

NMEA-0183 message: GGA

Related Topics

- [NMEA-0183 messages: Overview](#)

Time, position, and fix related data

An example of the GBS message string is:

```
$GPGGA,172814.0,3723.46587704,N,12202.26957864,W,  
2,6,1.2,18.893,M,-25.669,M,2.0,0031*4F
```

Note – The data string exceeds the NMEA standard length.

GGA message fields

Field	Meaning
0	Message ID \$GPGGA
1	UTC of position fix
2	Latitude
3	Direction of latitude: N: North S: South
4	Longitude
5	Direction of longitude: E: East W: West
6	GPS Quality indicator: 0: Fix not valid 1: GPS fix 2: Differential GPS fix, OmniSTAR VBS 4: Real-Time Kinematic, fixed integers 5: Real-Time Kinematic, float integers, OmniSTAR XP/HP or Location RTK
7	Number of SVs in use, range from 00 through to 24+
8	HDOP
9	Orthometric height (MSL reference)
10	M: unit of measure for orthometric height is meters
11	Geoid separation
12	M: geoid separation measured in meters
13	Age of differential GPS data record, Type 1 or Type 9. Null field when DGPS is not used.

14 Reference station ID, range 0000-4095. A null field when any reference station ID is selected and no corrections are received¹.

15 The checksum data, always begins with *

Note – *If a user-defined geoid model, or an inclined plane is loaded into the receiver, then the height output in the NMEA GGA string is always the orthometric height (height above a geoid). The orthometric height is output even if no user-defined geoid is loaded (there is a simplified default geoid in the receiver), or if a user-defined geoid is loaded, or if an inclined plane is used.*