

Accelerated
Location Detection
with GPS & Galileo
receivers



 **mcmurdo**
SEAS OF SOLUTIONS BRAND



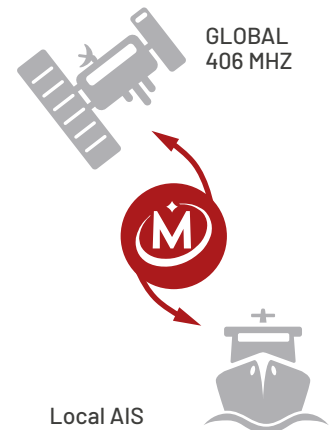
SmartFind G8 AIS EPIRB

MEOSAR Compatible[®] for enhanced detection and location performance, the G8 AIS EPIRB is the world's first EPIRB to combine the global 406 MHz professional search and rescue alert, with the localised locating and tracking power of AIS.

SmartFind G8 AIS EPIRB

The world's most powerful EPIRBs, driving accelerated rescue times via:

- Faster alert detection on the 406 MHz frequency through our MEOSAR compatibility
- The world's first QUADROTECH® EPIRB, with four search and rescue frequencies, the SmartFind G8 AIS supports the Alert, Locate, Tracking and Recovery elements of search and rescue
- Greater location detection speed and accuracy, as the multi-constellation GNSS receivers work with a wider range of satellites including Galileo and GPS.
- World's first convergence of 406 and AIS, combining the global alerting of 406 MHz with the localised locating and tracking power of AIS



McMurdo SmartFind EPIRBs include innovation as standard; with ruggedized base, easy service battery, MEOSAR compatibility, compliance with the United States emergency hands free transport and the new GNSS requirement which raises the minimum requirements for new EPIRBs being sold in the US. The additional false activation protection and multiple self-tests also offer total user confidence. Coupled with an unparalleled marine heritage, commitment to quality and a history of innovation, customers know they can trust McMurdo when their lives are at risk.

The G8 AIS is the first EPIRB to have standard 406 MHz, 121.5 MHz & GNSS capabilities AND include AIS for localised rescue. This combination is a result of new technology but also new attitudes to AIS as a search and rescue tool, plus the realisation that accelerated alert detection and location accuracy will save even more lives. This technology partnership will also help reduce demands on the Search & Rescue authorities as it should help vessel owners detect and resolve accidental activations through visibility of AIS signals.

SmartFind E8/G8 Auto-Housing

A fully protective, spring loaded enclosure, the auto-housing automatically deploys and activates the EPIRB when it is submerged between 1 - 4m. The SmartFind G8 auto-housing incorporates fixing points which ensure previous McMurdo auto-housing units can be retrofitted with minimum impact, when upgrading your vessels EPIRB.

Each of the models (G8 and G8 AIS) detailed on the comparison table opposite are available as either a category 1 or category 2 EPIRBs:

Category 1 EPIRB models

Supplied inside an auto-housing and automatically deployed and activated when in contact with water (although they can also be manually activated).

Category 2 EPIRB models

Supplied with a unique SmartTransfer bracket to prevent accidental activation, once manually removed from the bracket the EPIRB is activated manually or via water contact.



