

LT-1000 NRU SW v1.02 Release Notes

Part Number: 51-100142

Product Name: LT-1000 NRU

Software Ver.: 1.02 LT-Service Tool: v1.04 (minimum req. SW)

Release Date: 5. August 2016

SW Update: Optional Recommended Mandatory

File Name: LT-1000_v1.02.lti File size: 119 KB

Checksum: 10e22b168b886d4a48398cfd35eef81c (MD5)

Downloads: <http://thrane.eu/wdpress/index.php/lt-1000-nru/>

Contact: support@thrane.eu

New Features

- Two deviation calibration options are now available:
 - Standard deviation calibration (figure 8-pattern). Default configuration
 - NEW: Adaptive deviation calibrationThe deviation calibration option must be activated using the LT-Service Tool.

- The new adaptive deviation calibration algorithm is an alternative to the standard deviation calibration algorithm (figure 8-pattern) and should be used by vessels that cannot perform the standard deviation calibration figure 8-pattern. The new adaptive deviation calibration algorithm will improve performance over time as the vessel navigates on different courses. The adaptive deviation calibration algorithm must be activated using the LT-Service Tool.

- The LT-1000 NRU will output 5 degrees heading resolution until the deviation calibration has been completed initially. A 15 seconds heading pause will be activated by subsequent deviation calibrations completed (only if the standard deviation calibration algorithm is configured). Both of these features can be disabled from the LT-Service Tool. It is possible to disable and reset the deviation calibration algorithms.

- Configuration of NMEA 0183 sentences:
 - Enable/disable sentence
 - Talker ID (HC, HE, HN, etc.)
 - Output rate (up to 40 Hz for attitude data)

The NMEA 0183 sentences can be configured from the LT-Service Tool by using the following command: 'nmea0183 sentences [default | <sentence>:<interval (ms)>...]' (e.g. HEHDT:100, etc.) The LT-Service Tool supports a function to make analysis of the NMEA 0183 output to verify correct configuration.

- Configuration of attitude filter (0 to 9.9 seconds). Low pass filtering of output data on NMEA 0183 and NMEA 2000: heading, pitch, roll, and ROT. The low pass filter is by default disabled. The configuration can be changed using the LT-Service Tool.

Changes

- The default NMEA 0183 output (4800 baud) has been changed:
 - v1.01: GNGGA, GNVTG, GNZDA, HCHDG, HCHDM, HCHDT, HCROT, GPatt, WIMDA
 - v1.02: GNRMC, HCHDG, HCHDM, HCHDT, HCROT, GPatt, WIMDA

Fixes

- NRU-242: Erroneous rate-of-turn on some bearings/courses
 - Sailing on some bearings/courses could cause inaccurate readings on rate-of-turn
- NRU-246: Pressure is offset with wrong sign
 - The algorithm that offsets the pressure based on the user supplied mounting offset had a wrong sign
- NRU-250: NMEA 0183 overflow @ 4800 baud
 - We have changed the default NMEA 0183 sentences output (only 4800 baud). If 10.0 Hz heading output is important disable unused sentences
- NRU-254: ISOBUS address conflict
 - Updated NMEA 2000 broadcast filter
- Other minor bugs

SW Upload Instruction

Follow this procedure to upload a new application SW to the LT-1000 NRU:

- 1) Connect the LT-1000 NRU (NMEA 0183 interface) to a PC using one of these interfaces: USB to RS-422 adapter, serial RS-422 or RS-232. Details are available in the LT-1000 User & Installation Manual.
- 2) When the LT-1000 NRU is connected and powered (9-40 VDC) – start the LT-Service Tool by double-click on the 'LT-Service_v1.04.exe' file. The LT-Service Tool will automatically scan and detect any LT-1000 NRU connected to the PC. Type 'help' to get a full list of available commands.
- 3) Use the following command to upload the application SW: 'upload -b 115200 LT-1000_v1.02.lti'.