USER MANUAL

SOLAR COMPACT LED LANTERN

MCL100

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USER MANUAL

REF: MCL100

Rv.	DATE	REVISION
05	01/03/2020	Revision 2020

Rv. 5

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INDEX

SOLAR COMPACT LED LANTERN **MCL100**

1. Introduction

The MCL 100 is a mini LED marine lantern, solar self-contained, which utilizes one only high-power LED, giving a luminous range up to 5 nautical miles. It is characterized by its excellent optical system performance, minimising consumption and offering a big autonomy.

Ideal for short-range beaconing applications, on- and off-shore, requiring a low consumption, such as jetties, piers, buoys, fish farms, etc.

The battery is replaceable, thus the complete lantern disposal is not necessary at the end of battery's life. Standard fixings allow for a quick beacon replacement.

Designed in accordance with the IALA Recommendations.

MCL100

2. Safety

2.1. GENERAL SAFETY

Installation and maintenance equipment involves applying health and safety standards at Workplace. These requirements vary between countries, so that the local specified regulations will be applied. The health and safety of personnel is a priority, thus any tasks with the equipment shall be executed by qualified and trained personnel to realize them in a safe way.

This user manual is intended for personnel with basic mechanical skills and under the direction of an operator responsible for piece assembling. The following instructions are very important for a correct use of the Equipment. Please ensure to:

- Comply with worker security provisions and professional regulation.
- Equip all personnel with personal protective measures (PPE) such as gloves or safety shoes or other equipment needed when manipulating components.
- Realize the tasks in the presence of a health and security manager that can provide assistance in case of accident.
- Follow the assembly sequence indicated in this manual.
- Have the adequate tools for the assembly of the components.
- Keep a copy of these instructions near the installation site.

2.2. HANDLING SAFETY

Before and during assembly tasks, the following indications should be considered:

- Have fasteners and fixing elements, for working with the product. Improper treatment can damage to beacon plastic components.
- Do not apply paint or adhesive on the surface of the modules.
- Work only in dry conditions, unless provided with appropriate additional protections.
- Use electrical insulation protection for working with direct current and battery components. The handling of batteries should be carried out only by qualified personnel.
- Disconnect the power supply of the beacon, prior to disassembly / assembly of any component.

2.3. INSTALLATION SAFETY

During the installation, the following indications should be followed:

- Check the correct condition of the elements during the assembly and ensure their fixing.
- Do not start a new step in the assembly tasks until having completed the previous one.
- Cover the solar module with an opaque material during the installation to prevent electricity generation.
- Check the stability of the entire equipment mounted prior to its use.

3. Technical features

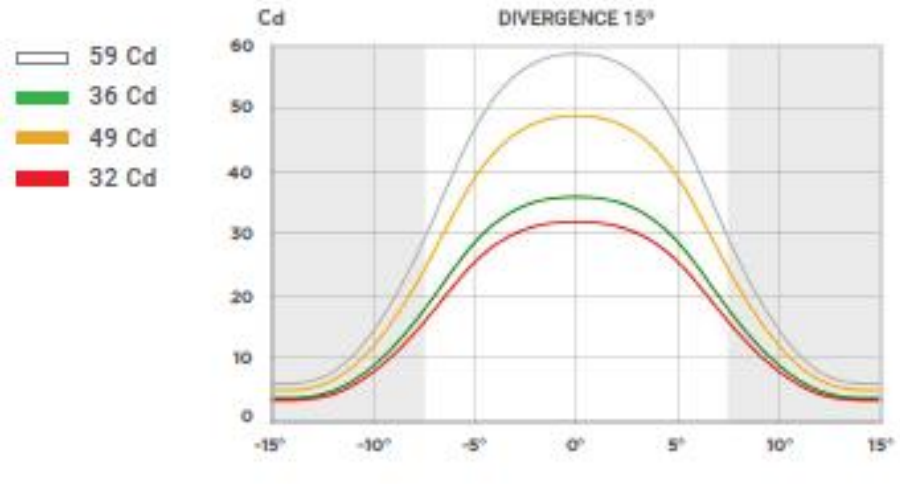
Optical System	
Light source:	Diodos LED, con lente acrílica de gran precisión.
Luminous range:	Up to 5 mn (T=0,74) 6 mn (T=0,85).
Colours available:	White, Green, red and amber.
Vertical divergence:	Up to 15º (50% Io).
Leds / level	1 leds
Levels	1
LED average life:	More tan 100,000 hours.
Módulos solares:	1 uds. de 1 W and 6V.
Battery:	6V 4.8Ah Ah Lead Crystal® maintenance-free.
Autonomy without solar charging:	Up to 250 hours.

Electronic control	
Flash rhythms:	256 (6 nos. User selectable).
Day/night threshold:	Adjustable in lux.
Solar charge regulation function:	Regulation in 3 phases.
Settings:	PC, Programmer IR
Modos de sincronización	Version with optional GPS. MCL100-SYNC
Energy management:	Dynamic, according to latitude.
Light intensity reduction due to low battery:	Configurable by the user.

Materials and environment	
Base:	Polyamide PA66-GF30.
Lens cover:	Acrylic, UV stabilised.
Inside hardware:	Stainless Steel.
Vibration resistance:	MIL-STD-202G, Method 204D (5G).
Shock resistance:	MIL-STD-202G, Method 213B.
Watertightness degree:	IP 68.
Fixings:	3-4 bolts in a 200mm diameter.
Humidity resistance:	100%. Pressure-compensation valve to avoid condensation.
Weight	1.5 Kg
Temperature range:	From -20º to 70ºC.
Packaging	30x30x30 cms 2 Kg

3.1 .LIGHT SPECIFICATIONS.

COLOR	PEAK INTENSITIES cd
	D.V. 15º
WHITE	59
GREEN	36
RED	32
AMBER	49



3.2. OPTIONS

- Infrared (IR) programmer.
- PC programming kit.
- Fixing kit for 3 bolts in a 200mm diameter.
- Other specifications available under request.

4. Initial connection

4.1. LANTERN START-UP

Two forms of initial connection;

Lantern in sleep mode. In order to save the batteries discharge and reduce the power consumption, the beacon is supplied in sleep mode. For **activating the beacon, it is required to expose the lantern solar module to the sun** for recovering the normal operation mode.

Lantern with the battery disconnected. The beacon is supplied with the battery disconnected, following safety regulations according to transport specifications. In that case the beacon must be open to **connect the battery connector to the lantern flasher** as attached **indications**:

Removing threaded screws*:*

Using an allen wrench to arrange for removal of the 6 screws securing the back of the beacon.

Removal the top cover:

Once the screws are removed manually withdraw the top of the beacon is attached to the battery.

Connecting the battery to the flasher
Quickly, easily and manually without the need for a specific tool, the cables that connect the battery to the flasher are connected, according to the attached image.

4.2.CLOSING THE LANTERNE

The lantern has a closing position to ensure watertightness, keep out water entry and protect the internal components from external agents follow signs for closing it:

Check the position and connection of elements*:*
Ensure that the position of the battery, wiring and flasher is located as per the attached picture, in order to ensure a correct operation.

Place the back cover of the beacon*:*

Place the back cover facing it with the fixing holes and with the valve on the side where the battery is not located, pressing to fit the flange into its position of sealing and closure.

Thread the fixing screws:
Using a screwdriver proceed to screw the 6 screws that secure the back cover of the beacon. The screws must be tightened in cross so that equal pressure is exerted over the entire O-ring.

IMPORTANT
To ensure a correct closure of the lantern, verify that the circuitry by the cable is protected inside the beacon. Besides, ensure not to catch the cable with the gasket.

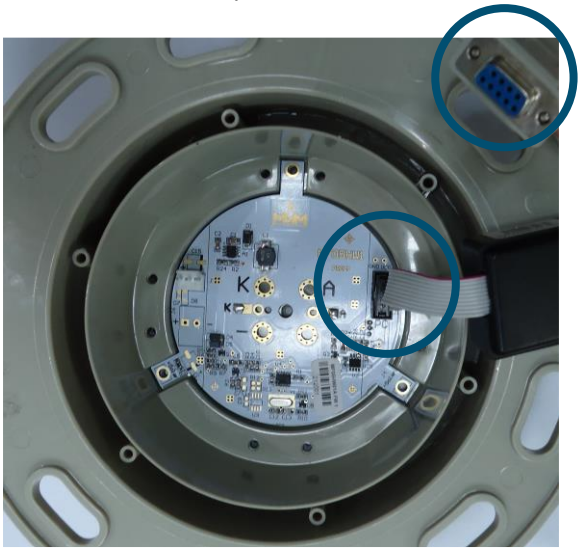
4.3. PROGRAMMING MODES

The MCL100 flashlight can be programmed using several methods:

USING THE MFCOM SOFTWARE

By PC, In order to program the flash character, it is required to select the desired rhythm in the 256 flash character table attached in the last pages of the manual. After this selection, we need to program the flash character number in the lantern flasher.

Open the lantern to access to the control circuit, in order to connect the MF232 programming cable to the PC computer, as indicated in point 4.1 of this manual.



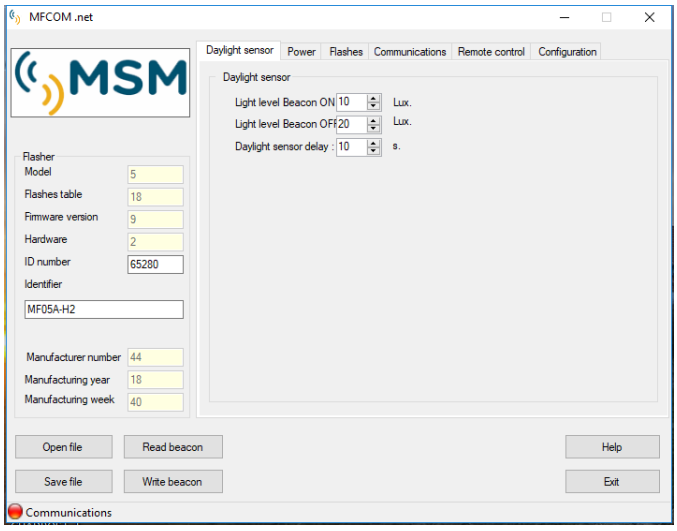
Inside lantern MF05 flasher

Connect one end of the cable to the serial connector located on the black circuit port, then connect the other end of the cable to the PC and then run the software MFCOM to read or change the configuration of the mark.

The closing of the beacon, must be done according to the instructions in 4.2.

The MCL100 compact lantern can be programmed externally, with the MFCOM software for PC. Check the MFCOM manual for more details about the instructions for use. The parameters that can be programmed are:

- Rhythm of flashes selected from the character table.
- User rhythm set by a technician when the character is not in the standard table.
- Offset day-night in seconds.
- Level settings ON and OFF in Lux.
- Setting low battery voltage alarm levels.
- Setting low LVD voltage disconnect mode.
- Available solar radiation level settings.



Software MFCOM.net

The MFCOMnet program consists of 6 tabs:

Day Light sensor*:* Photocell levels and delays in switching-on and -off.
Power*:* Solar regulation parameter settings.
Flashes*:* Flash character settings, LVD mode, and edition of flash characters by user. Low battery voltage alarm settings.
Communications*:* IR command and remote control for testing settings.
Remote control: Screen to see the current status of the flashlight
Setup*:* Selection of serial port RS232

THROUGH THE IR PROGRAMMING CONTROL.

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

The desired programming method must be selected, either using the IR programming knob or with the PC using the MFCOM.net software with the MF232 programming cable.

IMPORTANT
For configuration using MFCOMnet software or IR programming remote control, consult the specific manuals for each of them.

5. LANTERN MOUNT

IMPORTANT
Previous to the installation and assembly of the elements, it is necessary to ensure the psycho-physical training of the personnel responsible of the tasks and comply with all the safety regulations. All staff should be able to read and understand these instructions.

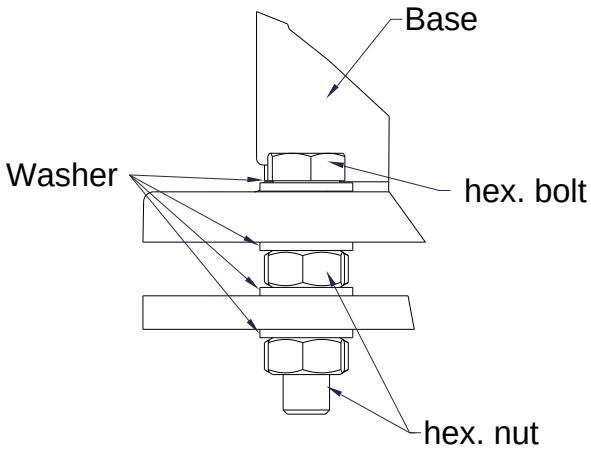
The base of the lantern must be separated from the support plate by at least 5 mm with a spacer nut to avoid internal humidity and condensation due to damage to the ventilation valve.

