Using Custom device library

Applicable

☑ Com'X 510
☑ Com'X 210
☑ Com'X 200

Scope of this tutorial :

How to use the custom library in order to extend a "Micrologic A for Masterpact" model.

This will show:

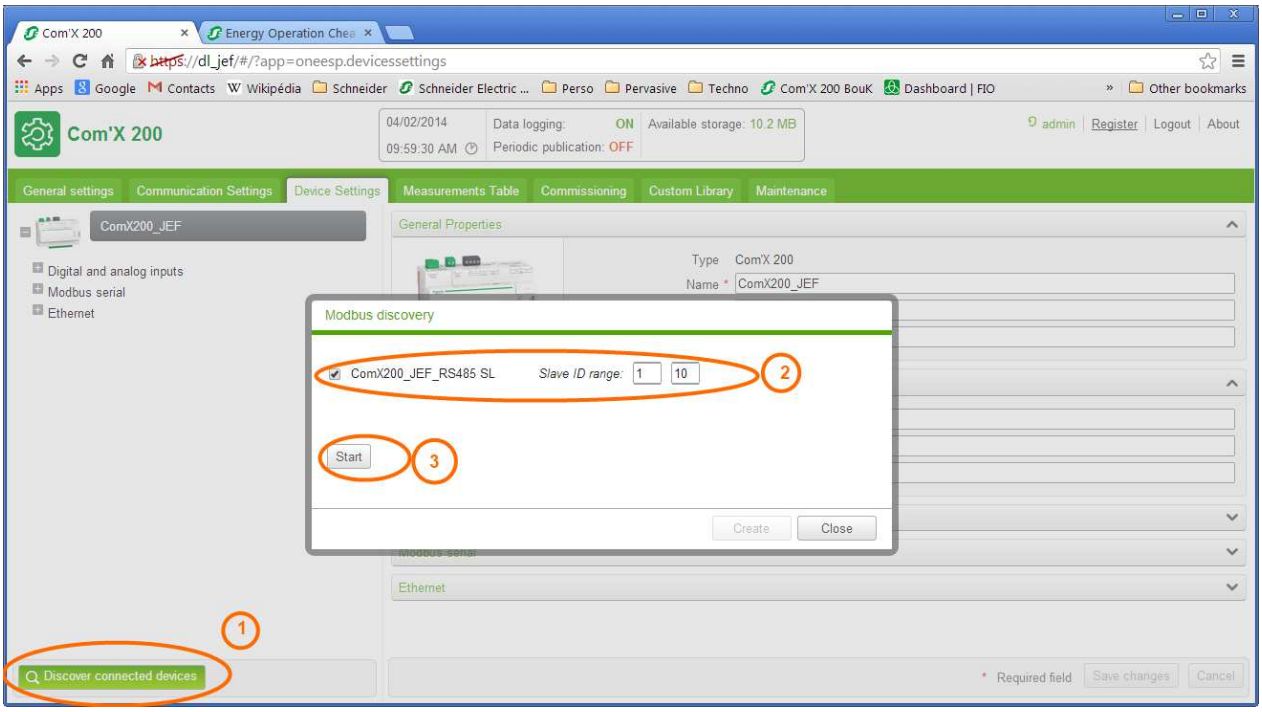
- Micrologic A for Masterpact discovery
- Creation of a custom Masterpact A model
- Evolution of this custom Masterpact A model

