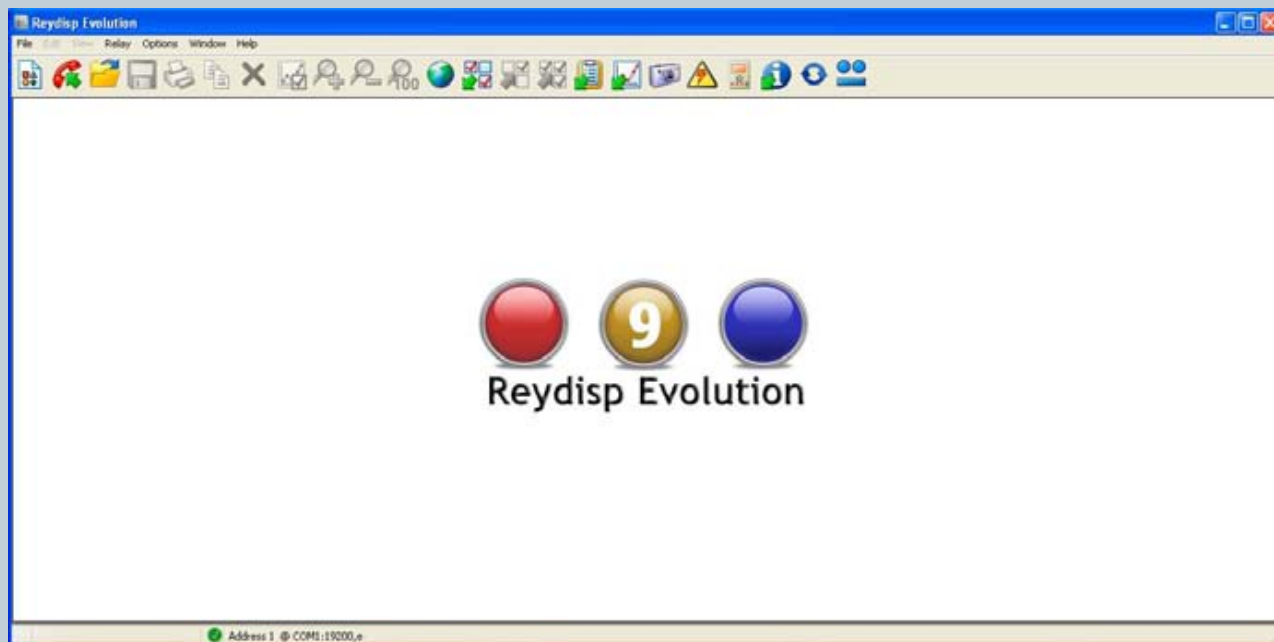


SIEMENS



www.usa.siemens.com/energy

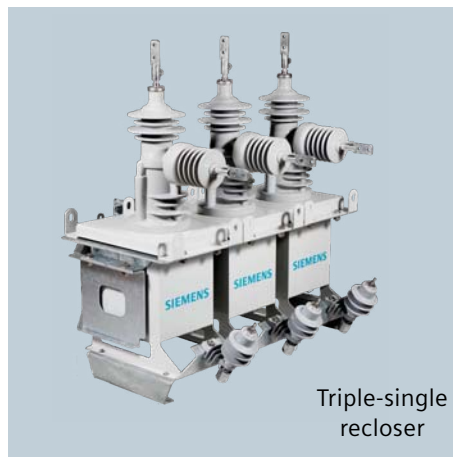
Reydisp Evolution software training aid

Answers for energy.

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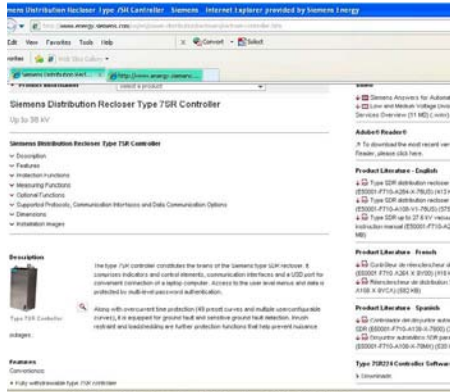
This document is intended to help the user learn how to download and program the Reydisp Evolution software for use with the Siemens type 7SR224 controller, which is used to control the Siemens type SDR distribution recloser.



Downloading and installing the Reydisp Evolution software

Reydisp Evolution is Microsoft Windows®-based support software suitable for running on Windows versions® 7, Vista, XP or 2000. Download free at the Siemens type distribution recloser (SDR) controller internet page <http://www.energy.siemens.com/us/en/power-distribution/reclosers/recloser-controller.htm>. No registration is required.

Click on the link “Downloads” underneath the “Type 7SR224 Controller Software” header.



Product Literature - French

- ↓ Pdf Contrôleur de réenclencheur de distribution SDR (E50001-F710-A264-X-9Y00) (418 KB)
- ↓ Pdf Réenclencheur de distribution SDR (E50001-F710-A108-X-9YCA) (582 KB)

Product Literature - Spanish

- ↓ Pdf Controlador del disyuntor automático de distribución SDR (E50001-F710-A138-X-7800) (387 KB)
- ↓ Pdf Disyuntor automático SDR para distribución (E50001-F710-A108-X-78MX) (539 KB)

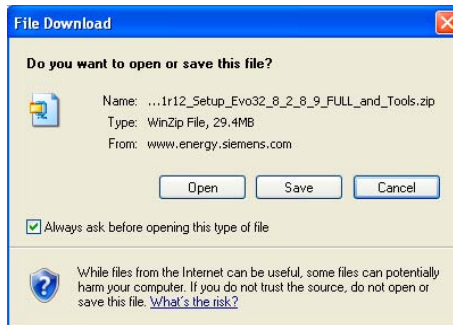
Type 7SR224 Controller Software

> Downloads

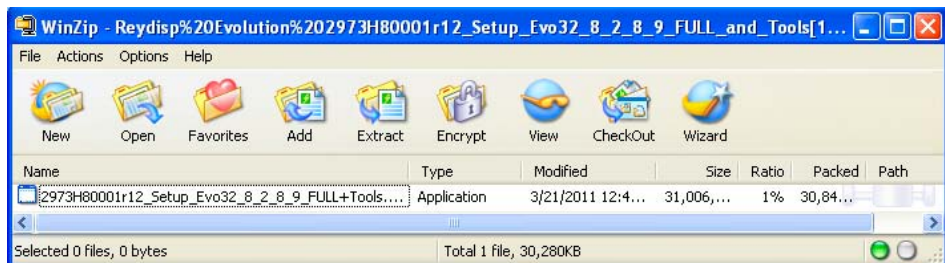
Click on the Reydisp Evolution zip file underneath “Software Tools” header.

| Reydisp | | | | | | |
|----------------|---|-----------------------|---------|--------|------------|----------|
| Software Tools | | | | | | |
| ↓ Pdf | Reydisp Evolution | Software and Firmware | English | Global | 07.06.2011 | 29.4 MB |
| | 2973H80001r12_Setup_Evo32_8_2_8_9_FULL_and_Too | | | | | |
| ↓ Pdf | Reydisp Settings Files - 7SR1x - 2436H80003R1g-1c | Software and Firmware | English | Global | 06.04.2011 | 181.1 KB |
| ↓ Pdf | Reydisp Settings Files - 7SR2x 2435H80011R4f-4b | Software and Firmware | English | Global | 06.04.2011 | 98.5 KB |

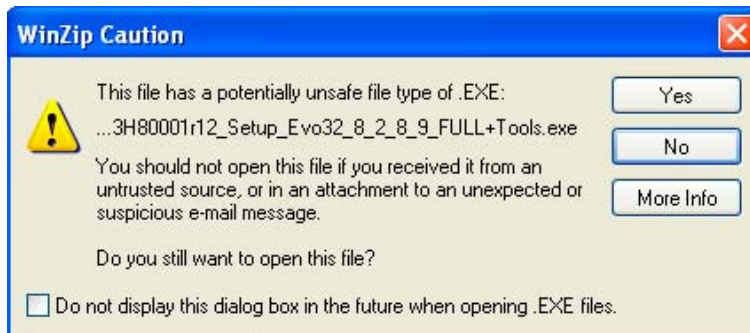
Once the “File Download” dialog box opens, click “Open.”



