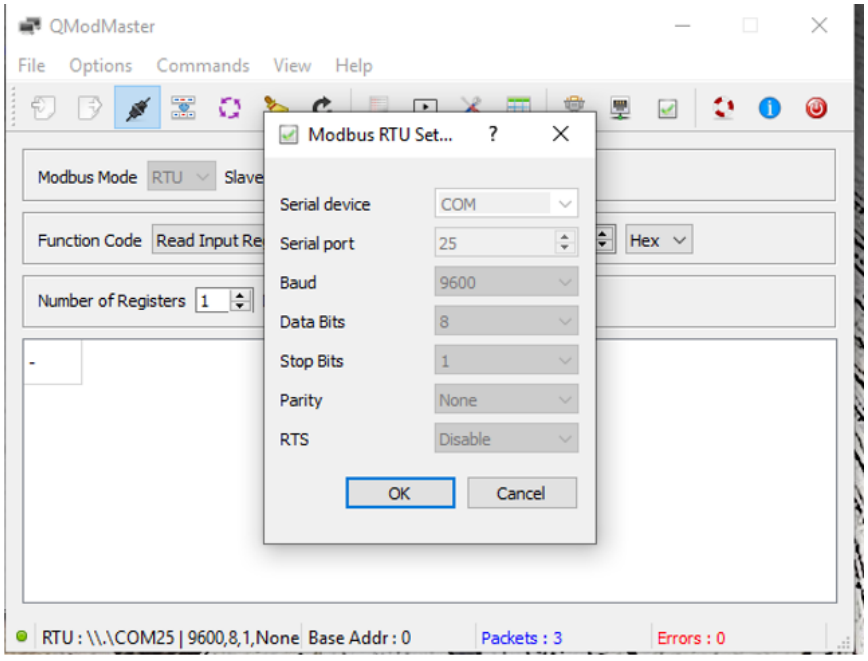
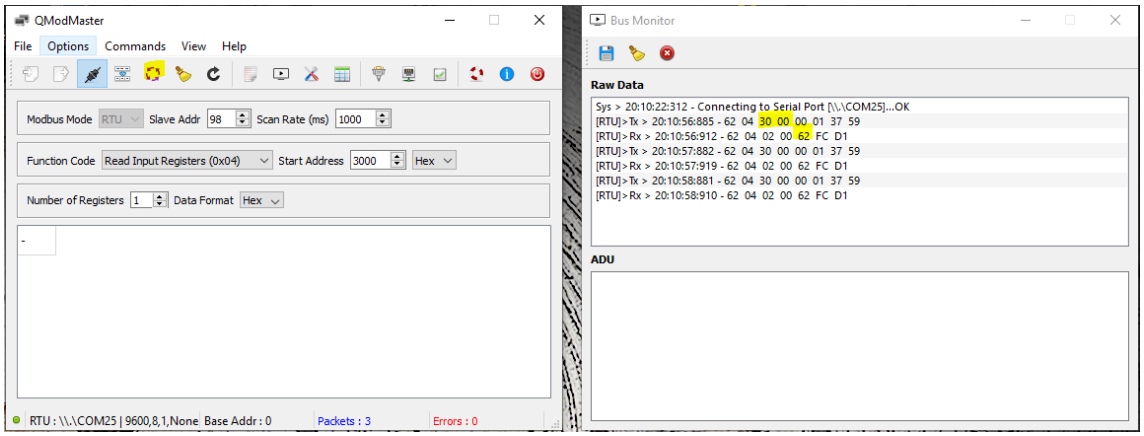
Pickdata MIO40 water pulse counter to LoRa with Dragino RS485-LN

