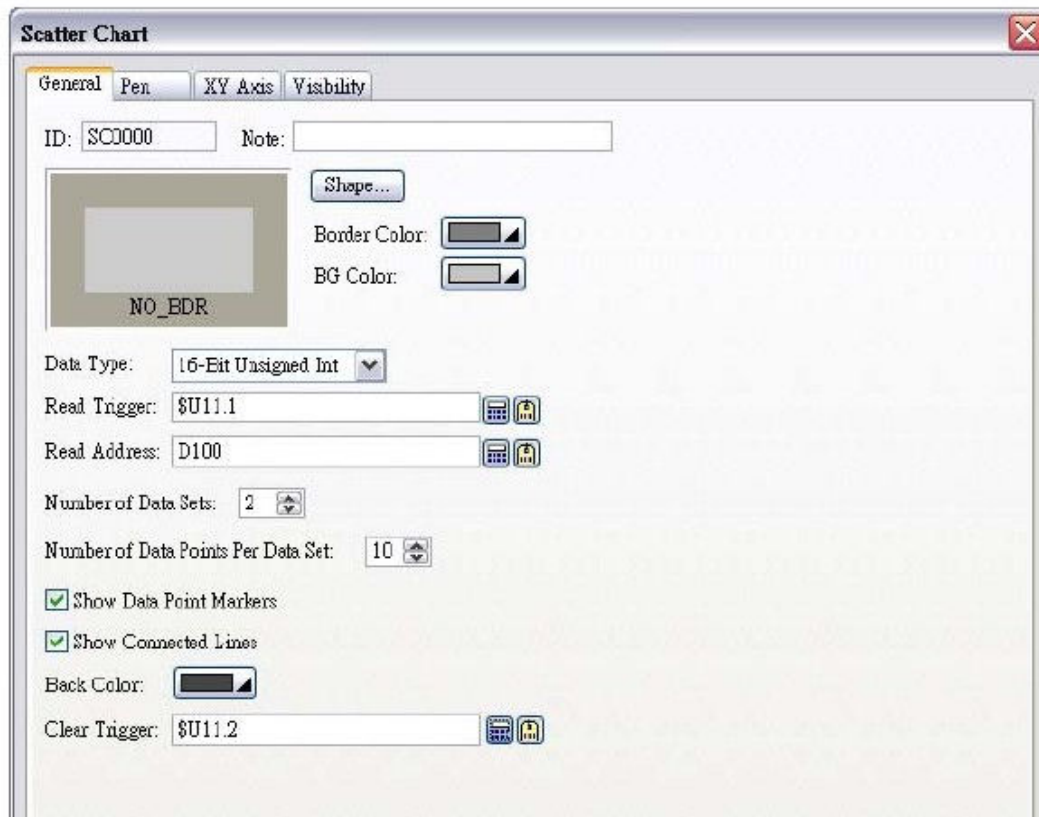


Figure 2-38 Object properties dialogue \_Scatter Chart

The sampling rule is described as below.

Stes the read address at D100, 2 curve.

D100=Actual sampling numbers.

D101=The X axis coordinates of the first sampling point on the first curve.

D102=The Y axis coordinates of the first sampling point on the first curve.

D103= The X axis coordinates of the first sampling point on the second curve.

D104= The Y axis coordinates of the first sampling point on the second curve.

D105=The X axis coordinates of the second sampling point on the first curve.

D106=The Y axis coordinates of the second sampling point on the first curve.

D107= The X axis coordinates of the second sampling point on the second curve.

D108= The Y axis coordinates of the second sampling point on the second curve.

:

When the trigger bit =ON, the HMI transforms the series of values to curves displaying on the screen.



