GGA – Global Positioning System fix data

Description

This sentence outputs data on time, position and positioning.

Attributes

Sentence ID	GGA
Length of the Sentence Body (bytes)	var
Default Scheduling Specification	
period (sec)	1.0
phase (sec)	0.0
count	0
flags	0x0

Body

Field	Format	Description
1	`$GPGGA`	TALKER Identifier
2	`%6.[0-2]F`	UTC time of position fix (first two digits designate hours, the next two designate minutes and the remaining digits designate seconds).
3	`%4.[1-7]F`	Latitude in selected datum (first two digits designate degrees and the remaining digits designate minutes of arc).
4	`%C`	Latitude hemisphere: N – northern, S – southern.
5	`%5.[1-7]F`	Longitude in selected datum (first three digits designate degrees and the remaining digits designate minutes of arc).
6	`%C`	Longitude hemisphere: E – eastern, W – western.
7	`%1D`	GPS quality indicator: • 0 – Fix not available or invalid • 1 – GPS SPS Mode (single point mode), fix valid • 2 – Differential GPS SPS Mode, fix valid • 3 – GPS PPS Mode (single point mode), fix valid • 4 – RTK Fix solution • 5 – RTK Float solution • 6 – Estimated (dead reckoning) mode • 7 – Manual input mode • 8 – Simulator mode
8	`%2D`	Number of satellites used for position computation.
9	`%.2F`	Horizontal dilution of precision (HDOP).
10	`%+5.[1-4]F`	Altitude above geoid in selected datum [meters].
11	`%C`	Symbol M (denote that altitude is in meters).

12	%+.[1-4]F	Geoidal separation: the difference between the earth ellipsoid and geoid defined by the reference datum [meters].
13	%C	Symbol M (denotes that geoidal separation is in meters).
14	%.1F	Age of differential GPS data [seconds].
15	%4D	Differential reference station ID (an integer between 0000 and 1023).
16	*%2X\0D\0A	Checksum

Usage Guidelines

- The transmission identifier of the GGA sentence is always set to GP, regardless of whether positioning is calculated with GPS only, GLONASS only, or a combination of GPS and GLONASS.
- When the receiver uses GPS+GLONASS data for RTK and DGPS positioning, the age of differential GPS data and the differential reference station ID will be shown regarding the GPS data.
  In contrast, when the receiver uses GLONASS data only, the age of differential GPS data and the differential reference station ID will be shown regarding the GLONASS data.
- In general, when operating a GPS/GLONASS receiver, use the GNS sentence rather than the GGA sentence. The GGA sentence is used mainly for GPS only receivers.

Example

$GPGGA,095257.00,5543.3503351,N,03739.0685196,E,1,16,0.76,148.9262,M,14.4309,M,,*51

History

This sentence was introduced in the first release of firmware.

See Also

N/A