



FAST FIND RETURN LINK

RLS Capable PLB

USER MANUAL

This manual is applicable to the FastFind Return Link.

ONLY IN EMERGENCY
FALSE ALERTS
ENDANGER LIVES

SOS ONLY IN EMERGENCY

ONLY PULL IN AN EMERGENCY

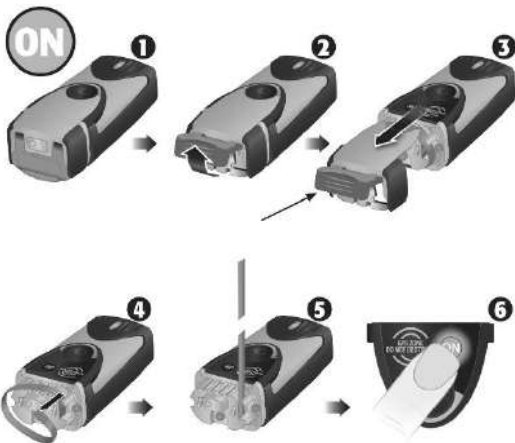
Pulling breaks the plastic anti-tamper seal that cannot be reset by the user.

TIRER UNIQUEMENT EN CAS D'URGENCE

Le fait de tirer brise un dispositif plastique de sécurité que l'utilisateur ne peut pas réarmer.

TIRAR SOLAMENTE EN CASO DE EMERGENCIA

Al tirar se rompe el precinto anti-manipulación prohibida de plástico que no puede ser reseteado por el usuario.

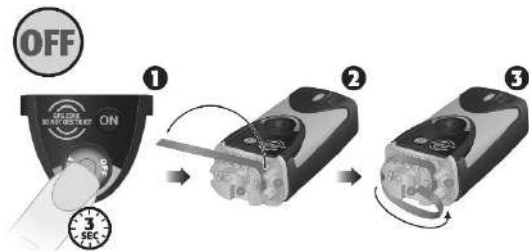


DO NOT TURN BEACON OFF UNTIL SAFE

HOLD

**MAINTENEZ LE
DECLENCHEUR**

MANTENER



ORDER NEW CAP

**COMMANDEZ UN
NOUVEAU CAPOT**

PIDA UNA NUEVA TAPA



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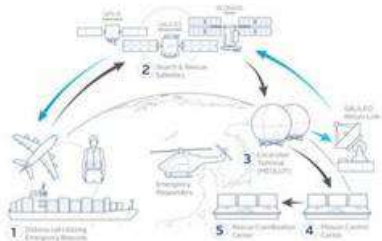
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1. INTRODUCTION

The FastFind Return Link is a Personal Locator Beacon (PLB) that receives a Return Link Message (RLM) to give you the reassurance of a last resort safeguard against any life threatening incidents that may occur anywhere in the world. If you find yourself in a remote area without any other form of emergency communication, on land or at sea, your FastFind Return Link can call for help and let you know that you have been detected and located.

When triggered, the FastFind Return Link transmits a unique serialized ID to the Cospas-Sarsat satellite system which can pinpoint your location anywhere on the earth's surface. This is typically within minutes, but can be longer depending on satellite coverage. The Rescue Coordination Centre (RCC) then forwards the details of the emergency to the appropriate local Search And Rescue (SAR) services.



Waterproof and fully submersible to 10 meters, the FastFind Return Link features an inbuilt GPS and GALILEO receiver that can pinpoint your location within a few meters and decode RLMs (see page 41).

Dense tree cover or a steep-sided canyon can sometimes make it difficult for the GPS-GALILEO to obtain a position fix and the RLM. If this is the case, the satellites will still be able to pinpoint your approximate location and the unit's secondary homing transmitter enables SAR teams to home in on your exact location once they are in the vicinity. The unit also features a flashing SOS light which can be used to attract attention.

The lithium power cell offers a minimum 24 hours continuous operation and a 5-year battery replacement period.