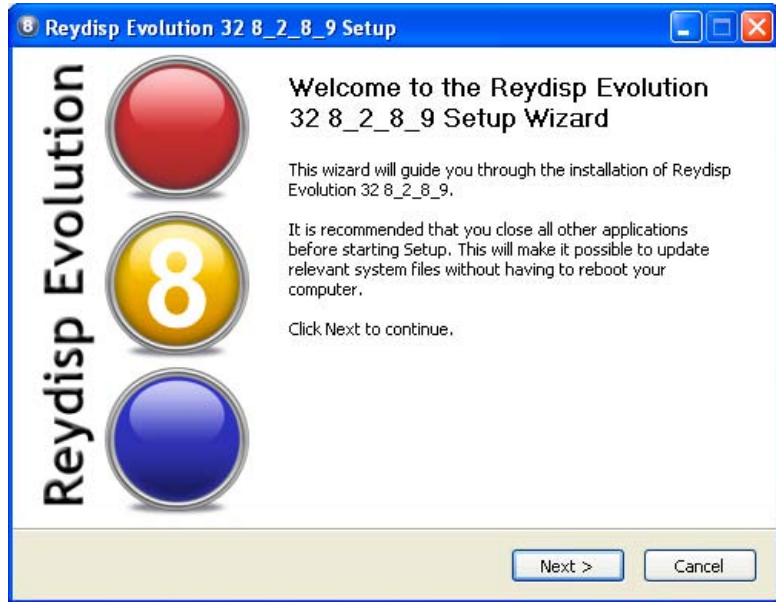
The zip file will be created and displayed. Double-click to extract and run the setup file.



Click “Yes” when prompted by the “WinZip Caution” dialog box.



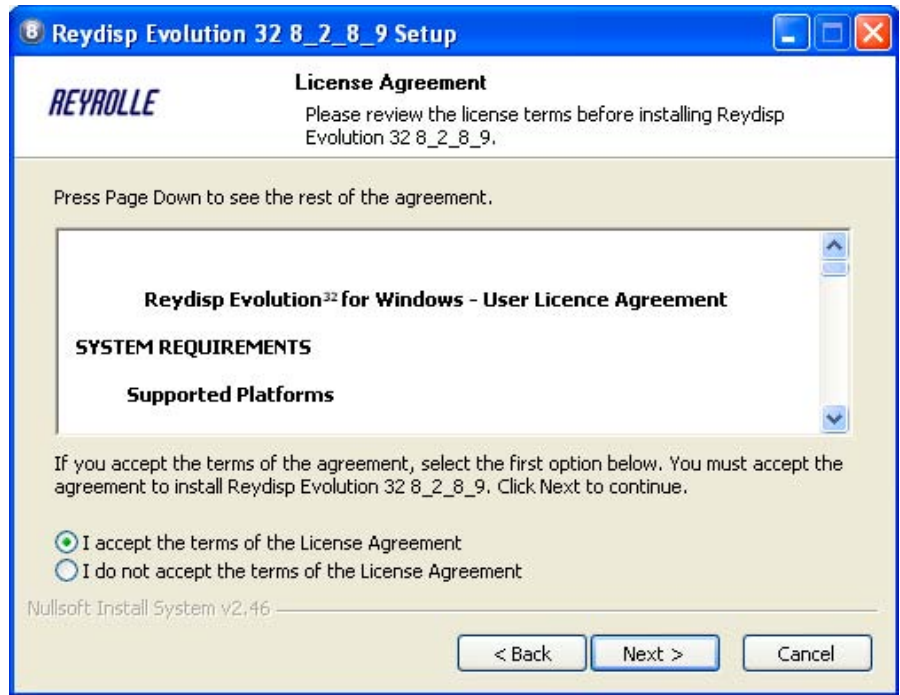
The "Reydisp Evolution 32 8_2_8_9 Setup" dialog box will appear. Click "Next" to begin installation.



Note: If a USB cable is connected to the controller, a "USB Connection Test" dialog box will appear reminding you to disconnect the USB cable before proceeding.



The "Reydisp Evolution 32 8_2_8_9 Setup Reyrolle License Agreement" dialog box will be displayed. After reading the disclaimer and, if you agree, please check "I accept the terms of the License Agreement" and click the "Next" to continue.



The "Reydisp Evolution 32 8_2_8_9 Setup Reyrolle Choose Components" dialog box will be displayed.

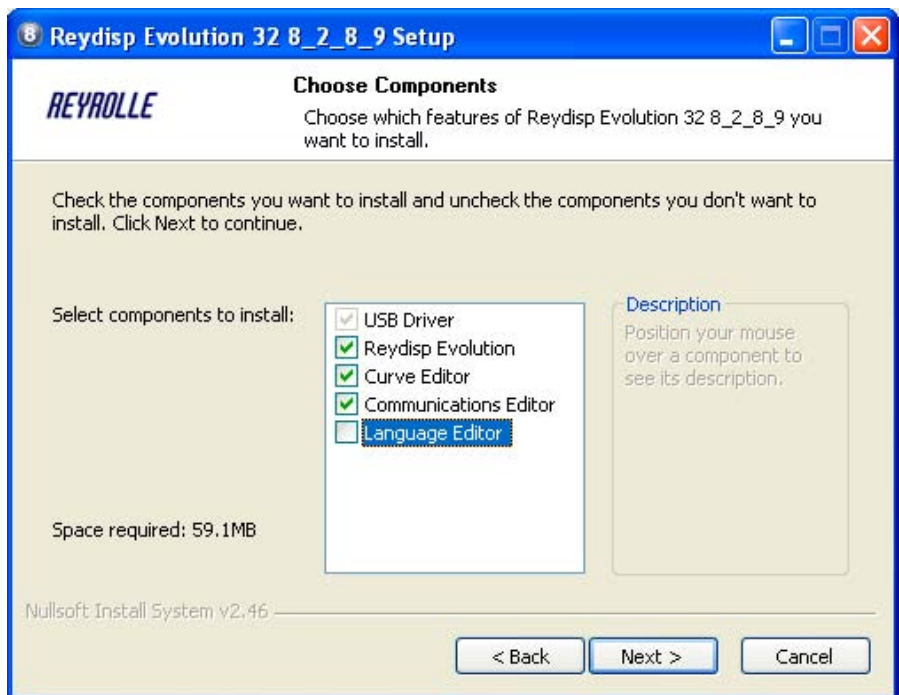
The Curve Editor (recommended) is used to create custom time/current curves by copying existing files or templates and editing them to be saved as unique curve files.

The Communications Editor (recommended) is used to configure data points in the program files for available protocols.

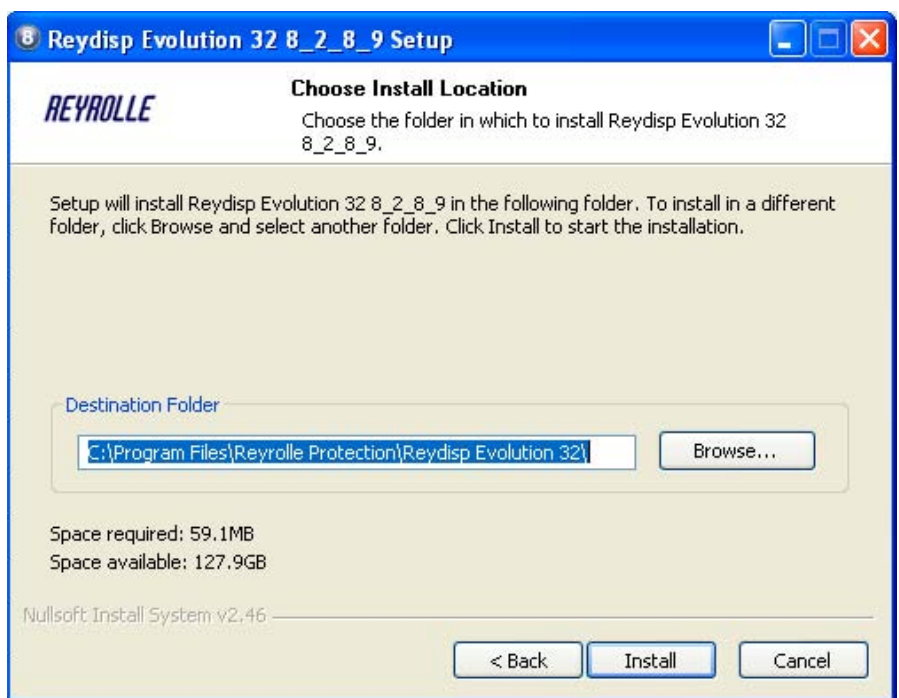
The Language Editor (not recommended) is used to condense data files in order to speed up the exchange of data with the controller.

