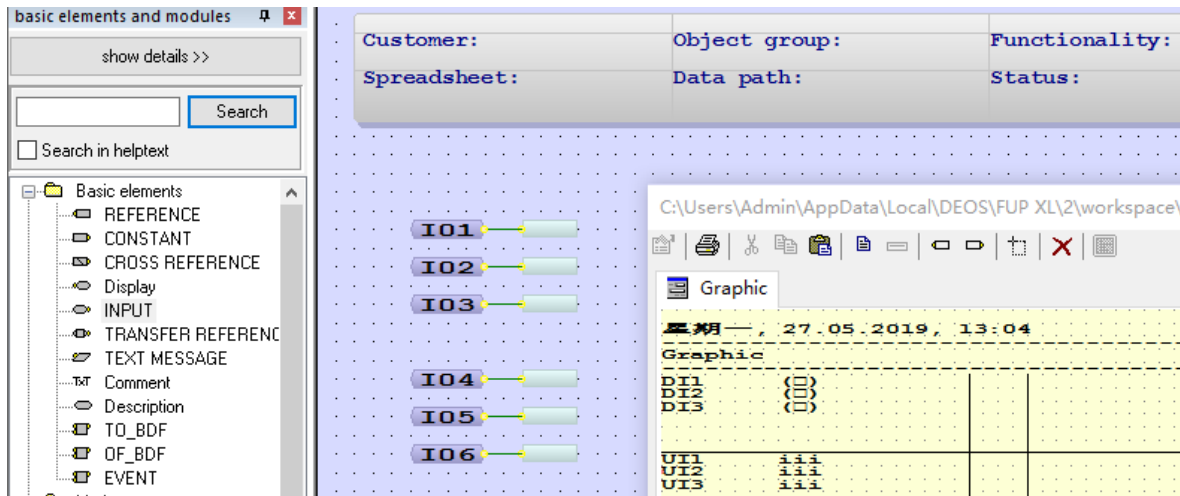# TT190701 – FUP - Graphic Elements for Digital Point

1. There are many ways to display and command digital point on graphic. We will try to show you most of them in this document. First, we create a new FUP page called "graphic", and add 3 "Input" with type "Bit" and 2 with type "UI"
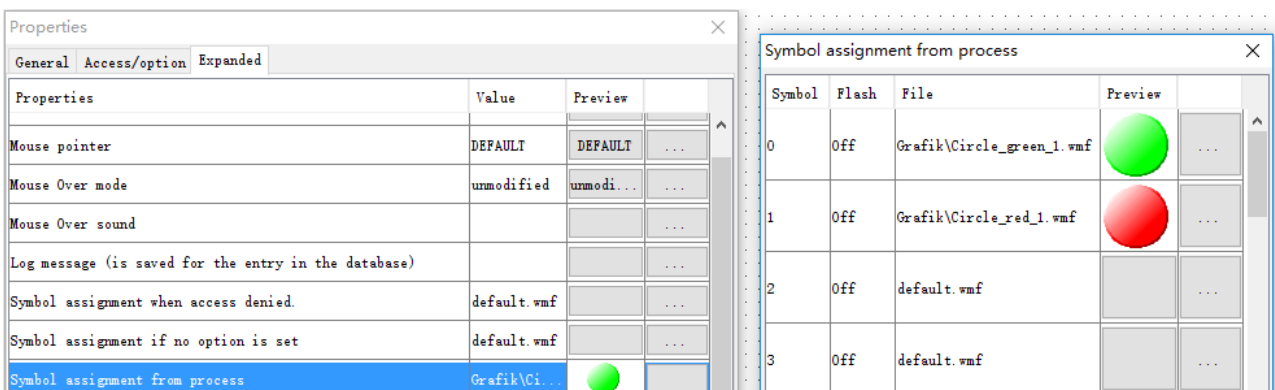

