node-red-contrib-ais-decoder

Output format specification

Version: 0.3.0

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

Each output message 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. The input AIS message type determines which object members are present in the output. The table indicates which object members you might find in which AIS message types.

Each output message corresponds to one input message. The most important output payload member is `resultCode`, and your flow will likely need to include a `switch` node for this value.

Object reference	Data type	Valid message types	Description
`resultCode`	Integer	All messages	This indicates the success or otherwise of the decode operation. Possible values are: 0 = success; 1 = input was blank; 2 = input was part of a multi-part message, and the remainder of the payload contains no useful information; 3 = error.
`errorInfo`	String	Messages where `resultCode` is 3.	Reason for error.
`aisOriginal`	String	Messages where `resultCode` is 0 or 3	The original encoded AIS message.
`aisType`	Integer	All AIS messages	AIS message type. See Table 4 in ref [1].
`aisRepeatIndicator`	Integer	All AIS messages	If non-zero, message has been relayed.
`aisMmsi`	String	All AIS messages	Mobile Marine Service Identifier - a unique ID for a vessel.

Object reference	Data type	Valid message types	Description
aisNavigationStatus	Integer	1 2 3	See Table 7 in ref [1].
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).

Object reference	Data type	Valid message types	Description
`aisDimensionToPort`	Integer	5 19	Distance (from GPS aerial) to vessel port side (meters).
`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)