

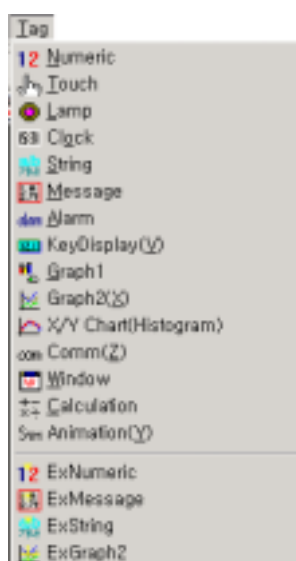
Chapter 7 . Tag

Tag is a dynamic mediator that

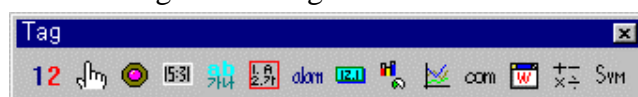
reads data of external controller under particular condition or time-interval,
writes to external controller under particular condition or time-interval

(1) Registration of Tag

- 1) Case 1 : Select an sub-menu(tag item) on main Tag menu.



- 2) Case 2 : Select an tag item on tag tool bar.



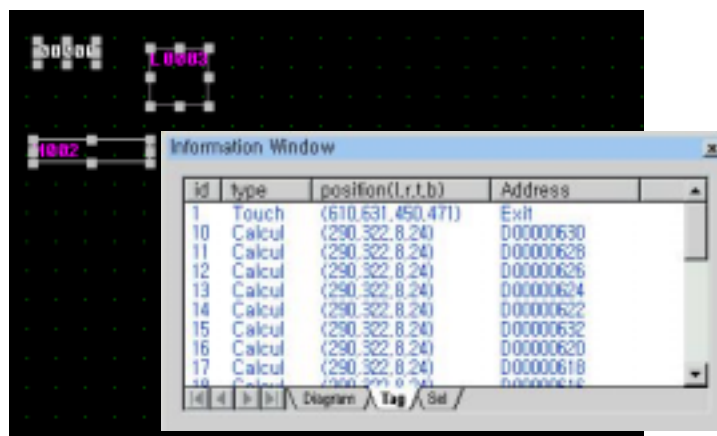
(2) Edit of Tag

1) Select and Cancel

- To select, on selection mode (with a selection tool icon), click around the edge of tag with left mouse button or click in the *tag's Name* with left button. Dragging mouse from left to right, it enables tags inside of dragged area to be selected. Dragging mouse from right to left, even a little touched tags are selected.
- On information window, click tag tab and select a tag to select. Information

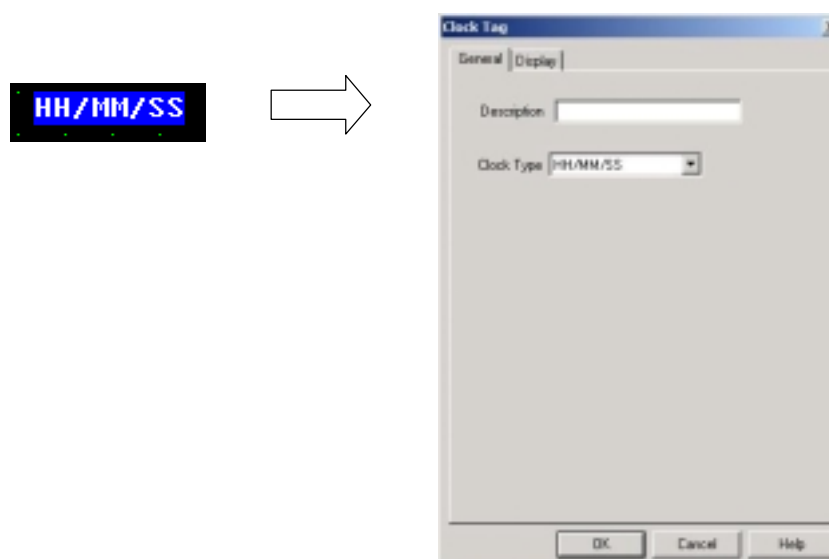
window's selection tab shows all of selected tags.

- Selected tag is shown as rectangle with white-gray dotted points(tracker).
- To select several tags, drags mouse over areas including the tags.
- To cancel, click unoccupied area of screen with left mouse button.

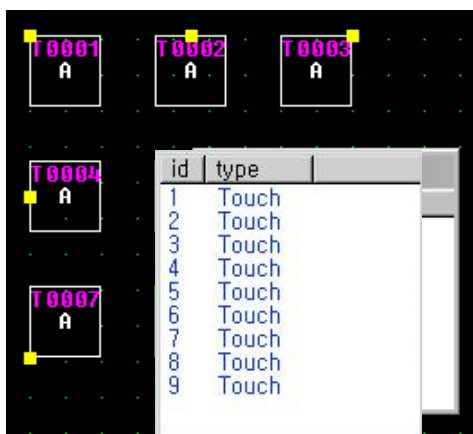


2) Modify

- Click a tag with right mouse button and select 'Attribute'
 - Or, double click a tag with left mouse button
 - Or, double click a tag's Name(ex) T0002) with left mouse button
 - Or, double click a tag among tag list of information window
 - Or, select 'Tag list' menu on 'View' menu, and select the tag, and after changing the properties, click 'Modify' button
- Tag dialog box appears as follows.

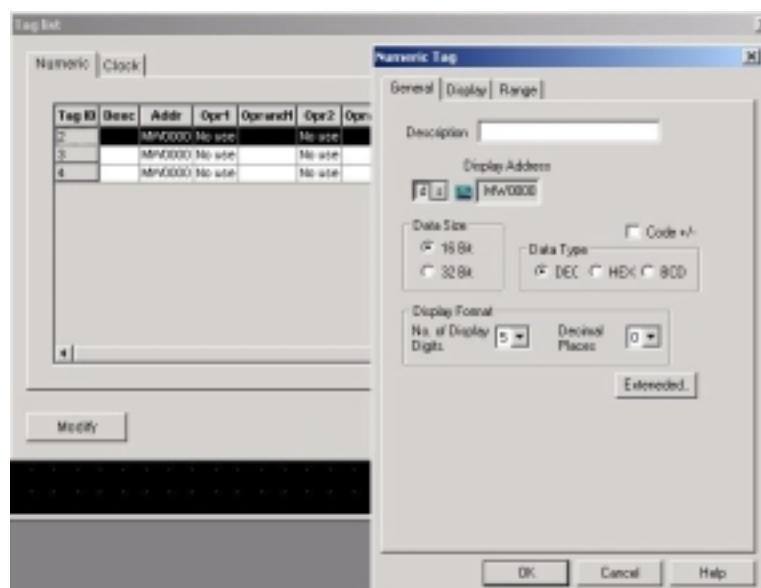


- To modify a group or already selected several tags, double click them with left mouse button. Modification list appears. Double click one of them and modify properties on the shown dialog box.




Or, Select 'Tag list' on 'View' menu, and select a tag(must select by *clicking a Tag ID*) and after changing properties, click 'Modify' button.

It makes same results with double clicking the tag.

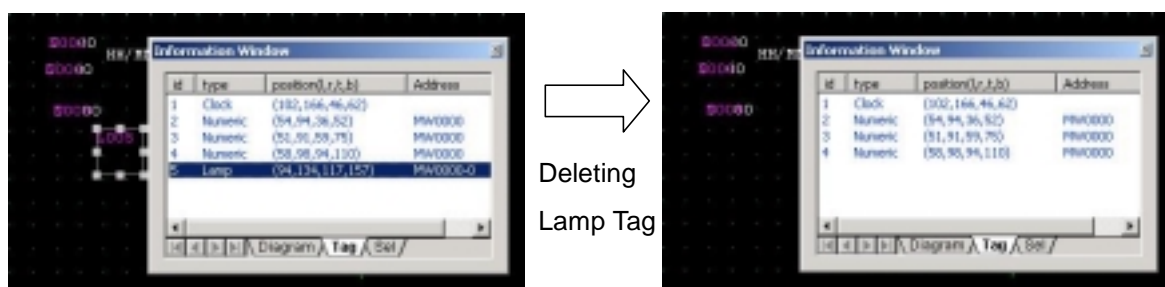


3) Move

Select a tag and drag the tag to other position. To move dot by dot, select a tag and use the buttons as like as next arrow keys,  or arrow keys(up, down, left, right) of keyboard.

