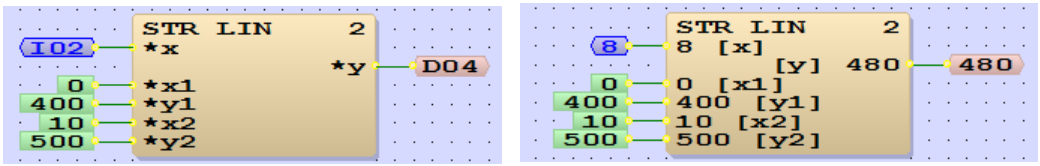
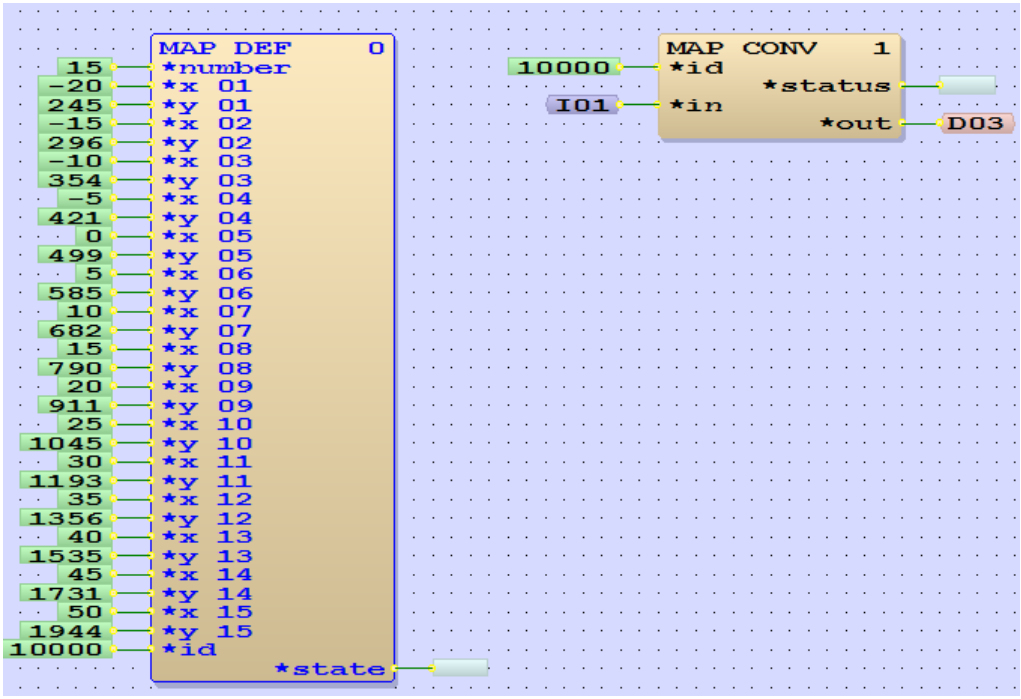
TT190903 – FUP - Sensor Characteristic Module

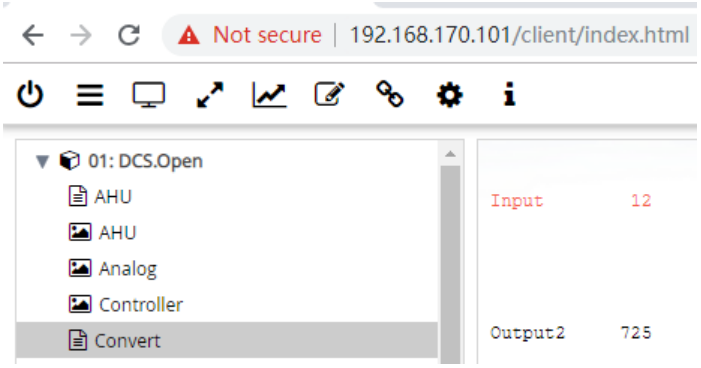
1. Sometimes you need to convert a number linearly, you can use the “STR_LIN” module



