

## 1. DESCRIPTION

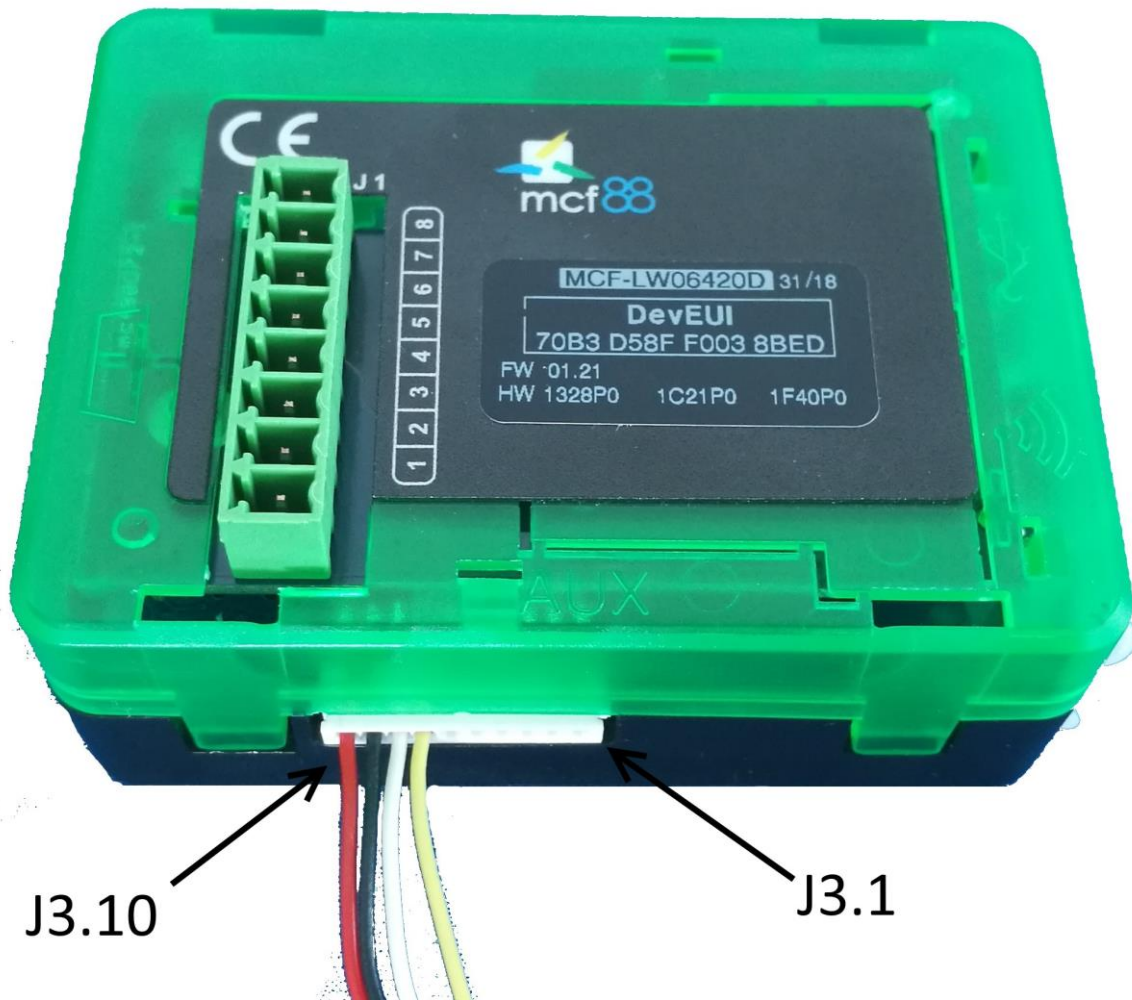
MCF-LW06010B is a class A LoRaWAN interface, able to read 4 analog inputs 0-10V with a resolution of 12 bit. Inputs have an insulation of 1000Vdc with respect to the power supply, and are protected against polarity inversion. It has a protected digital output to drive a load 24Vac/dc up to 500mA, useful for power the connected sensors only when making the measurement, and save energy. Power with a 3.6V 7.2Ah lithium battery (included).

