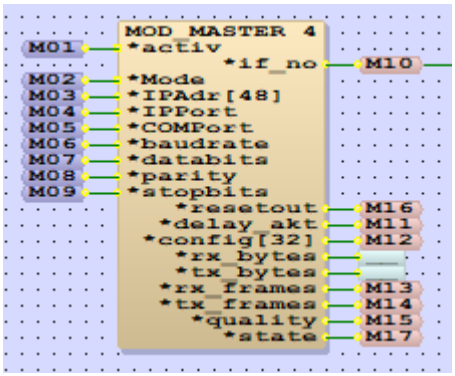
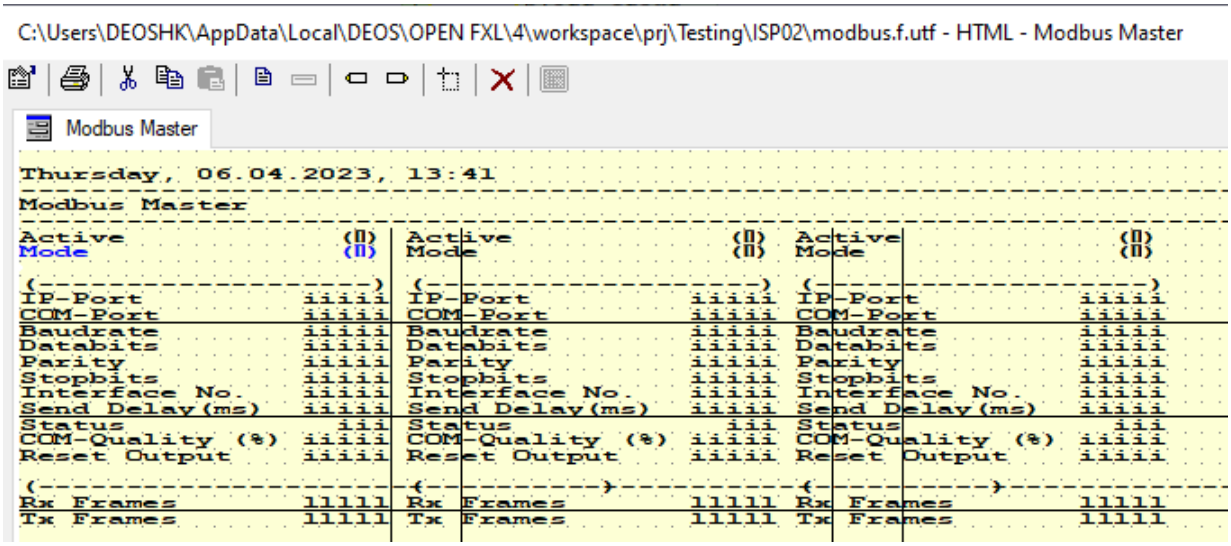
TT230501 – OFXL - Modbus Module Multiple Channels

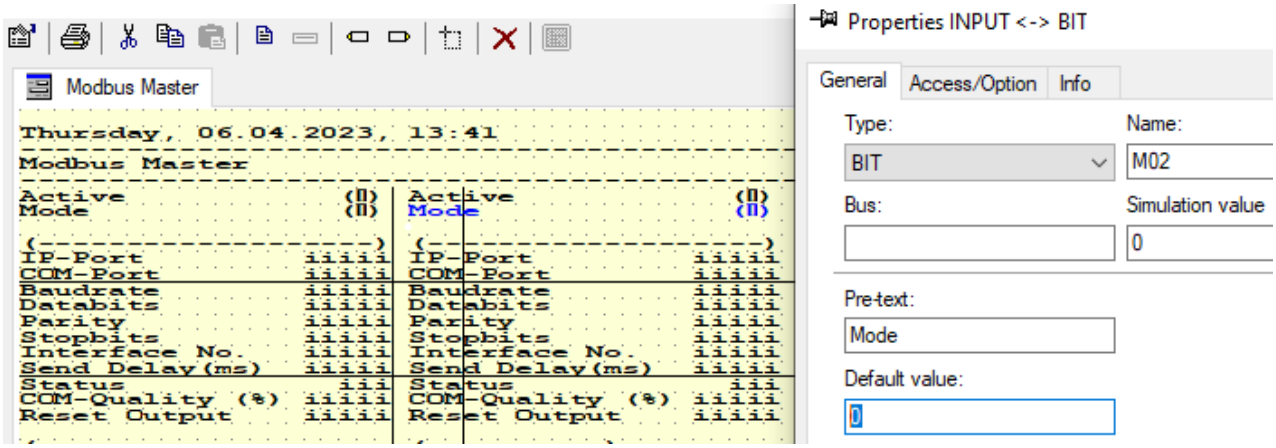
1. In this document, we will show you how to create multiple channels, devices and points using the new Modbus module. First, we copy the “MOD_MASTER” and paste it 2 times.



