

Chapter 3

Device Monitor Screen

Chapter 3 Device Monitor Screen

3. 1 Device Monitor Screen

Device Monitor Screen 3-3

3. 2 Lamp Display

Display Lamp 3-5

[Practice] Let's Display Lamp 3-7

[Practice] Let's Create Lamp to Display 4 States..... 3-10

3. 3 Message Display

Display Message 3-15

[Practice] Let's Display State of Device with Message
..... 3-17

3. 4 Animation Display

Animation Display 3-21

Show Picture by Bit ON/OFF 3-22

[Practice] Let's Display Changes of Device 3-23

[Practice] Let's Transfer Data to GP and Check Performance
..... 3-25

3.1

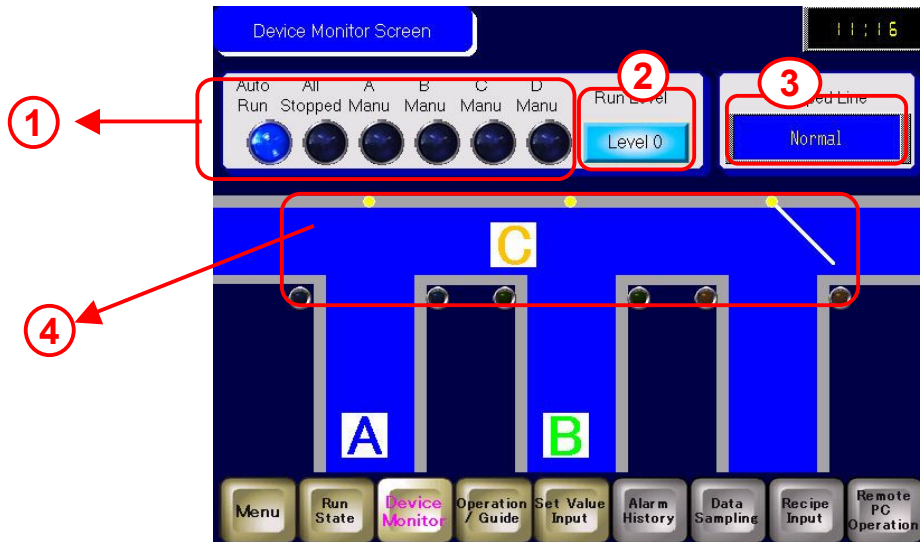
Device Monitor Screen



Device Monitor Screen

Instruction

The device monitor screen displays lamps and messages by monitoring bits in a device/PLC turn on and off.



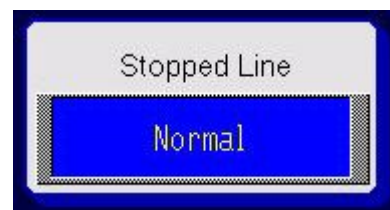
- 1) Indicate Run or Stop of lines with lamps.
(→ See page 3-5.)



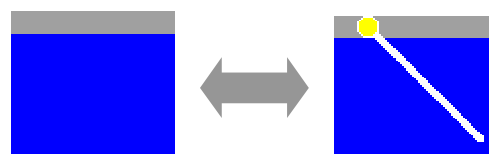
- 2) Display the operation level of lines with a lamp.
(→ See page 3-10.)



- 3) Display which line has been stopped with a message display.
(→ See page 3-15.)



- 4) Open and close according to changes of the bit addresses.
(→ See page 3-21.)



3. 2

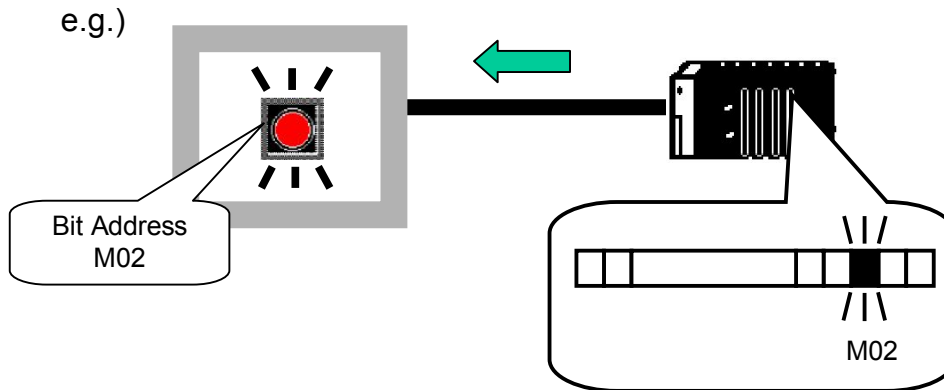
Lamp Display




Instruction

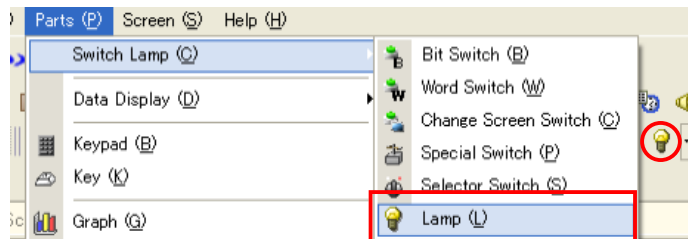
Display Lamp

The Lamp feature monitors changes of addresses in a device/PLC and shows the changes as a lamp.

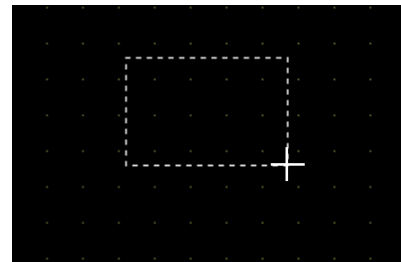


• Procedures of Placement/Setup

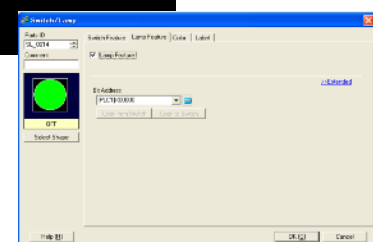
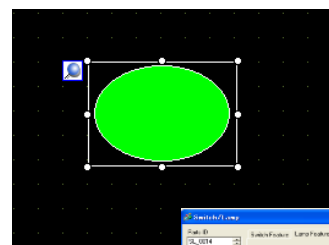
- 1) On the [Parts] menu, select [Switch Lamp] → [Lamp].
Or click the [Lamp]  icon.



- 2) Drag the range to place the lamp.



