



Active Research Limited
Poole, Dorset, UK. BH17 0GE
T: +44 1202 746682
W: www.actisense.com

Actisense NMEA 2000 Gateway conversions

Part Code: [W2K-1 \(Full Conversion List, non editable\)](#)
Firmware: [v1.396](#)
Date: [3rd February 2025](#)

The NMEA conversions detailed in this list may change without prior notice as part of our ongoing product improvement process. Please check www.actisense.com for the latest updates.

Database NMEA 0183 Rx Sentence to NMEA 2000 Tx PGN List			
NMEA 0183 Formatter	Description	NMEA 2000 PGNs transmitted when NMEA 0183 sentence is received	Additionally transmitted if extra input data available
AAM	Waypoint Arrival Alarm	129284	
ABM	AIS Addressed binary and safety related message	129795, 129797, 129811, 129812	
APB	Heading/Track Controller (Autopilot) Sentence 'B'	127237, 129283, 129284	
BBM	AIS Broadcast Binary Message	129795, 129797, 129811, 129812	
BWC	Bearing & Distance to Waypoint (Great Circle)	126992, 129033, 129283, 129284	129029
BWR	Bearing & Distance to Waypoint (Rhumb Line)	126992, 129033, 129283, 129284	129029
DBT	Depth Below Transducer	128267	
DPT	Depth	128267	
DSC	Digital Selective Calling Information	129808	
DSE	Expanded Digital Selective Calling	129808	
GGA	Global Positioning System Fix Data	126992, 129025, 129029, 129033, 129539	
GLL	Geographic PositionLatitude/Longitude	126992, 129025, 129029, 129033	
GNS	GNSS Fix Data	126992, 129025, 129029, 129033, 129539	
GRS	GNSS Range Residuals	126992, 129029, 129033, 129540	
GSA	GNSS DOP and Active Satellites	129029, 129539	
GST	GNSS Pseudorange Error Statistics	129547	129029
GSV	GNSS Satellites in View	129540	
HDG	Heading, Deviation & Variation	127250, 127258, 130577	
HDM	Heading, Magnetic	127250, 130577	
HDT	Heading, True	127250, 130577	
HSC	Heading Steering Command	127237	
MDA	Meteorological Composite	130306, 130310, 130311, 130312	
MTW	Water Temperature	130310, 130311, 130312	
MWD	Wind Direction & Speed	130306	
MWV	Wind Speed and Angle (Relative/Theoretical)	130306	
RMB	Recommended Minimum Navigation Information	129283, 129284	
RMC	Recommended Minimum Specific GNSS Data	126992, 127250*, 127258, 129025, 129026, 129029, 129033, 130577	*HDG also recommended
ROT	Rate Of Turn	127251	
RPM	Revolutions	127488	
RSA	Rudder Sensor Angle	127245	
THS	True Heading and Status	127250, 130577	
VBW	Dual Ground/Water Speed	130578	
VDM	AIS VHF Datalink Message: 1, 2, 3, 4, 5, 6, 8, 9, 12, 14, 18, 19, 21, 24, 25, 26	129038, 129039, 129040, 129041, 129793, 129794, 129795, 129797, 129798, 129801, 129802, 129809, 129810, 129811, 129812	
VDO	AIS VHF Datalink Own vessel report: 1, 2, 3, 4, 5, 6, 8, 9, 12, 14, 18, 19, 21, 24, 25, 26	129038, 129039, 129040, 129041, 129793, 129794, 129795, 129797, 129798, 129801, 129802, 129809, 129810, 129811, 129812	
VDR	Set and Drift	129291, 130577	
VHW	Water Speed and Heading	127250, 128259, 130577	
VLW	Dual Ground/Water Distance	128275	
VTG	Course Over Ground and Ground Speed	129026, 130577	129029
VWR	Relative (Apparent) Wind Speed and Angle	130306	
XTE	Cross Track Error, Measured	129283	
ZDA	Time & Date	126992, 129029, 129033	

* HDM will set PGN 'Heading reference' field to Magnetic; HDT will set PGN 'Heading Reference' field to True



Active Research Limited
Poole, Dorset, UK. BH17 0GE
T: +44 1202 746682
W: www.actisense.com

Actisense NMEA 2000 Gateway conversions

Part Code: **W2K-1 (Full Conversion List, non editable)**
Firmware: **v1.396**
Date: **3rd February 2025**

The NMEA conversions detailed in this list may change without prior notice as part of our ongoing product improvement process. Please check **www.actisense.com** for the latest updates.