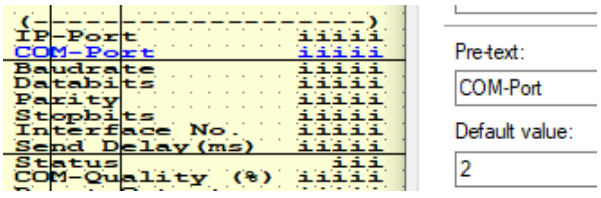
2. The HTML page looks like this with 3 Channels (“MOD_MASTER” module).



3. Now set the default value of “Mode” to 0 for the 2nd and 3rd modules. “0” here means it will be communicating using Modbus RTU (RS-485, COM2 or COM3).



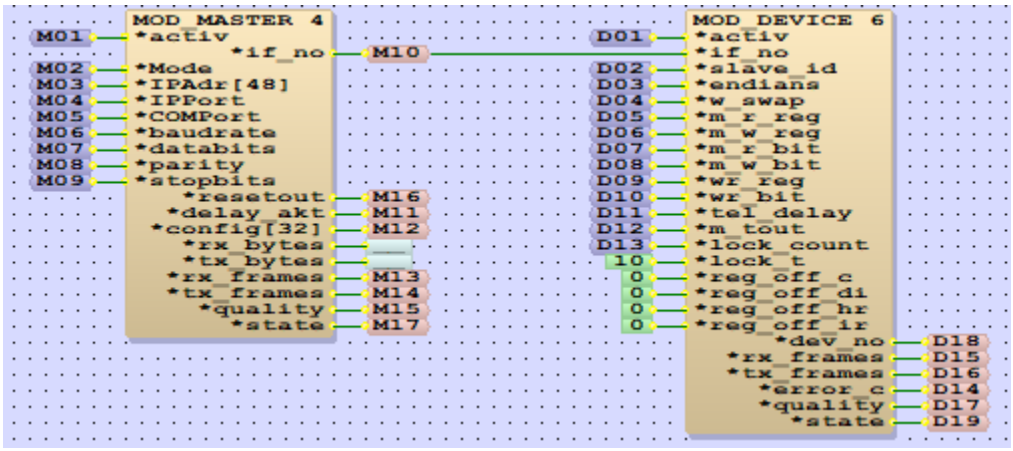
4. Set the “COM-Port” to 2 for the 3rd module. This means COM port 2.



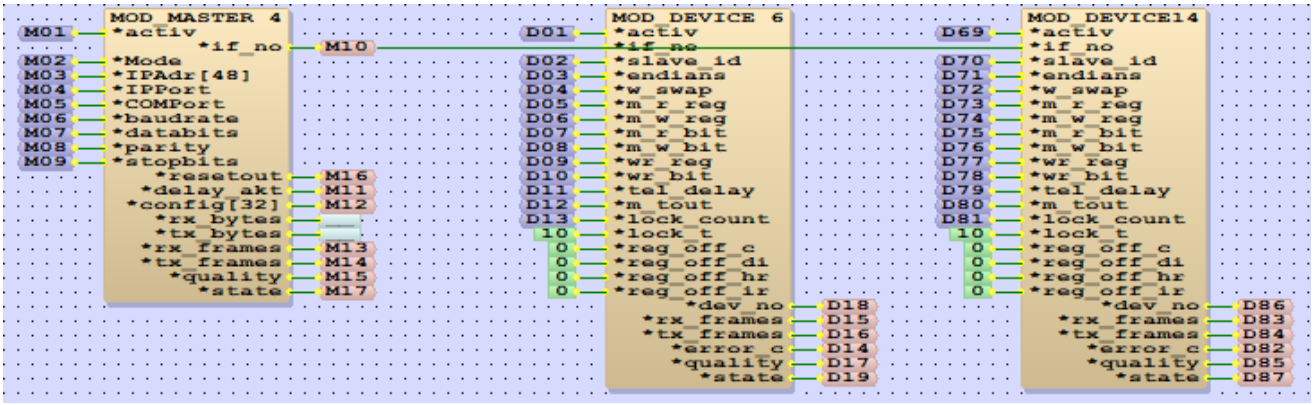
5. You can find an example of the default values like below. This new Modbus module allows you to connect Modbus devices via Modbus IP, COM2 and COM3 at the same time.

