

LoRa Converter Configuration Tool v1.0.5

Connecting the converter

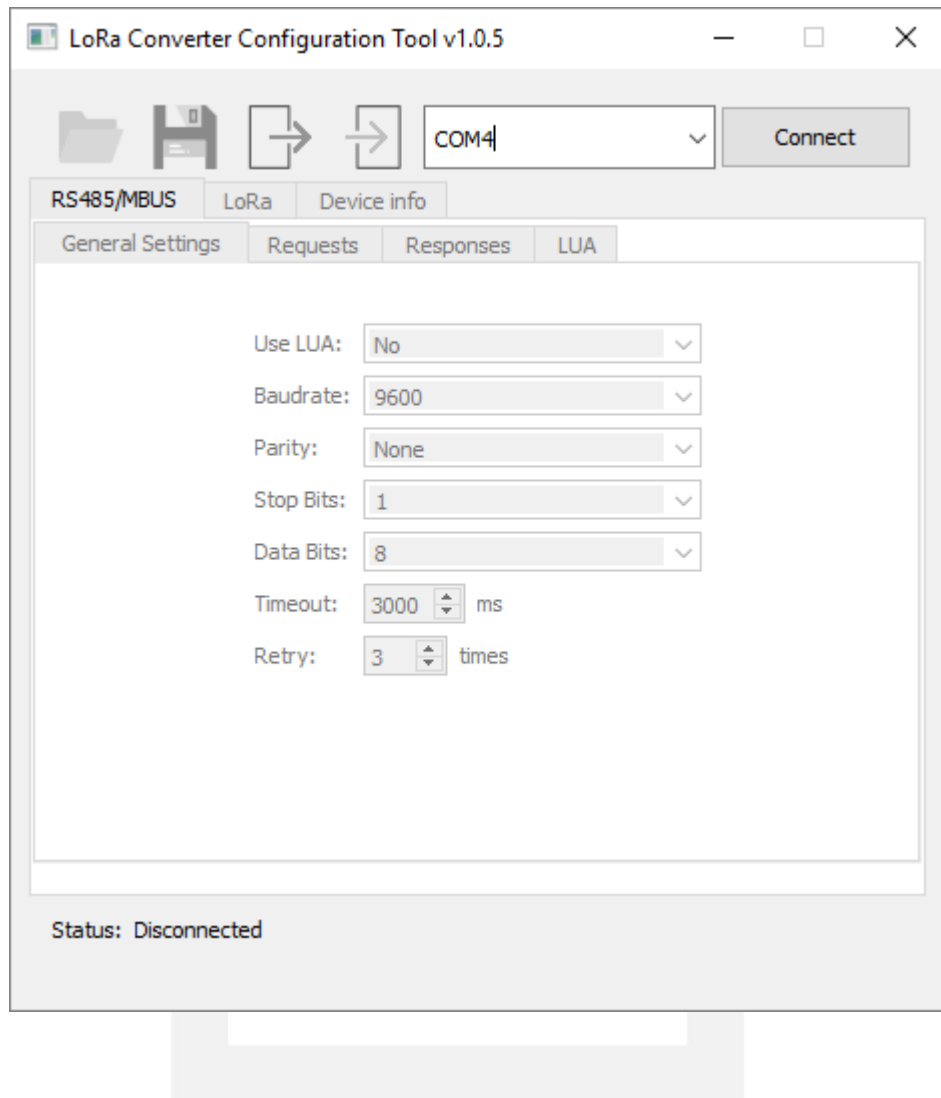
The converter is connected to a computer via a USB / UART converter with the three-pin connector:



1	UART SW RX
2	UART SW TX
3	GND

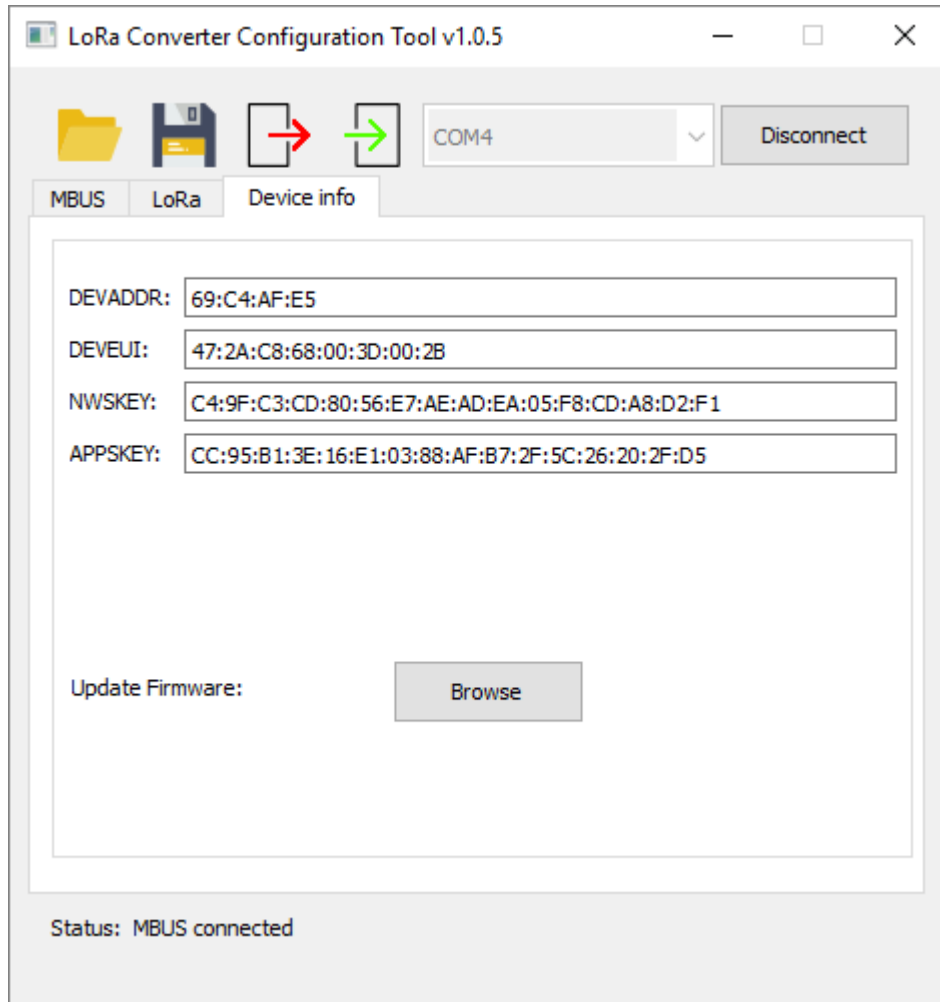
Note: When using the Prolific USB / UART converter on Windows 10, an incorrect driver is installed automatically and prevents communication with the converter. The solution is to install the correct driver, see: [link](#).

After the converter is connected to a PC configuration program displays all connected COM ports (e.g. on picture COM4).



After click on the connect button the configuration tool establishes a connection with the converter. This may take a few seconds if the converter is currently measuring data.

Once the connection is established, the current configuration is loaded and the information about converter is automatically shown on the tab **Device info**.



Buttons description

Save and load configuration from/to file



The current configuration of the converter can be saved or retrieved from a JSON file (.cfg).

```
{
  "connection": {
    "baudrate": 2400,
    "data_bits": 8,
    "parity": "Even",
    "retry": 3,
    "stop_bits": 1,
    "timeout": 3000,
    "use_lua": "Yes"
  },
  "device_info": {
    "APPSKEY": "CC:95:B1:3E:16:E1:03:88:AF:B7:2F:5C:26:20:2F:D5",
    "DEVADDR": "69:C4:AF:E5",
    "DEVEUI": "47:2A:C8:68:00:3D:00:2B",
    "NWSKEY": "C4:9F:C3:CD:80:56:E7:AE:AD:EA:05:F8:CD:A8:D2:F1"
  },
  "lora": {
    "ADR": 0,
    "confirmed": 1,
    "data_rate": "SF12/125KHz",
    "period": 7,
    "tx_power": 20
  },
  "requests": [
    "105B0B6616"
  ],
  "responses": [
    [ 0, 8, 32 ]
  ]
}
```