4) Delete

- Press 'Del' key on keyboard
- Or select 'Delete' menu on 'Edit' menu
- Or click a tag with right mouse button and run 'Delete' on sub menu .
- Or select tag on tag tab of information window and press 'Delete' key

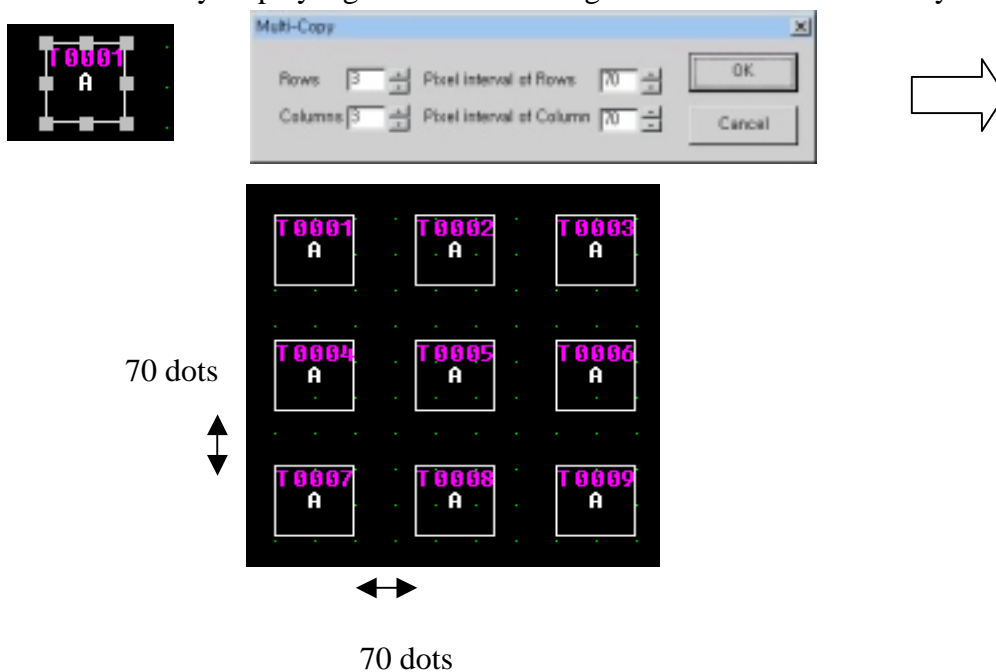


5) Copy (Ctrl+C)

- With selected tags, run 'Copy' of 'Edit' menu.
- Or click a tag with right mouse button and run 'Copy' of sub menu .
- Or click a tag with left mouse button and press 'Ctrl+C'

6) Multi copy

- Select a tag and run 'Multi copy' of 'Edit' menu
- Write number and interval of column and row.
- Click 'OK'
- Address of 'Key display tag' and 'Numeric tag' is increased automatically.



7) Paste (Ctrl+V)

Run 'Paste' of 'Edit' menu.

Or press 'Ctrl + V'

8) Cut (Ctrl+X)

Press 'Ctrl + X'

Or click object-tag with right mouse button and run 'Cut'.

Or run 'Cut' of 'Edit' menu

9) Group and Ungroup

- It is possible to form group 1) group with group 2)groups with group 3)groups with groups 4) group with a tag 5) group with tags 6) tag(s) with tag(s).
- Select tag(s) or group(s) to form group. And click right mouse button and run 'Group'
- To release group, run 'Ungroup'
- Editing functions or properties of any tag of group is available as like 1 diagram.

10) Resize

Select object-diagram

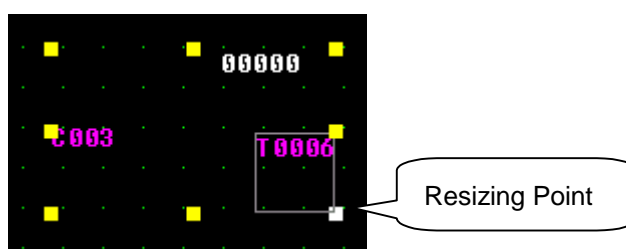
Move mouse around white rectangle point(tracker) of the selected tag, but some tags(ex. Numeric tag) can not be resized.

Arrow cursor appears

Drag the arrow cursor to any direction, the tag is magnified or reduced

Or, Push arrow key(Up,Down,Left,Right) of keyboard.

To resize Group, drag bottom-right's white rectangle of object-group to other points.



 **Note** Tags capable of being resized by mouse dragging

- Touch Tag, Alarm Tag, Lamp Tag, Graph 1 Tag, Graph 2 Tag, X-Y chart Tag, ExGraph2 Tag are capable of being resized by mouse dragging
- For other tags, adjust tag's size on 'Font Pixel' and 'Character size' of 'Display' tab of Dialog box by double clicking object tag

(3) Organization of Tag dialog box

1) General Tab

Sets basic description or running condition of tag

2) Operation Tab

Sets basic operation

3) Range Tab

Sets address value's range to take different running for each different ranges

4) Display Tab

Sets Font type, color and size of tag

General | Display | Range |

or

General | Display | Operation |

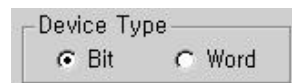
(4) Setting

1) Description

Describes tag simply. Available character length is maximum 40

2) Device, System buffer and Constant

Writes the address of (controller)device, system buffer and constant to create tag as follows



[d] : Determines external controller device's address to write or read data

On 'Bit' condition, It is capable of selection from 0 to 15 for 16bit device, from 0 to 31 for 32bit device, from 0 to 7 for 8bit device.

[s] : Determines system buffer's address to write or read data

[c] : Writes operand's value directly to calculate or operate.

This button is available in Numeric, ExNumeric, Touch, Calculation Tags.

[Operator]

NA : Not Available

+ : Sum up

- : Subtract

× : Multiply

/ : Divide

% : remainder by division

&(AND) : logical AND operation

| (OR): logical OR operation

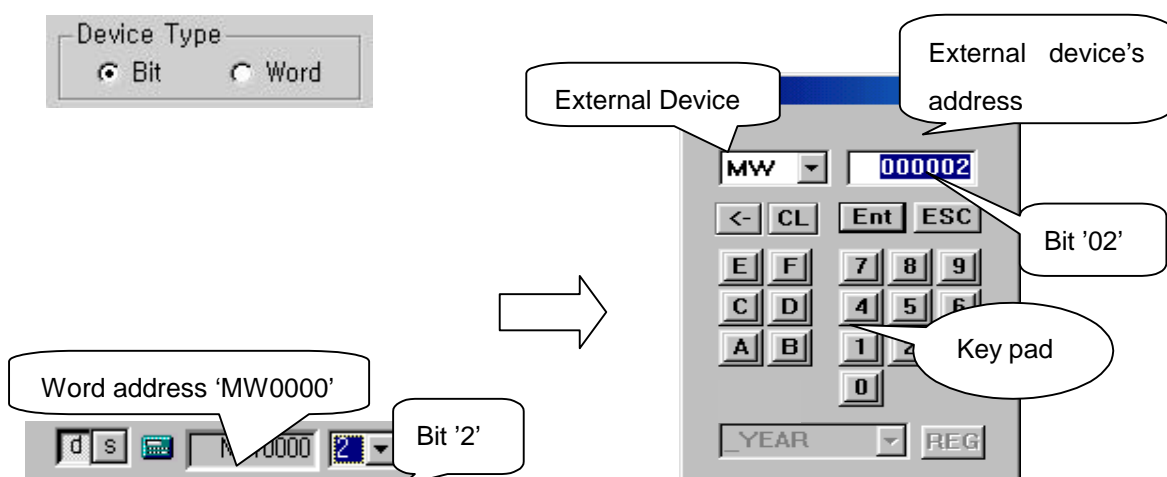
^ : logical Exclusive OR operation

<< : Shift left(Bit operator)

>> : Shift right(Bit operator)

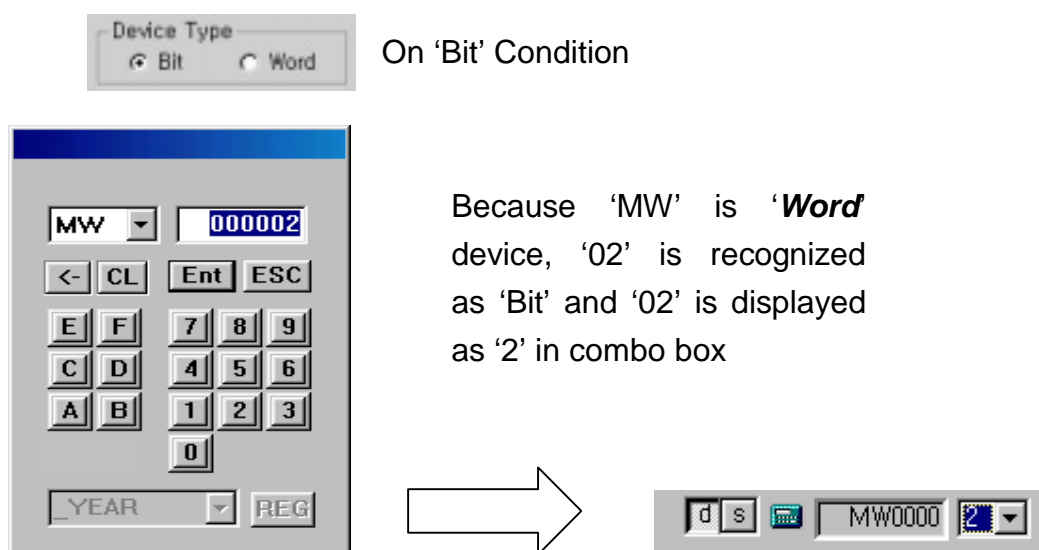
Device's address

- To write or read external device's address, press **d** , and click
- As address setting dialog box appears, the address is divided into device name and address part as follow,




- To select controller device's address, select controller device's name(D, M, T, etc) in left combo box, and write the device's address by use of keypad or keyboard. And click **Ent** key.

