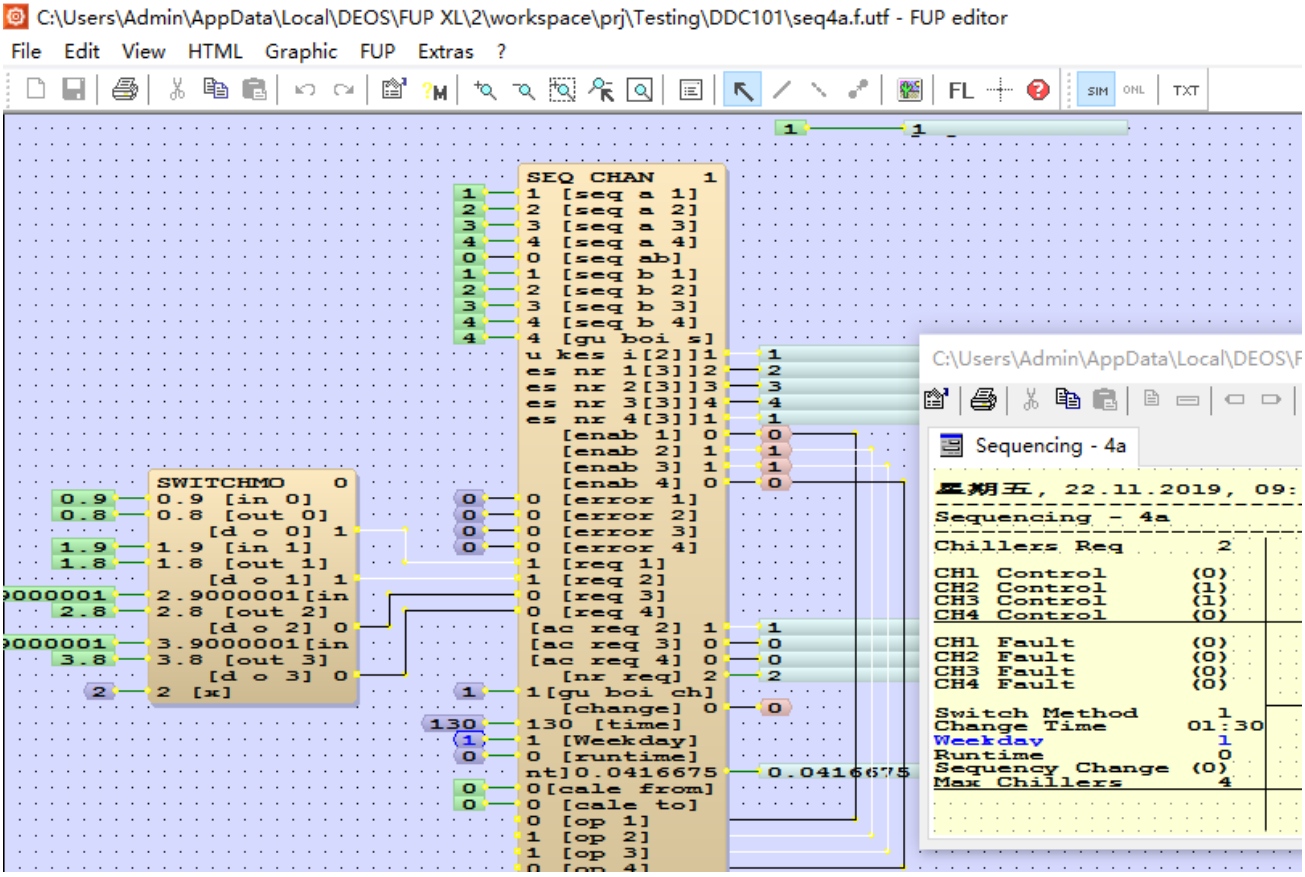
TT191202-FUP-Sequencing Module for 4 Devices (Advance)

