# Chapter 3

# Device Monitoring Screen

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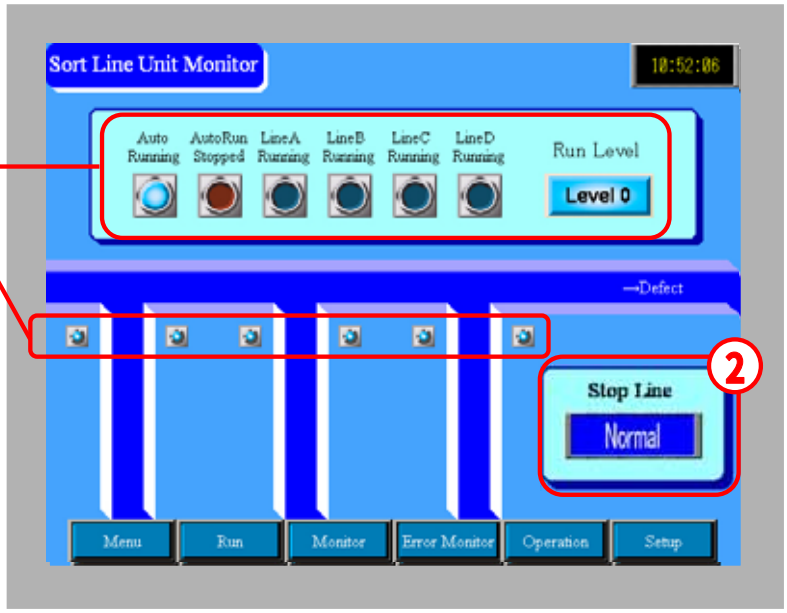
# 3.1

# Device Monitoring Screen

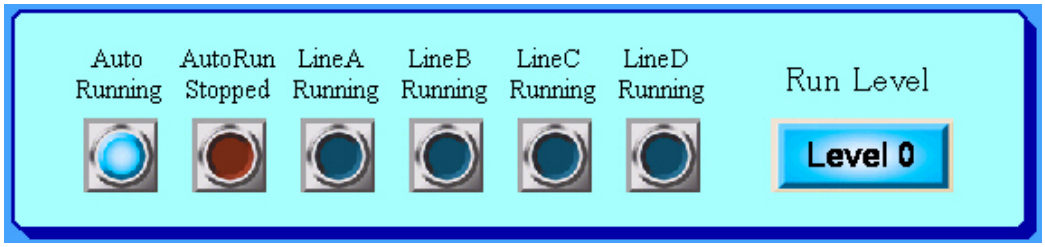
解説

# What's Device Monitoring Screen?

In the Device Monitoring Screen, the ON/OFF state of the PLC's internal bits is monitored and lamps or messages are displayed.

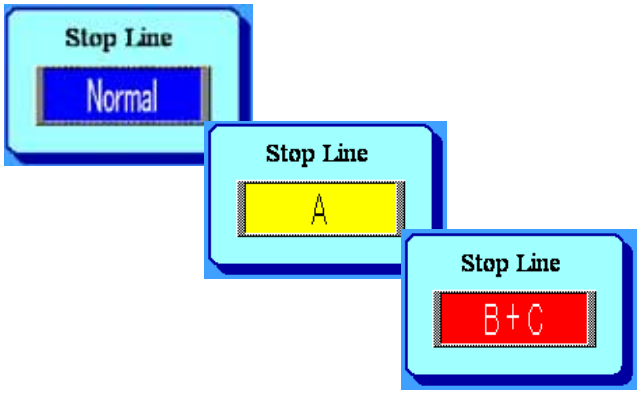



① Each line's Run/Stop and Working Level are displayed with lamps.(P.3-6 for details)




② The message display object displays where the stop line is.