2. Next, we add a new graphic page named "Digital". Add 3 "Text" elements with the name "Status", "Color" and "TextOption00"
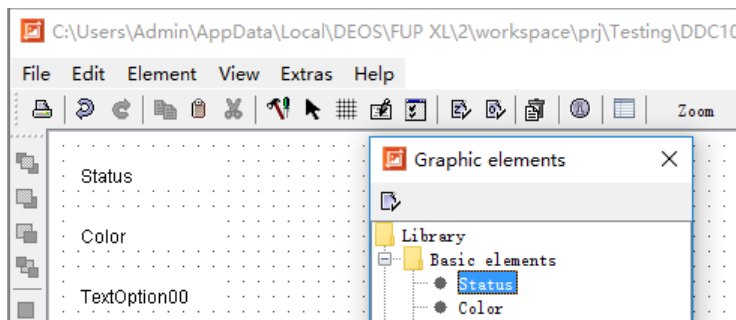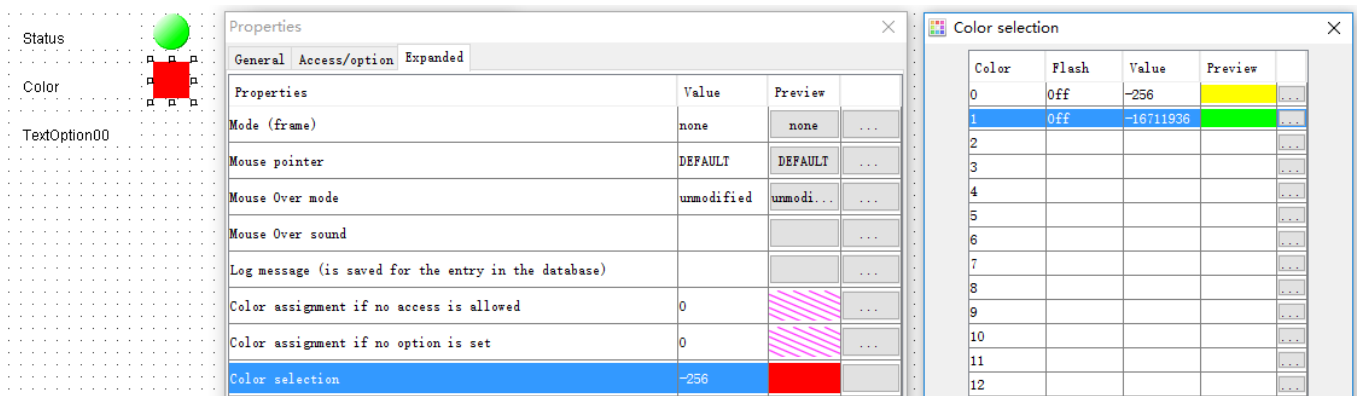

3. The 1st we use is "Status". Add it to your graphic, link to "I01", and change to "Read and Write"
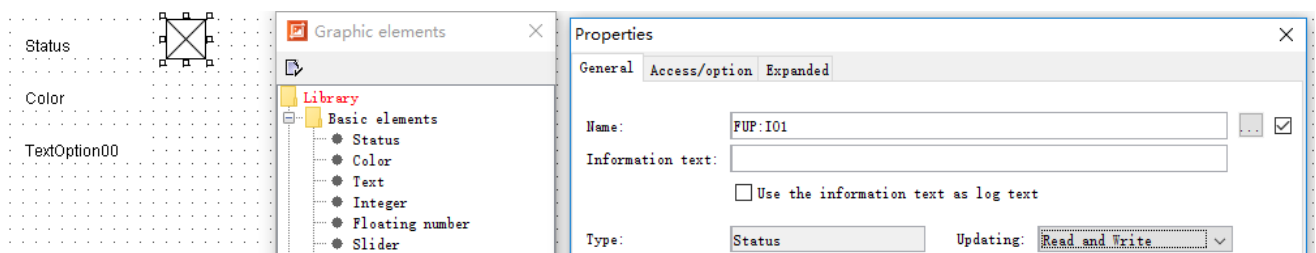
4. Go to "Expand" tab, set the symbol for value 0 and 1, using the "2D Graphic Library", under "Symbols" folder
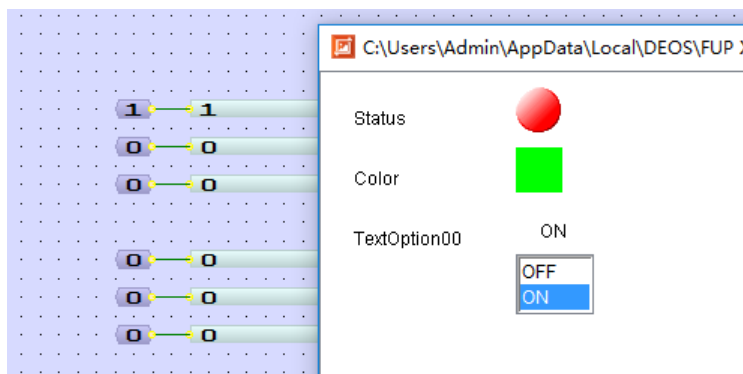
5. The 2nd we use is "Color", same settings as "Status", set to color for value 0 and 1.

