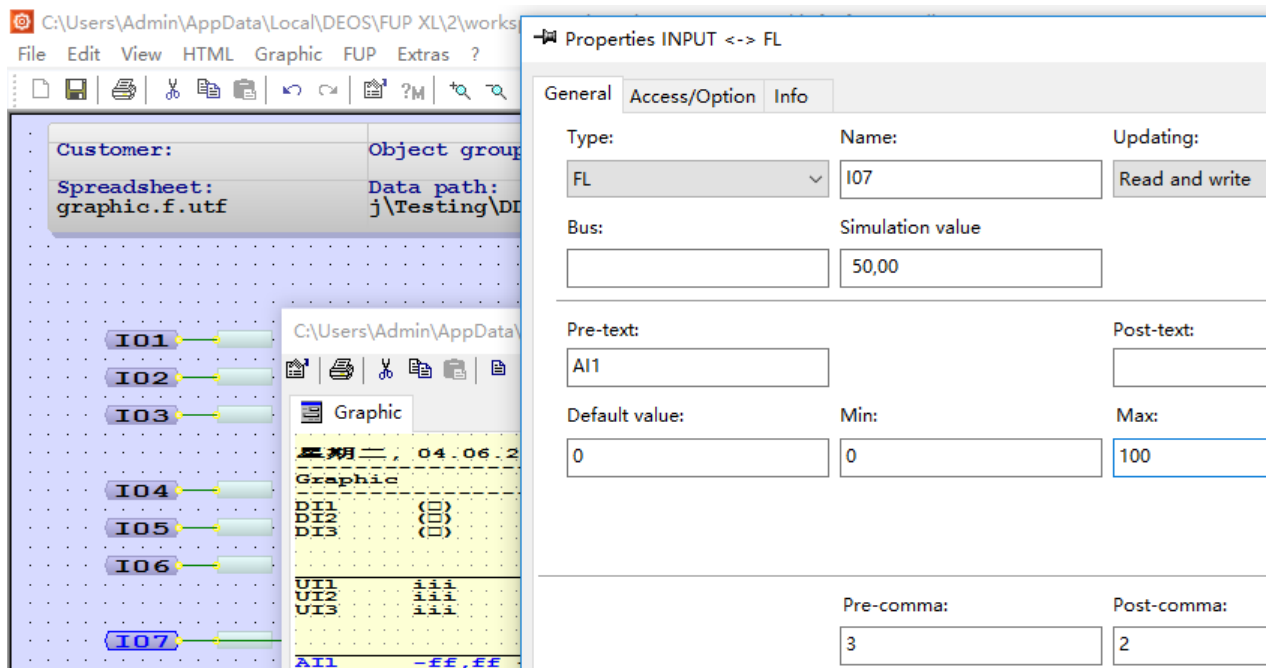
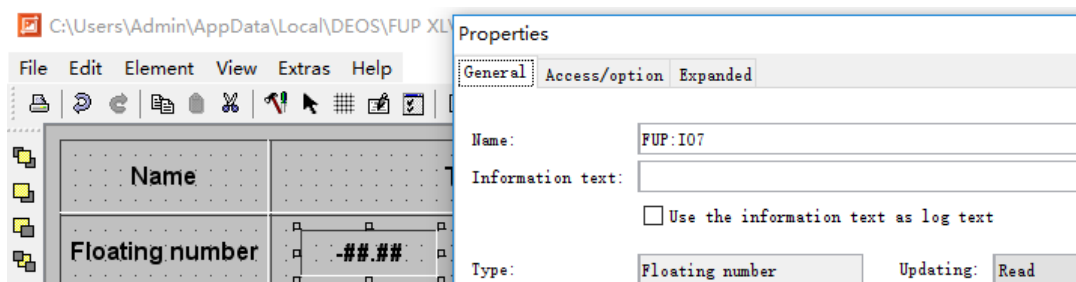