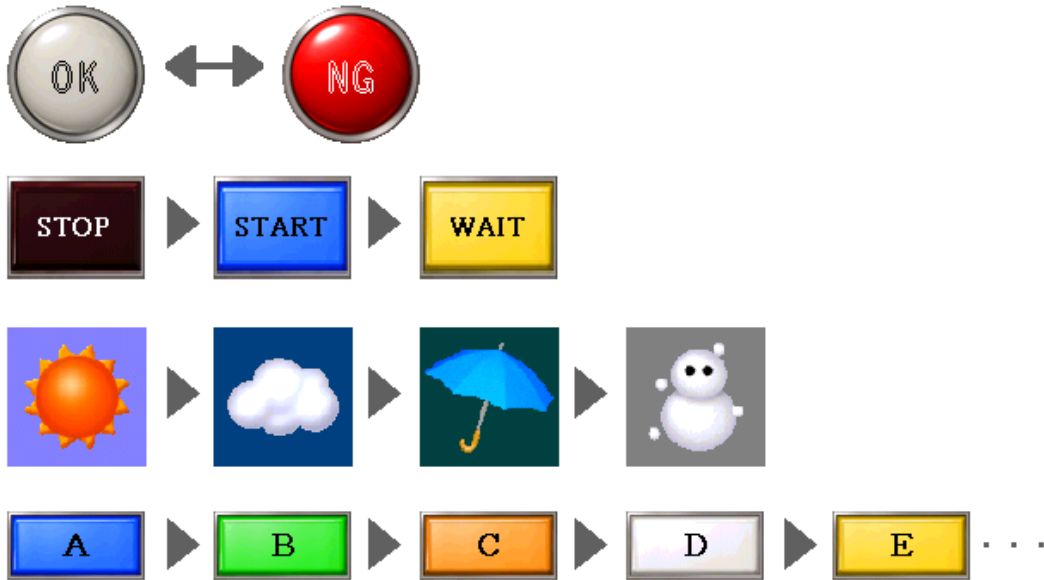
- 3) Double-click the lamp and make settings.



Lamp Display Image

The Lamp monitors a bit address or word addresses and shows the changes.

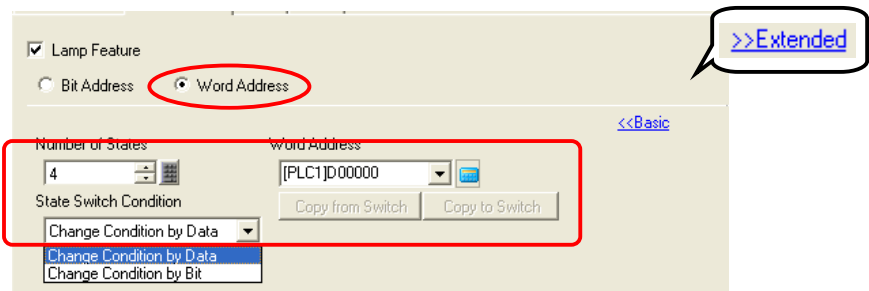
Example of Lamp Display



★ **One Point**

“Extended” in Lamp Feature Settings

You can set to change lamp displays depending on changes of stored values or states of each bit by monitoring one word address. Up to 256 shapes of states can be changed and displayed.



Let's practice on the next page!

Practice Let's Display Lamp

Let's create a lamp to display On/Off states!

[Setup Procedure]

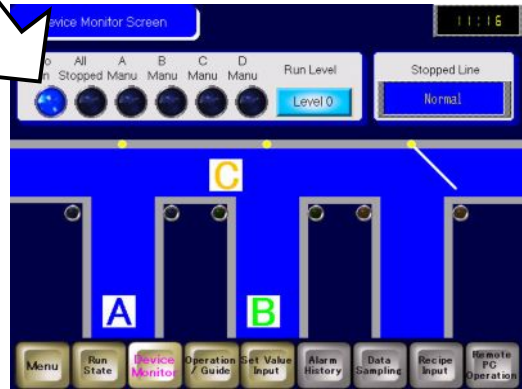
1. Open the base screen "3".
2. Select, place and set the Lamp.

Open the base screen "3".

<Practice Screen>

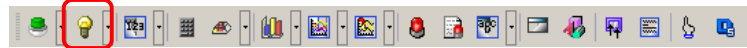


<Completed Screen>



(1) Select/Place Lamp

- 1) Click the [Lamp] icon on the tool bar.



- 2) Drag the range to place the lamp on the base screen.

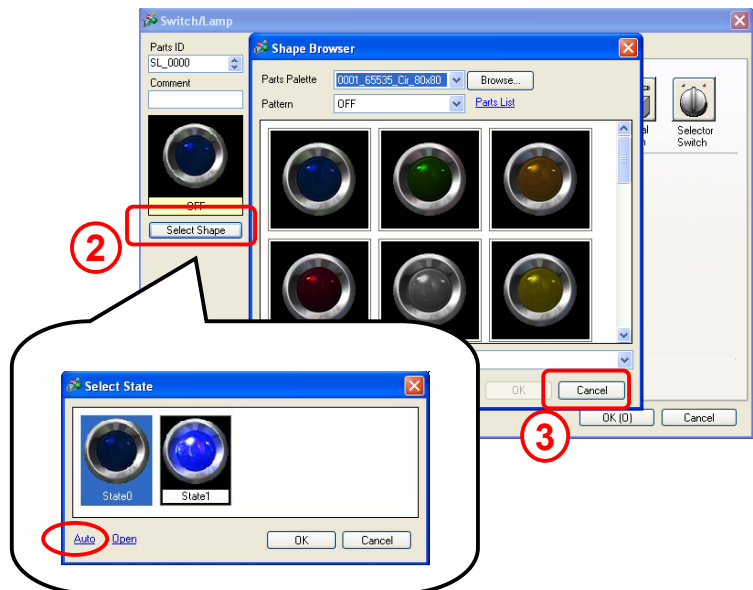


(2) Select Shape

- 1) Double-click the placed lamp.
- 2) Click [Select Shape].
Select each state and click [Open].
Select a desired shape from the Shape Browser.

If you click [Auto] in the Select State Window, a shape for the State1 will be selected corresponding to the shape of the State0 automatically.

- 3) Click [OK].



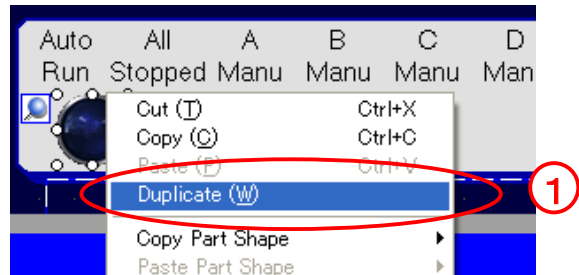
(3) Lamp Feature

- 1) Set Bit Address to "USR0002105".
- 2) Click [OK].