(P3-12 for details)

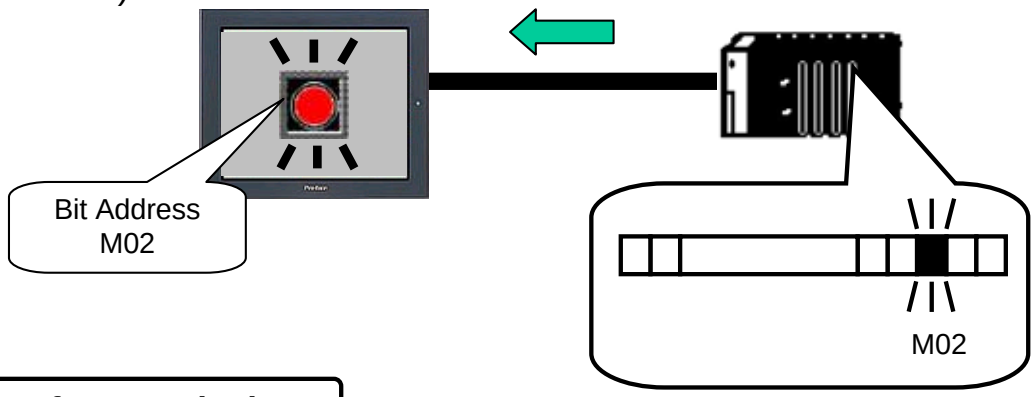


# 3.2 Lamp Display

# Display method with Lamps

The lamp monitors changes of the PLC's address and the display changes accordingly.

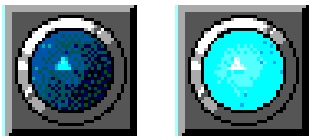
Ex.)




## Image of Lamp Display

Bit addresses and word addresses are monitored and the display changes.

Example of Lamp Display



Ex. of labels Normal / Error
Running / Stopped etc.

Example of N State Lamp Display


Ex. of labels Stop / Slow / Middle / Fast
Level 1 / Level 2 / Level 3 / Level 4 etc.

**Hint!**

Monitoring a word address, or multiple bit addresses allows you to change and display images for up to 16 states.

# Let's display lamps.

Let's create a lamp to display ON/OFF state.

[Setup Flow]

1. Open the base screen [3].
2. Select/Place/Configure [Lamp].

Open the base screen [3].

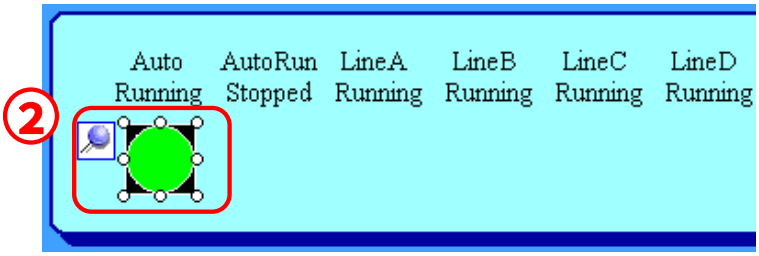
[For Exercise]


[Completed]


## (1) Let's select/place the Lamp

① Click the [Lamp] icon from the Tool Bar.


② Drag the cursor to the position on the base screen as shown in the figure on the right and place the lamp.



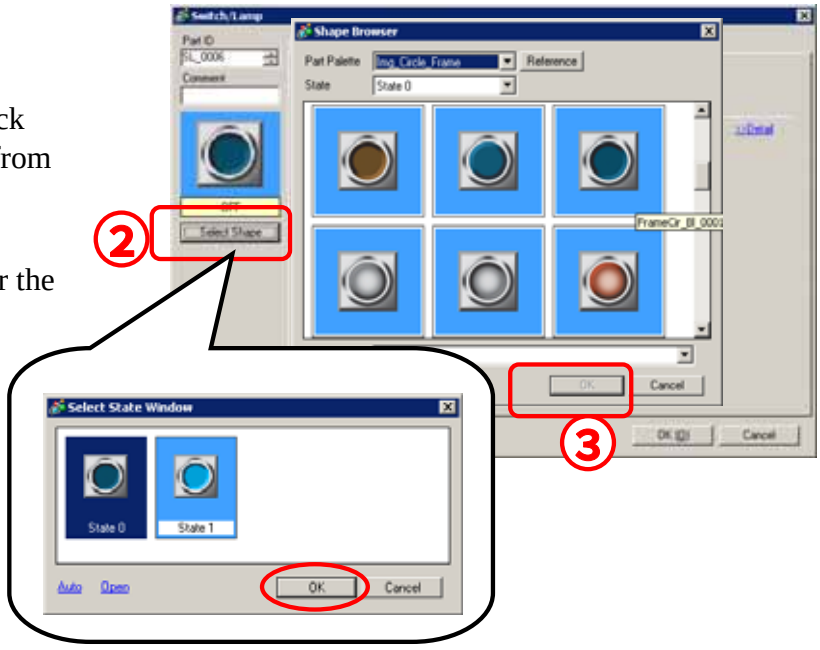
## (2) Let's select a picture.