Database NMEA 2000 Rx PGN to NMEA 0183 Tx Formatter List			
NMEA 2000 PGN	Description	NMEA 0183 Sentences transmitted when NMEA 2000 PGN is received	Additionally transmitted if extra input data available
126992 [1F010]	System Time	GRS, ZDA	BWC, BWR, GGA, GLL, GNS, RMC
127237 [1F105]	Heading/Track Control	APB	
127245 [1F10D]	Rudder	RSA	
127250 [1F112]	Vessel Heading	HDG, HDM or HDT*, VHW	RMC, THS
127251 [1F113]	Rate of Turn	ROT	
127258 [1F11A]	Magnetic Variation	HDG	RMC
127488 [1F200]	Engine Parameters, Rapid Update	RPM	
128259 [1F503]	Speed, Water Referenced	VHW	
128267 [1F50B]	Water Depth	DBT, DPT	
128275 [1F513]	Distance Log	VLW	
129025 [1F801]	Position, Rapid Update	GGA, GLL, GNS, RMC	
129026 [1F802]	COG & SOG, Rapid Update	RMC, VTG	
129029 [1F805]	GNSS Position Data	GGA, GLL, GNS, GRS, GSA, RMC, ZDA	BWC, BWR, GST, VTG
129033 [1F809]	Local Time Offset	GRS, ZDA	BWC, BWR, GGA, GLL, GNS, RMC
129038 [1F80E]	AIS Class A Position Report	VDM, VDO (AIS VHF Data-link message 1,2 & 3)	
129039 [1F80F]	AIS Class B Position Report	VDM, VDO (AIS VHF Data-link message 18)	
129040 [1F810]	AIS Class B Extended Position Report	VDM, VDO (AIS VHF Data-link message 19)	
129041 [1F811]	AIS Aids to Navigation (AtoN) Report	VDM, VDO (AIS VHF Data-link message 21)	
129044 [1F814]	Datum	DTM	
129283 [1F903]	Cross Track Error	APB, BWC, BWR, RMB, XTE	
129284 [1F904]	Navigation Data	AAM, APB, BWC, BWR, RMB	
129291 [1F90B]	Set & Drift, Rapid Update	VDR	
129539 [1FA03]	GNSS DOPs	GSA	GGA, GNS
129540 [1FA04]	GNSS Sats in View	GRS, GSV	
129547 [1FA0B]	GNSS Pseudorange Error Statistics	GST	
129793 [1FB01]	AIS UTC and Date Report	VDM, VDO (AIS VHF Data-link message 4)	
129794 [1FB02]	AIS Class A Static and Voyage Related Data	VDM, VDO (AIS VHF Data-link message 5)	
129795 [1FB03]	AIS Addressed Binary Message	ABM (AIS VHF Data-link message 6)	
129797 [1FB05]	AIS Binary Broadcast Message	BBM (AIS VHF Data-link message 8)	
129798 [1FB06]	AIS SAR Aircraft Position Report	VDM, VDO (AIS VHF Data-link message 9)	
129801 [1FB09]	AIS Addressed Safety Related Message	VDM, VDO (AIS VHF Data-link message 12)	
129802 [1FB0A]	AIS Safety Related Broadcast Message	VDM, VDO (AIS VHF Data-link message 14)	
129808 [1FB10]	DSC Call Information	DSC, DSE	
129809 [1FB11]	AIS Class B 'CS' Static Data Report, Part A	VDM, VDO (AIS VHF Data-link message 24)	
129810 [1FB12]	AIS Class B 'CS' Static Data Report, Part B	VDM, VDO (AIS VHF Data-link message 24)	
129811 [1FB13]	AIS Single Slot Binary Message	ABM, BBM (AIS VHF Data-link message 25)	
129812 [1FB14]	AIS Multi Slot Binary Message	ABM, BBM (AIS VHF Data-link message 26)	
130306 [1FD02]	Wind Data	MDA, MWD, MWV, VWR	
130310 [1FD06]	Environmental Parameters - DEPRECATED	MDA, MTW	
130311 [1FD07]	Environmental Parameters - DEPRECATED	MDA, MTW	
130312 [1FD08]	Temperature - DEPRECATED	MDA, MTW	
130577 [1FE11]	Direction Data	HDG, HDM or HDT*, THS, VDR, VHW	RMC, VTG
130578 [1FE12]	Vessel Speed Components	VBW	

* HDM will be transmitted if PGN 'Heading reference' field is Magnetic; HDT will be transmitted if PGN 'Heading Reference' field is True