Please take time to read this manual fully before using the FastFind Return Link as it contains important information regarding the correct use and maintenance of the product.

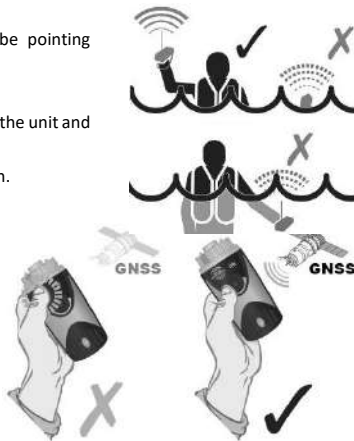
2. SAFETY NOTICES

It is recommended that the Self Test is performed once a month in the limit of 10 tests per year - unnecessary testing reduces battery life in the event of an emergency. Return the unit to a service center for battery replacement if battery level is low (single flash in Self Test mode).

Confirm that the battery expiry date shown is in date for the duration of intended use.

Transmission of the first emergency alert message occurs 50 seconds after the unit is activated. This allows time for the unit to be switched off before the rescue services are alerted if accidentally activated.

- For optimum transmission, the antenna must be pointing vertically upwards at all times.
- Do not hold the antenna.
- Fit the lanyard through the eye hole in the base of the unit and fasten securely to your clothing.
- The unit will not float without the buoyancy pouch.
- The unit is not designed to float in an upright position or transmit a distress alert when floating in water. Once activated it must always be kept above water, as direct contact with the sea will severely reduce the transmission range.
- Ensure that the area marked "GNSS Zone" is not obstructed or covered in any way and always has a clear view of the sky.
- RLM reception depends on user position, change position in case of non RLM reception.
- In strong winds, turn the unit so the indicator light faces into the wind.

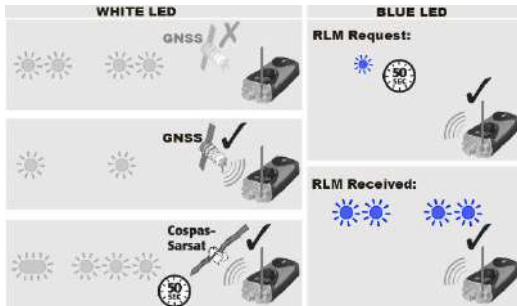


3. INDICATOR LIGHT

As soon as the PLB is activated, the indicator light will start to flash:

White LED:

- One flash every ½ second indicates the unit is activated and attempts to acquire or refresh a GNSS position fix.
- One flash every 2 seconds indicates that a GNSS position fix has been acquired.
- A long flash then three rapid flashes every 50 seconds, indicates that the PLB has transmitted a distress signal along with the current GNSS position.



Blue LED:

- When RLM is requested, the blue LED flashes every 50 seconds (very short flash).
- Once RLM is received, the blue LED flashes constantly (blue flashes are intertwined with the white flashes).



While the PLB is active, pressing the **ON** button again will cause the indicator light to flash a Morse code SOS pattern. This can be used to attract attention in low light conditions. The SOS pattern is repeated four times each time **ON** is pressed.

NOTE: To conserve battery life a maximum of 30 presses allowed, after which this feature is disabled.