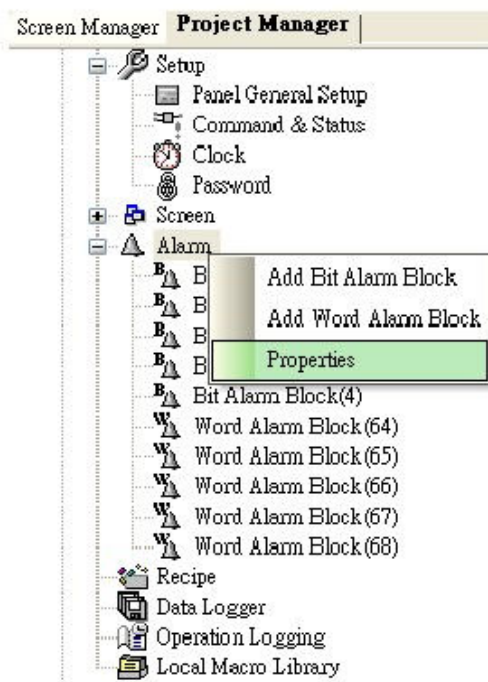
The trigger bit and the clear trigger bit can be set from the object properties dialogue box.

Notice ?014

## 2-6-22. Alarm Display



There are four selections in the Alarm display, which settings should coordinate with the bit alarm block or word alarm block settings. The HMI will monitor the specified bit value and transform to coordinated alarm data according to the scan interval time setting. By the way, that needs to define alarm properties before using the alarm display.



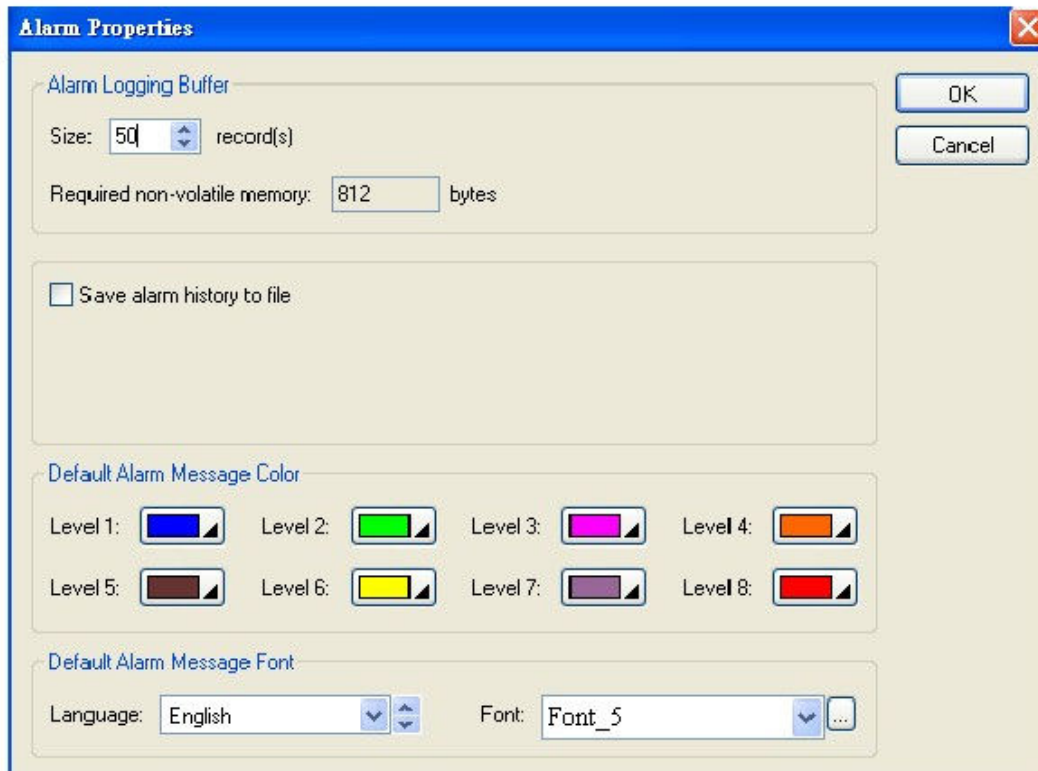


Figure2-39 Object properties dialogue \_Alarm Properties

Bit Alarm Block/Word Alarm Block: There are two kind of Alarms, Bit Alarm and Word Alarm, which can provide 16 blocks at most.