For example,



- With wrong input, 'Input error' message shows,

System Buffer

- Press **S** and click .
- A dialog box for address setting appears with initial value.
- System Buffer is "WORD" device. On 'Bit' condition, Edit box's value is divided as 2 parts. For example, if edit box's value is '10002', last 2

digits("02") afterwards is acknowledged as bit of System Buffer. And the remainder("100") is acknowledged as system buffer.



- System buffer
System buffer uses the inner memory area from 0 to 1023(A Series : 0~3068).
- Special buffer
Special buffer is for special functions as like year/month /day /hour /minute /second /timer /etc.
- Bit of Special buffer is not available on 'Bit' condition.

- To select special buffer, select a special buffer in combo box. And then, it is displayed in edit box.



Note Special Buffer List

_SCR_NUM(Screen Number) : Screen number on running (Writing a value to this buffer, Screen would be changed into a screen named by the value)

_KEY_ENT(Enter key) : If press 'Enter' key on running, value is changed to '1'. And then, it doesn't go back to '0'.

_KEY_DSP(Key Display) : Key display data on running

_SCR_SVE(Screen Off setting) : If value is not '0' on running, backlight is turned off. By touching again, backlight is turned on and value is turned back to '0'.

- _RTC_YER(Year) : Year data of RTC (BCD 1999 ~ 2098)
- _RTC_MTH(Month) : Month data of RTC (BCD 1 ~ 12)
- _RTC_DAY(Day) : Day data of RTC (BCD 1 ~ 31)
- _RTC_HUR(Hour) : Hour data of RTC (BCD 0 ~ 23)
- _RTC_MIN(Minute) : Minute data of RTC (BCD 0 ~ 59)
- _RTC_SEC(Second) : Second data of RTC (BCD 0 ~ 59)
- _T1S(1 second) : Counts from 0 to 65535 on every second
- _1ON(First scan 'ON') : If it starts running or it change screen on running, value is changed to '1' at first scan
- _1OFF(First scan 'OFF') : If it starts running or it change screen on running, value is changed to '0' at first scan
- _STOG(Scan Reverse) : On every scan, value is reversed from '0' to '1' or from '1' to '0'
- _ON(Always ON) : Value is always '1'. If this special buffer is tag's starting condition, tag is executed on every scan, so scan speed will be slower.
- _OFF(Always OFF) : Value is always '0'. If this is tag's starting condition, tag is executed on every scan, so scan speed will be slower.
- _CN_ERR(Communication Error Information) : 'Communication Error Information' on running
- _AUX(AUX Value) : AUX terminal data on running. This value is available when there is AUX card
- _PARAM_DEFAULT_LD(Parameter Default Load) : If value is not '0', it loads parameter table in Flash memory to SRAM memory. After loading is completed, clears the buffer's value to '0' . As downloads project file to Machine, parameter default load is also executed 1 time automatically
- _PARAM_RESTORE(Parameter Restore) : If value is not '0', current data of working area(PLC or system buffer) are restored to memory just before new parameter is loaded to working area. This special buffer is beneficial to save current data and reuse it later. After restoration, the value of this buffer does not return to '0' automatically.
- _PARAM_SAVE(Parameter Save) : This is same with '_PARAM_RESTORE', but buffer value is changed to '0' after restoring automatically.
- _PARAM_CUR_BLOCK(Current Block Number) : This contains current working block number
- _LOGED_ONE_1~8(Completed one logging of Logging #1~8) : Value is changed to '1' whenever logging #1 is logged

_LOGED_ALL_1~8(Completed all logging of Logging #1~8) : Value is changed to '1' as all loggings of Logging #1 are completed

(_LOGED_ALL_8



_LOGED_CUR_BL_1~8(Logging #1's current logged Block Number) : Displays Logging #1's current logged block number. As 1 logging completed, value is changed to '1'

_LOGED_ALL_CLR_1~8(Clear all logged data of Logging #1~8) : If value is not '0', clears all logging data of Logging #1 and restarts logging. After clearance all logging data, changes this special buffer to '0' automatically

_RUN_OUT(Out of Running) : If value is not '0', it ends running

_BAT_WARNING(Battery warning) : When battery charge value is changed to '1', renew battery.

Constant

- Press  and click 
- Write value on keypad
- Press 'Enter' key.

The range of input value and key value would be different by constant's size(16/32bit) and constant's type(HEX, BCD, Decimal).

3) Font Pixel : 16*16(8*16) or 32*32(16*32)

- 16*16 (8*16) font : 16*16 font for Korean text, 8*16 font for English text or numeric text. Font type is Gothic(Default).
- 32*32(16*32) font : 32*32 font for Korean text, 16*32 font for English text or numeric text. Only system font is available.



[16*16]



[32*32]

4) Font zooming : Enlarges each width and length, maximum 8 times enlargement is available.

To enlarge 16*16 font to 32*32, 2 times width and 2 times length, it turns to 32*32.

32*32 Font pixel's character is more beautiful than enlarged 32*32(2 times

of 16*16) font character.



[1*3]



[3*1]

5) Text Color & Background Color (for color model)

: Select text color and background color in combo box as follows,



6) Align : Align is to display data within determined total digits



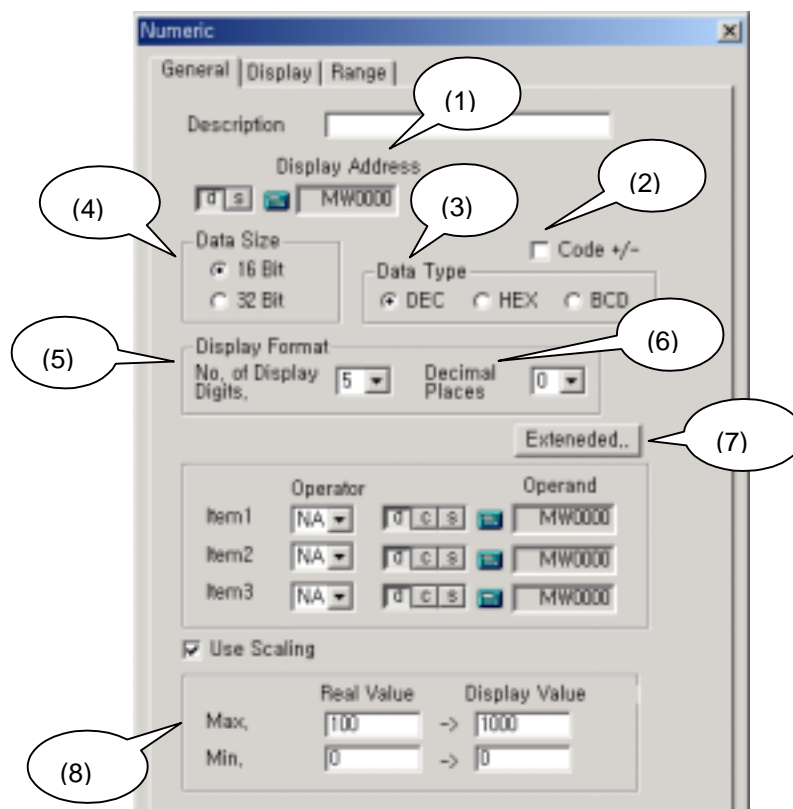
- Align left : Aligns data on left side of determined total digits 123
- Align right : Aligns data on right side of determined total digits 123
- '0' filled : 00123
Aligns data on right side of determined total digits and fills in '0' in vacant left space

7.1 Numeric Tag 12

Displays external device's real-time data on screen.

7.1.1 Setting

(1) General



- 1) Display address : Controller device's address to read
- 2) Code +/- : Determines whether to display device data's code or not
- 3) Data type : Decimal, HEX, BCD
 - DEC : Decimal. For example, 65535 is 65 thousand and 5 hundred 35
 - HEX : Hexadecimal. For example, 9h+1h=ah, fh+1h=10h.
 - BCD : Binary Coded Decimal. Each 4bit is 1 figure of decimal. For example, 9h+1h=10h. Clock data comes under BCD.

