



# UNIVERSAL AIS TRANSPONDER

# MTU AIS



The MTU AIS unit is an AIS AtoN transponder device housed in a IP 67 watertight box, providing automatic information on the GPS position of the marine aid to navigation (AtoN); thus making easy the location and identification of buoys, beacons and lighthouses on a vessel or an AIS Base Station chart.

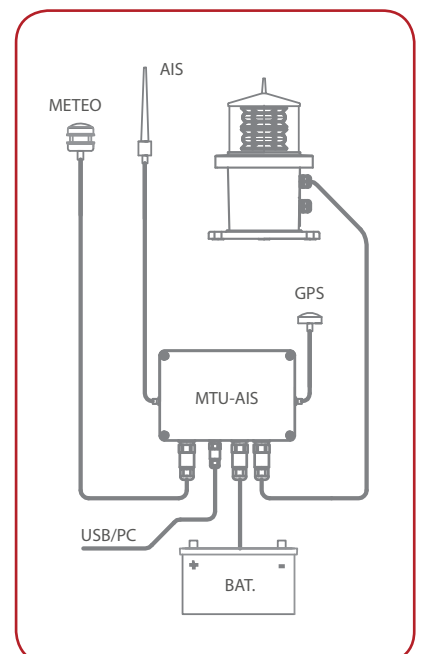
This unit is designed to be connected to any beacon of the market with a serial port and NMEA 0183 protocol available, thus transmitting operating status data.

Additionally, the MTU AIS can transmit meteorological and oceanographic data, such as current, wave height, tides, and wind direction and intensity; all this with a minimum energy consumption.

The MTU AIS complies with IMO, IEC, ITU and IALA Standards.

## FEATURES

- ✓ Broadcasting of aids-to-navigation (AtoN) identification data on Message 21, as well as basic data and operating status.
- ✓ Able to transmit meteorological and oceanographic data on Message 8.
- ✓ Ideal for remote monitoring and control of beacons, providing alarms and status on Message 6.
- ✓ Manufactured according to IEC AIS Aids to Navigation, IEC 62320-2, IEC 60945, IEC 61108-1, IEC 61162-1/2, ITU-R M.1371-4, IALA A-126 Standards.
- ✓ Two versions are available:  
MTU AIS-1: Type 1, transmitter only.  
MTU AIS-3: Type 3, transmitter-receiver.
- ✓ Capability of generating virtual and synthetic nav aids (AtoN), and also repeater function.
- ✓ Configuration via software under Windows environment and commands via VDL radio.
- ✓ Position alarm generator by chain breaking (only buoys).
- ✓ Remote Monitoring Centre Software via AIS available.



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Specifications subject to change without previous notice.

Message 21 content	
MMSI number / Name of AtoN.	
WGS84 position.	
GPS time and date.	
Type of AtoN.	
AtoN indicator: Real, Synthetic, Virtual.	
Out of position alarm.	
Racon failure alarm.	
Lantern failure alarm.	
Day-Night mode lantern status.	

Power supply	
Power input:	10 to 32V d.c.
Typical consumption (*):	Type 1: 0.06 Ah/day.
	Type 3: 0.5 Ah/day.

(\*)Emission every 3 min, at 12.5W.

MTU AIS RF module	
Frequency range:	156.025 to 162.025 MHz.
Transmission power:	1, 2, 5, 12.5W (adjustable).
Number of receivers:	2.
Receiver sensitivity:	< -110 dBm (Type 3).
AIS 1 frequency:	161.975 MHz 25 Khz.
AIS 2 frequency:	162.025 MHz 25 Khz.
Auto-diagnosis:	Emission power test and SWR measurement.

Transmission	
Possible messages:	21, 6, 8, 12, 14, 25, 26.
Standard transmission:	Every 3 min, adjustable.
Control:	Type 1: FATDMA. Type 3: FATDMA, RATDMA.

GPS	
Integrated receptor:	50 channels. IEC 61108-1.
Antenna:	Active 35 dB, external, marine type.

Versions	
MTU AIS Type 1:	Transmitter only.
MTU AIS Type 3:	Transmitter and receiver.

Mechanics and environmental	
Dimensions:	180 x 150 x 90 mm.
Weight:	1.6 kg.
Temperature range:	-25° to 55°C.
Watertightness:	IP 67.

Message 6 content (NMEA 0183 interface)	
MMSI number / Name of AtoN.	
Battery voltage (V).	
Lantern current (A).	
Solar current (A).	
Day-Night mode lantern status.	
Lantern failure.	
Racon failure.	
Out of position.	
Low battery voltage.	
Flasher failure.	
LED diodes failure.	
Wrong flashing rhythm.	
Excess consumption of the lantern.	

Message 8 content	
MMSI number / Name of AtoN.	
WGS84 position.	
GPS time and date.	
Air temperature/wind: direction and speed, average and peak. Atmospheric pressure: average and trend.	
Tide level.	
Water temperature.	

MTU AIS interfaces	
Digital I/O:	5 nos. opto-coupled inputs. 2 nos. relay outputs. 4 nos. non-isolated adjustable inputs/outputs.
Analogical Inputs	2 nos. isolated inputs 0-36V. 3 nos. non-isolated inputs 0-32V. 1 no. current sensor 0.1-5A.
Ports:	RS-422 bidirectional port 38.400 baud. NMEA 0183. RS-422 input port 38.400 baud. NMEA 0183. Bidirectional port 38.400 baud. NMEA 0183. Input port 38.400 baud. NMEA 0183. 2 nos. adjustable RS-232 ports. Configuration USB port. SDI12 Bus.

Standards	
IEC AIS Aids to Navigation.	IALA A-126. Edition 1.4.
IEC 62320-2. Edition 1.	IEC 61162-1/2. Edition 2.0.
IEC 60945. Edition 4.	ITU-R M.1371-4.
IEC 61108-1.	

Options	
Weather station.	
Tide sensor (on-shore).	
Glonass.	
Other parameters available.	



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