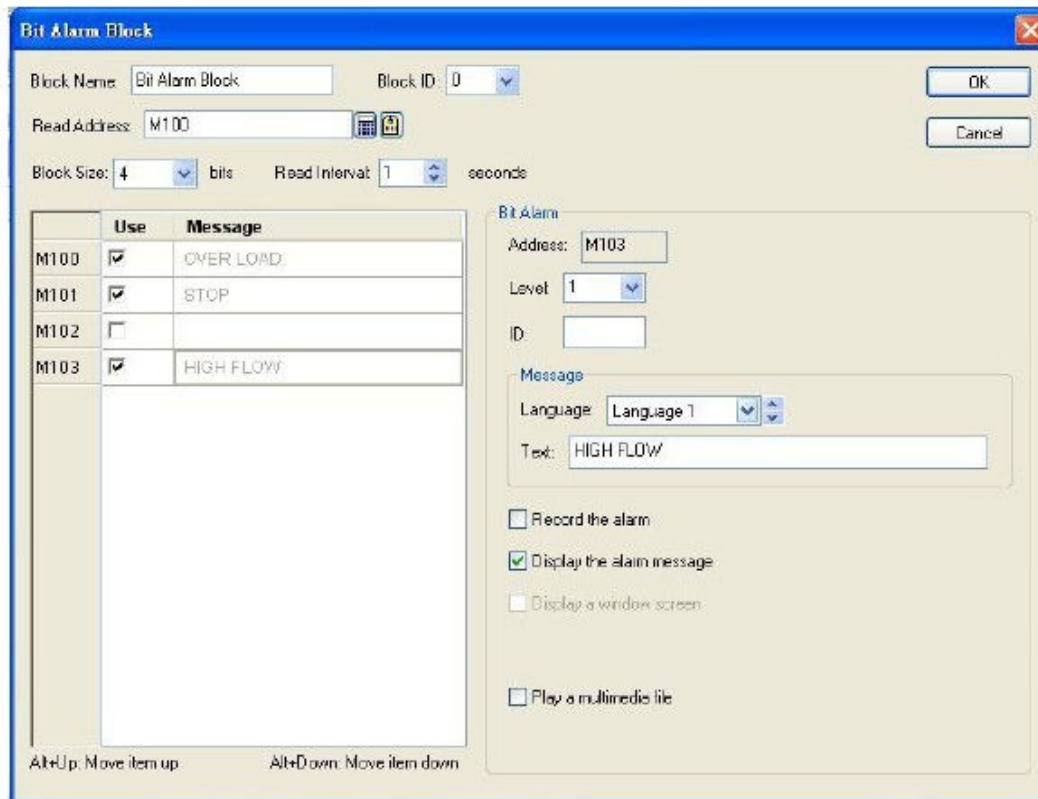


Figure2-40 Object properties dialogue \_Bit Alarm Block

Bit alarm block: Read the value from specified PLC bit, when the value is "1" (On), then show the message on the screen. To avoid a wrong program compiling, be sure to set the bits in a multiple of 16, such as 0、16、32.

Use : The default settings of Bit Alarm is "enable", you can change to disable to disable the Bit Alarm use.

Read address: To use the internal bits of PLC or HMI as set values.

Block size: Sampling numbers of alarm block.

Read interval: Sampling time interval of an alarm block(1-3600 sec)

Level: Assigns different alarm's priorities from 1-8, from the lowest to the highest 8.

Record the alarm: Saves alarm events to the HMI historic data.

Display the alarm message: When the specified bit in PLC is On, display alarm message on the screen.

Display a window screen: When the specified bit in PLC is On, display assigned screen.

Play a multimedia file: When the specified bit in PLC is On, play an assigned multimedia file.

