



SS 9000 Software Suite



The SS 9000 software is designed to run static, semi-static and fatigue tests both with single-axis and multi-axis systems. Tests can be run either for:

Position

Encoder

Force

AUX Auxiliary Channel

For each axis and for any control procedure, the test can be set in ramp mode (for static and semi-static tests) or with sine, triangular or square wave.



Test values display

The test performance values can be displayed during the test both as a graph or in numerical format through the following values:

- » Current value of each sensor
- » Max and min dynamic values
- » Max and min values recorded in a period of time
- » Dynamic delta value

Set-up of test parameters

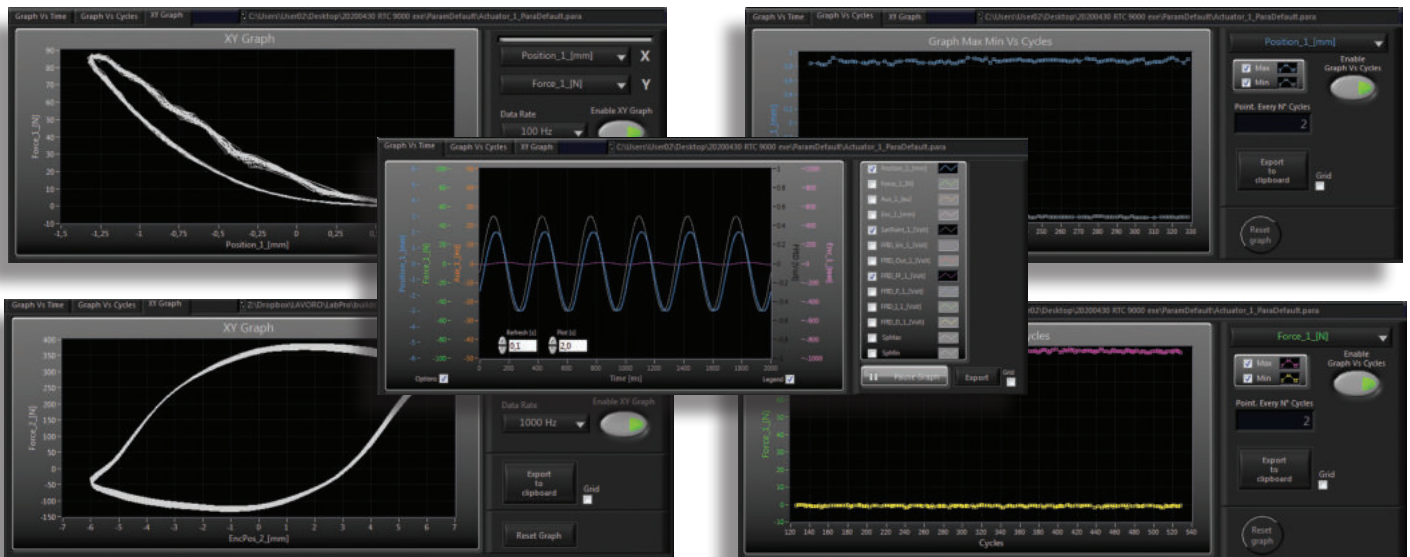
Test values, PID parameters and safety limits can be saved in a set-up file and loaded once again should an exact same test be run.

Control procedures



Possible control modes: Force, Displacement, Auxiliary and Encoder.
Each mode can be set indifferently for each actuator even if they are operating simultaneously.

Data display



Display of the values obtained in different modes, in order to obtain all the readily-available information on the test performance. Value display as a function of time.

Value display with XY graph with channels which can be set by the user.

Display of the max and min values as a function of cycles.

Data recording

Recording on all channels of the data obtained in different configurations in order to facilitate post-analysis activities. Continuous recording, recording of max-min vs. cycles, continuous recording vs. cycles / time, block recording (for block tests and analysis).



Control signal and PID setting

Setting of the FPID parameters for each active channel and with each control procedure.

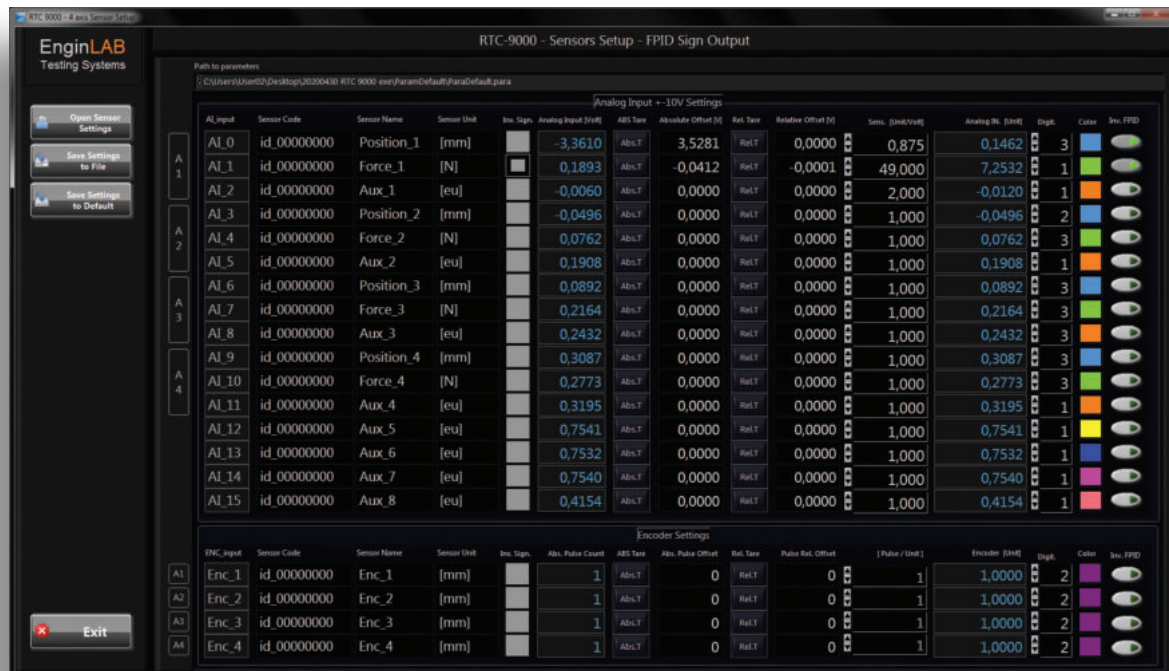
The FPID parameters vary according to the test mode used (ramp or cyclical tests such as sine, triangle or square wave).