5.1. MOUNTING ON A LEVELLED SURFACE

The use of an adjustable wrench is required. A Phillips screwdriver is required to open the flashlight and a small flathead screwdriver for wiring.

The MCL100 can be mounted on a flat surface which can resist 5 Kg minimum. Follow the next steps for the lantern mounting.

1. Locate the hardware needed, i.e. 4 bolts, 8 safety nuts and 16 washers.
2. Make 4 holes of 12mm diameter spaced 90º on a 200mm diameter. Hole template is shown in Dimensions and Fixing Drawing.
3. Place the hardware as shown in figure. It is necessary to install the intermediate nut so that the beacon is ventilated at its base.



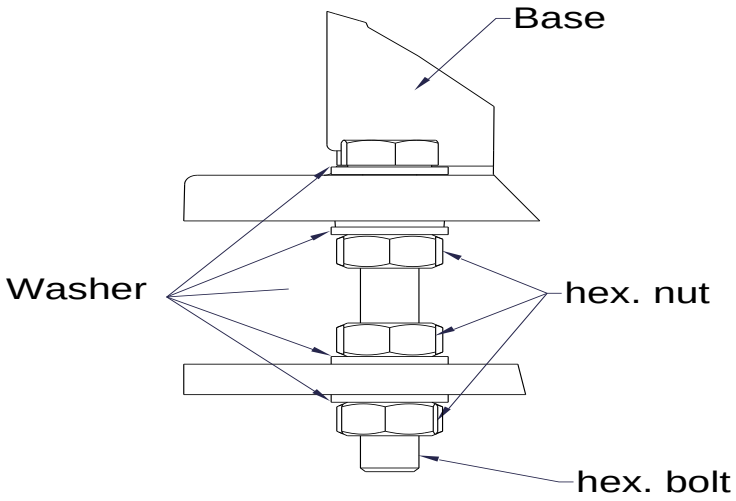
Mounting on a levelled surface

5.2. MOUNTING ON A NON-LEVELLED SURFACE

The use of an adjustable wrench is required. A Phillips screwdriver is required to open the flashlight and a small flathead screwdriver for wiring.

An adjustable span and a bubble level are required. The MCL100 can be mounted on a flat surface which can resist 5 Kg minimum. Follow the next steps:

1. Locate the hardware needed: 4 bolts, 4 safety nuts and 8 washers.
2. Make 4 holes of 12mm diameter spaced 90º on a 200mm diameter. Hole template is shown in Dimensions and Fixing Drawing.
3. Mount the leveling hardware as shown in **¡Error! No se encuentra el origen de la referencia.**.
4. Check visually the leveling by adjusting the nuts as required.
5. Level the lantern base by using a bubble level device in X direction.
6. Check visually the leveling by adjusting the nuts as required.
7. Level the lantern base by using a bubble level device in Y direction.
8. Check visually the leveling by adjusting the nuts as required.
9. Repeat steps 5 and 7 if required.
10. Once the lantern is leveled, fix the upper nuts smoothly to fix the lantern.



Mounting on a NON-levelled surface

6. Sun radiation

The MCL100 solar system is composed by 4 nos. solar modules and one 12V AGM technology battery free of maintenance. The charge/discharge is controlled by the MF12 flasher including solar regulation function by a 3 steps charge system that helps to maximize battery lifetime.

The energy consumption in the lantern is limited by the sun radiation available in the site for the winter months.

For this reason the MCL series lanterns have a self-energy internal system (SOLED) adjusting the power applied to the LEDs according to the following factors:

- Selected flashing rhythm (% Duty).
- Sun radiation hours available in the site for winter (peak hours/day).

The SOLED function allows the lantern to work during all year whatever the rhythm selected by the user, as high duty rhythms imply a reduction in the LED power. This reduction generates also a luminous range reduction in the same proportion. MFCOM software can determine the power applied to the LEDs and thus its luminous range. Luminous data included in the manual correspond to the nominal power without reduction by the SOLED system.

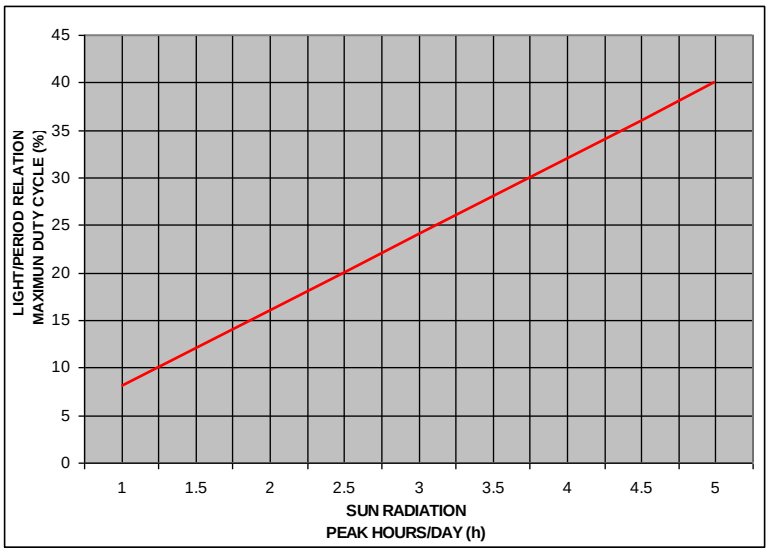
If the SOLED system is configured on OFF, the maximum light/period ratio is limited by the available sun radiation, check which is the maximum duty cycle allowed for each one of the different flashes rhythms.

IMPORTANT

Confirm in the table if the selected flash duty cycle is adequate for the sun radiation conditions and the required luminous range.

For example: For 2.5 hours of sun in winter, the maximum light/period ratio available with a led power of 100% is 20% according to the following table.

Light/period ratio=(sum of flash time)/(total period)



7. Maintenance

A plan of maintenance is necessary to ensure that the equipment and the systems of Aids to Navigation continue to operate at the required levels in order to ensure to the navigators a safe navigation on the world's waterways. A system of maintenance to ensure that Aids to Navigation equipment are operating at the desired level and to reduce the total cost of the owner must be implemented, for that reason the following maintenance guidelines have been developed following the IALA Guideline No. 1077 on Maintenance of Aids to Navigation.

The Compact self-powered LED lanterns have the considerable advantage of requiring very low maintenance during its lifetime. When using LED flashing lights, the periods between maintenance visits are set by the need to visit the signal to remove bird droppings and salt accumulation.

Besides, as compact self-powered lanterns, all the elements that form them (battery, flasher, LED ...) are perfectly grouped and protected in the same module hermetically sealed and protected from external conditions.

7.1. PERIODICITY

The life of any equipment (buoy, beacon, etc..) depends on local operating conditions, i.e.: location, sea conditions in the area, water depth, sea-bed type, presence of abrasive particles into the water, current speed, exposure to boat traffic, etc.. The faster wearing will occur in offshore areas exposed to harsh sea or areas with a higher risk of impacts with boats when marking a narrow zone of passage.

A plan for revision and replacement of wearing elements to maintain a safe operation has to be implemented. Besides, historical information must be kept to forecast buoys or lanterns life in specific locations.
The recommended maintenance tasks for each type of equipment are listed below:

6 months	2 years	7 years
Panels and cover lens cleaning with fresh water and damp cloth. Never use abrasives or solvents containing alcohol or solvents.	Internal review of the flasher, connections and wiring.	The battery replacement is recommended due to the accumulated discharge cycles.
	Checking of the good condition of O-ring and moisture valve.	Replacement of O-ring and moisture valve if necessary.
	Checking of the solar module loading.	
	Grease fastening hardware.	

7.2. LANTERN MAINTENANCE

Panels and lens cover cleaning has to be done biannually with fresh water and damp cloth without any abrasive product that contains alcohol or solvent. Every two years, an internal review of the flasher, wiring connections and O-ring must be done to ensure its correct condition and lubrication of the fastening bolts.

In case of detecting any area of the electrical circuits with corrosion, it shall be sprayed with a CRC spray (CRC 2-26). These products are multifunction lubricants that prevent electrical and electronic malfunction caused by water penetration, humidity, condensation or corrosion, allowing to:

- Clean, lubricate, protect, penetrate, and loosen rusted parts.
- Prevent corrosion displacing the moisture.
- Restore strength values reducing current "leakage".
- Provide precision lubrication forming a thin oil film, high dielectric strength.
- Help electrical equipment recovery damaged by the water.

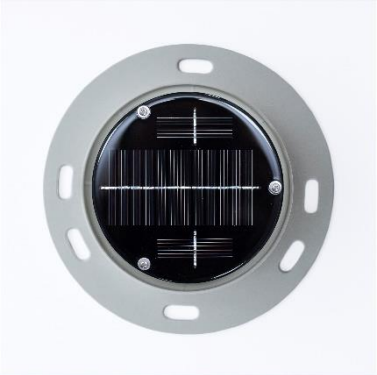
Then left to dry and apply a product for tropicalized.

ACC 15 Silicone Conformal Coating

This type of treatment is designed to protect electronic circuits in the harshest conditions, with a 100% solid and devoid of VOC solvents coating.
Every seven years the O-ring and moisture will be replaced if necessary.

73. SOLAR MODULES MAINTENANCE

Check that the solar panel has no broken glass and look for signs of water entry around the edges of the glass. Discoloration of the solar cells and the accumulation of encapsulating material are typical signs of water entry. Clean the solar panel with fresh water.



Check the operation of the photocell covering it to start the flashing operation. If the lantern is not flashing, check the input power of the flasher using a digital voltmeter.

7.4. BATTERY MAINTENANCE

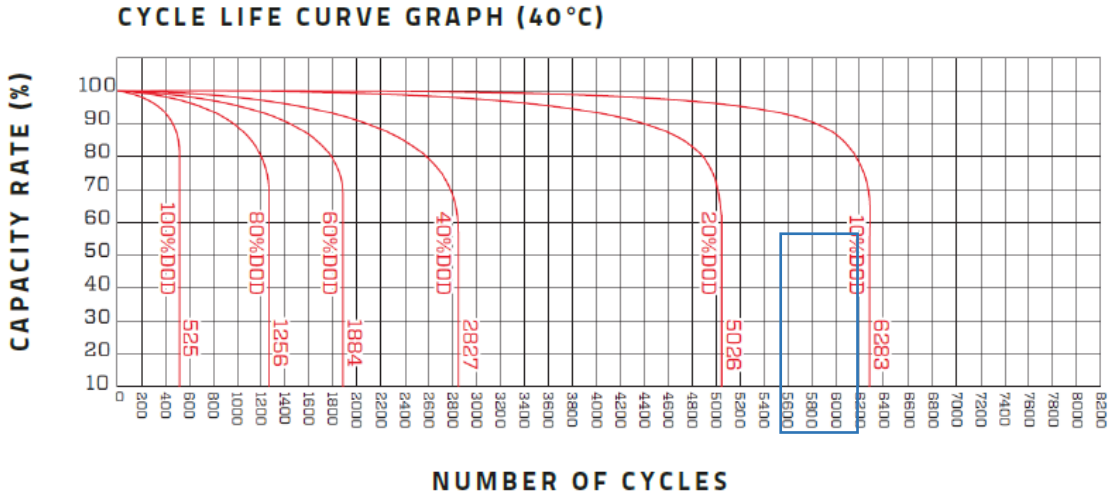
Check the battery voltage, under both loading and unloading. This can be done by accessing to the inside of the beacon itself or through a system of infrared remote control if supplied with the equipment, allowing remote checking and minimising the risks for safety and health of the maintenance staff.
Main batteries will be replaced before its capacity is exhausted because of accumulated duty cycles. For **replacement of the existing battery** by a new one, follow the instructions set out in section 4.1 Beacon start-up and 4.2 Beacon closing of this manual.

Battery technology and battery performance according to the depth of discharge (DOD) and temperature are described below.