TT190702 – FUP - Graphic Elements for Analog Point

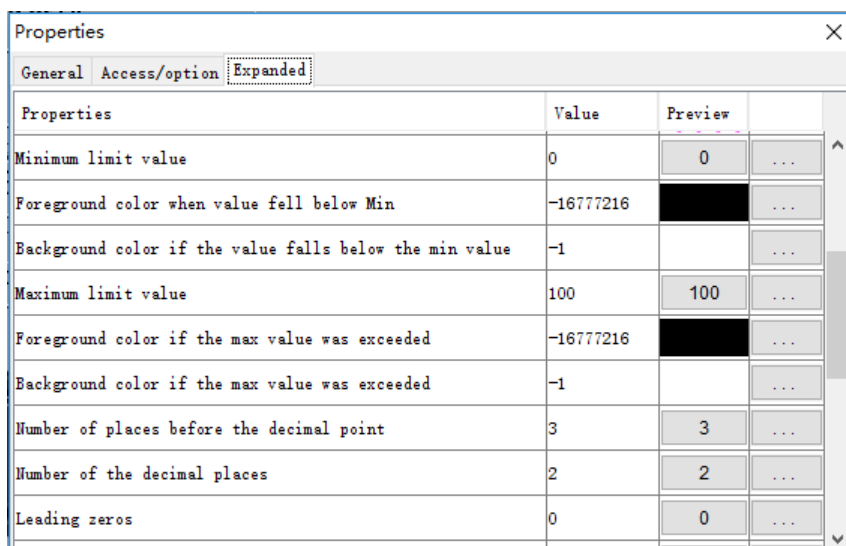
1. We normally use the graphic element “Floating Number” for analog point. First of all, we create a “Input”, set the type to “FL”, and set the “Min”, “Max” and decimal place (Post-comma)



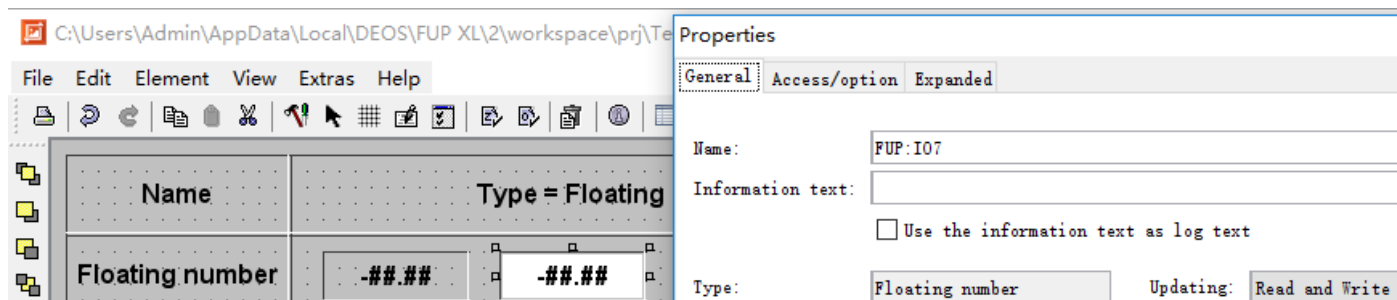
2. Create a new graphic page named “Analog”, add a graphic element “Floating Number”, and link it to the corresponding “Input”. Make it “Frame Deepened” with the button



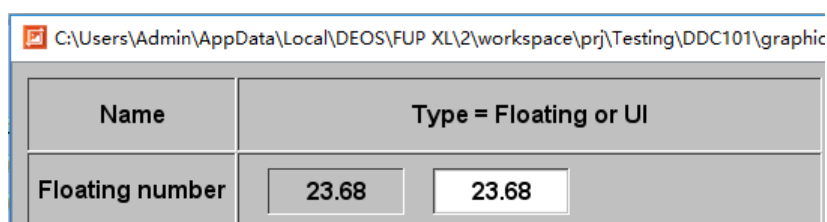
3. Go to “Expanded” tab, set the background color to grey (indicate read only), set the min/max limit value, and change the “Number of the Decimal Places” to 2