Check "Reydisp Evolution" and any additional Reydisp components that will be needed.

After making your selections, click "Next."

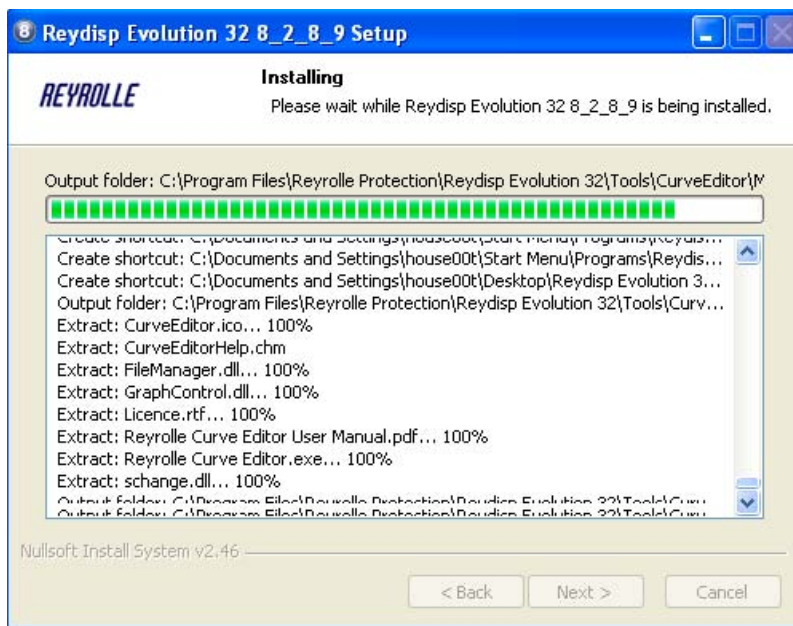


The "Reydisp Evolution 32 8_2_8_9 Setup Reyrolle Choose Install Location" dialog box will be displayed. Click "Install" or select the location for the Reydisp Evolution software program files using the "Browse" option.



During installation, the “Reydisp Evolution 32 8_2_8_9 Setup Reyrolle Installing” dialog box will be displayed and the prompt to install the USB driver will appear.

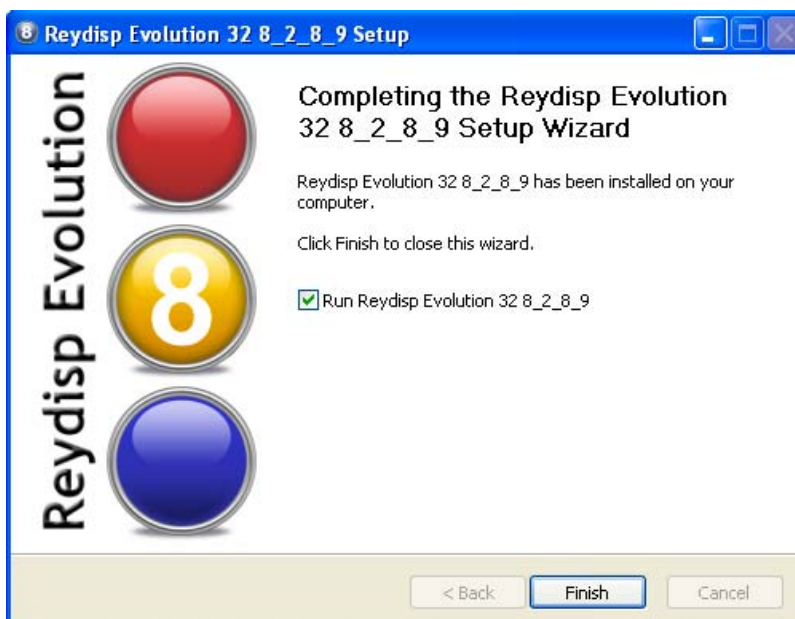
Reyrolle is a part of Siemens Protection Devices, Ltd. (www.reyrolle-protection.com).



When the “Software Installation” dialog box appears, confirm the installation of the unassigned driver. The driver is a USB driver for use with the generation of devices that have a USB port on their fascia. Click “Continue Anyway” to install the driver.



If the software has installed properly, the “Reydisp Evolution 32 8_2_8_9 Setup Reyrolle Completing the Reydisp Evolution 32 8_2_8_9 Setup Wizard” dialog box will appear. Click “Finish” to complete the installation.

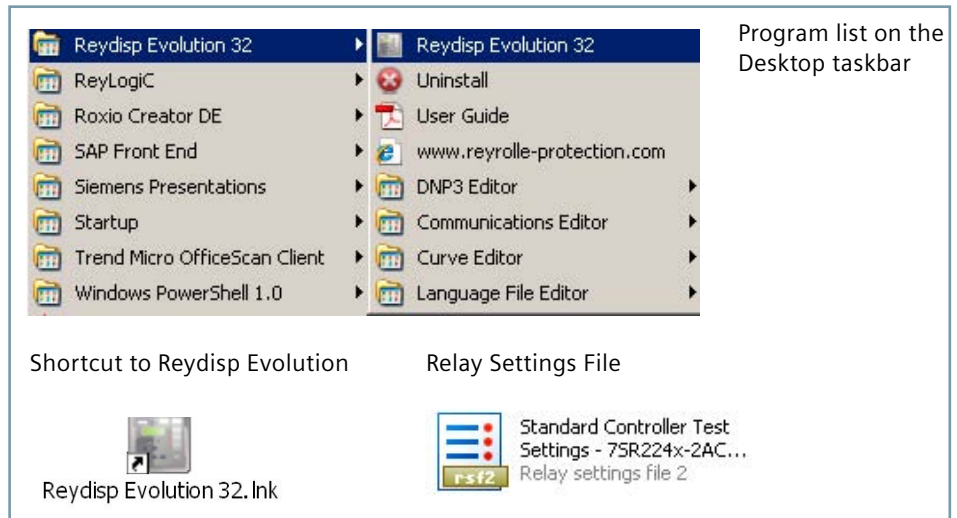


Getting started

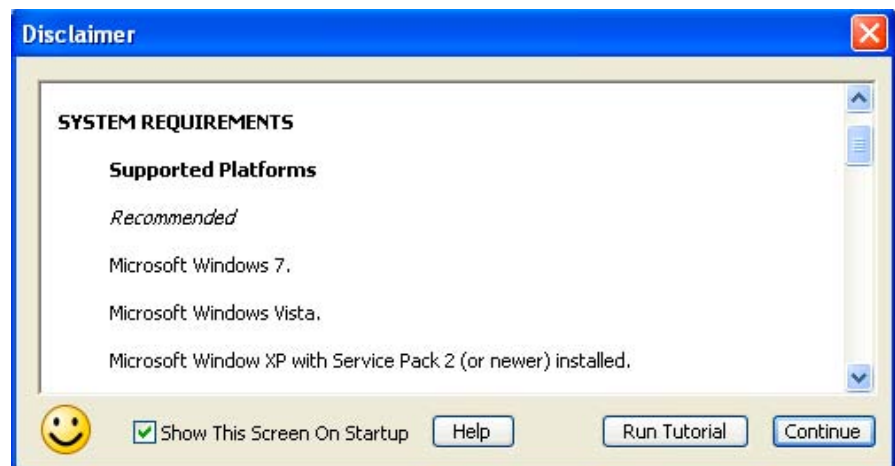
If the "Run" box is checked, Reydisp Evolution software will start.

Reydisp Evolution software can be used without being connected to a controller or device. Some example (template) files of data and settings are supplied with the product to demonstrate its use. The use of these files will be addressed in later pages of this training aid.

Reydisp Evolution software may be started by using the program list on the desktop taskbar, a shortcut to Reydisp Evolution or a relay settings file.

