MF12

USER MANUAL

LANTERN SOFTWARE
CONFIGURATION

Flasher MF12

mfcom.net MF12

mesemar.com

MSM

USER MANUAL

REF: MFCOM.net

MF12 ENG

REV	DATE	REVISION
01	15-11-12	Revision 4.0.1
02	13-05-13	Revision 4.0.4
03	05-03-15	Revision 4.1.4
04	15-07-16	Revision MFCOM.net
05	05-12-18	Image change and txt review
06	05-08-19	MFCOM 4.5.81
07	12-02-21	Revision MFCOM.net

REV 07

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LANTERN SOFTWARE CONFIGURATION

Flasher MF12

MFCOM.net MF12

MSM 1. Introduction

The MFCOM.net software is used for the configuration of both compact and flashing beacons.

This software specially designed by MSM can detect the type of beacon to which it is connected and show us only the unique parameters of it.

The MFCOM.net is shipped on request on a CD along with the beacon programming connection kits:

PROGRAMMING KIT	Cable + Usb + Remote Ir + CD	
PROGRAMMING KIT	Cable + Usb + CD	

Note: In case of CD lost contact MSM to provide you with a copy.

In order to conform more closely to reality, MSM has generated specific manuals adapted to the electronics of each beacon.

Currently there are the following options:

Flasher	Lantern model	
MF05	MBL120 MCL100 MCL120	MFCOM.net MF05&MF06
MF06	MCL140 MCL160 MCL180	
MF12	MBL150-P and MBL150-AL MBL160 MBL170 MBL400-C MBL500LD MCL200 MCL250 and MCL250-N MCL330 MCL400 and MCL400HD	MFCOM.net MF12

Note: This list is subject to change.

2. Technical features

The MFCOM.net allows the user to change parameters such as identifier, settings, flash parameters, power, etc.

Main functions:

- Programming of the 6 user rhythms.
- Adjusting the sensitivity of the photocell in Lux.
- Offset day-night: Photocell delay in step day by night.
- Select Sync Offset mode to create light sweeps.
- Adjustable LED intensity with attenuation in %.
- Programmable low battery alarm voltage (only available in compact beacons)
- Adjustment of solar charge regulation parameters (only available in compact beacons).
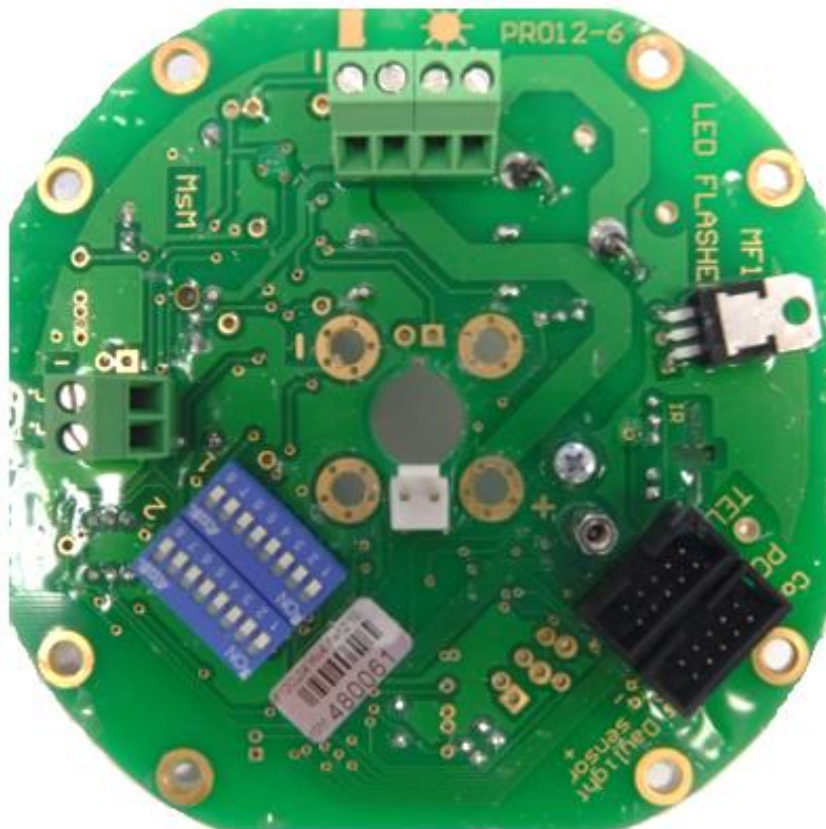
The configuration of the flasher requires:
- TX(A) Programming Cable
- MFCOM.NET V4.5.81 software or higher.
- PC (with serial port available).

3. Flasher configuration: MF12

MFCOM.NET software is required to set up flasher MF12.

Flasher MF12

The flasher will be already set-up from MSM, so there is no need to modify it if factory settings meet with customer needs.

In case you want to change the original settings, you must use this software. By using the TX(A) communications cable the MF12 communicates with the PC.

> **IMPORTANT**
>
> MSM flasher MF12 allow two methods to be configured: **IR remote programmer and via PC using MFCOM.net software**.
>
> The last settings always prevail no matter which method we use.