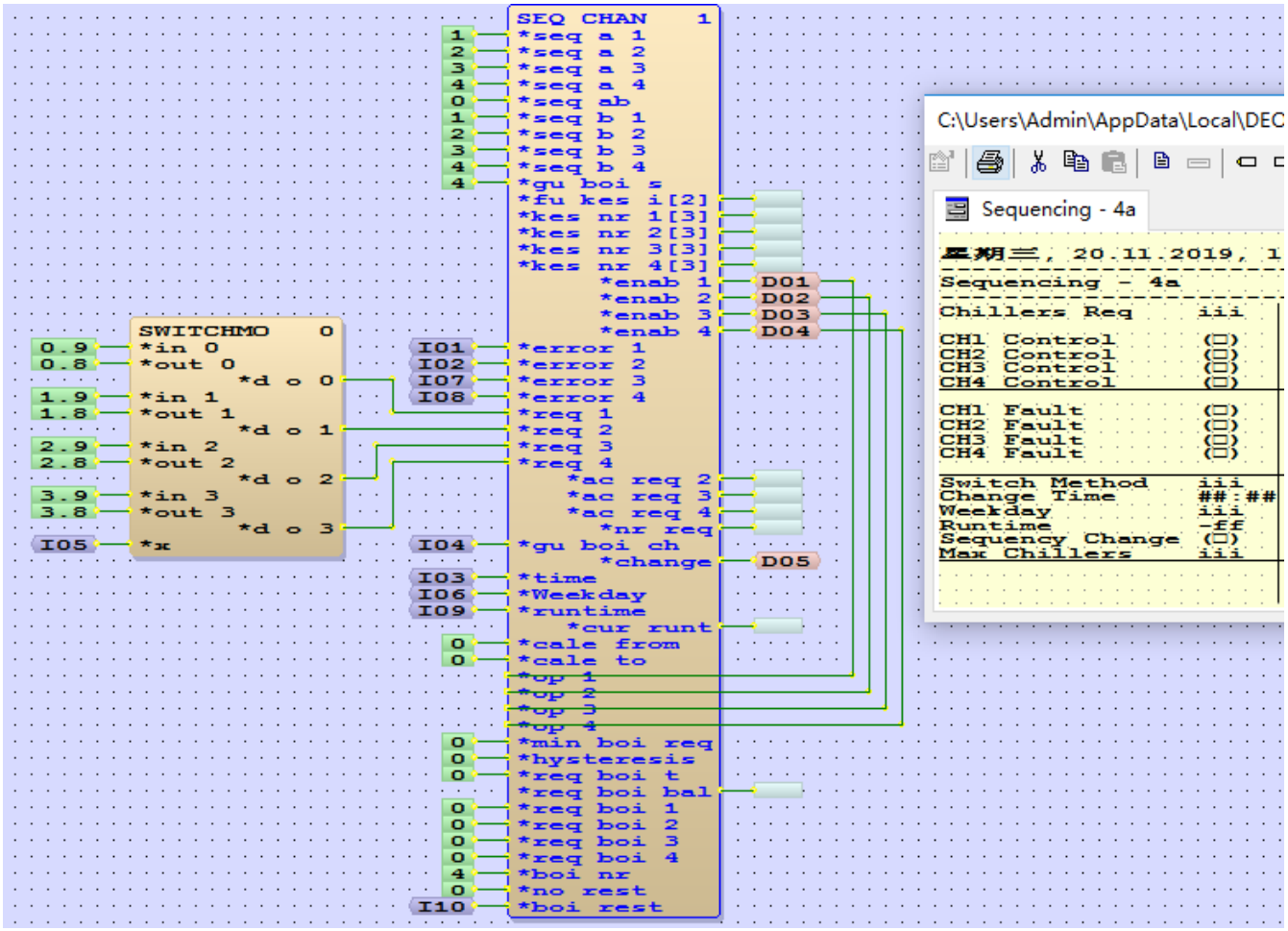
Note	This Support Knowledge Base article KB is the result of a support request. It is not part of the official documentation of DEOS AG and does not claim to be complete. The article is intended to support the solution of a similar problem. If you have any questions, comments or additions, please contact DEOS AG Support.
Title	FUP - Sequencing Module for 4 Devices (Advance) (TT191202)
Object	FUP
Reference version	2
Date	12.2019
Author	EK
Goal	To perform sequencing control of 4 equipment (e.g. chillers) with more functions

Content:

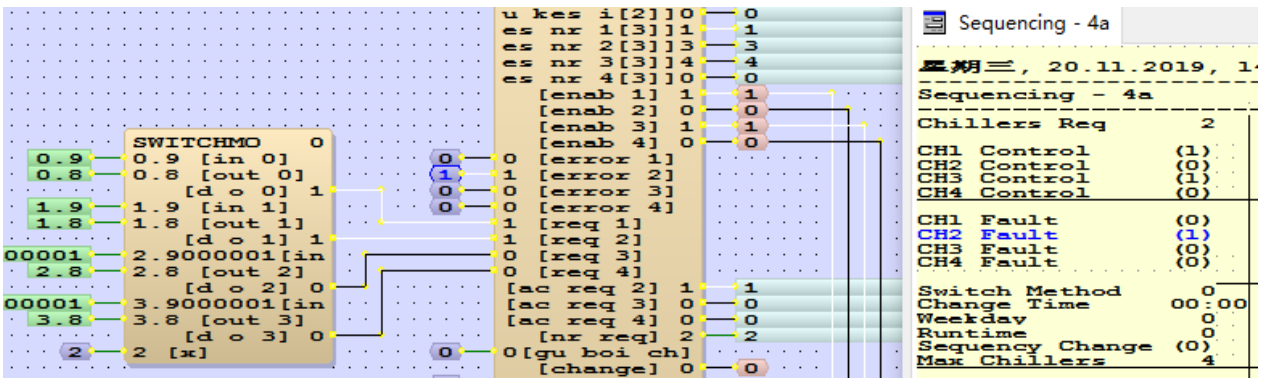


TT191202-FUP-Sequencing Module for 4 Devices (Advance)

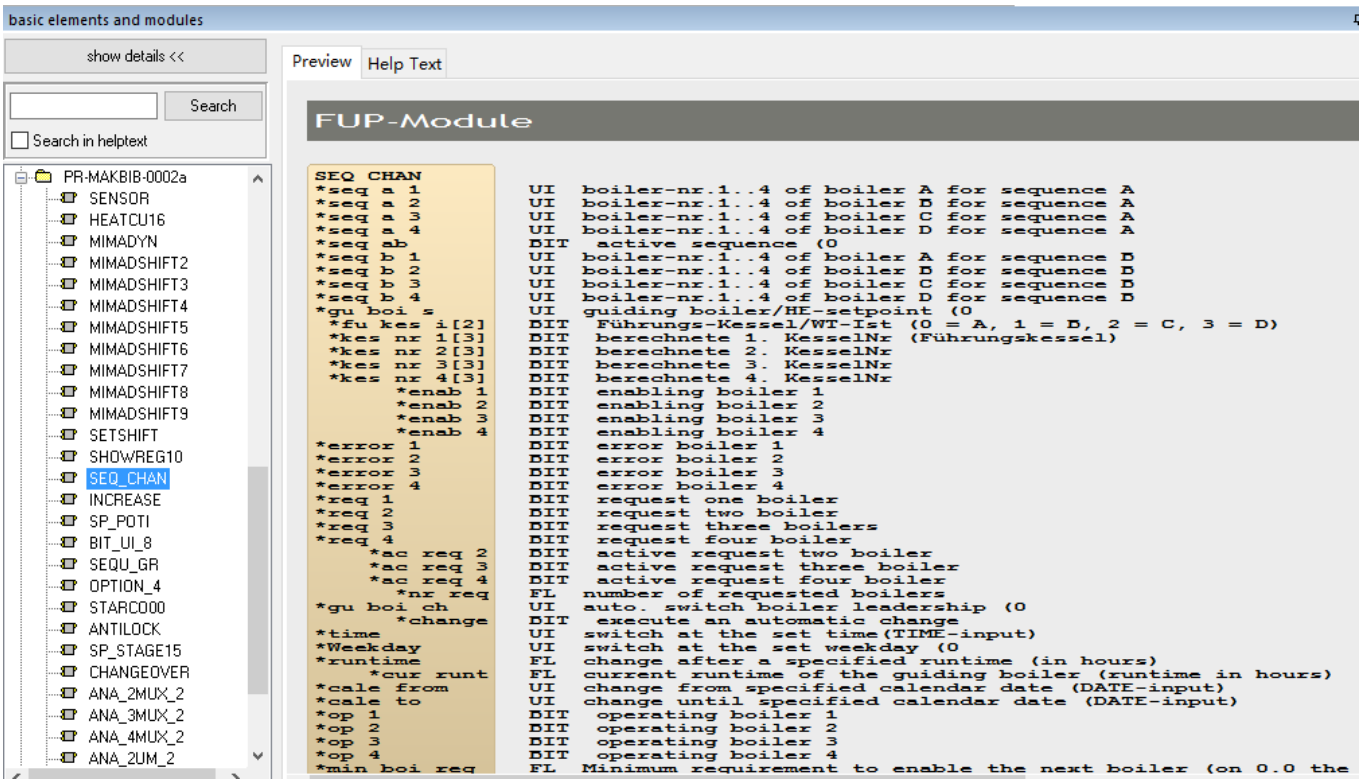
1. To perform sequencing control of 4 equipment (e.g. chillers), we can use the “SEQ_CHAN” module in FUP, which provide the switching of chillers based on different criteria
2. First create a new FUP page call “seq4a.f” and add the below logic. Please refer to TT191104 and TT191201 for detail explanations of the inputs and outputs