Connect the Com'X 200 to a Masterpact

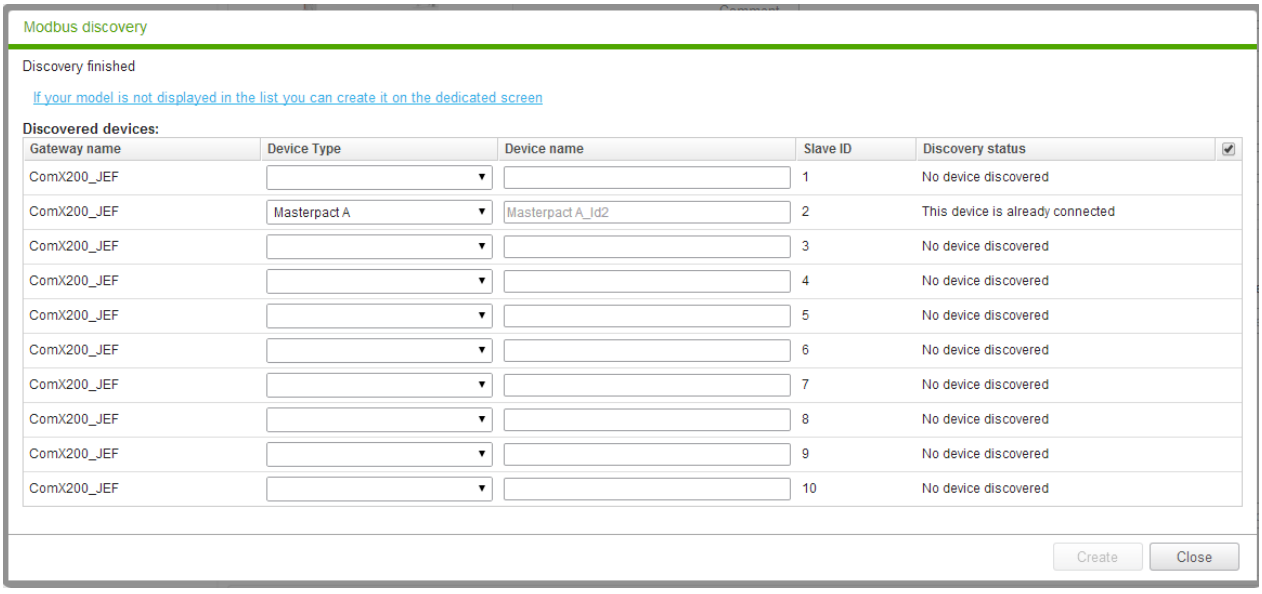
The Masterpact Micrologic A is connected through an BCM-ULP module.

Using the Micrologic display and front face, the Modbus communication parameters are set to 19200 bauds, even parity, slave number 2.