is

4. CAUTIONS

ACTIVATE ONLY IN AN EMERGENCY

- This PLB should only be used in situations of grave and imminent danger to life.
- False alerts endanger lives and cause expensive disruption to Search & Rescue services. **Deliberate misuse of the device could result in a penalty.**
- Spring action antenna. Mount and deploy in such a way as to avoid eye injury.
- Product and battery pack contain no user-serviceable parts. Do not dismantle.
- Contains lithium batteries. Do not incinerate, puncture, deform, short-circuit or recharge.
- Avoid cleaning the unit with chemical solvents as this may damage the case material.
- Radio Licensing. This product is a radio transmitter. Although US and UK owners are not required to hold a radio license to operate a PLB on land, some administrations may require that the user holds a valid radio license to cover its ownership and use.
- This product emits low levels of radio frequency energy during operation. Avoid handling the antenna once activated.
- The unit will not float if removed from the buoyancy pouch, fit a lanyard restraint when near water to avoid loss.
- The top cap is fitted with an anti-tamper seal which is broken on activation of the unit and must then be replaced. A new cap should then be fitted and the battery has to be replaced following any operation other than a Self-test or a GNSS Test.
- For future servicing by a service center, keep the original packaging for transportation.
- **False alarm:** If the unit has been accidentally activated or you are no longer in danger prior to the arrival of the rescue services, switch off the unit and contact the relevant rescue services as soon as possible.

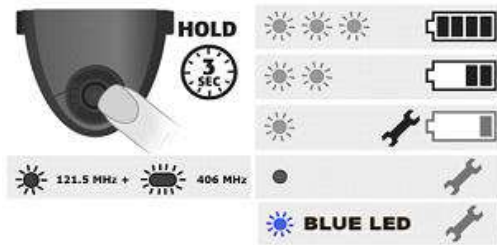
5. SELF TEST

The Self Test verifies all key functions of the PLB including the remaining battery life and transmitter operation.

WARNING: ONLY SELF TEST IN THE FIRST FIVE MINUTES OF THE HOUR.

NOTE: The **TEST** button must be pressed hard to activate - if necessary, use a blunt object such as a pencil.

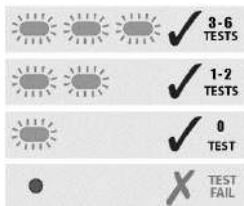
- Press the **TEST** button for 3 seconds and release it. The indicator light flashes once after release.
- After a few seconds, there will be one short flash for 121.5 MHz homing signal transmission and one long flash for 406 MHz test signal transmission.
- At the end of the test, there will be a sequence of flashes.
- The PLB will switch off after the test is completed.



6. GNSS SIGNAL ACQUISITION TEST

IMPORTANT: To preserve battery life, a maximum of 6 GNSS Tests are permitted during each battery's 5 year storage life, after which further GNSS Tests are prohibited until the battery is replaced.

- **Begin this test indoors, out of view of the open sky.**
- To start the GNSS Signal Acquisition Test, press and hold the **TEST** button again for 15 seconds until the indicator light will start flashing slowly, indicating that the GNSS is searching for a signal. Then, release the **TEST** button.
- Move outside so that the PLB now has a clear view of the sky.
- Ensure "GPS Zone" on unit is not obstructed.
- Unit will flash slowly until GNSS fix is acquired. When no GNSS Test remains, the unit will only flash once a single long flash and the PLB will switch off without performing the GNSS Test.
- A series of long flashes indicates a successful GNSS fix and the number of GNSS tests remaining.
- If no GNSS fix is acquired after 5 minutes, the test will fail and the indicator light will stop flashing.



7. SPECIFICATION

Standards	COSPAS-SARSAT T.001/T.007 class2, RTCM 11010.3 ETSI EN 302152-1, AS/NZS 4280.2, NSS-PLB11
Sealing depth	Immersion to 10 m (30 ft) for 5 minutes
Operating temperature	-20 to +55 °C (-4 to + 131 °F)
Storage temperature	-30 to +70 °C (-22 to +158 °F)
Altitude	12,192 m (40,000 ft)
Buoyancy	Category 2, will not float (optional buoyancy pouch available)
Battery type	Lithium Manganese
Transmit duration	> 24 hours @ -20 °C (-4 °F)
Battery life (storage)	5 years
Battery replacement	Service center
Battery Use	Logged by microprocessor
Transmitter Frequency	406.031 MHz (alert) / 121.5 MHz (homer)
Transmitter Power	5 W (alert) / 50 mW (homer) nominal
Unique ID Number	Factory or dealer programmed
GNSS Receiver	GPS(L1)+GALILEO(E1), 72 channel, ceramic patch antenna
Size (D x W x L)	36 x 50 x 112 mm (1.42 x 1.97 x 4.41 in)
Weight	164 g (5.8 oz)
Indicator Light	High brightness LED signal light+ Blue LED for RLS indications
SOS flash light	Morse code SOS flash pattern, 30 operations
Activation	Manual, three stage
Self-test	Tests transmitters, battery and light
Standard Compass Safe Distance	1 m (3 ft)
Warranty	1 year (+ 4 years with online registration)