Technology A unique micro-porous high absorbent mat (AGM), high-purity lead calcium selenium plates, safe SiO2 electrolyte solution that solidifies into a white crystalline powder when charged/discharged.

Cleaner & safe Less acid, no cadmium, no antimony. Lead Crystal® batteries are up to 99% recyclable and are classified as non-hazardous goods for transport.

They have a high performance in relation with its duration; for a depth of discharge of 20% and extreme temperatures of 40 ° C the lifespan is up to 5,026 cycles as per the attached chart specifications.



IMPORTANT

Used or damaged batteries are a problem in terms of environmental safety because they contain toxic and corrosive components. They should not be thrown with ordinary waste and must be recycled always according to local and national regulations.
MSM provides its customers with recycling and collection service for the removal of these products at the end of its lifetime.

8. Troubleshooting

If the beacon doesn't work appropriately, we recommend the following instructions:

- Previous to any test, check if the power supply is working at the correct voltage and if the wire works correctly.

After all the general considerations have been taken into account and were discarded, the following malfuntions will be considerated and its possible causes:

1. If the beacon doesn't light:
   Possible reasons:
   a) Solar panel failure.
   b) Low power supply.
   c) Flasher failure.
   Solutions:
   a) Substitute the solar panel.
   b) Check the beacon power supply.
   c) Check wire and connectors.
   d) Check the flasher and substitute if necessary

2. If beacon lights only in fixed light, day and night:
   Possible reasons:
   a) Flasher failure.
   Solutions:
   a) Check internal wire and connections.
   b) Verify the flasher by PC.
   c) Replace flasher.

3. If the beacon lights with less intensity than normal working:
   Possible reasons:
   a) Low battery charge
   b) Wrong flasher configuration
   c) Internal wire failure
   Solutions:
   a) Verify battery power.
   b) Verify flasher configuration
   c) Verify internal wire.

4. The beacon lights but doen't turned off since 24 hours:
   Possible reasons:
   a) Solar module dirtiness.
   b) MF06 flasher failure.
   Solutions:
   a) Solar panel cleaning.
   b) Flasher substitution.

5. If moisture or condensation appears in the beacon:
   Possible reasons:
   a) Beacon not properly closed.
   b) O-ring is damaged.
   Solutions:
   a) Retire the beacon from its site and move it to a dry site. Open and air it during a few days. Put silica gel or any secant to absorb the humidity.
   b) Check the O-ring and replace it if necessary.
   c) Close the lens cover appropriately. Screws must be tightened in cross, to exercise the same strength in the whole O-ring. Check the O-ring is in correct position.

6. If the beacon doesn't respond to the PC:
   Possible reasons:
   a) RS232 communication cable failure.
   b) PC or software failure.
   c) MF06 failure.
   Solutions:
   a) Check with other communication table.
   b) Reinstall software or try with other PC.
   c) Test MF06 flasher and substitute if necessary.

9.Commissioning checklist

LINTERN LED MCL100			
Installation date:		**Lantern serial number:**	
Commissioning date:		**Flash character:**	
Site name:		**Colour:**	
Nominal LED power:			
Battery Voltage:	V		

TEST DESCRIPTION	VALUES	PASS	FAIL
Mechanical defects?			
Beacon leveling?			
Top cover O-Ring?			
Closure tightness?			
Flashes period?			
Day/night test?			
LEDs status?			
Mechanical defects?			
Shade on solar panels?			
IR remote control test			

TESTED BY	
Company	
Position:	
ASSISTED BY	
Company:	
Possition:	

NOTES AND COMMENTS:

10.Terms of responsibility

MSM warrants the purchaser that the product supplied is free of defects from materials or workmanship, and agrees to replace it in case of defects from materials and / or manufacture. To ensure that the product is not damaged during transport and replacement, it is highly recommended that the product is returned in the same package with which it was delivered.

The MCL100 beacon warranty is provided in the Conditions of Sales, Warranty and Technical Support.

Warranty does not cover:

a) Failure to carry out regular maintenance tasks. This includes the tasks described in section of maintenance, such as cleaning, internal reviews or hardware lubrication.
b) Damage due to wrong handling, transport or storage and faulty/improper installations.
c) Use of abrasive products and not recommended, such as solvents, or alcohols.
d) Use of parts other than the originals. The use may damage the functions the product was designed for initially. Therefore they can only be used after conformity of MSM.

If corrosion appeared within the product warranty period, subject to the above limitations, MSM will replace all parts with such corrosion.

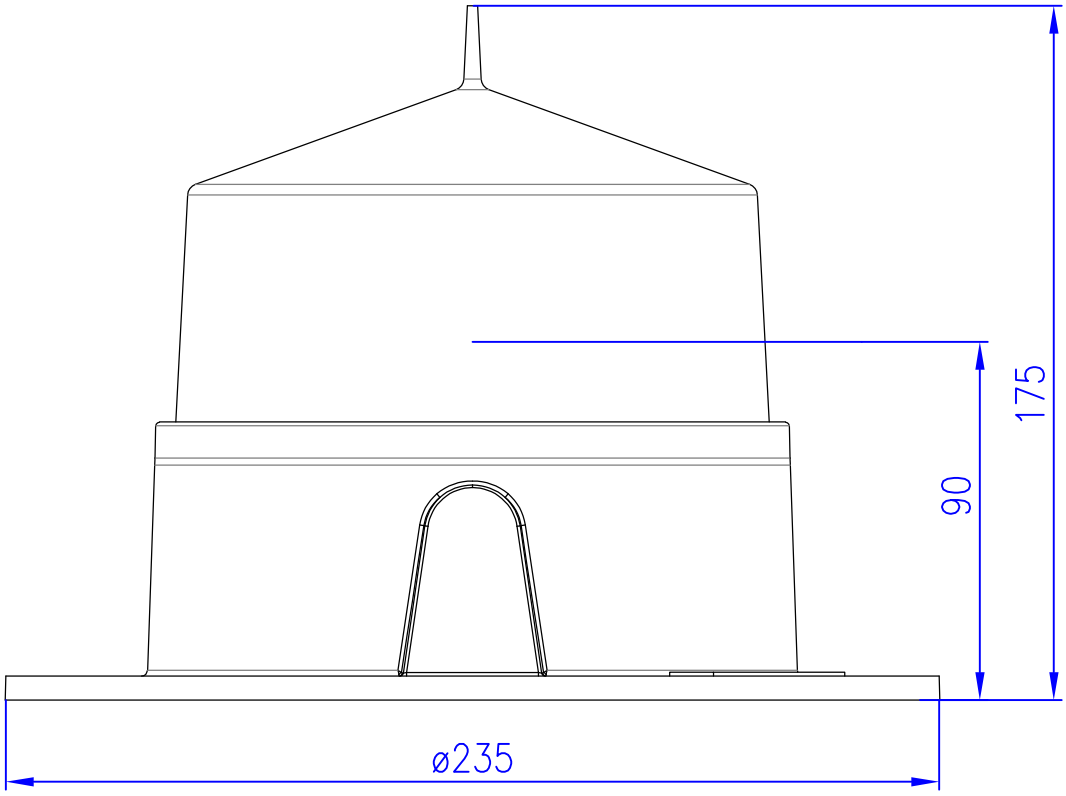
Since the use of the product and maintenance conditions are outside the control of MSM, MSM will not accept any compensation for loss, damage or costs others than the replacements in the cases cited above.

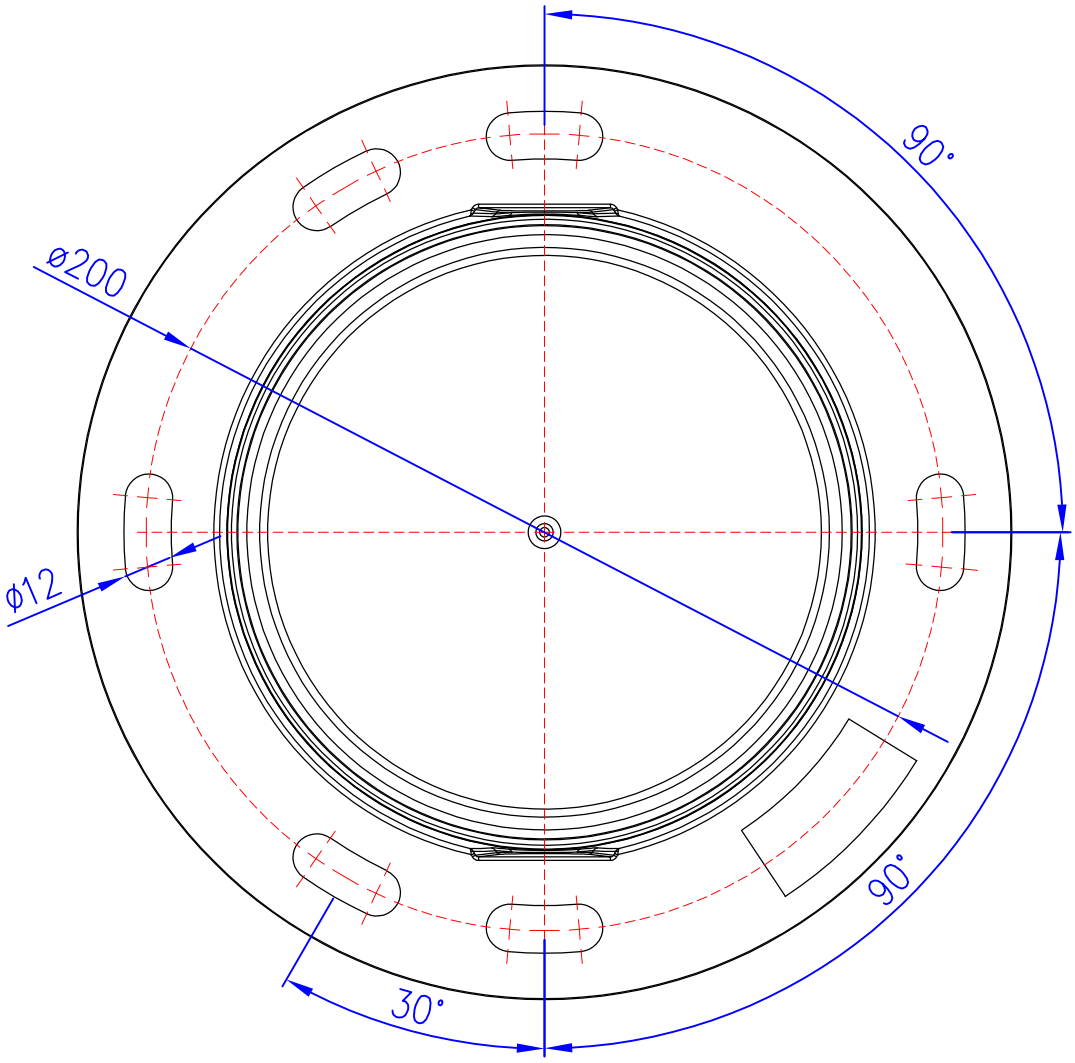
For repairs and inquiries, contact MSM, as follows:

Mediterráneo Señales Marítimas

Mediterráneo Señales Marítimas, S.L. / +34 96 276 10 22 / msm@mesemar.com / **www.mesemar.com**