MCF-LW06410B is available with an optional DIN rail mount board (MCF-DIN105) as follow:



## 2. CONNECTION OF THE DEVICE

### 2.1 Connection as stand-alone device:



Pin	Name	Description
J3.7	IO5	Digital output positive (yellow)
J3.8	IO6	Digital output negative (white)
J3.9		Do not use (black): must be insulated
J3.10		Do not use (red): must be insulated

USB port only for configuration, doesn't provide power supply.

## 2.2 Connection with MCF-DIN105:

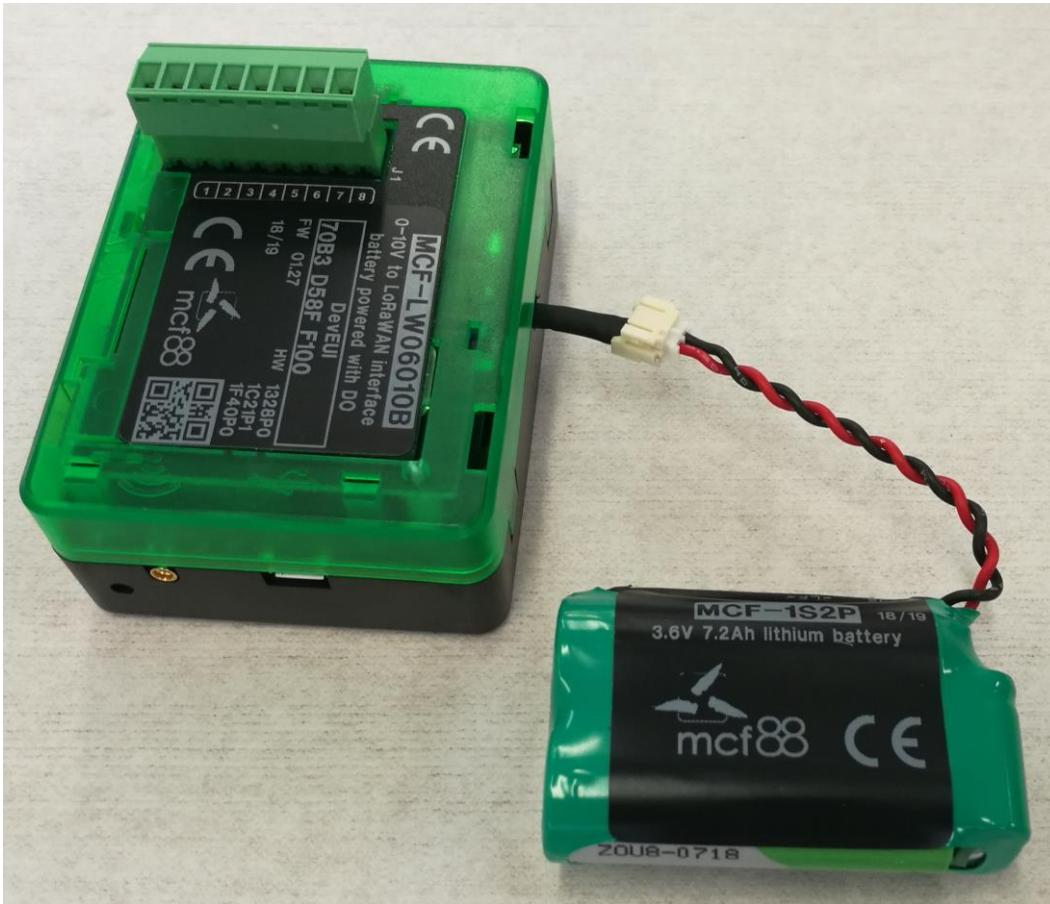


### 2.2.1 Digital output:

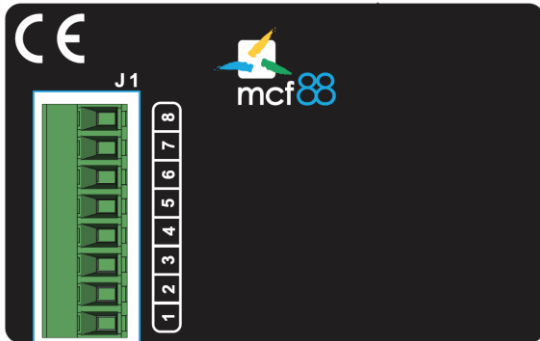
Pin	Name	Description
J1.1		
J1.2		
J1.3		
J1.4		
J1.5		
J1.6		
J1.7	IO5	Digital output positive
J1.8	IO6	Digital output negative

Maximum load voltage: 26Vac/34Vdc  
 Maximum load current: 500mA.