Default MIO40 address is 98

Configure qModMaster to 9600, 8, N, 1 and connect





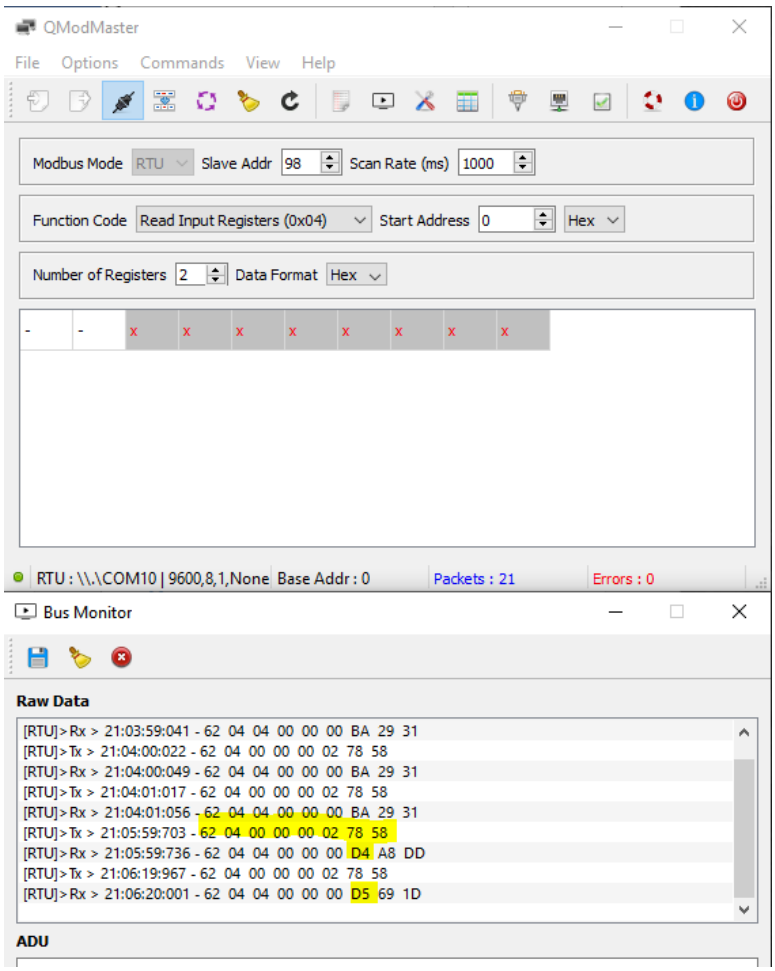
62 in Hex is address 98 in decimal

Let’s read pulse counter channel 1

We have t oread on register 0

First we read count value D4, the we apply one pulse on input 1 so one count more