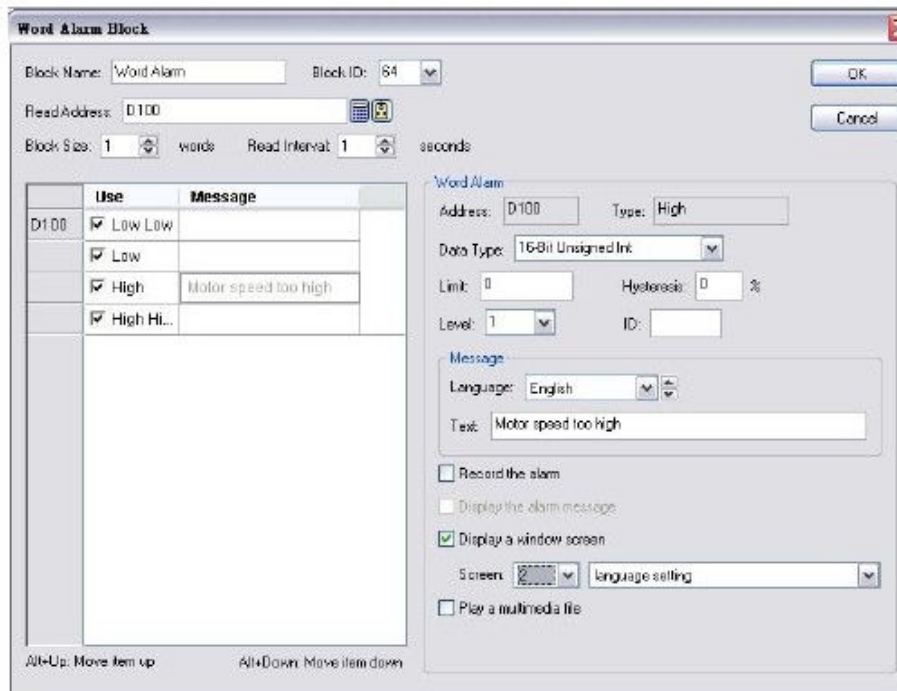


Figure 2-41 Object properties dialogue \_Word Alarm Block

Word alarm block: Read the value from specified PLC bit, and display the text messages according to the read value.

Read address: To use the internal bits of PLC or HMI as set values.

Block size: Sampling number of alarm block.

Read interval: Sampling time interval of an alarm block(1-3600 sec)

Limit : Setting the alarm limitation. When the sampling value is lower than the limit value then trigger the high limit alarm.

Hysteresis : When the sampling value is equal to the hysteretic value then it will not trigger the alarm, but if the sampling value is more than the hysteretic value it will trigger the alarm.

Level: Assigns different alarm's priorities from 1-8, from the lowest to the highest.

Record the alarm: Saves alarm blocks to the HMI historical data.

Display the alarm message: When the specified bit in PLC is On, display alarm message on the screen.

Display a window screen: When the specified bit in PLC is On, display assigned screen.

Play a multimedia file: When the specified bit in PLC is On, play an assigned multimedia file.

Alarm Display : There are 4 selections. The HMI will monitor the specified bit value and transform to coordinated alarm data according to the scan interval time setting.

Alarm History : HMI reads values of specified registers from PLC regularly, transforms to bit alarm messages displaying on the screen and records in HMI to make a historical table.

Alarm Count : The HMI calculates showed alarm messages and display the total count on the screen.

Current Alarm : The HMI displays current alarm message only.

Alarm Marquee : The HMI displays current alarm marquee only.