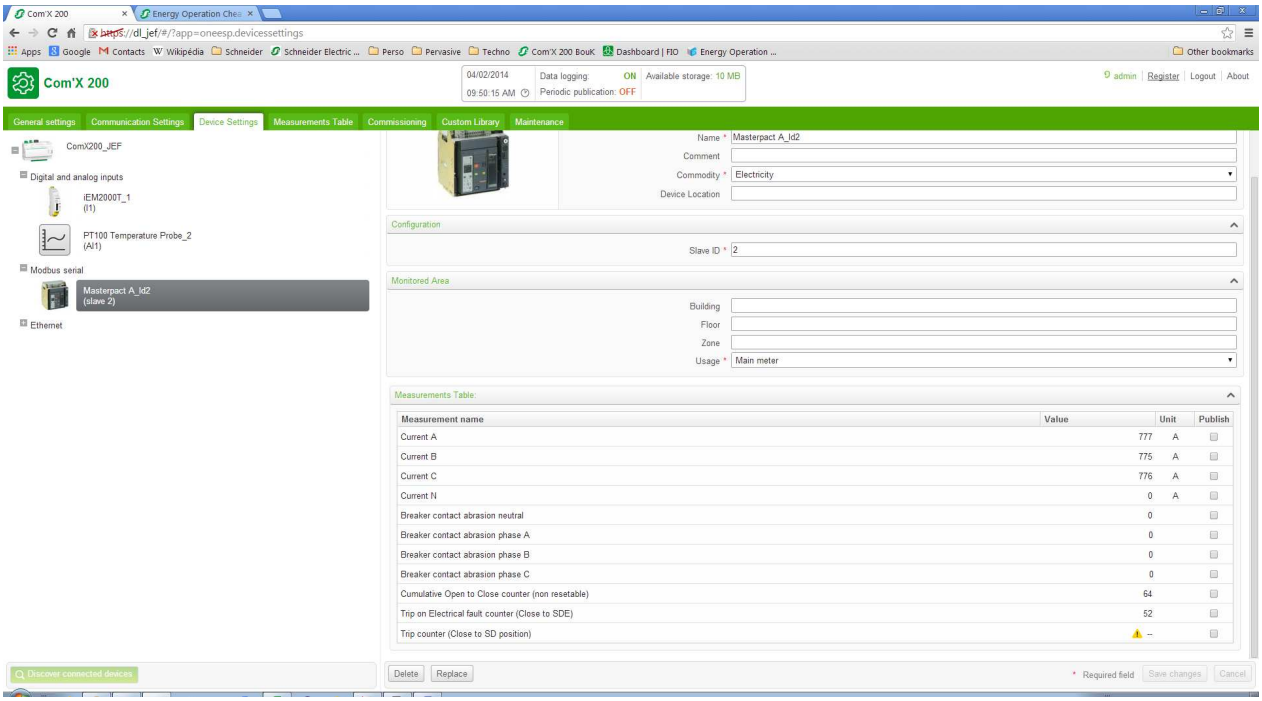
Use Com'X 200 "discovery feature



Result of the discovery



Using the standard Micrologic A for Masterpact model



Evolution of the requirement

Let us assume that it is necessary to add in the model:

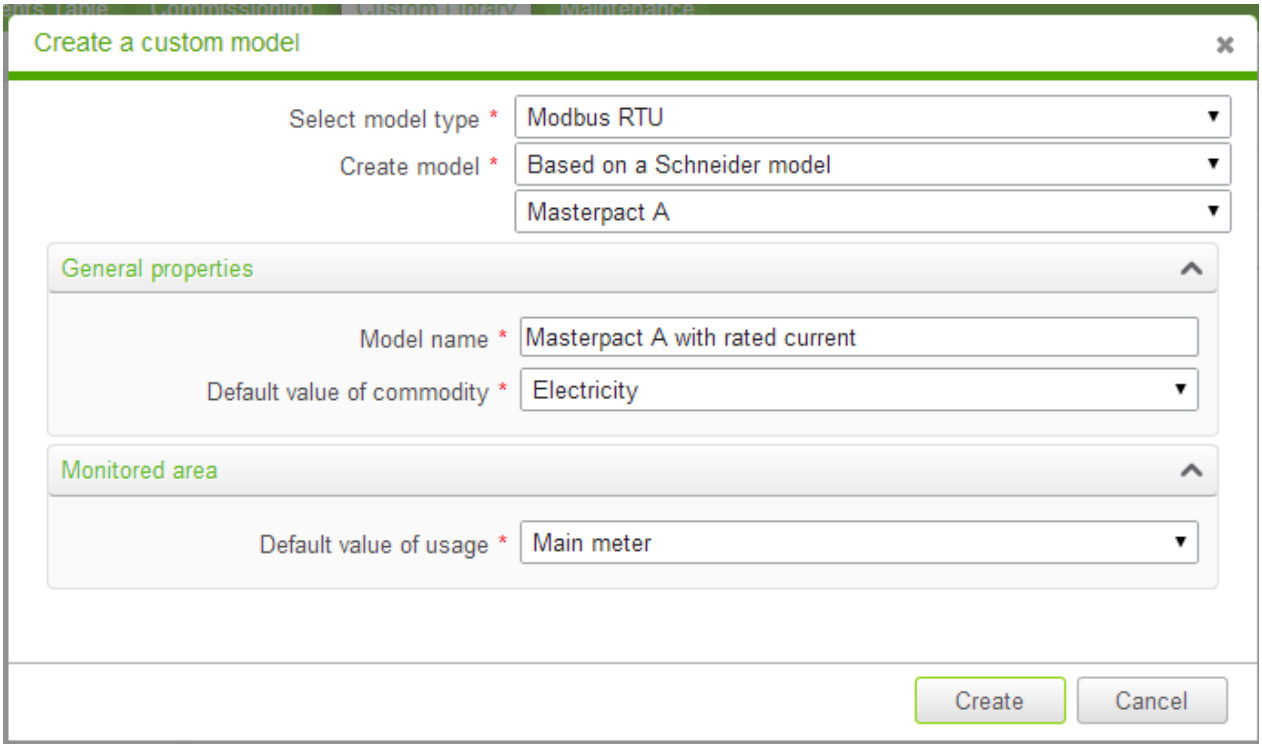
- The rated current
- The Ir pick-up value (long time protection threshold)