4. Lantern connection – Quick start

In a first step we will have to power the device, this can be done by connecting the battery to the beacon for autonomous batteries, or power by cable and power supply for the option of flashing beacons. A second step would be to connect the programming cable from the flasher to the computer. Once these steps are completed, we will open the MFCOM.

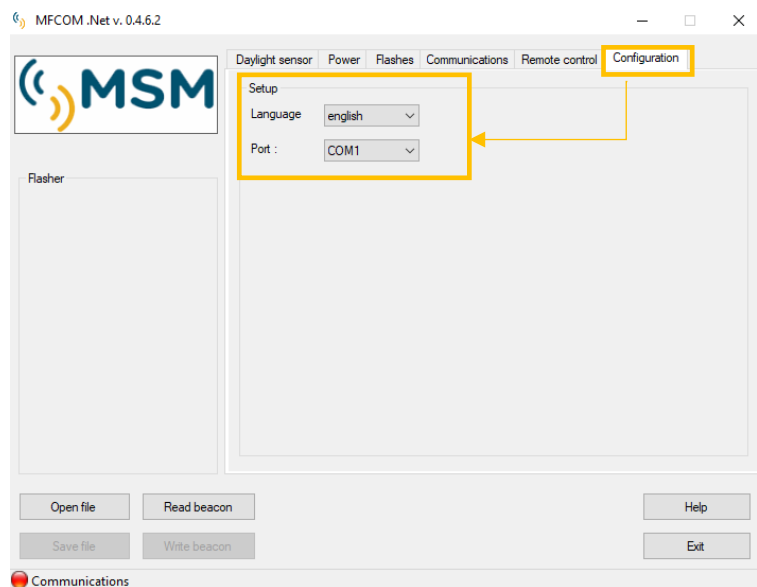To open the software MFCOM.net we will click on the following icon

MfcomNet

The main screen of the MFCOM.net will then open.

The next step will be to configure the language and communication options between beacon and PC.
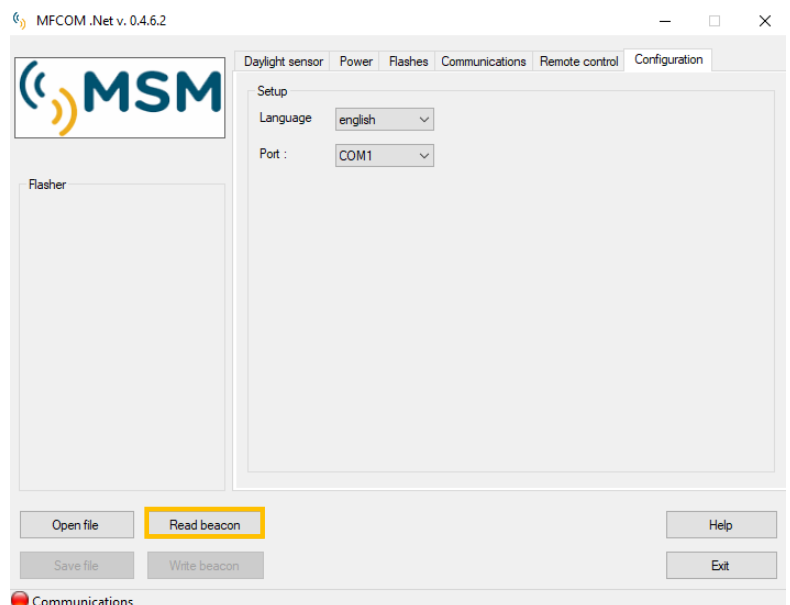
To do so we will select from the "Settings" tab the serial port enabled on the PC for this purpose.

This example uses COM1.

To start reading the flasher, click on the "Read Beacon" button.

Then all beacon data will be loaded, and its settings will be displayed.

On the left side of the screen basic lantern info will be displayed:

- Model.
- Flashes table.
- Firmware version.
- Hardware.
- Number ID.
- Identification

Once the data has been read from the beacon "Read Beacon", the program sends us directly to the "Photocell" tab which shows us the lux levels to switch the lantern on or off.

PROBLEM SOLVING:

It may be the case that the program does not refresh the data.

This will indicate a connection problem and the counter: Byte visibility error will increase.

These communication issues may be caused by:

- Beacon power failure
- Selected serial port not configured
- Cable communications in bad condition.
- Spoiled electronics.