Then we read value D5, so it is counting and we are Reading correctly



So the right command is 62 04 00 00 00 02 (78 58) with a lenght of 6 bytes

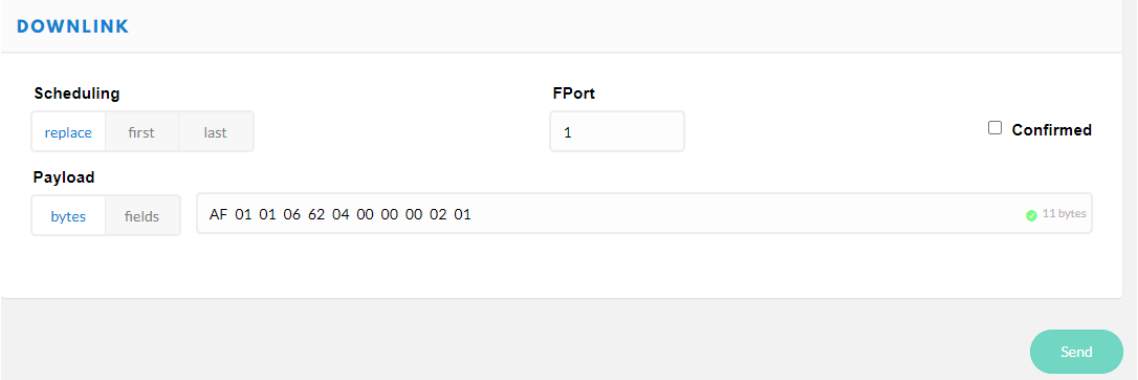
And the data is located on bytes 6 to 7

So the right commands are

AT+COMMAND1=62 04 00 00 00 02,1

Or downlink

AF 01 01 06 62 04 00 00 00 02 01



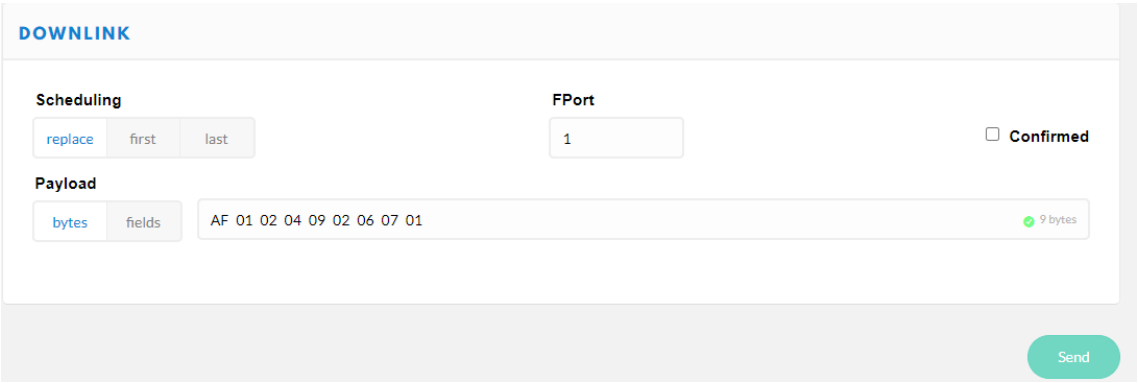
Example:

AF 03 01 06 0A 05 00 04 00 01 00: Same as AT+COMMAND3=0A 05 00 04 00 01,1

AT+DATACUT1=9,2,6~7 or AT+DATACUT1=9,2,6+7

Or downlink

AF 01 02 04 09 02 06 07 01



AF 03 02 06 10 01 05 06 09 0A 00: Same as AT+DATACUT3=16,1,5+6+9+10

AF 03 02 06 0B 02 05 07 08 0A 00: Same as AT+DATACUT3=11,2,5~7+8~10

Type Code 0xAF

0xAF downlink command can be used to set AT+COMMANDx or AT+DATACUTx.

Note: if user use AT+COMMANDx to add a new command, he also need to send AT+DATACUTx downlink.

Format: AF MM NN LL XX XX XX XX YY

Where:

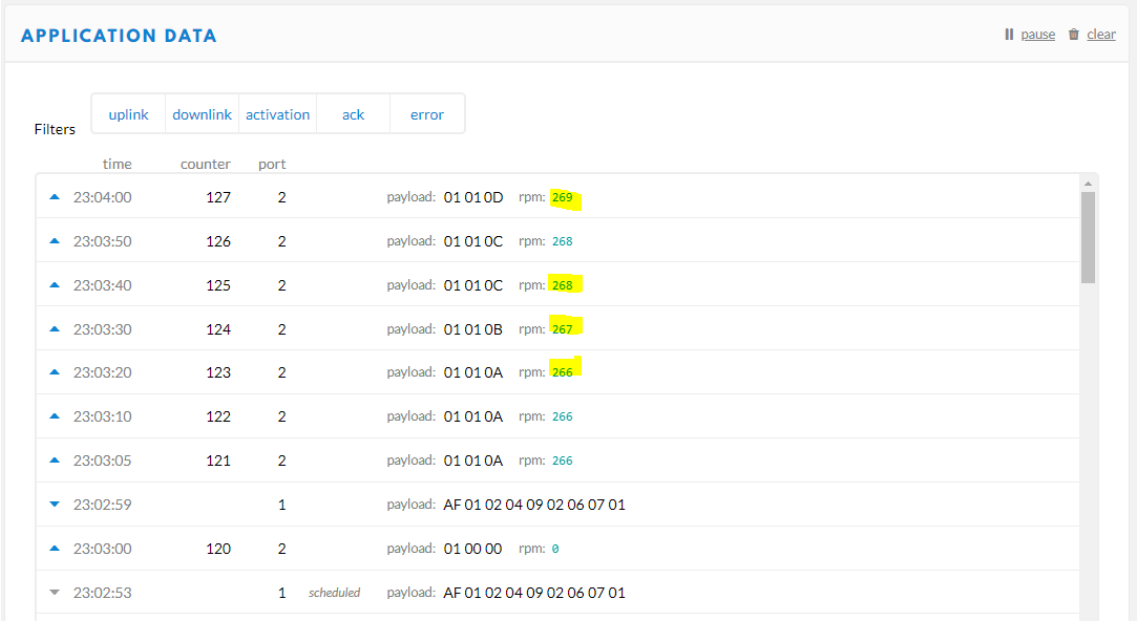
- MM: the ATCOMMAND or AT+DATACUT to be set. Value from 01 ~ 0F,
- NN: 0: no CRC; 1: add CRC-16/MODBUS ; 2: set the AT+DATACUT value.
- LL: The length of AT+COMMAND or AT+DATACUT command
- XX XX XX XX: AT+COMMAND or AT+DATACUT command
- YY: If YY=0, RS485-LN will execute the downlink command without uplink; if YY=1, RS485-LN will execute an uplink after got this command.

