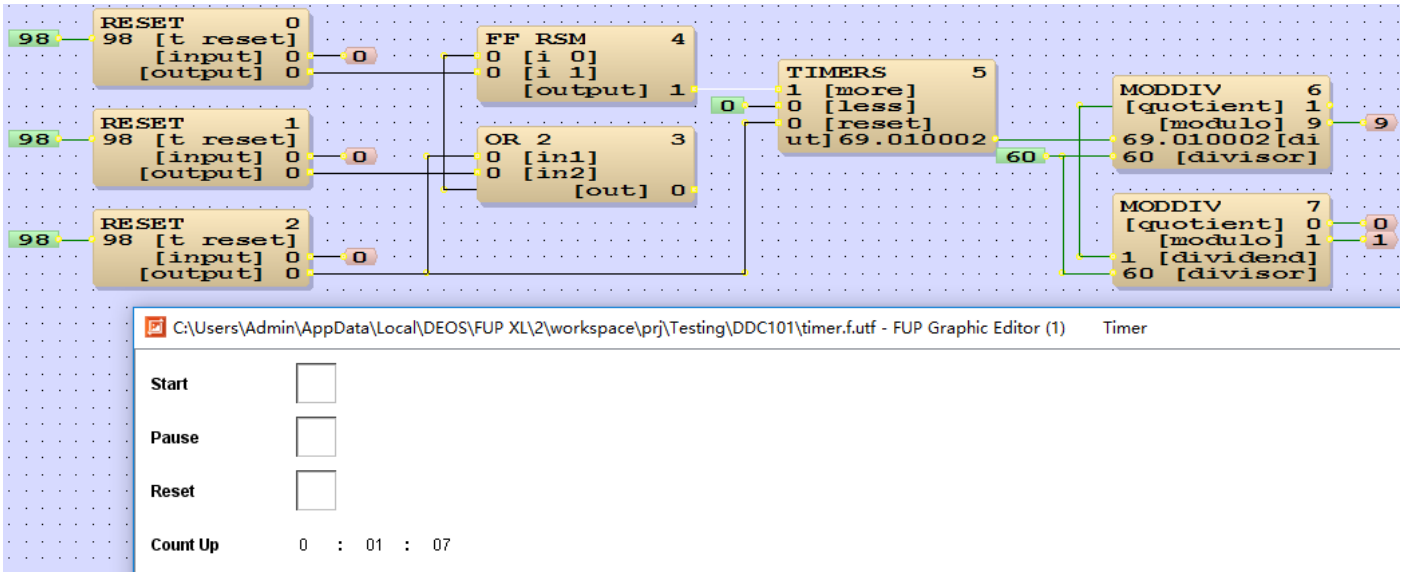
TT200304 – FUP - Stopwatch Function

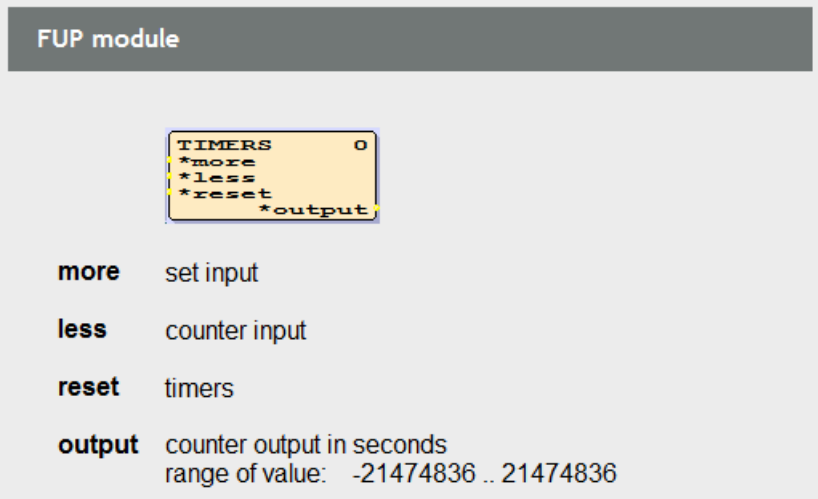
Note	This Support Knowledge Base article KB is the result of a support request. It is not part of the official documentation of DEOS AG and does not claim to be complete. The article is intended to support the solution of a similar problem. If you have any questions, comments or additions, please contact DEOS AG Support.
Title	FUP Stopwatch Function (TT200304)
Object	FUP
Reference version	2
Date	03.2020
Author	EK
Goal	To create a stopwatch function in FUP

Content:

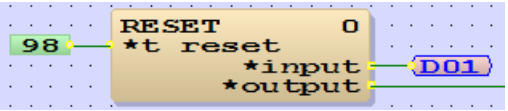


TT200304 – FUP - Stopwatch Function

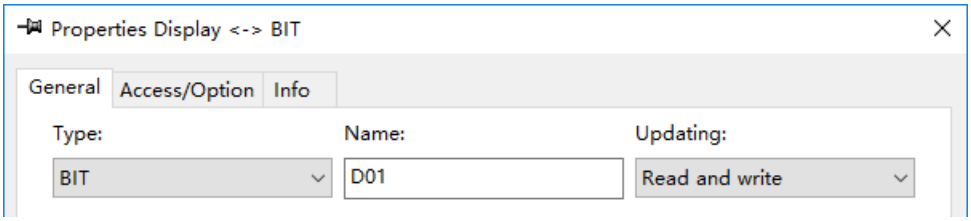
1. We can create a stopwatch function in FUP easily using the “TIMERS” module. This module will count up (in seconds) when input “more” is 1, pause when it’s 0, and reset the “output” when input “reset” is 1. It will also count down when input “less” is 1



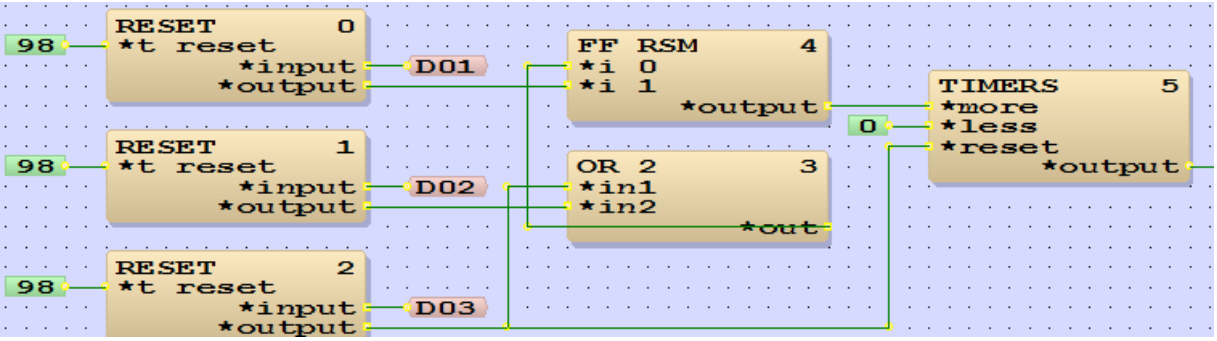
2. Now we create 3 inputs for the functions “Start”, “Pause” and “Reset”. Here we use the “RESET” module to create a pulse of 0.98 second when the “input” is set to 1. With this module, the “input” is automatically reset to 0 after that.



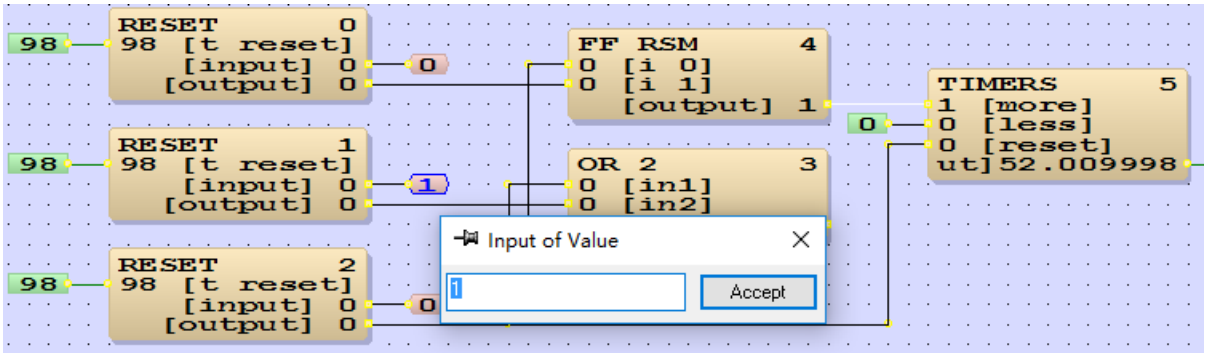
3. You may notice that the “input” of this module is on the right-hand side which is normally the output of the module, and we connect an “Display” (not “Input”) to it. So, to be able to control it, we need to manually set the “Updating” of the “Display” to “Read and write”