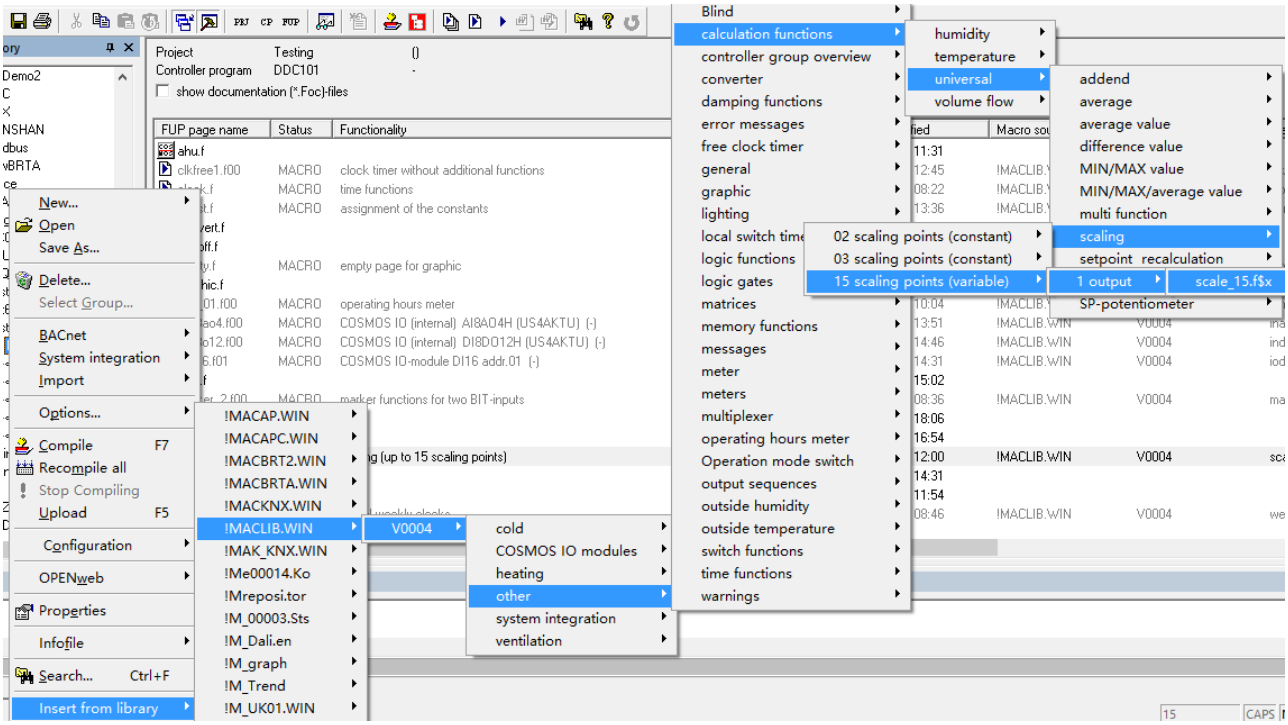
2. If the conversion is not linear, then we can use the “MAP_DEF” module which provide you up to 15 pairs of points, and the characteristic line will then be interpolated linearly in between two points for the calculation
3. First, we add a new FUP page called “convert.f”. Add the “MAP_DEF” and “MAP_CONV” modules like this



