



360 System

Smart system

The 360° system is one of the latest innovations developed by MSM to provide the highest energy efficiency with the most advanced technology. A smart solution offered by a self-contained lantern completed with a Smartbank. By combining both devices, the possibilities range from having an additional power support for the lantern if necessary (Powerbank), to the incorporation of remote control with Wireless communication with the main lantern (Smartbank), or a combination of both possibilities.

Modular design

Both the lantern and the Powerbank / Smartbank have a **modular design** available in 3 sizes. The range has different battery and solar charge capacities as well as different light ranges to adapt to the user's requirements. The enhanced optics gives to the system greater light efficiency, covering a wide spectrum of ranges: from 4 to **11 real NM**, depending on the configuration.

Multiple remote control configurations

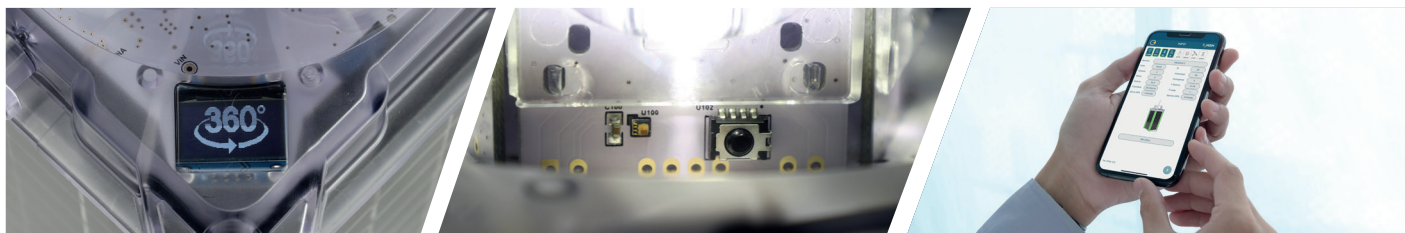
Both the lantern and the Smartbank can integrate different monitoring and remote control options such as communication via GSM, UHF, satellite and AIS. The Global Netcom software developed by MSM is the ideal complement to monitor and remotely control the operating status of the lantern.



FEATURES

- High-efficiency luminous system.
Up to 11 real nm ($T=0.74$).
- Vertical divergence up to 10° ($50\%I_0$).
- 360° horizontal output.
- Average operation lifetime over 10 years.
- Ideal system for energy demanding applications, as the Powerbank can supply extra power if necessary.
- Wireless communication between both devices allows to add accessories (GSM, UHF, satellite, and/or AIS remote control modules) without compromising the light range or the lantern autonomy, and without any wiring.
- Programming, configuration and operating status via PC, Bluetooth or IR programmer.
- RS-232 serial port for setting adjustments by PC.
- Double remote control system as an option.
- Designed according to IALA Recommendations.
- GPS synchronization module included as standard.

MCL360 Lantern



Display

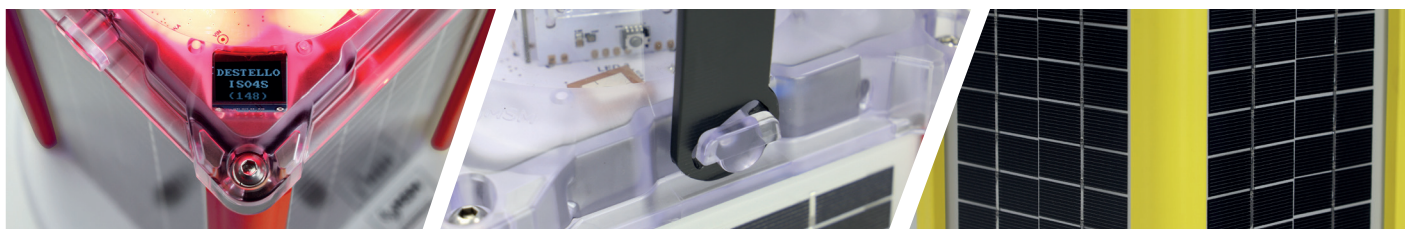
An integrated OLED screen displays information about the operating status of the lantern.