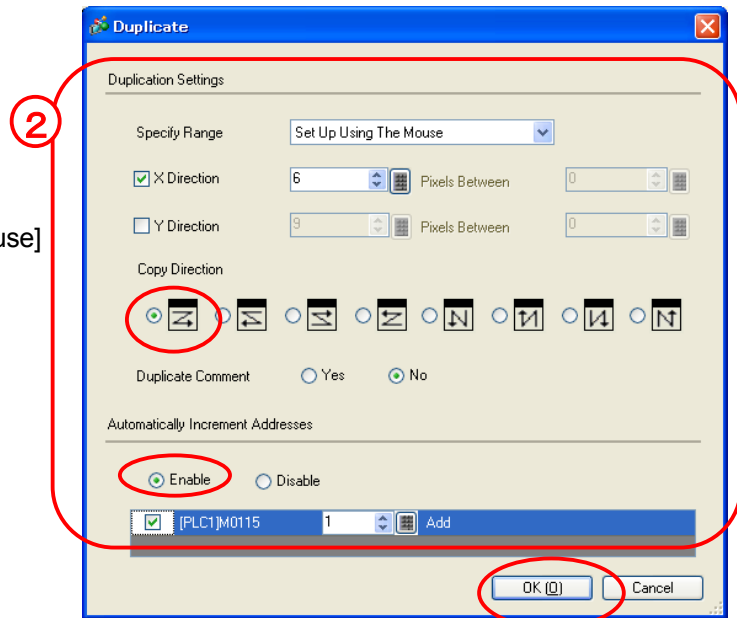
(4) Duplicate

- 1) Select the placed lamp and display the short-cut menu by right-click and click [Duplicate].

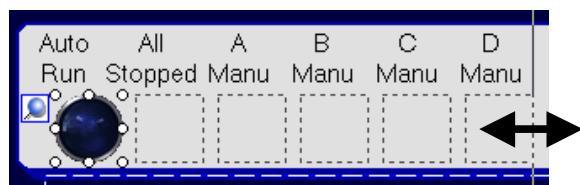


- 2) Make the following settings and click [OK].

[Specify Range] [Set Up Using The Mouse]
 [X Direction] 6
 [Y Direction] Not checked
 [Copy Direction]
 [Duplicate Comment] No
 [Automatically Increment Address]
 Enable [1]




- 3) Multiple lamps are created in the range dragged by the mouse as shown in the right.



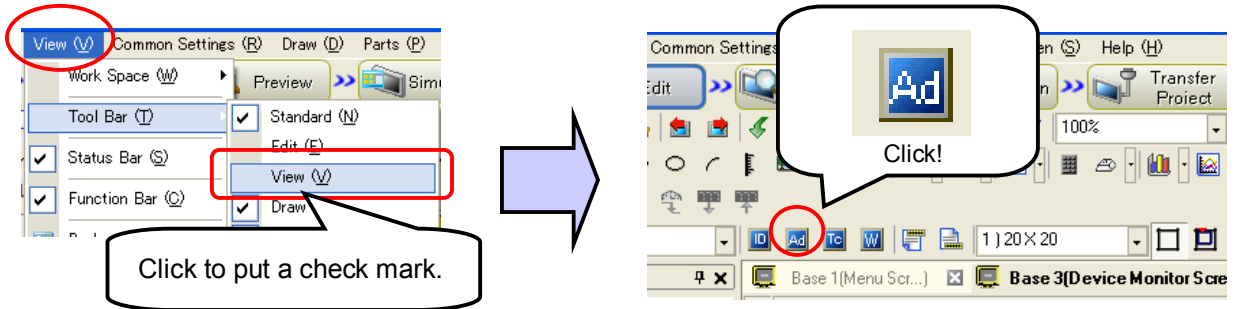
Address Settings: USR0002106 USR0002108 USR0002110
 USR0002107 USR0002109

★ One Point

Show Addresses

Select the [View] menu → [Tool Bar] and check [View] to put the [Show Address]  icon on the tool bar.

Clicking this icon shows addresses.



Example of Display on Base Screen



Normally



When displaying addresses

Practice Let's Create Lamp to Display 4 States

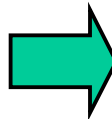
Let's create a lamp to monitor 2 bit addresses and show 4 states!

[Setup Procedure]

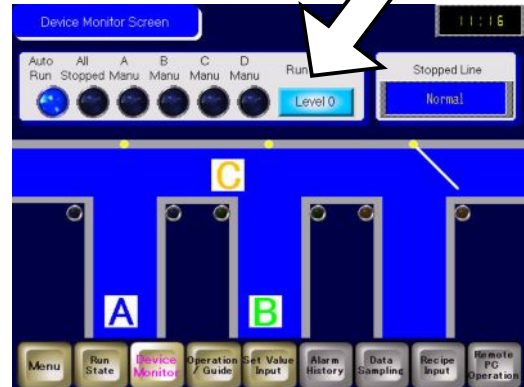
1. Open the base screen "3".
2. Place and set the Lamp.

Open the base screen "3".

<Practice Screen>



<Completed Screen>

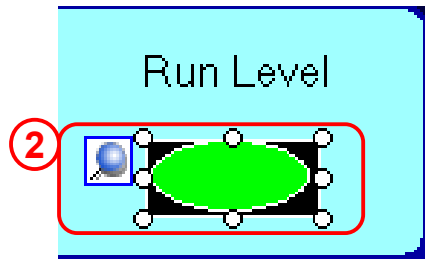


Select/Place Lamp

- 1) Click the [Lamp] icon on the tool bar.



- 2) Drag the range to place the lamp.

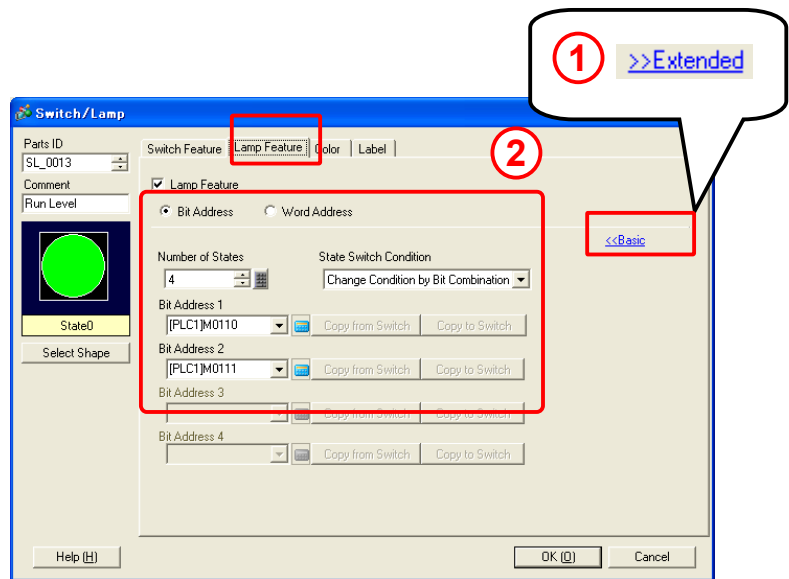


(2) Lamp Feature

1) Select the [Lamp Feature] tab and click [>>>Extended].