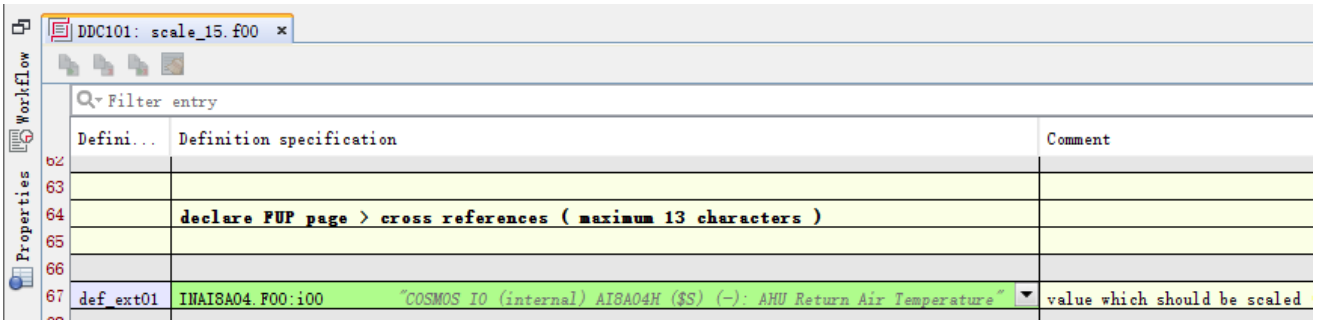
4. The “MAP_DEF” module is the characteristic of the conversion. “Number” is the number of points pairs (from 2 to 15) and “id’ must be unique for each characteristic line in the same controller
5. Now you can use the “MAP_CONV” module for the calculation. You can use multiple “MAP_CONV” modules for more than 1 calculation referring to the same “MAP_CONV” module. Please note that this module does not work in simulation, so you need to compile and upload it to the controller for testing



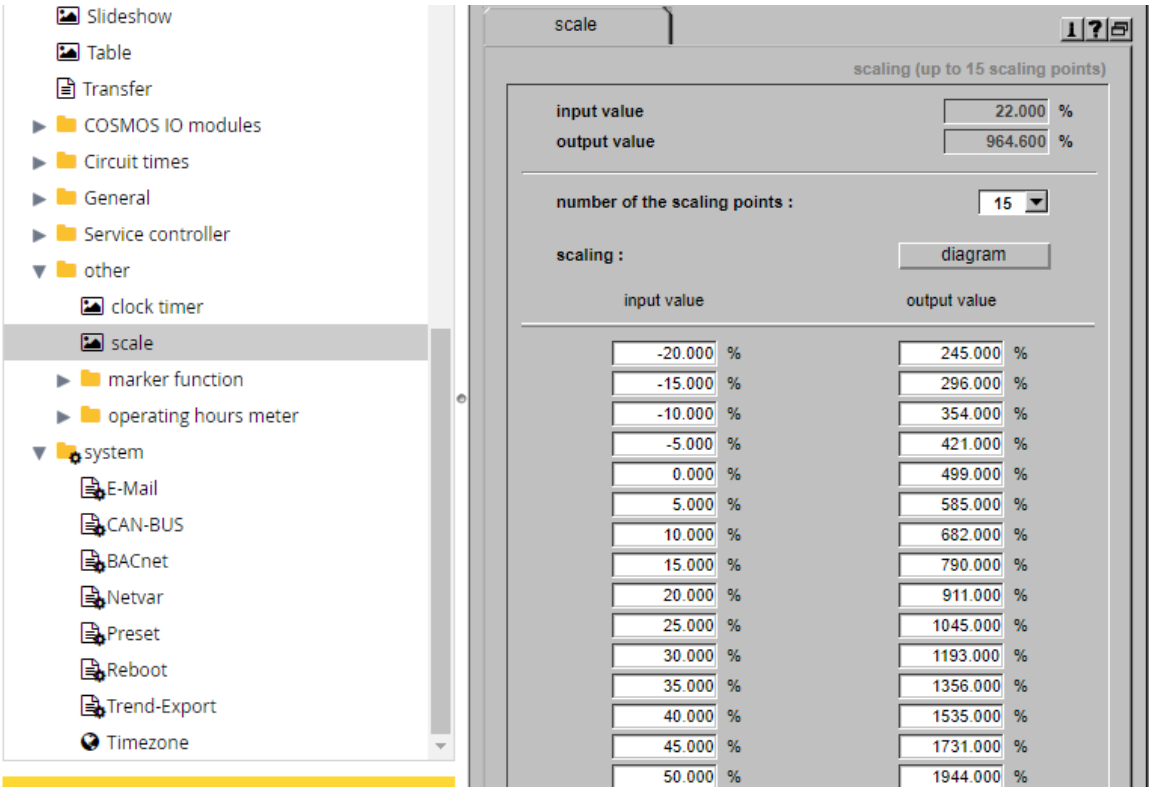
6. You can also use our macro called “scale_15” for this purpose. First, add it to your controller