Double on/off control

The lantern can be switched on and off via the photocell integrated in the optic assembly and with an internal astronomical clock, increasing the reliability.

Smartcom 360

Configuration software available for PC or mobile devices.



LED colour indicator

The corner pieces of the structure indicate the color of the light.

Easily removable transport handle

The transport handle is removable, preventing shades' projection on the solar modules.

Solar modules

Four high-performance monocrystalline solar modules cover the entire lateral surface of the lantern to optimize energy collection.

■ Dimensions

MCL360-S	MCL360-S Plus	MCL360-M	MCL360-L
Up to 8 NM Solar module 3.7 W x 4 nos. = 14.8 W Battery 4.8 Ah / 12 V	Up to 8 NM Solar module 3.7 W x 4 nos. = 14.8 W Battery 16.9 Ah / 12 V	Up to 9 NM Solar module 5.3 W x 4 nos. = 21.2 W Battery 16.9 Ah / 12 V	Up to 11 NM Solar module 9.1 W x 4 nos. = 36.4 W Battery 33.8 Ah / 12 V

Technical features

Light source:	Ultra-bright LED diodes, with high-precision acrylic lenses.
LED average life:	More than 100,000 hours.
Flash rhythms:	256 rhythms (6 nos. user selectable).
Vertical divergence:	5°, 8° and 10°.
Battery:	Lead Crystal®, or Lithium as an option. Maintenance-free.
Lens cover:	UV stabilised Lexan™ Polycarbonate. Integrated bird spike.
Chasis:	Anodised marine aluminium.
Base:	Lexan™ Polycarbonate.
Fixings:	Standard (4 - 3 bolts in a 200 mm diameter).
Watertightness degree:	IP 68.

Options

Remote control: GSM, Radio, satellite and/or AIS.
 AIS Type 1 or Type 3.
 RS-232, RS-422, RS-485 additional serial port or Modbus.
 Redundant remote control system.
 Vertical divergence up to 15°.
 Impact sensor.
 External battery switch.
 Tool kit.
 Spare parts kit.
 Fixing screws kit.
 Other fixings available.
 Other bird deterrent systems.
 Other specifications available under request.

SMARTCOM 360: Configuration software

SMARTCOM360 is a software **designed to facilitate the lantern configuration process**, analysing the optical and energy performance.

This software automatically performs feasibility calculations, considering the features of the lantern (colour, divergence, energy capacity ...) and the user-editable parameters (range, flash characteristic, solar radiation ...). This not only validates the user configuration, but also proposes the best solution for each case.

An improvement which makes SMARTCOM360 an excellent solution to set the maximum number of parameters for ensuring optimal performance.

Main user-configurable parameters:

- Light/intensity range in nautical miles/candelas.
- Flash characteristics.
- Operating mode (night, night and day or emergency lantern).
- Switch on control and hibernation control by calendar.
- GPS synchronization and positioning.
- Communications system, remote monitoring and control.
- Test mode.

Software available for PC and mobile devices.



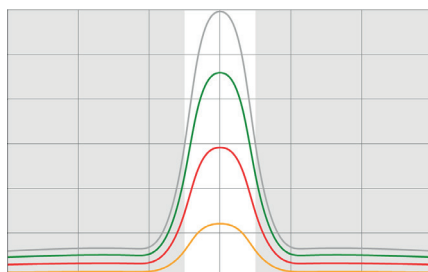
Specifications subject to change without previous notice.

Luminous ranges will be affected depending on latitude, flash rhythms and chosen options.