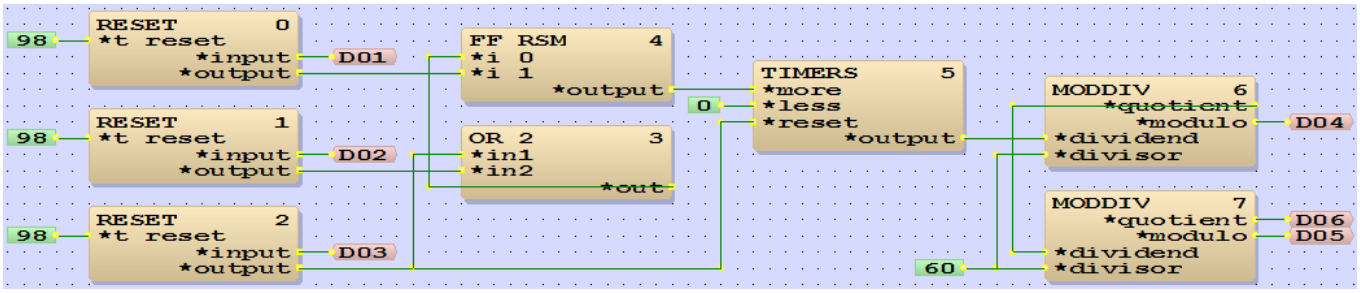
4. To control the “TIMERS” module correctly, we use the “OR_2” module and the “FF_RSM” module. They are used to set the “TIMERS” input “more” to 1 when the “Start” input is set, and set it to 0, when the “Pause” or “Reset” input is set



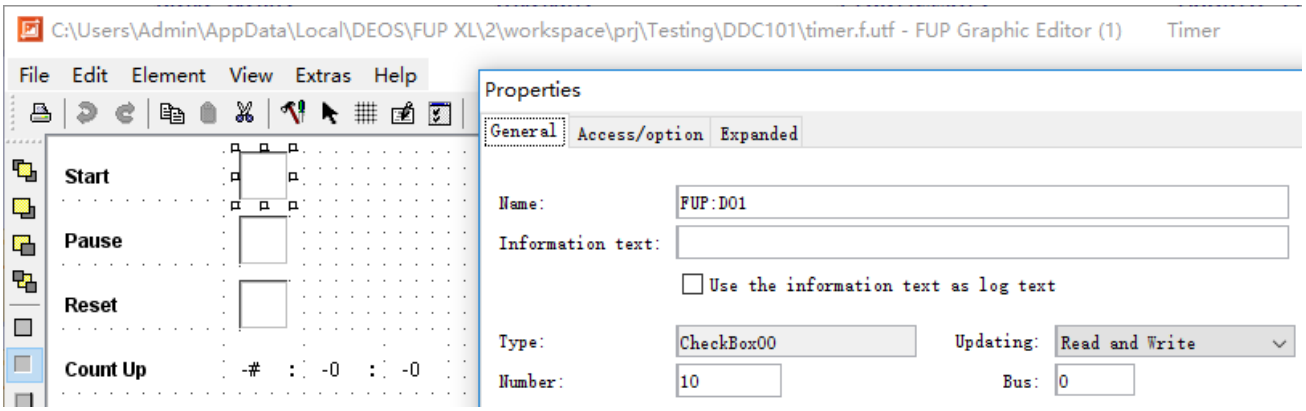
5. Now you can try it in simulation, set the 3 inputs to control the timer directly



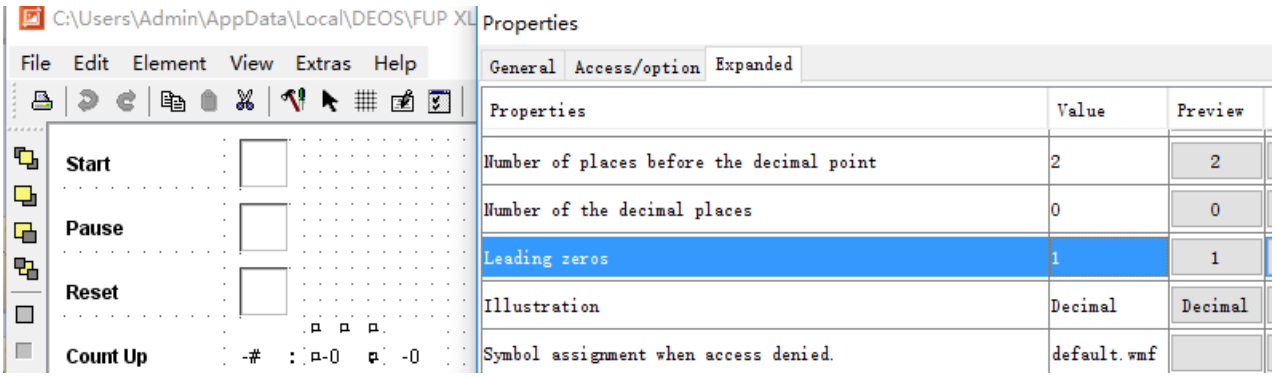
6. The last step is to convert the counter second output to hour, minute and second. Here we use 2 “MODIV” modules. So, the final program is like this



7. We use a simple graphic here to show the demo. For the inputs, we use “CheckBox00”



8. For the outputs, we use “Integer” and set the “Leading zero” to 1



9. Final result is like this