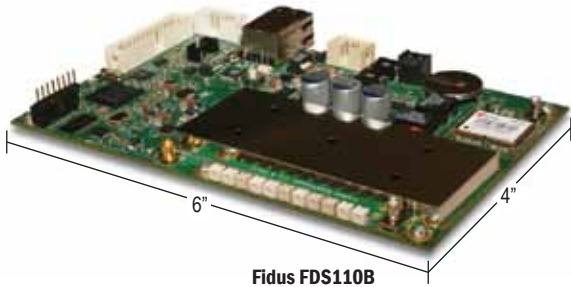


# Fidus Systems

## Automatic Identification System (AIS) Class B Module – FDS110B



Fidus FDS110B

### Very Flexible, Easily Integrated, High Performance, Cost Competitive

Fidus Systems is a leader in AIS design services and the development of AIS products for personal and commercial use. The Fidus AIS Class B Module offers a flexible, high performance, cost competitive solution that is easily integrated into multiple marine-based applications. With excellent RF performance, upgradability and multiple interfaces, the Fidus Class B Module can serve customers' current and future AIS needs.

### Applications

#### Easy AIS Integration

As the requirement for more and more electronics takes more and more real estate on today's vessels' bridges, it becomes increasingly important to offer solutions that integrate multiple technologies. Without expending significant R&D resources, integrate Fidus' AIS Class B Module into multiple applications such as Marine Radio, GPS Plotter, Radar, or ECDIS.

#### Stand-Alone AIS Class B Solution

Fidus' AIS Class B Module is easily packaged into a stand-alone water resistant enclosure. The Class B Transponder can interface to a laptop running common AIS display software. This cost-effective solution provides a compliant, simple, straightforward, Class B solution for marine-based customers.

#### Niche Markets

The Fidus Class B Module's on-board processor can optionally be used to host a customizable set of off-board peripherals (e.g. SmartCard Reader/Writer or additional I/O ports). Customers can also use the processor as an interface point between the Fidus AIS System and their host System. A dedicated expansion connector supports a Master/Slave SPI bus, LED signals and multiple customizable general purpose I/O. In addition, transmit output power is configurable between 1 and 12.5W.

### Advantages

#### Business

- **Faster time-to-market:** Customers rely on Fidus' AIS expertise and years of experience in developing AIS technology, IP and Type solutions to assist in rapid product introduction.
- **Simplified Type Approval Process:** Fidus offers customers a simplified AIS Type Approvals process by leveraging substantial investments in test equipment and access to applicable test reports (completed by an independent German test facility).
- **Profitability:** The Class B Module is cost competitive and supports many high value features that allow customers to profit above a generic Class B product.
- **Emerging Markets:** Hardware and software are easily customized to support customers' multiple and emerging market needs.
- **Flexible Engagements:** Fidus can offer customized development agreements such as ODM style production agreements and support, licensing, and/or royalty models. Fidus welcomes customers seeking low, medium and high volumes.
- **AIS Design Services:** Fidus specializes in electronic product development and has extensive experience in providing design services that easily integrate AIS functionality into product designs for multiple markets.

#### Technical

- **Software Defined Radio (SDR):** The SDR architecture provides upgradeability to accommodate additional AIS channels as requirements evolve. In-system software upgrades are supported.
- **High-speed Digital Signal Processing (DSP):** The frequency agile DSP receives any two AIS channels and DSC simultaneously. With superior channelization and adjacent channel rejection, traditional analog approaches are out-performed.
- **Multiple Interfaces:** NMEA0183 data can be exchanged via multiple interfaces including Ethernet, USB, RS232 and RS422. AIS data may be logged using the Micro SD™ port. Non-required interfaces may be removed for cost savings.
- **Transmit Power:** The onboard power amplifier can be configured to output between 1 and 12.5W.
- **Dedicated Digital Selective Calling (DSC) (Non-time shared):** Critical AIS data is never overlooked as both AIS channels and a DSC channel operate simultaneously.



## About Fidus AIS Solutions

Fidus Systems offers a complete range of proven AIS technology, Intellectual Property (IP) and AIS Type solutions which minimize the cost, time and risk associated with developing a range of AIS products. Our AIS development team has in-depth RF expertise and extensive experience implementing AIS functionality into product designs.

Fidus provides clients with greater flexibility and capability in their product development with access to the expertise, process and tools to transform their concepts to products. Fidus has delivered on more than 750 products and projects for 180 customers across North America. For more information, visit [www.fidus.com/products/ais](http://www.fidus.com/products/ais)



## Ordering Information

AIS Class B Module Part #: FDS110B

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## Features

### AIS Class B Transponder

Operational Frequency:	156.025 to 162.025MHz
Channel Bandwidth:	25kHz
Sensitivity (<20% PER):	better than -107dBm
Co-Channel Rejection:	better than -10dB
Adjacent Channel Selectivity:	better than 70dB
Spurious Response Rejection:	better than 70dB
DSC Receiver:	Dedicated (non-time shared)
TX Messages Supported:	18, 19, 24A/B
Regional Settings:	Message 22
Sensors:	Internal GPS

### Environmental

IEC 60945 Class:	Protected
Operating Temperature:	-15 to +55 °C

### Interfaces

Power:	9.6 to 15.6VDC (12V nominal)
I/O:	RS232 (38.4kbps,N,8,1)
	RS422 (38.4kbps,N,8,1)
	Ethernet
	USB
	Micro SD port
Indicators:	Data (CHA/B(Tx,Rx,RxErr),DSC(Rx,RxErr))
	System (Power, Tx Timeout, System Error)

## Related Standards

NMEA 0183	IEC 60945
NMEA 0183-HS	IEC 61993-2
IEC 61162-1	IEC 61108-1
IEC 61162-2	ITU-R M.1371-4
IEC 62287-1	

## System Diagram

