



Settings, Data and Software Tool

PC Application Software for SuperTAPP SG
User Manual

About this manual

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1 Introduction

The SuperTAPP SG settings, data and software tool is designed to communicate with SuperTAPP SG and act as a PC user interface. The application performs the following functions:

- ▲ Allows the application to control the relay board via a USB connection
- ▲ Facilitates setting the date and time
- ▲ Identifies firmware version number
- ▲ Updates firmware
- ▲ Downloads setting values from the relay board
- ▲ Facilitates editing and uploading new setting values to the board
- ▲ Loads the saved setting data and saves the edited data

The application is fully compatible with Windows 7, Windows 8, Windows 8.1 and Windows 10.

2 Communication

The connection between the PC application and the relay board is established via USB. This connection allows the software to control and make settings changes to the relay board.

There are two modes of communication:

- ▲ Normal mode – allows the user to edit the setting values, event and analogue data and set/modify the date and time.
- ▲ Update mode – allows the user to update the relay board firmware.

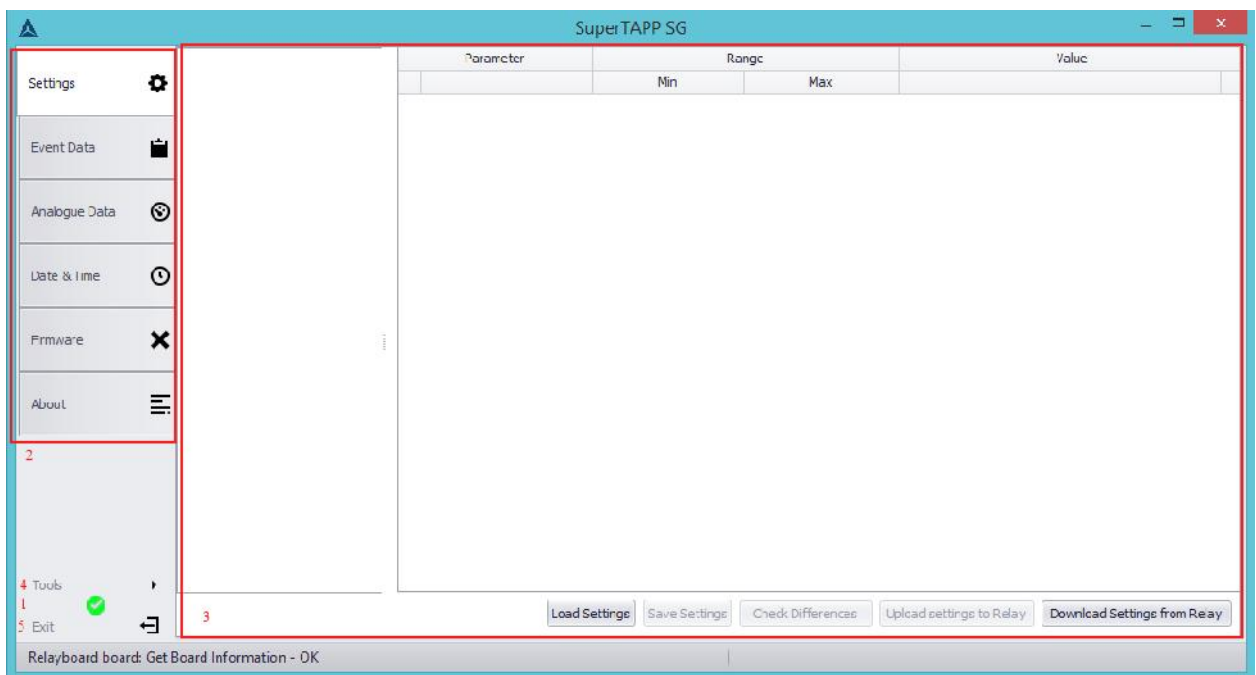
The mode of communication is set within the SuperTAPP SG, as described in section 4.5.