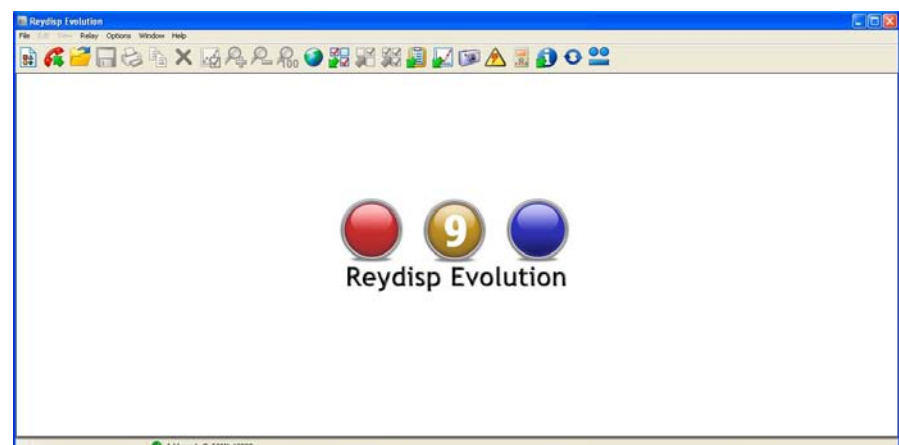


After starting the Reydisp Evolution software, the "Disclaimer" dialog box will be displayed. Click "Continue."



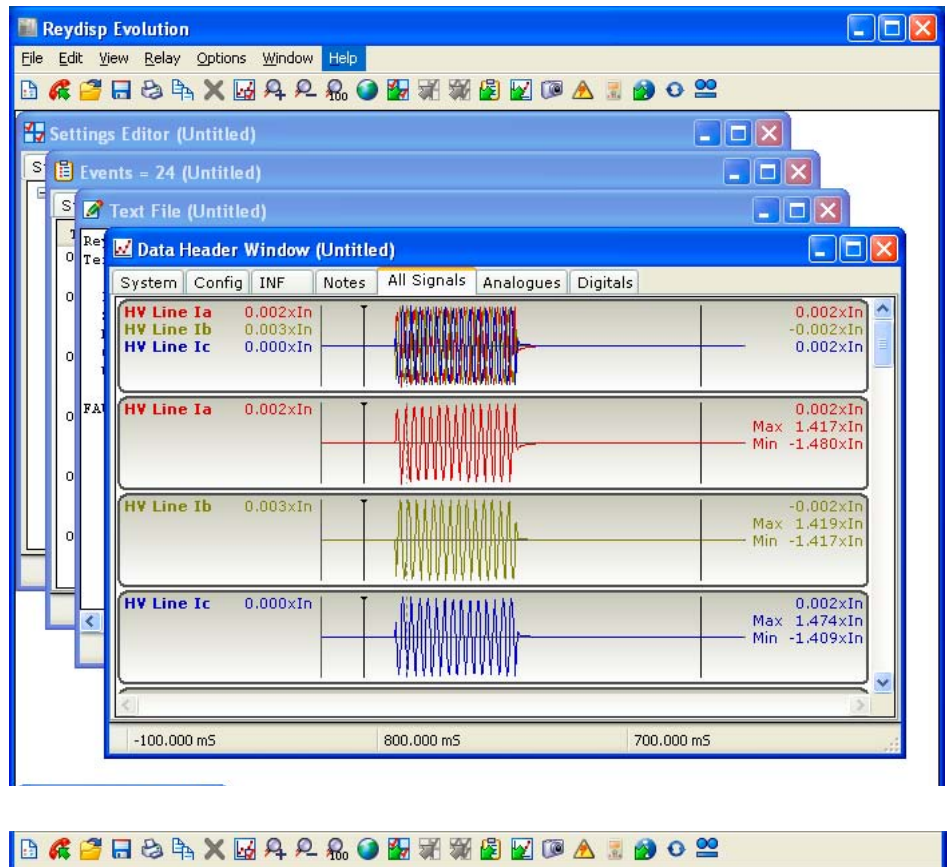
The "Reydisp Evolution" dialog box will appear indicating the address and communication parameters as indicated on the status bar at the bottom of the window.

Note: If Reydisp Evolution was started using a Relay Settings File (rsf2), a window inside of Reydisp Evolution displaying the settings file that was opened and will be illustrated later in this training aid.



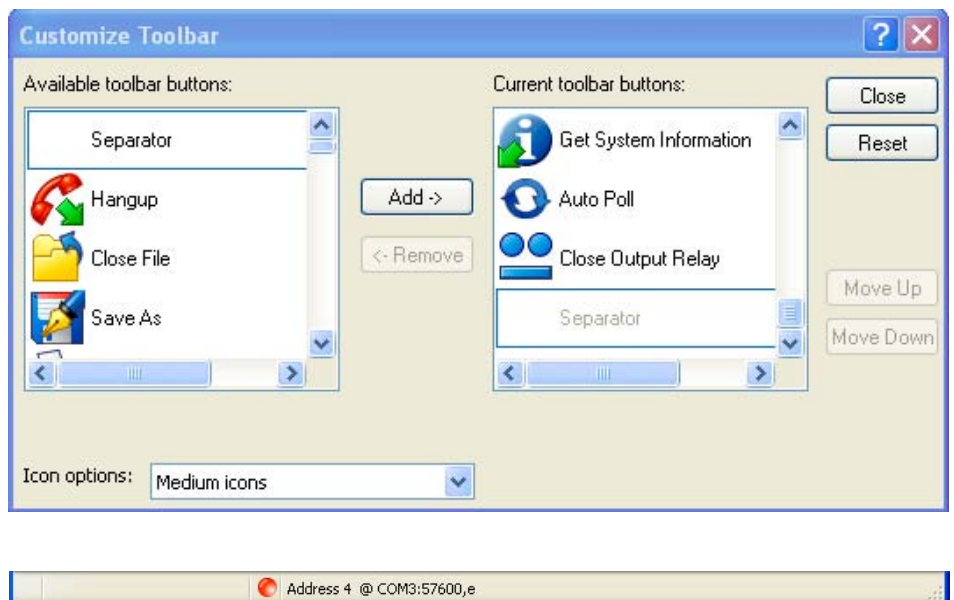
Main display

The main display of Reydisp Evolution software uses the standard Microsoft Multiple Document Interface (MDI) format. A menu bar near the top of the window lists the commands (for example, "File," "Edit" and "Help").



These commands are duplicated on a configurable button bar beneath the menu bar. A description of a button will appear by moving the mouse pointer over the button to display a hint.

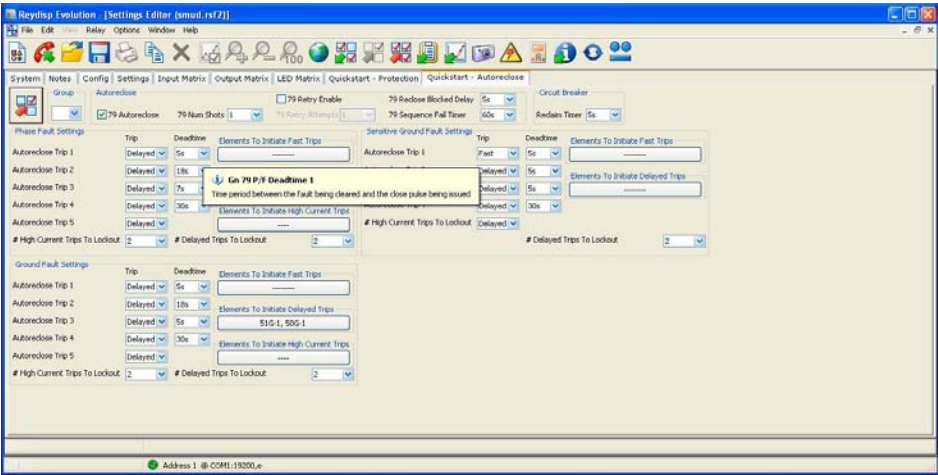
To add, change or delete buttons, select "Options" from the menu bar or double-click on a blank portion of the button bar to display the "Customize Toolbar" dialog box.



