



Key features & functionality

The user-friendly operating and service program TopControl is delivered with the following devices of the TopCon series. MS Windows® operation system is the basis for the software TopControl.

- Full integration with Regatron TopCon device series: TC.GSS, TC.GXS, TC.GSX, TC.DSS, TC.P, TC.MAC, TC.LIN.SER, TC.P.LIN hardware (power supplies).
- Remote connection via PC interfaces: E.g. RS-232 or USB interface (Option) and further interface options.
- The software services multi-unit operation and Q1 (source) and Q4 (sink) operation modes.
- TopControl is the user interface software and environment for the additional software options like TFEAAP.

The functionality of TopControl includes:

- Switching the energy flow on and off.
- Setting the reference values and the limit values.
- Display of the actual values and indication of warning and error states. (Including the error history)
- Display of further information on the TopCon device.
- Software oscilloscope: "Scope". Recording and analysis of various variables (set values, actual values, system status etc.).
- Configuration of multi-unit operation.
- Online access to PID control parameters: Adaptation of the control characteristics of the main unit to the load-specific situation.
- Linear ramp functions. Programming of linear ramp functions for voltage start-up and set value steps.
- Adjustment, modification of internal system parameters.
- Reading the version states of the software.
- Firmware upgrade.

Contact information

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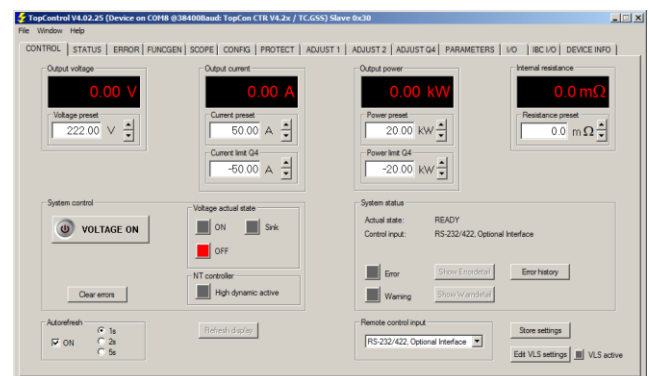
The functionality of TopControl tabs

- **<CONTROL> tab**
Overview of the key data and parameter like actual and reference values.
- **<PROTECT> tab**
Safety limitation of voltage, current and energy.
- **<CONFIG> tab**
PID-Controller and multi-unit configuration according the operation mode.
- **<SCOPE> tab**
Digital recording and analysis of system relevant parameters in up to 8 channels.
- **<STATUS> tab**
Overview of the actual device and system values and the device health.
- **<DEVICE INFO> tab**
Further information about firm- and software versions, system identification and nominal values.

The functionality of TopControl menu bar:

- **User Level**
Restricted configuration access according the user level.
- **Firmware update**
For product improvement.
- **Option enabling**
Activation of further additional functionality.
- **Manual of TopControl**
in file format: ".pdf"

<CONTROL> tab



<CONTROL> tab

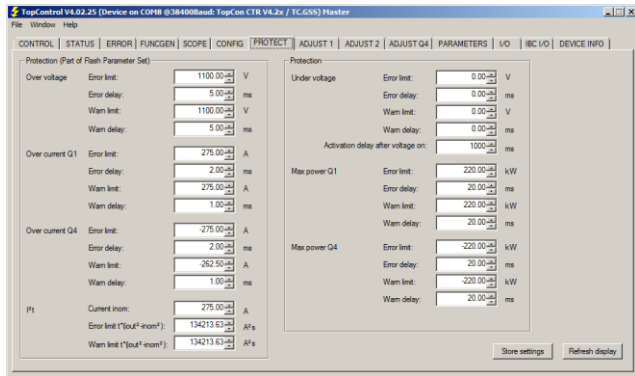
- **System control**
 - Switching the energy flow on and off, from and to the load via button.
 - Remote interface selection.
- **System settings and display**
 - Setting reference and indication of actual values like voltage, current, power and internal resistor.
 - Indication of warning and error details and access to the logged error history.
 - Indication of controller mode (CV, CC, CP).
 - Indication of operation mode (source, sink).

TopControl

PC-Software for operation and service of TopCon device series

SOFTWARE INFORMATION

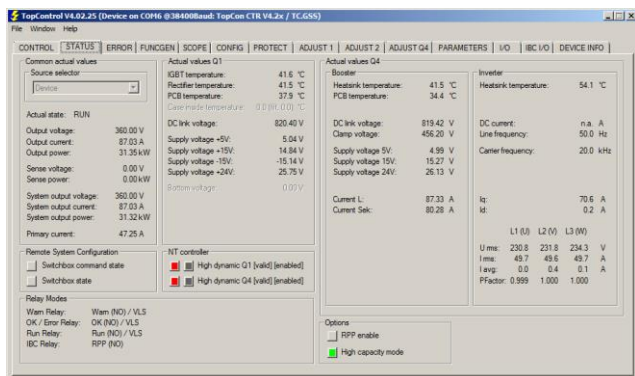
<PROTECT> tab



<PROTECT> tab

- Overvoltage limits setting.
- Overcurrent limits setting for Q1 (source) and Q4 (sink) operation mode.
- I²t limit setting for the permissible energy.