SmartFind G8 EPIRB Range Features Comparison

| Feature | Description | SmartFind G8 | SmartFind G8 AIS |
|---------------------------|---|--------------|------------------|
| Optimised for MEOSAR | Enhanced detection capability for accelerated rescue | ◇ | ◇ |
| VHF homer | 121.5MHz swept tone | ◇ | ◇ |
| 406 frequency | International rescue frequency | ◇ | ◇ |
| GNSS receiver | 72 channels multi-constellation (see Note 3) | ◇ | ◇ |
| AIS capability | AIS for localized rescue | | ◇ |
| SmartTransfer | Manual bracket allowing transport without activating water switch | ◇ | ◇ |
| Auto-housing option | Automatic deployment when submerged 1-4 m | ◇ | ◇ |
| Activation method | Manual or water activation | ◇ | ◇ |
| SmartCarry | Concealed hands-free easy carry strap | ◇ | ◇ |
| SmartBase | Impact protection | ◇ | ◇ |
| SmartLight | 3 lights, 360 degree coverage | ◇ | ◇ |
| SmartSwitch | Reusable ON power button cover, to prevent accidental activation | ◇ | ◇ |
| Battery storage life | 10 years (Lithium Iron Disulphide)(see Note 4) | ◇ | ◇ |
| SmartChange | Easy service battery | ◇ | ◇ |
| Global service network | 200+ service centres across 80+ countries | ◇ | ◇ |
| Multiple self tests | 120 short tests for system check and 20 Long tests which include testing of the GNSS receivers (see Note 1) | ◇ | ◇ |
| Warranty | 1 + 4 years with 1 year extension on safety check (see Note 2) | ◇ | ◇ |
| Part of McMurdo Ecosystem | Developed with McMurdo's unique understanding of the technical requirements to fully utilise the Cospas-Sarsat infrastructure | ◇ | ◇ |

NOTE 1 Recommendation – 1 test a month over a period of 10 years. Long tests twice a year over a 10 year period. Long tests to be conducted in full view of sky. Obstacles will increase time taken for GPS lock, reducing the battery life. Long Tests can also only be performed if GNSS receiver workability seems suspect.

NOTE 2 Warranty is 1 year from date of purchase, an additional 4 years upon registration with Seas Of Solutions. On 5 year health check, an additional year will be put in place.

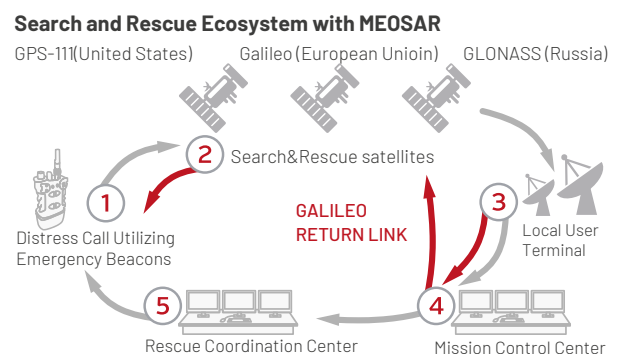
NOTE 3 GPS and GLONASS has been approved. Galileo will be in place once active in early 2017.

NOTE 4 As a responsible manufacturer, Seas Of Solutions recommends a 5 year health check. Shore-based maintenance mandated vessels, battery health check or replacements should be carried out in accordance with flag Administration requirements and not exceeding 5 years.

Understanding the MEOSAR Ecosystem

MEOSAR Improvements: Better Accuracy, Timeliness and Reliability. Cospas Sarsat has rolled out a new search and rescue infrastructure known as MEOSAR. The aim is: Determine beacon location within 5km, 95% of the time, within 10 minutes.

- 72 MEOSAR satellites positioned at Medium Earth Orbit altitude
- Near instantaneous beacon signal detection using bent pipe technology – average 46 minutes faster compared to LEOSAR
- Reduced response times with multiple signal bursts to improve speed and accuracy of location calculation
- Close to 100% reliability due to multiple antenna systems and MEOLUT networking
- When fully operational next generation beacons will also have a Return Link signal through Galileo satellites
- Lives have already been saved with the early operational MEOSAR through faster alerts and greater accuracy, for example in Australia where McMurdo previously completed MEOSAR ground infrastructure installation.