  Masterpact documentation gives the following information :

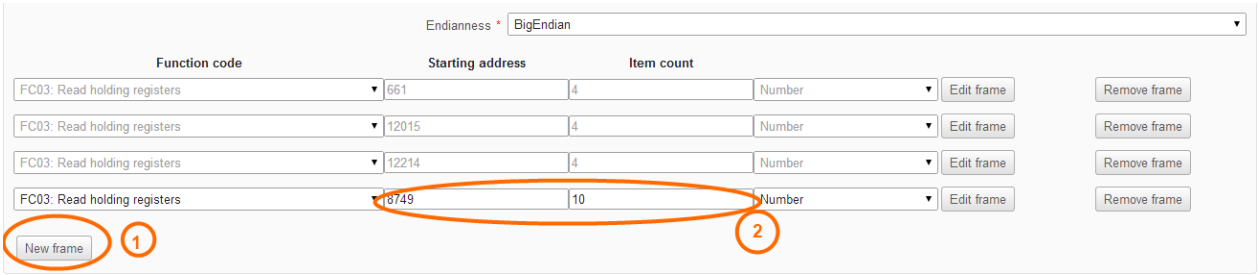
8750	1	R	x1	A	INT	0..8000	A/E	P/H	rated circuit-breaker current Default value: 100 A (circuit-breaker sensor plug not present)	HwBrNominalCurrent
8756	2	R/W	x1	A	MOD 10000	40..8000	A/E	P/H	Ir pickup for the long-time protection	LongTime_PuValue

Create a custom model

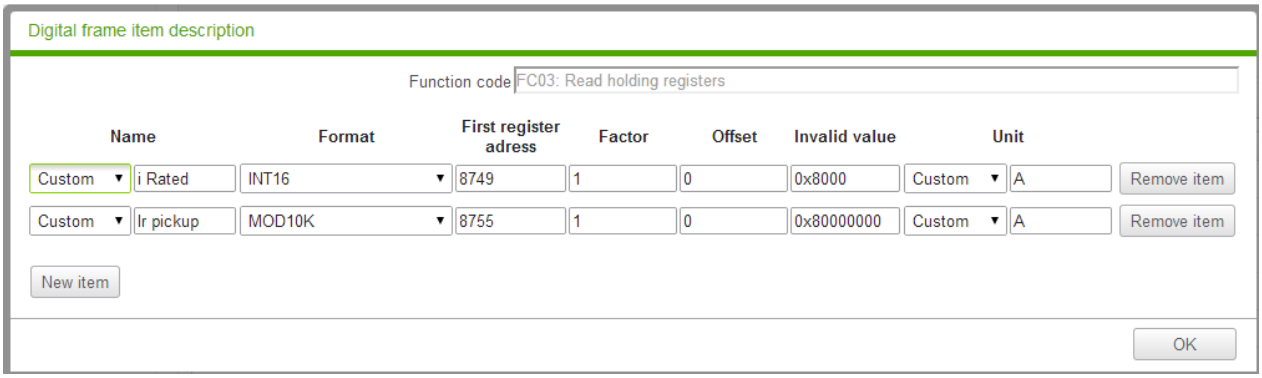
The new model is created using the “custom library”



It is first necessary to define a Modbus frame (as the registers used are 8750, and 8756), the starting address is 8749, a length of 10 register is enough.



Now it is necessary to map the new variables to this frame.



Note the format MOD10K in order to comply with Masterpact documentation.