1. DRAWINGS





DIMENSIONS AND FIXINGS

LANTERN MCL100

REF	MCL100-M1-ING		REV.	01

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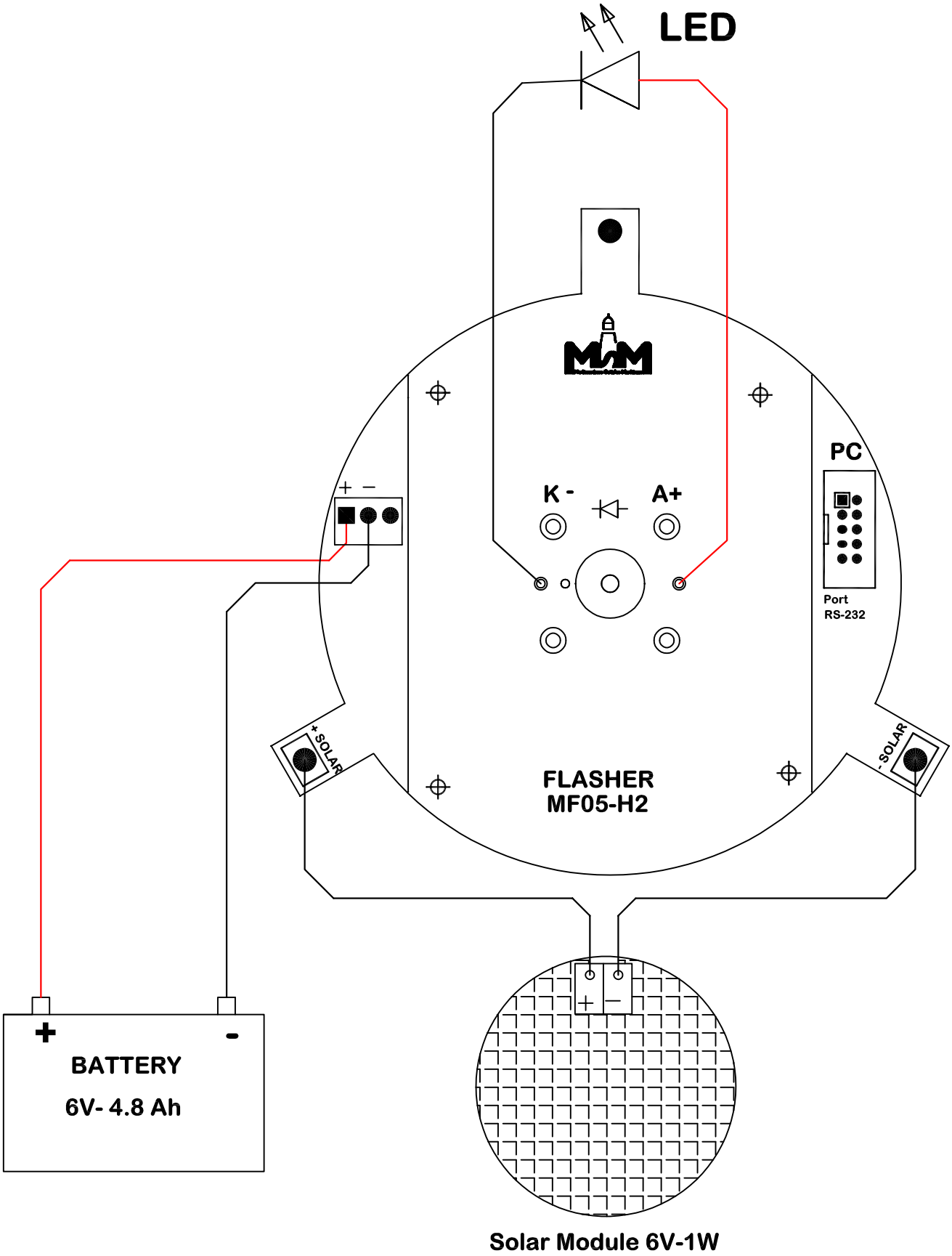

BEACON WIRING

LANTERN MCL100

REF	MCL100-M2-ING	ESC	SN	REV.	02

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2. FLASH CHARACTER

FLASH CHARACTER TABLE

	RHYTHM	rv.06 T=	MF05 DUTY%	1 FL	1 DARK	2 FL	2 DARK	3 FL	3 DARK	4 FL	4 DARK	5 FL	5 DARK	6 FL	6 DARK	7 FL	7 DARK	8 FL	8 DARK	9 FL	9 DARK	10 FL	10 DARK	11 FL	11 DARK	12 FL	12 DARK
1	USUARIO 1	0																									
2	USUARIO 2	0																									
3	USUARIO 3	0																									
4	USUARIO 4	0																									
5	USUARIO 5	0																									
6	USUARIO 6	0																									
7	FL1S	1	25%	0,25	0,75																						
8	FL1,5S	1,5	33%	0,50	1,00																						
9	FL2S	2	15%	0,30	1,70																						
10	FL2S	2	25%	0,50	1,50																						
11	FL2S	2	10%	0,20	1,80																						
12	FL2,5S	2,5	12%	0,30	2,20																						
13	FL2,5S	2,5	20%	0,50	2,00																						
14	FL3S	3	10%	0,30	2,70																						
15	FL3S	3	17%	0,50	2,50																						
16	FL3S	3	33%	1,00	2,00																						
17	FL3S	3	13%	0,40	2,60																						
18	FL3S	3	25%	0,75	2,25																						
19	FL4S	4	10%	0,40	3,60																						
20	FL4S	4	13%	0,50	3,50																						
21	FL4S	4	25%	1,00	3,00																						
22	FL4S	4	8%	0,30	3,70																						
23	FL5S	5	10%	0,50	4,50																						
24	FL5S	5	15%	0,75	4,25																						
25	FL5S	5	20%	1,00	4,00																						
26	FL6S	6	8%	0,50	5,50																						
27	FL6S	6	10%	0,60	5,40																						
28	FL6S	6	17%	1,00	5,00																						
29	FL6S	6	5%	0,30	5,70																						
30	FL8S	8	6%	0,50	7,50																						
31	FL8S	8	13%	1,00	7,00																						
32	FL8S	8	25%	2,00	6,00																						
33	FL10S	10	5%	0,50	9,50																						
34	FL10S	10	8%	0,75	9,25																						
35	FL10S	10	10%	1,00	9,00																						
36	FL10S	10	15%	1,50	8,50																						
37	FL10S	10	20%	2,00	8,00																						

		rv.06	MF05	1		2		3		4		5		6		7		8		9		10		11		12	
	RHYTHM	T=	DUTY%	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK
38	FL12S	12	10%	1,20	10,80																						
39	FL12S	12	8%	1,00	11,00																						
40	FL15S	15	7%	1,00	14,00																						
41	FL15S	15	3%	0,50	14,50																						
42	FL15S	15	13%	2,00	13,00																						
43	FL15S	15	20%	3,00	12,00																						
44	FL(2)3S	3	33%	0,50	0,50	0,50	1,50																				
45	FL(2)4S	4	25%	0,50	0,50	0,50	2,50																				
46	FL(2)4S	4	15%	0,30	0,70	0,30	2,70																				
47	FL(2)5S	5	16%	0,40	0,60	0,40	3,60																				
48	FL(2)5S	5	20%	0,50	1,00	0,50	3,00																				
49	FL(2)5S	5	12%	0,30	0,90	0,30	3,50																				
50	FL(2)5S	5	10%	0,25	1,00	0,25	3,50																				
51	FL(2)5S	5	30%	0,75	0,75	0,75	2,75																				
52	FL(2)6S	6	33%	1,00	1,00	1,00	3,00																				
53	FL(2)6S	6	17%	0,50	1,00	0,50	4,00																				
54	FL(2)6S	6	10%	0,30	0,70	0,30	4,70																				
55	FL(2)6S	6	10%	0,30	0,90	0,30	4,50																				
56	FL(2)6S	6	17%	0,50	0,50	0,50	4,50																				
57	FL(2)7S	7	14%	0,50	1,50	0,50	4,50																				
58	FL(2)8S	8	13%	0,50	1,00	0,50	6,00																				
59	FL(2)8S	8	13%	0,50	1,50	0,50	5,50																				
60	FL(2)8S	8	25%	1,00	1,50	1,00	4,50																				
61	FL(2)8S	8	25%	1,00	2,00	1,00	4,00																				
62	FL(2)9S	9	22%	1,00	2,00	1,00	5,00																				
63	FL(2)10S	10	10%	0,50	1,00	0,50	8,00																				
64	FL(2)10S	10	10%	0,50	1,50	0,50	7,50																				
65	FL(2)10S	10	20%	1,00	1,50	1,00	6,50																				
66	FL(2)10S	10	20%	1,00	1,00	1,00	7,00																				
67	FL(2)10S	10	8%	0,40	2,00	0,40	7,20																				
68	FL(2)10S	10	10%	0,50	2,00	0,50	7,00																				
69	FL(2)10S	10	20%	1,00	2,00	1,00	6,00																				
70	FL(2)10S	10	30%	1,50	1,50	1,50	5,50																				
71	FL(2)10S	10	8%	0,40	0,60	0,40	8,60																				
72	FL(2)12S	12	8%	0,50	1,00	0,50	10,00																				
73	FL(2)12S	12	17%	1,00	2,00	1,00	8,00																				
74	FL(2)15S	15	5%	0,40	1,60	0,40	12,60																				
75	FL(2)15S	15	13%	1,00	2,00	1,00	11,00																				
76	FL(2)15S	15	13%	1,00	3,00	1,00	10,00																				
77	FL(2)15S	15	33%	2,50	2,50	2,50	7,50																				
78	FL(2)20S	20	20%	2,00	2,00	2,00	14,00																				

		rv.06	MF05	1		2		3		4		5		6		7		8		9		10		11		12	
	RHYTHM	T=	DUTY%	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK
79	FL(2+1)6S	6	15%	0,30	0,40	0,30	1,20	0,30	3,50																		
80	FL(2+1)6S	6	25%	0,50	0,50	0,50	1,50	0,50	2,50																		
81	FL(2+1)8S	8	31%	0,50	0,50	0,50	0,50	1,50	4,50																		
82	FL(2+1)10S	10	15%	0,50	0,70	0,50	2,10	0,50	5,70																		
83	FL(2+1)10S	10	15%	0,50	0,50	0,50	1,50	0,50	6,50																		
84	FL(2+1)12S	12	20%	0,80	1,20	0,80	2,40	0,80	6,00																		
85	FL(2+1)12S	12	8%	0,30	0,70	0,30	2,70	0,30	7,70																		
86	FL(2+1)12S	12	13%	0,50	0,50	0,50	2,50	0,50	7,50																		
87	FL(2+1)12S	12	25%	1,00	1,00	1,00	3,00	1,00	5,00																		
88	FL(2+1)15S	15	20%	1,00	2,00	1,00	5,00	1,00	5,00																		
89	FL(2+1)15S	15	20%	1,00	2,00	1,00	4,00	1,00	6,00																		
90	FL(2+1)15S	16	16%	0,50	0,50	0,50	0,50	1,50	12,50																		
91	FL(2+1)15S	15	20%	1,00	2,00	1,00	4,00	1,00	6,00																		
92	FL(2+1)15S	15	13%	0,40	0,50	0,40	0,50	1,20	12,00																		
93	FL(3)5S	5	15%	0,25	0,25	0,25	0,25	0,25	3,75																		
94	FL(3)5S	5	12%	0,20	0,30	0,20	0,30	0,20	3,80																		
95	FL(3)5S	5	18%	0,30	0,70	0,30	0,70	0,30	2,70																		
96	FL(3)9S	9	17%	0,50	1,50	0,50	1,50	0,50	4,50																		
97	FL(3)10S	10	15%	0,50	1,50	0,50	1,50	0,50	5,50																		
98	FL(3)10S	10	30%	1,00	1,00	1,00	1,00	1,00	5,00																		
99	FL(3)10S	10	15%	0,50	0,50	0,50	0,50	0,50	7,50																		
100	FL(3)10S	10	9%	0,30	0,70	0,30	0,70	0,30	7,70																		
101	FL(3)10S	10	12%	0,40	1,60	0,40	1,60	0,40	5,60																		
102	FL(3)10S	10	23%	0,75	1,25	0,75	1,25	0,75	5,25																		
103	FL(3)11S	11	18%	0,75	1,50	0,75	1,50	0,50	6,00																		
104	FL(3)12S	12	20%	0,80	1,20	0,80	1,20	0,80	7,20																		
105	FL(3)12S	12	13%	0,50	2,00	0,50	2,00	0,50	6,50																		
106	FL(3)12S	12	8%	0,30	1,70	0,30	1,70	0,30	7,70																		
107	FL(3)12S	12	13%	0,50	1,50	0,50	1,50	0,50	7,50																		
108	FL(3)12S	12	25%	1,00	2,00	1,00	2,00	1,00	5,00																		
109	FL(3)13S	13	23%	1,00	2,00	1,00	2,00	1,00	6,00																		
110	FL(3)15S	15	10%	0,50	1,50	0,50	1,50	0,50	10,50																		
111	FL(3)15S	15	20%	1,00	2,00	1,00	2,00	1,00	8,00																		
112	FL(3)15S	15	10%	0,50	2,00	0,50	2,00	0,50	9,50																		
113	FL(3)15S	15	30%	1,50	1,50	1,50	1,50	1,50	7,50																		
114	FL(3)15S	15	15%	0,75	1,25	0,75	1,25	0,75	10,25																		
115	FL(3)20S	20	8%	0,50	3,00	0,50	3,00	0,50	12,50																		
116	FL(3)20S	20	30%	2,00	2,00	2,00	2,00	2,00	10,00																		
117	FL(3+1)23S	23	9%	0,50	1,50	0,50	1,50	0,50	4,50	0,50	13,50																
118	FL(4)5S	5	16%	0,20	0,80	0,20	0,80	0,20	0,80	0,20	1,80																
119	FL(4)10S	10	20%	0,50	1,00	0,50	1,00	0,50	1,00	0,50	5,00																

