

# TNCscada Software of Rotating Machinery Monitoring System

## Application

The **TNCscada** software is dedicated to acquisition, saving, storage, visualisation and analysis of measurement data from rotating machinery equipped with Technicad devices. A single application installed on a PC/server can simultaneously download data from many different monitors installed on different machines.

## Description

The TNCscada software offers the following functionalities:

- Communication with the TECHNICAD devices using RS Modbus protocol, TCP Modbus and specially developed TNCbus protocol.
- Reading the estimate values calculated in devices and their presentation on synoptic screens. The estimate values are usually read every 1 second
- Reading time waveforms of selected measurements, their presentation in diagrams along with the calculated fast Fourier transform graph (FFT). The time waveforms are collected periodically, as specified in the period configuration. It is also possible to download time waveforms on demand.
- Presentation of the trajectory of the shaft movement
- Presentation of vectors (amplitude and phase angle) for specified rotational frequency harmonics
- Presentation of the signal envelope and envelope spectrum
- Checking the values of the estimate and signalling the exceeding of defined alert and alarm thresholds (LO\_LO, LO, HI, HI\_HI) by changing the color of the estimate value displays on the synoptic screens.
- Writing in the database of estimate values, time waveforms and events of exceeding alert and alarm thresholds, returning them to normal values.
- Fast preview of the current history of the value of a single estimate or defined estimate groups.
- Viewing the database of estimate values, time waveforms and the list of events (exceeding alarm thresholds, etc.).

- Fast logging of graphs and synoptic screens in the form of text files or graphic files.

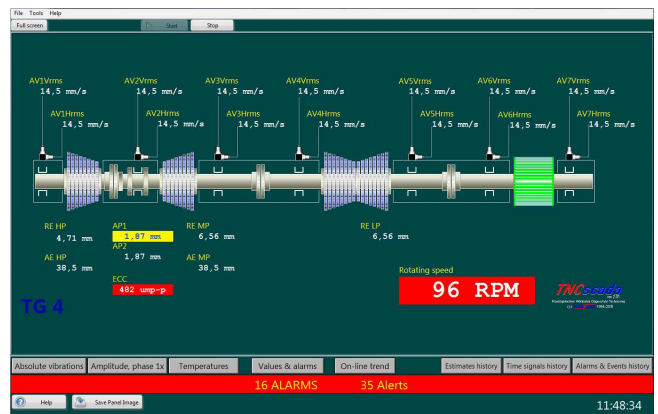
## Technical specification

**Operating system:** Win7, Win10

**Hardware:** PC computer

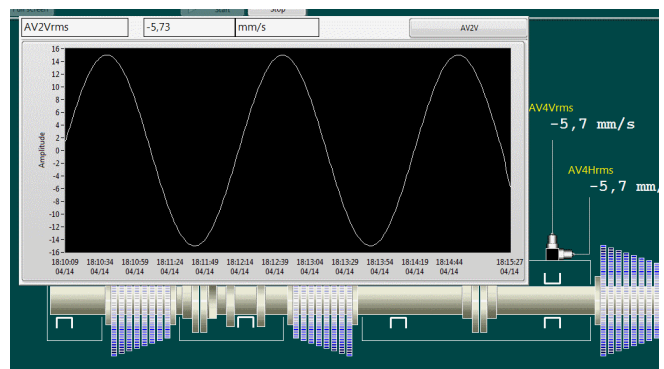
Examples of screens and selected windows are shown below.

The appearance of a particular application may be different depending on the configuration for a particular client:

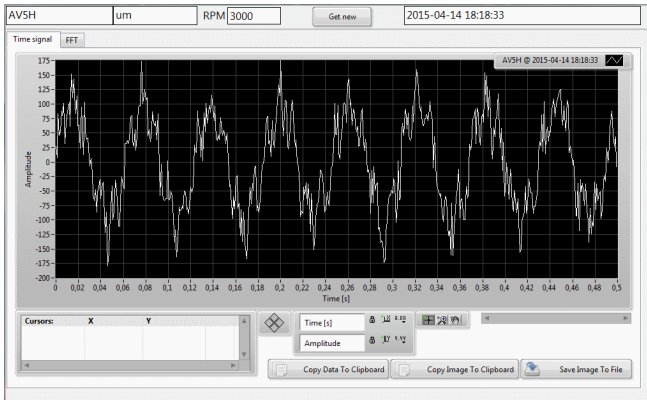


The application has the option of defining several synoptic screens with different images of the monitored process. The buttons at the bottom of the application window allow you to switching between synoptic screens. The current window view can be saved as a graphic file.