Save and load configuration from/to device



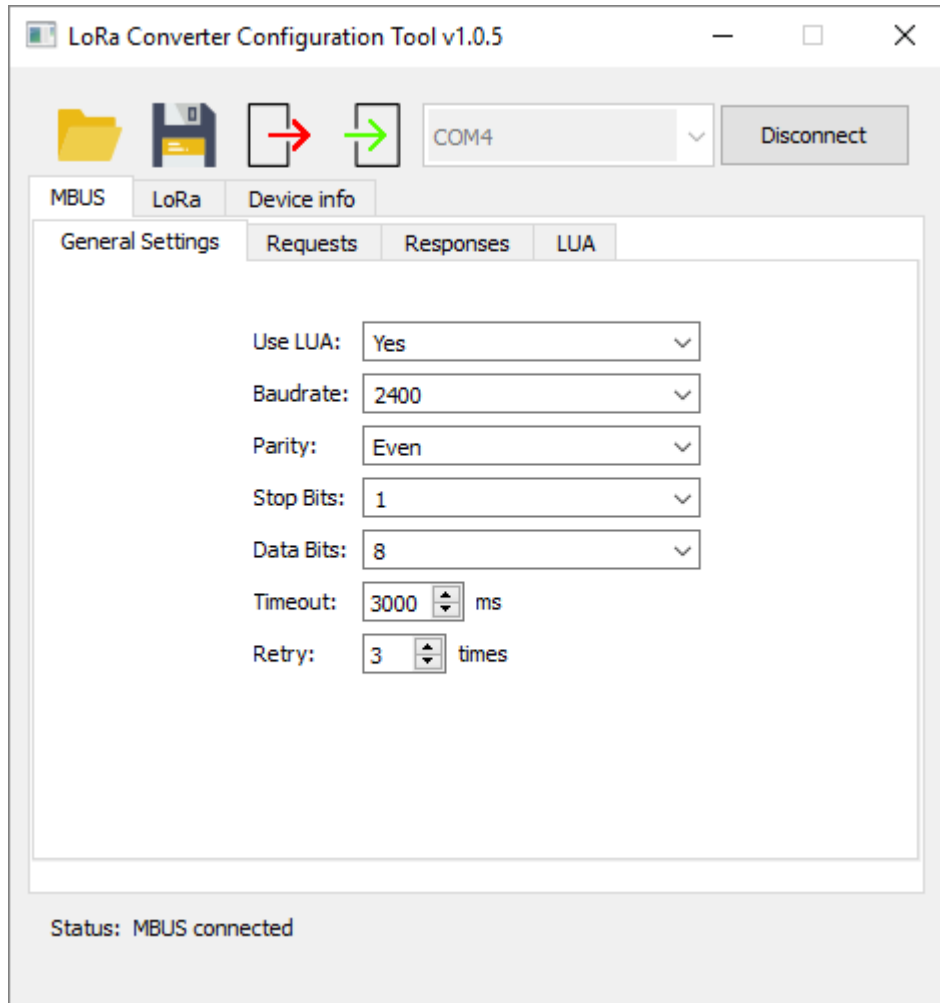
The current configuration can be stored in a EEPROM memory of the converter and then retrieved.

