1. DESCRIPTION

MCF-LW06485 is able to interface a Modbus slave to a LoRaWAN™ network. This allows to read and write any register of a Modbus slave. MCF-LW06485 acts as a Modbus master, addressing one or more slaves.
The setup of registers to be read is done thru a simple excel file. This file must be first prepared and then downloaded to the device using the USB interface. Template files are available by mcf88.

MCF-LW06485 is available with DIN rail option as follow:

2. CONNECTION OF THE DEVICE

2.1 Connection as stand-alone device:

Pin	Name	Description
J3.1		
J3.2		
J3.3	IO3	Terminal for Normally Open switch (test trigger for Modbus retrieve)
J3.4	GND	Terminal for Normally Open switch (test trigger for Modbus retrieve)
J3.5		
J3.6		
J3.7	IO5	Modbus A (+) yellow wire
J3.8	IO6	Modbus B (-) white wire
J3.9	GND	Negative power supply
J3.10	VDD	Positive power supply range [10-36Vdc]

Power can also be supplied by USB.

2.2 Connection with DIN rail option:

2.2.1 Modbus data lines:

Pin	Name	Description
J1.1		
J1.2		
J1.3	IO3	Terminal for Normally Open switch (test trigger for Modbus retrieve)
J1.4	GND	Terminal for Normally Open switch (test trigger for Modbus retrieve)
J1.5		
J1.6		
J1.7	IO5	Modbus A (+)
J1.8	IO6	Modbus B (-)

2.2.2 Power supply:

Pin	Name	Description
J2.1	VDD	Positive power supply range [10-36Vdc]
J2.2	GND	Negative power supply

Power can also be supplied by USB.

2.2.3 Dip switches:

- dip1 ON/OFF = 120 OHM termination on Modbus INSERTED/NOT INSERTED
- dip2 ON/OFF = Modbus B line polarization INSERTED/NOT INSERTED*
- dip3 ON/OFF = Modbus A line polarization INSERTED/NOT INSERTED*

*Polarizations are available only if MCF-LW06485 is 10-36Vdc supplied.Please note dip2 and dip3 must have same status.