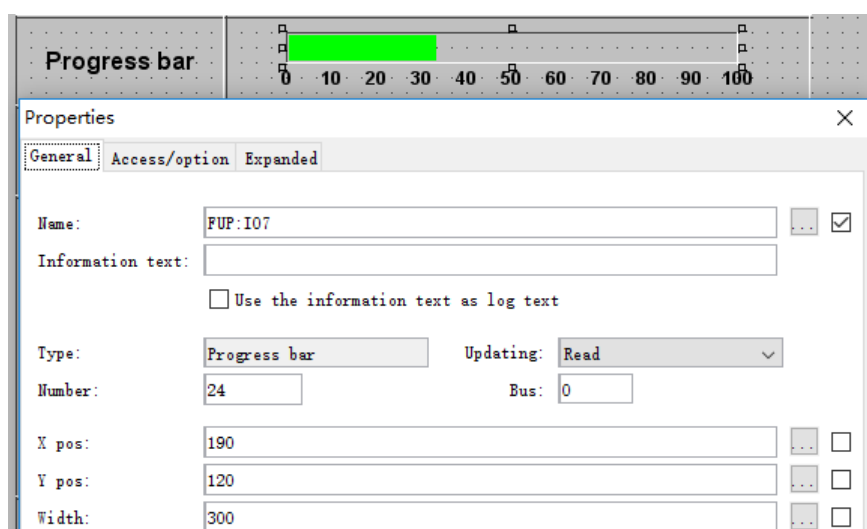
- Copy and paste it, set the new one "Updating" to "Read and Write", and set the background color to white. You can then set the "Access" and/or "Display Element" option in the "Access/Option" tab to selectively display the 2 elements if required



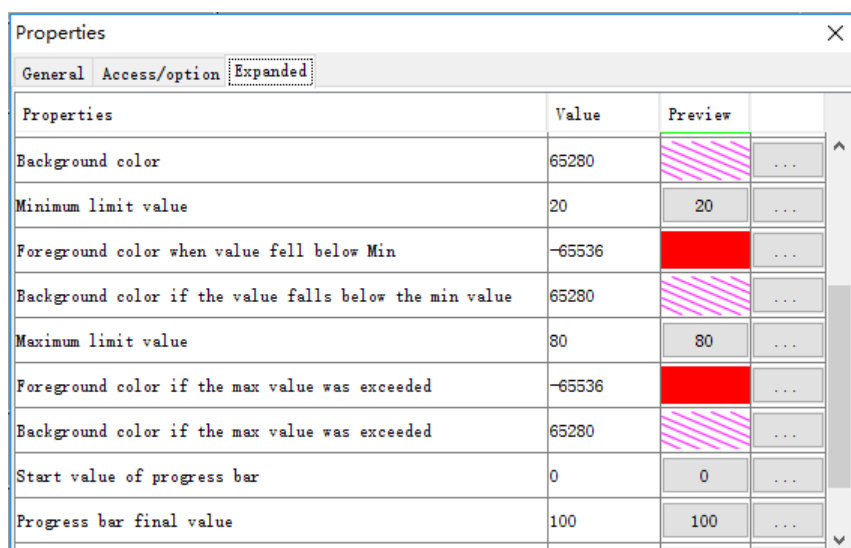
- Test it in simulation




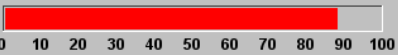
- The 2nd one is "Progress Bar". Add it to the graphic, link to the Input and set the width to 300.



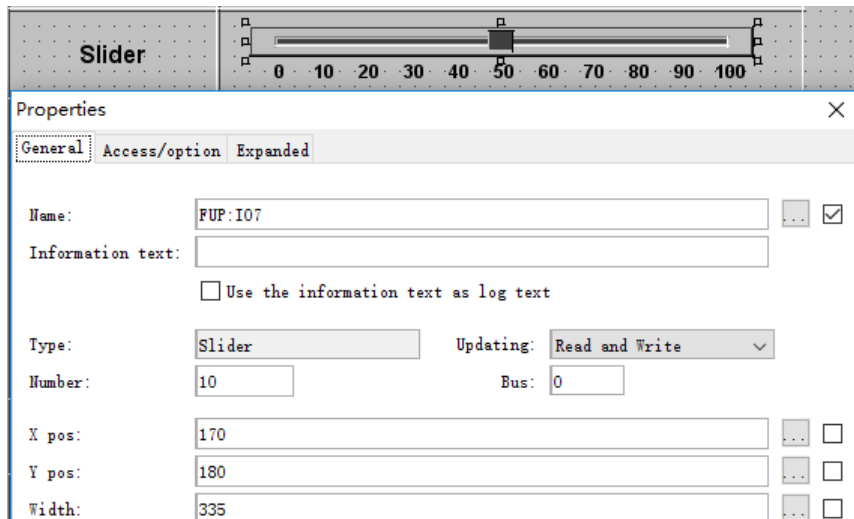
- Change the background color to transparent, set the min/max limit value and the color for them, and then set the start and final value of the progress bar.