4) Data size : 16bit, 32bit

	Signed	Unsigned
Decimal	-32768 ~ 32767	0 ~ 65535
HEX		0 ~ FFFF
BCD		0 ~ 9999

[16 bit's Data size of each type]

	Signed	Unsigned
Decimal	-2147483648 ~ 2147483647	0 ~ 4294967295
HEX		0 ~ FFFFFFFF
BCD		0 ~ 99999999

[32 bit's Data size of each type]

5) No. of display digits : Total number of digits to be displayed. If data is larger than setting total digits No., the larger left digits are cut.

For example, Total digit number is '4',

12345 → 2345

6) Decimal places : Determine what size of decimal place is available.

For example, Data is 12345, Total digit number is 5, Decimal place is 1

12345 → 1234.5

If data has (+/-) code, total digit number has one more digit than setting digit number.

For example) Data is -12345, Total digit number is 5, Decimal place is 1

→ -1234.5

7) Extended

Sets calculation formula to be able to calculate with the value in saving address.



[Not selected]



[Selected]

Operand : Capable of selecting maximum 3 operands. Although numeric tag value changes, address value is not changed.

There are 3 kinds of operands, external device(d), constant(c), and

system buffer(s).

Operator

NA : Not Available

+ : Operand + Operator

- : Operand - Operator

× : Operand * Operator

÷ : Operand / Operator. Result is saved as 2 word data.

& : Operand AND Operator

: Operand OR Operator

^ : Operand XOR Operator

<< : Shifts Object to left as long as Operator

e.g.) 1101 0111 0010 0110 << "2",

then becomes 0101 1100 1001 1000

>> : Shifts Object to right as long as Operator

e.g.) 1101 0111 0010 0110 >> "2",

then becomes 0011 0101 1100 1001

8) Use scaling

Displays numeric value as scaled value. Suppose real value goes from 0~10 and scale factor is 0~100. If value is 5, Numeric tag displays 50. scaling only change display but not change real value itself.

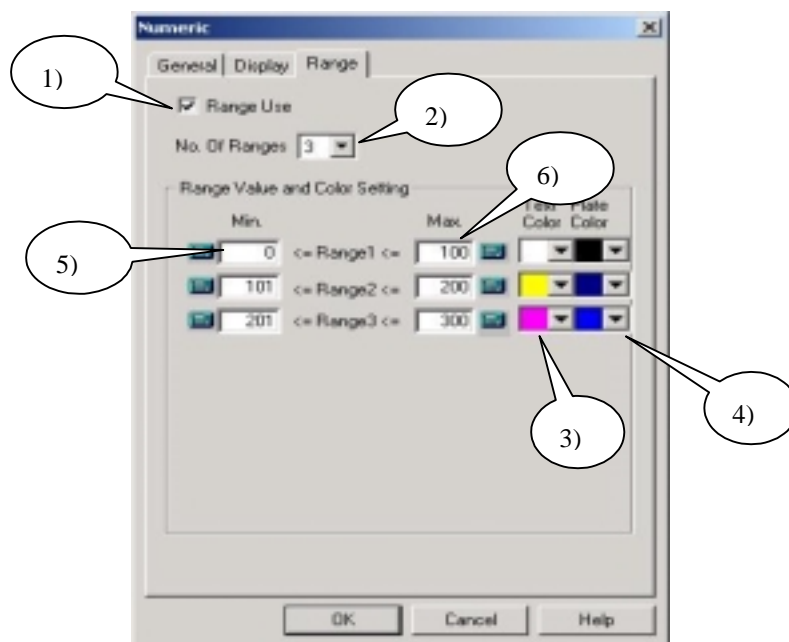
(2) Display

Sets display style, Font, Color, Alignment, etc. Refer to chapter 7. (4) 'Setting' for detail information about Font, Pixel, Character size, Color, Alignment.



(3) Range

Displays different colors for different ranges. Without this setting, numeric tag is displayed with text color and background color determined in 'Display' tab.



- 1) Range Use : Click the check box to set each colors for different range.
- 2) No. of Ranges : Min. 1 ~ Max. 8 is available.
- 3) Text Color : Select text's color
- 4) Background Color : Select background's color
- 5) Min. value : Minimum value of range
- 6) Max. value : Maximum value of range
- 7) Click 'OK' after finishing setting



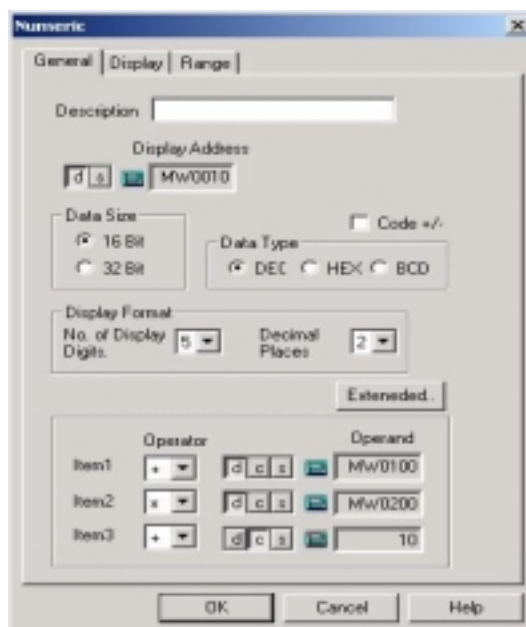
Caution : Ranges should not be overlapped each other.

7.1.2 Example

Register a numeric tag

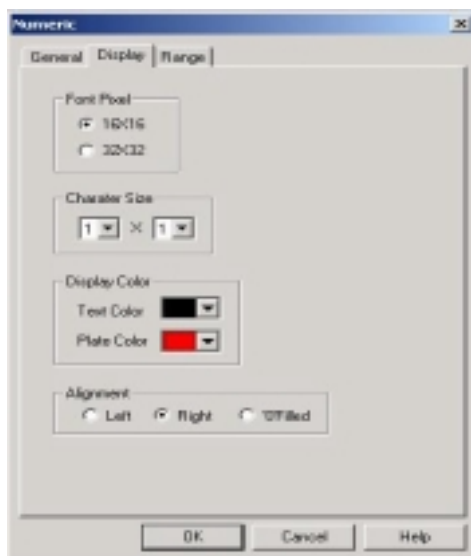
- displays MW10's value as [MW10+MW100*MW200 + 10].
 - Data is 16bit DEC value with code (+/-), No. of total digit is 5, Decimal place is 2.
 - If MW10 is between 0 ~ 200, text color is blue and background color is yellow.
 - If MW10 is not the range, text is black and background color is red.
- (This is a example based on color model, it would be some different for other models)

- Address : MW10
- Code +/- : checked
- Data size : 16 bit
- Data type : DEC
- Display Format : Total digit is 5, Decimal place is 2
- Result value : MW10+ MW100*MW200 + 10
- Use scaling : Unchecked

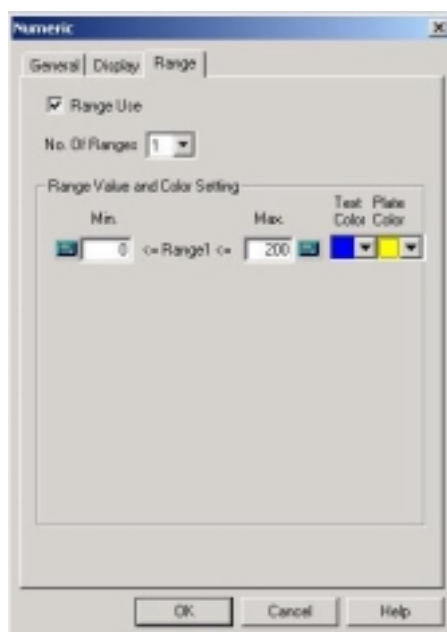


- Font pixel : 16 * 16
- Character size : 1 * 1
- Color : Text is black, background is red

- Alignment : Right



- No. of Range : 1
- Range 1 : Min. value is 0, Max. value is 200, Text color is blue, background color is yellow.



On PC ⇒ 000.00

On Main unit(if address has value) ⇒ 486.82

Note : Code (+/-) occupies 1 digit.

7.2 Touch Tag

- Sets touch area on screen (= Registers touch tag on screen)
- Executes operation of bit or word, or special operations by touching the touch tag.

Note :

Matrix type touch is applied to most series, so minimum touch area is 20dot * 20dot. It had better make touch tag's size as 20dot * 20dot.
(if register 2 touch tags overlapped on 20*20 touch cell, more a occupied touch tag is available)

(1) Attention

Don't register Touch tags overlapped. Overlapped registration may make malfunction.

To register touch tag, it had better make the size as 20 * 20 dot.

(2) Use of Touch tag

It is capable of being used as Momentary switch, On switch, Off switch, and Reverse switch.

It is capable of being used to write word data in controller device.