Peak intensities (Cd)

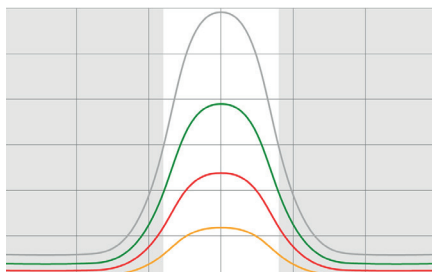
MCL360-L | Up to 11 NM

DIVERGENCE 5°



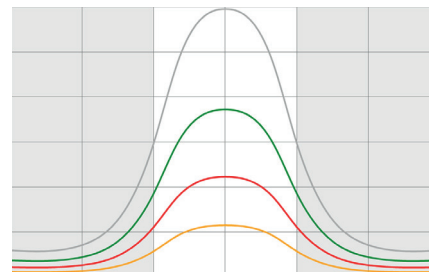
2087 Cd 423 Cd
1607 Cd 1021 Cd

DIVERGENCE 8°



1567 Cd 313 Cd
1033 Cd 631 Cd

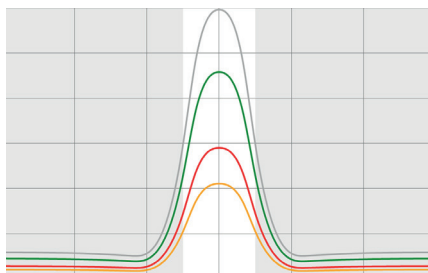
DIVERGENCE 10°



1411 Cd 273 Cd
882 Cd 528 Cd

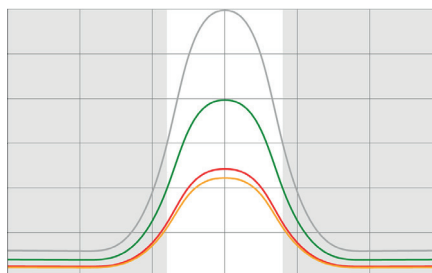
MCL360-M | Up to 9 NM

DIVERGENCE 5°



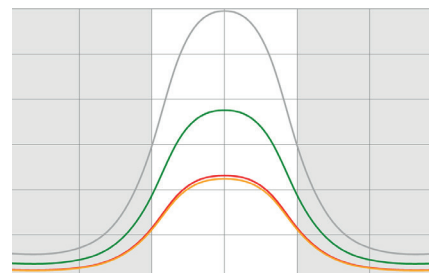
1060 Cd 376 Cd
815 Cd 517 Cd

DIVERGENCE 8°



747 Cd 278 Cd
496 Cd 303 Cd

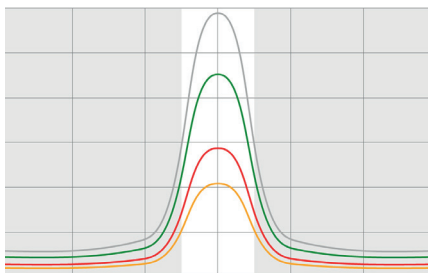
DIVERGENCE 10°



643 Cd 242 Cd
406 Cd 243 Cd

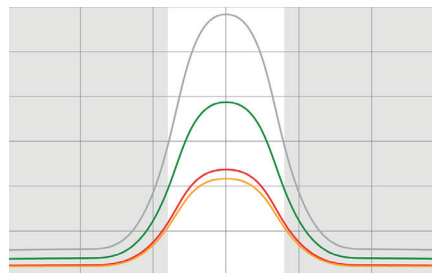
MCL360-S & MCL360-Plus | Up to 8 NM

DIVERGENCE 5°



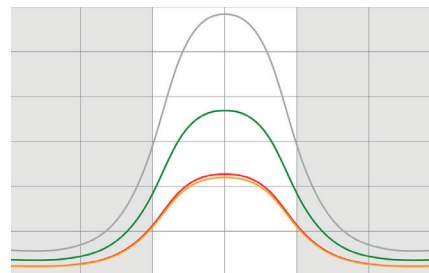
530 Cd 188 Cd
407 Cd 259 Cd

DIVERGENCE 8°



373 Cd 139 Cd
248 Cd 152 Cd

DIVERGENCE 10°



321 Cd 121 Cd
203 Cd 122 Cd



Specifications subject to change without previous notice.

