AIS TRANSPONDER MA-110 (STANDARD)

AUTOMATIC IDENTIFICATION SYSTEM TRANSPONDER

The MA-110 AIS Transponder mobile station from MATSUTEC and is designed to be fully integrated in a ship's bridge environment. An improved receiver sensitivity of -115 dBm gives an increased rang compared to AIS units with the standard sensitivity of -107 dBm. The MA-110 is tested and approved in accordance with international egulations and have the Wheelmark certification. In addition the MA-110 is tested and approved in accordance with the inland AIS regulations.

AIS Transponder

An AIS (Automatic Identification System) is a tool for identifying and monitoring maritime traffic by sending and receiving vessel information on dedicated VHF radio frequencies. Displaying AIS information on the command center, chart plotter, or other MFD(Multi-Function Display) enhances situational awareness and enables mariners to make informed decisions.

An AIS transponder on your boat automatically receives information broadcast by other AIS-equipped vessels and base stations, all while your own vessel's static and dynamic information is being transmitted. AIS signals may reach where radar cannot, showing AIS-equpped vessels that might otherwise be hidden, such as on the other side of an island or behind a larger vessel. SOLAS commercial vessels are already required to carry AIS transponder, so your position will be known by nea
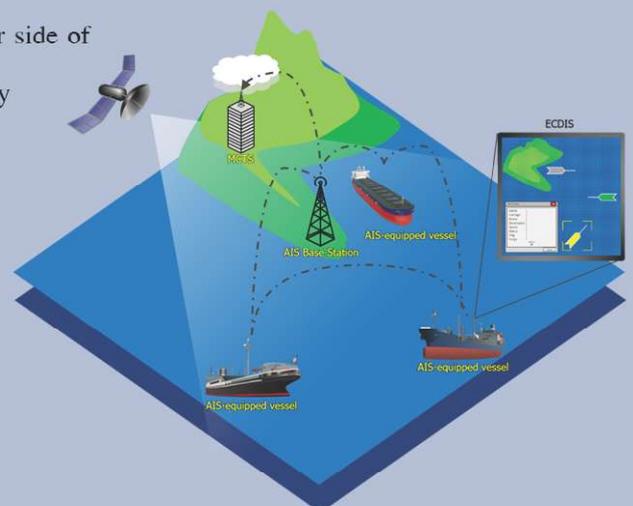
FEATURES

- Electrical function is accordance with IEC 62297-1
- Dual Channel function: Two TDMA receivers are receiving datum in two independent channels at the same time, and one TDMA transmitter is transmitting in two independent channels alternately.
- TDMA function can avoid and solve communication conflict.
- Transponder support serial data interface(RS-232, RS-422).
- Transmit and receive safety message, and equipped with "SOS" safety switch.
- Support three operation mode: Carrier-sense mode, assigned mode and polled mode.
- Internal GPS receiver, as data source for position, COG and SOG can be connected to all devices compatible to GPS and PC, ECDIS, RADAR, etc.
- Support DSC reception based on TDMA channel.
- Alarm and indication (via LED) for power, error, time-out, status.
- Paramiter configuration via RS-232, RS-422

TECHNICAL SPECIFICATIONS

• STANDARDS

Triggering messages for broadcast applications	: IEC 62297-1
Maritime navigation and radio	: IEC 61162-1, IEC 61162-2, IEC 62287, IEC 62288, IEC 61993-2
Modulation communication equipment and systems	: IEC 60945, IEC 60945-2002

• GPS RECEIVER

Receiving Channels	: 12 Channels
Acquisition Sensitivity	: -140 dBm
Tracking Sensitivity	: -150 dBm
Position Accuracy	: <2.5m CEP (GPS) without SA
Output Rate	: 1 Hz

• RADIO MODULE

VHF transmitter	: 12.5 W
Modulation	: GMSK / FM
DSC	: FSK
Data Rate	: 9600 bps / per channel
Bandwidth	: 25 KHz
Frequency Range	: 156.025 MHz to 162.025 MHz Default CH 87B (161.975 MHz) Default CH 88B (162.025 MHz)
Receiver Sensitivity	: PER $\leq$ 20% at -107 dBm

• INTERFACES

Communication 1	: NMEA2000 Standard connector x1 Port
Communication 2	: NMEA 0183 (RS-422), Support two NMEA 0183 interfaces, Default baud rate 38,400 & 4,800bps Configurable and separate Tx/Rx baud rate Standard IEC 61162-1 / IEC 61162-2 sentences x1 Port
VHF	: 1 Port
GPS	: 1 Port
Power	: 1 Port

• ENVIRONMENT

Operating Temperature	: Antenna: -25 °C ~ 70 °C
Storage Temperature	: -25 °C - 70 °C
Humidity	: Operating: 0 ~ 95 RH at 40 °C
GPS Antenna Operating	: 100% sealed
VHF Antenna Operating	: 100% sealed
IPX Rating	: IPX5

• ELECTRICAL

Operating Voltage	: 12 - 24 V DC

• PHYSICAL

SOS Switch	: 1
Power ON/OFF Switch	: N/A
LED Indicator	: Send Receive Alarm

• EQUIPMENT LIST

1. AIS Transponder
2. GPS Antenna/VHF Antenna
3. Installation manual

Specifications subject to change without any further notice.