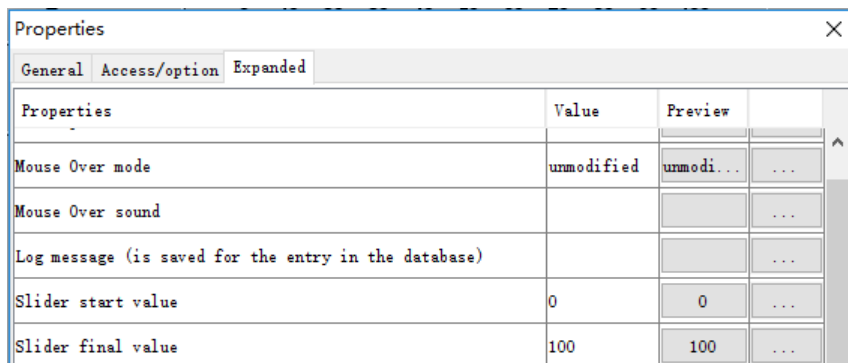
8. Now, set the scale manually using “Text” element. Each scale is separate by 30 pixels. Here is the simulation result, showing red color when the value is higher than the “Max Limit Value”

Name	Type = Floating or UI		Name	Type = Floating or UI	
Floating number	23.68	23.68	Floating number	88.00	88.00
Progress bar			Progress bar		

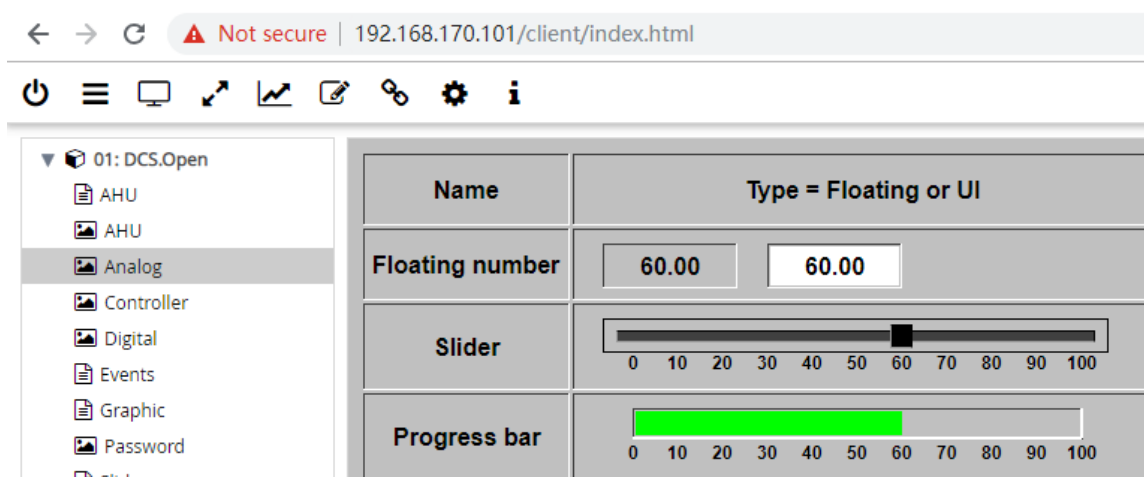
9. The 3rd one is “Slider”. Link to the Input, set to “Read and Write” and set the width to 335.



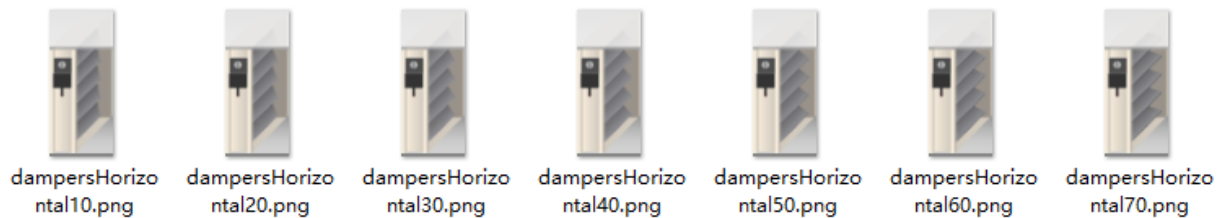
10. Go to “Expand” tab, set the slider start and final value. Copy the scales for “Progress Bar” and put them under the “Slider” in the correct position