3 User Interface Description

The application window consists of the following parts, referring to Figure 1:

1. Communication status icon
2. Function tabs
3. Main application area
4. Tools menu
5. 'Exit' button.

Figure 1 Application window



Below is a short description of what each part does:

3.1 Communication status icon

This icon displays the status of communication between the application and the relay board.

There are three possible status states that can be displayed:

- ▲ **Connection Lost** ❌ This can mean one of three things – either, the board is off, the board is not connected or the communication cable is broken in some way.
- ▲ **Connection established** ✅ the board is successfully connected to the PC and is able to communicate with the application.
- ▲ **Connection is in update mode** ⬇ the board is connected in the firmware in update mode.

3.2 Function tabs

These tabs allow the user to navigate between different functions of the application. The tabs are:

- ▲ **Settings tab** – facilitates the loading, saving of setting values to/from disk, editing settings values, downloading setting values from relay board and uploading the loaded or changed setting values to the relay board.
- ▲ **Event Data tab** – facilitates the copying of the event data from the relay storage to the PC disk. It also allows the user to filter the event data by date.
- ▲ **Analogue Data tab** – facilitates the copying of analogue data from the relay storage to the PC disk. It also has a feature that allows the user to filter the by date.
- ▲ **Date & Time tab** – allows the user to get and set date and time for relay board.
- ▲ **Firmware tab** – facilitates the reading of the firmware version in Normal mode and upload a new version of firmware into board in Update mode.
- ▲ **About tab** – displays the application version number.

3.3 Main application area

The main application area is where the user carries out the different functions of the tool. The content of the main application area is dependent on the selected function tab, and is described in detail for each function in section 4.

3.4 Tools menu

Only one tool is currently available, which allows the user to check the storage of a SuperTAPP SG, Figure 2. This operation checks the consistency of storage and fixes any errors that are found. The checking process needs additional PC privileges for the user to use. The application will be restarted in privilege mode. The user will be asked to allow this, Figure 3.

Figure 2 Tools menu

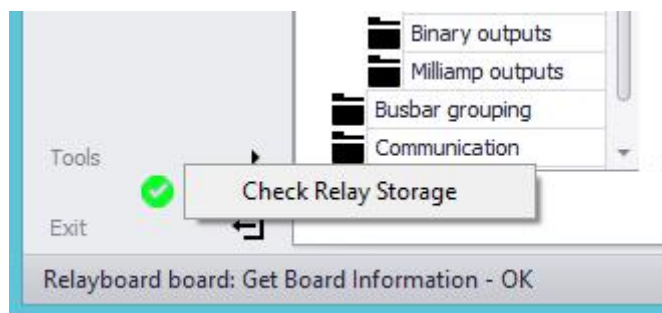
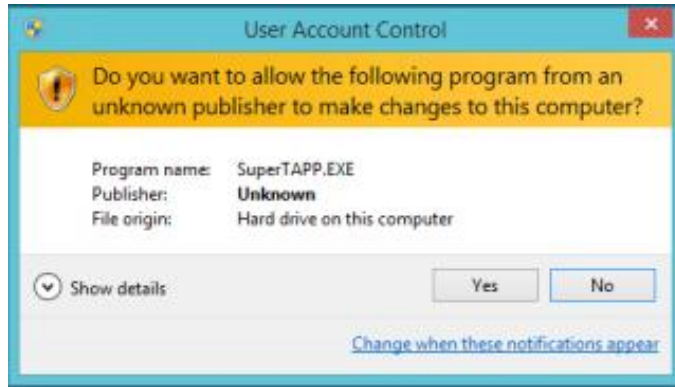


Figure 3 Privilege mode warning

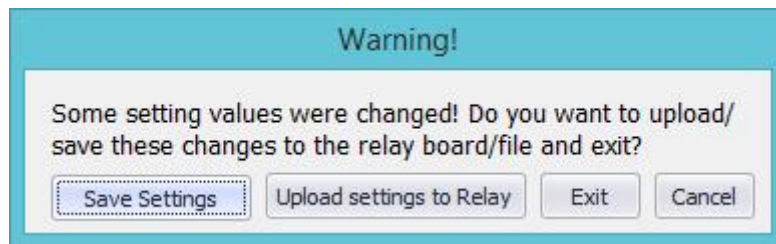


After the completing of the checking process, the application will be restarted in normal mode.