This PLB will not float unless held in the optional buoyancy pouch. A PLB is not an ELT or an EPIRB and does not meet the regulatory requirements for an ELT or an EPIRB.

8. REGISTRATION INFORMATION

Registration of the PLB with the relevant national authority is mandatory. For further information applicable to your region refer to the information on the registration form provided and the annex at the end of this manual.

Some national authorities provide the registered user with a label which must be fitted to the rear of the PLB as proof of registration.

Please refer to the Cospas-Sarsat webpage [Where to Register My Beacon](#) listing the country with RLS protocols allowed at:

<https://www.406registration.com/countriesupported.aspx>

Failure to register the PLB is illegal and could delay a Search & Rescue response.

Some national authorities require a completed registration application form to be submitted by letter or fax, others offer an online registration. For more information, visit the emergency beacon registration database IBRD at www.406registration.com and also www.cospas-sarsat.org. The addresses of the national authorities are listed in the annex at the end of this manual.

Sale or transfer: The new owner must file a new user registration. Should the country hosting the user registration also change then the PLB will need to be re-programmed by a service agent.



9. ACCESSORIES

Included with your FastFind Return Link are:

- A neck lanyard (not to scale)
- A universal pouch



10. TRANSPORTATION

- The product contains a lithium metal battery with a lithium content exceeding 2 g and a total net quantity of 0.068 kg. It is classified as dangerous goods for transportation purposes: Class 9, UN3091, Lithium metal Batteries Contained in Equipment.
- **Transport by air:** the product cannot be carried on a passenger aircraft either as carry-on or checked in baggage. For transport by air, the product must be packaged and shipped as cargo via a qualified dangerous goods shipper. Packing instruction P970 Section 1 applies.
- **Transport by sea:** It may be possible to carry the product in a private vehicle or as carry-on baggage – this must be checked with the ferry company/shipping line prior to travel. If this is not allowed, the product must be packaged and shipped as cargo via a qualified dangerous goods shipper. Packing instruction P903 applies.
- **Transport by road:** The transport of dangerous goods regulations do not apply to items carried in a private vehicle for personal use. Product being transported by courier/road haulier must be packaged and shipped as cargo via a qualified dangerous goods shipper. Packing instruction P903 applies.

11. EU/UK DECLARATION OF CONFORMITY

Hereby McMurdo Ltd declares that the Type Z450 is in compliance with the essential requirements and other relevant provisions of the:

EU Radio Equipment Directive 2014/53/EU.

The UK Radio Equipment Regulations 2017 (SI 2017/1206).

UK Interface Requirement 2084, Cospas-Sarsat locator beacons for use on land.

UK Interface Requirement 2042, Maritime Personal Locator Beacons.

The Declaration of Conformity in full can be obtained online from:

<https://www.seasofsolutions.com/support/mcmurdo/marine-products/>

Use of this equipment is subject to restrictions of use and / or licensing in the following European countries:

AT	BG	CY	CZ	DE	DK
EL	ES	FI	FR	HR	HU
IS	IT	LI	LU	LV	MT
NL	NO	PL	PT	RO	SI
SK	UK				

**UK
CA**

CE

12. END OF LIFE STATEMENT

- At the end of its life, the product must be disposed of according to local laws and regulations and it must be disposed of separately from household waste.
- The battery should also be removed to prevent false alerts.
- Do not incinerate, but take it to a recycling facility.