It is advisable to review the first three points and re-launch communications.
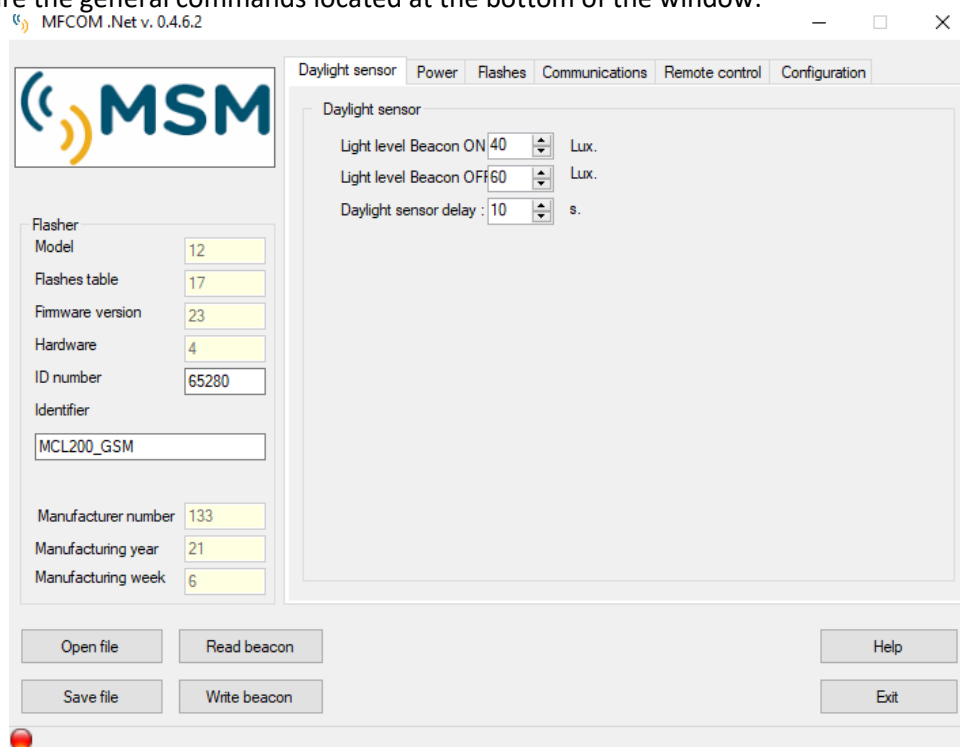
5. Lantern configuration
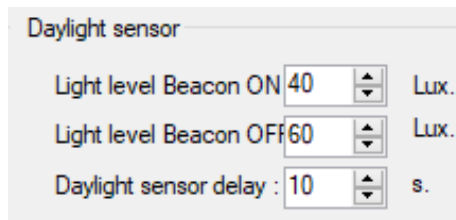
5.1. Description of general functions

Next are the general commands located at the bottom of the window:

Read beacon	Read and display from the beacon its current setting.
Write beacon	Transmit and save to the beacon the settings displayed on MFCOM.net.
Save file	Save a beacon setting file in the following format: *.mf
Open file	Open a beacon setting file (*.mf) previously saved. To do so we must be connected to the lantern.
Exit	Close and exit MFCOM.net.
Help	Button to access help

5.2. Photocell setting

The beacon on-off is controlled by a photocell. The photocell sensitivity can be programmed with different lux levels.

Recommended photocell setting values

ON beacon light level: 40 lux
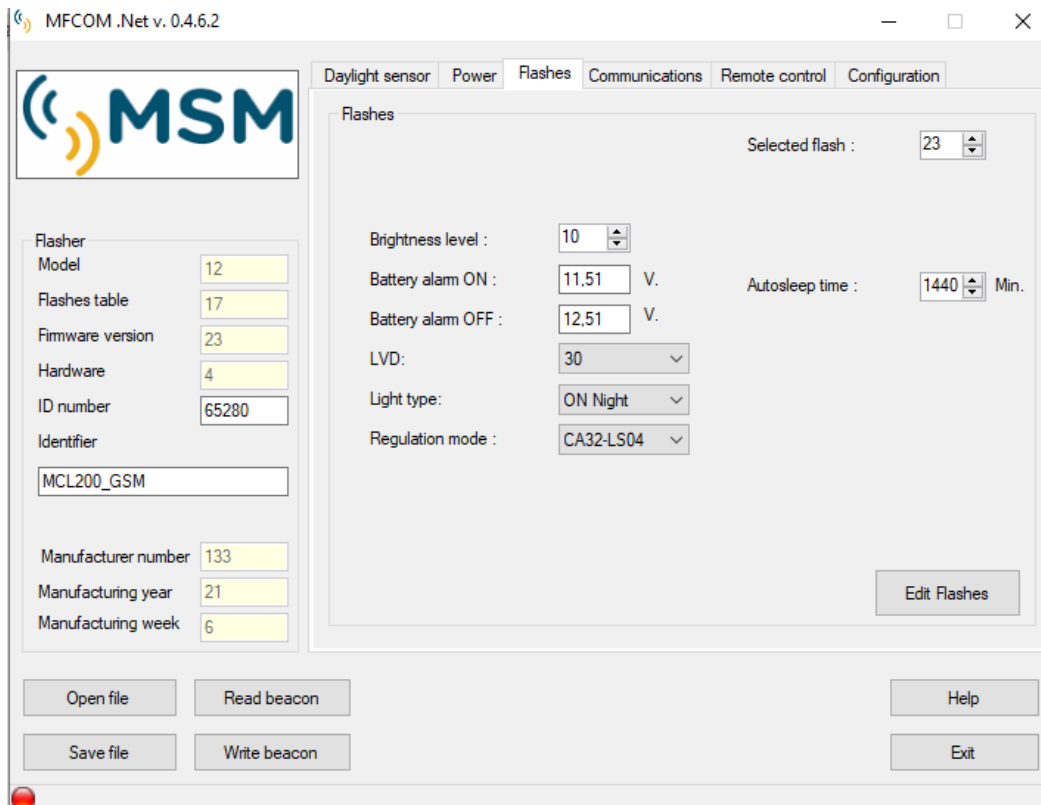OFF beacon light level: 60 lux

The photocell delay is the waiting time after reading the photocell before switching the beacon on or off.