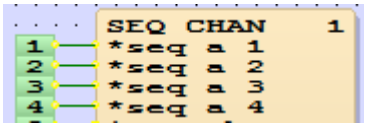
3. This program combines the functions of the modules we use in TT191104 (PU_SW) and TT191201 (ORDER), allowing you to simply control the chiller sequencing of 4 chillers with automatic switching based on daily, weekly and runtime.
4. You can try it by simulation
    a. Set I10 to 4, I05 to 1, then Chiller 1 will turn on
    b. If more chiller is required, then set I05 to 2, and Chiller 2 will turn on
    c. If Chiller 2 is fault, then it will turn off, and Chiller 3 will turn on
    d. If Chiller 2 fault is clear, then Chiller 3 will turn off, and Chiller 2 turn on again



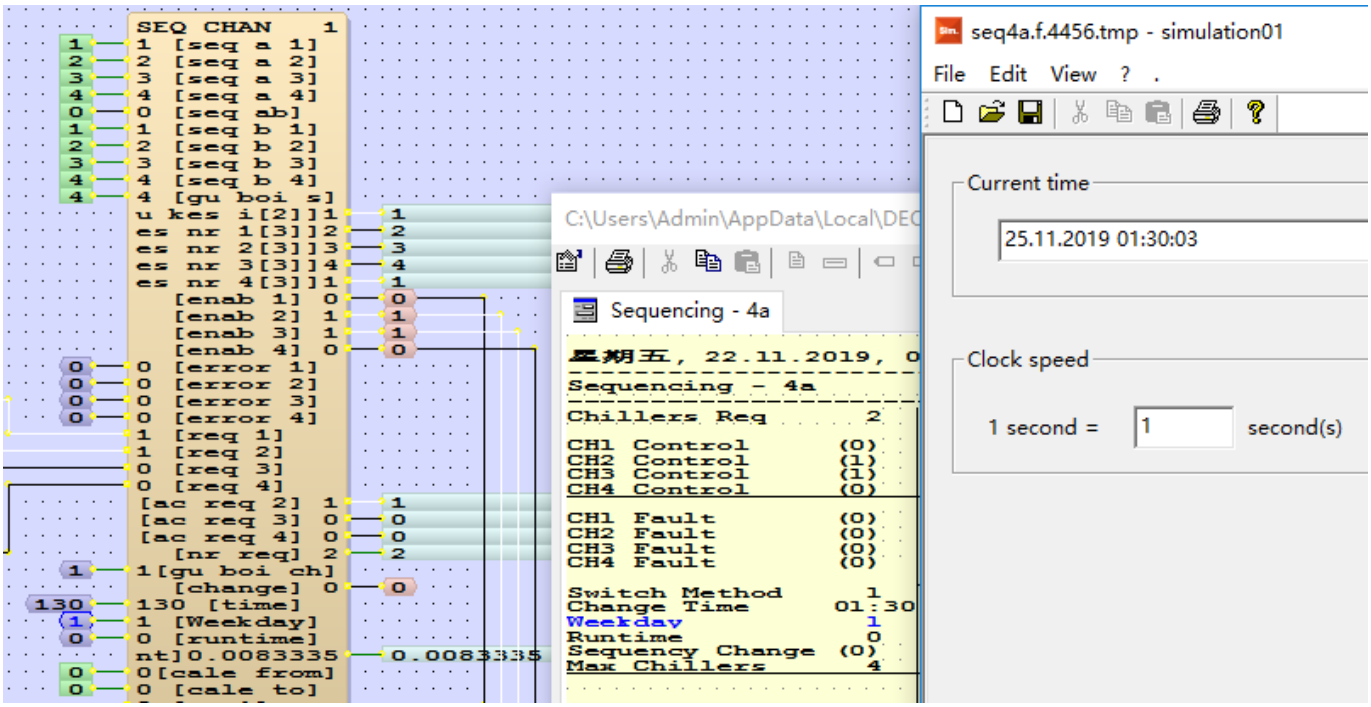
5. You can find the help text of the module for detail explanation of the functions