Key function is capable of being used as Ten Key's numeric key or Text key to write text

It is capable of being used as the switch to execute special function (Change screen, Back to pre-screen, Exit running, Screen printing, Logging data printing, Alarm history printing, etc)

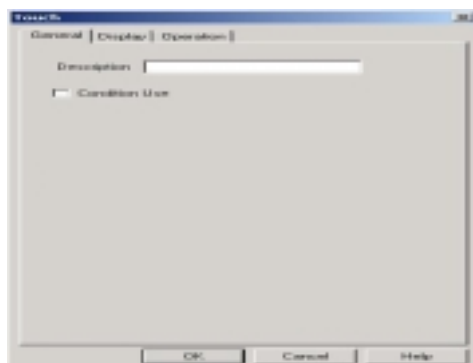
7.2.1 Setting

(1) General

Set conditions to calculate in 'Operation' tab.

1) Condition Use

Not checked : Execute the operation whenever touched.

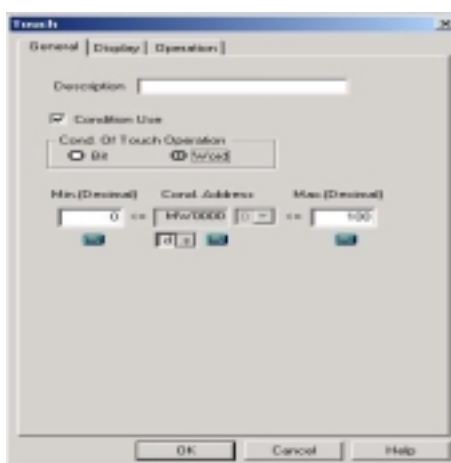


Checked : Execute calculations by the condition in 'Operation' tab only when determined 'Bit' or 'Word' condition is satisfied.

- Bit Condition : Determine address and bit, and when the bit is 'On (0 → 1)', touch tag operates.



- Word Condition : Determine minimum value and maximum value, and when the address value is within the range, touch tag operates



(2) Operation Type

When the 'General' tab's determined condition is satisfied, 4 kinds (bit, word, key, special) operation are available.

1) Bit Operation Type

When touch tag is pressed, it changes a bit value of selected buffer 'from 0 to 1' or 'from 1 to 0'.

Operation address

Select device and bit to be operated by pressing touch tag.

For 16bit address, it is possible to choose from 0 to 15 and for 32bit address, it is possible to choose from 0 to 31

Operation type

- ON by touched : bit value is '1' as being touched, '0' as being untouched.
- On : bit value becomes '1' after touching
- Off : bit value becomes '0' after touching
- Reverse : bit value is reversed by touching, 'from 0 to 1' or 'from 1 to 0'



2) Word Operation Type

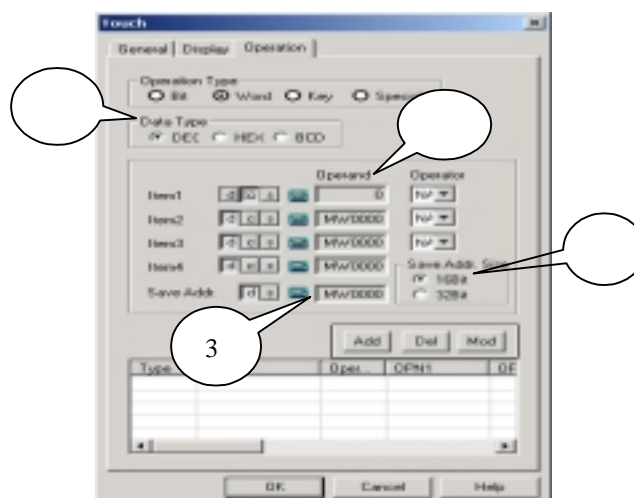
Saves and Moves the result(which is calculated by operand with operator on some condition) in saving device.

Data type : Decimal, HEX, BCD

Operand : Capable of selecting maximum 4 operands. Operand is used for calculation, but is not changeable. Operator types are same with those of numeric tag.

Saving address : Select device address to save calculation result

Saving address's size : Determines the size of device, 16bit or 32bit.

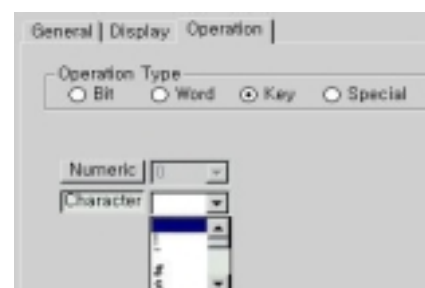
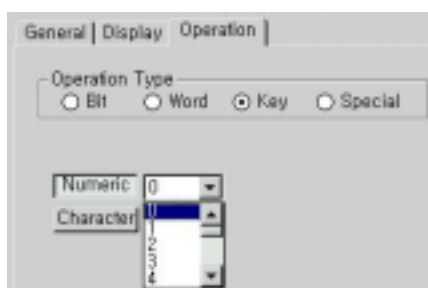


3) Key operation Type

Creates numeric key or text key to write the key's value in 'Key Display' tag.

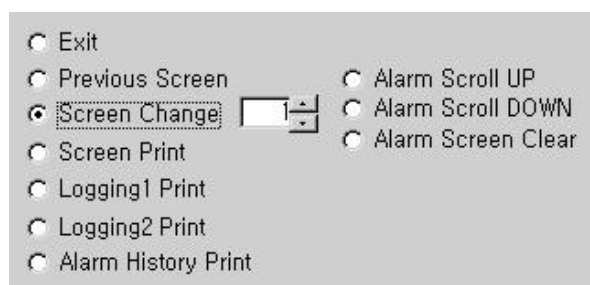
Select 'Numeric' key or 'Text' key. Generally, Key operation is used with key display tag. If touch tag has key operation function, Key display tag displays key value of the touch tag.

- Numeric Key : Choose one among '0 to 9', 'A to F', '-', ENTER, CLR, BS, '.'
- Text Key : Choose one among 128 ASCII code character, ENTER, CLR, BS



4) Special operation

Creates special tag to execute special operation by touching.



Exit : Exits from running mode and turns back to main menu mode

Previous Screen : Calls previous screen displayed before. It is capable of calling, maximum 10 screen.

Screen Change : Changes to the specified screen

Screen Print : Prints current screen

To print, set 'Print Type' in initial setting menu.

- HP Deskjet 100 DPI : Prints with fast speed. It takes about 15 seconds

to print 1 page. This has 2 levels of Gray scale, and is capable of printing horizontally.

- HP Deskjet 75 DPI : Prints as full size of screen vertically. This has 2levels of Gray scale and it takes about 26 seconds to print 1 page.
- HP Deskjet 600 DPI : Prints as full size of screen vertically. This has 16levels of Gray scale and it takes about 3 minutes to print 1 page.



Caution : During printing, Panel(Main unit) does not communicate with external controller(PLC) !

Logging 1~8 print : Prints logging 1~8

[LOGGING DATA]							
2000/02/21		12:00:05					
12345	67980	12345	67890	12345	67890	12345	67890
12345	67980	12345	67890	12345	67890	12345	67890
12345	67980	12345	67890	12345	67890		
2000/08/28		15:05:55					
12345	67980	12345	67890	12345	67890	12345	67890
12345	67980	12345	67890	12345	67890	12345	67890
12345	67980	12345	67890	12345	67890		

Logging data

Alarm history print

[Alarm History]						
No.	Group	Date	Time	ON/OFF	Description	
001	A	2000/8/28	16:14:57	ON	ALARMDATA1ALARMDATA2ALARMDATA3 ALARMDATA4...	
003	B	2000/9/3	16:12:00	ON		

40 characters are available in 1 row.

Alarm Scroll Up/Down/Clear : In Alarm tag, use these keys.

: To scroll or clear alarm list in alarm tag, register touch tag having these functions.

[Add/Delete/Modify]

It is possible to add Max. 10 operations.

- 1) Add : After setting operation type, click 'Add' button. Then, new line is added.
- 2) Delete : Select a line to delete, and click 'Delete' button
- 3) Modify : Click a line to modify, then relevant parameters are displayed in dialog box. Modify the specifications and click 'Modify' button, the line is modified.