406 MHZ TRANSMITTER

| | |
|--------------|--------------------|
| Frequency | 406.040 MHz + 1kHz |
| Power output | 5 W nominal |
| Modulation | Phase (16KOG1D) |

121.5 MHZ TRANSMITTER

| | |
|--------------|-------------------------|
| Frequency | 121.5 MHz + 3 kHz |
| Power output | 100 mW nominal |
| Modulation | Swept tone AM (3K20A3X) |

AIS TRANSMITTER (SEE NOTE 1)

| | |
|--------------|--|
| Frequencies | 161.975 MHz (AIS1); 162.025 MHz (AIS2) |
| Power output | 1 W nominal |
| Modulation | Phase (16KOGXW) |

GNSS RECEIVER (SEE NOTE 2)

| | |
|--------------------|--|
| Constellations | GPS, GLONASS, Galileo |
| Frequencies | 1575.42 MHz (GPS, Galileo); 1602.00 MHz (GLONASS) |
| Sensitivity | -167 dBm minimum |
| Satellites tracked | 72 channel |

STROBE LIGHT

| | |
|--------------|-----------------------|
| Type | 3 high intensity LEDs |
| Light output | 0.2 cd minimum |
| Flash rate | 23 flashes per minute |

BATTERY

| | |
|------------------------------|---|
| Type | Lithium iron disulphide |
| Operating life | 48 hours minimum |
| Shelf life (in-service life) | 10 years typical in service (see Note3) |

ENVIRONMENT

| | |
|-------------------------|--------------------------------------|
| Operating temperature | 20 °C to +55 °C (-4° F to +131° F) |
| Storage temperature | -30 °C to +70 °C (-22° F to +158° F) |
| Automatic release depth | 4 m maximum |

NOTE 1: AIS is available on the G8-AIS model only

NOTE 2: GNSS is available on the G8 and G8-AIS models only

NOTE 3: As a responsible manufacturer, McMurdo recommends a 5-year health check at the nearest McMurdo approved service agent. Shore-based maintenance mandated vessels, battery health check or replacements should be carried out in accordance with flag Administration requirements and not exceeding 5 years.

NOTE 4: Approvals for the various standards is pending

DIMENSIONS (EPIRB)

| | |
|--------------------|--------------------------------|
| Weight | 710 g |
| Height/Width/Depth | 423x104x103 mm (incl. antenna) |
| Length of antenna | 206 mm |

DIMENSIONS (MANUAL BRACKET)

| | |
|--------------------|----------------|
| Weight | 110 g |
| Height/Width/Depth | 270x125x121 mm |

DIMENSIONS (FLOAT FREE ENCLOSURE)

| | |
|--------------------|----------------|
| Weight | 1075 g |
| Height/Width/Depth | 416x126x132 mm |

STANDARDS APPLIED (SEE NOTE 4)

| | |
|-------------------------|---|
| COSPAS-SARSAT | C/S 1.001 C/S T.007 |
| Europe | MED (wheelmark) |
| USA | USCG & FCC; FCC ID; TBA; 47 CFR Parts 80, 2; |
| International standards | Dependant on variant IEC 61097-2; IEC 60945 incl. Corrigendum1; Industry Canada RSS-287; AS/NZS 4280.1; IMO MSC/Circ. 862 |
| M0 regulations | A.662(16); A.694(17); A.810(19); A.814(19) |

PART NUMBERS

| | |
|-------------------------------|-------------|
| SmartFind G8 Manual EPIRB | 23-001-002A |
| SmartFind G8 Auto EPIRB | 23-001-502A |
| SmartFind G8 AIS Manual EPIRB | 23-001-001A |
| SmartFind G8 AIS Auto EPIRB | 23-001-501A |

Safe Operational EPIRB Life

Seas of Solutions Safe Operational EPIRB Life guidance is that EPIRBs should be considered for decommissioning after 12-15 years, as this reduces the risk of environmental impact on beacon performance and ensures end users have beacons with the latest technology. As a result, the SmartFind G8 EPIRB range is supplied with a ten-year battery, but battery replacement kits have a minimum five-year battery, to encourage regular professional checks of the units and reduce the likelihood of the beacons remaining on board vessels beyond the recommended operational life.