Description of program bookmarks

Settings for MBUS or MODBUS (RS485)

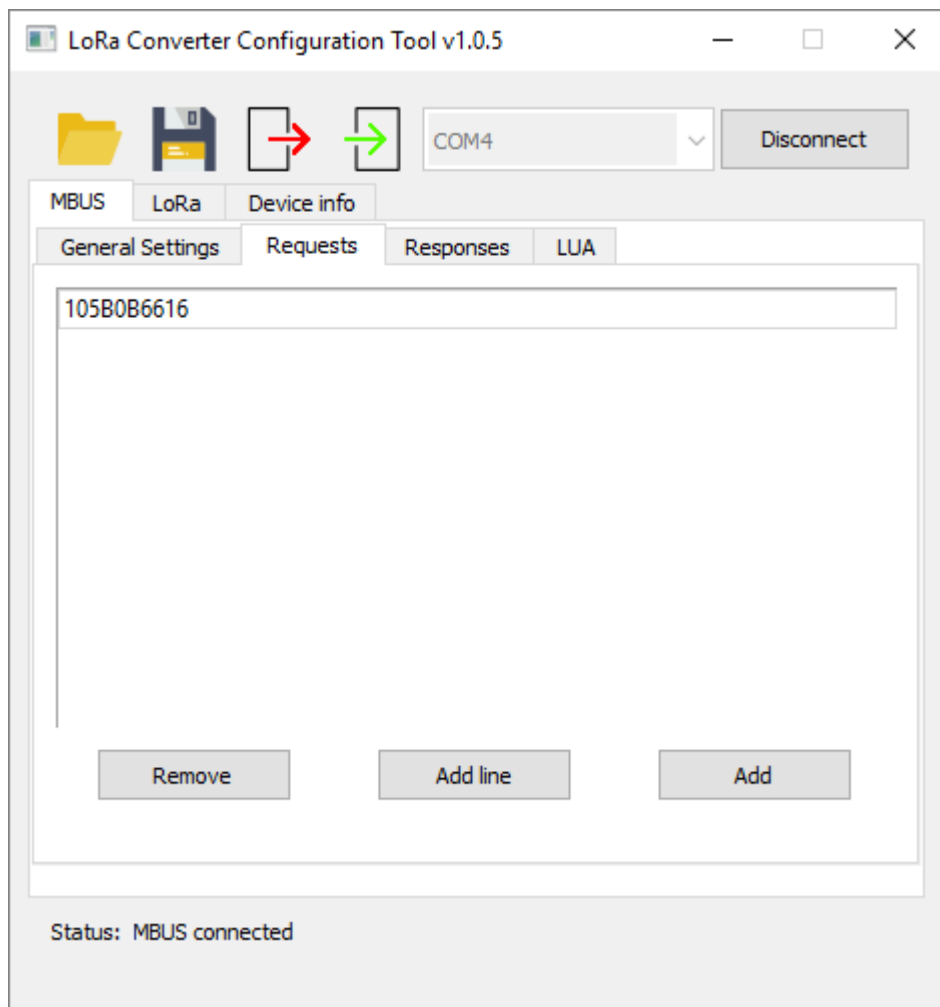
Main settings

Set up communication protocol with converter. Adjustable parameters are: baudrate, parity, stop bits, data bits, timeout, repeat count.

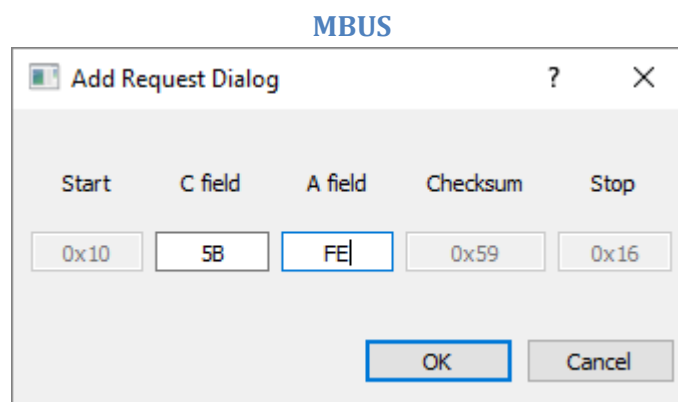


Requirements list

A list of requirements for the converter to query the device being measured.

