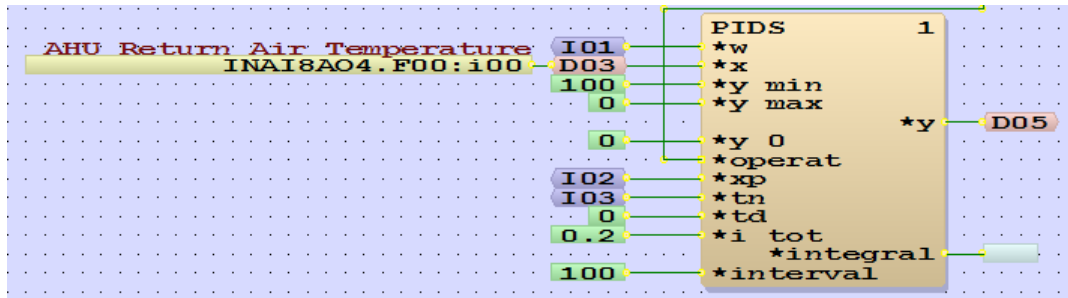
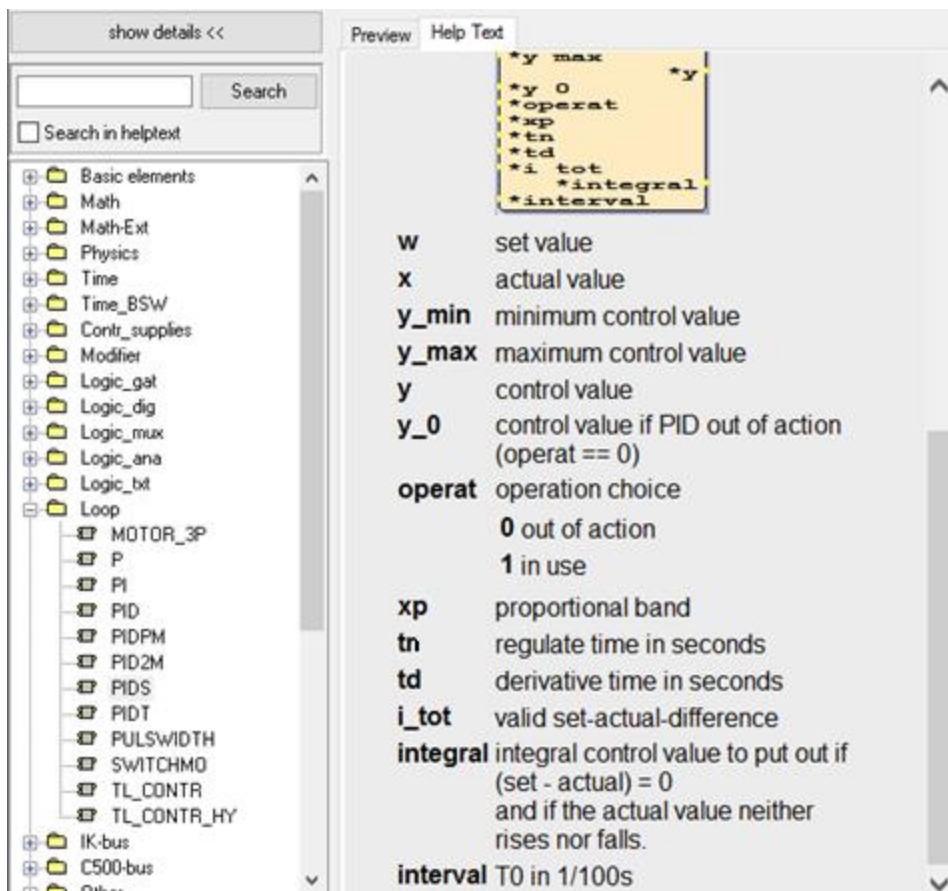


TT210302 – FUP - PID Default Settings

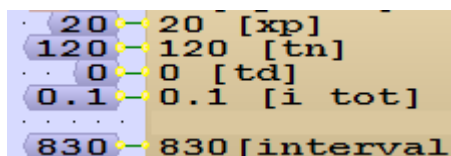
1. For PID control, we can use the “PIDS” module in FUP. You can refer to “TT190104-FUP-PID Control” on how to use it to control the AHU cooling valve using the return air temperature



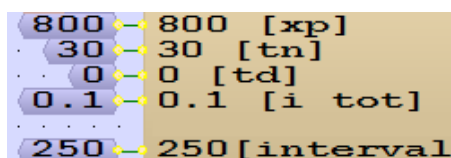
2. You can view the help document of the module by clicking the “Show Details” button and click the “Help Text” tab



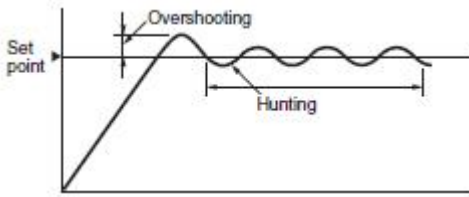
3. Now, we're going to show you the default settings for the module in our macro library for different applications. First is temperature control in °C, and humidity control in %, etc.



4. Next is pressure control in Pa, and flow control in m3/h, etc.



5. Please note that this is just an example for the default PID settings for your reference. Since all installations are different, the settings must be adjusted during testing and commissioning phase base on your sensing and control equipment
6. When the PID loop is started (i.e. input "operat" is 1), the output "y" will start increasing from 0 based on the different between actual value "x" and setpoint 'w'



7. The setting "i_tot" is the different between actual value "x" and setpoint 'w', in which when smaller than "i_tot", the PID control will stop calculation and output "y" will keep at the last value, i.e. stable control and setpoint is reached
8. In cooling application, the output will go up when the actual temperature is higher than the setpoint. To control the changing speed, you can adjust the settings "xp" and "tn"
9. In our PIDS module, the changing speed increase when the "xp" or "tn" settings are lower. So, many customers prefer to set a higher value for "xp" and "tn" so that the PID controller will become more stable. Then you can adjust the settings slowly, until you get the optimum control (i.e. not too slow and not too fast)
10. Please note that if you set the "xp" and "tn" settings too small, the PID control output may go up and down very quickly, and become unstable