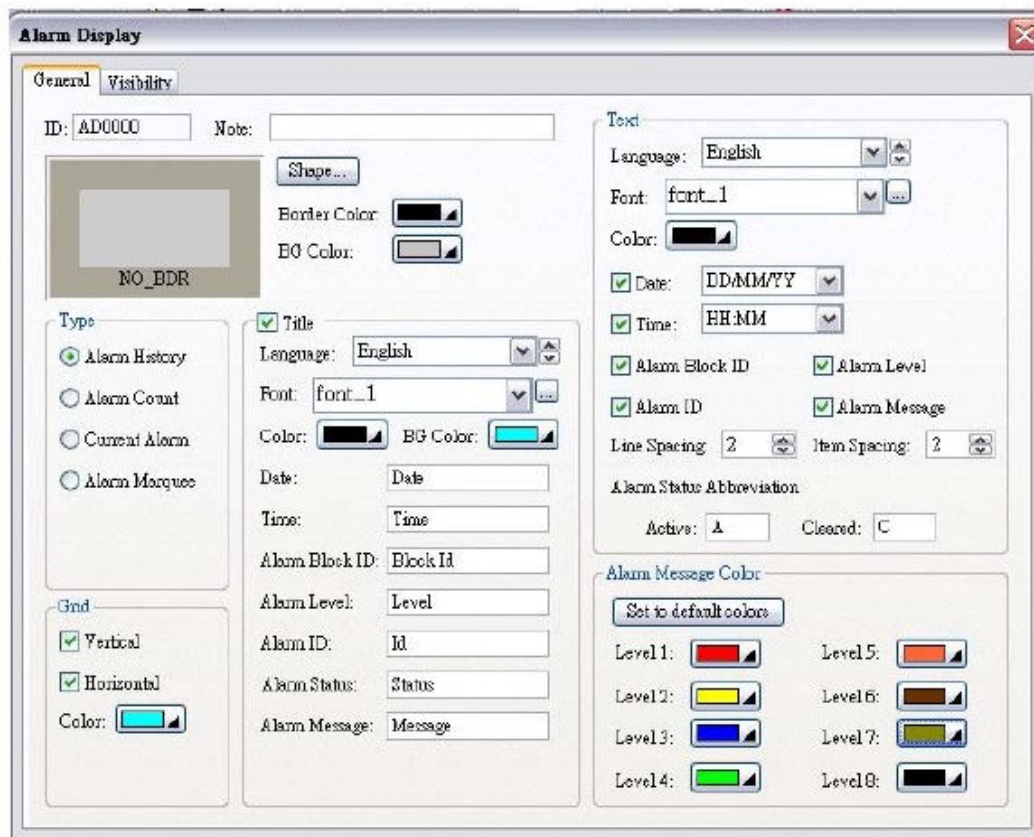


Figure 2-42 Object properties dialogue \_Alarm Display



There are "A" / "C" signs in alarm display which mean that,

Notice 2015 "A" The alarm message is executing.  
"C" The alarm message is cleared.

## 2-6-23. Historic Display



There are three selections in Historic Display which settings should coordinated with the data logger settings. The data logger is the sampling data from PLC saved to HMI Battery Backup SRAM(non-volatile memory) for the Historic Display Objects to pick up reference data and perform the historic data display, historic message display and historic trend display. The Data Logger settings are shown as following.

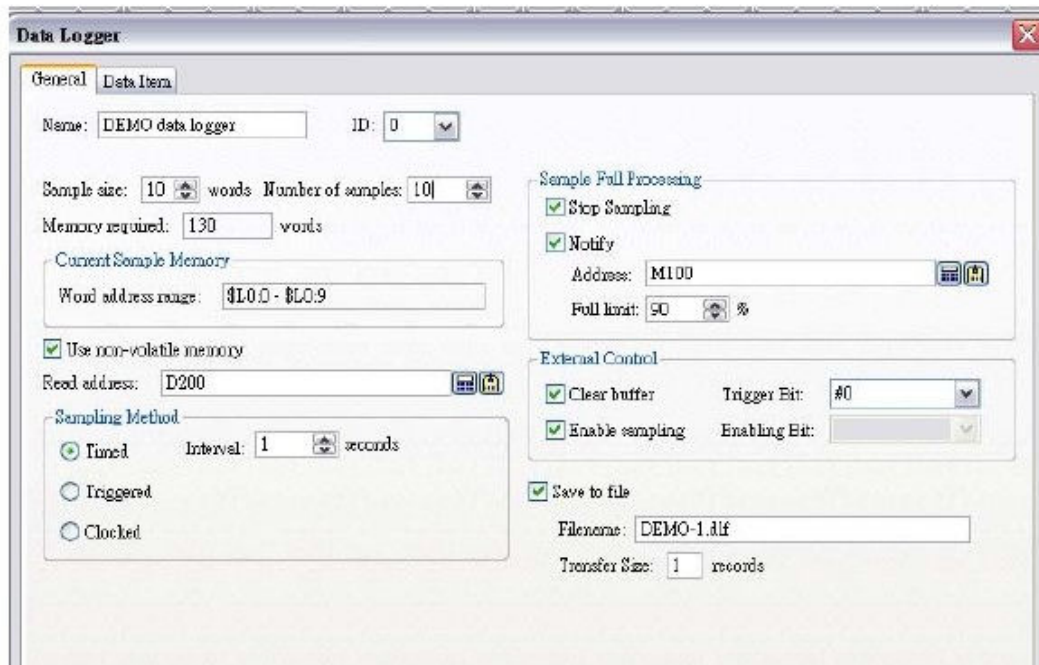


Figure 2-43 Object properties dialogue \_Data logger (General)

Name: Name for a data logger.

