node-red-contrib-ais-decoder

Output format specification

Version: 0.2.0

This document describes the structure of the output messages from node-red-contrib-ais-decoder.

There are two output ports:

- A “decode” port (port 1), which emits messages containing decoded AIS information
- An “error” port (port 2), which emits error messages if an input message cannot be decoded.

Each output message (for either port) contains a `payload` member, which is a Javascript object. The components of this object are described in the table below.

- Message components are accessed by prepending the name by `msg.payload`. Thus to access `aisType`, use `msg.payload.aisType`.
- Not every message contains every member. Which object members are present in the output depends on the input message. The table indicates which object members you might find in which AIS message types.
- One input message may result in zero, one or multiple output messages.

Object reference	Data type	Valid message types	Description
`aisOriginal`	String	All messages	The original encoded AIS message. This is present in messages from both ports.
`aisError`	String	Error messages	Reason for error. Only present in messages from the error port.
`aisType`	Integer	All messages	AIS message type. See Table 4 in ref [1].
`aisRepeatIndicator`	Integer	All messages	If non-zero, message has been relayed.
`aisMmsi`	String	All messages	Mobile Marine Service Identifier - a unique ID for a vessel.
`aisNavigationStatus`	Integer	1 2 3	See Table 7 in ref [1].

Object reference	Data type	Valid message types	Description
aisTurningDirection	Integer	1 2 3	if present, 1 = turning right; -1 = turning left; 0=not turning.
aisTurningRate	Integer	1 2 3	If present, rate of turn in degrees per minute.
aisSpeedOverGround	Float	1 2 3 9 18 19	If present, speed in knots (resolution 0.1 knots, or 1 knot for type 9).
aisLatitude	Float	1 2 3 9 18 19	If present, latitude in degrees. N is positive, S is negative.
aisLongitude	Float	1 2 3 9 18 19	If present, longitude in degrees. E is positive, W is negative.
aisPositionAccuracy	Integer	1 2 3 9 18 19	if non-zero, position information is accurate to better than 10m.
aisCourseOverGround	Float	1 2 3 9 18 19	If present, course over ground in degrees (resolution 0.1 degrees).
aisTrueHeading	Integer	1 2 3 18 19	If present, true heading of vessel in degrees.
aisTimeStampSeconds	Integer	1 2 3 9 18 19	If present, timestamp in seconds, 0 to 59.
aisPositioningSystemStatus	Integer	1 2 3 9 18 19	If present, 1 = manual input mode, 2 = dead reckoning mode; 3 = inoperative.
aisManoeuvre	Integer	1 2 3	If present, 1 = no special manoeuvre, 2 = special manoeuvre.
aisRaim	Integer	1 2 3 9 18 19	0 = Receiver Autonomous Integrity Monitoring not in use, 1 = RAIM in use.
aisVersion	Integer	5	0 = ITU1371, 1-3 = future editions.
aisShipId	Integer	5	International Maritime Organisation ship ID number.
aisCallsign	String	5	Vessel callsign
aisName	String	5 19	Vessel name
aisShipType	Integer	5 19	Type of ship. See Table 11 in ref [1].
aisDimensionToBow	Integer	5 19	Distance (from GPS aerial) to vessel bow (meters).
aisDimensionToStern	Integer	5 19	Distance (from GPS aerial) to vessel stern (meters).
aisDimensionToPort	Integer	5 19	Distance (from GPS aerial) to vessel port side (meters).

Object reference	Data type	Valid message types	Description
`aisDimensionToStarboard`	Integer	5 19	Distance (from GPS aerial) to vessel starboard side (meters).
`aisFixType`	Integer	5 19	Electronic position fixing device type. See Table 10 in ref [1].
`aisEta`	Date	5	Estimated time of arrival in UTC.
`aisDraught`	Float	5	Draught of vessel in meters, to 0.1m resolution.
`aisAltitude`	Integer	9	If present, altitude in meters. A value of 4094 means 4094m or higher.

References

[1] *AIVDM/AIVDO protocol decoding*, Eric S Raymond. (https://gpsd.gitlab.io/gpsd/AIVDM.html)