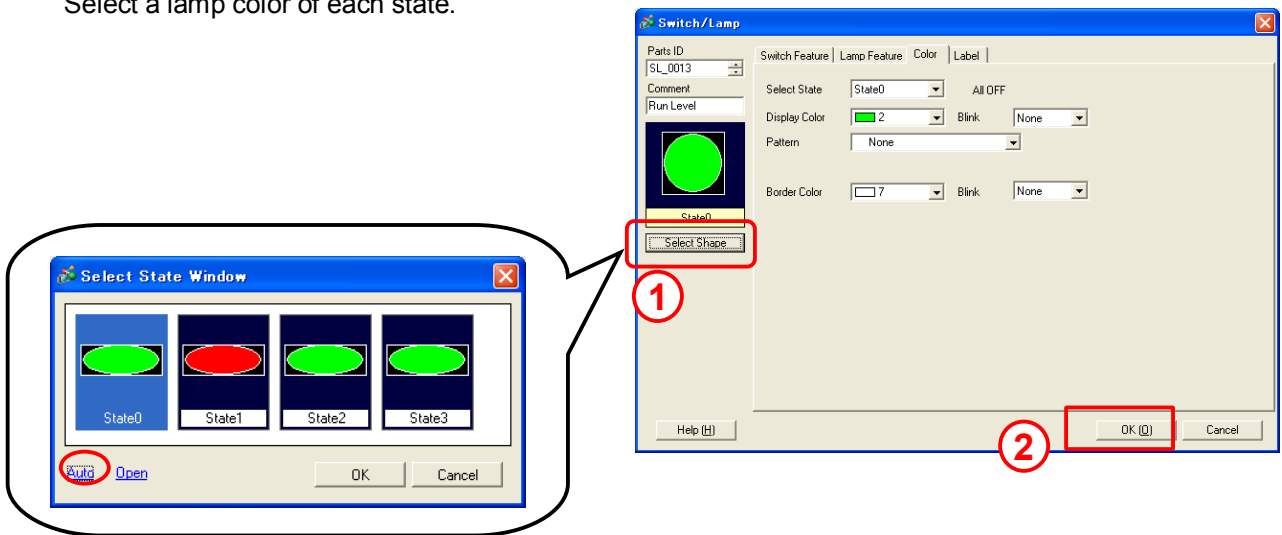
2) Select "Bit Address" and set as below.

Number of States: 4
 State Switch Condition:
 Change Condition by Bit Combination
 Bit Address 1: USR0002100
 Bit Address 2: USR0002101



(3) Select Shape

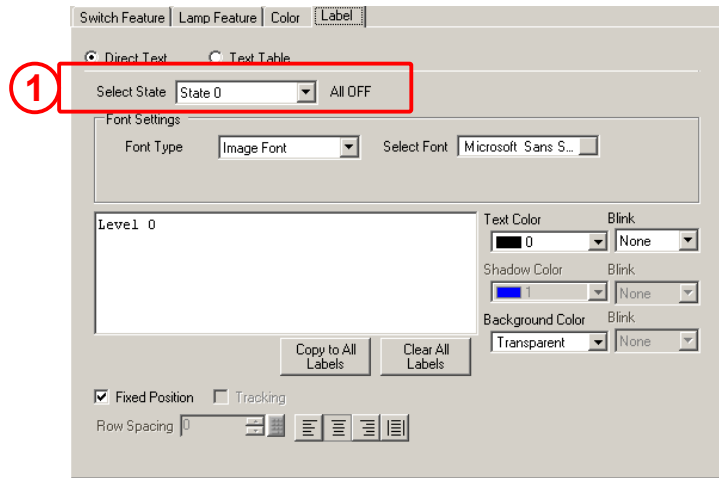
1) Select the [Color] tab and click [Select Shape].
 Select the shape of "State0" and click [Auto].
 Click [OK].
 Select a lamp color of each state.



2) After selecting shapes, click [OK].

(4) Label Settings

- 1) Enter texts for a label of each state from "State 0" to "State 3".
- 2) After entering texts into 4 labels, click [OK].



★ One Point

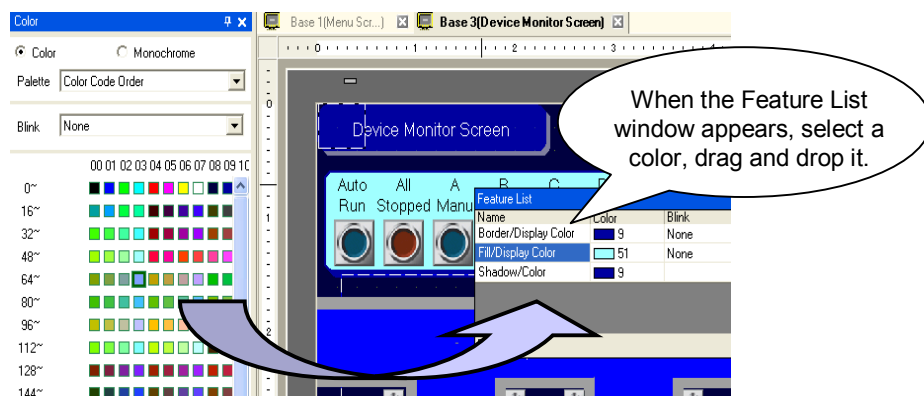
Example of Labels on this practice screen

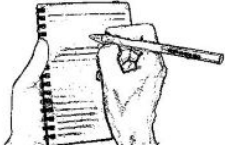
| | | |
|-----------|--|--|
| State 0 → | Lamp Address1: OFF Lamp Address2: OFF | |
| State 1 → | Lamp Address1: ON Lamp Address2: OFF | |
| State 2 → | Lamp Address1: OFF Lamp Address2: ON | |
| State 3 → | Lamp Address1: ON Lamp Address2: ON | |

★ One Point

Color Settings

You can also select colors by dragging and dropping from the Color settings window in the Work Space.





