node-red-contrib-ais-decoder

Output payload specification

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

- Message components are accessed by prepending the name by `msg.payload`. Thus to access `messageType`, use `msg.payload.messageType`.

- Not every message contains every member. The input AIS message type determines which object members may be present in the output. The table indicates which object members you might find in which AIS message types.

- Certain members have a version ending in `_text`. This contains a textual interpretation of the numeric value. Thus, if `msg.payload.messageType` is 5, `msg.payload.messageType_text` will be "Static and Voyage Related Data". Values which have a `_text` version are shown italicised.

Member name	Data type	Valid message types	Description
talkerId	String	All AIS messages	Two-character string - see Table 1 in ref [1].
messageType	Integer	All AIS messages	AIS message type. See Table 4 in ref [1].
repeatIndicator	Integer	All AIS messages	If non-zero, message has been relayed. See ref [1] for further information.
senderMmsi	String	All AIS messages	Mobile Marine Service Identifier - a unique ID for a vessel.
navigationStatus	Integer	1 2 3	See Table 7 in ref [1].
turningDirection	Integer	1 2 3	1 = turning right; -1 = turning left; 0=not turning.
turningRate	Integer	1 2 3	Rate of turn in degrees per minute. Value of 708 indicates 708 or higher.
speedOverGround	Float	1 2 3 9 18 19	Speed in knots (resolution 0.1 knots, or 1 knot for type 9).
latitude	Float	1 2 3 4 9 11 17 18 19 21	Latitude in degrees. N is positive, S is negative.

Member name	Data type	Valid message types	Description
longitude	Float	1 2 3 4 9 11 17 18 19 21	Longitude in degrees. E is positive, W is negative.
positionAccuracy	Integer	1 2 3 4 9 11 17 18 19 21	if non-zero, position information is accurate to better than 10m.
courseOverGround	Float	1 2 3 9 18 19	Course over ground in degrees (resolution 0.1 degrees).
trueHeading	Integer	1 2 3 18 19	True heading of vessel in degrees.
timeStampSeconds	Integer	1 2 3 9 18 19 21	Timestamp in seconds, 0 to 59.
positioningSystemStatus	Integer	1 2 3 9 18 19 21	1 = manual input mode, 2 = dead reckoning mode; 3 = inoperative.
manoeuvre	Integer	1 2 3	1 = no special manoeuvre, 2 = special manoeuvre.
raim	Boolean	1 2 3 4 9 11 18 19 21	True if Receiver Autonomous Integrity Monitoring is in use.
version	Integer	5	0 = ITU1371, 1-3 = future editions.
shipId	Integer	5	International Maritime Organisation ship ID number.
callsign	String	5	Vessel callsign
name	String	5 19 21 24A	Vessel (or navigational aid) name
shipType	Integer	5 19 24B	Type of ship. See Table 11 in ref [1].
dimensionToBow	Integer	5 19 21 24B	Distance to vessel bow (meters).
dimensionToStern	Integer	5 19 21 24B	Distance to vessel stern (meters).
dimensionToPort	Integer	5 19 21 24B	Distance to vessel port side (meters).
dimensionToStarboard	Integer	5 19 21 24B	Distance to vessel starboard side (meters).
fixType	Integer	4 5 11 19 21	Electronic position fixing device type. See Table 10 in ref [1].
destination	String	5	Vessel's destination.

Member name	Data type	Valid message types	Description
`eta`	Date	5	Estimated time of arrival at destination in UTC.
`draught`	Float	5	Draught of vessel in meters, to 0.1m resolution.
`altitude`	Integer	9	Altitude (of SAR aircraft) in meters. A value of 4094 means 4094m or higher.
`baseTime`	Date	4	UTC at base station.
`destinationMmsi`	String	6 10 25	MMSI of addressed station.
`sequenceNumber`	Integer	6	Sequence number of binary addressed message.
`retransmitted`	Boolean	6	True if retransmitted.
`designatedAreaCode`	Integer	6 8 25	Used in conjunction with Functional ID to interpret binary data.
`functionalId`	Integer	6 8 25	Used in conjunction with Designated Area Code to interpret binary data.
`binaryData`	String	6 8 17 25	Binary data enclosed in binary addressed message.
`navAid`	Integer	21	Navaid type - see table 63 in ref [1].
`offPosition`	Boolean	21	True if navaid not in position.
`virtualAid`	Boolean	21	True if navaid is virtual.
`assignedMode`	Boolean	21	Unknown
`messageType24Part`	String	24	Either "A" or "B" to indicate the message subtype.
`mothershipMmsi`	String	24B	MMSI of auxiliary vessel's mothership.
`vendorId`	String	24B	AIS equipment vendor ID. (See description of type 24 in ref [1].)
`unitModelCode`	Integer	24B	AIS equipment model. (See description of type 24 in ref [1].)
`unitSerialNumber`	Integer	24B	AIS equipment serial no. (See description of type 24 in ref [1].)
`numberOfPersons`	Integer	6	Persons on board. See ref [2].

References

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

[2]   *Collection of regional applications for AIS Application Specific Messages of regional applications for AIS Binary Messages* (https://www.iala-aism.org/asm/)