Example:

AF 03 01 06 0A 05 00 04 00 01 00: Same as AT+COMMAND3=0A 05 00 04 00 01,1

And it Works

Now the payload is incrementing as son as we closet he contacto n input 1



Now we need to change the payload decoder to see counter instead of rpm

PAYLOAD FORMATS

Payload Format

The payload format sent by your devices

Custom

decoder | converter | validator | encoder

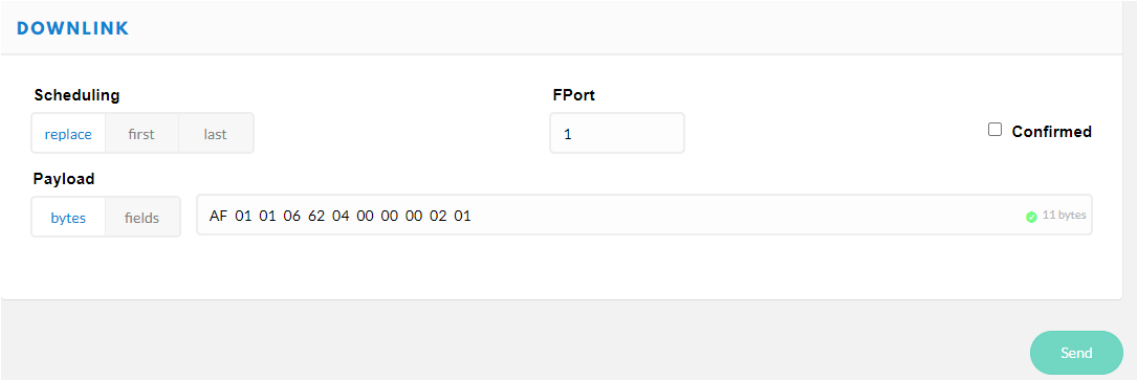
```
function Decoder(bytes, port) {
  // Decode an uplink message from a buffer
  // (array) of bytes to an object of fields.
  var decoded = {};

  if (port === 2) decoded.counter = bytes[1]*256+bytes[2];

  return decoded;
}
```