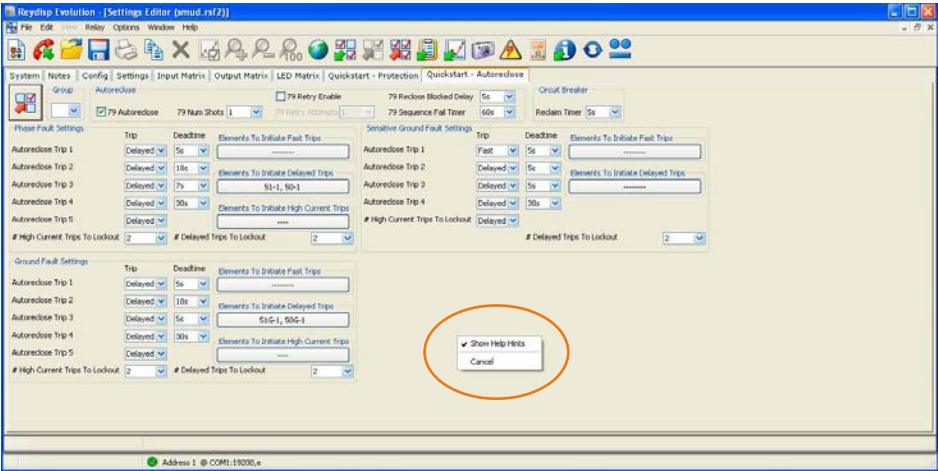
At the bottom of the window is a status bar presenting status and connection information. A green dot shows connected while a red dot shows disconnected. The connection information describes the address of the device and the type of connection, such as a COM port or TCP/IP connection.

Helpful hints

Help hints are displayed by hovering over a setting per the example to the right.



The helpful hints can be turned on or off on the context menu by clicking on the right mouse button while on the "Settings Editor" display window but not on a setting (refer to orange circle illustrating proper placement of mouse pointer to right click).



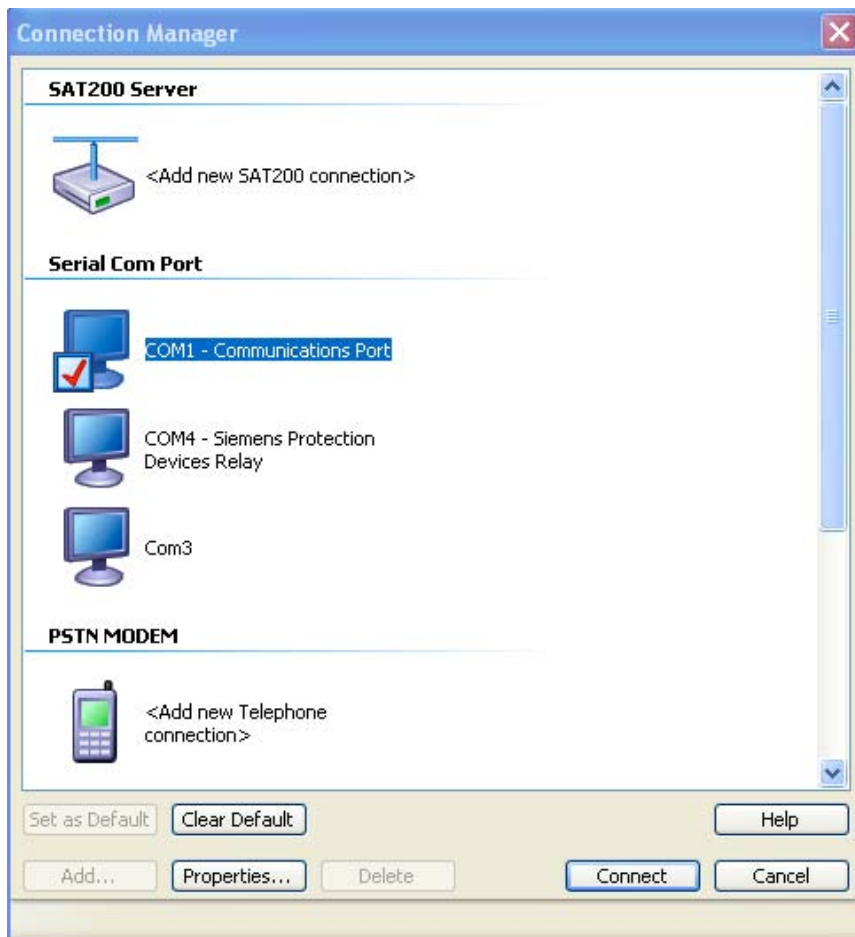
Connecting to the type 7SR224 controller

Select "File," "Connect" from the menu bar or use the connection button



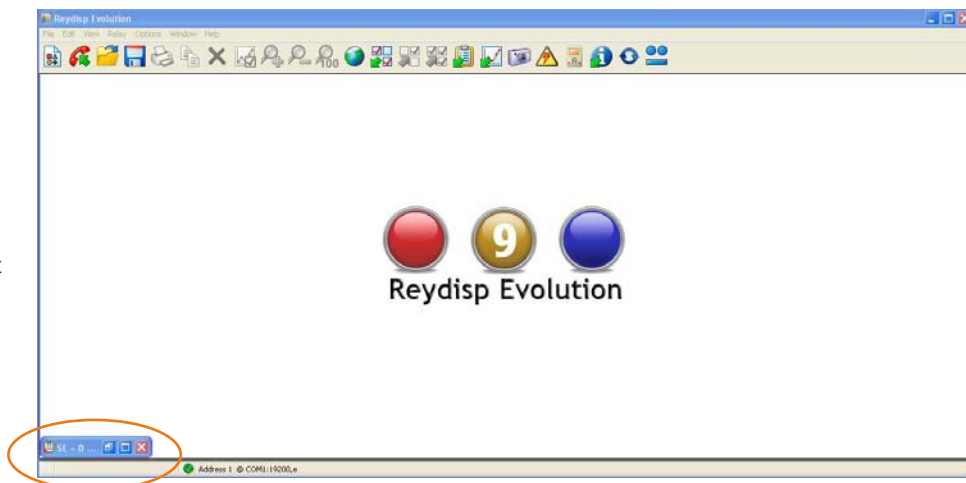
The "Connection Manager" dialog box will be displayed, which lists the connections available.

To connect to the type 7SR224 controller, select the connection from the list that includes the text "Siemens Protection Devices Relay" and click "Connect."



The status and connection data will be displayed on the status bar and the "Spontaneous Events" window will be displayed (minimized) at the bottom left corner of the Reydisp Evolution window, which has been circled in orange.

The "Spontaneous Events" window is used to display data sent by the device during a communications transaction but not explicitly requested by the user.



Type 7SR224 controller settings files group numbers

Each type 7SR224 controller can store up to eight selectable settings files, which are referred to by group number. Any one of these files may be chosen as the active settings group.

To determine the active settings group once connected to the type 7SR224 controller, select:

1. Relay
2. Settings
3. Get Active Setting Group Number from the menu bar or use the Get Active Setting Group Number button



The active group will be displayed in the dialog box "Get Active Settings Group Number."

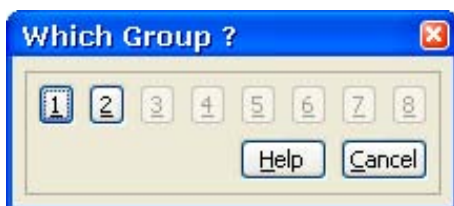


To set a setting group in the device to be active, select:

1. Relay
2. Settings
3. Set Active Setting Group Number from the menu bar or use the Set Active Setting Group Number button



4. The "Which Group ?" dialog box appears for the user to choose the group to activate.



To view a list of a setting group, select:

1. Relay
2. Settings
3. List Settings Group from the menu bar or use the List Settings Group



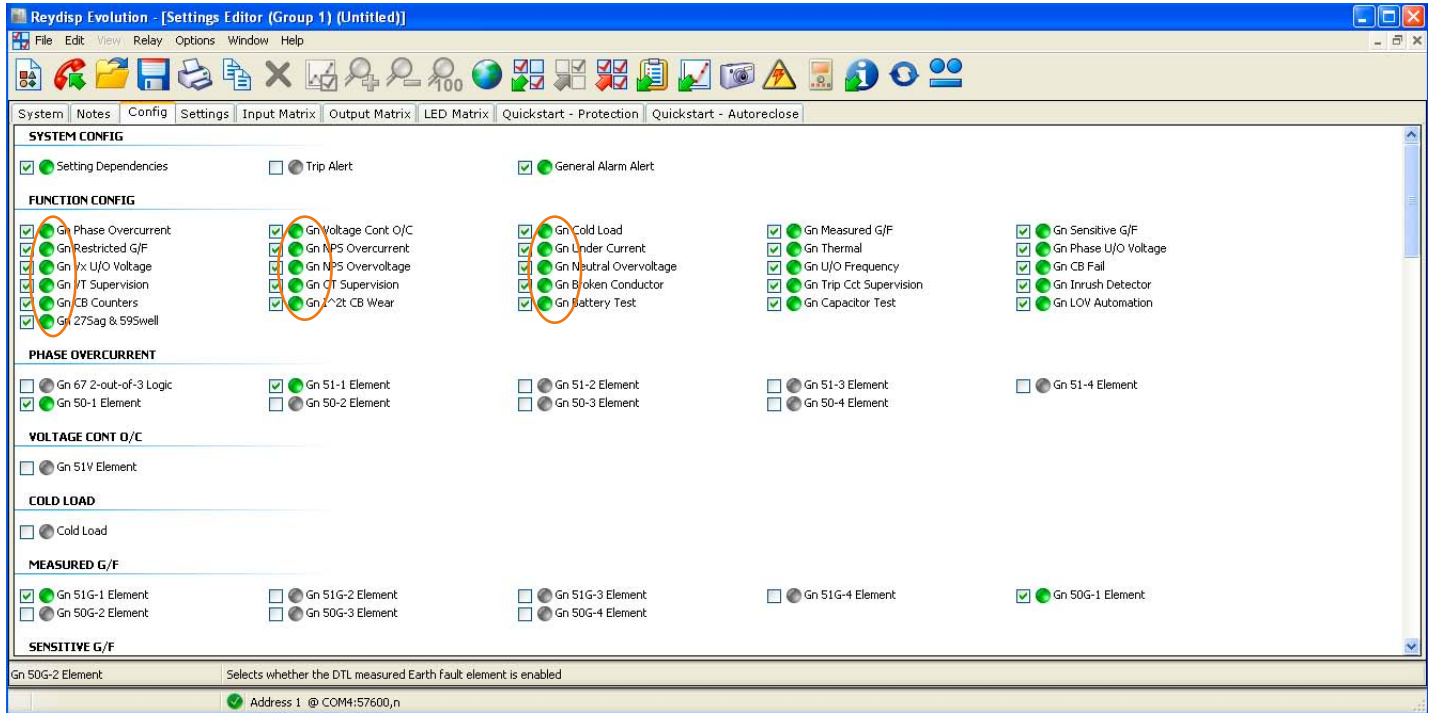
4. The "Get Which Settings Group ?" dialog box appears for the user to select the desired group number to be listed.



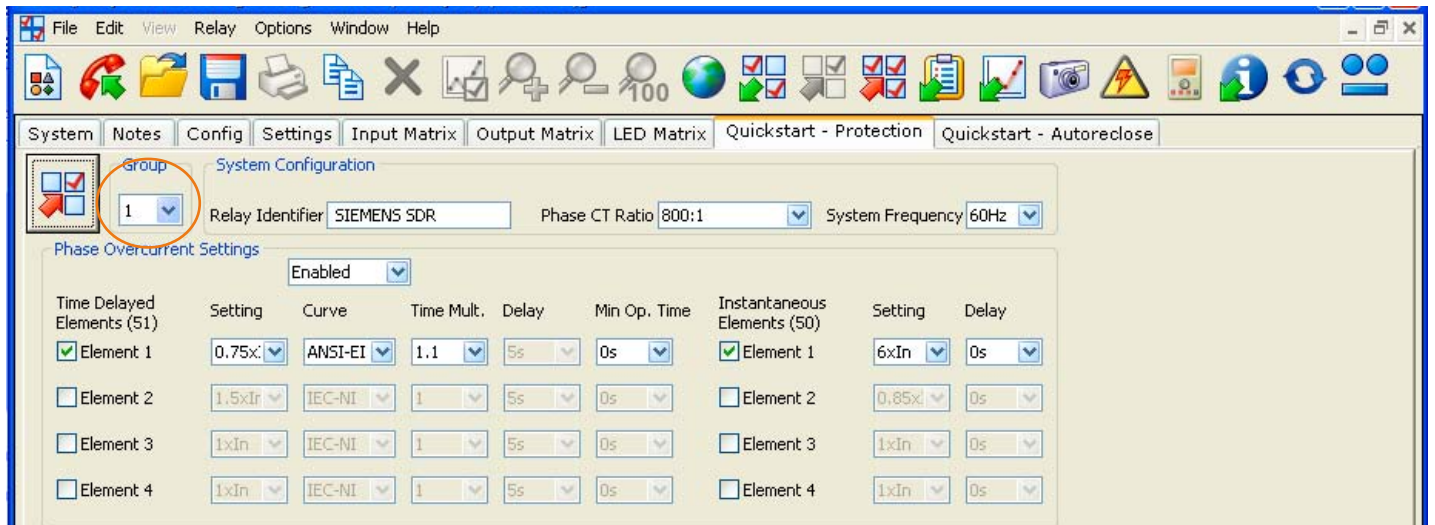
The settings for the selected group will be displayed as a list in the "Relay Settings Group" dialog box, which may be printed or saved as text for user reference.



Within the setting files, function selections refer to the group number as “Gn,” which has been circled in orange in the “Settings Editor” window below.



The exception to the Gn reference is in the “Quickstart - Protection” and “Quickstart - Autoreclose” tabs when group numbers may be assigned in order to quickly make and save changes to protection and autoreclose schemes. An example is shown below and circled in orange. Depending upon the version of the setting file, “Quickstart - Protection” may also show as “Simplified Protection” and “Quickstart - Recloser” may appear as “Recloser.”



Type 7SR224 controller settings files template files

Reydisp Evolution software contains example or template relay settings files that may be used to gain familiarity with the software.

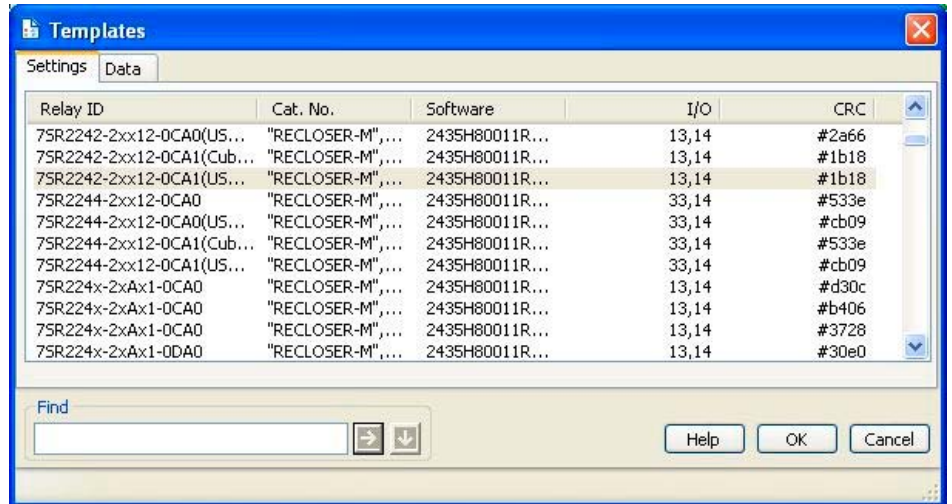
To open an example file, select

1. File
2. New from Template or use the New From Template




3. Select an appropriate file from the "Settings" tab in the templates dialog box. Since Reydisp Evolution software is used to support the entire Argus-M product line, it is necessary to select only files that begin with "RECLOSER-M" in the "Cat. No." field).

Note: These template files should only be used for example purposes and should not be loaded into new or existing protection and control relays. Sample files to be used with new or previously energized equipment should be requested from the Siemens recloser application engineering group. This will ensure the latest version and correct match for the model of the type 7SR224 relay being considered. These files will be provided in the Relay Settings Files (*.rsf2) format.