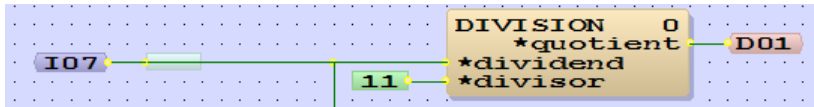
11. The scale of “Slider” in simulation is a bit different from using browser like Chrome. So, we upload it to the controller and test it in Chrome. Now, you can use the slider to adjust the value, e.g. the humidity setpoint



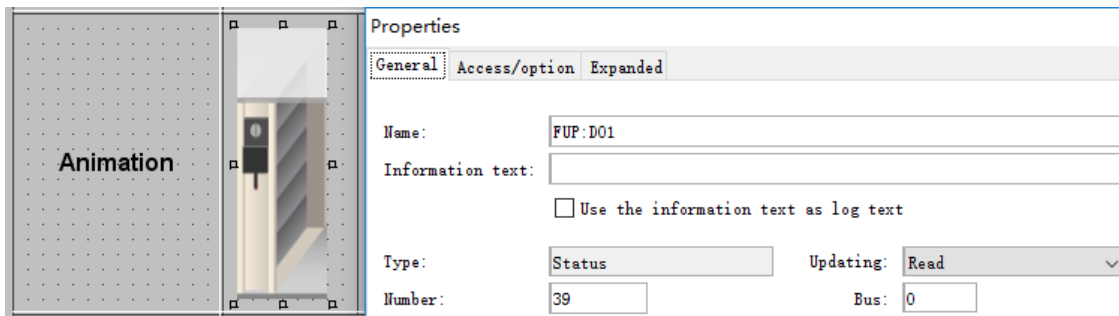
12. In our 3D graphic library, we have graphics to show the different angles of the damper position.



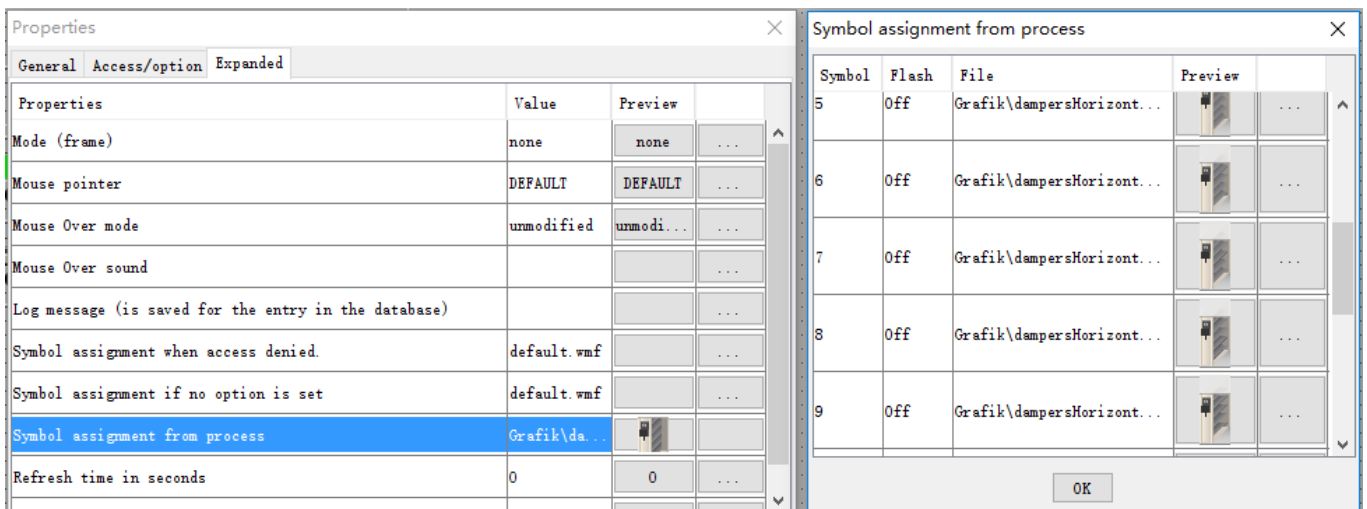
13. We've 10 graphics for 0-90 degrees. In FUP we need a calculation to change 0-100% to 0-9.