Mode	(1)	Mode	(0)	Mode	(0)
(192.168.170.99)		(192.168.170.189)		(192.168.170.189)	
IP-Port	502	IP-Port	502	IP-Port	502
COM-Port	3	COM-Port	3	COM-Port	2
Baudrate	4	Baudrate	4	Baudrate	4
Databits	2	Databits	2	Databits	2
Parity	1	Parity	1	Parity	1
Stopbits	1	Stopbits	1	Stopbits	1

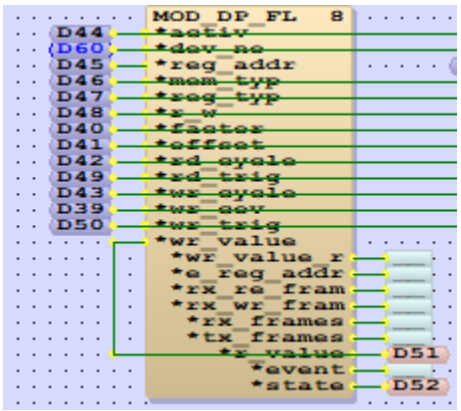
6. Now we connect a Modbus device to both Modbus Master 2 and 3, like below. You can just copy it from the one we did before. The HTML settings are all the same.



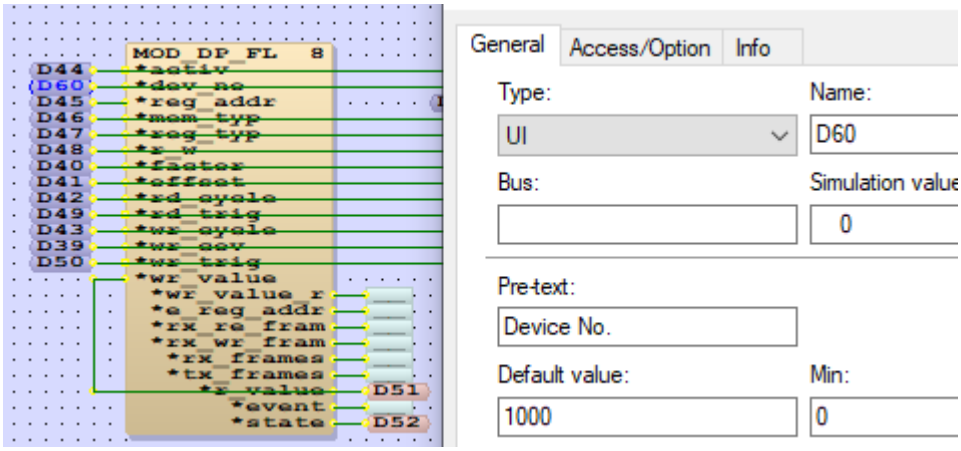
7. You can connect multiple Modbus devices to the same Modbus Master, like below. Just remember to change the default value for the “slave_id”.