Once the new values are set, we must transmit them to the beacon using the key:
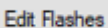
5.3.   Flashes settings

This menu allows the adjustment of the beacon flashes.

MFCOM Flashes.

Edit Flashes	Button to access to the user flash menu editor.

Selected flash: Select the required flash from the configured list of 250 (from 7 to 256). Flash 23 is the default setting. Check attach table.
Flashes from 1 to 6 can be configured by the user. Go to 5.3.1.
Brightness level: This parameter reduces the luminous intensity of a beacon so that energy consumption is reduced. Originally the value is 10 equals to 100%, to reduce the brightness level enter values between 1 and 10.
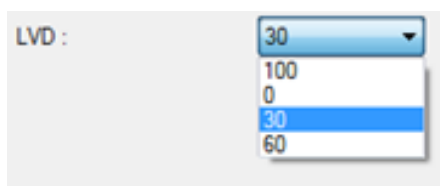**Battery alarm ON:** Voltage level for alarm activation. (Compact beacons only)
Battery alarm OFF: Voltage level for alarm deactivation. (Compact beacons only).
LVD: The "Battery alarm ON" causes the beacon to activate the LVD mode that acts to prevent full battery discharge and possible damage. LVD mode has 4 software configurable options:
- LVD 100%   It continues to work at 100% consumption. *By default*.
- LVD 0%   Turn off the light so as not to discharge the battery anymore.
- LVD 30%   Reduces consumption to 30% by reducing brightness to 30%.
- LVD 60%   Reduces consumption to 60% by reducing brightness to 60%.

SOFTWARE ADJUSTMENTS	MINIDIPS ADJUSTMENTS		

| MODO LVD	DIP 2	DIP 3
LVD OFF	OFF	OFF
LVD ON	ON	OFF
LVD 30%*	OFF	ON
LVD 60%*	ON	ON

IMPORTANT

(*) Reduced consumption involves reducing luminous intensity in the same proportion. Verify that the beacon continues to provide an adequate range

TYPES OF LIGHT

Permite elegir entre dos modos:
- **ON Night**: Night operation only at **(between 1-10)** brightness level
- **24 hours ON**: The light remains on 24 hours, to **X % (between 0-100)** Led intensity during the day and dimmed by **X% (between 0-100)** at night to avoid dazzling. This mode is used in LED leading lights and other beacons on request.
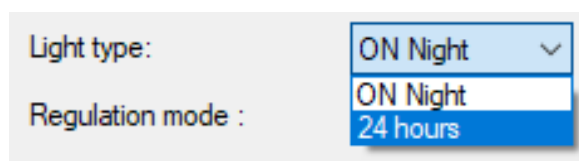

REGULATION MODE

This parameter is factory set and does not need to be adjusted. It will only be modified in the event of failure and replacement of the MF12 flasher by the customer. At this point we will perform the following sequence of action:
1. If the configuration of the beacon has been previously saved in an *.mf file, it will be loaded. (Recommended and explained in 5.1.)
2. Otherwise, when replacing the MF12, check the LED disc connected to it (from the list) and select it.

Allows you to choose between two modes:
- CA30-LS03: LED with regulator NON adjustable with PWM (CA30 y LS03SR).
- CA32-LS04: LED with adjustable fixed regulator with PWM (CA32, CA150, CA160, CA400, LS04SR and LX04SR).
- Shipwreck: Only for shipwreck lanterns with double output for blue and amber LEDs.
- Residual Light: A second output is activated with a residual light between flashes to simulate a rotating lantern - Only on MBL400 and MBL500 beacons.
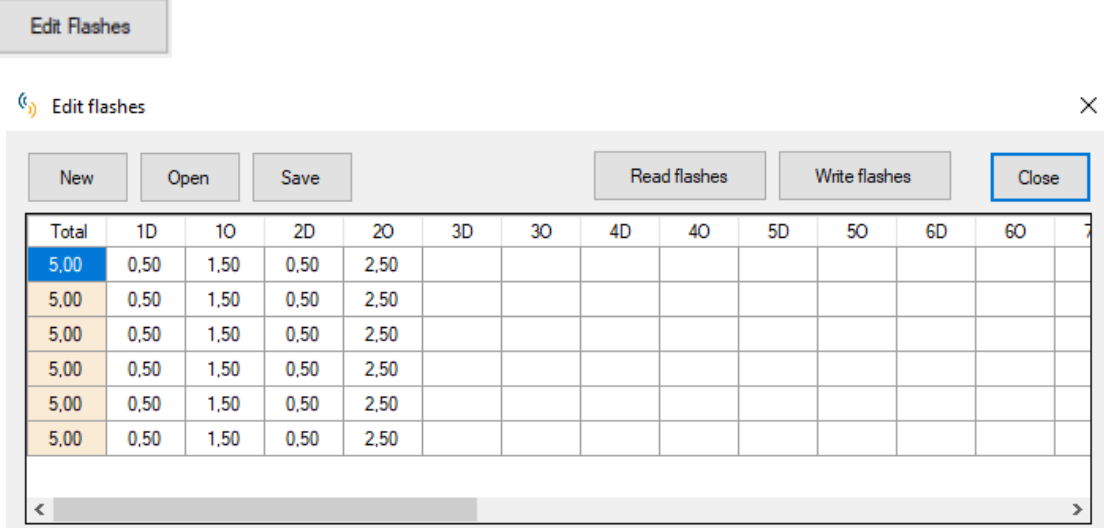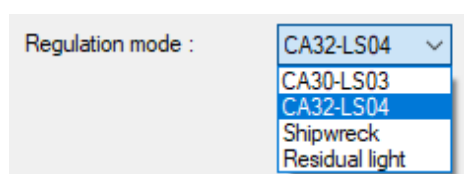
ORIGIN OF THE FLASH

MF12 Flasher can be configured through various means:

- Flashlight internal Micro DIPs selectors.
- MFCOMnet and computer PC.
- Distance IR programmer.
- Through BlueTooth and APP on Android.