Validate the variables and save the new custom model

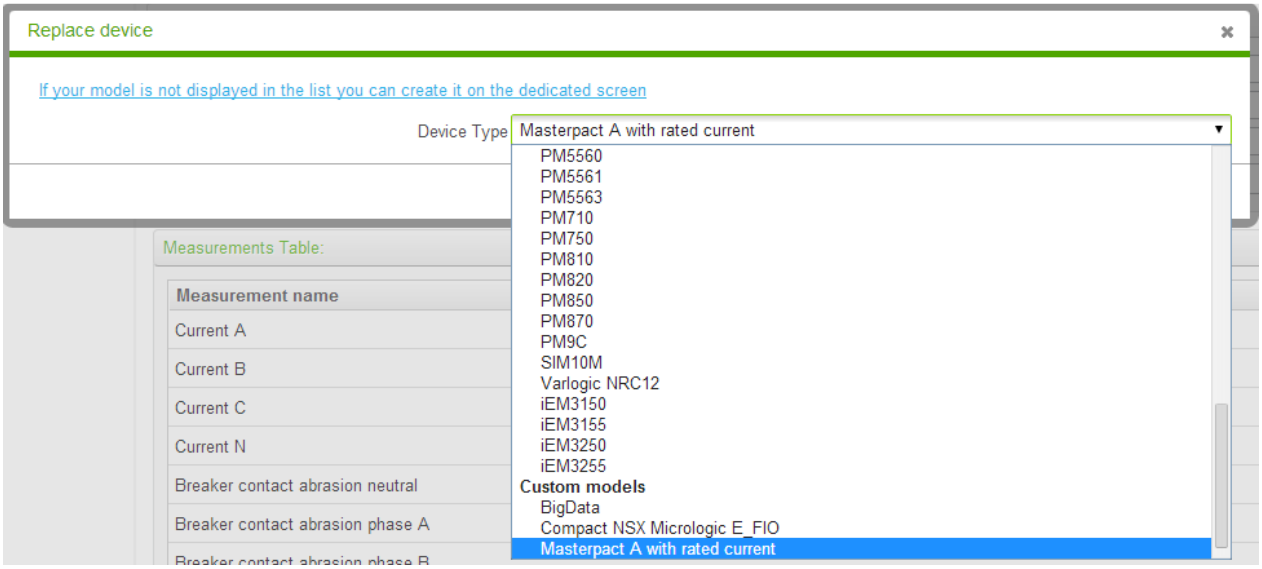
Using the new custom model

Return to the “Device settings” page,

Click on the Masterpact that was discovered (using the “standard” model)