3.5 Exit button

The Exit button is used to stop the application. If some setting values were changed, a warning message will be displayed, Figure 4.

Figure 4 Changed values warning



4 Application Functions

4.1 Settings

There are two parts to this view (Figure 5):

- ▲ A settings tree, at the left hand side
- ▲ A settings list, at the right hand side

The settings are in hierarchical form, corresponding to the setting menus and submenus within the SuperTAPP SG. You can select a menu in the settings tree to display the settings. In the settings list, for each setting the name, range and current value of the setting is displayed.

Figure 5 Settings view

Parameter	Range		Value
	Min	Max	
Target voltage	90.0 %	110.0 %	100.0 %
Bandwidth	±0.5 %	±5.0 %	±1.5 %
Initial tap time delay	10 s	120 s	60 s
Fast tap	Disabled..Up/down		Down
LDC	0.0 %	20.0 %	5.0 %
Reverse LDC	Disabled..Enabled		Disabled
Winding 1 LDC rating	50 A	10000 A	1575 A
Winding 2 LDC rating	50 A	10000 A	1575 A
Generator bias	0.0 %	10.0 %	0.0 %
Load ratio	0 %	200 %	0 %

You can change the value of settings. The editing mode is activated when the user clicks the pencil icon (✎) at the right of the setting. Also, you can start editing by double-clicking on the setting value or by pressing the 'Enter' key. The value editor will then open (Figure 6).

Figure 6 Setting value editor

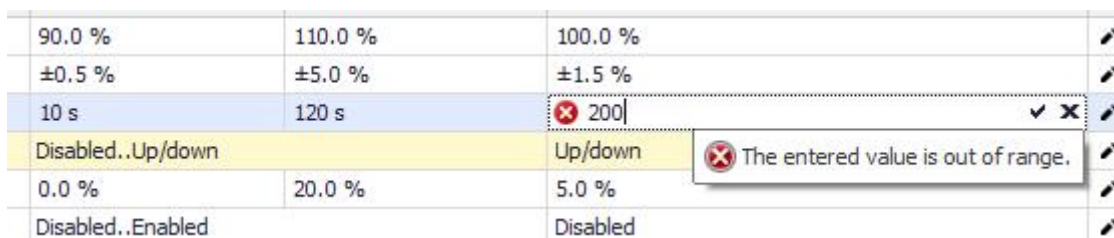
You can select the new value from the combo box, or by typing in the new value. You can accept the entered value by clicking on the 'tick' icon or pressing the 'Enter' key. You can reject the entered value by clicking the 'cross' icon or pressing the 'Esc' key. After this, the value editor will be closed. If the value of a setting is changed, the setting row will change to a light yellow colour, Figure 7.

Figure 7 Changed setting value



If you enter the value that is out of range, it will be impossible to close the value editor and it displays a warning, Figure 8.

Figure 8 Incorrect value entered



There are the several buttons towards the bottom of the screen (Figure 5):

- ▲ **Load Settings** – loads the saved setting values from a file. It opens a standard windows dialog box for file selecting.
- ▲ **Download Settings from Relay** – downloads the setting values from the relay board that is currently connected. If there is no relay board connection, this button is disabled.
- ▲ **Save Settings** – saves the currently loaded or downloaded setting values to the file. It opens a standard windows dialog box to select a destination folder and file name for the file. The dialog suggests a filename according to current date. If destination folder contains the file with a name like the current date, the dialog changes the file name. If the settings values are not loaded or downloaded, this button is disabled.
- ▲ **Check Differences** – compares the currently loaded setting values with setting values in the connected relay board. If the setting value in application are different to the setting value in the relay board, this setting value row will be marked by becoming highlighted in yellow. If the setting values are not loaded or downloaded and the relay board is not connected, this button is disabled.
- ▲ **Upload settings to relay** – uploads the changed values to the relay board. If setting values is loaded and the relay board is connected, this button becomes active.

