



National Marine Electronics Association

International Marine Electronics Alliance

Technical Bulletin

**Amendment to NMEA0183 Version 4.10
AT 0183 20160520HRM**

NMEA 0183 Amendment

An amendment is a technical specification that is publically available.

This amendment applies to the NMEA Version 4.10 that was published June 2012.

This amendment will remain in force until the contents are incorporated into the next version of the NMEA 0183 standard.

This document contains the final approved NMEA 0183 sentence for:

HRM - Heel angle, Roll period and roll amplitude Measurement device Report and Command

This Amendment had been reviewed and approved by NMEA.

HRM - Heel angle, Roll period and roll amplitude Measurement device Report and Command

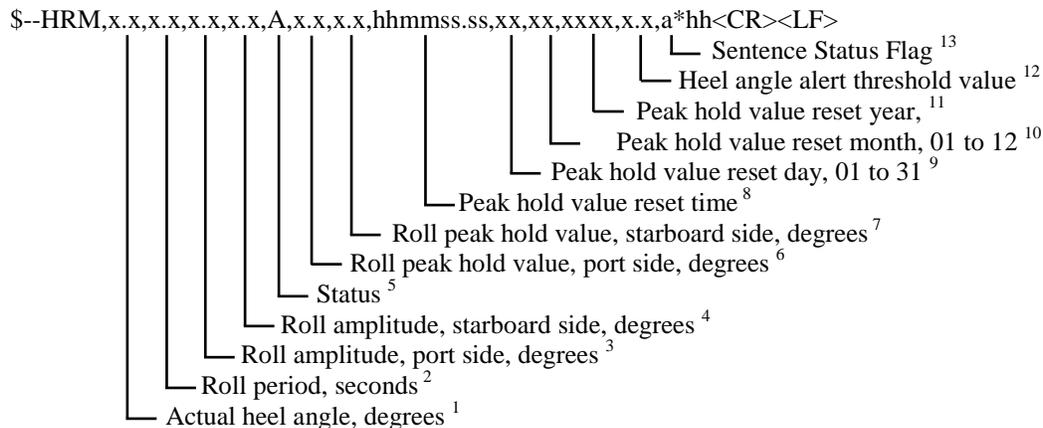
This sentence is used to provide the actual heel angle, roll period and roll amplitude of an electronic inclinometer to VDRs and other systems. Update rate for this message should be at least 5 Hz.

This sentence optionally provides roll peak hold values and their reset time as well. Roll peak hold value is the value indicated by friction pointers of conventional pendulum inclinometers.

When resetting the Peak hold value, the Peak Hold value date and time fields are provided and the sentence status flag shall be set to a "C". When setting the Heel angle alert threshold, the threshold value is provided and the sentence status flag shall be set to a "C". These two commands may be performed separately or at the same time.

The sentence status flag shall always be set to “R” when reporting current status and data.

NOTE: In addition to the requirements of IMO performance standard of electronic inclinometers, roll peak hold values may also be indicated on the displays of an electronic inclinometer. Roll peak hold value is the maximum absolute value of roll amplitude of port side and starboard side from the last reset time of peak hold value. The roll peak hold values are indicated as the value of the friction pointers of pendulum inclinometers and used for decision making in case of sailing under a severe weather condition. The optional values are provided for indicating information on roll peak hold values on dedicated displays or the other displays of integrated bridge systems.



Notes:

- 1) Actual heel angle, momentary angle of roll referenced to a levelled ship to port or starboard side, (positive value starboard, negative value port)
- 2) Roll period, time between successive maximum values of heel angle to port over starboard and back to port (or the other way round). Units are in integer seconds, with optional decimal point and one decimal place of seconds (1/10 of a second).
- 3) Roll amplitude of port side as positive value, maximum value of heel angle to port side of the latest motion.
- 4) Roll amplitude of starboard side, maximum value of heel angle to starboard side of the latest motion.
- 5) Status, A=data valid, V=data invalid
- 6) Roll peak hold value of port side, maximum value of heel angle to port side of the motions measured from the last reset with a minimum resolution of 1 degree. This shall be a null field when data is not available.

- 7) Roll peak hold value of starboard side, maximum value of heel angle to starboard side of the motions measured from the last reset with a minimum resolution of 1 degree. This shall be a null field when data is not available.
- 8) Peak hold value reset time, time when the peak hold values are reset, UTC hour, minute and second. Decimal point and fractions of the seconds shall not be used. This shall be a null field when data is not available.

The Peak hold values are reset when this field and the reset day, month, and year fields contain values, and the Sentence Status Flag is set to “C” (See note 13).

- 9) Peak hold value reset day, day when the peak hold values are reset, UTC day. This shall be a null field when data is not available.

The Peak hold values are reset when this field and the reset time, month, and year fields contain values, and the Sentence Status Flag is set to “C” (See note 13).

- 10) Peak hold value reset month, month when the peak hold values are reset, UTC month. This shall be a null field when data is not available.

The Peak hold values are reset when this field and the reset time, day, and year fields contain values, and the Sentence Status Flag is set to “C” (See note 13).

- 11) Peak hold value reset year, year when the peak hold values are reset, UTC year. This shall be a null field when data is not available.

The Peak hold values are reset when this field and the reset time, day, and month fields contain values, and the Sentence Status Flag is set to “C” (See note 13).

- 12) Heel angle alert threshold, momentary angle of roll referenced to a levelled ship to port or starboard side, (positive value starboard, negative value port). This shall be a null field when data is not available.

The heel angle alert threshold is set when this field contains a value and the Sentence Status Flag is set to “C” (See note 13).

- 13) This field is used to indicate a sentence that is a status report of current settings or a configuration command changing settings. This field shall not be null.

R = Sentence is a status report of current settings (use for a reply to a query or autonomous output).

C = Sentence is a Configuration Command to change settings. A sentence without a “C” in this field is not a command.