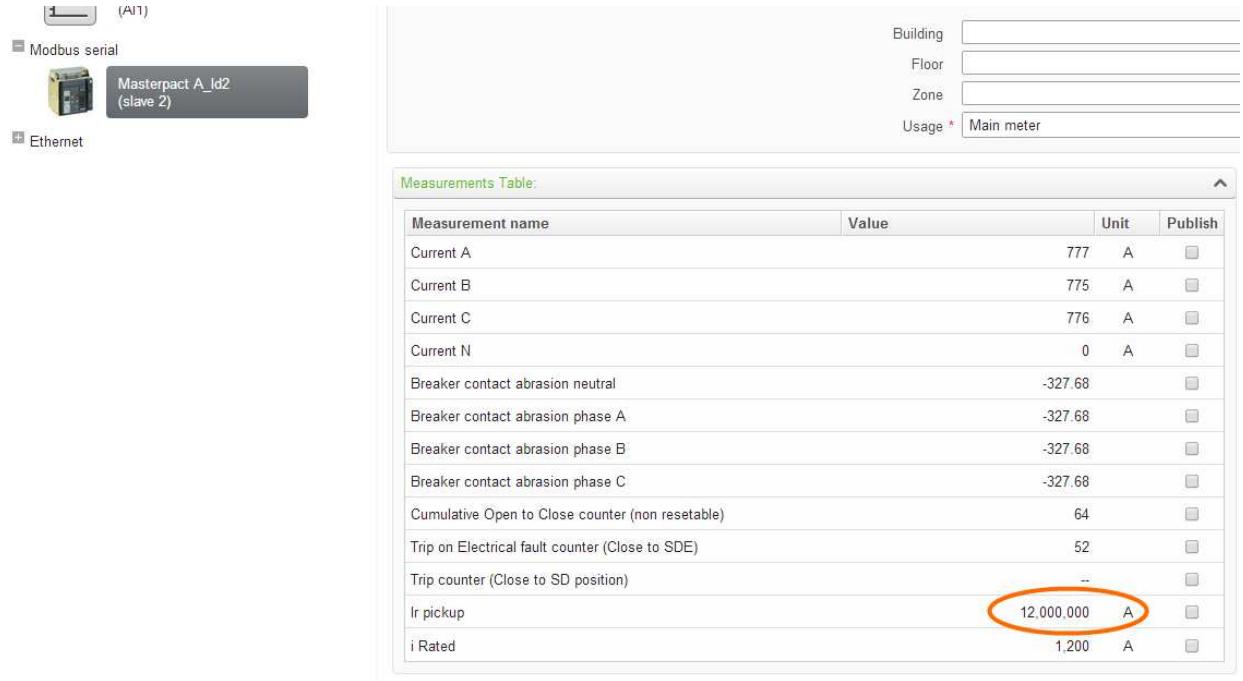
Click on “Replace” button

In the list of devices that appear, select at the bottom the new customized Masterpact A model



Validate the change on the Masterpact device using the “Saved” button at right bottom corner.

The Masterpact device now displays 2 new variables



The value of the rated current is correct (1200 A).

But the pickup threshold is wrong (12 000 000 A).

This is because we did not take into account the order of the 2 registers used by the Masterpact to map this 2 words length variable : the documentation indicates that the least significant word is send first. This is called “Little Endian” order.

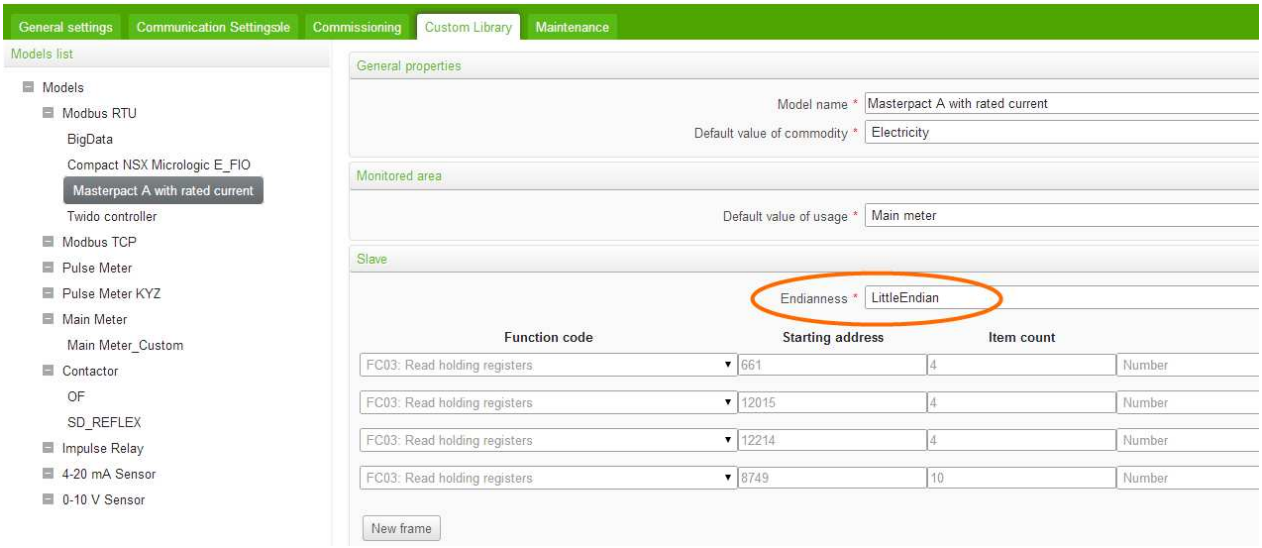
At the beginning, there was no standard in Modbus protocol about the endianness of the word in a double word structure. Now, Schneider-Electric has added a requirement for all new devices. This requirement specifies that the words variables must be mapped as “Big Endian”.

By defaut Com’X 200 respect this new standard. But as the Micrologic for Masterpact was designed before this new standard, we must modify the model in order to fix it.

Modify the custom model

Return to the “Custom library” page, select the customized Micrologic for Masterpact A,

Change Endianess from “Big Endian” to “Little Endian”



Save the change,

Return to the “Device settings” page ,

The fix has been taken into account automatically for all devices created using this customized model