McMurdo Ltd hereby declares that all materials, components and products supplied are in full compliance with RoHS & Weee Directives

RLS IMPORTANT INFORMATION

This beacon has the **Return Link Service (RLS)** feature. The RLS feature is an indication on the beacon (see page 3) that confirms to the beacon user that the distress signal from an activated beacon has been localised by the Cospas-Sarsat system and is being sent to the responsible search-and-rescue (SAR) authorities. It does **NOT** mean that a search and rescue has yet been organized/launched, only the fact that the distress alert has been received and is being routed to the appropriate SAR agencies.

The RLS is designed to send an acknowledgment to the beacon user in less than 30 minutes from beacon activation. Because this RLS performance still is under development, prior to around 2021 the acknowledgment to the beacon user may take somewhat longer than 30 minutes in certain parts of the world. Alerting of the distress to SAR authorities is independent of (and likely will occur before) the RLS acknowledgment indication on the beacon. This specification is described in the [Galileo SAR Service Definition Document](https://www.gsc-europa.eu/sites/default/files/sites/all/files/Galileo-SAR-SDD.pdf) (<https://www.gsc-europa.eu/sites/default/files/sites/all/files/Galileo-SAR-SDD.pdf>).

You may visit the web page [Countries Allowing RLS Beacons](https://cospas-sarsat.int/en/beacon-ownership/rls-enabled-beacon-purchase) (<https://cospas-sarsat.int/en/beacon-ownership/rls-enabled-beacon-purchase>) to learn the most recent information about regional/global support for RLS.

Cospas-Sarsat **strongly recommends that you register your beacon**. It only is possible to register a beacon in the registry operated by the country matching the “country code” (generally matching the country of point of sale) electronically programmed into the beacon (or the [International Beacon Registration Database \(IBRD\)](https://www.406registration.com/) (<https://www.406registration.com/>) if the country uses it for their registrations). For example, it only is possible to register a beacon with a French country code in France’s national registry. However, owners of Belgian-coded beacons must register in the IBRD. The country code is encoded in the beacon’s unique identification number (UIN, also called Hex ID), which is used to register the beacon. Visit [Where to Register My Beacon](https://www.406registration.com/countriessupported.aspx) (<https://www.406registration.com/countriessupported.aspx>) to see where you can register your beacon.

INFORMATION IMPORTANTE - RLS

Cette balise est dotée de la fonction **RLS (Return Link Service)**. La fonction RLS est un voyant lumineux sur la balise (voir page 14) qui confirme à l'utilisateur que le signal de détresse de la balise activée a été localisé par le système Cospas-Sarsat et qu'il a été envoyé aux organismes en charge de la recherche et du sauvetage. (SAR). Cela ne signifie **PAS** qu'une opération de recherche et de sauvetage a déjà été lancée, mais uniquement que l'alerte de détresse a été reçue et qu'elle est acheminée aux organismes SAR appropriés.

Le RLS est conçu pour envoyer un accusé de réception à l'utilisateur de la balise moins de 30 minutes après l'activation de la balise. Les performances RLS étant toujours en cours de développement, d'ici 2021 environ, l'envoi de l'accusé de réception envoyé à l'utilisateur de la balise pourra prendre un peu plus de 30 minutes dans certaines parties du monde. L'alerte de détresse aux organismes SAR est indépendante de (et se produira probablement avant) le voyant d'accusé de réception RLS sur la balise. Cette spécification est décrite dans le [Document de Définition du Service SAR Galileo](https://www.gsc-europa.eu/sites/default/files/sites/all/files/Galileo-SAR-SDD.pdf) (<https://www.gsc-europa.eu/sites/default/files/sites/all/files/Galileo-SAR-SDD.pdf>).