The flashing light will attend to any of them and the last change made will program the flashing light, therefore it is not necessary to configure which one you want to use.

5.3.1. User flash editor

This screen allows us to edit the rhythms from 1 to 6 of the rhythm table.

MFCOM User flash editor.

The maximum possible length of the rhythm is 16 light-dark cycles.

Each cycle is composed of two phases. The following image shows the distribution of the first two cycles:

Cycle 1		Cycle 2	
1D	1O	2D	2O
Light (On)	Dark (Off)	Light (On)	Dark (Off)

The data entry format is: x,xx sec

Therefore, in the following example the defined cycle 1 has a duration of 0.3 seconds. Of which 0.2 will be On and 0.1 Off.

Total	1D	1O	2D	2O	3D	3O
0,30	0,20	0,10				

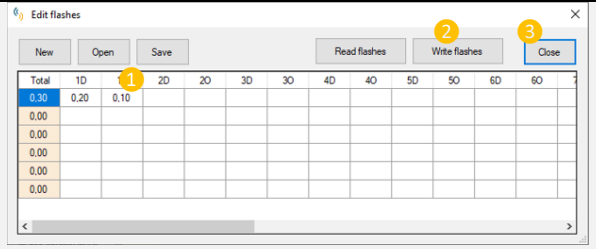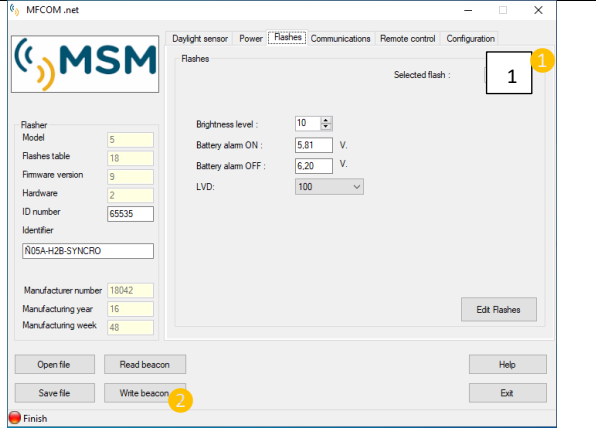These 6 user flashes can be managed easily. The following options are available for this purpose:

- **New:** deletes all data from the table to start a new edition.
- **Open:** loads a previously edited rhythm file (*mf) on the PC.
- **Save:** saves the current edition on a file (*.mf) for later use.
- **Read flashes:** reads the last edition saved in the flasher.
- **Write flashes:** records the edited rhythms on the chart in the flasher.

Edited rhythms can be memorized to be used when required.

5.3.2. ¿How to use user flashers?

After editing a user flash, it is necessary to write the flash from the main screen.
To make a user flash effective, the following actions must be performed:

1	**Flash edition:** Step 1: Edit flash 1 ① Step 2: Write the flash in the flash table ② Step 3: Close the edit flashes window ③	
2	**Write the flash in the beacon:** Step 1: Select the user flash edited previously. Selected flash = 1 ① Step 2: Write the flash in the beacon ②	