Type	Device	Ope...	OPN1	OPR1	OP
Word	D:MW0000		D:MW0000	NA	D:I
Special					

 **Caution : Error message**

Without selection any line and click 'Delete' or 'Modify'



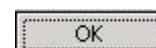
Or



Without registration any operation condition in 'Operation' tab and click 'OK'



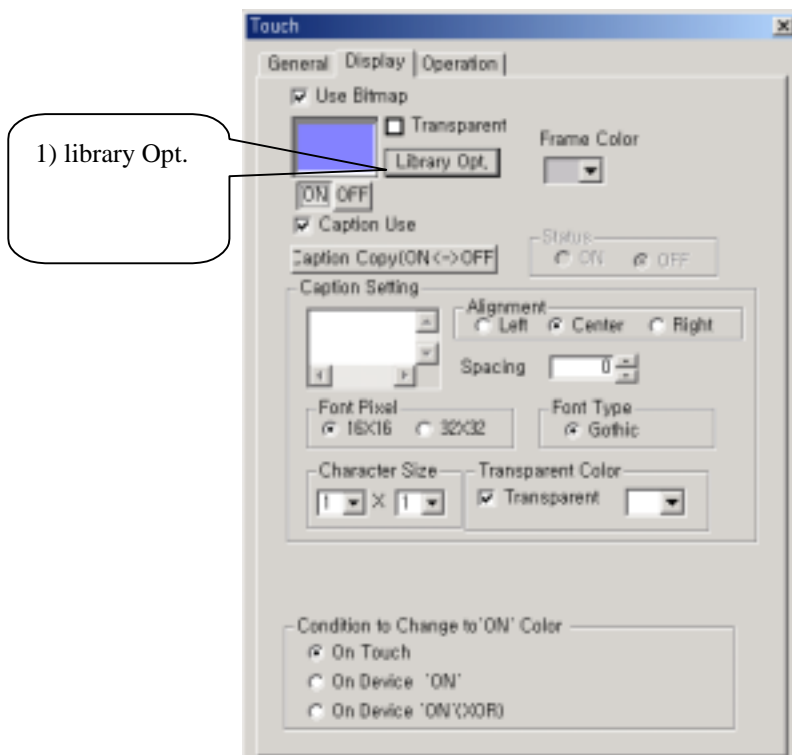
=> After registration click



For 'Special operation' or 'On by touched' operation, it is possible to register just one.

Maximum 10 registration is available.

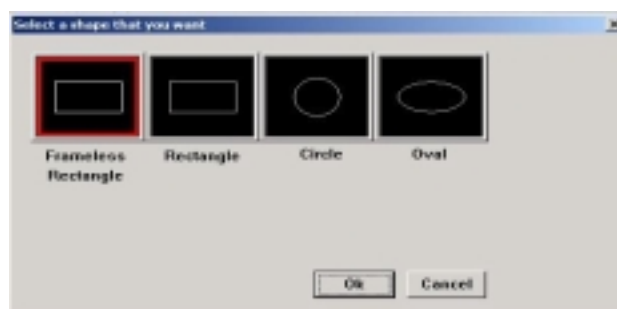
(2) Display



1) Library

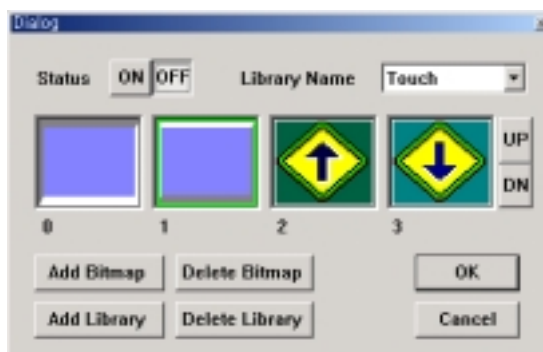
- Use Bitmap : Uncheck

Click 'library' button, a dialog box appears to choose tag's shape, There are Frameless rectangle(Default), Rectangle, Circle, and Ellipse.



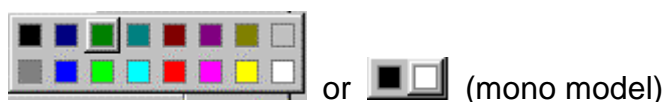
- Use Bitmap : Check

In Advanced model, can use bitmap(up to 256 color) by On/Off touch tag's shape.



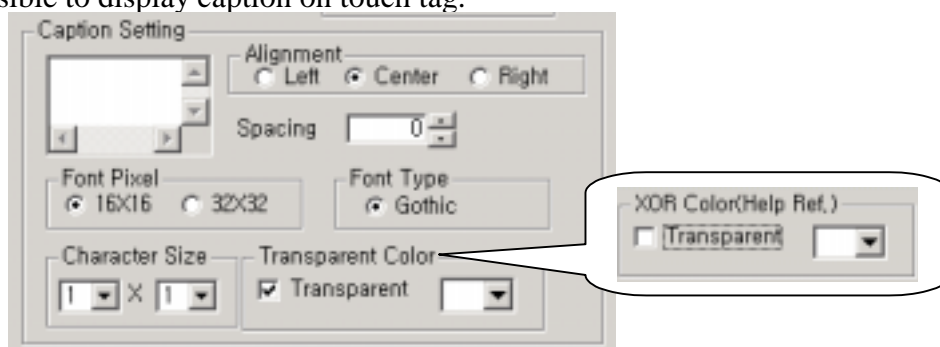
2) Frame color

Select Frame color. 'Frameless rectangle' is not available to determine frame color. In case of using 'Use Bitmap', It is no meaning.



3) Caption Use

It is possible to display caption on touch tag.



Caption : Write text to display

Font Pixel : Select Front pixel and type

Character size : Select Caption's character size

Transparent color : Select 'Transparent' check box in order to use transparent caption color. Uncheck to use XOR color.

[Caution : For transparency, black color is not available]

XOR color : Select XORed color between text color and background color

XOR black color makes caption color be same with background color.

So, 'XOR black' is not available.

4) Touch color Use

- Determine whether to use 'touch color' or not.
- Not checked : Color is not changed by pressing touch tag.
- Checked : Color is changed by pressing touch tag when 'touch display condition' is satisfied. As untouched, it recovers original color.

[Touch Display Condition]


- On Touch : Color is changed to 'ON' color by touching. And by taking off, color is changed to 'OFF' color.


Caution

Except (both visible and invisible) rectangle tag in 'On Touch', all of touch tags display 'ON' color or 'OFF' color. But rectangle touch tag in 'On Touch' displays XOR-operated color.

- On Device 'On' : When selected bit is '1', color is changed to 'ON' color and When the bit is '0', color is changed to 'OFF' color irrespective of the shape of touch(rectangle/ellipse/circle)



-  **Caution** For circle and ellipse, frame color should not be same with 'ON' color or 'OFF' color.

- On Device 'On'(XOR) : When selected bit is '1', color is changed to *XORed* 'ON' color and When the bit is '0', color is changed to original color.



Note : XOR(Exclusive OR)

'0 XOR 0' is 0, '0 XOR 1' is 1, and '1 XOR 1' is 0

e.g.) 'Black XOR White' result in white, 'Black XOR Black' results in black



(General)



(XOR)

7.2.2 Examples

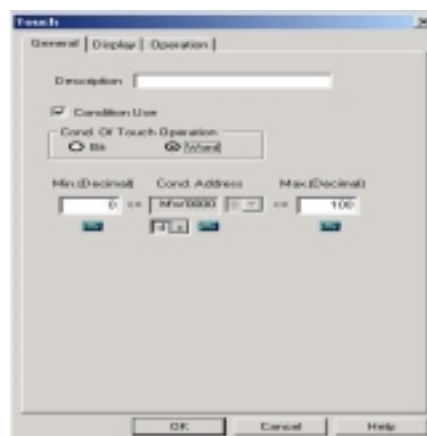
(1) On Word Condition

Register a touch tag

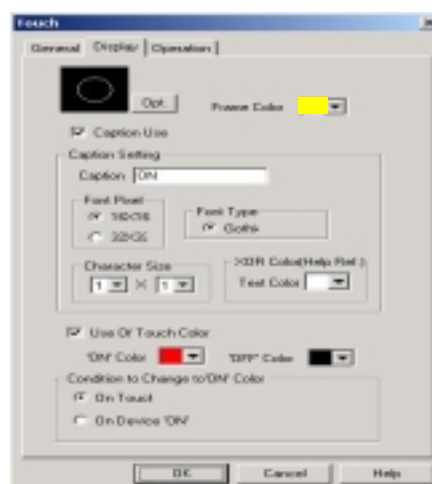
- Operation condition of touch tag is when word device MW0 is between 0 ~ 100.
- After multiply MW100 by MW200 and save the result in MW300, then it exits running.
- Touch shape is ellipse, frame color is yellow, caption is 'Touch', 'ON' color is red by touching.

