node-red-contrib-ais-decoder

Output payload specification

Version: 0.4.0

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.

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.
`longitude`	Float	1 2 3 4 9 11 17 18 19 21	Longitude in degrees. E is positive, W is negative.

Member name	Data type	Valid message types	Description
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].
eta	Date	5	Estimated time of arrival in UTC.
draught	Float	5	Draught of vessel in meters, to 0.1m resolution.

Member name	Data type	Valid message types	Description
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/)