

NMEA DATA ITEMS

Most significant

- Date - NMEA
- Time - NMEA
- Latitude - NMEA
- Longitude - NMEA
- Speed - NMEA or Analogue
- Heading - NMEA or Analogue

Less Significant

- Depth - NMEA or Analogue
- Rudder Order - NMEA or Analogue
- Rudder Response - NMEA or Analogue
- Engine Order - Analogue or NMEA
- Engine RPM - Analogue or NMEA
- Propeller Order - NMEA or Analogue
- Propeller Pitch - NMEA or Analogue
- Wind Speed - NMEA or Analogue
- Wind Direction - NMEA or Analogue

NMEA channels

Channel	Device	Data	Comment
Channel1	GPS	Date and time Ship's position	
Channel2	Gyro	Heading	
Channel3	Speedlog	Speed	If no speed log available use GPS (not really recommended)
Channel4	Echo Sounder	Depth	
Channel5	Anemometer	Wind speed and direction	
Channel6	Ruder controller	Ruder order Ruder response	
Channel7	Engine Controller	Engine order Engine response	
Channel8	do not use	used for converter testing	
Channel9	AIS	AIVDO, AIVDM	port4, logical channel 9

Group	Entity	Setting	Value1	Value2	Comment
Mapping	Latitude	a	1		
Mapping	Latitude	b	0		
Mapping	Latitude	Channel	1		
Mapping	Latitude	Comment	GPS		
Mapping	Latitude	Delimiter1	.		
Mapping	Latitude	Delimiter2	*		
Mapping	Latitude	Destination Chan...	2		
Mapping	Latitude	Destination Type	FIXED		
Mapping	Latitude	Field1	1		
Mapping	Latitude	Field2	2		
Mapping	Latitude	Length1	1		
Mapping	Latitude	Length2	1		
Mapping	Latitude	Sentence	\$GPGLL		

Properties :

- *Channel*: the channel to take the data
- *Sentence* : a five character string where the first two characters are the talker identifier mnemonic for the specific device and the following three characters are a valid NMEA sentence formatter.
- *Field 1* : a number holding the index of the first field of the message,
- *Field 2* : a number holding the index of the second field of the message,
- *Length 1* : the length of the first field of the message,
- *Length 2* : the length of the second field of the message,
- *Delimiter 1* : the first delimiter between fields,
- *Delimiter 2* : the second delimiter between fields.
- *A* : The A variable of the linear function,
- *B* : The offset factor of the linear function.

NMEA **DI**s are normalized to a range of values with the use of a linear function of the form $A x + B$.

GPS Example

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$GPRMC,164441,A,3801.60,N,02341.86,E,000.0,360.0,030805,003.2,E*78
$GPRMB,A,,,,,,,,,V*71
$GPGLL,3801.60,N,02341.86,E*6D
$PGRMZ,355,f,3*18
$PGRMM,WGS 84*06
$GPXTE,A,A,,N*3C
$GPBOD,,T,,M,,*47
$GPBWC,164442,,,,,T,,M,,N,*17
$GPVTG,360.0,T,356.8,M,000.0,N,000.0,K*43
$GPRMC,164443,A,3801.60,N,02341.86,E,000.0,360.0,030805,003.2,E*7A

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\$GPRMB,A,,,,,,,,,V*71
\$GPGLL,3801.60,N,02341.86,E*6D
\$PGRMZ,354,f,3*19
\$PGRMM,WGS 84*06
\$GPXTE,A,A,,,N*3C
\$GPBOD,,T,,M,,*47
\$GPBWC,164444,,,,,T,,M,,N,*11
\$GPVTG,360.0,T,356.8,M,000.0,N,000.0,K*43

\$GPGLL,5057.970,N,00146.110,E,142451,A*27
\$GPVTG,089.0,T,,,15.2,N,,*7F .
\$GPZDA,234500,09,06,1995,-12,45*6C<CR><LF>

AIS Example

!AIVDM,1,1,,A,1P000Oh1IT1svTP2r:43grwb0Eq4,0*01
!AIVDM,2,1,7,A,1P000Oh1IT1svT,0*28
!AIVDM,2,2,7,A,P2r:43grwb0Eq4,0*0C
!AIVDM,2,1,9,A,1P000Oh1IT1svTP2r:43,0*0B
!AIVDM,2,2,9,A,grwb0Eq4,0*0F
!AIVDM,2,2,9,A,grwb0Eq4,0*2F
!AIVDM,1,1,,A,1P000Oh1IT1svTP2r:43grwb0Eq4,0*01