6. The 3rd we use is "TextOption00", same settings as "Status", set the "Text" to "OFF" and "ON".

7. Click the SIM button to test your graphic. Click on the "Status" and "Color" to turn it on/off, and use the dropdown combo box for the "TextOption00". If you need read only, just set the "Updating" to "Read"

8. For both "Status" and "Color", there is an option for dropdown menu to command it (like the one for "TextOption00"). To enable it, go to "Expand" tab and change it to 1. There is also option to make it flash when

9. For "TextOption00", we have an option to set the foreground (text) and/or background color to flash when it is value 1.

10. All three elements can display and control points with more than 2 status, e.g. Off/On/Auto. Link them to the "I04", and change the graphic, color and text for value is 2.

11. In our graphic library, there are many other graphics you can use for "Status". Also, from Internet, we can easily find many beautiful buttons to use with "Status".

12. The next 2 elements are "CheckBox00" and "Option00". Add a "CheckBox00" element and set it like below. Use the ☐ button to make it looks like a checkbox.

13. For "Option00", you need to add 2 "Option00", 1 for "OFF" and 1 for "ON". For the one "ON", you need to set the "Option is set with this value" to 1.

14. Using the table we created in TT190501, we can make a very nice display

Name	Type = Bit	Type = UI
Status		
Color		
TextOption00		
CheckBox00		
Option00		

15. The next one is "LockSwitch00". We can use it to create button for on/off or fan speed

LockSwitch00		

16. For on/off, we create 2 "LockSwitch00", one for "ON" and one for "OFF". For the "ON" button, we assign 1 when it is pressed, and assign the graphic for button pressed and not pressed

Image is printed with this value	1	1	...	0	0
Image if switch is pressed	Grafik\on...	All On	...	Grafik\of...	All Off
Image if switch is not pressed	Grafik\On...	All On	...	Grafik\of...	All Off

17. "TextOption01" is like "TextOption00", but you can assign any value to be display, e.g. 1 for "ON", 2 for "OFF", and 3 for "AUTO", for some Modbus FCU, instead of always start from 0.
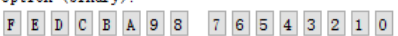
Properties ×

General   Access/option   Expanded

Properties	Value	Preview	
Process value 0	1	1	...
Text 0	OFF	OFF	...
Process value 1	2	2	...
Text 1	ON	ON	...
Process value 2	3	3	...
Text 2	AUTO	AUTO	...

18. The last one is to use "Display Element" to show the graphic when the input in 1, e.g. animation for flow using arrow, or alarm icon when point in alarm