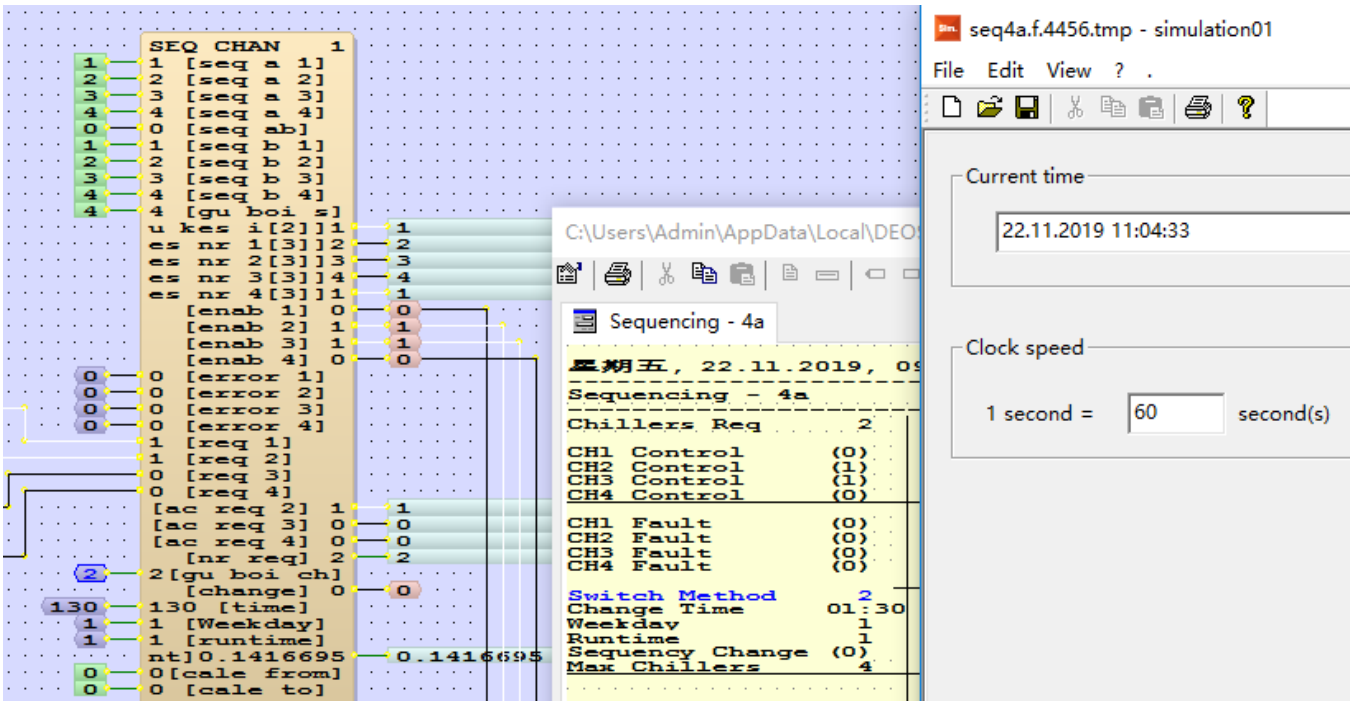
6. The order of the chiller sequencing is set like this. In this example, if sequence is 0, then the order is 1-2-3-4. You can manually change the sequence by setting D05 (Sequence Change) to 1. After changing, the sequence will change to 2-3-4-1, etc. It will also change daily when the “Switch Method” is set to 0



7. Try in simulation. Set “Switching Method” to 1, and set “Weekday” to 1, such that the pump will change weekly on Monday at 1:30am. To test it, you can set the simulation date/time in the simulation window on the “Time” tab



8. Now set the “Switching Method” to 2, and set “Runtime” to 1. The pump will then be switched based on runtime of the pump. In this example, it will be switched after running for 1 hour. To test it, you can set the “Clock Speed” to “1 second = 60 seconds” so that the clock will run much faster



9. We have some macros for 4-chillers application like this (e.g. rmseq4.f$x)