ID: Use Historic Display according to name or ID number to assign a specified position.

Sampling Size: The sampling number of a historic display.

Number of samples: The total sampling number in a historic display.

Memory required = (Sampling length) x (total sampling number) + ((total sampling number) x 3 ("3" is the registers number occupied by the RTC)

Use non-volatile memory: Clicks to use non-volatile memory.

Sampling Method:

Timed: Sampling according to specified time. (the unit is "sec" the setting range is from 0-65535 sec)

Triggered: Sampling according to trigger bits in the Command Block.

Clocked: Sampling by clock. (the unit is "min.", the setting range is from 1-60 min)

Sampling full processing:

Stop sampling: Specifies to stop sampling.

Notify: Specifies to notify assigned bits when the sampling amount reaches the set number.

External Control:

Clear buffer: Clears the value from the internal memory when an assigned trigger bit be triggered.

Enable Sampling: Specifies when to start sampling.

Save to file: Saves the sampling data to specified files.

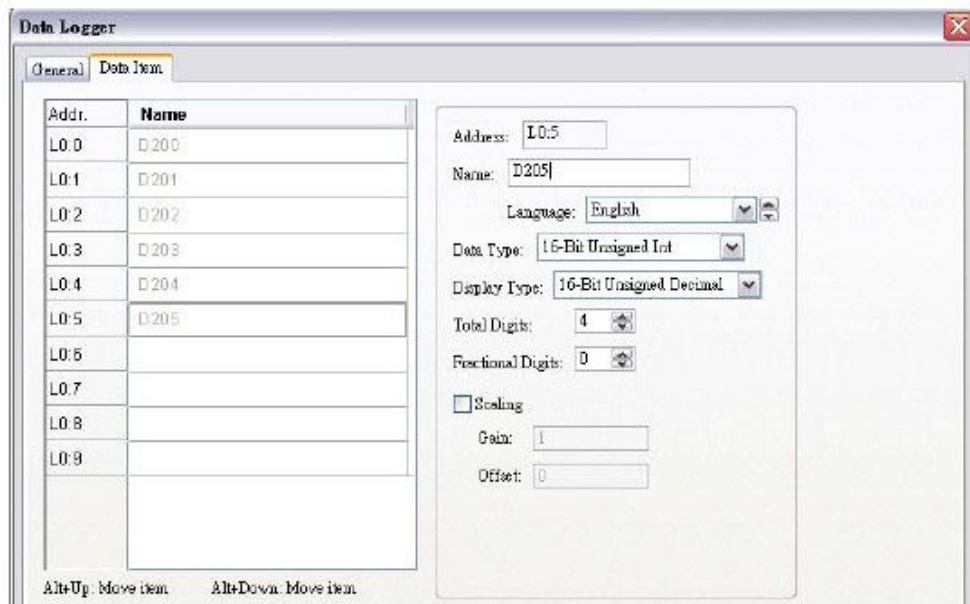


Figure 2-44 Object properties dialogue \_Data logger (Data Item)

Name: Give a Name for each Data to be distinguished.

Total Disgits: Assigns total disgits for different Data. (from 1-10)

Fracrional Digits: Assigns fracrional digits for different use. ( Should be assigned less than total disgits).

Scaling:

It supports only when the value is in BCD mode. Scaling formula ( $Y=aX+b$ ).

$Y$ =Display Data on HMI,  $X$ = PLC written value,  $a$ =Gain,  $b$ =Offset

So, If sets  $a=0.5$ ,  $b=2$ , when enters 10( $Y=10$ ), PLC will write 16( $X=16$ ).

Historic data display: After long time constantly sampling, the HMI will transform the sampling values to display on the screen.