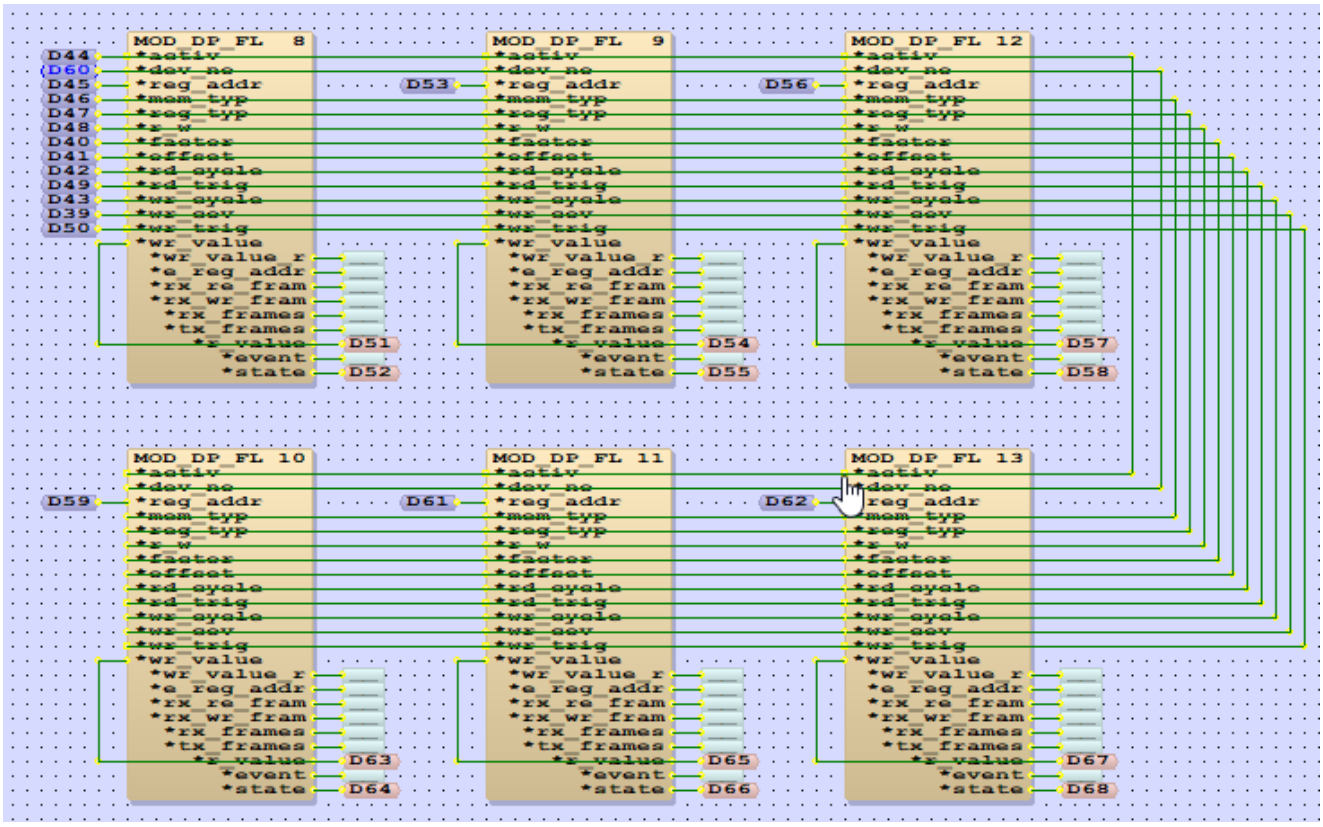
8. Next, we add a “MOD_DP_FL”.



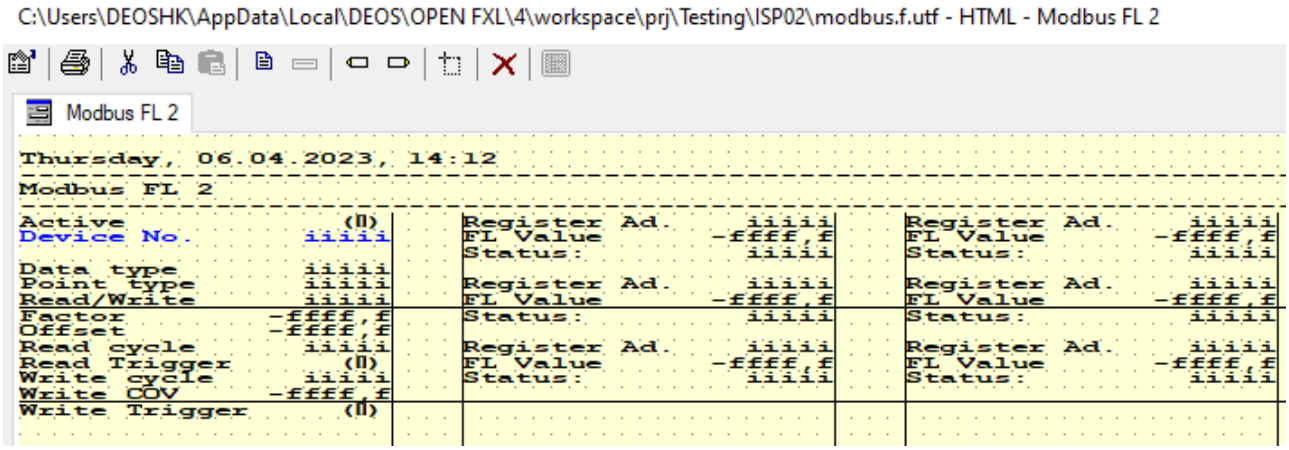
9. This time we don't connect the "dev_no" to any "MOD_DEV" module. Instead, we connect it to an "Input" so that we can change it online. The default value is set to "1000".