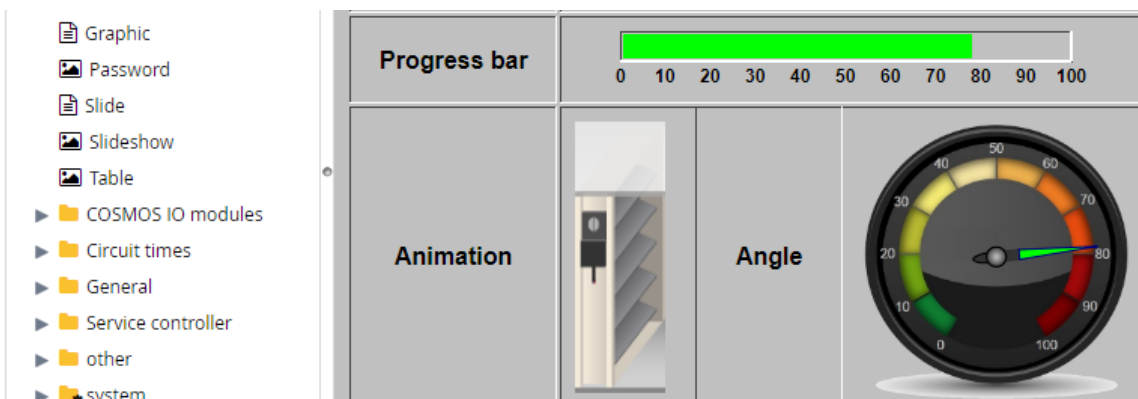
14. We use the graphic element "Status". Link it to the "Display" of 0-9 in your FUP page.



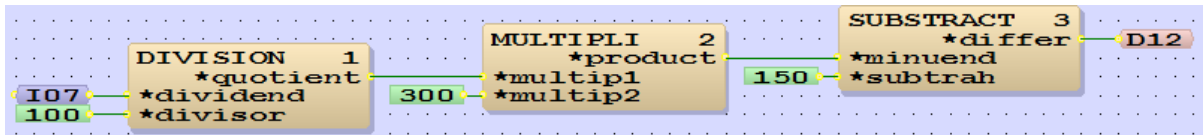
15. In the "Expand" tab, click on "Symbol Assignment from Process", and select the corresponding graphics for value from 0 to 9.



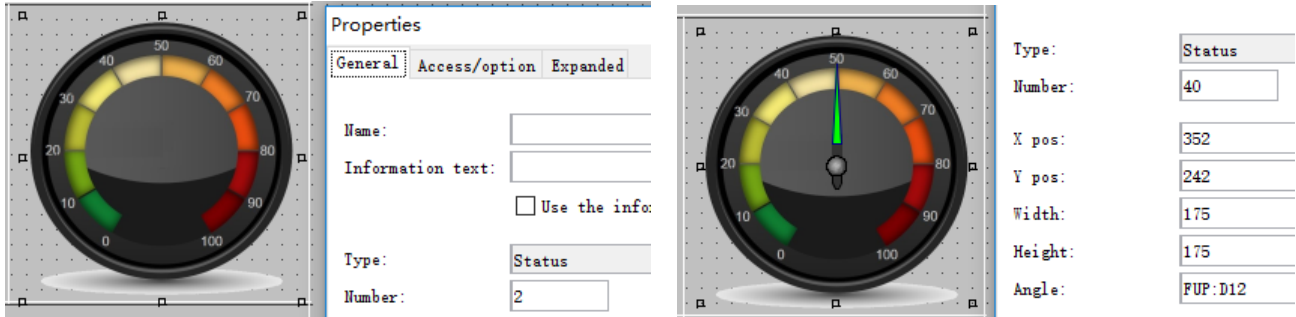
16. The next one to show is the meter style display. To do it, we need a background image for the meter, and an PNG image for the pointer. You can find one in the sample FUP project.



17. First, we need to add some FUP modules to calculate the correct angle for the pointer.



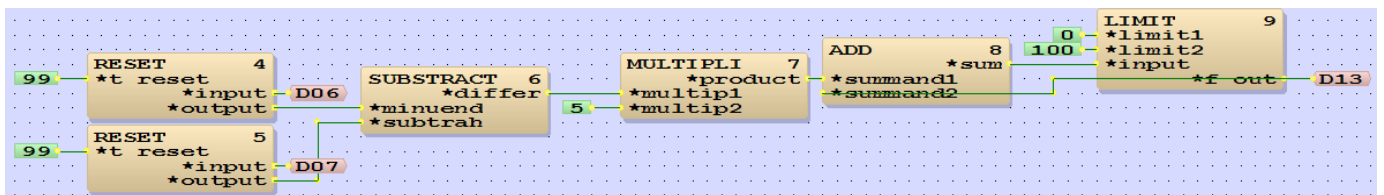
18. Add 2 “Status” to your graphic, one for the meter as background, and the other for the pointer. Link the “Angle” of the pointer to the “Display” of the calculated angle in your FUP page.