MEMO

3. 3

Message Display



Message Display

Instruction

The “Message Display” monitors a specified bit address or word addresses and shows messages according to the states of the address.

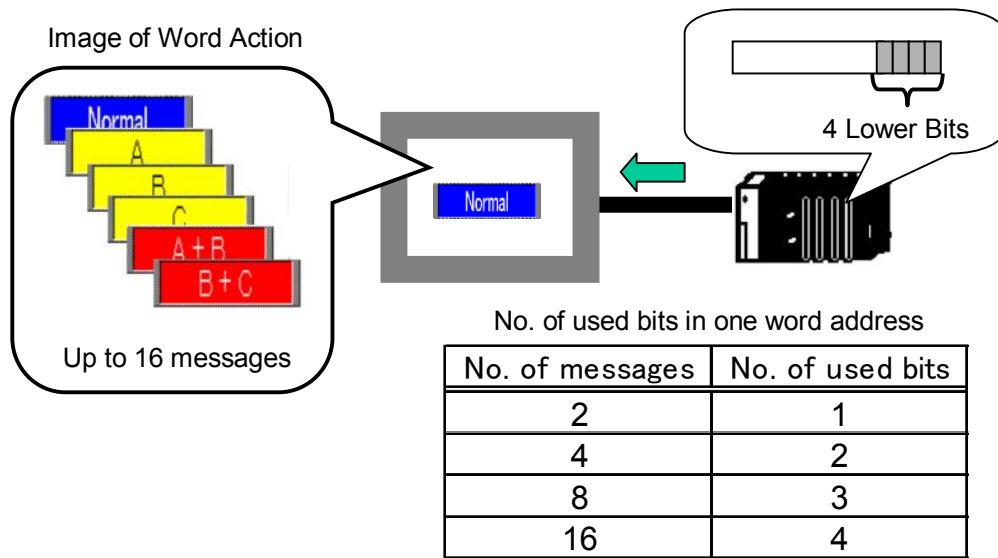
Message Display Image

Message Display changes created messages depending on changes of data and display. There are 2 types of texts to display; “Direct Input” and “Text Display”.

Direct Input: Displays texts that you enter in the field in the dialog box of the parts.

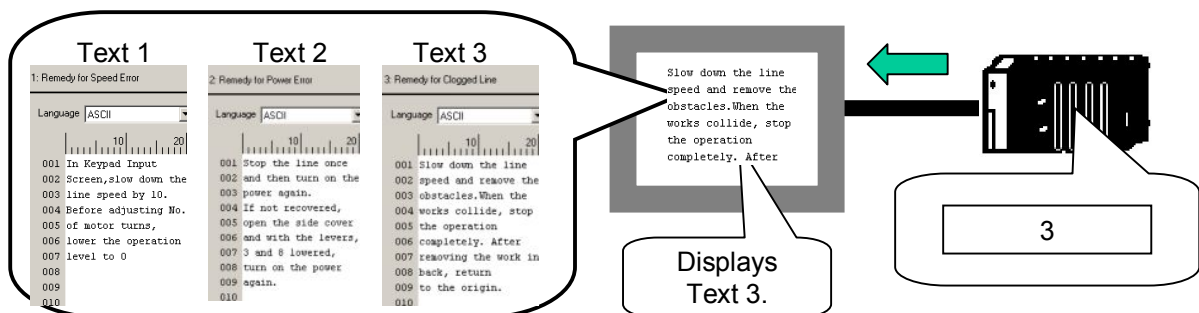
The Message Display feature has two action modes, “Bit” and “Word”. For “Bit”, it changes two messages according to the ON/OFF state of one bit.

For “Word”, it monitors four lower bits of one word and displays one of up to 16 messages according to the state.




Text display: Calls and displays the specified text.

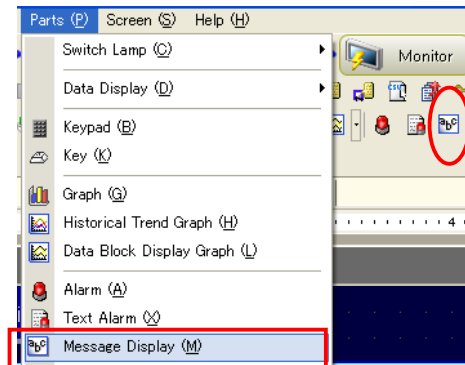
You can specify the text file number and the start row.



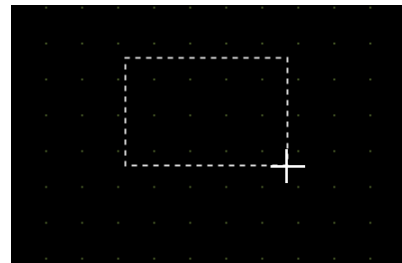
In this chapter, let’s practice on Direct Input.

• **Procedures of Placement/Setup**

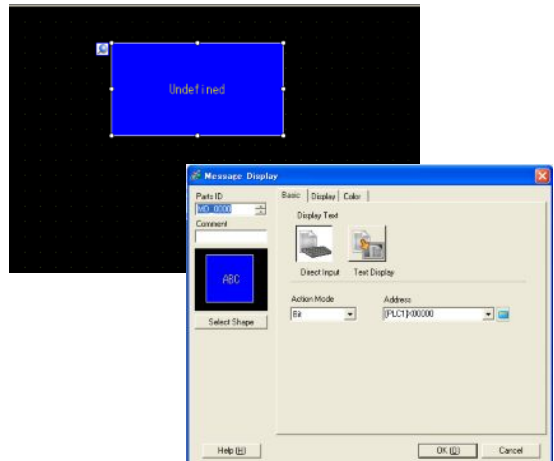
- 1) On the [Parts] menu, select [Message Display]. Or click the [Message Display]  icon.



- 2) Drag the range to place the message display.



- 3) Double-click the message display and make settings.



Let's practice on the next page!

✓ Practice **Let's Display State of Device with Message**

Let's change and display messages on a message display!

[Setup Procedure]

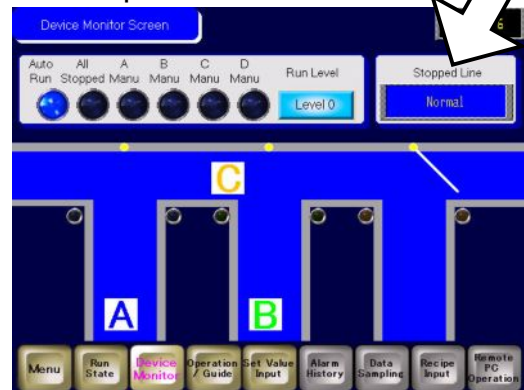
1. Open the base screen "3".
2. Place and set the Message Display.