5.4.   Communications

The flasher can be remotely controlled by multiple ways and from this screen we will configure its options.
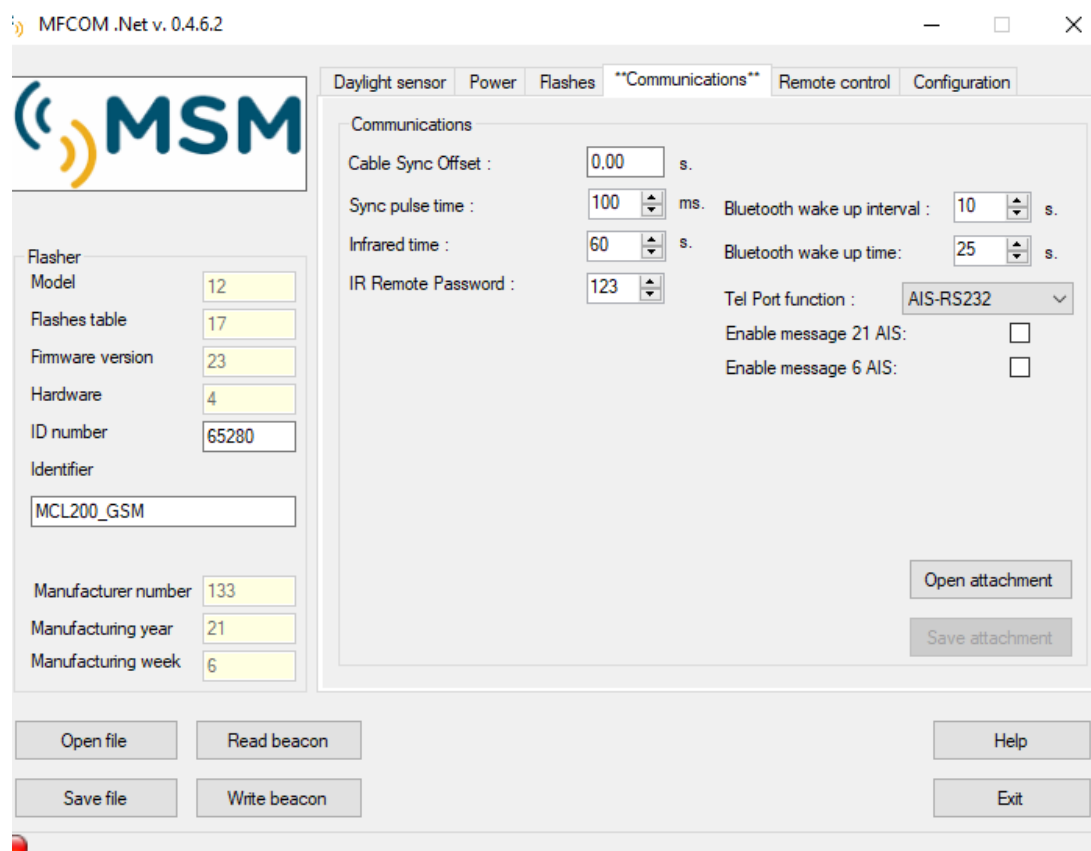

MFCOM Communication.

The MF12 Flasher can be remotely controlled by connecting various circuits to its TEL remote control port.

The optional circuits must be configured so that the flasher is aware of their existence and can use them correctly.
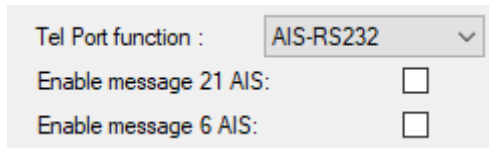
The circuits that can be used are:
- MFGSM: For the whole family of MF circuits (MFGSM, MFSAT, MFUHF y MFVHF).
- RS485: For connection RS485 and MODBUS.
- AIS RS422: For connection of AIS transponders with RS422 port.
- AIS RS232: Allows serial communication RS232 with AIS (MFAIS).
- BLUETOOTH: For connection of the flasher via Bluetooth to mobile devices.
  (Requires installation of an MFBLUE communications module on the flasher).
- MFGSM DISPLAY: Select only in case of MCL330 with GSM
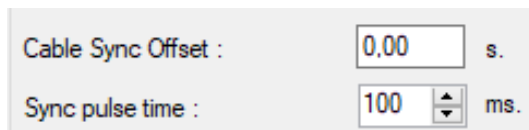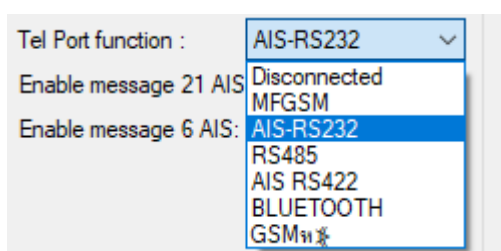
5.4.1. AIS-RS232 or RS422 Configuration

In the case of selecting the "AIS 422" or "AIS-RS232" options, you have to select which message you want to enable from the possible options:

- Message 21 AIS: Position
- Message 6 AIS: Open message

5.4.2. Synchronism

MF12 flasher can be synchronized by cable and for this the synchronism offset must be configured.

Synchronism Offset (ONLY with Cable)

This parameter allows us to generate synchronized light sweep for channels or alternate lights. The time in seconds of delay that we want with respect to other synchronized lights will be configured. The maximum programmable Offset time is limited by the duration of the last dark time of the selected flash rate.
In case of using GPS synchronizers, this parameter must be configured in the GPS and this parameter will remain zero on the flashing light.

Synchronism pulse time

This parameter allows you to select different lengths of the sync pulse that can allow synchronization with other manufacturers. The standard time is 100 ms.

5.4.3. Configuration by IR remote controller

The PROG-IR infrared remote programmer allows the configuration of MBL series beacons remotely and without the need to open the flashlights.

The MF12 Flasher can be controlled by an infrared control that allows remote configuration of the flashlight.

The IR programmer has a configurable access password (123 BY DEFAULT)
The IR data reception is available just after a day/night transition during a configurable time (60sec BY DEFAULT).

Infrared time : 60 s.

IR Remote Password : 123

IMPORTANT

For configuration using **IR Remote Controller Programming, refer** to the specific manuals

### 5.4.4. Bluetooth configuration

MF12 flasher, can be programmed via bluetooth through the APP. The optimal values for the configuration via bluetooth are those that appear in the attached image.

Bluetooth wake up interval : 10 s.

Bluetooth wake up time: 25 s.

NOTE: For further information on how to configure the flasher via Bluetooth, check the APP configuration manual.

5.5. Remote control and its configuration

MF12 flasher can be controlled by PC with RS232 serial connection and using this interface we can perform some functions remotely and receive instant performance data and possible alarms detected in the lantern.