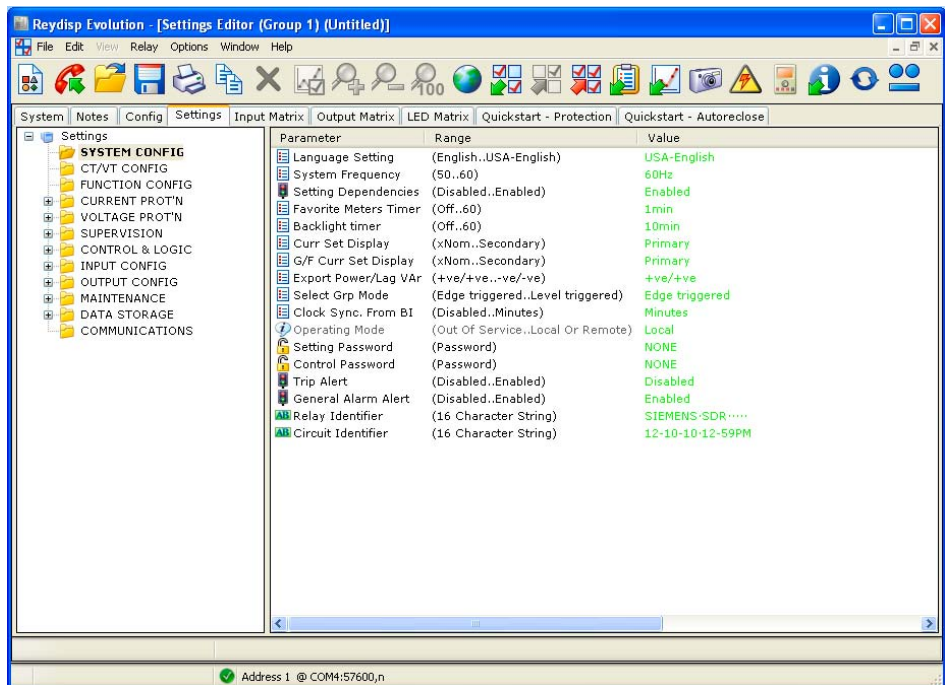
Type 7SR224 controller settings files get settings

To view setting files from the type 7SR224 controller once connected, select

1. Relay
2. Settings
3. Get Settings from the menu bar or use the Get Settings  button.
4. The "Get Which Settings Group ?" dialog box will be displayed. Select the desired group number to be retrieved.

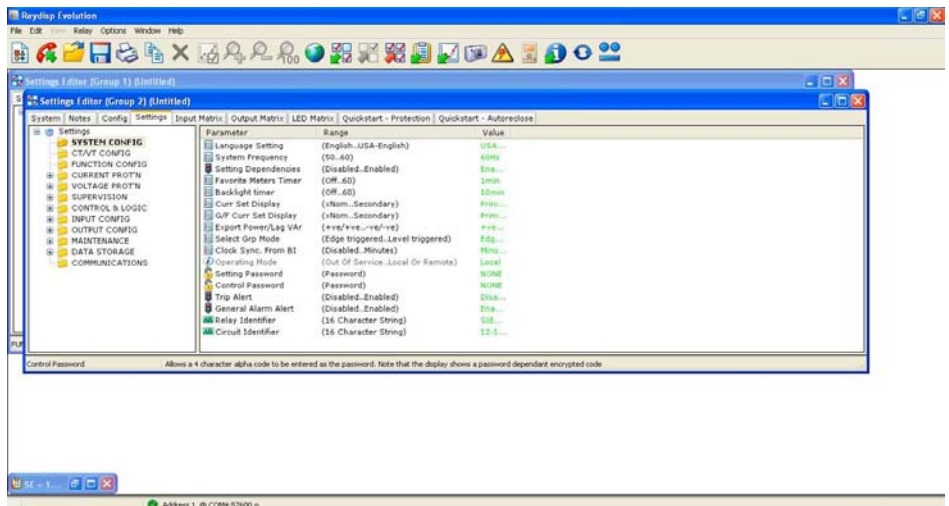


The "Reydisp Evolution [Settings Editor...]" window for the selected group number will be displayed.



Multiple settings groups may be retrieved by repeating the process until all desired groups have been retrieved.

The groups may then be arranged as desired using "Window," "Cascade" or "Tile" commands.



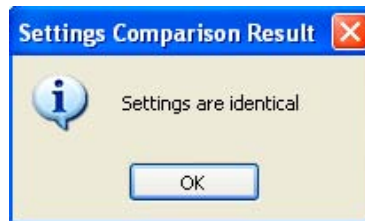
Type 7SR224 controller settings files compare settings

To compare any two groups, select

1. Edit
2. Compare settings group. The "Compare Settings" dialog box will be displayed.
3. Select the desired group numbers to be compared.

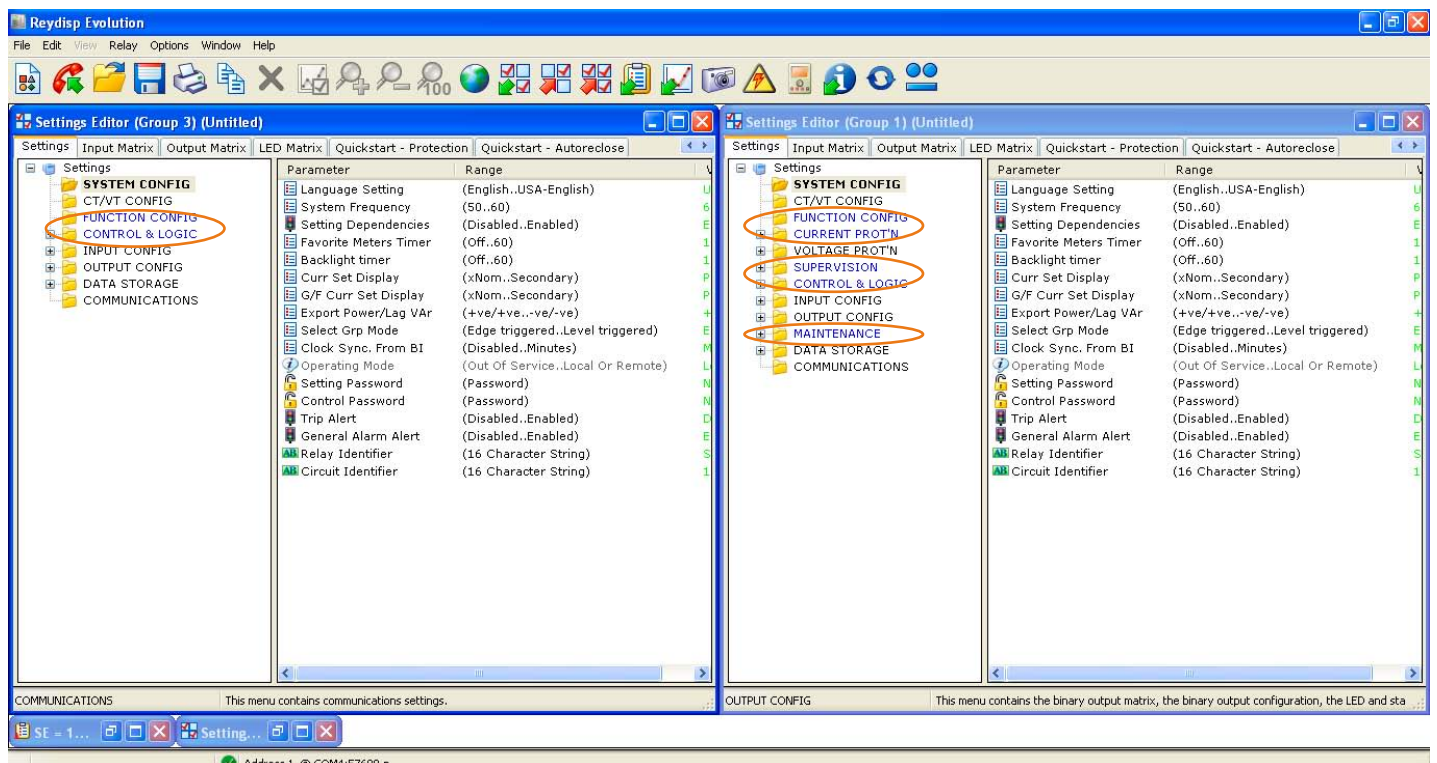
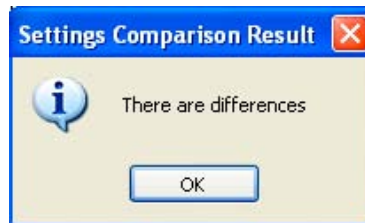


If the selected groups are identical, the "Setting Comparison Result" dialog box will confirm "Settings are identical."



If the selected groups are different, the "Setting Comparison Result" dialog box will confirm "There are differences."

The two groups will then be displayed and any differences will be highlighted in blue as shown in the example below and circled in orange.