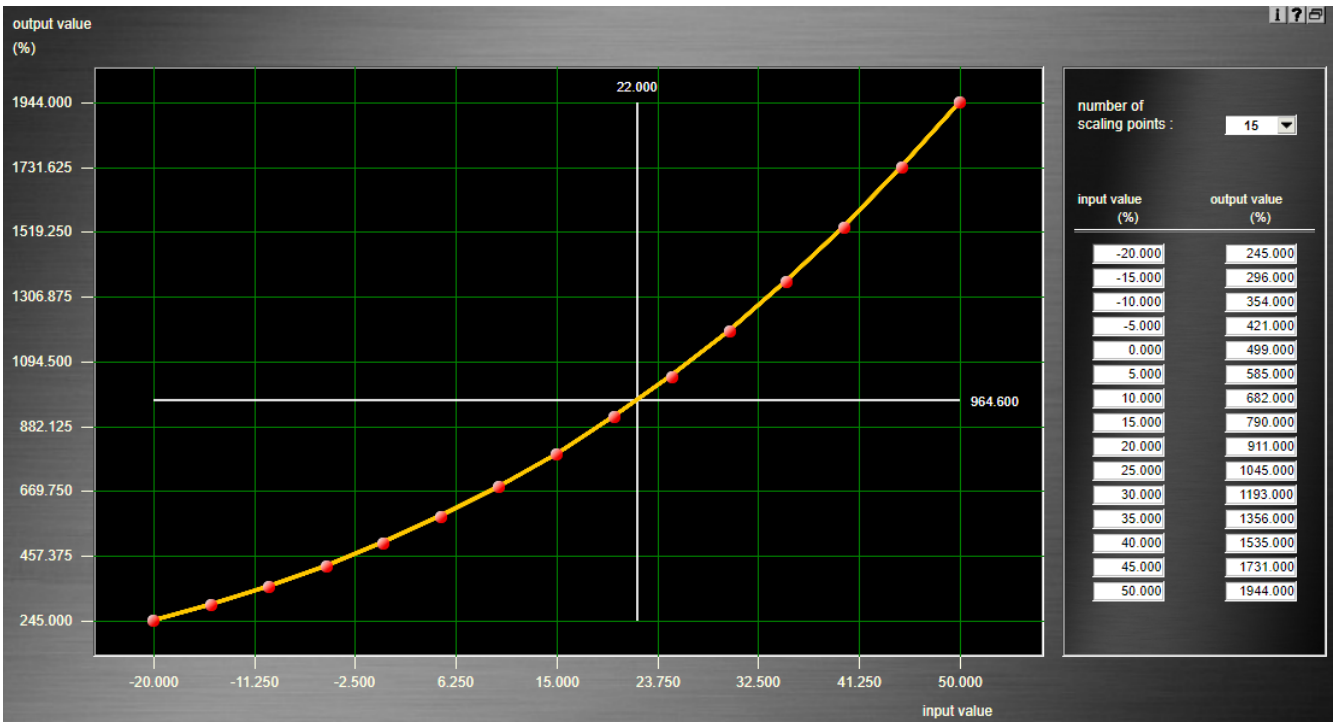
7. Connect the input to your AI point



8. Compile and upload to the controller, under “other” you can find the ‘scale” display



9. Click on the “diagram” button and you can see a very nice graph showing the characteristic line and the current input and output values



10. If you need more precise calculation with more than 15 points pairs, then we can use multiple “MAP_DEF” modules for the calculation, for example