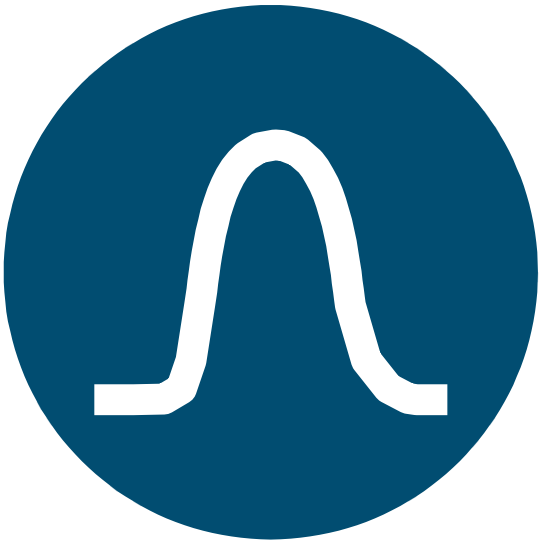
		rv.06	MF05	1		2		3		4		5		6		7		8		9		10		11		12	
	RHYTHM	T=	DUTY%	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK
120	FL(4)10S	10	16%	0,40	1,40	0,40	1,40	0,40	1,40	0,40	4,20																
121	FL(4)10S	10	30%	0,75	0,75	0,75	0,75	0,75	0,75	0,75	4,75																
122	FL(4)10S	10	20%	0,50	1,50	0,50	1,50	0,50	1,50	0,50	3,50																
123	FL(4)11S	11	18%	0,50	1,50	0,50	1,50	0,50	1,50	0,50	4,50																
124	FL(4)12S	12	27%	0,80	1,20	0,80	1,20	0,80	1,20	0,80	5,20																
125	FL(4)12S	12	10%	0,30	1,70	0,30	1,70	0,30	1,70	0,30	5,70																
126	FL(4)12S	12	17%	0,50	1,50	0,50	1,50	0,50	1,50	0,50	5,50																
127	FL(4)15S	15	13%	0,50	1,50	0,50	1,50	0,50	1,50	0,50	8,50																
128	FL(4)15S	15	27%	1,00	1,00	1,00	1,00	1,00	1,00	1,00	8,00																
129	FL(4)15S	15	11%	0,40	1,60	0,40	1,60	0,40	1,60	0,40	8,60																
130	FL(4)15S	15	27%	1,00	2,00	1,00	2,00	1,00	2,00	1,00	5,00																
131	FL(4)16S	16	13%	0,50	1,50	0,50	1,50	0,50	1,50	0,50	9,50																
132	FL(4)16S	16	25%	1,00	2,00	1,00	2,00	1,00	2,00	1,00	6,00																
133	FL(4)20S	20	10%	0,50	1,50	0,50	1,50	0,50	1,50	0,50	13,50																
134	FL(4)20S	20	20%	1,00	2,00	1,00	2,00	1,00	2,00	1,00	10,00																
135	FL(4)20S	20	30%	1,50	2,00	1,50	2,00	1,50	2,00	1,50	8,00																
136	FL(5)13S	13	19%	0,50	1,50	0,50	1,50	0,50	1,50	0,50	1,50	0,50	4,50														
137	FL(5)20S	20	20%	0,80	1,20	0,80	1,20	0,80	1,20	0,80	1,20	0,80	11,20														
138	FL(5)20S	20	25%	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	11,00														
139	FL(5)20S	20	13%	0,50	1,50	0,50	1,50	0,50	1,50	0,50	1,50	0,50	11,50														
140	FL(6)15S	15	20%	0,50	1,00	0,50	1,00	0,50	1,00	0,50	1,00	0,50	1,00	0,50	7,00												
141	FL(9)10S	10	23%	0,25	0,25	0,25	0,25	0,25	0,25	0,25	0,25	0,25	0,25	0,25	0,25	0,25	0,25	0,25	0,25	0,25	5,75						
142	FL(9)10S	10	18%	0,20	0,30	0,20	0,30	0,20	0,30	0,20	0,30	0,20	0,30	0,20	0,30	0,20	0,30	0,20	0,30	0,20	5,80						
143	FL(9)15S	15	30%	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	6,50						
144	ISO 0,5	0,5	50%	0,25	0,25																						
145	ISO1S	1	50%	0,50	0,50																						
146	ISO2S	2	50%	1,00	1,00																						
147	ISO3S	3	50%	1,50	1,50																						
148	ISO4S	4	50%	2,00	2,00																						
149	ISO5S	5	50%	2,50	2,50																						
150	ISO6S	6	50%	3,00	3,00																						
151	ISO8S	8	50%	4,00	4,00																						
152	ISO10S	10	50%	5,00	5,00																						
153	ISO12S	12	50%	6,00	6,00																						
154	LFL5S	5	40%	2,00	3,00																						
155	LFL6S	6	33%	2,00	4,00																						
156	LFL8S	8	25%	2,00	6,00																						
157	LFL8S	8	38%	3,00	5,00																						
158	LFL10S	10	20%	2,00	8,00																						
159	LFL10S	10	30%	3,00	7,00																						
160	LFL10S	10	40%	4,00	6,00																						

		rv.06	MF05	1		2		3		4		5		6		7		8		9		10		11		12	
	RHYTHM	T=	DUTY%	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK
161	LFL12S	12	17%	2,00	10,00																						
162	LFL12S	12	25%	3,00	9,00																						
163	LFL15S	15	27%	4,00	11,00																						
164	MO(A)3S	3	67%	0,50	0,50	1,50	0,50																				
165	MO(A)5S	5	40%	0,50	0,50	1,50	2,50																				
166	MO(A)6S	6	22%	0,30	0,60	1,00	4,10																				
167	MO(A)8S	8	40%	0,80	1,20	2,40	3,60																				
168	MO(A)8S	8	30%	0,40	0,60	2,00	5,00																				
169	MO(A)8S	8	50%	1,00	1,00	3,00	3,00																				
170	MO(A)10S	10	20%	0,50	0,50	1,50	7,50																				
171	MO(A)12S	12	17%	0,50	0,50	1,50	9,50																				
172	MO(A)15S	15	17%	0,50	1,50	2,00	11,00																				
173	MO(B)6S	6	50%	1,50	0,50	0,50	0,50	0,50	0,50	0,50	1,50																
174	MO(B)15S	15	20%	1,50	0,50	0,50	0,50	0,50	0,50	0,50	10,50																
175	MO(F)6S	6	50%	0,50	0,50	0,50	0,50	1,50	0,50	0,50	1,50																
176	MO(G)6S	6	58%	1,50	0,50	1,50	0,50	0,50	1,50																		
177	MO(K)6S	6	58%	1,50	0,50	0,50	0,50	1,50	1,50																		
178	MO(L)6S	6	50%	0,50	0,50	1,50	0,50	0,50	0,50	0,50	1,50																
179	MO(N)5S	5	40%	1,50	0,50	0,50	2,50																				
180	MO(N)6S	6	67%	3,00	1,00	1,00	1,00																				
181	MO(N)10S	10	80%	6,00	1,00	2,00	1,00																				
182	MO(N)12S	12	17%	1,50	0,50	0,50	9,50																				
183	MO(N)12S	12	67%	6,00	2,00	2,00	2,00																				
184	MO(U)5S	5	50%	0,50	0,50	0,50	0,50	1,50	1,50																		
185	MO(U)10S	10	10%	0,20	0,80	0,20	0,80	0,60	7,40																		
186	MO(U)10S	10	15%	0,30	0,70	0,30	0,70	0,90	7,10																		
187	MO(U)10S	10	20%	0,40	0,60	0,40	0,60	1,20	6,80																		
188	MO(U)10S	10	25%	0,50	0,50	0,50	0,50	1,50	6,50																		
189	MO(U)10S	10	30%	0,50	0,50	0,50	0,50	2,00	6,00																		
190	MO(U)15S	15	15%	0,45	0,45	0,45	0,45	1,35	11,85																		
191	MO(U)15S	15	18%	0,60	0,30	0,60	0,30	1,50	11,70																		
192	MO(U)15S	15	17%	0,50	0,50	0,50	0,50	1,50	11,50																		
193	MO(U)15S	15	17%	0,60	0,30	0,60	0,30	1,40	11,80																		
194	MO(U)15S	15	22%	0,70	0,50	0,70	0,50	1,90	10,70																		
195	MO(U)15S	15	13%	0,40	0,50	0,40	0,50	1,20	12,00																		
196	MO(V)6S	6	50%	0,50	0,50	0,50	0,50	0,50	0,50	1,50	1,50																
197	MO(W)6S	6	58%	0,50	0,50	1,50	0,50	1,50	1,50																		
198	OC3S	3	83%	2,50	0,50																						
199	OC3S	3	67%	2,00	1,00																						
200	OC3S	3	75%	2,25	0,75																						
201	OC4S	4	75%	3,00	1,00																						

		rv.06	MF05	1		2		3		4		5		6		7		8		9		10		11		12	
	RHYTHM	T=	DUTY%	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK
202	OC5S	5	60%	3,00	2,00																						
203	OC5S	5	80%	4,00	1,00																						
204	OC6S	6	75%	4,50	1,50																						
205	OC6S	6	83%	5,00	1,00																						
206	OC6S	6	67%	4,00	2,00																						
207	OC8S	8	75%	6,00	2,00																						
208	OC10S	10	60%	6,00	4,00																						
209	OC10S	10	75%	7,50	2,50																						
210	OC10S	10	80%	8,00	2,00																						
211	OC14S	14	79%	11,00	3,00																						
212	OC(2)9S	9	78%	5,00	1,00	2,00	1,00																				
213	OC(3)12S	12	75%	5,00	1,00	2,00	1,00	2,00	1,00																		
214	OC(3)15S	15	60%	5,00	2,00	2,00	2,00	2,00	2,00																		
215	Q1S	1	20%	0,20	0,80																						
216	Q1S	1	30%	0,30	0,70																						
217	Q1S	1	40%	0,40	0,60																						
218	Q1S	1	10%	0,10	0,90																						
219	Q1,2S	1,2	25%	0,30	0,90																						
220	Q(2)5S	5	12%	0,30	0,70	0,30	3,70																				
221	Q(2)6S	6	10%	0,30	0,70	0,30	4,70																				
222	Q(2)10S	10	10%	0,50	1,50	0,50	7,50																				
223	Q(3)5S	5	18%	0,30	0,70	0,30	0,70	0,30	2,70																		
224	Q(3)10S	10	9%	0,30	0,70	0,30	0,70	0,30	7,70																		
225	Q(3)10S	10	18%	0,60	0,60	0,60	0,60	0,60	7,00																		
226	Q(3)10S	10	15%	0,50	0,50	0,50	0,50	0,50	7,50																		
227	Q(4)6S	6	27%	0,40	0,60	0,40	0,60	0,40	0,60	0,40	2,60																
228	Q(4)10S	10	12%	0,30	0,70	0,30	0,70	0,30	0,70	0,30	6,70																
229	Q(4)12S	12	10%	0,30	0,70	0,30	0,70	0,30	0,70	0,30	8,70																
230	Q(4)12S	12	7%	0,20	0,80	0,20	0,80	0,20	0,80	0,20	8,80																
231	Q(4)15S	15	9%	0,35	0,70	0,35	0,70	0,35	0,70	0,35	11,50																
232	Q(4)20S	20	10%	0,50	0,50	0,50	0,50	0,50	0,50	0,50	16,50																
233	Q(5)7S	7	21%	0,30	0,70	0,30	0,70	0,30	0,70	0,30	0,70	0,30	2,70														
234	Q(5)10S	10	15%	0,30	0,70	0,30	0,70	0,30	0,70	0,30	0,70	0,30	5,70														
235	Q(6)10S	10	18%	0,30	0,70	0,30	0,70	0,30	0,70	0,30	0,70	0,30	0,70	0,30	4,70												
236	Q(9)15S	15	18%	0,30	0,70	0,30	0,70	0,30	0,70	0,30	0,70	0,30	0,70	0,30	0,70	0,30	0,70	0,30	0,70	0,30	6,70						
237	Q(9)15S	15	30%	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	6,50						
238	Q(12)15S	15	16%	0,20	0,80	0,20	0,80	0,20	0,80	0,20	0,80	0,20	0,80	0,20	0,80	0,20	0,80	0,20	0,80	0,20	0,80	0,20	0,80	0,20	0,80	0,20	3,80
239	Q(6)+LFL15S	15	25%	0,30	0,70	0,30	0,70	0,30	0,70	0,30	0,70	0,30	0,70	0,30	0,70	2,00	7,00										
240	Q(6)+LFL15S	15	32%	0,30	0,70	0,30	0,70	0,30	0,70	0,30	0,70	0,30	0,70	0,30	0,70	3,00	6,00										
241	Q(6)+LFL15S	15	33%	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	2,00	7,00										
242	Q(6)+LFL15S	15	40%	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	3,00	6,00										