Vous pouvez visiter la page Web [Pays Autorisant les Balises RLS](https://cospas-sarsat.int/en/beacon-ownership/rls-enabled-beacon-purchase) (<https://cospas-sarsat.int/en/beacon-ownership/rls-enabled-beacon-purchase>) pour obtenir les dernières informations sur le soutien régional / mondial du RLS. Cospas-Sarsat **vous recommande fortement d'enregistrer votre balise**. Il est uniquement possible d'enregistrer une balise dans le registre géré par le pays correspondant au "code pays" (en général, le pays de point de vente) programmé électroniquement dans la balise (ou la [Base de Données Internationale d'Enregistrement des Balises \(BIRD\)](https://www.406registration.com/) (<https://www.406registration.com/>) si le pays l'utilise pour ses inscriptions). Par exemple, on ne peut enregistrer une balise avec le code pays français que dans le registre national français. En revanche, les propriétaires de balises au code pays belge doivent s'inscrire dans la BIRD. Le code pays est encodé dans le numéro d'identification unique de la balise (UIN, également appelé ID hexadécimal), qui est utilisé pour enregistrer la balise. Visitez le site [Où Enregistrer Ma Balise](https://www.406registration.com/countriessupported.aspx) (<https://www.406registration.com/countriessupported.aspx>) pour trouver où enregistrer votre balise.

INFORMACIÓN IMPORTANTE - RLS

Esta radiobaliza tiene la función **RLS (Servicio de enlace de retorno)**. La función RLS es una luz indicadora en la radiobaliza (ver página 25) que confirma al usuario que la señal de socorro de la radiobaliza activada ha sido localizada por el sistema Cospas-Sarsat y se está enviando a las organizaciones de búsqueda y rescate (SAR). Esto **NO** significa que ya se ha iniciado una operación de búsqueda y rescate, sino solo que se ha recibido la alerta de socorro y que se envía a las organizaciones SAR correspondientes.

El RLS está diseñado para enviar un acuse de recibo al usuario de la radiobaliza en menos de 30 minutos después de la activación de la radiobaliza. Con el rendimiento de RLS aún en desarrollo, alrededor de 2021, el envío del reconocimiento enviado al usuario de la etiqueta puede demorar un poco más de 30 minutos en algunas partes del mundo. La alerta de socorro a las autoridades SAR es independiente (y probablemente ocurrirá antes) de la luz de reconocimiento RLS en la baliza. Esta especificación se describe en el [Documento de Definición de Servicio de Galileo SAR](#)

(<https://www.gsc-europa.eu/sites/default/files/sites/all/files/Galileo-SAR-SDD.pdf>).

Puede visitar la página web [Países que permiten RLS Beacons](https://cospas-sarsat.int/en/beacon-ownership/rls-enabled-beacon-purchase) (<https://cospas-sarsat.int/en/beacon-ownership/rls-enabled-beacon-purchase>) para obtener la información más reciente sobre el soporte regional / global de RLS.

Cospas-Sarsat **recomienda encarecidamente que registre su radiobaliza**. Solo es posible registrar una baliza en el registro administrado por el país que correspondiente al "código de país" (generalmente el país de punto de venta) programado electrónicamente en la radiobaliza (o la [Base de Datos Internacional de Registro de Radiobalizas \(BIRD\)](#) (<https://www.406registration.com/>) si el país lo usa para sus registros). Por ejemplo, solo puede registrar una radiobaliza con un código de país francés en el registro nacional de Francia. Por otro lado, los propietarios de radiobalizas con el código de país belga deben registrarse en el BIRD. El código del país está codificado en el número de identificación único de la radiobaliza (UIN, también llamado Hex ID), que se utiliza para registrar la radiobaliza. Visite [Dónde Registrar Mi Radiobaliza](https://www.406registration.com/countriessupported.aspx) (<https://www.406registration.com/countriessupported.aspx>) para ver dónde puede registrar su radiobaliza.

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