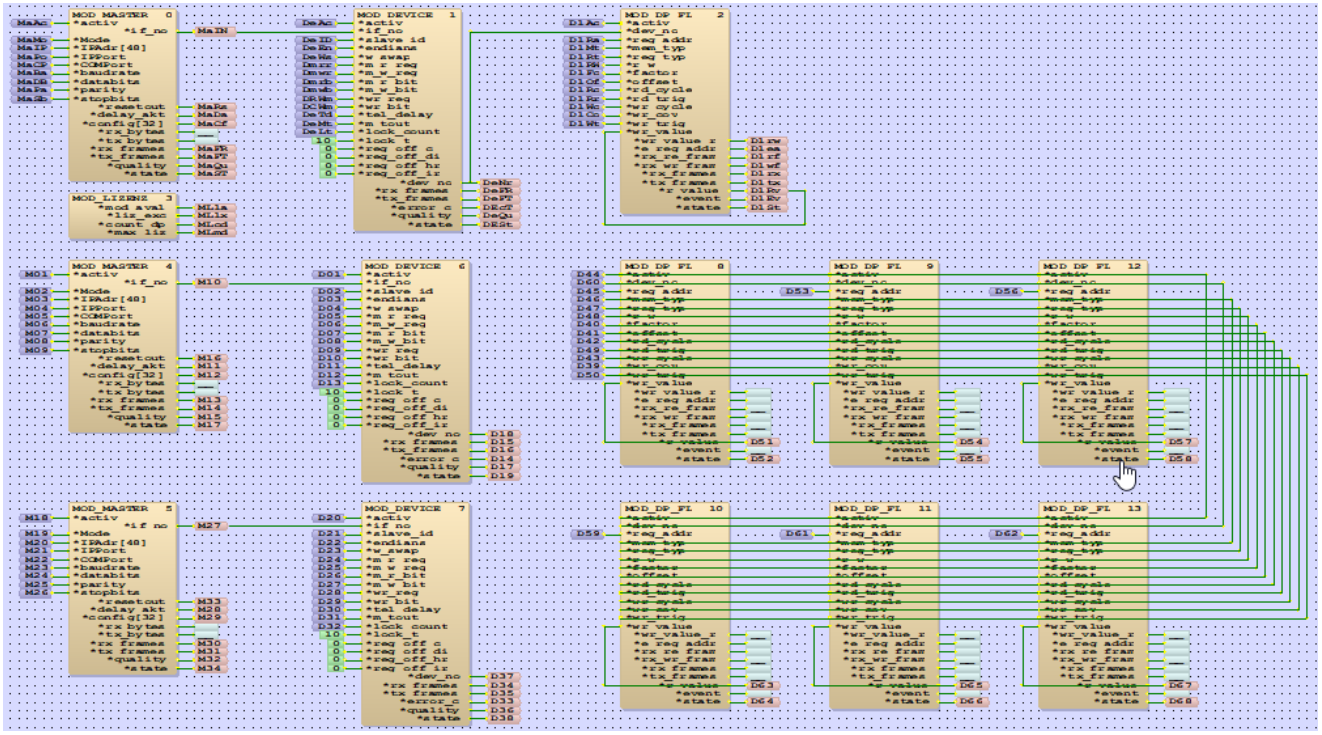
10. Lastly, we copy and paste it 5 times and connect them like below. Since most of the settings are most likely the same in a controller so we don't need to have them all for each point.