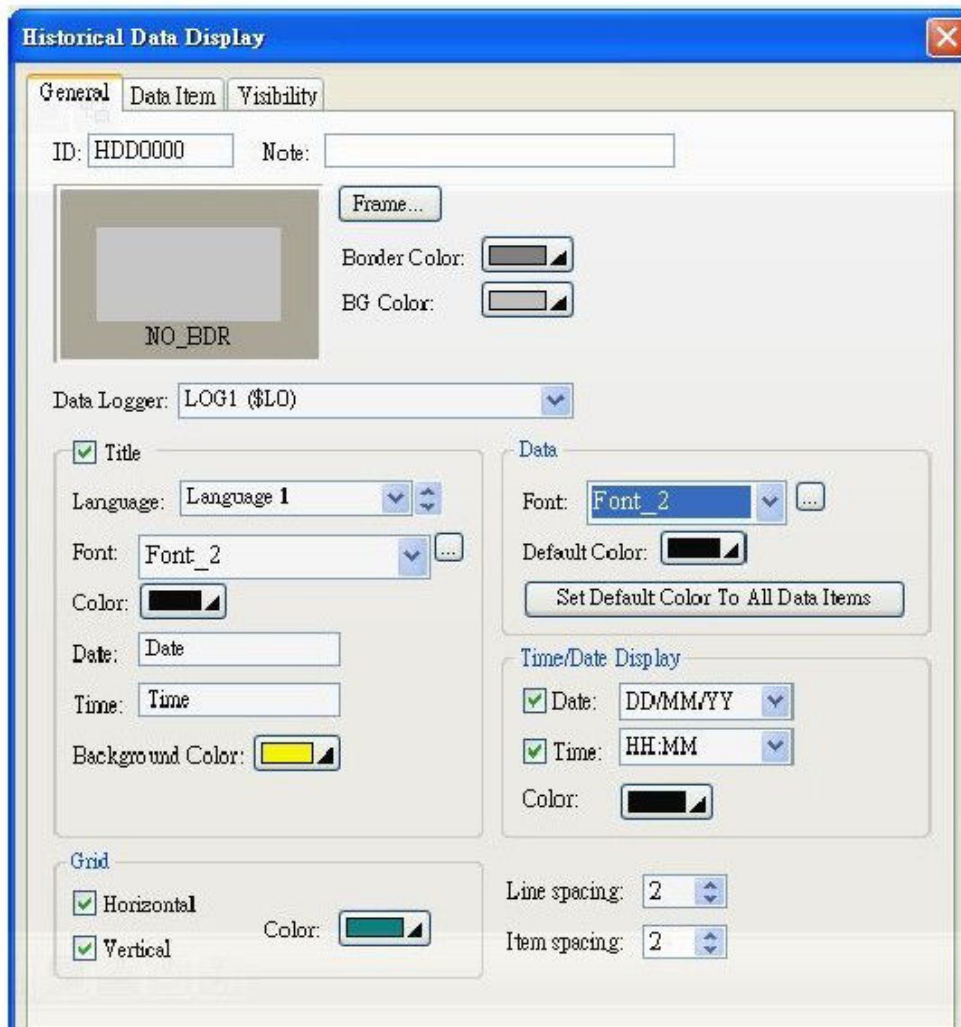


Figure 2-45 Object properties dialogue \_Historic data display

Historic message display: The HMI reads register's value or LSB bit of specified registers from PLC regularly , transforms them to message and records on the screen.