- F** = Forwarder
- P** = Proportional
- I** = Integrative
- D** = Derivative



Setting of the sensors parameters

Operators can set all the analogue sensors and the encoder channels connected to the controller in a window provided. For each sensor, the operator can decide the name of the sensor and the unit of measurement, make an absolute and relative tare, insert the coefficient of conversion between the system engineering values and the voltage value of the sensor or number of pulses (for encoder). The set values can be saved in a file and re-loaded subsequently.



Safety limits input

The user can insert the maximum and minimum value for each single analogue input in control; when these are exceeded the system stops.



SCOPE Software Tool

This activates the reading mode of 4 analogue channels of the RTC 9000 and RTC 9001 controllers. The tool allows for the display and recording of the values acquired in the additional channels in a synchronised way with the test values of channel 1 of the controller.

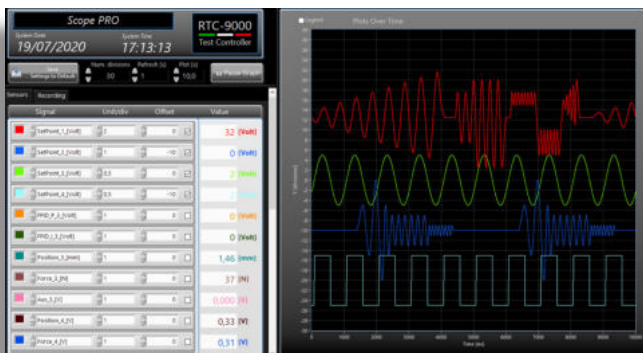


SCOPE PRO Software Tool

This activates the reading mode of 4 analogue channels of the RTC 9000 and RTC 9001 controllers.

The Scope Pro tool allows for the display and recording of the values acquired in the additional channels in a synchronised way with all the test values of the control channels of the 4 axes.

The operator can set the inputs to be displayed and recorded.



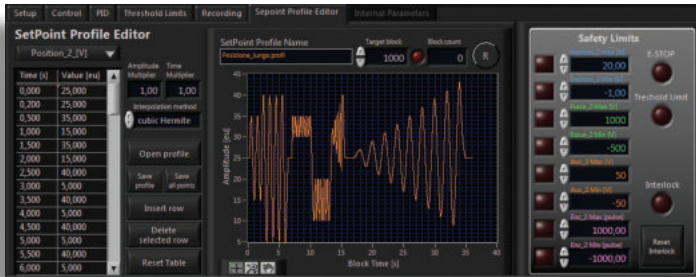
SHAKER Software tool

This tool is used for tests on vibrating tables or shakers. Tests can be run with frequency set in manual or automatic mode and tests with presence sweep with constant acceleration.



PROFILE EDITOR Software tool

This tool allows the user to run cyclical and fatigue tests with variable profiles, with all control procedures (force, displacement, aux and encoder).

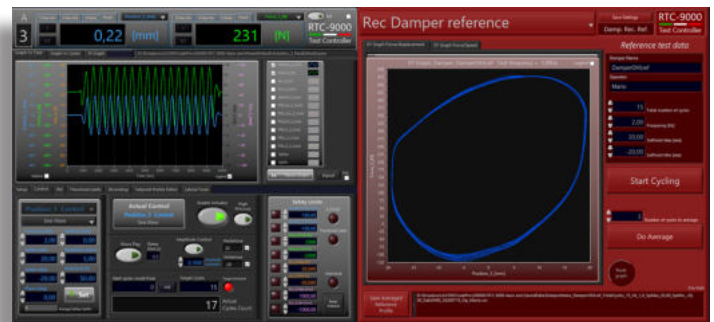


DAMPER Software Tool

This allows the operator to run tests on any kind of shock absorber.

The operator can set reference curves and monitor the actual performance of the shock absorber.

This is ideal for quality checks during production and in maintenance and assistance phases.



TIME Software tool

This sets the duration of the fatigue test, by indicating time as opposed to the number of cycles.



LiTeM provides training courses for operators during the installation phase at the customer's premises (costs are indicated in the purchase contract), or free of charge at the company's premises or remotely using on-line platforms. In addition, tutorial videos on the RTC 9000 system are available for all customers.



Order codes

Software Tools Order codes

Code	Description
ST-Scope	Software tool Scope Standard
ST-Scope Pro	Software tool Scope PRO
ST-E-Profile	Software tool Profile Editor
ST-Shaker	Software tool Shaker
ST-Damper	Software tool Damper
ST-Time	Software tool Time

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