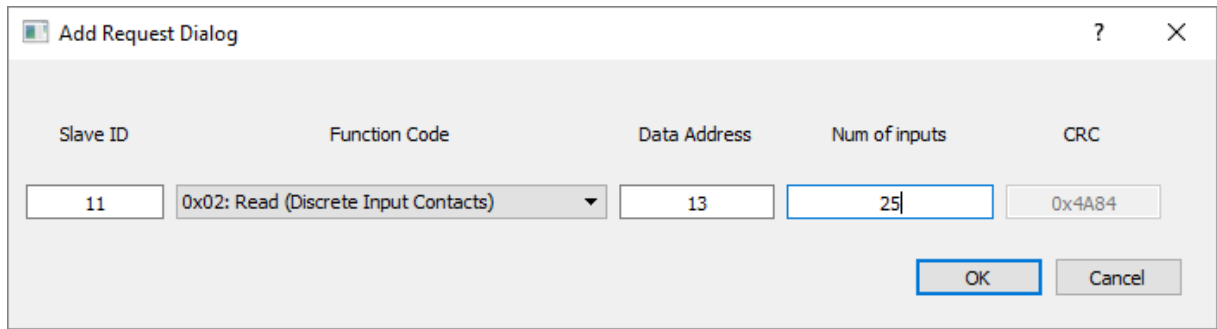


Requirements can be added manually using the button "Add Line" (which will add a new line in the list) or using the button „Add“ for the request dialog.



The dialog automatically calculates the checksum and complements start and stop bytes.

MODBUS



Add Request Dialog

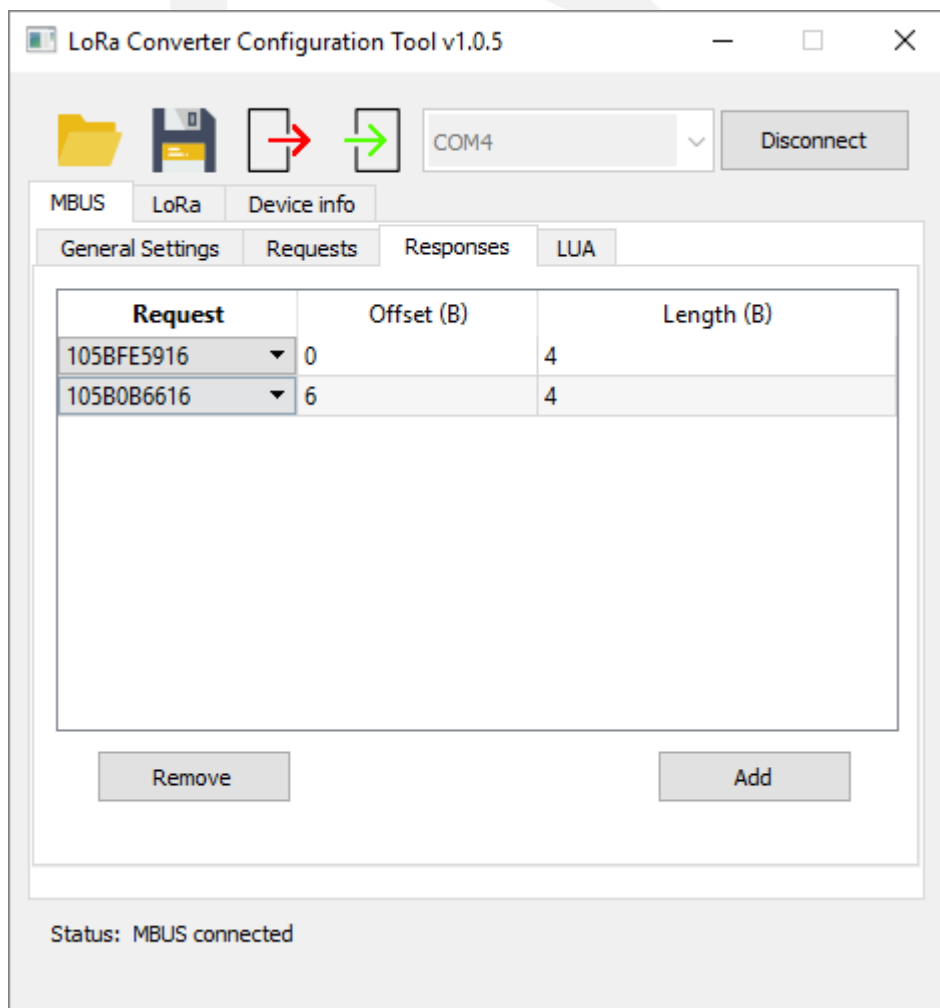
Slave ID	Function Code	Data Address	Num of inputs	CRC
11	0x02: Read (Discrete Input Contacts)	13	25	0x4A84