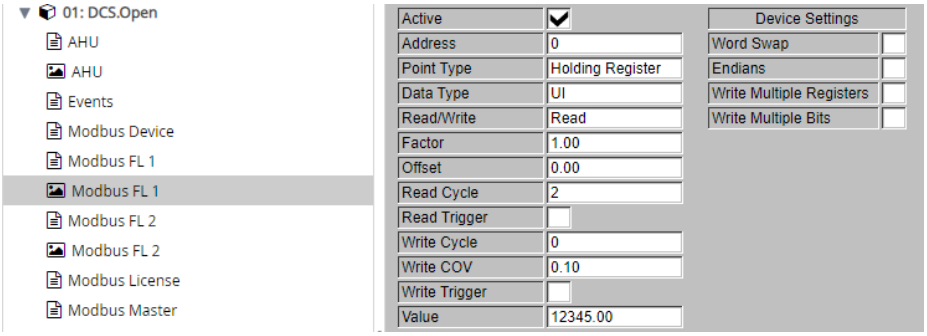
11. Create a new HTML page and setup like below for the 6 new points.

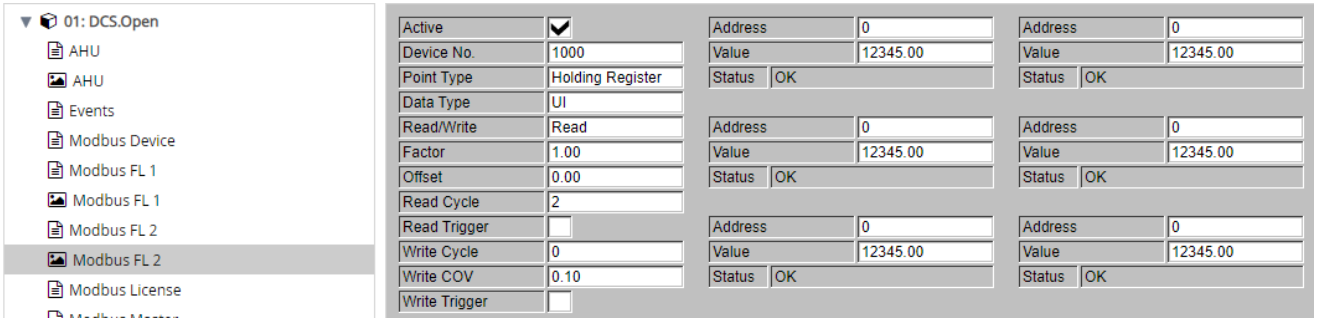


12. So, this is the complete program for 3 Modbus channels, 3 Modbus devices and 7 Modbus points. Now, compile and load to your controller for testing.

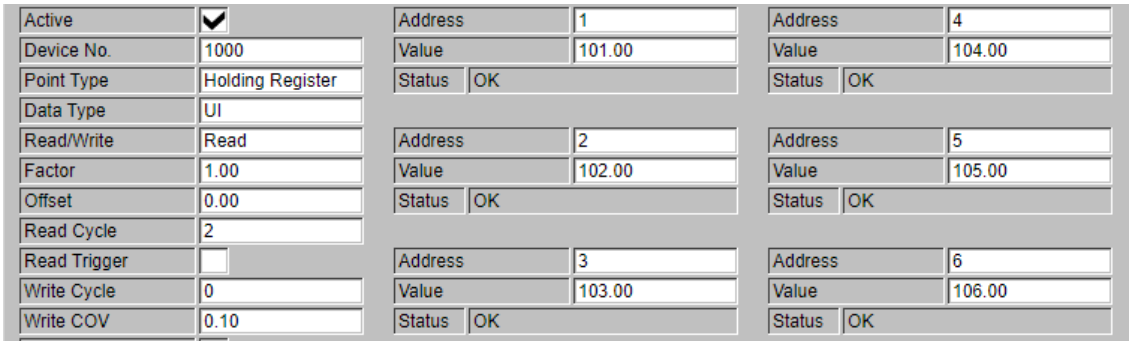


13. After a “Preset” of the controller, with the default settings, all points connect to 1st point in the 1st Modbus device in the 1st master module, so they should read the same value, like below.

