



SATELLITE REMOTE MONITORING MODULE

### **MFSAT**

#### Communication via satellite

MFSAT circuits are small and compact remote control devices, fitted inside our LED lanterns. The sending and receiving remote control signals is done via satellite.

# Perfect for remote and isolated stations

Perfect for remote and isolated stations, where any other communication system is not viable. Even though its low-cost operation, it is the most reliable and available communication system.

#### Ideal for self-contained lanterns

Signals and alarms are transmitted via e-mail up to 5 configurable addresses. The users can be e-mail addresses or control centres. Therefore, the ideal complement to the system is the GLOBAL NET-COM Remote Monitoring Control Centre, in order to process and manage all the information exchanged.

Its modular construction allows its installation subsequently to the purchase of a MSM lantern.





## FEATURES

- Ideal to remote monitoring and control of MCL and MBL lanterns.
- Satellite communication service with world coverage.
- · Maximum reliability and availability.
- Configuration is made by PC and RS-232 cable software. It can also be remotely settled from a mobile phone.
- A configurable sleep mode is available in order to save energy, but maintaining the transmission of messages at real time.
- Positioning and swinging radius on buoys (when including MFGPS module).
- · Minimum energy consumption and a low-cost operation.
- Free-communication protocols, which allows the user to utilise his own control centre or use them for any other application needed.

### **MFSAT**

#### **TECHNICAL SPECIFICATIONS**

Power range:	From 9 to 35V.
Daily average consumption:	15 mA.
Temperature range:	-30° to 60°C.
IRIDIUM module:	Iridium SBD. Bidirectional.
External Inputs:	4 nos. opto-coupled
GPS MFGPS receptor:	12 channels.

#### OPERATION COST

IRIDIUM satellite communication by SBD service (reduced rate).

It only informs in case of alarms or commands.

Adjustable maximum limit of messages per day.

#### OPTIONS

Other communication systems via satellite available.

MFGPS position/synchronisation module.

Other status/alarm signals and commands available under request.

#### REAL TIME MONITORING SIGNALS

Lantern off.

Mooring-chain breaking by GPS positioning (for buoys).

Battery voltage reading.

LED current consumption reading.

Solar charging reading in accumulated Ah/day.

#### REAL TIME ALARMS BY SMS

Lantern off.

LED diodes failure.

Mooring-chain breaking.

Low battery voltage.

Flasher failure.

Photocell failure.

Wrong flashing rhythm.

Excess consumption of the lantern.

Solar module charge failure.



#### COMMANDS FROM USER/ CONTROL CENTRE TO BEACON

Report request on beacon general status.

Day-Night mode change.

Flasher reset.

GPS reset (when included).

Satellite modem reset.

General system reset.

Position self-detection.

Change of MFSAT configuration by e-mail.

#### MFSAT MODULE FEATURES

Communication by means of e-mails.

Encrypted communication protocol.

Independent communication module from flasher, improving safety and global reliability.

Sending of status and alarms by means of e-mails via SBD Iridium

Alarm detection on beacon operation, power supply and mooring-chain breaking in buoys.

Remote re-programming via e-mails.

Protection system through passwords.

 $4\ \mbox{nos.}$  configurable digital inputs by user (impact detection, tamper, etc.).

Specifications subject to change without previous notice.











