Teseo III and Teseo Modules
Data Logging

Quick Training Guide

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Quick Training Guide - Contents

1. Introduction
2. NMEA-API
3. Putting all together
4. Documents & related resources
Quick Training Guide - Contents

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2. NMEA-API
3. Putting all together
4. Documents & related resources
• Teseo III – Binary Image and Teseo Modules embed also the Data-Logging sub system

• Data-Logging can be used to track/record a path

• Data-Logging subsystem has a set of specific NMEA commands and messages to operate
Quick Training Guide - Contents

1. Introduction
2. NMEA-API
3. Putting all together
4. Documents & related resources
A log is created to specify:

- Configuration
- Log type
- Lowest speed, lowest rate and lowest distance to record a new sample in the log

$\text{PSTMLOGCREATE},<\text{cfg}>,<\text{min-rate}>,<\text{min-speed}>,<\text{min-position}>,<\text{logmask}>*<\text{checksum}><\text{cr}><\text{lf}>
Start, stop and delete a log

- A log can be started, stopped and deleted by the host with the following commands:

  - `$PSTMLOGSTART*<checksum><cr><lf>`
  - `$PSTMLOGSTOP*<checksum><cr><lf>`
  - `$PSTMLOGERASE*<checksum><cr><lf>`
Query the data-logging state

• Host can query the datalogging subsystem state with the command:

```text
$PSTMLOGREQSTATUS*<checksum><cr><lf>
```

• Teseo III replies with the message:

```text
$PSTMLOGSTATUS,<time-first-entry>,<data-first-entry>,<time-last-entry>,<data-last-entry>,<nr-used-entries>,<buffer-status>,<free-entries>*<checksum><cr><lf>
```

• Where it reports:
  • Time and date of the first and last sample
  • Number of used and free entries
  • Buffer status
Query the log data

- Host can query the log with the command:

```
$PSTMLOGREQQUERY,<start-timestamp>,<start-datestamp>,<numentry>*<checksum><cr><lf>
```

- Teseo III replies with one message per sample:

```
$PSTMLOGQUERY,<status-bitmap>,<logask>,<timestamp>,<datestamp>,<altitude>,<odometer>,<geo>,
<quality>,<qualidx>,<fix>,<speed>*<checksum><cr><lf>
```
Quick Training Guide - Contents

1. Introduction
2. NMEA-API
3. Putting all together
4. Documents & related resources
Putting all together…

Using the **Teseo-Suite**, the Host can send the commands and check the Teseo III message responses.

```
HOST > $PSTMLOGCREATE,1,1,0,0,1
T3   < $PSTMLOGCREATEOK*5E

HOST > $PSTMLOGSTART
T3   < $PSTMLOGSTARTOK*1A

HOST > $PSTMLOGSTOP
T3   < $PSTMLOGSTOPOK*42

HOST > $PSTMLOGREQSTATUS
T3   < $PSTMLOGSTATUS,084126,20181128,084146,20181128,21,0,43627*67

HOST > $PSTMLOGREQQUERY,084126,20181128,21
T3   < $PSTMLOGQUERY,1,1,084126,20181128,3,2,1,37.441792,15.060400,0.0,0.0,0.0*0c
...
T3   < $PSTMLOGQUERY,3,1,084146,20181128,3,2,1,37.441792,15.060400,0.0,0.0,0.0*09

HOST > $PSTMLOGERASE
T3   < $PSTMLOGERASEOK*1A
```
• The first field in the \$PSTMLOGQUERY is a bitmap which specifies:
  • 2b00: No more data, and the data in the message is invalid
  • 2b01: more data available, and the data in the message is valid
  • 2b11: No more data available, and the data in the message is valid

\textbf{T3} < \$PSTMLOGQUERY,3,,084127,20181128,3,2,1,37.441792,15.060400,0,0,0,0*0c
Quick Training Guide - Contents

1. Introduction
2. NMEA-API
3. Putting all together
4. Documents & related resources
All documents are available on: www.st.com

- **Teseo III**: [Webpage]
  - Datasheet of all PNs;

- **Teseo-LIV3F**: [Webpage]
  - Datasheet
  - User Manuals

- **Teseo-Suite**: [Webpage]
  - Datasheet
  - Training materials
  - Install program