



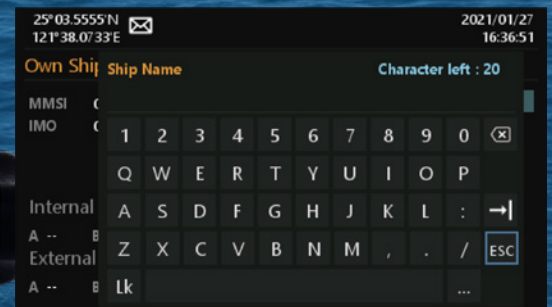
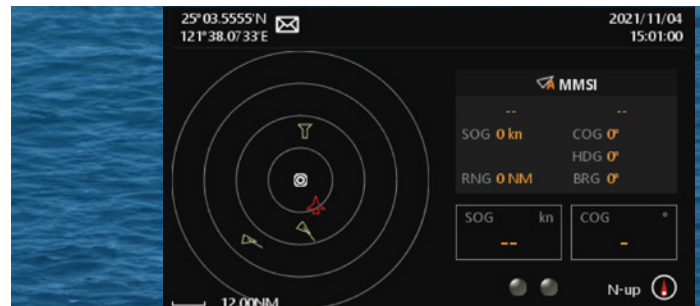
## SmartFind M6 AIS Class A

McMurdo SmartFind M6  
AIS Class A, Shipborne  
Automatic Identification  
System Transponder



The SmartFind M6 is a next generation AIS Class A transponder from McMurdo. IMO SOLAS and EU Inland Waterway Certified, the SmartFind M6 is a compact solution, easy to install and operate and suitable for SOLAS vessels, commercial ships, professional vessels, and non-SOLAS applications.

McMurdo is a leading manufacturer of AIS systems. We recognise that each client is different, so we have developed a range of solutions for vessels of all sizes. Our products are supported through a global network of service centres.



## Technology and know-how

The SmartFind M6 AIS Class A Transponder gives mariners the ability to view at a glance the AIS status of vessels all around them and provides access to a host of detailed vessel navigation information.

Building on our strength as a market leader and world class manufacturer of marine safety equipment, the McMurdo M6 Automatic Identification System ably fulfils the demanding requirements of seagoing vessels. Ease of use is foremost and has resulted in a truly cutting-edge product that benefits from the very best AIS technology, presented in a way only a company of McMurdo's wide experience can.

The SmartFind M6 Class A provides automated AIS communication from 'ship-to-ship' and 'ship to-shore', transmitting and receiving vessel, voyage and safety related information. Own vessel voyage, position and course information is automatically transmitted, and the AIS information provided by other ships in the vicinity, shore-based stations and AIS equipped aids to navigation are clearly displayed.

The complete AIS solution, comprehensive interface capabilities support interface connection to the vessel's existing navigation sensors; connection of Electronic Chart Display and Information System (ECDIS), or Electronic Chart System (ECS) using NMEA, NMEA2000, USB and Ethernet connectivity interfaces.

SmartFind M6 is suitable for all vessels that are required by legislation to fit AIS equipment, both high seas and for vessels required to transit along the network of EU Inland waterways. A "blue sign" switch may optionally be connected to assist with signalling approaching inland waterway vessels.

## Key Features

- Compact AIS Class A transponder, easy to install and operate.
- Fully compliant with IMO, IEC, and ITU international standards
- Colour 4.3" high contrast display
- Waterproof to IP54
- Detailed AIS target list and Radar like overview
- Multi GNSS system sources
- Integrated forward facing Pilot Plug
- Automatic backlight dimmer
- Backlit Keypad, intuitive user interface
- IMO Deepsea and Inland waterways AIS mode selectable
- Multiple sensor input ports, ECDIS and ECS bi-directional data ports
- USB, NMEA2000, IEC 61162-1/2 with Ethernet connectivity
- SD card slot supports NMEA logging and software upgrade
- IMO BAM compliant, also with analogue alarm interface
- Cable Junction box, GNSS antenna included as standard
- Flush panel and trunnion mount included





## Ease of use

Intuitive and easy to operate, SmartFind M6 has a 4.3 inch (110mm), high contrast, backlit LCD graphic display. AIS targets can be displayed as an ordered list or viewed as a geographic plot.

Powerful graphics capabilities can plot all surrounding AIS targets to give the officer of the watch a clear overview and best visual understanding of any developing hazard to navigation situation. The AIS target list has a split screen view to quickly bring a selected targets detailed static and dynamic information into view. The intuitive user interface provides easy access to all aspects of system operation. Entry of alphanumeric text information is both easy and straightforward using an on-screen keyboard together with a four-way navigation pad key. Drop down menu boxes give quick and easy access to standard text phrases that can be edited and saved for re-use when updating own vessel voyage, route, and destination details.

With pioneering Safety features, the SmartFind M6 is a flexible, user-friendly and cost-effective AIS Class A transponder, incorporating comprehensive AIS MOB, AIS SART alarm features in support of search and rescue. The AIS SART MOB alarm feature is compatible with the McMurdo S10, S20 and Crew1 AIS MOB devices and other similar AIS SART type device.

The SmartFind M6 can be connected to the ship's sensors as required by the IALA guidelines using the included junction box to interface with external navigation and presentation systems that support IEC 61162-1 related sentences. It is also capable for connection to Long Range system like Inmarsat C.