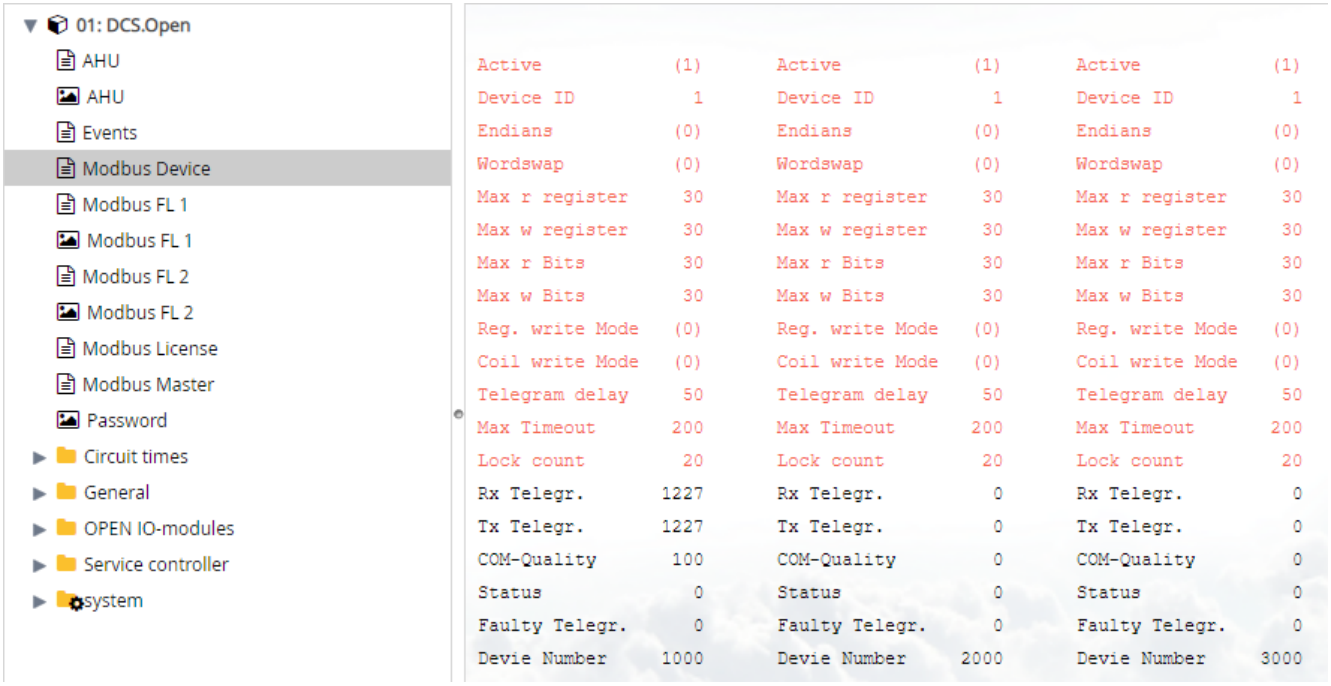




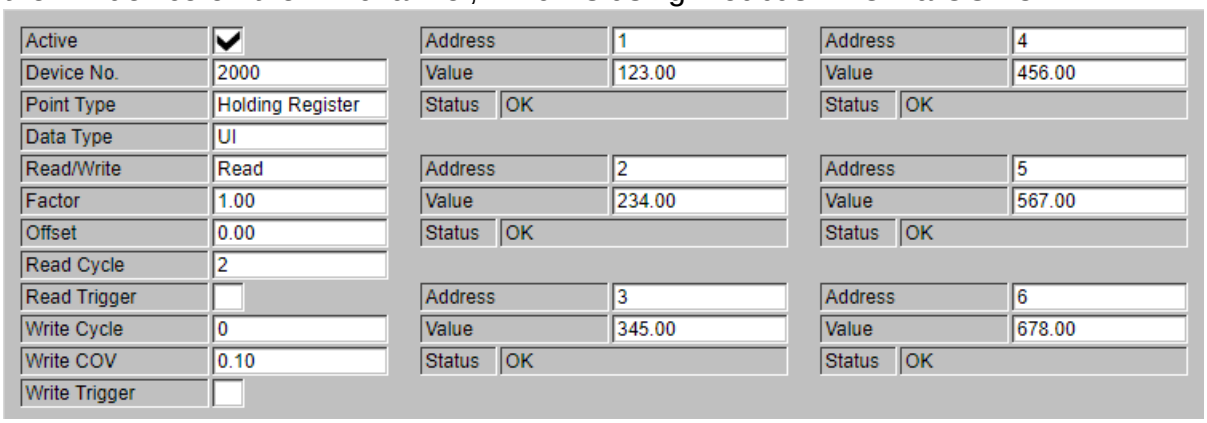
14. You can change the Modbus address online to read different Modbus registers in the device.