The dialog automatically performs the calculation of the checksum (CRC). For MODBUS, it is currently possible to select function codes 1-6 for data handling. Requirements with other functional codes need to be defined manually by writing to the request list.

Response formats

In response format list, offset and length of request line can be set.

E.g. For the first request (request line = 0), reads data length of 4 bytes with offset 0.



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COM4

MBUS | LoRa | Device info

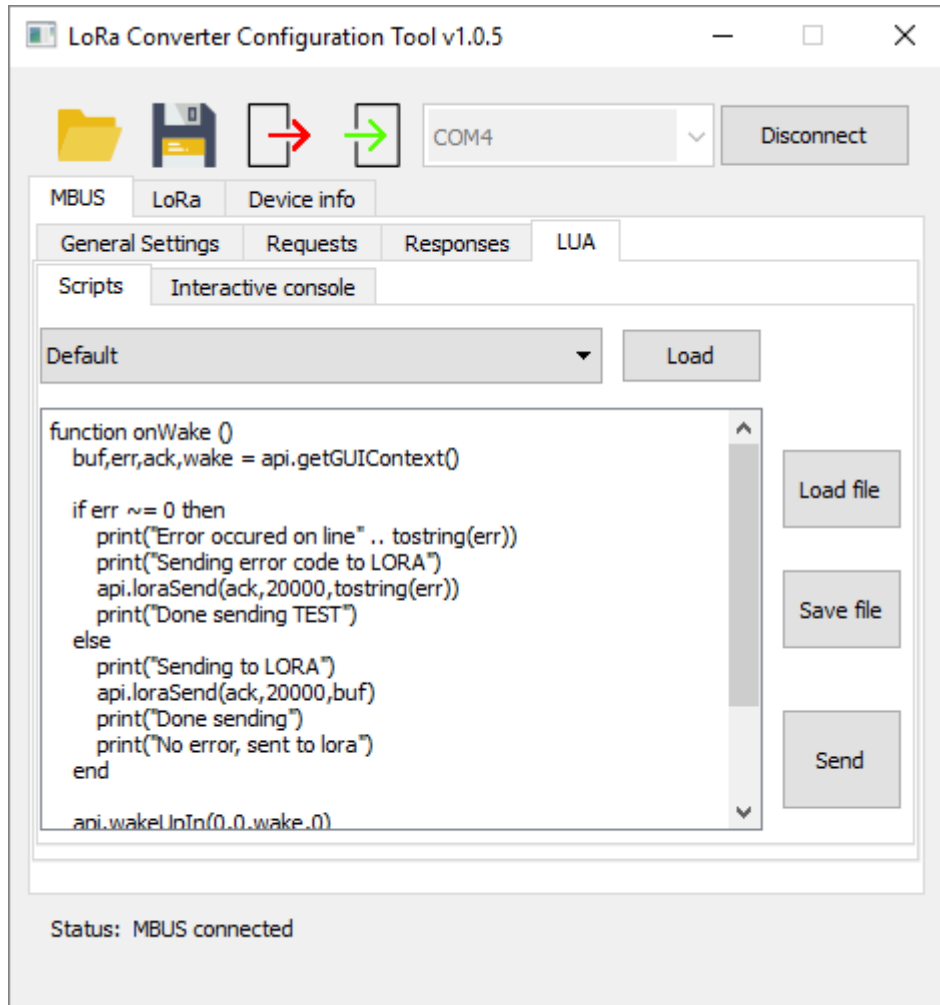
General Settings | Requests | Responses | LUA