Luminous ranges will be affected depending on latitude, flash rhythms and chosen options.

Powerbank / Smartbank

System 360 can include a Powerbank / Smartbank unit.

The **Powerbank** is a rechargeable supplementary unit using solar energy, which **supplies power to the lantern if necessary** to increase its autonomy and performance.

The **Smartbank** is a self-contained device that **communicates via Wireless with the lantern**, since **it has communication systems** (Radio, GSM, Satellite or AIS) for remote monitoring and control of the lantern.

In addition, the same Powerbank / Smartbank unit can perform both functions simultaneously, as it can be connected to the lantern via Wireless for the remote control and via cable to supply additional power.

The Powerbank / Smartbank is a practical and efficient way to add remote control to the lantern via Wireless without compromising optimal energy efficiency, **increasing the autonomy and performance in low solar radiation conditions**. Thanks to this device, the 360 system represents a smart flexible equipment that offers a wide range of remote control and power supply configurations.

Technical features

Battery:	Lead Crystal®, or Lithium as an option. Maintenance-free.
Cover:	UV stabilised Lexan™ Polycarbonate. Integrated bird spike
Chasis:	Anodised marine aluminium.
Base:	Lexan™ Polycarbonate.
Fixings:	Standard (4 - 3 bolts in a 200 mm diameter).
Watertightness degree:	IP 68.

! Specifications subject to change without previous notice.



Powerbank / Smartbank



Watertight quick connector

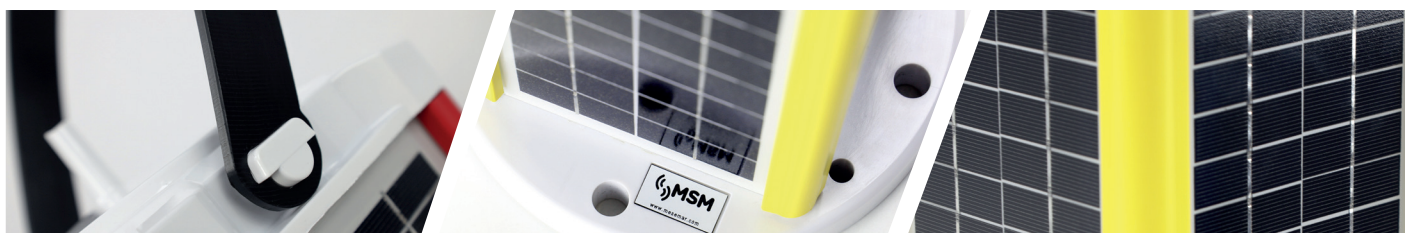
The base of the Powerbank/Smartbank has a watertight quick connector, which simplifies the connexion between 360 system's devices.

Wireless communication

The Smartbank can integrate remote control and it is able to communicate wirelessly with the lantern without any cables.

Bird spike

The cover is equipped on the top with a spike bird deterrent.



Easily removable transport handle

This device also includes an easily removable transport handle, preventing shades' projection on the solar modules.

Installation

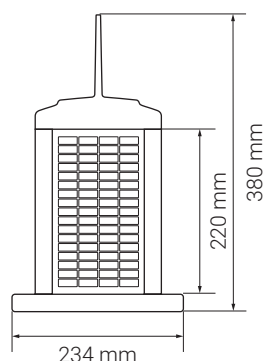
The base has standard fixings, so the Powerbank/Smartbank can be installed using 3 or 4 bolts in a diameter of 200 mm.

Solar modules

Four high-performance monocrystalline solar modules cover the entire lateral surface of the Powerbank/Smartbank to optimize energy collection.