		rv.06	MF05	1		2		3		4		5		6		7		8		9		10		11		12	
	RHYTHM	T=	DUTY%	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK	FL	DARK
243	VQ0,5S	0,5	40%	0,20	0,30																						
244	VQ0,6S	0,6	50%	0,30	0,30																						
245	VQ(3)5S	5	12%	0,20	0,30	0,20	0,30	0,20	3,80																		
246	VQ(3)5S	5	18%	0,30	0,30	0,30	0,30	0,30	3,50																		
247	VQ(3)5S	5	15%	0,25	0,25	0,25	0,25	0,25	3,75																		
248	VQ(3)5S	5	9%	0,15	0,45	0,15	0,45	0,15	3,65																		
249	VQ(9)10S	10	18%	0,20	0,30	0,20	0,30	0,20	0,30	0,20	0,30	0,20	0,30	0,20	0,30	0,20	0,30	0,20	0,30	0,20	5,80						
250	VQ(9)10S	10	27%	0,30	0,30	0,30	0,30	0,30	0,30	0,30	0,30	0,30	0,30	0,30	0,30	0,30	0,30	0,30	0,30	0,30	4,90						
251	VQ(9)10S	9,95	23%	0,25	0,25	0,25	0,25	0,25	0,25	0,25	0,25	0,25	0,25	0,25	0,25	0,25	0,25	0,25	0,25	0,25	5,70						
252	VQ(6)+LFL10S	10	37%	0,20	0,30	0,20	0,30	0,20	0,30	0,20	0,30	0,20	0,30	0,20	0,30	2,50	4,50										
253	VQ(6)+LFL10S	10	38%	0,30	0,30	0,30	0,30	0,30	0,30	0,30	0,30	0,30	0,30	0,30	0,30	2,00	4,40										
254	VQ(6)+LFL10S	10	35%	0,25	0,25	0,25	0,25	0,25	0,25	0,25	0,25	0,25	0,25	0,25	0,25	2,00	5,00										
255	VQ(6)+LFL10S	10	29%	0,15	0,45	0,15	0,45	0,15	0,45	0,15	0,45	0,15	0,45	0,15	0,45	2,00	4,40										
256	LUZ FIJA	0	100%																								

1 TO 6 PROGRAMMABLES BY PC AND SOFTWARE MFCOM



3. RANGE

LUMINOUS INTENSITIES

nº	MCL100-15º RHYTHM	RV 06 T=	MF05 DUTY%	1,5 HOURS SUN INTENSITY Cd				2 HOURS SUN INTENSITY Cd				3 HOURS SUN INTENSITY Cd				4 HOURS SUN INTENSITY Cd			
1	USER 1	2	15,0%	19	12	11	16	26	16	14	22	39	24	21	32	52	32	28	43
2	USER 2	2	15,0%	19	12	11	16	26	16	14	22	39	24	21	32	52	32	28	43
3	USER 3	2	15,0%	19	12	11	16	26	16	14	22	39	24	21	32	52	32	28	43
4	USER 4	2	15,0%	19	12	11	16	26	16	14	22	39	24	21	32	52	32	28	43
5	USER 5	2	15,0%	19	12	11	16	26	16	14	22	39	24	21	32	52	32	28	43
6	USER 6	2	15,0%	19	12	11	16	26	16	14	22	39	24	21	32	52	32	28	43
7	FL1S	1	25,0%	12	7	6	10	16	10	8	13	23	14	13	19	31	19	17	26
8	FL1,5S	1,5	33,3%	9	5	5	7	12	7	6	10	18	11	10	15	23	14	13	19
9	FL2S	2	15,0%	19	12	11	16	26	16	14	22	39	24	21	32	52	32	28	43
10	FL2S	2	25,0%	12	7	6	10	16	10	8	13	23	14	13	19	31	19	17	26
11	FL2S	2	10,0%	29	18	16	24	39	24	21	32	58	36	32	49	59	36	32	49
12	FL2,5S	2,5	12,0%	24	15	13	20	32	20	18	27	49	30	26	40	59	36	32	49
13	FL2,5S	2,5	20,0%	15	9	8	12	19	12	11	16	29	18	16	24	39	24	21	32
14	FL3S	3	10,0%	29	18	16	24	39	24	21	32	58	36	32	49	59	36	32	49
15	FL3S	3	16,7%	18	11	10	15	23	14	13	19	35	21	19	29	47	29	25	39
16	FL3S	3	33,3%	9	5	5	7	12	7	6	10	18	11	10	15	23	14	13	19
17	FL3S	3	13,3%	22	13	12	18	29	18	16	24	44	27	24	36	58	36	32	49
18	FL3S	3	25,0%	12	7	6	10	16	10	8	13	23	14	13	19	31	19	17	26
19	FL4S	4	10,0%	29	18	16	24	39	24	21	32	58	36	32	49	59	36	32	49
20	FL4S	4	12,5%	23	14	13	19	31	19	17	26	47	29	25	39	59	36	32	49
21	FL4S	4	25,0%	12	7	6	10	16	10	8	13	23	14	13	19	31	19	17	26
22	FL4S	4	7,5%	39	24	21	32	52	32	28	43	59	36	32	49	59	36	32	49
23	FL5S	5	10,0%	29	18	16	24	39	24	21	32	58	36	32	49	59	36	32	49
24	FL5S	5	15,0%	19	12	11	16	26	16	14	22	39	24	21	32	52	32	28	43
25	FL5S	5	20,0%	15	9	8	12	19	12	11	16	29	18	16	24	39	24	21	32
26	FL6S	6	8,3%	35	21	19	29	47	29	25	39	59	36	32	49	59	36	32	49
27	FL6S	6	10,0%	29	18	16	24	39	24	21	32	58	36	32	49	59	36	32	49
28	FL6S	6	16,7%	18	11	10	15	23	14	13	19	35	21	19	29	47	29	25	39
29	FL6S	6	5,0%	58	36	32	49	59	36	32	49	59	36	32	49	59	36	32	49
30	FL8S	8	6,3%	47	29	25	39	59	36	32	49	59	36	32	49	59	36	32	49
31	FL8S	8	12,5%	23	14	13	19	31	19	17	26	47	29	25	39	59	36	32	49
32	FL8S	8	25,0%	12	7	6	10	16	10	8	13	23	14	13	19	31	19	17	26
33	FL10S	10	5,0%	58	36	32	49	59	36	32	49	59	36	32	49	59	36	32	49
34	FL10S	10	7,5%	39	24	21	32	52	32	28	43	59	36	32	49	59	36	32	49
35	FL10S	10	10,0%	29	18	16	24	39	24	21	32	58	36	32	49	59	36	32	49
36	FL10S	10	15,0%	19	12	11	16	26	16	14	22	39	24	21	32	52	32	28	43
37	FL10S	10	20,0%	15	9	8	12	19	12	11	16	29	18	16	24	39	24	21	32
38	FL12S	12	10,0%	29	18	16	24	39	24	21	32	58	36	32	49	59	36	32	49
39	FL12S	12	8,3%	35	21	19	29	47	29	25	39	59	36	32	49	59	36	32	49
40	FL15S	15	6,7%	44	27	24	36	58	36	32	49	59	36	32	49	59	36	32	49
41	FL15S	15	3,3%	59	36	32	49	59	36	32	49	59	36	32	49	59	36	32	49
42	FL15S	15	13,3%	22	13	12	18	29	18	16	24	44	27	24	36	58	36	32	49
43	FL15S	15	20,0%	15	9	8	12	19	12	11	16	29	18	16	24	39	24	21	32
44	FL(2)3S	3	33,3%	9	5	5	7	12	7	6	10	18	11	10	15	23	14	13	19
45	FL(2)4S	4	25,0%	12	7	6	10	16	10	8	13	23	14	13	19	31	19	17	26
46	FL(2)4S	4	15,0%	19	12	11	16	26	16	14	22	39	24	21	32	52	32	28	43
47	FL(2)5S	5	16,0%	18	11	10	15	24	15	13	20	37	22	20	30	49	30	26	40
48	FL(2)5S	5	20,0%	15	9	8	12	19	12	11	16	29	18	16	24	39	24	21	32
49	FL(2)5S	5	12,0%	24	15	13	20	32	20	18	27	49	30	26	40	59	36	32	49
50	FL(2)5S	5	10,0%	29	18	16	24	39	24	21	32	58	36	32	49	59	36	32	49
51	FL(2)5S	5	30,0%	10	6	5	8	13	8	7	11	19	12	11	16	26	16	14	22
52	FL(2)6S	6	33,3%	9	5	5	7	12	7	6	10	18	11	10	15	23	14	13	19
53	FL(2)6S	6	16,7%	18	11	10	15	23	14	13	19	35	21	19	29	47	29	25	39
54	FL(2)6S	6	10,0%	29	18	16	24	39	24	21	32	58	36	32	49	59	36	32	49
55	FL(2)6S	6	10,0%	29	18	16	24	39	24	21	32	58	36	32	49	59	36	32	49
56	FL(2)6S	6	16,7%	18	11	10	15	23	14	13	19	35	21	19	29	47	29	25	39
57	FL(2)7S	7	14,3%	20	12	11	17	27	17	15	23	41	25	22	34	55	33	30	45
58	FL(2)8S	8	12,5%	23	14	13	19	31	19	17	26	47	29	25	39	59	36	32	49
59	FL(2)8S	8	12,5%	23	14	13	19	31	19	17	26	47	29	25	39	59	36	32	49
60	FL(2)8S	8	25,0%	12	7	6	10	16	10	8	13	23	14	13	19	31	19	17	26
61	FL(2)8S	8	25,0%	12	7	6	10	16	10	8	13	23	14	13	19	31	19	17	26
62	FL(2)9S	9	22,2%	13	8	7	11	18	11	10	15	26	16	14	22	35	21	19	29
63	FL(2)10S	10	10,0%	29	18	16	24	39	24	21	32	58	36	32	49	59	36	32	49
64	FL(2)10S	10	10,0%	29	18	16	24	39	24	21	32	58	36	32	49	59	36	32	49