1) setting

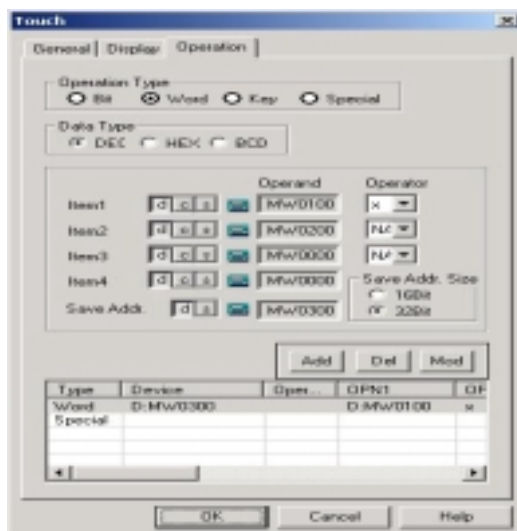
- Condition Use : Check, Word Condition
- Address : MW0
- Minimum Value : 0
- Maximum Value : 100



- Option : Ellipse
- Frame Color : Yellow
- Caption Use: Check
- Caption : ON
- Font Pixel : 16*16
- Font Type : Gothic style
- Character Size : 1 * 1
- Text Color : White
- Touch color use : Check
- 'ON' color : Red
- OFF color : Black
- Touch display condition : On touch



- Operation 1 : Word Operation, MW100 * MW200 = MW300
- Saving address's size : 32bit
- Operation 2 : Special Operation, check 'Exit'



2) Result



=> On S/W



=> On Panel(Main unit)

(2) Touch tag used as numeric key

Register a touch tag

- which is used as numeric key '9'
- 'ON' color by touching is blue,
- Rectangle touch tag

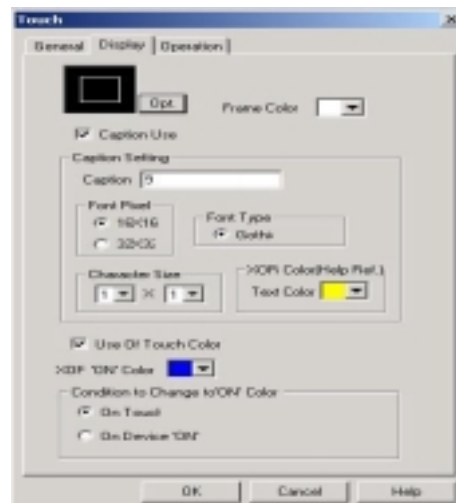
1) General

- Condition Use : Not check



2) Display

- Option : Rectangle
- Frame Color : White
- Caption Use: Check
- Caption : 9
- Font Pixel : 16*16
- Font Type : Gothic style
- Character Size : 1 * 1
- Text Color : Yellow
- Touch color use : Check
- XOR 'ON' color : Blue
- Touch display condition : On touch



3) Operation

- Operation Type : Key, Numeric 9



4) Result



=> On S/W



=> On Panel

7.3 Lamp Tag

Lamp tag is to display an enclosed lamp (circle, rectangle, ellipse, or any closed region or bitmap etc) with determined color on a condition.

(1) Registration

Select bit condition or word condition, and write address.

On bit condition, determine 'On', 'Off' color or shape in display tab.

On word condition, it is possible to display other colors for each other ranges.

7.3.1 Setting

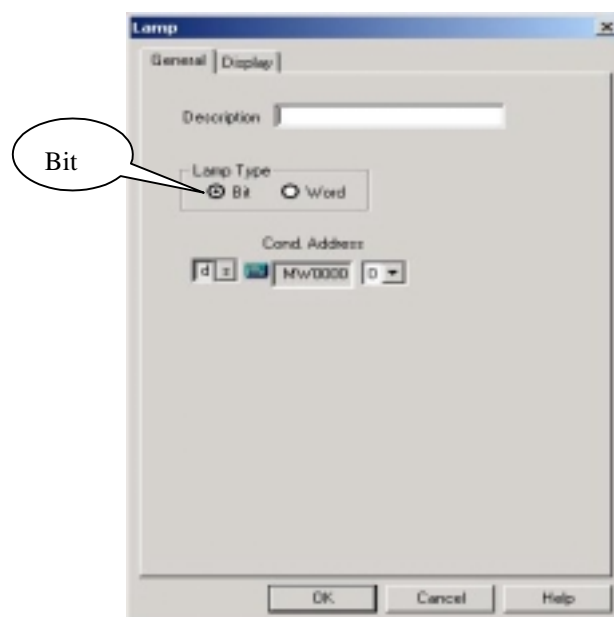
(1) General

Determine condition address to display lamp.

1) Lamp type

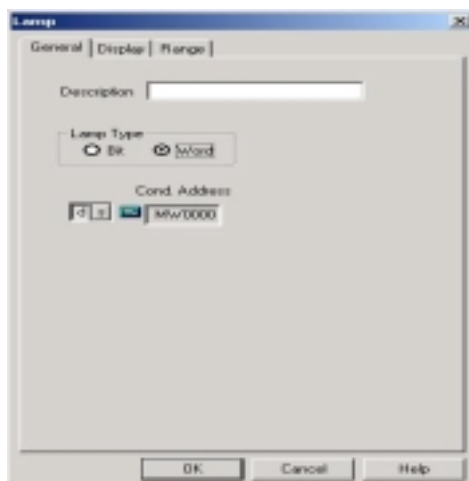
Bit

Turns on/off lamp tag with 'ON' or 'OFF' color or shape which is determined in display tab.



Word

Turns on/off lamp tag when address' value is within determined range, lamp tag shows different color for different range(up to 8 range).



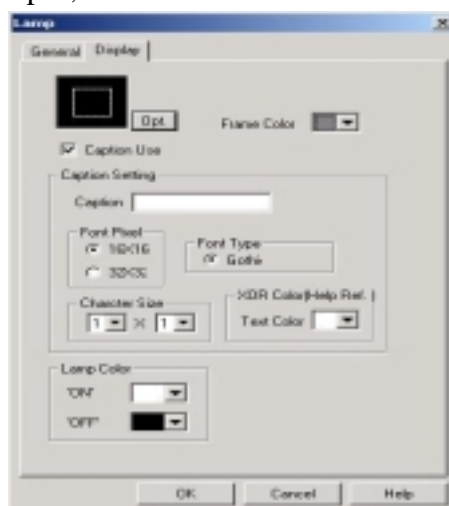
(2) Display

- 1) Setting of 'Caption' and 'Shape of lamp' is same with one of touch tag.
- 2) Black is not available to 'Caption' color. In case caption has 'XOR' color, 'XOR black' makes caption's color be same with background color. Also in case of transparent color, black color is not available for transparent attributes.
- 3) Lamp Color : It is possible to select color only when 'Bit' condition is selected in genera tab. In case of 'Word' condition, color setting can be done in 'Range' tab. When selected bit is '1', it shows 'ON' color. And when selected bit is '0', it shows 'OFF' color.



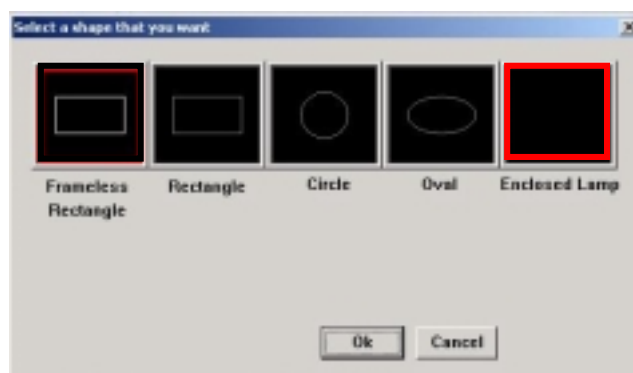
Caution

For circle and ellipse, frame color *should not be same with* 'ON' color or 'OFF' color.



 **Note : Enclosed Lamp**

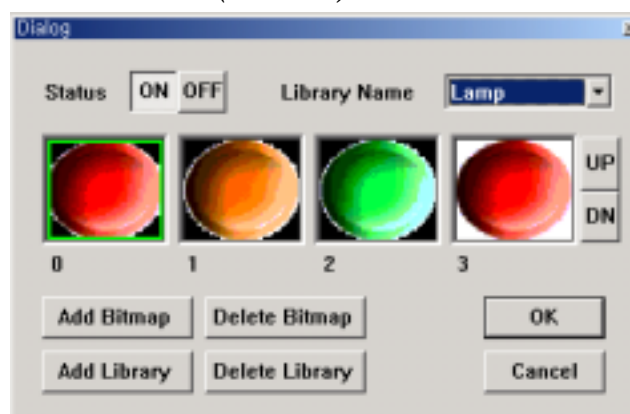
There is another lamp type, enclosed lamp, which is available as only bit lamp. If 'Word' condition lamp is selected in general tab when enclosed lamp is selected, it is converted into bit lamp automatically.



Enclosed lamp is positioned inside any closed region and frame color is not available for 'Enclosed Lamp'.