① Double-click the placed lamp.

② Click [Select Shape].
For each of State 0 and State 1, click [Open] and select the desired image from the Shape Browser.

Clicking [Auto] selects the picture for the other states automatically.

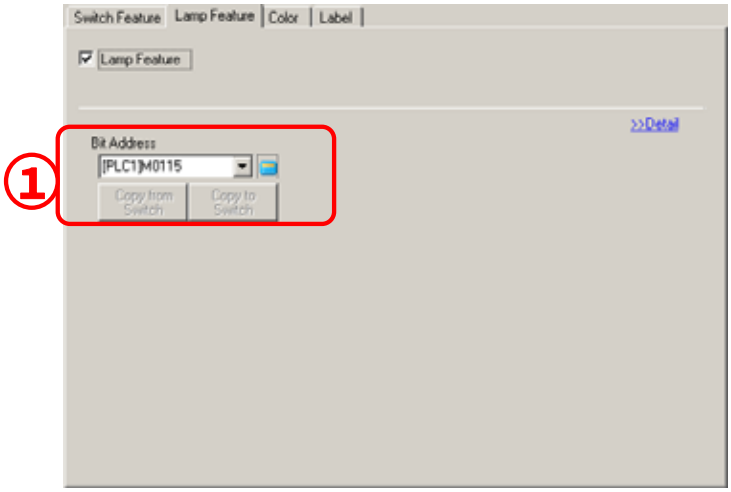
③ Click [OK].




## (3) Let's configure Lamp Settings.

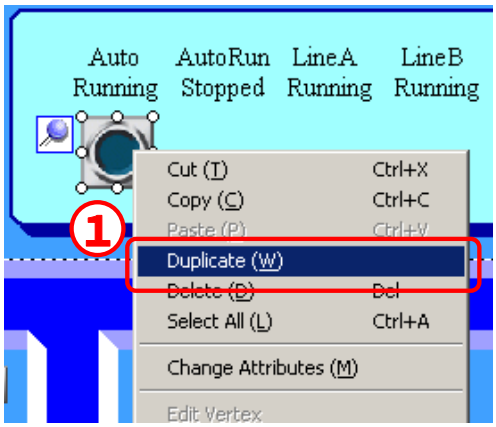
① Set [M115] for Bit Address.

② Click [OK].

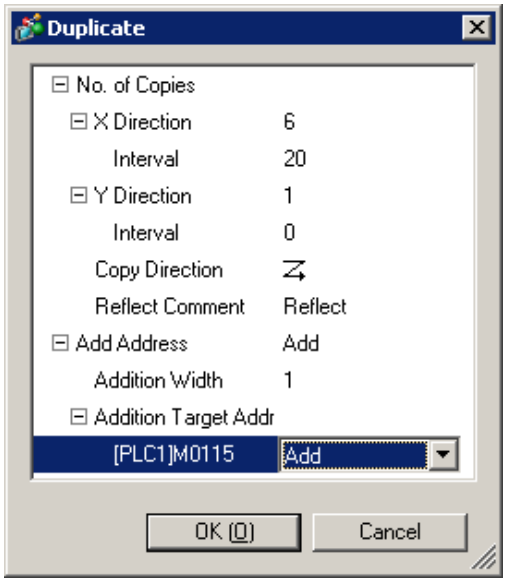
## (4) Let's duplicate it.

① Select the placed lamp and right-click it.
Select Duplicate from the short-cut menu.

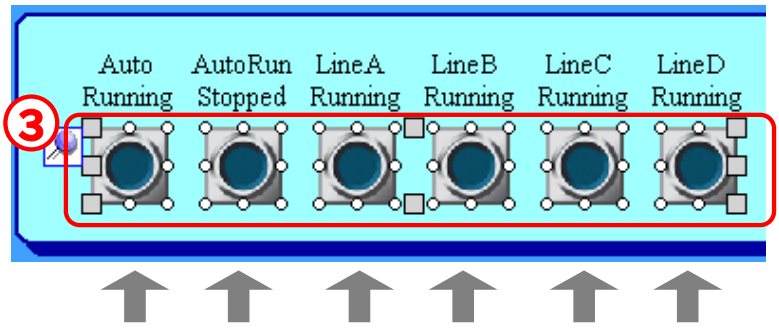



② Make settings as shown below and click [OK].

| | | | |
|---|---|---|---|
| No. of Copies | **X** Direction | 6 | |
| | **Y** Direction | 1 | |
| Interval | **X** Direction | 20 | dot |
| | **Y** Direction | 0 | dot |
| Add Address | Addition Width | 1 | |




③ Multiple lamps are created at one time as shown in the figure on the right.