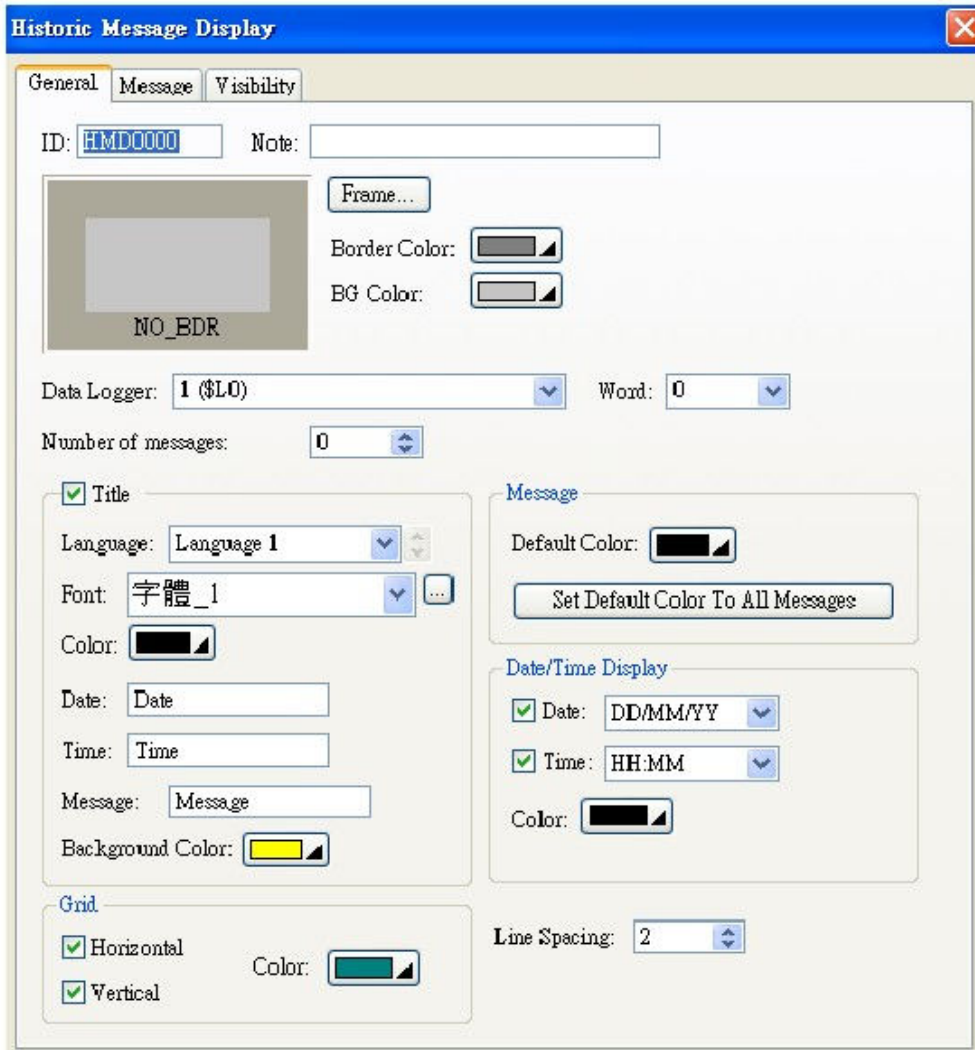


Figure 2-46 Object properties dialogue \_Historic message display

Historic trend display: Sets a fixed sampling time or triggers from PLC to read value from specified registers and saves to HMI data logger. After long time constantly sampling, the HMI will transform the sampling values to display on the screen.

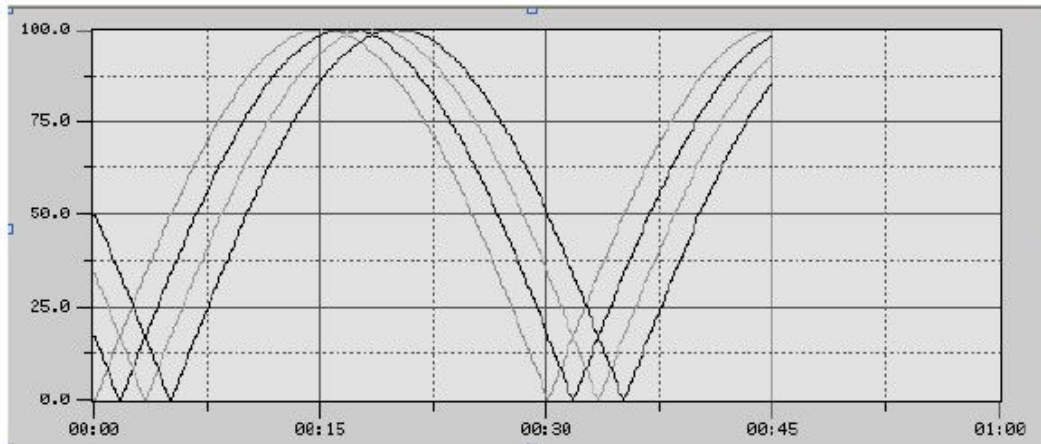


Figure 2-47 Object properties dialogue \_Historic trend display