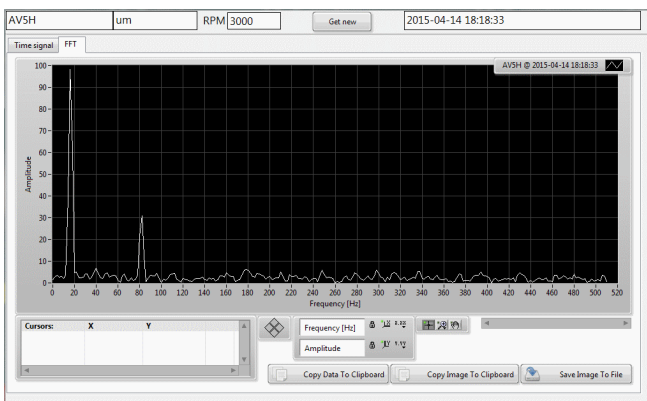
Clicking the estimate on the display enables you to quickly view the current change history of a given value:



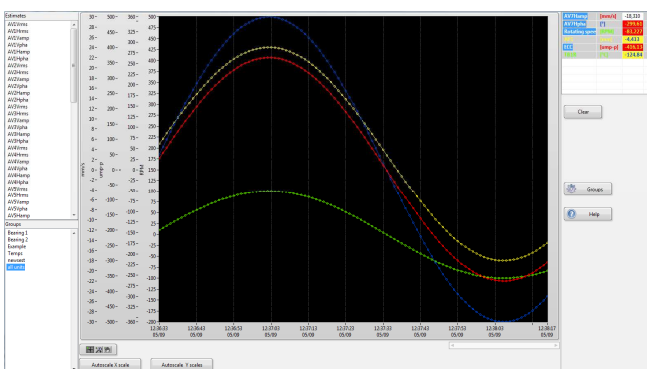
If the time waveform available in the measurement is associated with the displayed estimate in the configuration, it is possible to open the window presenting the last downloaded graph of the given waveform and download it on demand:



This window also presents the fast Fourier transform (FFT) chart of the downloaded waveform:



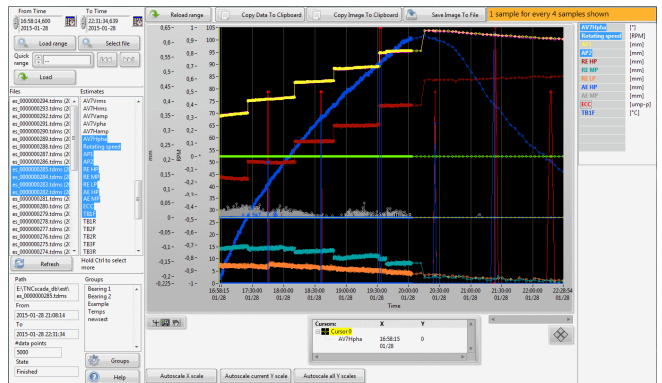
The current history of estimate changes is also available in the online trend window:



**Archive database**

The values of calculated estimates, time waveforms and events (alerts / alarms) are stored in a database based on TDMS (Technical Data Management - Streaming) files. The TNCscada application offers browsing the archive database in additional windows.

The window of estimate history allows you to show selected estimate or group estimates on the graph, search data for a given time interval, save data in text form or as graphic files. The chart cursor allows you to accurately track the values. The graph can be freely scaled.



Archived time waveforms (and their FFT) can be viewed in the next window, where it is also possible to save data in text form or as graphic files. The chart cursor allows you to accurately track the values. The graph can be freely scaled.