nº	MCL100-15º RHYTHM	RV 06 T=	MF05 DUTY%	1,5 HOURS SUN INTENSITY Cd				2 HOURS SUN INTENSITY Cd				3 HOURS SUN INTENSITY Cd				4 HOURS SUN INTENSITY Cd			
65	FL(2)10S	10	20,0%	15	9	8	12	19	12	11	16	29	18	16	24	39	24	21	32
66	FL(2)10S	10	20,0%	15	9	8	12	19	12	11	16	29	18	16	24	39	24	21	32
67	FL(2)10S	10	8,0%	37	22	20	30	49	30	26	40	59	36	32	49	59	36	32	49
68	FL(2)10S	10	10,0%	29	18	16	24	39	24	21	32	58	36	32	49	59	36	32	49
69	FL(2)10S	10	20,0%	15	9	8	12	19	12	11	16	29	18	16	24	39	24	21	32
70	FL(2)10S	10	30,0%	10	6	5	8	13	8	7	11	19	12	11	16	26	16	14	22
71	FL(2)10S	10	8,0%	37	22	20	30	49	30	26	40	59	36	32	49	59	36	32	49
72	FL(2)12S	12	8,3%	35	21	19	29	47	29	25	39	59	36	32	49	59	36	32	49
73	FL(2)12S	12	16,7%	18	11	10	15	23	14	13	19	35	21	19	29	47	29	25	39
74	FL(2)15S	15	5,3%	55	33	30	45	59	36	32	49	59	36	32	49	59	36	32	49
75	FL(2)15S	15	13,3%	22	13	12	18	29	18	16	24	44	27	24	36	58	36	32	49
76	FL(2)15S	15	13,3%	22	13	12	18	29	18	16	24	44	27	24	36	58	36	32	49
77	FL(2)15S	15	33,3%	9	5	5	7	12	7	6	10	18	11	10	15	23	14	13	19
78	FL(2)20S	20	20,0%	15	9	8	12	19	12	11	16	29	18	16	24	39	24	21	32
79	FL(2+1)6S	6	15,0%	19	12	11	16	26	16	14	22	39	24	21	32	52	32	28	43
80	FL(2+1)6S	6	25,0%	12	7	6	10	16	10	8	13	23	14	13	19	31	19	17	26
81	FL(2+1)8S	8	31,3%	9	6	5	8	12	8	7	10	19	11	10	16	25	15	14	21
82	FL(2+1)10S	10	15,0%	19	12	11	16	26	16	14	22	39	24	21	32	52	32	28	43
83	FL(2+1)10S	10	15,0%	19	12	11	16	26	16	14	22	39	24	21	32	52	32	28	43
84	FL(2+1)12S	12	20,0%	15	9	8	12	19	12	11	16	29	18	16	24	39	24	21	32
85	FL(2+1)12S	12	7,5%	39	24	21	32	52	32	28	43	59	36	32	49	59	36	32	49
86	FL(2+1)12S	12	12,5%	23	14	13	19	31	19	17	26	47	29	25	39	59	36	32	49
87	FL(2+1)12S	12	25,0%	12	7	6	10	16	10	8	13	23	14	13	19	31	19	17	26
88	FL(2+1)15S	15	20,0%	15	9	8	12	19	12	11	16	29	18	16	24	39	24	21	32
89	FL(2+1)15S	15	20,0%	15	9	8	12	19	12	11	16	29	18	16	24	39	24	21	32
90	FL(2+1)15S	16	15,6%	19	11	10	16	25	15	14	21	37	23	20	31	50	30	27	41
91	FL(2+1)15S	15	20,0%	15	9	8	12	19	12	11	16	29	18	16	24	39	24	21	32
92	FL(2+1)15S	15	13,3%	22	13	12	18	29	18	16	24	44	27	24	36	58	36	32	49
93	FL(3)5S	5	15,0%	19	12	11	16	26	16	14	22	39	24	21	32	52	32	28	43
94	FL(3)5S	5	12,0%	24	15	13	20	32	20	18	27	49	30	26	40	59	36	32	49
95	FL(3)5S	5	18,0%	16	10	9	13	22	13	12	18	32	20	18	27	43	26	23	36
96	FL(3)9S	9	16,7%	18	11	10	15	23	14	13	19	35	21	19	29	47	29	25	39
97	FL(3)10S	10	15,0%	19	12	11	16	26	16	14	22	39	24	21	32	52	32	28	43
98	FL(3)10S	10	30,0%	10	6	5	8	13	8	7	11	19	12	11	16	26	16	14	22
99	FL(3)10S	10	15,0%	19	12	11	16	26	16	14	22	39	24	21	32	52	32	28	43
100	FL(3)10S	10	9,0%	32	20	18	27	43	26	23	36	59	36	32	49	59	36	32	49
101	FL(3)10S	10	12,0%	24	15	13	20	32	20	18	27	49	30	26	40	59	36	32	49
102	FL(3)10S	10	22,5%	13	8	7	11	17	11	9	14	26	16	14	22	35	21	19	29
103	FL(3)11S	11	18,2%	16	10	9	13	21	13	12	18	32	20	17	27	43	26	23	36
104	FL(3)12S	12	20,0%	15	9	8	12	19	12	11	16	29	18	16	24	39	24	21	32
105	FL(3)12S	12	12,5%	23	14	13	19	31	19	17	26	47	29	25	39	59	36	32	49
106	FL(3)12S	12	7,5%	39	24	21	32	52	32	28	43	59	36	32	49	59	36	32	49
107	FL(3)12S	12	12,5%	23	14	13	19	31	19	17	26	47	29	25	39	59	36	32	49
108	FL(3)12S	12	25,0%	12	7	6	10	16	10	8	13	23	14	13	19	31	19	17	26
109	FL(3)13S	13	23,1%	13	8	7	11	17	10	9	14	25	15	14	21	34	21	18	28
110	FL(3)15S	15	10,0%	29	18	16	24	39	24	21	32	58	36	32	49	59	36	32	49
111	FL(3)15S	15	20,0%	15	9	8	12	19	12	11	16	29	18	16	24	39	24	21	32
112	FL(3)15S	15	10,0%	29	18	16	24	39	24	21	32	58	36	32	49	59	36	32	49
113	FL(3)15S	15	30,0%	10	6	5	8	13	8	7	11	19	12	11	16	26	16	14	22
114	FL(3)15S	15	15,0%	19	12	11	16	26	16	14	22	39	24	21	32	52	32	28	43
115	FL(3)20S	20	7,5%	39	24	21	32	52	32	28	43	59	36	32	49	59	36	32	49
116	FL(3)20S	20	30,0%	10	6	5	8	13	8	7	11	19	12	11	16	26	16	14	22
117	FL(3+1)23S	23	8,7%	34	20	18	28	45	27	24	37	59	36	32	49	59	36	32	49
118	FL(4)5S	5	16,0%	18	11	10	15	24	15	13	20	37	22	20	30	49	30	26	40
119	FL(4)10S	10	20,0%	15	9	8	12	19	12	11	16	29	18	16	24	39	24	21	32
120	FL(4)10S	10	16,0%	18	11	10	15	24	15	13	20	37	22	20	30	49	30	26	40
121	FL(4)10S	10	30,0%	10	6	5	8	13	8	7	11	19	12	11	16	26	16	14	22
122	FL(4)10S	10	20,0%	15	9	8	12	19	12	11	16	29	18	16	24	39	24	21	32
123	FL(4)11S	11	18,2%	16	10	9	13	21	13	12	18	32	20	17	27	43	26	23	36
124	FL(4)12S	12	26,7%	11	7	6	9	15	9	8	12	22	13	12	18	29	18	16	24
125	FL(4)12S	12	10,0%	29	18	16	24	39	24	21	32	58	36	32	49	59	36	32	49
126	FL(4)12S	12	16,7%	18	11	10	15	23	14	13	19	35	21	19	29	47	29	25	39
127	FL(4)15S	15	13,3%	22	13	12	18	29	18	16	24	44	27	24	36	58	36	32	49
128	FL(4)15S	15	26,7%	11	7	6	9	15	9	8	12	22	13	12	18	29	18	16	24
129	FL(4)15S	15	10,7%	27	17	15	23	37	22	20	30	55	33	30	45	59	36	32	49
130	FL(4)15S	15	26,7%	11	7	6	9	15	9	8	12	22	13	12	18	29	18	16	24
131	FL(4)16S	16	12,5%	23	14	13	19	31	19	17	26	47	29	25	39	59	36	32	49
132	FL(4)16S	16	25,0%	12	7	6	10	16	10	8	13	23	14	13	19	31	19	17	26
133	FL(4)20S	20	10,0%	29	18	16	24	39	24	21	32	58	36	32	49	59	36	32	49

nº	MCL100-15º RHYTHM	RV 06 T=	MF05 DUTY%	1,5 HOURS SUN INTENSITY Cd				2 HOURS SUN INTENSITY Cd				3 HOURS SUN INTENSITY Cd				4 HOURS SUN INTENSITY Cd			
134	FL(4)20S	20	20,0%	15	9	8	12	19	12	11	16	29	18	16	24	39	24	21	32
135	FL(4)20S	20	30,0%	10	6	5	8	13	8	7	11	19	12	11	16	26	16	14	22
136	FL(5)13S	13	19,2%	15	9	8	13	20	12	11	17	30	19	16	25	40	25	22	34
137	FL(5)20S	20	20,0%	15	9	8	12	19	12	11	16	29	18	16	24	39	24	21	32
138	FL(5)20S	20	25,0%	12	7	6	10	16	10	8	13	23	14	13	19	31	19	17	26
139	FL(5)20S	20	12,5%	23	14	13	19	31	19	17	26	47	29	25	39	59	36	32	49
140	FL(6)15S	15	20,0%	15	9	8	12	19	12	11	16	29	18	16	24	39	24	21	32
141	FL(9)10S	10	22,5%	13	8	7	11	17	11	9	14	26	16	14	22	35	21	19	29
142	FL(9)10S	10	18,0%	16	10	9	13	22	13	12	18	32	20	18	27	43	26	23	36
143	FL(9)15S	15	30,0%	10	6	5	8	13	8	7	11	19	12	11	16	26	16	14	22
144	ISO 0,5	0,5	50,0%	6	4	3	5	8	5	4	6	12	7	6	10	16	10	8	13
145	ISO1S	1	50,0%	6	4	3	5	8	5	4	6	12	7	6	10	16	10	8	13
146	ISO2S	2	50,0%	6	4	3	5	8	5	4	6	12	7	6	10	16	10	8	13
147	ISO3S	3	50,0%	6	4	3	5	8	5	4	6	12	7	6	10	16	10	8	13
148	ISO4S	4	50,0%	6	4	3	5	8	5	4	6	12	7	6	10	16	10	8	13
149	ISO5S	5	50,0%	6	4	3	5	8	5	4	6	12	7	6	10	16	10	8	13
150	ISO6S	6	50,0%	6	4	3	5	8	5	4	6	12	7	6	10	16	10	8	13
151	ISO8S	8	50,0%	6	4	3	5	8	5	4	6	12	7	6	10	16	10	8	13
152	ISO10S	10	50,0%	6	4	3	5	8	5	4	6	12	7	6	10	16	10	8	13
153	ISO12S	12	50,0%	6	4	3	5	8	5	4	6	12	7	6	10	16	10	8	13
154	LFL5S	5	40,0%	7	4	4	6	10	6	5	8	15	9	8	12	19	12	11	16
155	LFL6S	6	33,3%	9	5	5	7	12	7	6	10	18	11	10	15	23	14	13	19
156	LFL8S	8	25,0%	12	7	6	10	16	10	8	13	23	14	13	19	31	19	17	26
157	LFL8S	8	37,5%	8	5	4	6	10	6	6	9	16	10	8	13	21	13	11	17
158	LFL10S	10	20,0%	15	9	8	12	19	12	11	16	29	18	16	24	39	24	21	32
159	LFL10S	10	30,0%	10	6	5	8	13	8	7	11	19	12	11	16	26	16	14	22
160	LFL10S	10	40,0%	7	4	4	6	10	6	5	8	15	9	8	12	19	12	11	16
161	LFL12S	12	16,7%	18	11	10	15	23	14	13	19	35	21	19	29	47	29	25	39
162	LFL12S	12	25,0%	12	7	6	10	16	10	8	13	23	14	13	19	31	19	17	26
163	LFL15S	15	26,7%	11	7	6	9	15	9	8	12	22	13	12	18	29	18	16	24
164	MO(A)3S	3	66,7%	4	3	2	4	6	4	3	5	9	5	5	7	12	7	6	10
165	MO(A)5S	5	40,0%	7	4	4	6	10	6	5	8	15	9	8	12	19	12	11	16
166	MO(A)6S	6	21,7%	13	8	7	11	18	11	10	15	27	16	15	22	36	22	19	30
167	MO(A)8S	8	40,0%	7	4	4	6	10	6	5	8	15	9	8	12	19	12	11	16
168	MO(A)8S	8	30,0%	10	6	5	8	13	8	7	11	19	12	11	16	26	16	14	22
169	MO(A)8S	8	50,0%	6	4	3	5	8	5	4	6	12	7	6	10	16	10	8	13
170	MO(A)10S	10	20,0%	15	9	8	12	19	12	11	16	29	18	16	24	39	24	21	32
171	MO(A)12S	12	16,7%	18	11	10	15	23	14	13	19	35	21	19	29	47	29	25	39
172	MO(A)15S	15	16,7%	18	11	10	15	23	14	13	19	35	21	19	29	47	29	25	39
173	MO(B)6S	6	50,0%	6	4	3	5	8	5	4	6	12	7	6	10	16	10	8	13
174	MO(B)15S	15	20,0%	15	9	8	12	19	12	11	16	29	18	16	24	39	24	21	32
175	MO(F)6S	6	50,0%	6	4	3	5	8	5	4	6	12	7	6	10	16	10	8	13
176	MO(G)6S	6	58,3%	5	3	3	4	7	4	4	6	10	6	5	8	13	8	7	11
177	MO(K)6S	6	58,3%	5	3	3	4	7	4	4	6	10	6	5	8	13	8	7	11
178	MO(L)6S	6	50,0%	6	4	3	5	8	5	4	6	12	7	6	10	16	10	8	13
179	MO(N)5S	5	40,0%	7	4	4	6	10	6	5	8	15	9	8	12	19	12	11	16
180	MO(N)6S	6	66,7%	4	3	2	4	6	4	3	5	9	5	5	7	12	7	6	10
181	MO(N)10S	10	80,0%	4	2	2	3	5	3	3	4	7	4	4	6	10	6	5	8
182	MO(N)12S	12	16,7%	18	11	10	15	23	14	13	19	35	21	19	29	47	29	25	39
183	MO(N)12S	12	66,7%	4	3	2	4	6	4	3	5	9	5	5	7	12	7	6	10
184	MO(U)5S	5	50,0%	6	4	3	5	8	5	4	6	12	7	6	10	16	10	8	13
185	MO(U)10S	10	10,0%	29	18	16	24	39	24	21	32	58	36	32	49	59	36	32	49
186	MO(U)10S	10	15,0%	19	12	11	16	26	16	14	22	39	24	21	32	52	32	28	43
187	MO(U)10S	10	20,0%	15	9	8	12	19	12	11	16	29	18	16	24	39	24	21	32
188	MO(U)10S	10	25,0%	12	7	6	10	16	10	8	13	23	14	13	19	31	19	17	26
189	MO(U)10S	10	30,0%	10	6	5	8	13	8	7	11	19	12	11	16	26	16	14	22
190	MO(U)15S	15	15,0%	19	12	11	16	26	16	14	22	39	24	21	32	52	32	28	43
191	MO(U)15S	15	18,0%	16	10	9	13	22	13	12	18	32	20	18	27	43	26	23	36
192	MO(U)15S	15	16,7%	18	11	10	15	23	14	13	19	35	21	19	29	47	29	25	39
193	MO(U)15S	15	17,3%	17	10	9	14	22	14	12	19	34	21	18	28	45	27	24	37
194	MO(U)15S	15	22,0%	13	8	7	11	18	11	10	15	27	16	14	22	35	22	19	29
195	MO(U)15S	15	13,3%	22	13	12	18	29	18	16	24	44	27	24	36	58	36	32	49
196	MO(V)6S	6	50,0%	6	4	3	5	8	5	4	6	12	7	6	10	16	10	8	13
197	MO(W)6S	6	58,3%	5	3	3	4	7	4	4	6	10	6	5	8	13	8	7	11
198	OC3S	3	83,3%	4	2	2	3	5	3	3	4	7	4	4	6	9	6	5	8
199	OC3S	3	66,7%	4	3	2	4	6	4	3	5	9	5	5	7	12	7	6	10
200	OC3S	3	75,0%	4	2	2	3	5	3	3	4	8	5	4	6	10	6	6	9
201	OC4S	4	75,0%	4	2	2	3	5	3	3	4	8	5	4	6	10	6	6	9
202	OC5S	5	60,0%	5	3	3	4	6	4	4	5	10	6	5	8	13	8	7	11