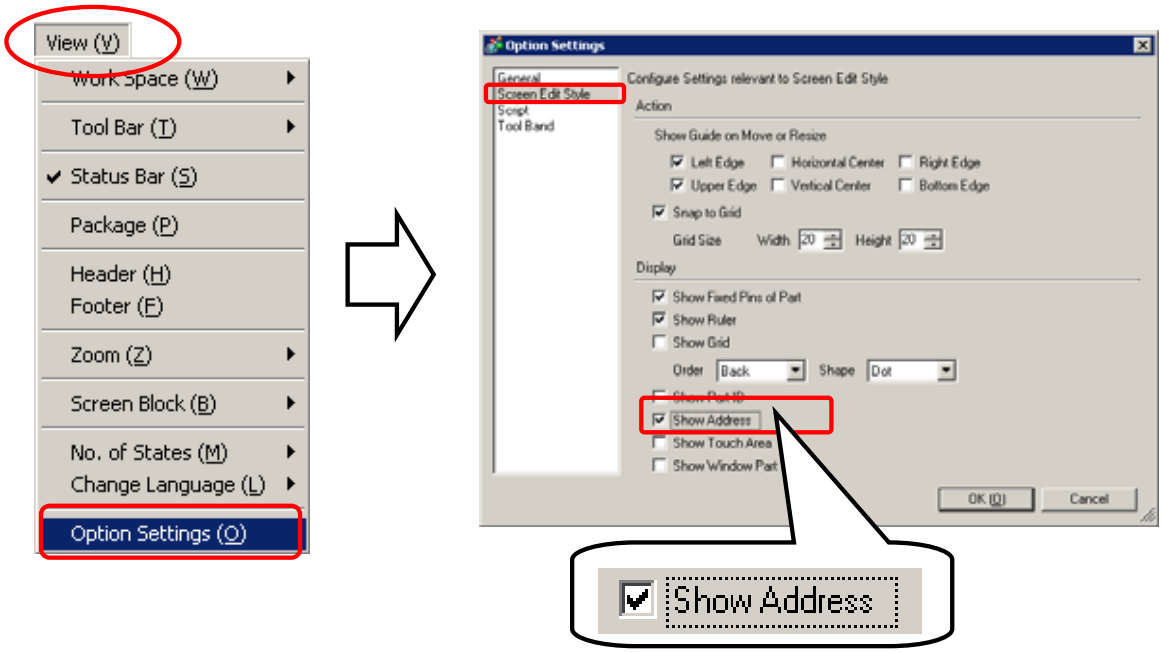

Address Settings: M115 M116 M117 M118 M119 M120

## Hint!

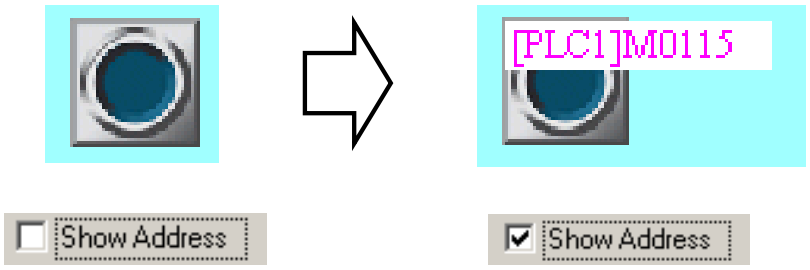
Display of addresses on the drawing board

From the menu bar, [View] on the Main Window, select [Option Settings], [Screen Edit Style], and the following dialog box will open.

*Right-click on the screen and then click the short-cut menu's [Open ScreenOption], and the same dialog will open.




Example of display on the base screen during edit.




Normally

The address is displayed.

# Let's create a lamp to display 4 states.

Let's create a lamp that monitors 2 bit addresses and displays 4 states.

