

## CLASS B AIS TRANSPONDER

Model: HA-102



### 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.
- ▶ CSTDMA function can avoid and solve communication conflict.
- ▶ Transponder has external serial data interface(RS-422, RS-232).
- ▶ Transmit and receive safety message, and equipped with "SOS" safety button.
- ▶ 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, PDA, ECDIS, RADAR, etc.
- ▶ Support DSC reception based on TDMA channel.
- ▶ Alarm and indication (via LED) for power, error, time-out, status.

## SPECIFICATION

### STANDARDS

IEC 62297-1  
IEC 61162-1  
IEC 60945-2002

### VHF RECEIVER

Frequency Range 156.025 MHz - 162.025 MHz  
Channel Bandwidth 25 KHz  
Number of AIS Receivers 2 Receiver (one time share between AIS / DSC) 1 Transmitter  
CH-1 default CH 87B (161.975 MHz)  
CH-2 default CH 88B (162.025 MHz)

### Number of DSC Receiver

1 (CH 70)  
RX DSC 156.525 MHz  
Max. Usable Sensitivity PER ≤ 20% at -107dBm

### VHF TRANSMITTER

Power Output 2 Watt (33dBm ±1.5 dB)  
Modulation GMSK / FM  
Data Rate 9600 bps / per channel  
Modulation Spectrum IEC 62287

### DSC RECEIVER

Modulation 1300 Hz / 2100 Hz FSK  
Data Rate 1200 bps ± 30 ppm  
Spurious Response Rejection ≥ 70 dB for signal@-104 dBm; BER≤1%  
Blocking ≥ 70 dB for signal@-104 dBm; BER≤1%

### 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

### POWER

Supply Voltage 12V DC (10V - 20V)  
Power Consumption Less than 10W

### MAIN UNIT

4 LED Indicator Working Status  
1 ON/OFF Switcher

### INTERFACE

Ports NMEA 0183 / RS-422 / RS-232  
GPS Antenna (Optional) Female TNC Connector  
VHF Antenna (Optional) Female Type M Connector

### ENVIRONMENT

Operating Temperature Antenna: -25 C - 70 C  
Others: -15 C - 55 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

Vibration IEC 60945  
Waterproof IPX 5

### PHYSICAL

Size in mm (W) 234 mm  
Size in mm (H) 40 mm  
Size in mm (D) 167 mm  
Weight < 1 kg