	MCL100-15º	RV 06	MF05	1,5 HOURS SUN				2 HOURS SUN				3 HOURS SUN				4 HOURS SUN			
nº	RHYTHM	T=	DUTY%	INTENSITY Cd				INTENSITY Cd				INTENSITY Cd				INTENSITY Cd			
203	OC5S	5	80,0%	4	2	2	3	5	3	3	4	7	4	4	6	10	6	5	8
204	OC6S	6	75,0%	4	2	2	3	5	3	3	4	8	5	4	6	10	6	6	9
205	OC6S	6	83,3%	4	2	2	3	5	3	3	4	7	4	4	6	9	6	5	8
206	OC6S	6	66,7%	4	3	2	4	6	4	3	5	9	5	5	7	12	7	6	10
207	OC8S	8	75,0%	4	2	2	3	5	3	3	4	8	5	4	6	10	6	6	9
208	OC10S	10	60,0%	5	3	3	4	6	4	4	5	10	6	5	8	13	8	7	11
209	OC10S	10	75,0%	4	2	2	3	5	3	3	4	8	5	4	6	10	6	6	9
210	OC10S	10	80,0%	4	2	2	3	5	3	3	4	7	4	4	6	10	6	5	8
211	OC14S	14	78,6%	4	2	2	3	5	3	3	4	7	5	4	6	10	6	5	8
212	OC(2)9S	9	77,8%	4	2	2	3	5	3	3	4	8	5	4	6	10	6	5	8
213	OC(3)12S	12	75,0%	4	2	2	3	5	3	3	4	8	5	4	6	10	6	6	9
214	OC(3)15S	15	60,0%	5	3	3	4	6	4	4	5	10	6	5	8	13	8	7	11
215	Q1S	1	20,0%	15	9	8	12	19	12	11	16	29	18	16	24	39	24	21	32
216	Q1S	1	30,0%	10	6	5	8	13	8	7	11	19	12	11	16	26	16	14	22
217	Q1S	1	40,0%	7	4	4	6	10	6	5	8	15	9	8	12	19	12	11	16
218	Q1S	1	10,0%	29	18	16	24	39	24	21	32	58	36	32	49	59	36	32	49
219	Q1,2S	1,2	25,0%	12	7	6	10	16	10	8	13	23	14	13	19	31	19	17	26
220	Q(2)5S	5	12,0%	24	15	13	20	32	20	18	27	49	30	26	40	59	36	32	49
221	Q(2)6S	6	10,0%	29	18	16	24	39	24	21	32	58	36	32	49	59	36	32	49
222	Q(2)10S	10	10,0%	29	18	16	24	39	24	21	32	58	36	32	49	59	36	32	49
223	Q(3)5S	5	18,0%	16	10	9	13	22	13	12	18	32	20	18	27	43	26	23	36
224	Q(3)10S	10	9,0%	32	20	18	27	43	26	23	36	59	36	32	49	59	36	32	49
225	Q(3)10S	10	18,0%	16	10	9	13	22	13	12	18	32	20	18	27	43	26	23	36
226	Q(3)10S	10	15,0%	19	12	11	16	26	16	14	22	39	24	21	32	52	32	28	43
227	Q(4)6S	6	26,7%	11	7	6	9	15	9	8	12	22	13	12	18	29	18	16	24
228	Q(4)10S	10	12,0%	24	15	13	20	32	20	18	27	49	30	26	40	59	36	32	49
229	Q(4)12S	12	10,0%	29	18	16	24	39	24	21	32	58	36	32	49	59	36	32	49
230	Q(4)12S	12	6,7%	44	27	24	36	58	36	32	49	59	36	32	49	59	36	32	49
231	Q(4)15S	15	9,3%	31	19	17	26	42	25	23	35	59	36	32	49	59	36	32	49
232	Q(4)20S	20	10,0%	29	18	16	24	39	24	21	32	58	36	32	49	59	36	32	49
233	Q(5)7S	7	21,4%	14	8	7	11	18	11	10	15	27	17	15	23	36	22	20	30
234	Q(5)10S	10	15,0%	19	12	11	16	26	16	14	22	39	24	21	32	52	32	28	43
235	Q(6)10S	10	18,0%	16	10	9	13	22	13	12	18	32	20	18	27	43	26	23	36
236	Q(9)15S	15	18,0%	16	10	9	13	22	13	12	18	32	20	18	27	43	26	23	36
237	Q(9)15S	15	30,0%	10	6	5	8	13	8	7	11	19	12	11	16	26	16	14	22
238	Q(12)15S	15	16,0%	18	11	10	15	24	15	13	20	37	22	20	30	49	30	26	40
239	Q(6)+LFL15S	15	25,3%	12	7	6	10	15	9	8	13	23	14	13	19	31	19	17	26
240	Q(6)+LFL15S	15	32,0%	9	6	5	8	12	7	7	10	18	11	10	15	24	15	13	20
241	Q(6)+LFL15S	15	33,3%	9	5	5	7	12	7	6	10	18	11	10	15	23	14	13	19
242	Q(6)+LFL15S	15	40,0%	7	4	4	6	10	6	5	8	15	9	8	12	19	12	11	16
243	VQ0,5S	0,5	40,0%	7	4	4	6	10	6	5	8	15	9	8	12	19	12	11	16
244	VQ0,6S	0,6	50,0%	6	4	3	5	8	5	4	6	12	7	6	10	16	10	8	13
245	VQ(3)5S	5	12,0%	24	15	13	20	32	20	18	27	49	30	26	40	59	36	32	49
246	VQ(3)5S	5	18,0%	16	10	9	13	22	13	12	18	32	20	18	27	43	26	23	36
247	VQ(3)5S	5	15,0%	19	12	11	16	26	16	14	22	39	24	21	32	52	32	28	43
248	VQ(3)5S	5	9,0%	32	20	18	27	43	26	23	36	59	36	32	49	59	36	32	49
249	VQ(9)10S	10	18,0%	16	10	9	13	22	13	12	18	32	20	18	27	43	26	23	36
250	VQ(9)10S	10	27,0%	11	7	6	9	14	9	8	12	22	13	12	18	29	18	16	24
251	VQ(9)10S	9,95	22,6%	13	8	7	11	17	11	9	14	26	16	14	21	34	21	19	29
252	VQ(6)+LFL10S	10	37,0%	8	5	4	7	11	6	6	9	16	10	9	13	21	13	11	17
253	VQ(6)+LFL10S	10	38,0%	8	5	4	6	10	6	6	9	15	9	8	13	20	13	11	17
254	VQ(6)+LFL10S	10	35,0%	8	5	5	7	11	7	6	9	17	10	9	14	22	14	12	18
255	VQ(6)+LFL10S	10	29,0%	10	6	5	8	13	8	7	11	20	12	11	17	27	16	15	22
256	FIX LIGHT	0	100,0%	3	2	2	2	4	2	2	3	6	4	3	5	8	5	4	6

RHYTHMS 1 TO 6 PROGRAMMABLES BY PC AND SOFWARE MFCOM

4. DECLARATION CE

DECLARACION DE CONFORMIDAD
DECLARATION OF CONFORMITY

COMPAÑÍA: **MEDITERRANEO SEÑALES MARITIMAS S.L**
COMPANY

DIRECCCION: **POLIGONO INDUSTRIAL MAS DE TOUS**
ADDRESS **C/ OSLO, 12**
46185 LA POBLA DE VALLBONA
VALENCIA- ESPAÑA

Declaro bajo mi propia responsabilidad que el producto:
Declare under our sole responsibility that the product:

APARATO: BALIZA LUMINOSA DESTELLADORA MARINA LED.
Appliance: LED MARINE FLASHING LANTERN.

MARCA: MEDITERRANEO SEÑALES MARITIMAS.
BRAND

MODELO COMERCIAL: MCL100.
Commercial Name:

Al que se refiere esta declaración está en conformidad con las siguientes normas:
To which this declaration relates is in conformity with the following standards:

EN61000-6-4(2007) EMISIÓN ELECTROMAGNÉTICA / *EM Emission.*
-EN 55022 (2006): Radiada / *Radiated* (Clase A/*Class A*).

EN61000-6-2(2005) INMUNIDAD ELECTROMAGNÉTICA / *EM Immunity.*
-EN 61000-4-2 (1995) / A1 (1998) / A2 (2001): Descarga electrostática / *ESD;*
-EN 61000-4-3 (2006): Campo radiado EM de RF / EM *radiated field of RF;*
-EN 61000-4-8 (1996) / A1 (2001); Inmunidad radiada / *Radiated immunity;*

Siguiendo las prescripciones de las directivas:
Following the provision of Directives:

Directiva de compatibilidad Electromagnética (2004/108/CE)
Electromagnetic Compatibility Directive (2004/108/CE)

Firmado:
Signed

Fernando Romero Noreña
Director Calidad/*Quality Manager.*

Valencia a 24 de Enero de 2020/ *24th January 2020.*

Mediterráneo
Señales
Marítimas

IALA

Mediterráneo Señales Marítimas, S.L. / +34 96 276 10 22 / msm@mesemar.com / **www.mesemar.com**