[Setup Flow]
1. Open the base screen [3].
2. Place/Configure the Lamp.

Open the base screen [3].

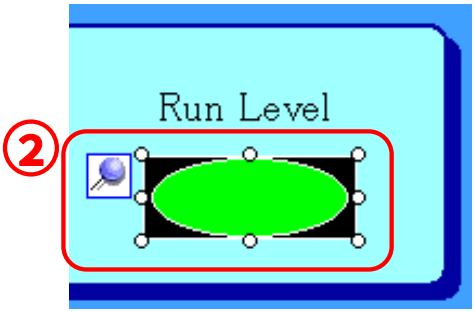
[For Exercise]


[Completed]


## (1) Let's select/place the Lamp.

① Click the [Lamp] icon from the Tool Bar.


② Drag the cursor on the base screen to place the lamp.

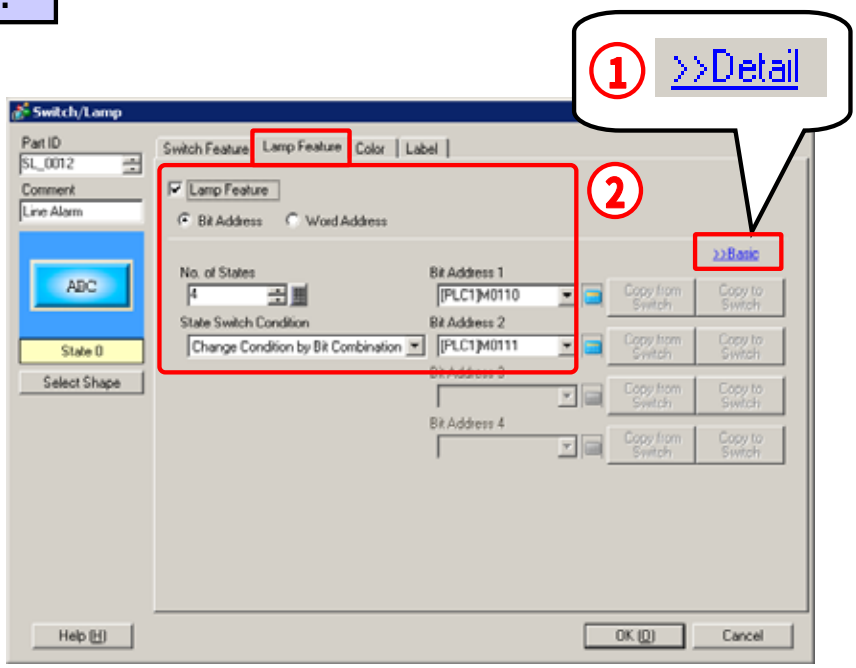


## (2) Let's set the Lamp Features.

① Select the [Lamp Feature] tab and click [Detail].

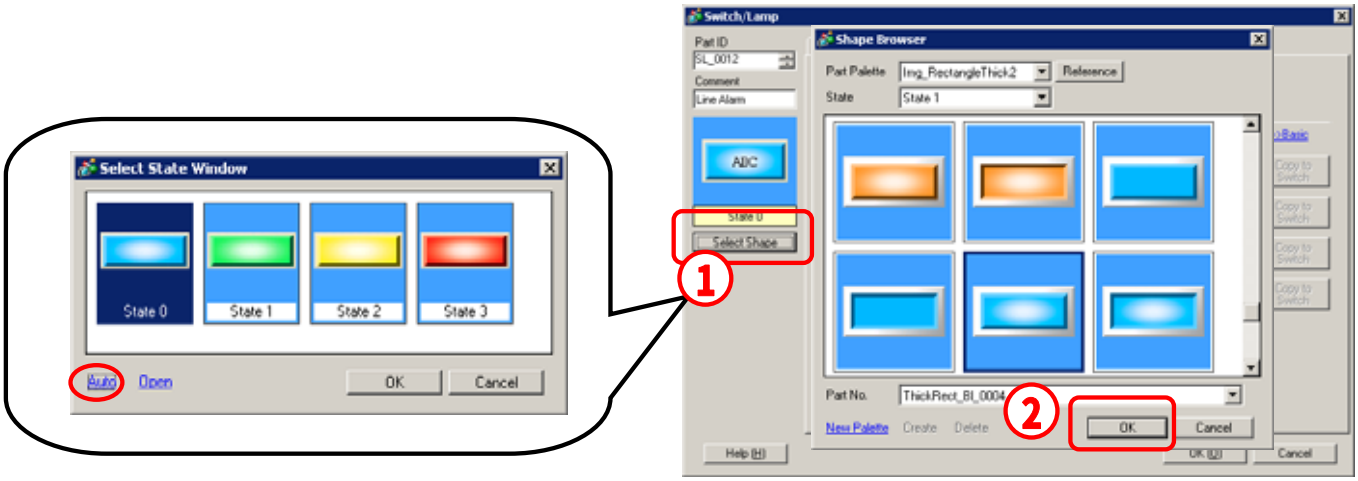
② Select [Bit Address] and make the following settings.