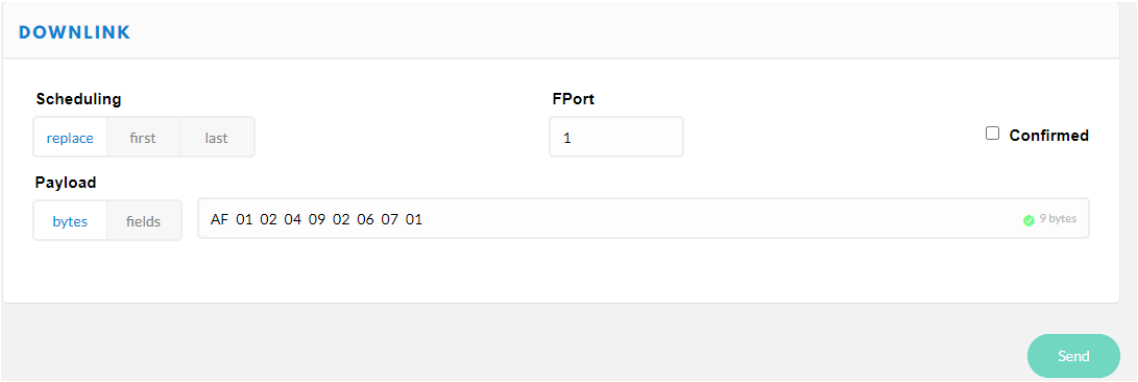
APPLICATION DATA

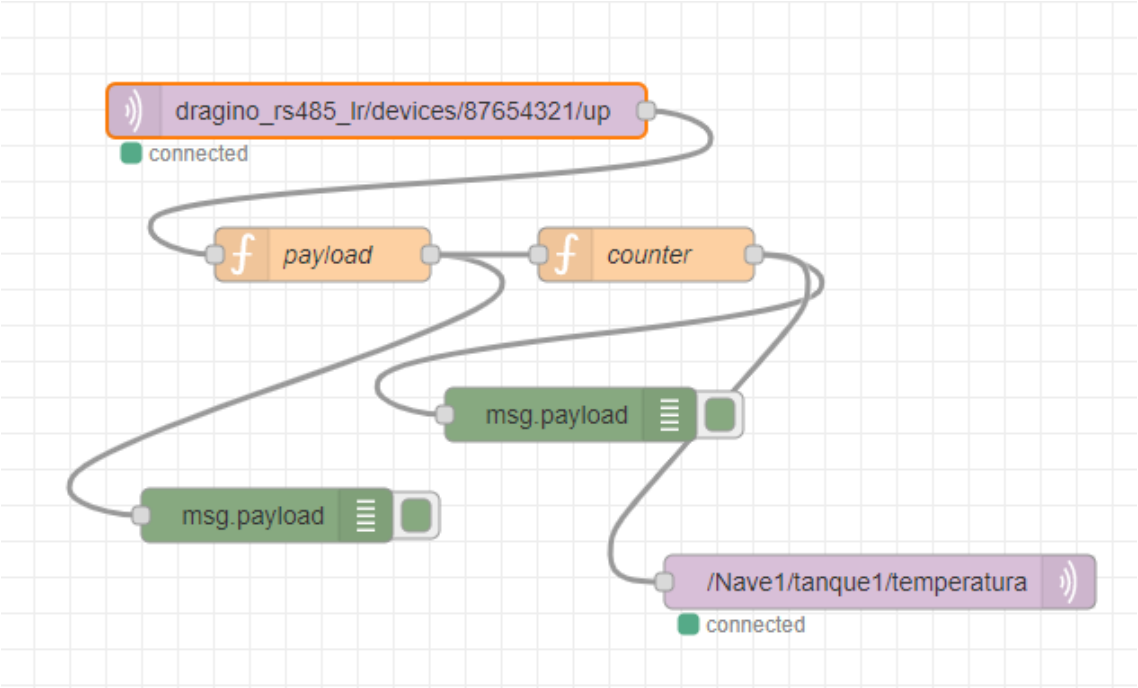
Filters: uplink | downlink | activation | ack | error

time	counter	port				
23:08:50	156	2	dev id: 87654321	payload: 01 01 40	counter: 320	
23:08:40	155	2	dev id: 87654321	payload: 01 01 40	counter: 320	
23:08:30	154	2	dev id: 87654321	payload: 01 01 3F	counter: 319	
23:08:20	153	2	dev id: 87654321	payload: 01 01 3E	counter: 318	

If I take power off we have to resend again the downlinks since the programmed commands are lost ¿??


DOWNLINK
Scheduling
replace
first
last
FPort
1
Confirmed
Payload
bytes
fields
AF 01 01 06 62 04 00 00 00 02 01
11 bytes
Send


DOWNLINK
Scheduling
replace
first
last
FPort
1
Confirmed
Payload
bytes
fields
AF 01 02 04 09 02 06 07 01
9 bytes
Send


dragino_rs485_lr/devices/87654321/up
connected
payload
counter
msg.payload
msg.payload
/Nave1/tanque1/temperatura
connected

And with this Flow you send the counter data to the mobile

As you can see on this video

MIO40 to LoRaWAN

And you can find the code here

https://github.com/xavierflorensa/Water-meter-to-LoRaWAN

Now we want to reset the counter with this command

Writing on address

But this will be covered on further versions