MFCOM Remote control
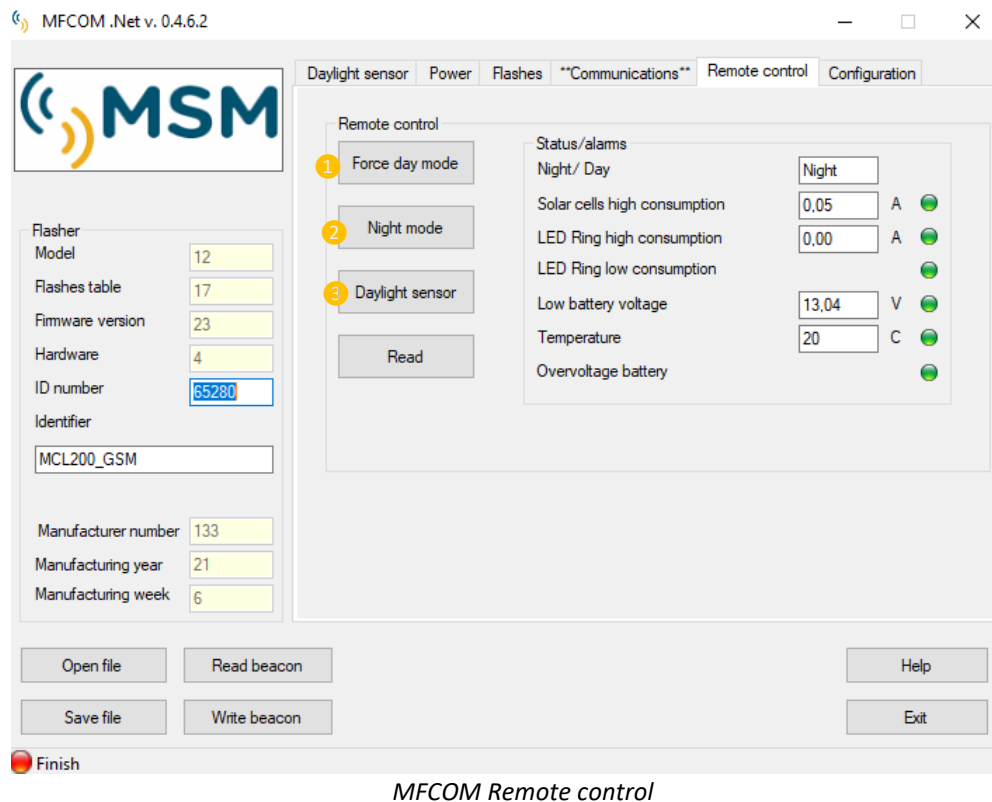
In "Status/alarms" the current beacon status is shown. By clicking on "Read", results can be visualized, indicating if the beacon is on night or day mode, the voltage data, etc…and if the operation is correct dots will be shown in green. If there is any alarm for improper operation dots will be shown in red.

We can force Day Mode ① or Night Mode ② by clicking on the buttons to test proper beacon performance.
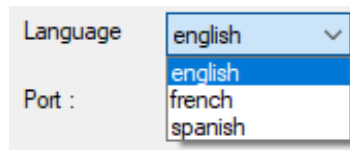
> **IMPORTANT**
> Once the test is finished, do not forget to set the beacon on Daylight sensor ③. Otherwise, the beacon will remain on (Night mode) or off (Day mode).
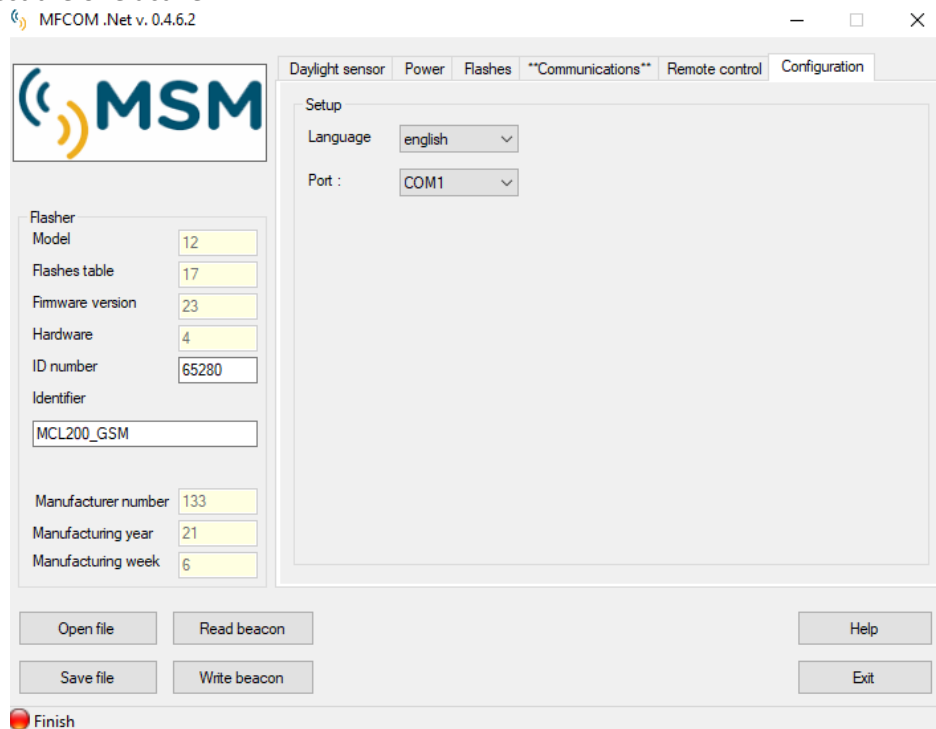
5.6.   Program configuration

5.6.1.   Language selection

The MFCOM.net program can be configured for different languages in this tab.

