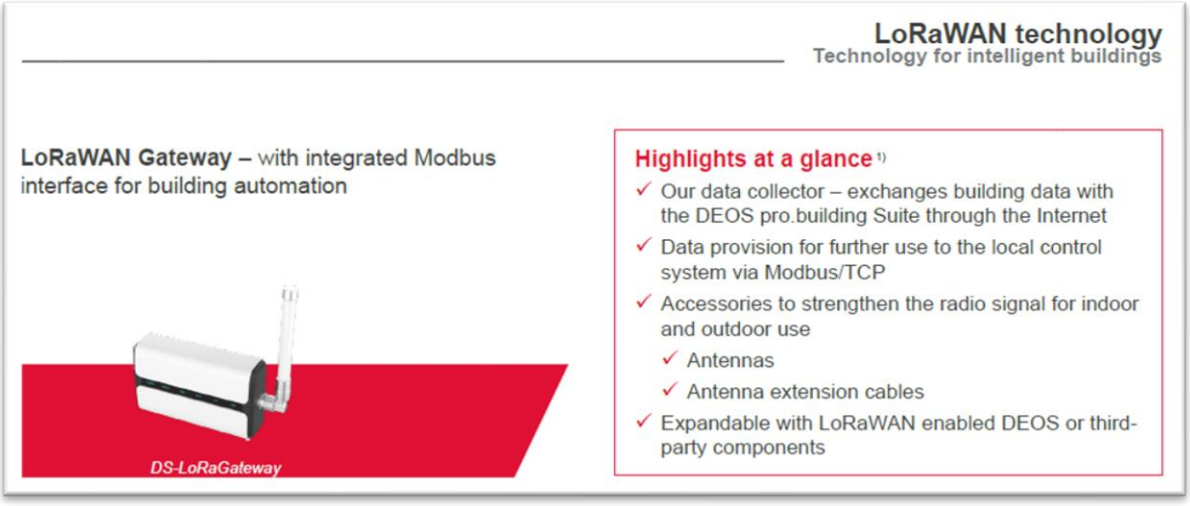
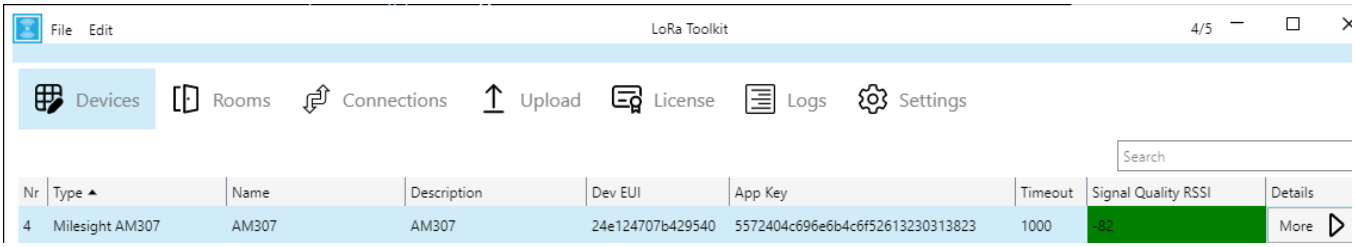
TT230703 – LoRa - LoRaWAN Gateway Modbus