Dimensions

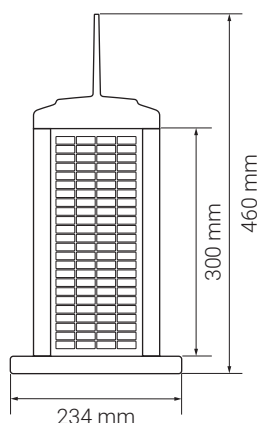
POWERBANK-S



Solar module
3.7 W x 4 nos. = 14.8 W

Battery
16.9 Ah / 12 V

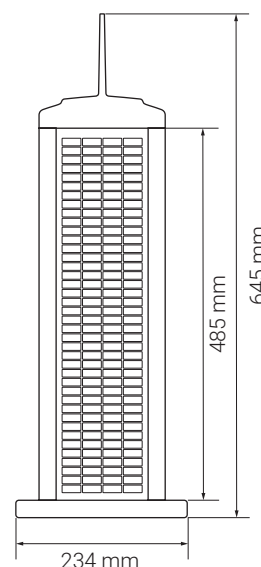
POWERBANK-M



Solar module
5.3 W x 4 nos. = 21.2 W

Battery
16.9 Ah / 12 V

POWERBANK-L



Solar module
9.1 W x 4 nos. = 36.4 W

Battery
33.8 Ah / 12 V

System configuration options

Option A: MCL360

Maximum performance

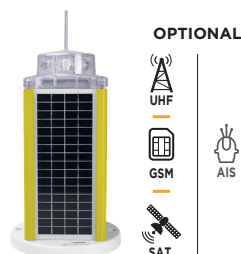
The new MCL360 allows maximum performance **in standalone operation**, thanks to the high power of its solar array, the battery capacity and the use of a market leader light efficiency.

MCL360 standard equipment



Multiple sizes available

S	S Plus	M	L
---	--------	---	---



Option B: MCL360 + Powerbank

Excellent autonomy

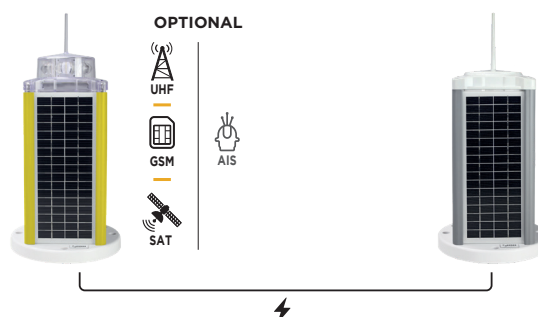
Thanks to the use of the Powerbank, the system **increases the power capacity**, maximising range, reliability and autonomy.

MCL360 standard equipment



Multiple sizes available

S	S Plus	M	L
---	--------	---	---



Option C: MCL360 + Smartbank

Wireless external remote control

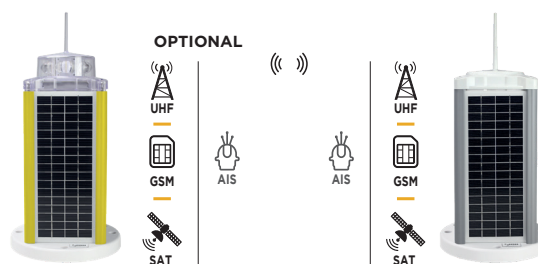
The Smartbank allows to add **external remote control with Wireless communication** to an existing lantern from the MCL360 series, keeping the light range.

MCL360 standard equipment



Multiple sizes available

S	S Plus	M	L
---	--------	---	---



Option D: MCL360 + Powerbank / Smartbank

Maximum power and remote control

The Smartbank + Powerbank function increases the capabilities of the MCL360 lanterns. This option adds **external remote control & extra power** to your existing lantern.

MCL360 standard equipment



Multiple sizes available

S	S Plus	M	L
---	--------	---	---