## Items included

- Transponder unit with colour display and Pilot plug
- Flush panel and trunnion mount
- GPS antenna
- Junction box and link cable
- 1.5m power cable, USB and Ethernet patch leads

Optional Accessory, Cable remote Pilot plug



# PRODUCT SPECIFICATIONS

## Applicable Standards

|                                               |                                   |
|-----------------------------------------------|-----------------------------------|
| IEC 61993-2 Ed.3.0, 2018                      | IMO Resolution A.694(17)          |
| IEC 61108-1 Ed.2.0, 2003                      | IMO Resolution MSC.74(69) Annex 3 |
| IEC 60945 Ed.4.0, 2002<br>incl. Corr. 1, 2008 | IMO Resolution MSC.191(79)        |
| IEC 61162-1 Ed.5.0, 2016                      | IMO Resolution MSC.302(87)        |
| IEC 61162-2 Ed.1.0, 1998                      | ITU-R M.1371-5 (Class A), 2014    |
| IEC 61162-450 Ed.2.0, 2018                    | IEC 62288 Ed.2.0, 2014            |
| IEC 62923-1 Ed. 1.0, 2018                     | IEC 62923-2 Ed. 1.0, 2018         |

## VHF Transceiver

|                           |                                  |
|---------------------------|----------------------------------|
| Frequency Range           | 156.025 MHz ~ 162.025 MHz        |
| Channel Bandwidth         | 25 KHz                           |
| Modulation                | GMSK / FM                        |
| Data Rate                 | 9,600 bps                        |
| Number of AIS Transmitter | 1                                |
| Number of AIS Receiver    | 2                                |
| Number of DSC Receiver    | 1                                |
| AIS Channel 1             | CH 87B (161.975 MHz)             |
| AIS Channel 2             | CH 88B (162.025 MHz)             |
| Tx Power Output           | 1/12.5 Watt (30/41 dBm ± 1.5 dB) |
| Rx Sensitivity            | < -107 dBm @ 20% PER             |

## DSC Receiver

|                             |                                          |
|-----------------------------|------------------------------------------|
| Frequency                   | 156.525 MHz                              |
| Modulation                  | FSK                                      |
| Channel Bandwidth           | 25K                                      |
| Sensitivity                 | < -107 dBm @ BER < 10 <sup>-2</sup>      |
| Spurious Response Rejection | ≥ 70 dB for signal @ -104 dBm; BER ≤ 1 % |
| Blocking                    | ≥ 84 dB for signal @ -104 dBm; BER ≤ 1 % |

## GNSS Receiver (Internal)

|               |                                                                                           |
|---------------|-------------------------------------------------------------------------------------------|
| Receiver type | 72-channel;<br>GPS, GLONASS, BeiDou, Galileo,<br>SBAS: WASS, EGNOS, MSAS, GAGAN           |
| Accuracy      | Position: 2.5m CEP SBAS: 2.0m CEP                                                         |
| Sensitivity   | Default mode: GPS & GLONASS<br>Tracking & Navigation: -164 dBm<br>Reacquisition: -160 dBm |

## Power Supply

|                      |                                   |
|----------------------|-----------------------------------|
| Supply Voltage       | 12V / 24V DC                      |
| Supply Voltage Range | 9.6V DC ~ 31.2V DC                |
| Peak Current Draw    | 3.50A @ 12V DC;<br>1.72A @ 24V DC |

## LCD Display

|                           |                                                          |
|---------------------------|----------------------------------------------------------|
| Screen Size               | 4.3" color TFT                                           |
| Pixel Number (Resolution) | 480x272                                                  |
| Dimmer Control            | Change brightness automatically<br>when lighting changes |

## Keypad

|                            |                                                                                   |
|----------------------------|-----------------------------------------------------------------------------------|
| 11 Keypads with Back-light | Function, ESC, Voyage/SRM, MENU,<br>Screen Brightness,<br>DISP, Enter, Arrow Keys |
|----------------------------|-----------------------------------------------------------------------------------|

## Connection Interface

### Main Unit Front Panel:

|              |                           |
|--------------|---------------------------|
| USB          | Mini type B USB interface |
| SD Card Slot |                           |
| Pilot Plug   | Std. Sex 206486-2         |

### Main Unit Rear Panel:

|                       |                                                         |
|-----------------------|---------------------------------------------------------|
| Power Connector       | Round type, 3 pins                                      |
| GPS Antenna Connector | TNC (Female)                                            |
| VHF Antenna Connector | SO-239 (Female)                                         |
| Ethernet              | 10BaseT / 100Base-TX                                    |
| DATA                  | 37-pins, connect to Junction Box via<br>extension cable |

### Junction Box Connectors: [\* Baud rate support: 38400 (default), 9600, 4800.]

|                            |                                      |
|----------------------------|--------------------------------------|
| Sensor Interfaces 1 to 3 * | IEC 61162-1 or -2                    |
| Pilot / Auxiliary *        | IEC 61162-2                          |
| External Display *         | IEC 61162-2                          |
| Long Range *               | IEC 61162-2                          |
| DGNSS correction input *   | RTCM-SC-104                          |
| Alarm Relay                | Normally open                        |
| NMEA2000                   | IEC61162-3                           |
| Alarm Output               | Relay contact                        |
| Blue sign switch           | Connect to external Blue sign switch |
| Silent mode                | Connect to external silent switch    |

## Environmental

|                       |                                |
|-----------------------|--------------------------------|
| Operating Conditions  | IEC 60945 "protected" category |
| Operating Temperature | -25°C ~ 55°C                   |
| Operating Humidity    | 95% RH at 40°C                 |
| Waterproof            | IP54                           |

## Physical

|                           |                     |
|---------------------------|---------------------|
| Width                     | 262 mm (10.32 inch) |
| Height                    | 135 mm (5.32 inch)  |
| Depth(include connectors) | 197 mm (7.76 inch)  |
| Weight (main unit)        | 1.25 kg             |

## MECHANICAL DIMENSION