No. of States: [4]
State Switch Condition:
[Change Condition by Bit Combination]
Bit Address 1:[M110]
Bit Address 2:[M111]




## (3) Select Shape

① Click [Select Shape] and select the desired image for State 0 to 3 each after selecting [Open].

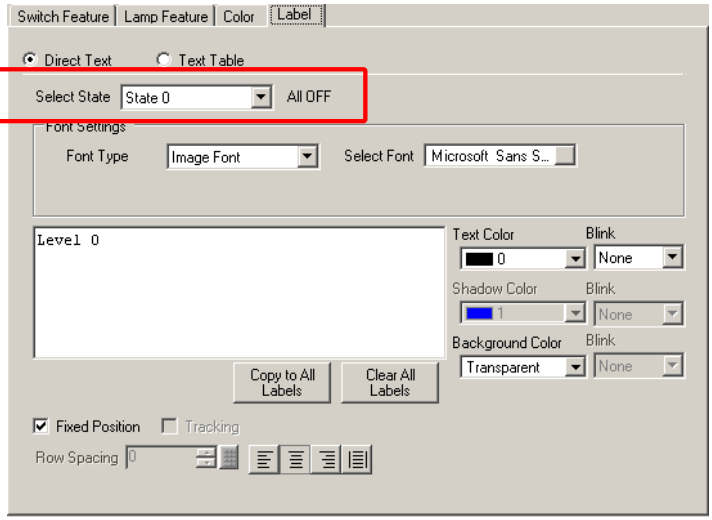



② After selecting 4 pictures for them, click [OK].

## (4) The Label tab Settings

① In the Label, select [State 0] to [State 3] and input the desired characters for each.

② After entering the four labels, click [OK] on the lower right of the dialog box.

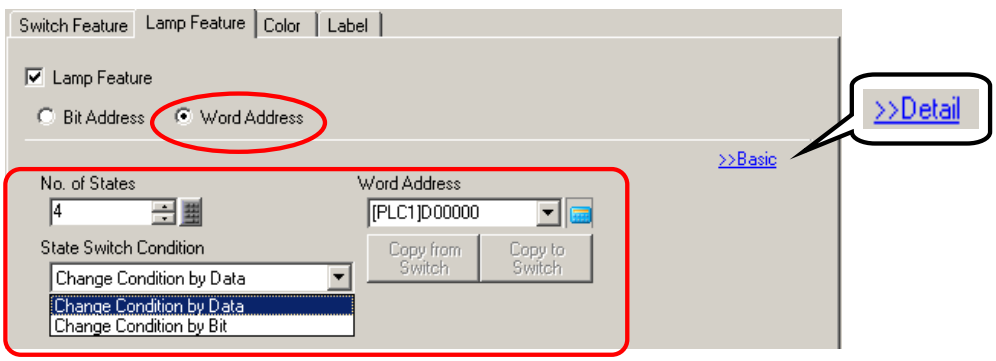




### Hint!

Example of labels on the exercise screen

| | | |
|---|---|---|
| [State 0]-> | Lamp Address 1:OFF<br>Lamp Address 2:OFF | Level 0 |
| [State 1]-> | Lamp Address 1:ON<br>Lamp Address 2:OFF | Level 1 |
| [State 2]-> | Lamp Address 1:OFF<br>Lamp Address 2:ON | Level 2 |
| [State 3]-> | Lamp Address 1:ON<br>Lamp Address 2:ON | Level 3 |

Monitoring one word address, the display state can be changed by word value or bit state.