Properties ×

General   Access/option   Expanded

Access (binary):   (hexadecimal)
F E D C B A 9 8 7 6 5 4 3 2 1 0   0xC00E

Option (binary):   (hexadecimal)
F E D C B A 9 8 7 6 5 4 3 2 1 0   0x0000

Option value (process link):   ☐ ⬚

Display element: ☑ ⬚
FUP:IO1

19. Here is the final graphic.

Name	Type = Bit	Type = UI
Status		
Color		
TextOption00	ON ON	AUTO
CheckBox00	✔	
Option00	⦿ ON ○ OFF	○ OFF ○ ON ⦿ AUTO
LockSwitch00	All On All Off	
TextOption01	ON	AUTO 3
Display element	⇨	
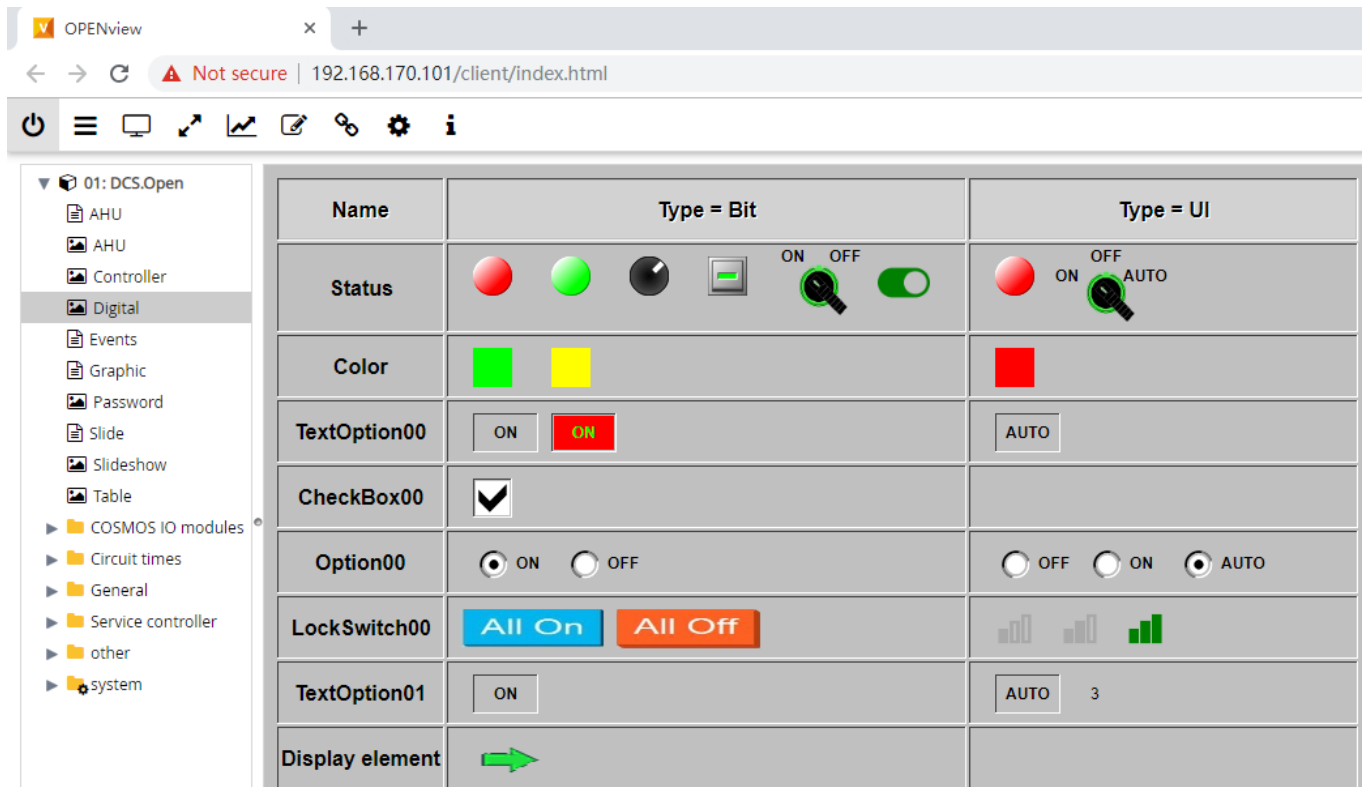
20. Please note that you need to set "Updating" to "Read and Write", otherwise the command will not work
21. Also, you can set the "Mouse Pointer" to "Hand", so that when user mouse over the button, the mouse pointer will change to "Hand", so user will know it is commandable