5.6.2. Serial port selection

The MFCOM.net software can communicate through RS232 serial ports. Though this tab we can select the one active.

MFCOM Configuration

5.7.   Power

In the "Power" section, the working limits for alarms detection must be configured.
In this "Power" option there are a series of parameters that, by default, should not be modified. You only adjust the parameters to adjust the limits of the LED and solar panel consumption alarms.

Parameters to adjust:
- Max. consumption of LEDs.
- Min. Consumption of LEDs.
- Maximum temperature alarm.
- Max. panel current.
- Type of beacon: Not Self-powered or Self-powered MCL.
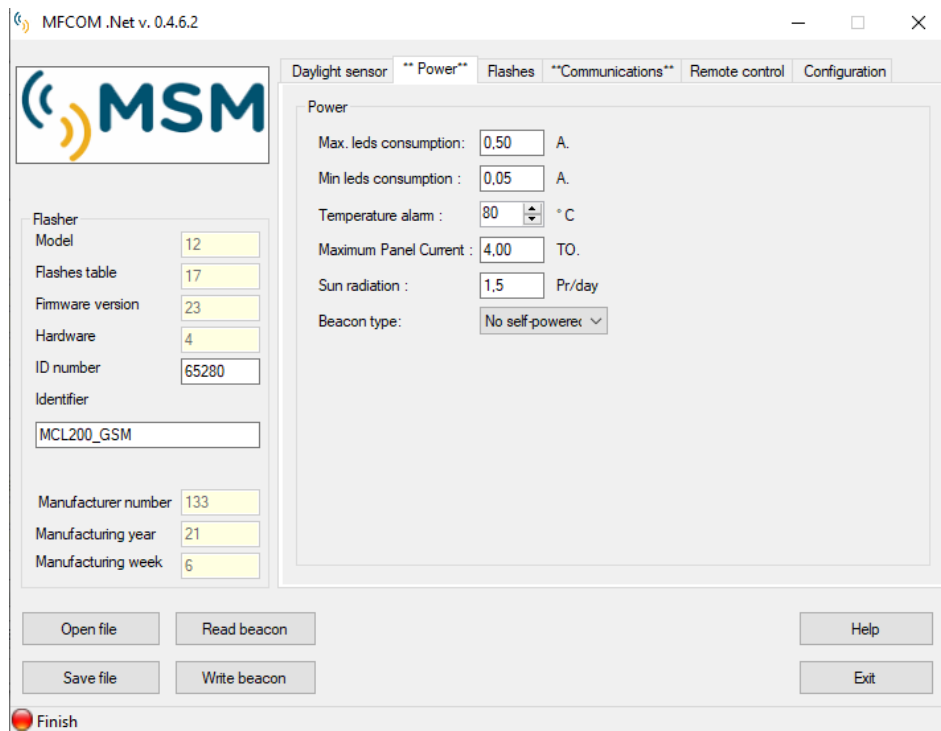
MFCOM Power Self-Powered

5.7.1. Solar system configuration on self-powered

The solar system implemented in our self-powered lanterns can automatically manage their energy balance to avoid excessive battery drainage during the winter months.
This automatic system calculates the power applied to the LEDs, depending on the consumption rate of programmed flash and the solar radiation available in the place where the lantern is installed.

Therefore, we must set the flashlight correctly if we want to use the "Self-Powered" function (MCL200, MCL250, etc).

Sun radiation

We will program the equivalent peak sun hours in the worst month of the year according to the orientation of the flashlight panels.

The data should be consulted in reliable sources that allow us to determine the solar energy that the flashlight is going to have on the worst winter month.

Beacon type

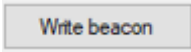The type of beacon will allow us to choose the beacon model that is being used.

- MCL200: Select the MCL200 and MCL330 solar models.
- MCL250: Select the MCL250 and MCL400 solar models.
- Not self-powered: MBL series.
- MBL400: select the MBL400 model if the MBL has more than 100W of consumption.
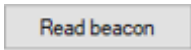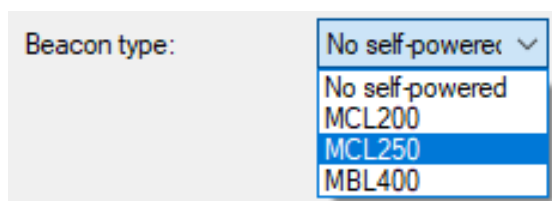

Software MFCOM Power / Self-Powered

5.8.   Data Update

Once modified and adjusted the parameters, the modification will make effect when clicking on "Write beacon", in order to load the information to the Flasher.

Write beacon

To check the correct modifications saving click on the "Read beacon" button to see if the modifications have been made.

Read beacon

The "Save" option allows to save the settings file and load it at any time.

Save file

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