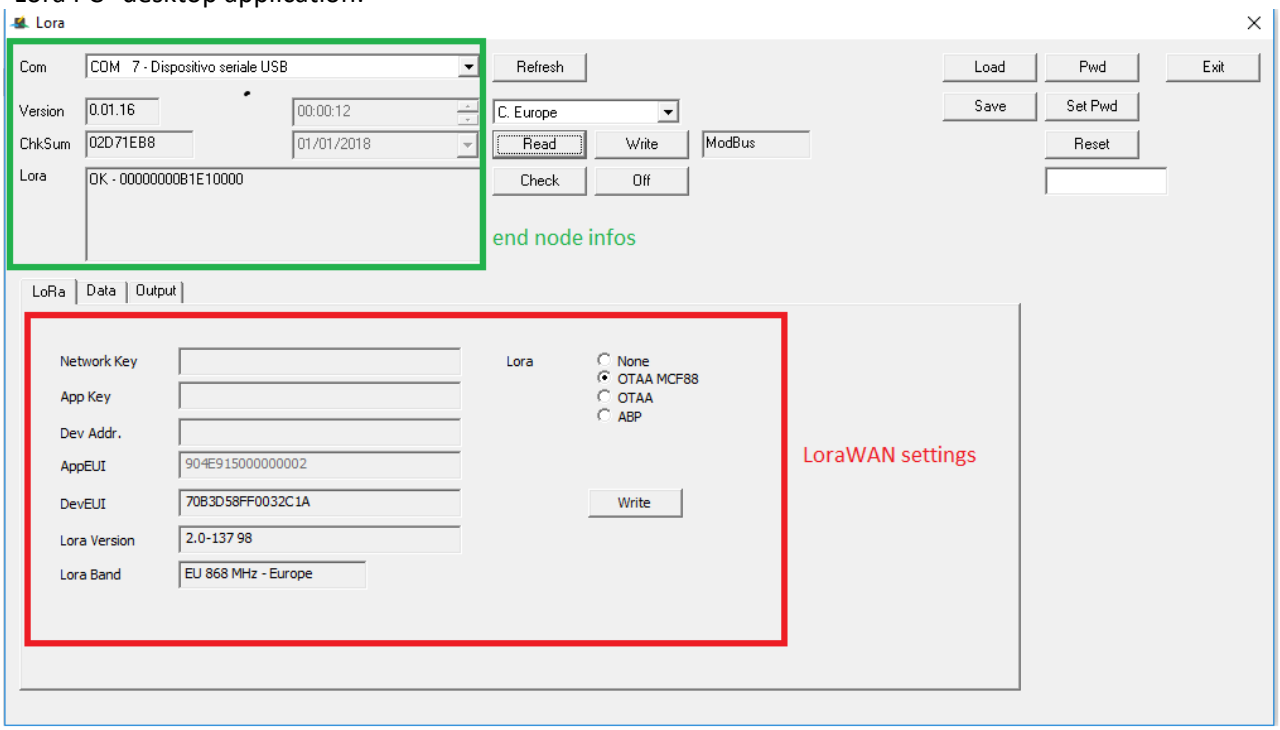
3. LORAWAN™ ACTIVATION

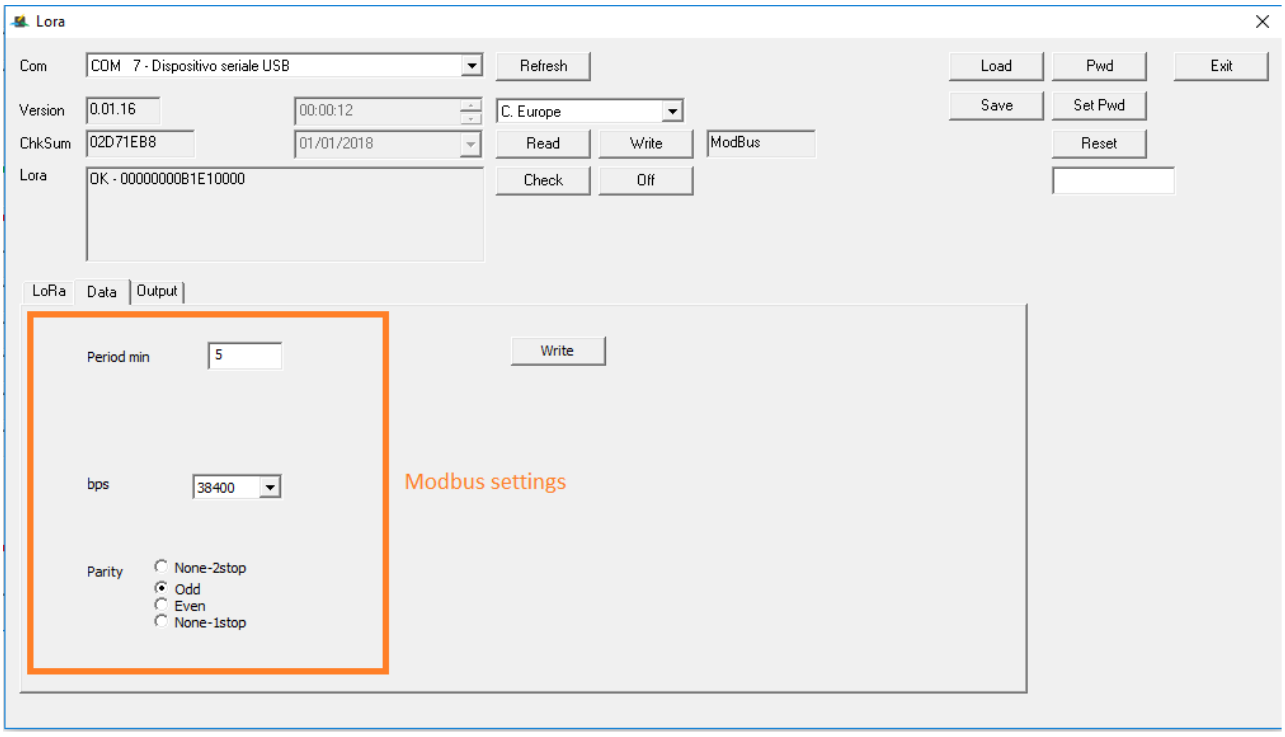
The device supports the following activations on a LoRaWAN ™ network:
NONE: sensor not activated
OTAA: needs settings of appkey and appEUI
OTAA MCF88: Over the air activation according to mcf88 specifications
ABP: needs settings of NwkSkey, AppSkey, DevAddr

The device exits factory activated with **NONE** mode. The devEUI of the device is shown on the product label. MCF-LW06485 is a Class C LoRaWAN ™ device.

4. DEVICE CONFIGURATION

The activation parameters and the device settings can be read and modified via USB using the appropriate "Lora PC" desktop application:





5. INSTALLATION

The magnetic antenna must be positioned on a metal body. It should preferably be vertical and at least 30 cm away from other metal bodies.
The installation must take place in a place where the LoRaWAN ™ signal coverage is good (SF=7 optimal, SF=12 weak).
Use the provided clip to hold the antenna connector in place, as in the pictures:

6. ORDERING CODE

Ordering Code	Description
MCF-LW06485	ModBus to LoRaWAN interface EU863-870
MCF-LW06485-AS	ModBus to LoRaWAN interface AS923