# 3.3 Message Display

# Message Display

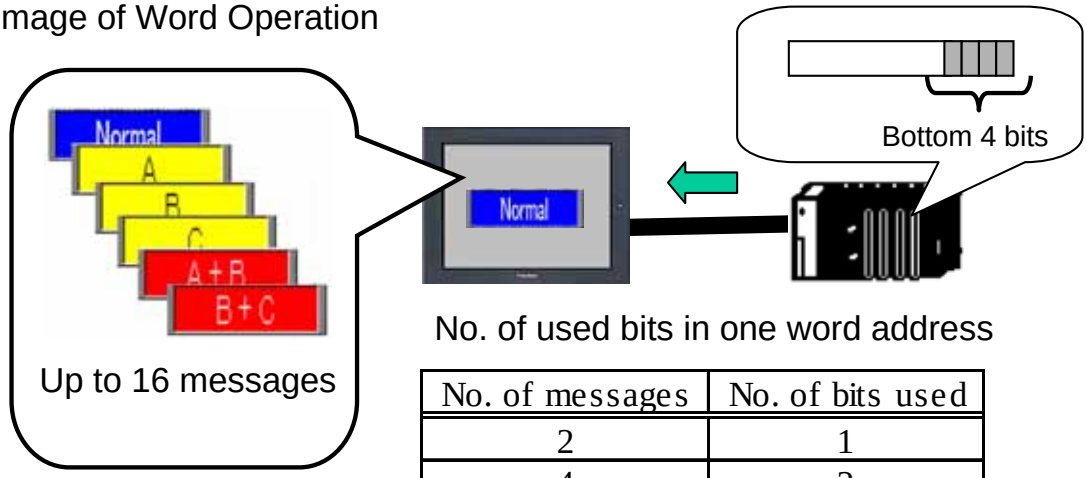
The state of the specified bit or word address is monitored and each message is displayed depending on the state.

## Image of Message Display

The created messages are displayed and switched according to data change.
For Display Text, there are two choices: [Direct Input] and [Text Display].

Direct Input: The text entered in the dialog box of the part is displayed.
There are 2 operation modes, [Bit] and [Word].
[Bit]: 2 messages are displayed and switched by the ON/OFF state of one bit.
[Word]:In one word, the bottom 4 bits are monitored and up to 16 messages are displayed and switched.

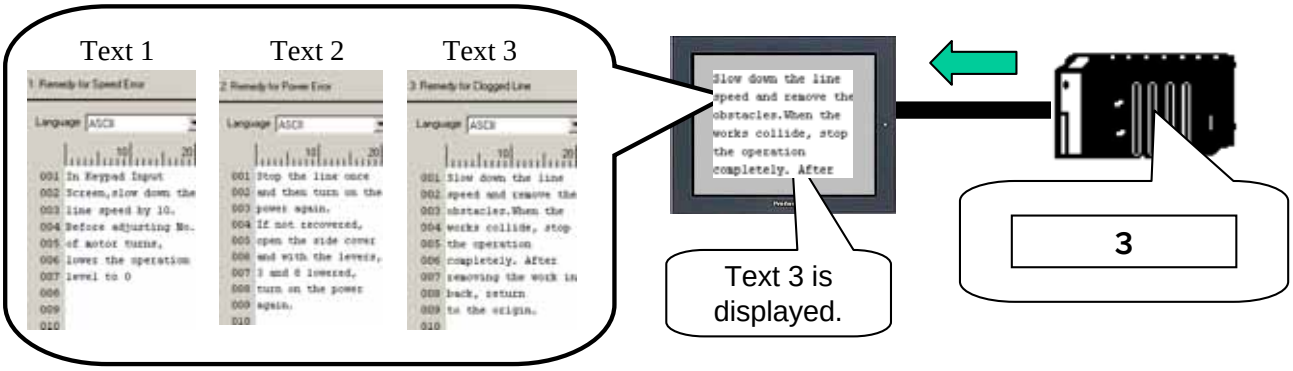
Image of Word Operation




No. of used bits in one word address

| No. of messages | No. of bits used |
|---|---|
| 2 | 1 |
| 4 | 2 |
| 8 | 3 |
| 16 | 4 |

Text Display: The specified text is called and displayed.
The text number or the display start line can be specified.




* In this chapter, we will practice Direct Input.

実習

# Let's display the state of the device with messages.

Let's display and switch messages with the Message Display.

