SPAC 315 C and SPAC 317 C

Contents for How to Use the Simulator Program

This manual describes the various items you see in the simulation program. To choose a Help Topic, click on the underlined topic to view the text.

**Toolbar**

**Menu Commands**
- File
- Options
- Preferences
- Help

**Other functions**
**Toolbar**

- **Exit button**
  - Exit simulator program

- **Power Switch button**
  - Simulates the switching on/off of the power supply to the SPAC 315 C and SPAC 317 C relay

- **Factory Settings button**
  - Change all settings to the defaults set when the relay is shipped from the factory.
  - **WARNING:** Selecting this option results in the lost of all current settings.

- **Factory settings button**
  - Disabled when power supply is OFF

- **Simulate Current and Voltage Injection**
  - This window allows the simulation of current or voltage injection into the relay.
  - Select the required module for which the current or voltage is to be injected.
  - **Inject preset** current command button
  - Simulates the one time (static) injection of the input current into selected input of the relay.

- **Simulate Current Injection**
  - Disabled when power supply is off or when display is not in main menu

- **Forced Activation**
  - Enable the force activation mode. This will place the user at Register 0.

- **Forced Activation**
  - Disabled when power supply is off or during initial test routine.

- **Circuit Supervision**
  - **Energizing Current Circuit Monitoring** function and **Trip circuit supervision** function monitor the input energizing currents and resistance of trip circuit respectively.

- **Circuit Supervision**
  - Disabled when power supply is off or during initial test routine.
Show Interlocking Diagram  Allow user to define under which circumstances.

Show Interlocking Diagram  Disable when power supply is off.

Power/Energy measurement  The power supply module SPGU240A1 or SPGU48B2 are used to provide auxiliary voltage supply needed. A green LED indicator Uaux on the front panel is lit when this power supply module is in operation.

Power/Energy measurement  Disable when power/energy is off.

Change Simulator Colour  This option allows the user to change the colour of the various relay items like the LED, Dipswitches, etc..

Change Simulator Speed  The scrolling speed of the LEDs can be controlled using this option.

Copy button  Copy selected area to the clipboard. Upon selecting this option, the cursor is restricted to the SPAJ 115 C relay area. To select the required area:

- Press and hold left mouse button at top left hand corner of required area.
- Move mouse to bottom right hand corner of required area. (a rectangle box is display to show the selected area)
- Release the mouse button.

Note: Click once anywhere to cancel the copy command.

View Clipboard  This button will launch the clipboard viewer. It allows the user to view the items copied to the clipboard.

Print Simulator Window  This function sends the current screen image to the printer attached.

SPAC 315 C and SPAC 317 C manual button  Show SPAC 315 C and SPAC 317 C manual.
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<th>Button</th>
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<tr>
<td>Help on Simulator</td>
<td>Displays the help manual on how to use this simulation program</td>
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<tr>
<td>Getting Started Tutorial</td>
<td>A step by step guide on how to use the program</td>
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<tr>
<td>About</td>
<td>Display program information, version number and copyright information.</td>
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### Menu Commands - File

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<tr>
<th>Command</th>
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<tr>
<td>View Clipboard</td>
<td>Display the contents of the clipboard</td>
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| Copy to Clipboard        | Copy selected area to the clipboard. Upon selecting this option, the cursor is restricted to the SPAJ 115 C relay area. **To select the required area**  
  • Press and hold left mouse button at top left hand corner of required area.  
  • Move mouse to bottom right hand corner of required area. (a rectangle box is display to show the selected area)  
  • Release the mouse button.  
  Note: Click once anywhere to cancel the copy command |
| Print Simulator Window   | Print the contents of the SPAC 315 C and SPAC 317 C window                  |
| Print Setup              | Change the printer configuration                                            |
| Exit                     | Stop running the simulator program                                         |
**Menu Commands - Options**

**Clear All Registers -** Resets all readings in registers (1 to 9) to zero.

**Simulate Current and Voltage Injection -** This window allows the simulation of current or voltage injection into the relay. Select the required module for which the current or voltage is to be injected. 
*Inject preset current command button* - Simulates the one time (static) injection of the input current into each selected input of the relay.

**Forced Output Activation -** Places the simulator in the **Forced Output Activation** position (i.e. "forced" trip mode). 
Note: In the relay, this position is reached by running through the relay positions to position zero (with the reset button) and then pressing the program button down for more than 5 seconds.

**Circuit supervision -** **Energizing Current Circuit Monitoring** function and **Trip circuit supervision** function monitor the input energizing currents and resistance of trip circuit respectively.

**Show interlocking diagram -** Allow user to defines under which circumstances.

**Power Energy measurement -** The power supply module SPGU240A1 or SPGU48B2 are used to provide auxiliary voltage supply needed. A green LED indicator Uaux on the front panel is lit when this power supply module is in operation.

**Change configuration -** This function allows users to change the minute board.

**Turn on off power switch -** Simulates the switching on/off of the power supply to the SPAC 315 C and SPAC 317 C relay.
Menu Commands - Preferences

Show Toolbar/Show Status Bar - Displays/removes the toolbar on the screen depending on whether it is currently removed/shown respectively.

Change LED colours - Change the colours of the background and LED's to suit individual screens and preferences. Click on the appropriate box to change the corresponding colour. Click on the "Apply changes to Simulator" button to confirm the changes made. Click on the "Apply default colours" button to set all colours to permanently set defaults. Click on the "Cancel all color changes" button to cancel all changes made.

Change simulator speed - Change the speed at which the simulator works. This allows for adaptations to individual hardware configurations. When this option is selected, the following window is shown. Use the left mouse button to click on the left (or right) arrow to increase (or decrease) the simulation speed. Alternatively, click (and hold) the flashing box on the slide and drag it to the required position. Click OK to confirm the changes made or click CANCEL to ignore any changes.

Change background - Changes the background colour of the window.

Change to default settings - Change all settings to the defaults set when the relay is shipped from the factory. WARNING: Selecting this option results in the lost of all current settings.

Change to Customized Settings - All settings are automatically saves to file when:
1. Power is turned off
2. Program exits
These (current) settings are also automatically loaded when the program is restarted.

Another (separate) set of settings can be saved by using the SAVE AS CUSTOMISED SETTINGS option. This allows the user to keep a set of preferred initialization settings, which can be, reload at any time using the CHANGE TO CUSTOMISED SETTINGS option. Selecting this option results in the lost of all current settings.
Save as Customized Settings -

All settings are automatically saves to file when:
1. Power is turned off
2. Program exits

These (current) settings are also automatically loaded when the program is restarted.

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### Menu Commands - Help

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<td>See this help window</td>
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