Open the base screen "3".

<Practice Screen>



<Completed Screen>

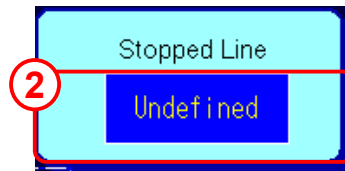


(1) Select/Place Message Display

- 1) Click the [Message Display] icon on the tool bar.

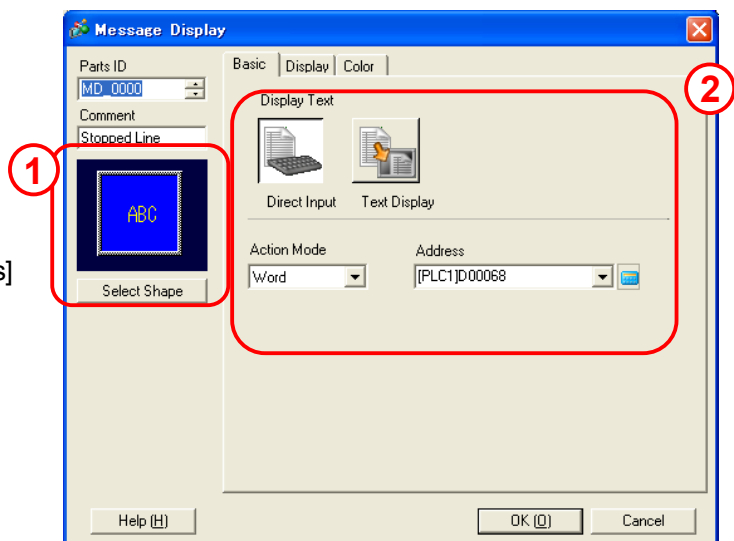


- 2) Drag the range to place the message display on the base screen.



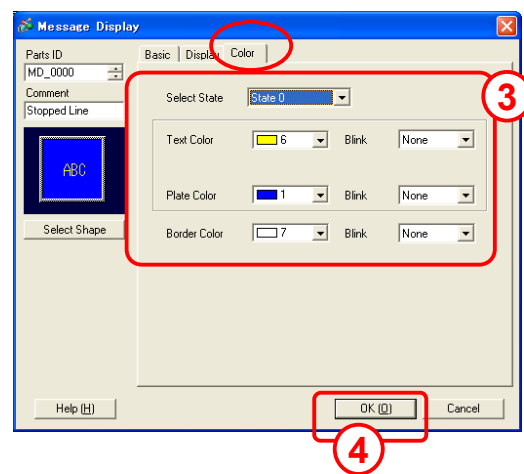
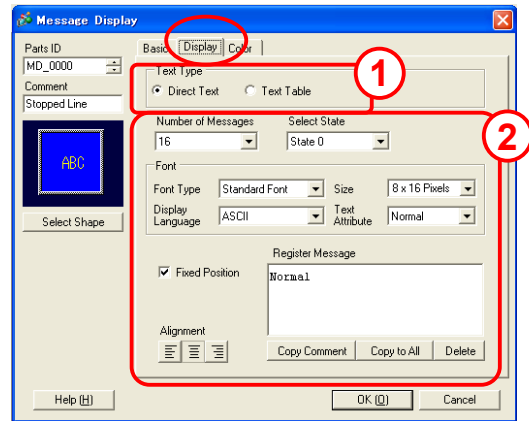
(2) Basic Settings

- 1) Select a desired shape on the Shape Browser.
- 2) Select "Direct Input" for [Display Text], "Word" for [Action Mode], and set [Address] to "USR2068".



(3) Display / Color Settings

- 1) Select "Direct Text" for [Text Type] and set [Number of Messages] to "8".
- 2) Select each state from State 0 to State 15, register messages for each.
- 3) Select a desired color.
- 4) Click [OK].



★ One Point

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

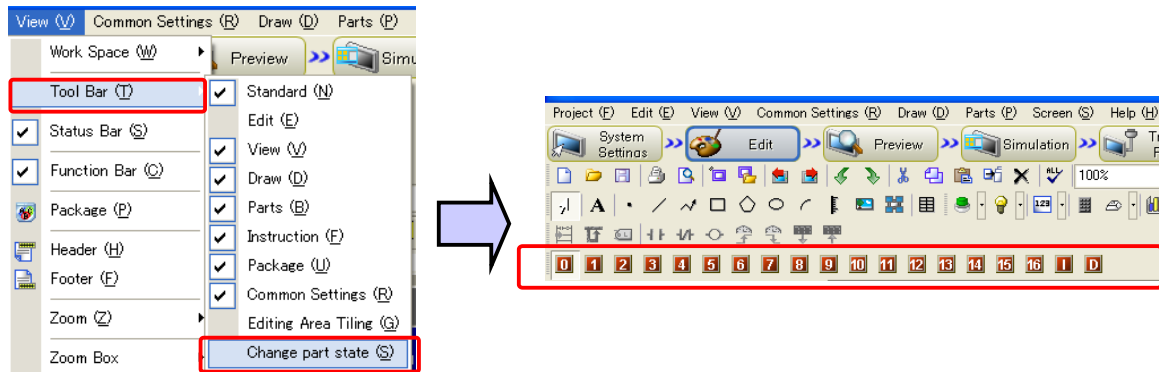
| | | | |
|------------|--------------|--------------------|----------------------------|
| 0: Normal: | Yellow/Blue | 4: Line A + B: | White/Red |
| 1: Line A: | Black/Yellow | 5: Line B + C: | White/Red |
| 2: Line B: | Black/Yellow | 6: Line A + C: | White/Red |
| 3: Line C: | Black/Yellow | 7: Line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

★ One Point

Change part state

On the [View] menu, select [Tool Bar] and check [Change part state]. The “Change part state” bar will appear.