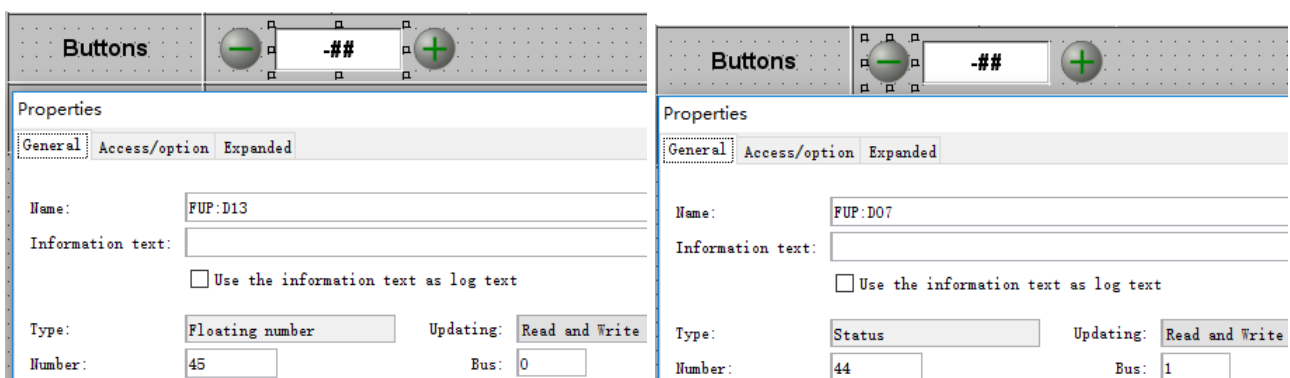
19. Sometimes customer wants to have 2 buttons to increase/decrease the value, e.g. to control the temperature setpoint of the FCU.



20. To do it, we need to add the below logic in your FUP page



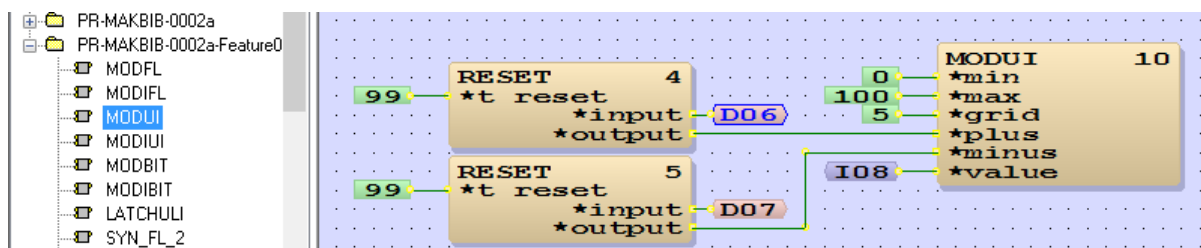
21. In the graphic, add a “Floating Number” element, link it to the last “Display” and set the “Updating” to “Read and Write”. Add 2 “Status” element for the buttons to increase/decrease the value, set them to “Read and Write”, and link to the 2 “Display” on the left



22. Set the graphics for the buttons. The “Reset” module in FUP is used to provide a pulse for 0.99s when the increase/decrease buttons is pressed, so that the value is changed by 5, and reset the buttons to 0 after that

				Symbol	Flash	File	Preview
Log message (is saved for the entry in the database)			...	0	Off	Grafik\minus1.png	
Symbol assignment when access denied.	default.wmf		...				
Symbol assignment if no option is set	default.wmf		...				
Symbol assignment from process	Grafik\mi...			1	Off	Grafik\minus2.png	

23. In the latest FUP version, there is a new module called “MODUI” which can do similar function, so we can use it to replace the modules above. Since this module is in the “Plug-in” so simulation does not work for this module, and you need to test it after upload to the controller. Also, the behavior is a bit different between the 2 methods, so you can try it out.



24. Below is the final graphic