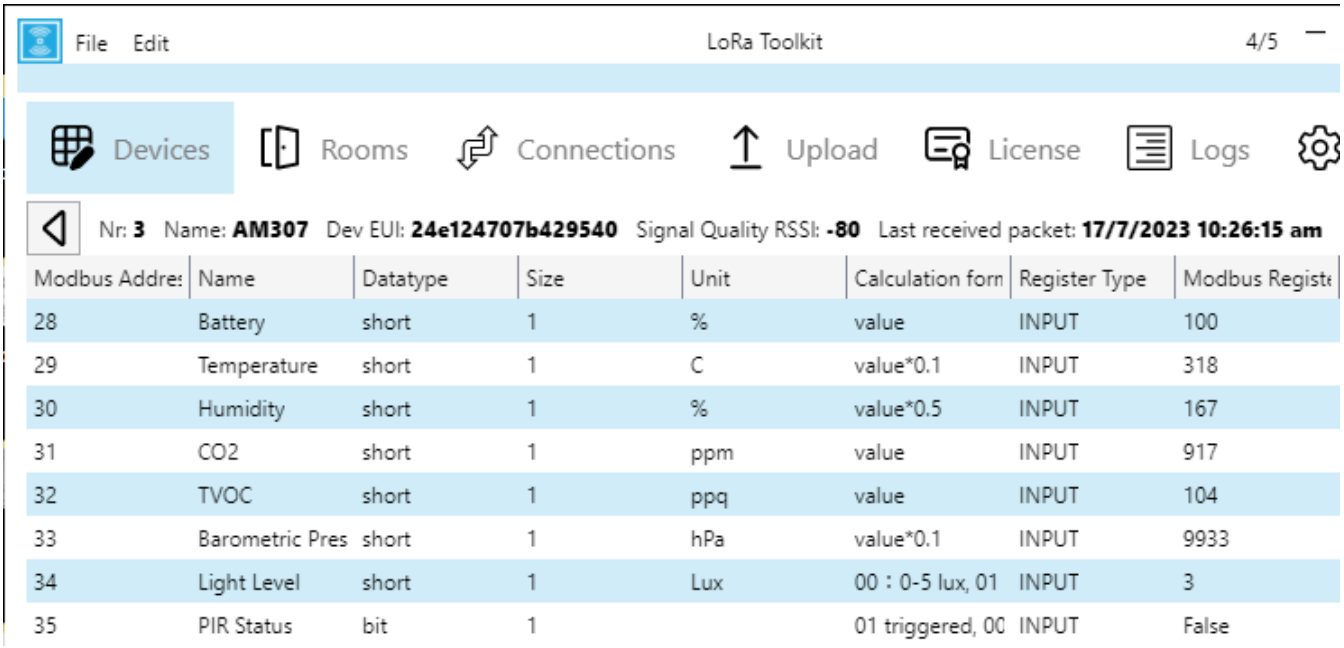
1. In this document, we will show you how setup the Modbus connection to the LoRaWAN gateway and sensor. Please refer to TT230701 for the setup of the LoRaWAN gateway.



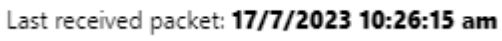
2. Start “LoRa Toolkit”, under “Devices” tab, you should see the “Signal Quality RSSI” column show a negative number in green color, if the connection to the LoRa sensor is successful.



3. Click the More button to see all the Modbus points. The last column is the sensor values.



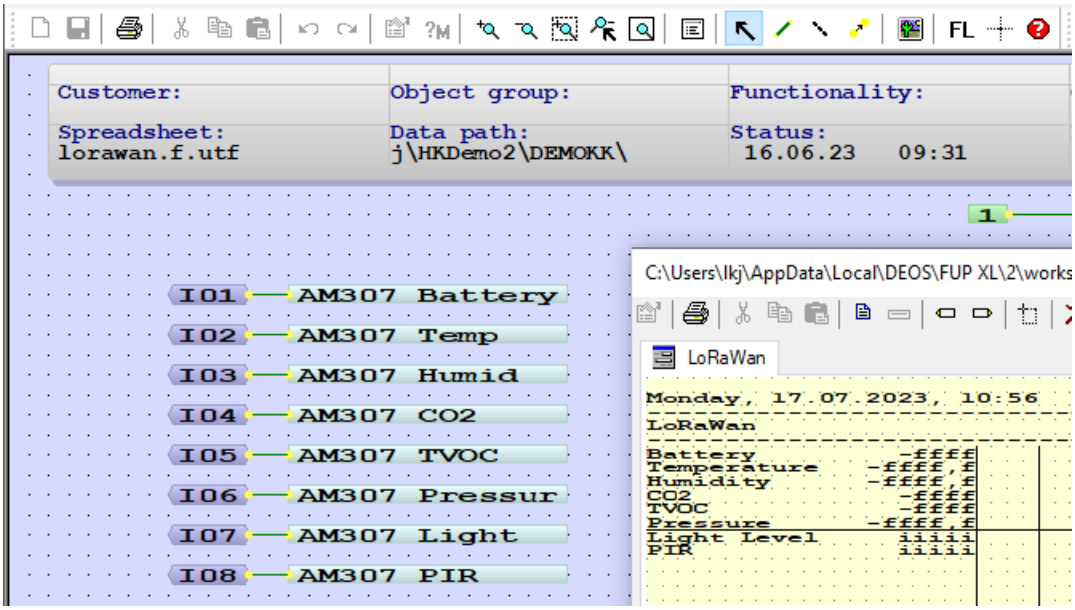
4. Please note that the update rate of the sensor is slow (e.g. 10 minutes). You can see the last received packet date/time.