4.2 Event Data

The Event Data function (Figure 9) allows you to copy event data files from SuperTAPP SG storage to a hard disk. Enter the name of a destination folder into the 'Save Path/Location' field. You can also use the 'Browse' button to select this too.

Then select a file for copying in the grid view. You can select multiple files in the grid view using the 'Ctrl' or 'Shift' key. You can select a range of files by date. Select 'Start Date' and 'End Date' values and press the 'Apply' button. The files that correspond to the range of dates will be selected in the grid view.

Select the 'Save' button to start the copying process. The progress bar displays the progress of the operation. The end of the copying process displays the tick icon (Figure 10).

Figure 9 Event data view

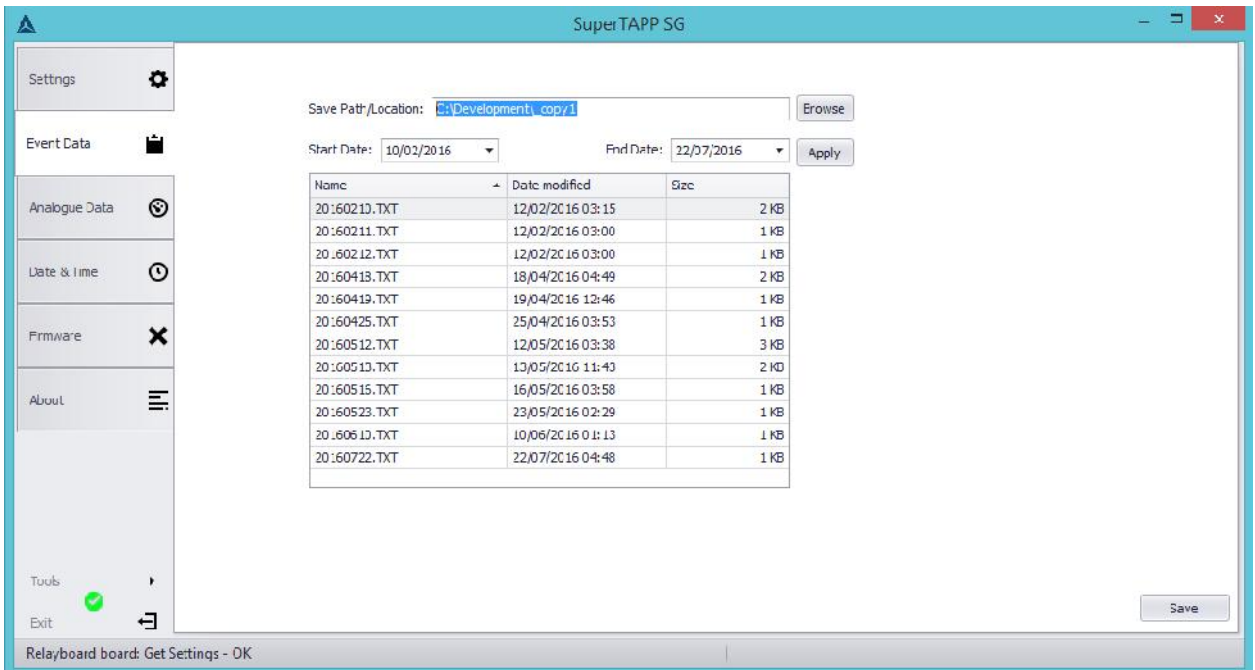
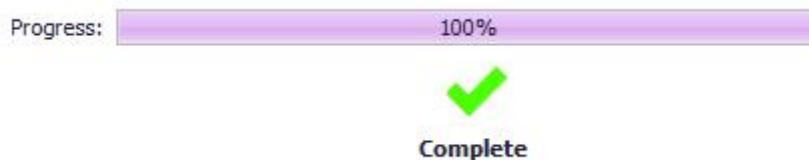


Figure 10 End process icon



If the relay board is not connected, the controls of this view will be disabled.