Selecting a state, you can check and confirm the state display of the lamp or message display placed on the screen.



| | | | | |
|----------|---------------|--|----------------|-----------------------|
| 0 | State 0 (OFF) | | Level 0 | Normal |
| 1 | State 1 (ON) | | Level 1 | Line A |
| 2 | State 2 | | Level 2 | Line B |
| 3 | State 3 | | Level 3 | Line C |
| 4 | State 4 | | | Line A + B |
| 5 | State 5 | | | Line B + C |
| 6 | State 6 | | | Line A + C |
| 7 | State 7 | | | Line A + B + C |
| 8 | State 8 | | | |
| | • | | | |
| | • | | | |
| | • | | | |

3.4

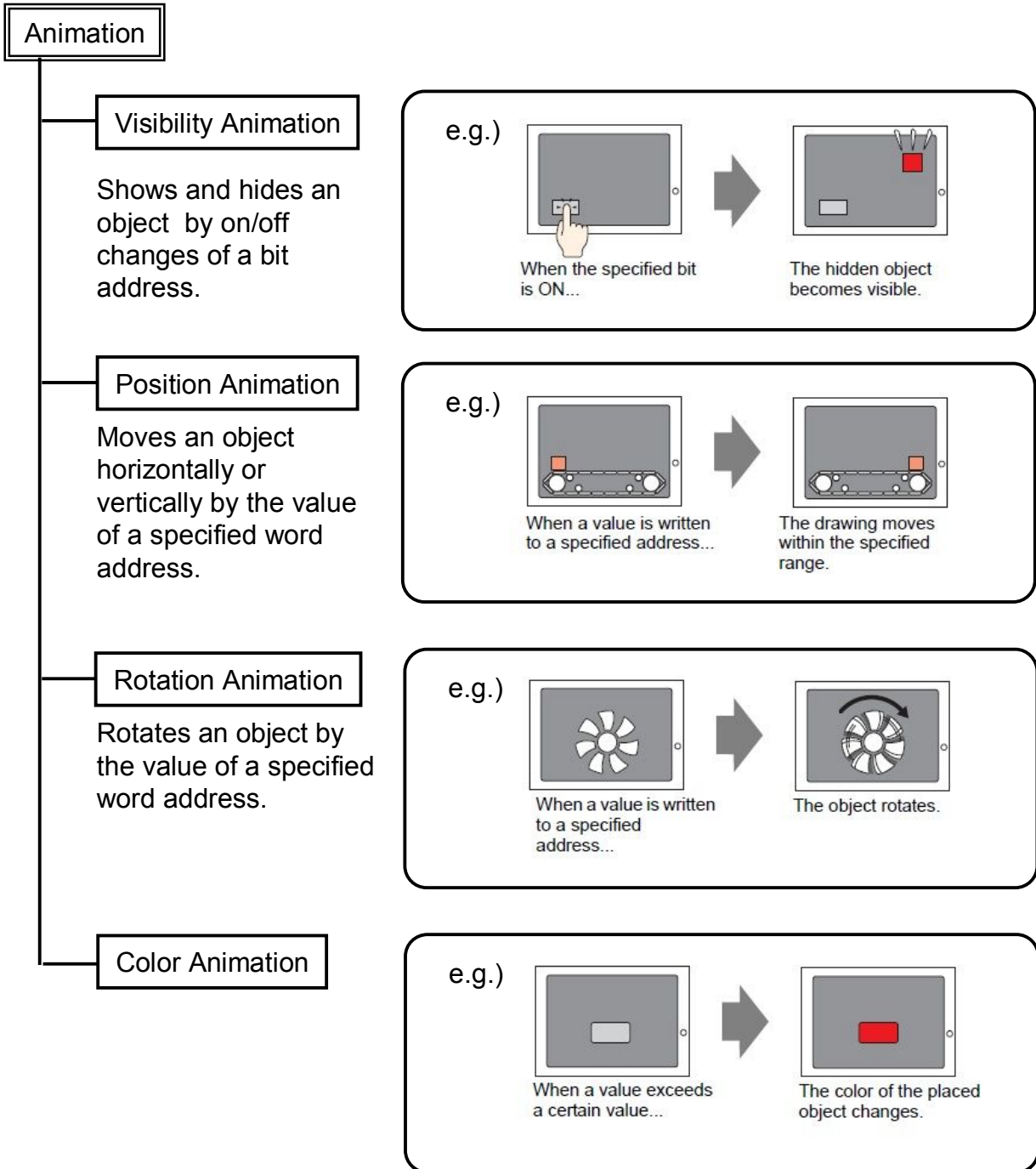
Animation Display



Instruction

Animation Display

To display animated pictures on a screen, use the “Picture Display” feature.



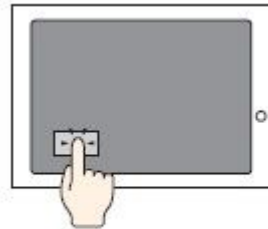
*In this chapter, we're going to practice [ON/OFF Display] of Visibility Animation.



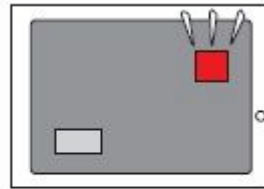
Instruction

Change Picture by Bit ON/OFF

Use “Visibility Animation” of the Animation features.



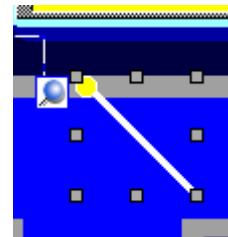
When the specified bit is ON...



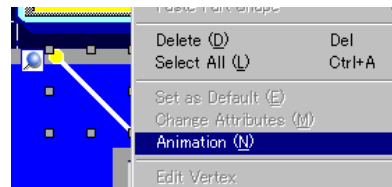
The hidden object becomes visible.

Procedures of Placement/Setup

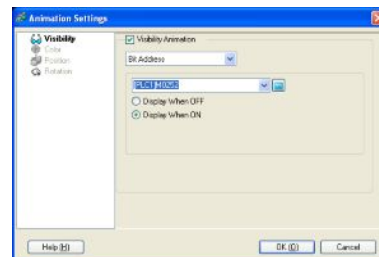
1) Prepare a picture to be displayed.



2) Select the picture and right-click it. Select [Animation] from the menu.



3) Check on [Visibility Animation] to set.



Let's practice on the next page!



Let's Display Changes of Device

Let's display movement of a pusher on a line!

[Setup Procedure]

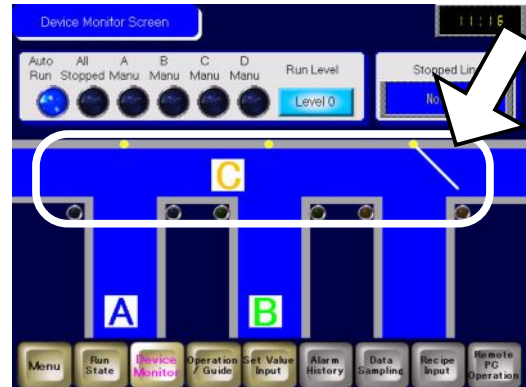
1. Open the base screen "3".
2. Select, place and set Animation: Visibility Animation.

Open the base screen "3".