2.3 Power supply:



### 2.3 Analog inputs



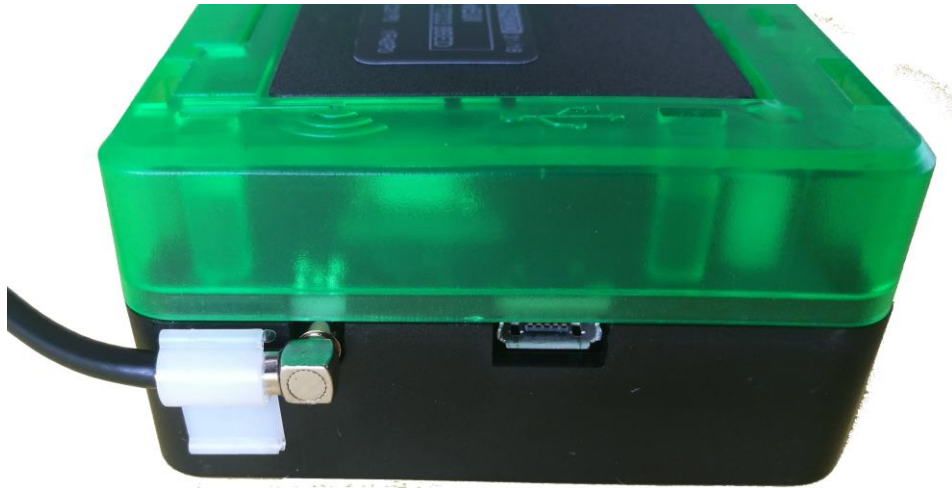
Pin	Name	Description	Range	Resolution
J1.1	AI1	Analog input 1	0-10V	12 bit
J1.2	GA	Common		
J1.3	AI2	Analog input 2	0-10V	12 bit
J1.4	GA	Common		
J1.5	AI3	Analog input 3	0-10V	12 bit
J1.6	GA	Common		
J1.7	AI4	Analog input 4	0-10V	12 bit
J1.8	GA	Common		

	<b>Voltmetric (0-10V)</b>
Input resistance	20K $\Omega$
Absolute maximum value	12V
Max error	$\pm 0.1\%$
Insulation	1000Vdc

**Caution:** inputs are not galvanically isolated from each other.

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2.4 Connect the antenna as shown below, using the provided clip to hold the antenna connector in place:



### 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-LW06010B is a Class A LoRaWAN™ device.

## 4. DEVICE CONFIGURATION

The activation parameters and the device settings can be read and modified via USB using the appropriate "LoRaWEB" desktop application (<https://iot.mcf88.cloud/LoRaWeb/#/configuration>):

### LoRaWAN® Parameters

**LoRaWAN®**

<b>Network Key</b>	<b>App Key</b>
<input type="text"/>	<input type="text"/>
<b>Device Address</b>	
<input type="text"/>	
<b>AppEUI</b>	<b>DevEUI</b>
<input type="text"/>	70B3D8E110000000
<b>LoRa Band</b>	
Europe EU [868 MHz] <span>▼</span>	
<b>LoRaWAN® Activation</b>	
<input checked="" type="radio"/> NONE <input type="radio"/> OTAA MCF88 <input type="radio"/> OTAA <input type="radio"/> ABP	
<b>Carrier</b>	
<input checked="" type="radio"/> Any <input type="radio"/> Objenious	
<b>Network</b>	
<input checked="" type="radio"/> Public Network <input type="radio"/> Private Network	

End node info

Data retrieval interval (minutes)

Set the time (in seconds) between the activation of the output and the reading of the inputs (settling time). If 0 the reading is immediate and the output remains OFF.

## 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).

## 6. ORDERING CODE

Ordering Code	Description
MCF-LW06010B	0-10V to LoRaWAN interface battery powered EU863-870
MCF-LW06010B-AS	0-10V to LoRaWAN interface battery powered AS923
MCF-DIN105	DIN Rail option 105mm