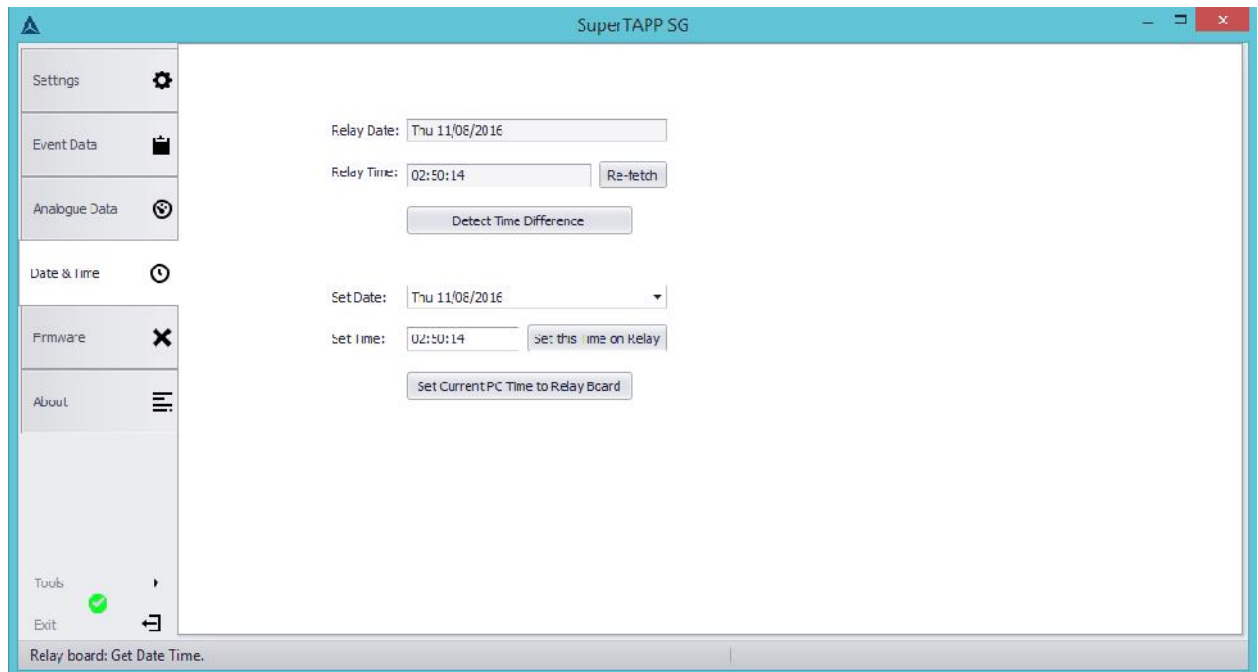
4.3 Analogue Data

The Analogue Data function allows you to copy analogue data files from SuperTAPP SG storage to a hard disk. The operations of this function are the same as the Event Data function. See the previous section for a description of the use of this function.

4.4 Date & Time

The date and time function allows viewing of the current date and time setting of the connected SuperTAPP SG (Figure 11). The application reads the setting automatically and displays it in the 'Relay Date' and 'Relay Time' fields. You can read these settings again by selecting the 'Re-fetch' button. You can detect a difference between the current time of the SuperTAPP SG and the current time of the PC. Select the 'Detect Time Difference' button and the application displays the difference.

Figure 11 Date and time view



You can set the time of the SuperTAPP SG. Enter the date in the 'Set Date' field and the time in the 'Set time' field and select the 'Set this Time on Relay' button. The entered date and time will be set in the SuperTAPP SG.