[Setup Flow]

1. Open the base screen B3.
2. Set the Message Display and place it.

[For Exercise B3]


[Completed B3]


## (1) Selecting/Placing the Message Display

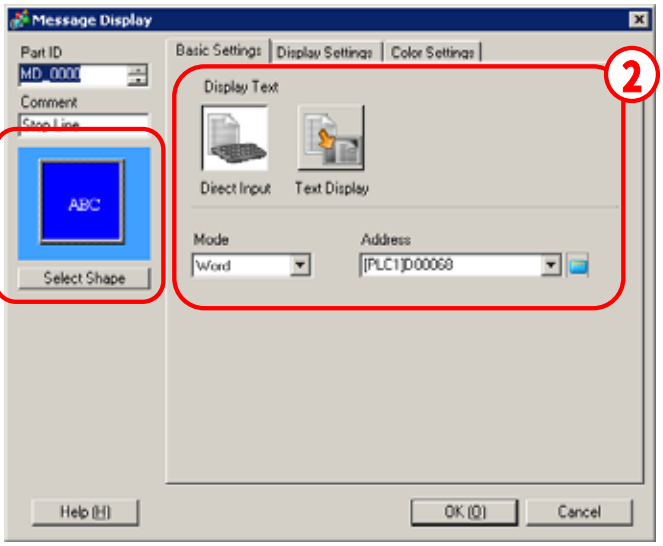
① Click the [Message Display] icon from the Tool Bar.


② Drag on the base screen to place the message display.

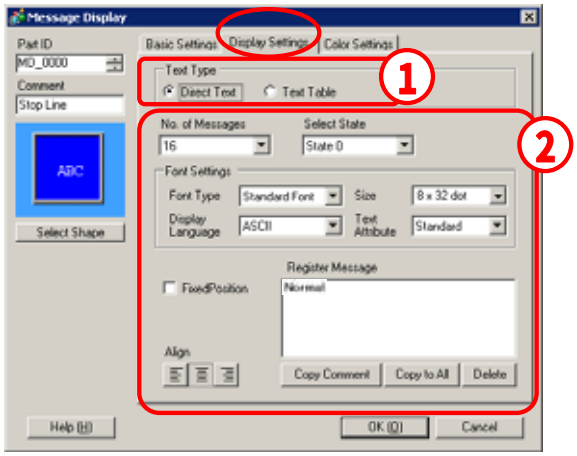

## (2) The [Basic Settings] tab Settings

① Select a picture you like from Select Shape.

② Set [Direct Input] for [Display Text], [Word] for [Mode], and [D68] for [Address].



## (3) Display Settings, Color Settings




① Make the following settings;
Text Type [Direct Text]
No. of Messages [8]

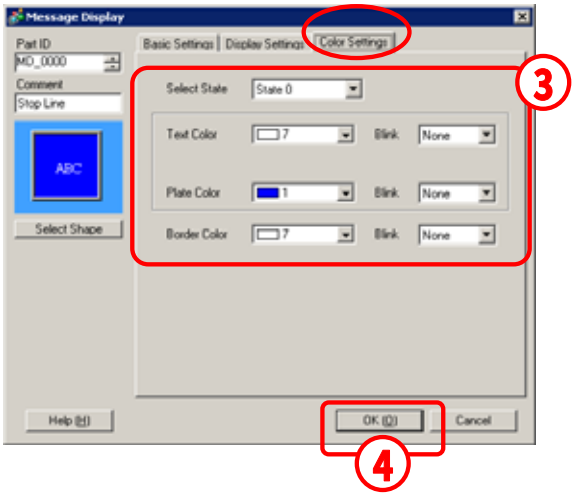
② Changing from State 0 to State 7, register messages as you like for each.

③ Set the color you like.

**Hint!**

Example on the practice screen (State:Message:Fg/Bg)

| | |
|---|---|
| 0: Normal: White/Blue | 4: A+B : White/Red |
| 1: A : Black/Yellow | 5: B+C : White/Red |
| 2: B : Black/Yellow | 6: A+C : White/Red |
| 3: C : Black/Yellow | 7: A+B+C: White/Red (High Speed Blink) |




④ Click [OK].

**Hint!**

Display Tool Bar

Check the menu bar's [View]->[Tool Bar]->[View], and [Tool Bar] will appear.

Selecting each state enables you to confirm the look for each state of lamps or message displays placed on the screen.