5. The first column is the Modbus address. The 3rd column is the “Data Type”, “short” and “bit” are same as “UI”. The “Calculation formula” is the “factor”, or the descriptions for 0 and 1, etc. The next column “Register Type” INPUT means “Input Register”.

Modbus Addres	Name	Datatype	Size	Unit	Calculation formula	Register Type
25	Temperature	short	1	C	value*0.1	INPUT
26	Humidity	short	1	%	value*0.5	INPUT
27	Magnet Status	bit	1	yes/no	00=closed,01=not close	INPUT

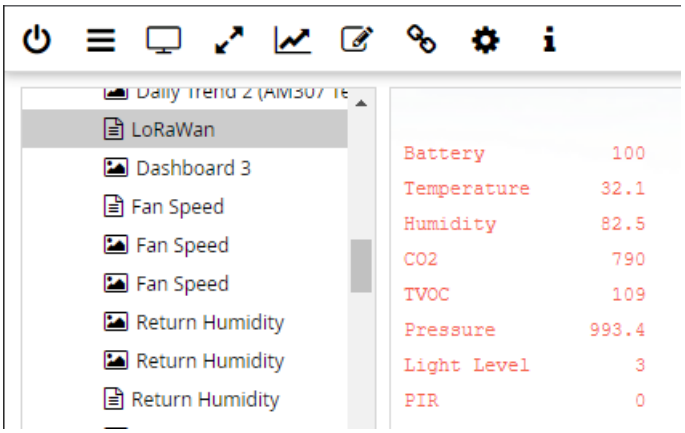
6. The Modbus slave ID is 1 for the LoRaWAN gateway.
7. Since all the Modbus points and settings are automatically created in the LoRaWAN gateway, so there is no any extra step and is very simple. Now we can create a new FUP page for the integration in OPEN controller.



8. In “System Integration”, “Modbus”, we can link the Modbus addresses to the FUP page, and change the settings for each point accordingly.

Identification	Label	consistency	M_SLAVE	M_memory_type	M_VAR_ADR	M_VARTYP	M_FACTOR	M_OFFSET	Read/
Battery	LORAWAN.F:I01	not verified	1:192.168.170.77:502	Input_Register	28	UI	1	0	R
Temperature	LORAWAN.F:I02	not verified	1:192.168.170.77:502	Input_Register	29	UI	0.1	0	R
Humidity	LORAWAN.F:I03	not verified	1:192.168.170.77:502	Input_Register	30	UI	0.5	0	R
CO2	LORAWAN.F:I04	not verified	1:192.168.170.77:502	Input_Register	31	UI	1	0	R
TVOC	LORAWAN.F:I05	not verified	1:192.168.170.77:502	Input_Register	32	UI	1	0	R
Pressure	LORAWAN.F:I06	not verified	1:192.168.170.77:502	Input_Register	33	UI	0.1	0	R
Light Level	LORAWAN.F:I07	not verified	1:192.168.170.77:502	Input_Register	34	UI	1	0	R
PIR	LORAWAN.F:I08	not verified	1:192.168.170.77:502	Input_Register	35	UI	1	0	R

9. Compile and upload to the controller and you should now see the values.



10. If the values don’t come up, please make sure you enable the “Connection via IP” in “Service Controller”, “Protocol”, “Modbus Master”. The IP address here is irrelevance as you’ve setup the IP address in FUP Modbus Integration already.