 **Note : Bitmap usage**

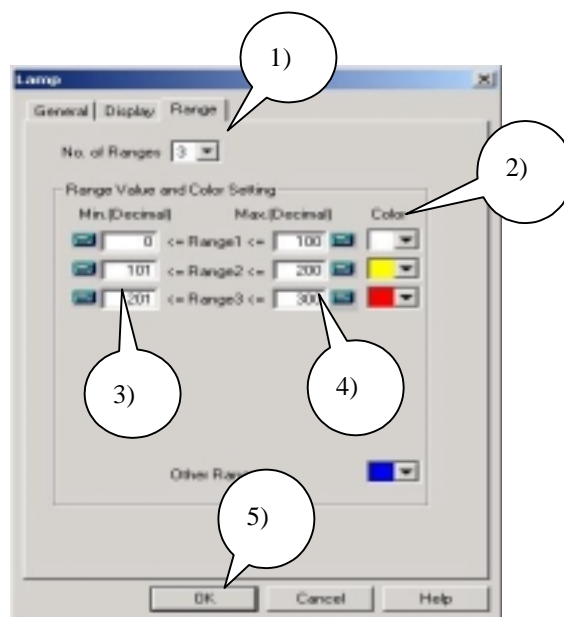
There is another lamp type, 'Use bitmap', which is available as only bit lamp. It is possible to select a bitmap of 'On' and 'Off' as follows. This function is only possible *in Advanced model(A Series)*.



(3) Range

Displays different color for different range. Range setting is available on 'Word'

condition.



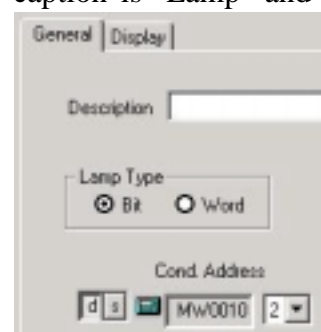
- 1) No. of Range : Min. 1 ~ Max. 8 is available
- 2) Color : Select color to show when the value is within the range
- 3) Min. Value : Minimum value of the range
- 4) Max. Value : Maximum value of the range
(Ranges should not be overlapped each other)
- 5) After finishing setting, click 'OK'

7.3.2 Examples

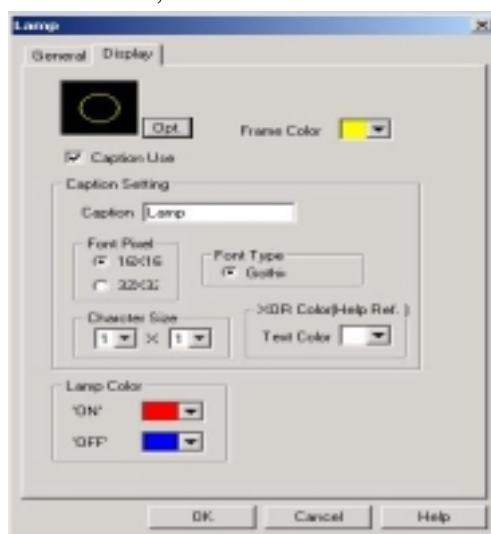
(1) On Bit condition

Register a lamp tag

- If device MW10's third bit is '0', lamp color is blue.
- And if the bit is '1', lamp color is red.
- Lamp tag's shape is circle, frame color is yellow, caption is 'Lamp' and XOR color is white.
- Lamp Type : Bit
- (Display) Condition Address : MW10's third bit



- Lamp shape : Circle
- Frame color : Yellow
- Caption : 'Lamp',
- Font(Pixel and Type) : 16*16, Gothic
- Character size : 1*1
- XOR color : White
- Lamp Color : 'On' → red, 'Off' → Blue



=> On S/W

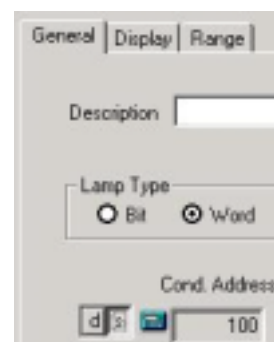


=> On Panel(Main unit)

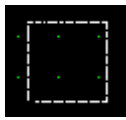
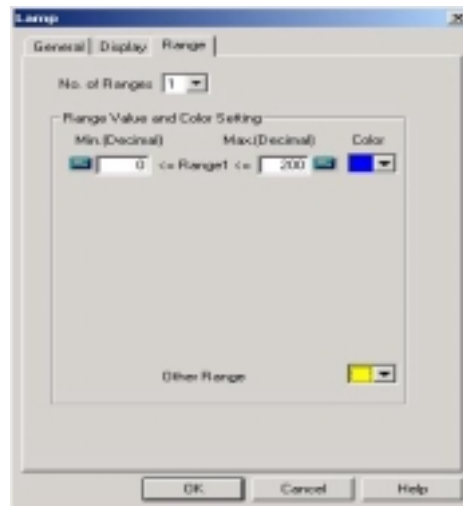
(2) On Word Condition

If system buffer 100's value is within 0 ~ 200, lamp color is blue. Out of the range, lamp color is yellow.

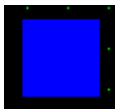
- Lamp Type : Word
- (Display) Condition address : System buffer's 100



- Range 1 : 0~200, blue
- Other range : yellow



=> On S/W (Invisible rectangle)



=> On Panel (When System buffer 100's value is within 0 ~ 200)

7.4 Clock Tag

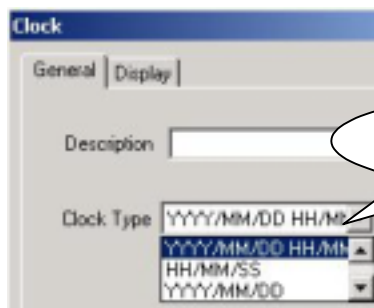
Displays time data of RTC in Main module

(1) Registration

- 1) Select clock tag in 'Tag' menu or click 'clock tag' icon on tool bar
- 2) Select clock type and then the clock tag is floating from mouse
- 3) Click left mouse button on any point of screen

7.4.1 Setting

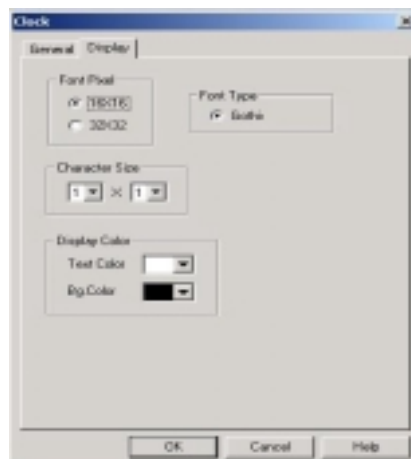
(1) General



- 1) YYYY/MM/DD HH/MM/SS : Year/Month/Day/Hour/Minute/Second
 - 2) YYYY/MM/DD : Year/Month/Day
 - 3) HH/MM/SS : Hour/Minute/Second
 - 4) HH/MM : Hour/Minute
- In future more type will be added.

(2) Display

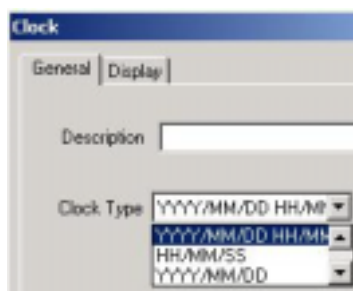
- 1) Text Color : Select color of text
- 2) Background Color : Select color of background



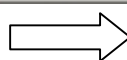
7.4.2 Examples

Register a clock tag displays 'year/month/day/hour/minute/second'.
Text color is red and background color is white.

- Clock type :YYYY/MM/DD HH/MM/SS



- Font (Pixel, Type) : 16*16, Gothic
- Character Size : 1 x 1
- Text Color : Red
- Background Color : White



< On S/W >

< On Panel >

7.5 String Tag

Displays data of selected buffers as ASCII Characters in real time.

(1) Registration

- 1) Select String tag in 'Tag' menu or click 'string tag' icon on tool bar
- 2) Select 'Start(Condition) Address' and 'No. of character' and click 'OK'
- 3) String tag is floating from mouse
- 4) Click left mouse button on any point of screen

7.5.1 Setting

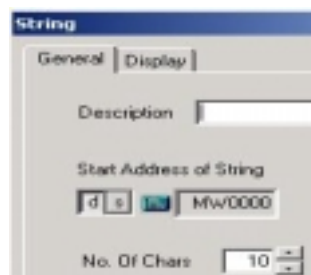
(1) General

- 1) Start(Condition)Address : Determine starting address to be converted into string.
- 2) Character No. : Determine number of character to be displayed.
- 3) Max. character No. is (based on 640x480 model)
 - 80 in case of numeric and ASCII character,
 - 40 in case of Korean in '16 x 16' font,
 - 20 in case of Korean in '32 x 32' font
 - 16-bit device can include 2 ASCII code.
 - (If 'Character No' is 20, 10 buffers' data from 'Start Address' are read)
- 4) NULL(0) data

When address's data is '0'(NULL), the NULL data are not displayed.

For example, to display 'A' character, you have to write '4100h', not 41h.

Because '41h' is saved in buffer as '0041'.



(2) Display

Determine Font Pixel, Font Type, Character Size, Text Color, Plate Color.



7.5.2 Examples

Register string tag to display 8 characters. Start from MW0

- Star Address of string : MW0
- No. of Character : 8



\$\$\$\$\$\$\$\$

=>

ABCDEFGH

< On S/W >

< On Panel >