<Practice Screen>



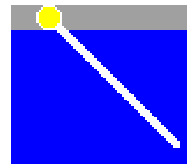
<Completed Screen>



(1) Create Picture to Display

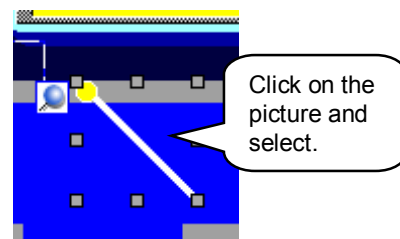
Create a picture to display on a base screen.

* This practice project file already has a picture of pushers on the base screen "3".

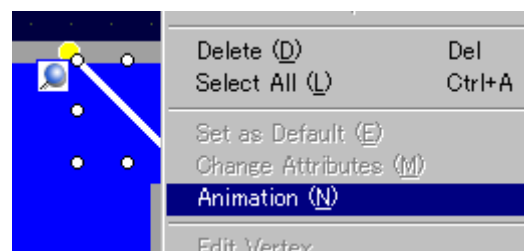


(2) Set up/Place Animation

1) Select a picture to display.

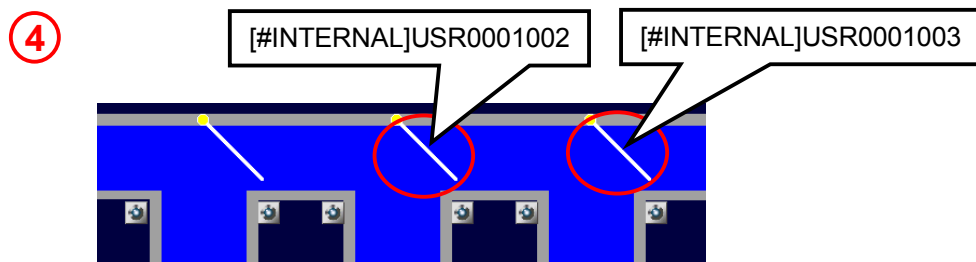
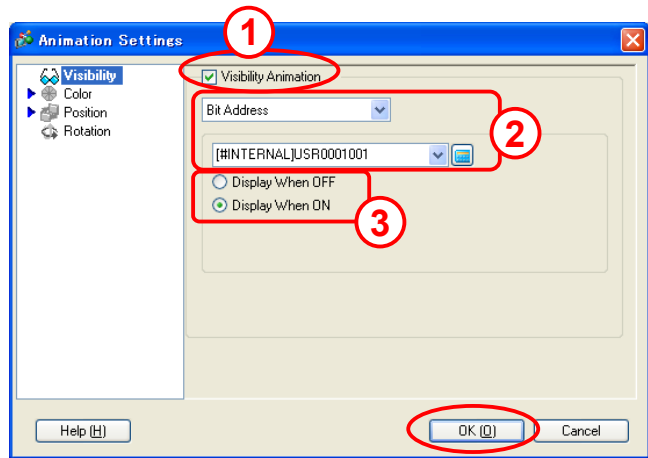


2) Right-click it, and the menu will appear. Select [Animation] from the menu.



(3) Basic Settings

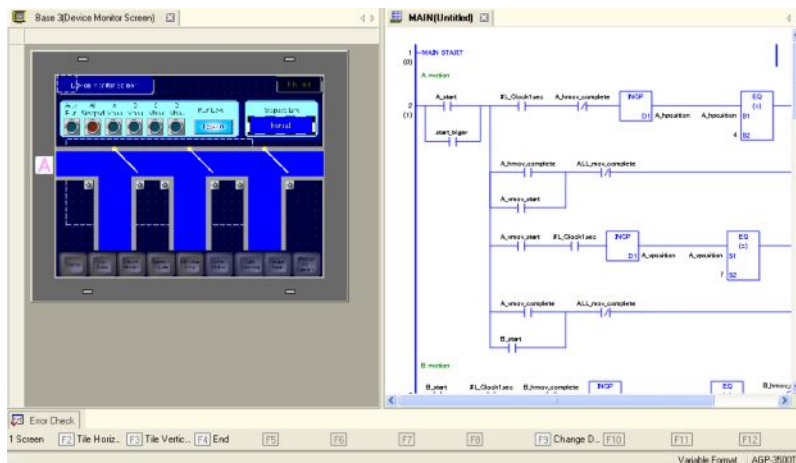
- 1) Put a check mark on [Visibility Animation].
- 2) **Bit Address:**
Set a bit address to be a display trigger.
Here in this practice, set
“[#INTERNAL]USR0001001”.
- 3) Select [Display When ON].
- 4) Set other two pushers as well.
Set the following addresses and select
[Display When ON].



★ **One Point**

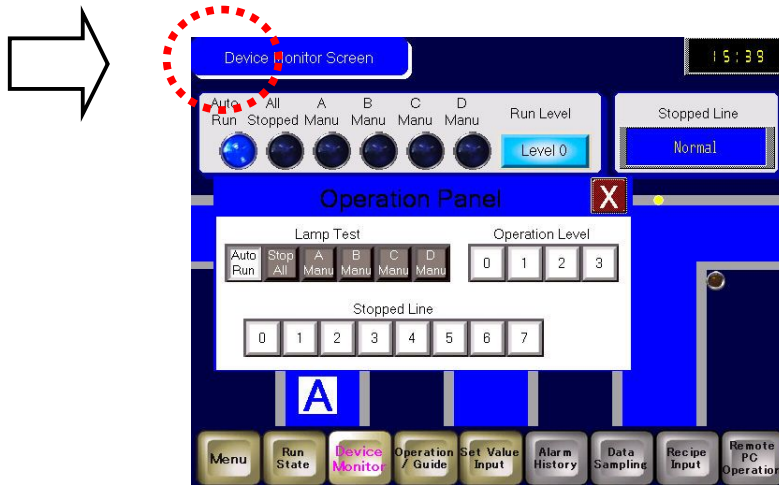
Addresses used with the Animation feature

Bit addresses later than “[#INTERNAL]USR0001001” used with the Animation feature are GP internal addresses and used in the logic screen (MAIN).
Please refer to Chapter 9 for the details of the logic screen.



✓ Practice Let's Transfer Data to GP and Check Performance

<Completed Screen>



If you touch the hidden switch on the upper left corner of the screen, the operation panel will appear.
Operate the screen and check the performance.

★ One Point

Performance check of the logic program

If you click the “Monitor” button on the state bar, you can check the performance of the GP’s logic program.
Also you can check it in the Simulation feature before transferring.
Please refer to Chapter 9 for the details of the logic screen.