You can also set your current PC system time to the SuperTAPP SG by selecting the 'Set Current PC time to Relay Board' button.

You can select the 'Re-fetch' button to see the result.

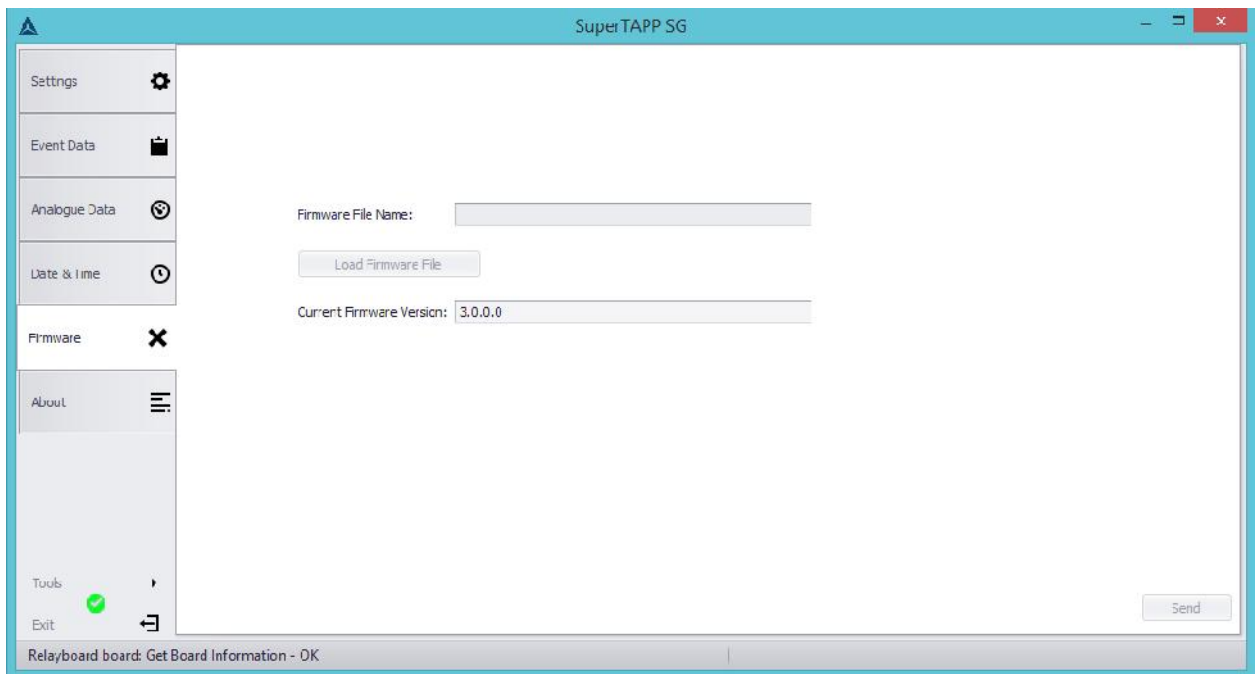
If a SuperTAPP SG is not connected, the controls of this view will be disabled.

4.5 Firmware

If the SuperTAPP SG is operating in its normal mode, this function displays the current version of firmware of the connected SuperTAPP SG in the 'Current Firmware Version' field, Figure 12. The 'Load Firmware File' and 'Send' buttons are not active.

If you want to update the SuperTAPP SG firmware, you should select 'Upgrade firmware' in the Relay configuration settings menu on the SuperTAPP SG. The SuperTAPP SG will then reboot into update mode, and the 'Load Firmware File' button in the PC application will become active. Select the button to select a new firmware file and select the 'Send' button to start the update process. The progress bar displays the progress. After the sending of the firmware is completed, the SuperTAPP SG will be rebooted automatically into its normal mode.

Figure 12 Firmware view



4.6 About

This view displays the name, copyright and current version of application.

Figure 13 About view