Request	Offset (B)	Length (B)
105BFE5916	0	4
105B0B6616	6	4

Status: MBUS connected

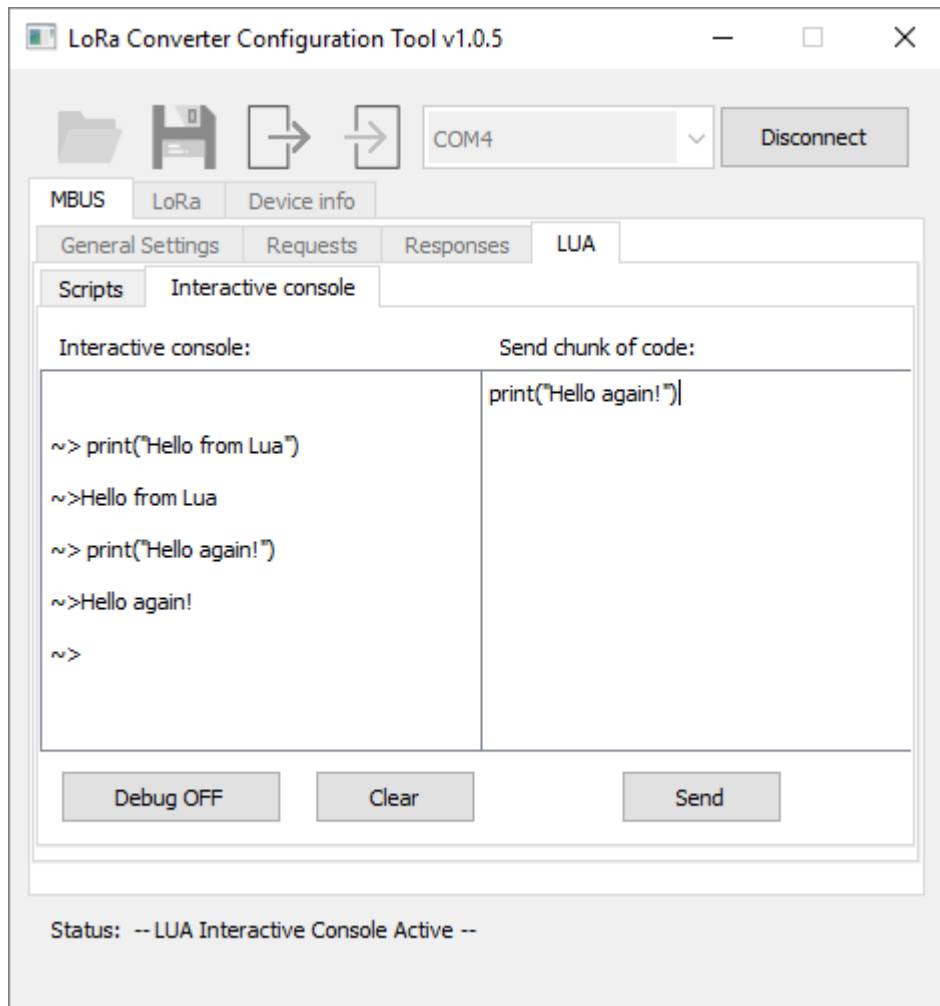
LUA interface

The Lua interface allows to upload any Lua script using the supplied API to device ([see ACRIOS - LUA 5.1 API documentation - rev1.pdf](#)):



It is possible to select sample scripts from a combo box (the Default script is selected) or load a script from a file (Load file), edit it, save it to a file (Save file) and send it to the converter (Send).