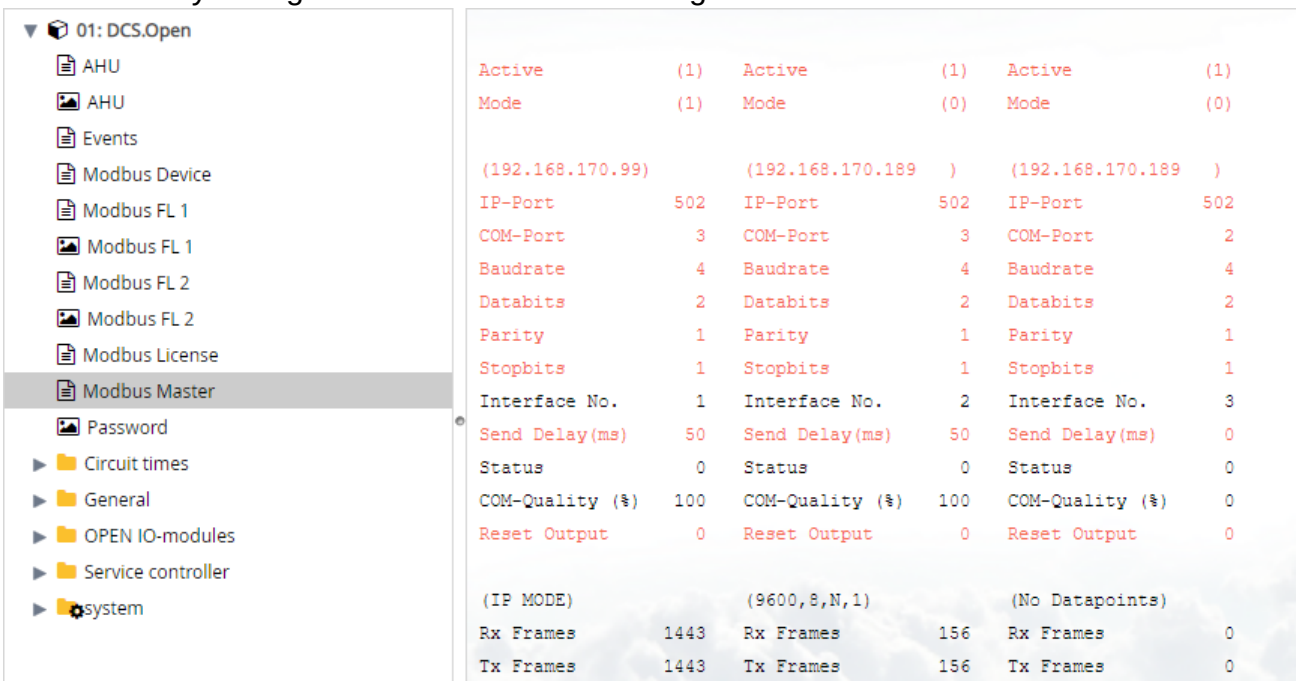
15. To connect the 6 points to another Modbus device, we need to change the “Device number”. To check it, go to the “Modbus Device” page. In the below example, you can see the device number for the 2nd Modbus device is “2000”.



16. Now change the “Device No.” of the points to “2000”, and then the points are now read from the 2nd device on the 2nd channel, which is using Modbus RTU via COM3.



17. You can freely change the Modbus master settings online for the 3 channels.



18. To help you start testing this new Modbus module in OPEN FXL 4, we've put the testing project in our server. Please feel free to contact us if you need it.