<STATUS> tab

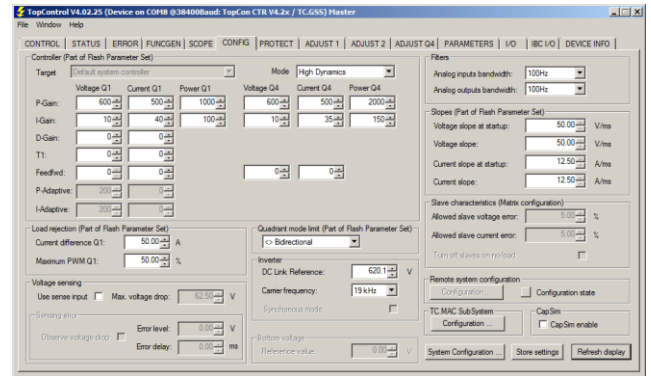


<STATUS> tab

The STATUS tab indicates a collection of all device and system values:

- Actual device or system state.
- Actual values of device components.
- DC side related status and information.
- AC side related status and information.

<CONFIG> tab



<CONFIG> tab

The Configuration tab contains a number of parameter fields which can be used to influence the behaviour of the controller and several additional device functions.

- Operation mode configuration. The PID controller parameters adapt the load requirements:
 - Manual PID parameter setting.
 - Use the flash memory and file directory to store and load predefined parameter settings.
- Operation mode configuration:
 - Source only (Q1)/ sink only (Q4) or both (Q14).
 - Access to multi-unit system configuration.
- Detections:
 - Recognition of load rejection.
 - Voltage sensing to compensate the voltage drop across the connection to the load and for operation with TC.LIN device series.

User levels

The TopControl application supports different user levels that are assigned corresponding authorisations. According to the user level menu items are greyed out and hence not available or it will not be possible to open some tabs.

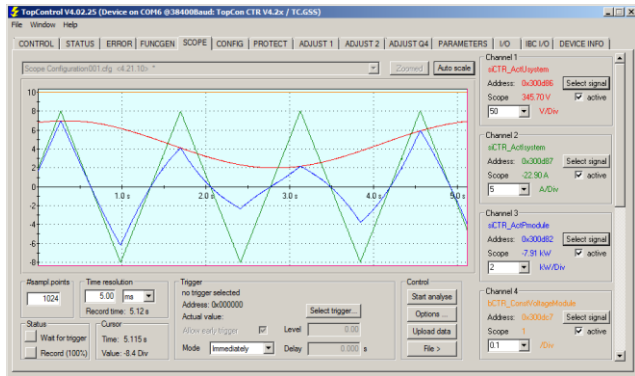
- **“Standard User”** (default configuration)
A password is not required to operate the device.
- **“Advanced User”**
A password is required to configure the device.
- **“Power User”**
A daily password is required to calibrate the device.
- **“Factory”**
This user level is reserved for Regatron.

TopControl

PC-Software for operation and service of TopCon device series

SOFTWARE INFORMATION

<SCOPE> tab

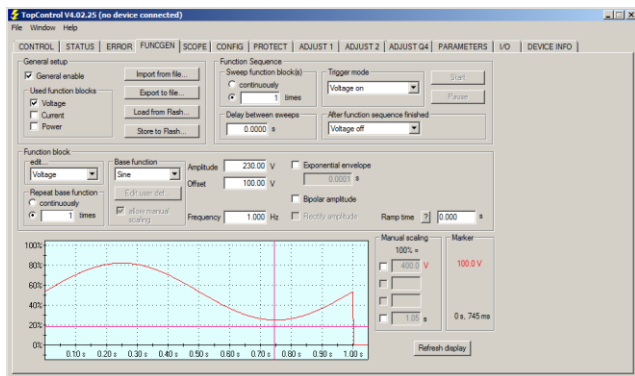


<SCOPE> tab

The Scope function services:

- “8-channel storage oscilloscope”.
- Up to 4 predefined channels with basic parameters.
- Trigger events can be defined.
- Scopes can be stored to / loaded from the file directory.
- Scopes can be compared with reference signals.
- Scope values:
 - Actual and ref. values: voltage, current, power etc.
 - Device-internal parameters such as temperature, controller signals, system state/error signals etc.

<FUNCGEN> tab (Option)



<FUNCGEN> tab (option)

It is possible to use the “function generator (TFE)” in the demo mode. The full functionality will be available after the option enabling.

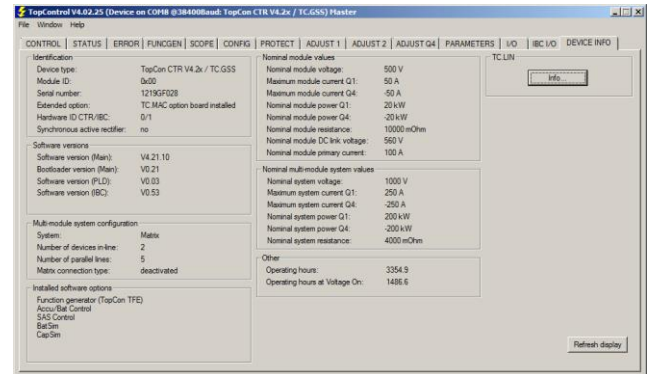
The function generator supports:

- Time-dependent functions $V=f(t)$, $I=f(t)$, $P=f(t)$,
- User defined functions $V=f(t)$, $I=f(t)$, $P=f(t)$ with user defined data points (time and value)
- Application Area Programming (AAP) functions $V=f(I)$, $I=f(V)$, $I=f(P)$... with set values for function curves (incl. import from Excel .csv files)

Helpful for a function curve creation:

- Selectable function blocks: Voltage, current and power
- Selectable predefined waveforms: Sinus, triangle etc.

<DEVICE INFO> tab



<DEVICE INFO> tab

The tab indicates the following information:

- Product identification.
- Installed software options and firmware versions.
- Nominal module and system values.
- Operating hours.

General information

- Swiss made developed, implemented and tested in Switzerland by Regatron AG, manufacturer of TopCon product family.

Standard scope of delivery

The installer package for a PC includes:

- Software TopControl.
- TopControl manual.
- General user documentation.
- Drivers for TopCon interfaces.