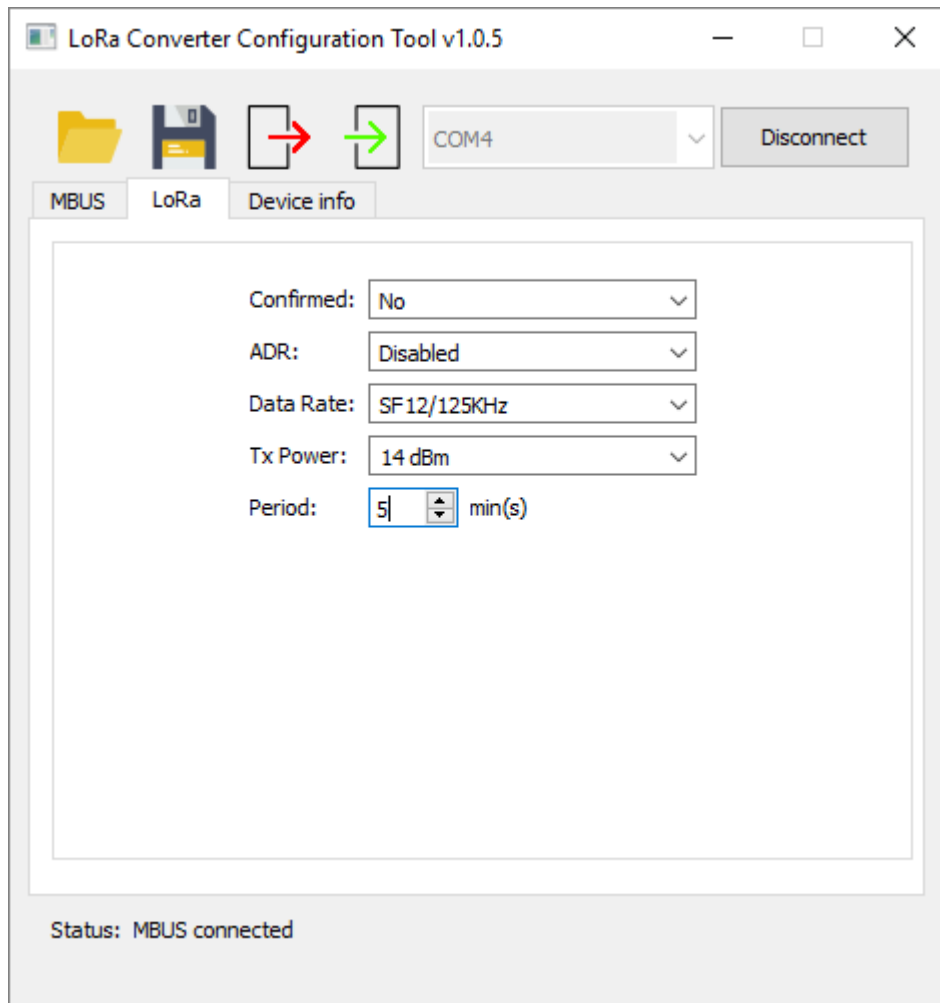
Interactive Lua Mode (Interactive console) allows sending real time commands in LUA language to the converter which can be used for example when testing or programming a Lua script.



The mode is activated with the button **Debug ON** (deactivated with **Debug OFF** or **Disconnect** buttons respectively), then it is possible to write Lua commands in the left panel (Interactive console) in real time and immediately see the results (note: does not allow text deletion) or it is possible to send chunk of code at once in the right panel and immediately see the result in the left panel.

LoRa settings

The configurable parameters for LoRaWAN are: Confirmed / Unconfirmed messages, ADR, Data Rate, Tx Power, Period.



Information about converter

The information about the connected converter is displayed here: DEVADDR, DEVEUI, NWSKEY, APPSKEY. Here is also the option to update the converter using the **Browse** button to select a firmware file (*.fw).