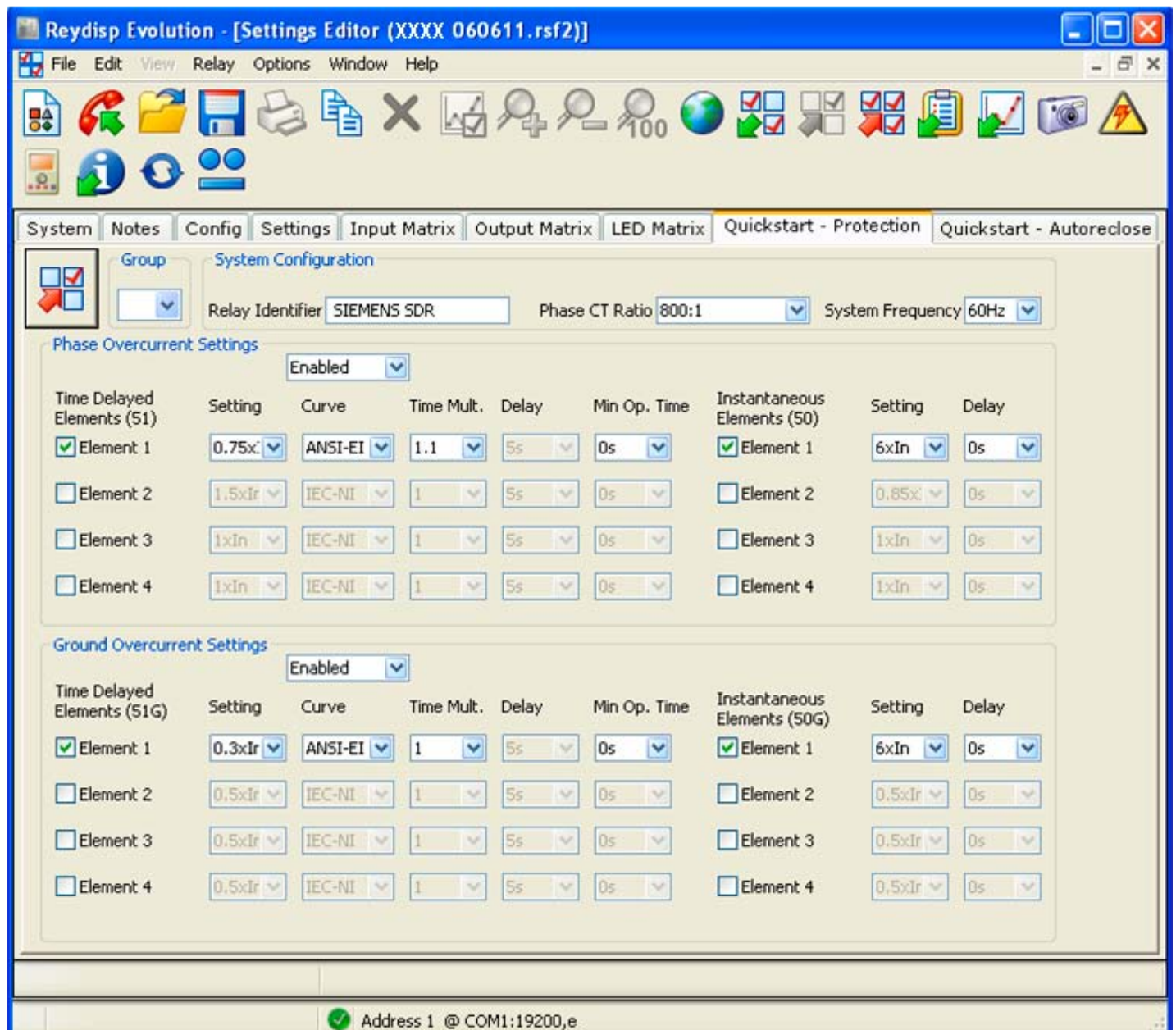


Type 7SR224 controller settings files edit settings

Quickstart - Protection tab

Quickstart – Protection tab

The “Quickstart – Protection” tab provides the user with a single screen to configure overcurrent protection and basic system parameters. When used with the “Quickstart – Autoreclose” tab, the user is provided a simple method to configure the type 7SR224 controller as a basic overcurrent protection device.

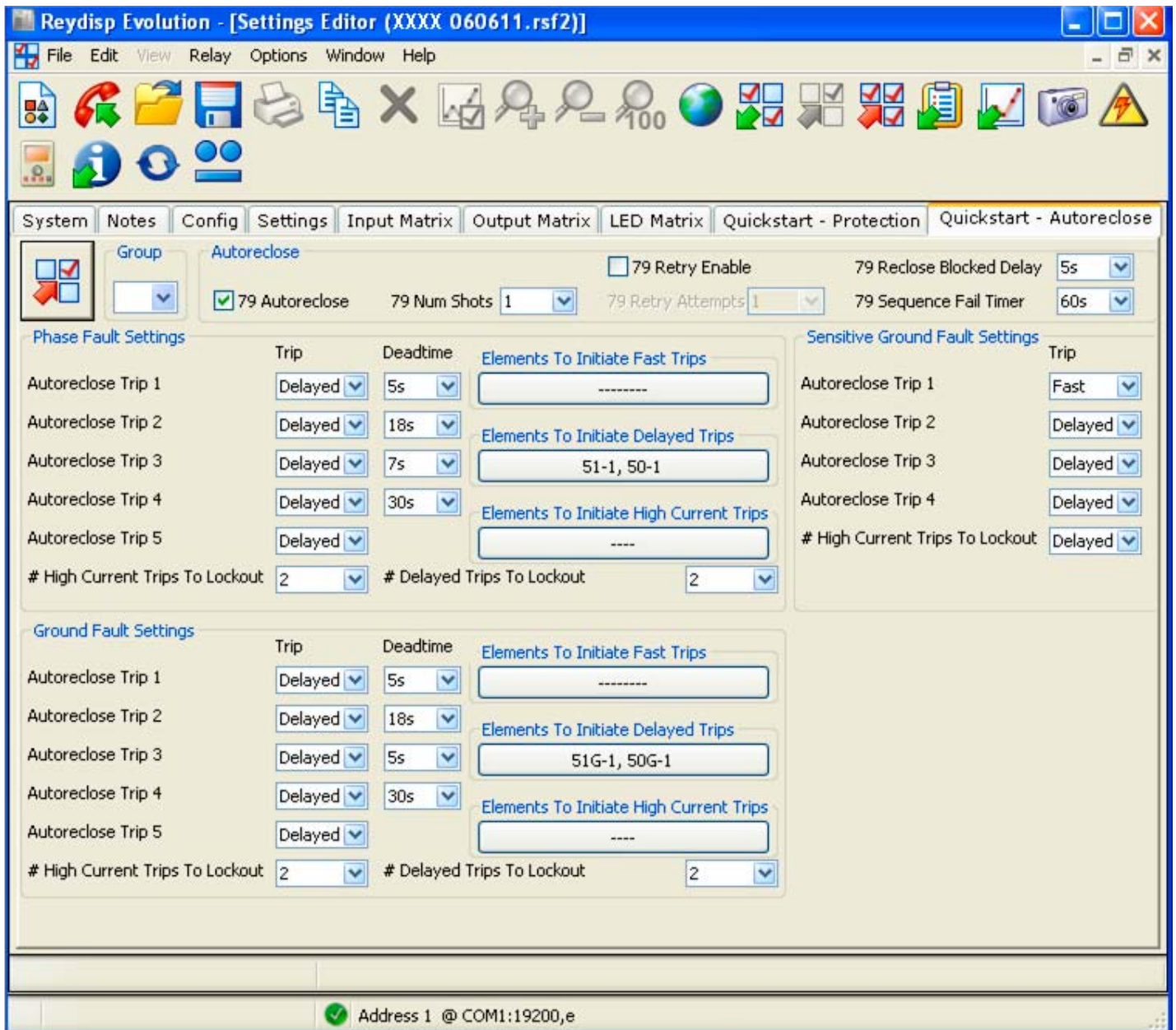


Type 7SR224 controller settings files edit settings

Quickstart - Autoreclose tab

Quickstart – Autoreclose tab

Similar to the “Quickstart - Protection” tab, the “Quickstart – Autoreclose” tab allows the user to easily configure all parameters for Auto-Reclose functionality.

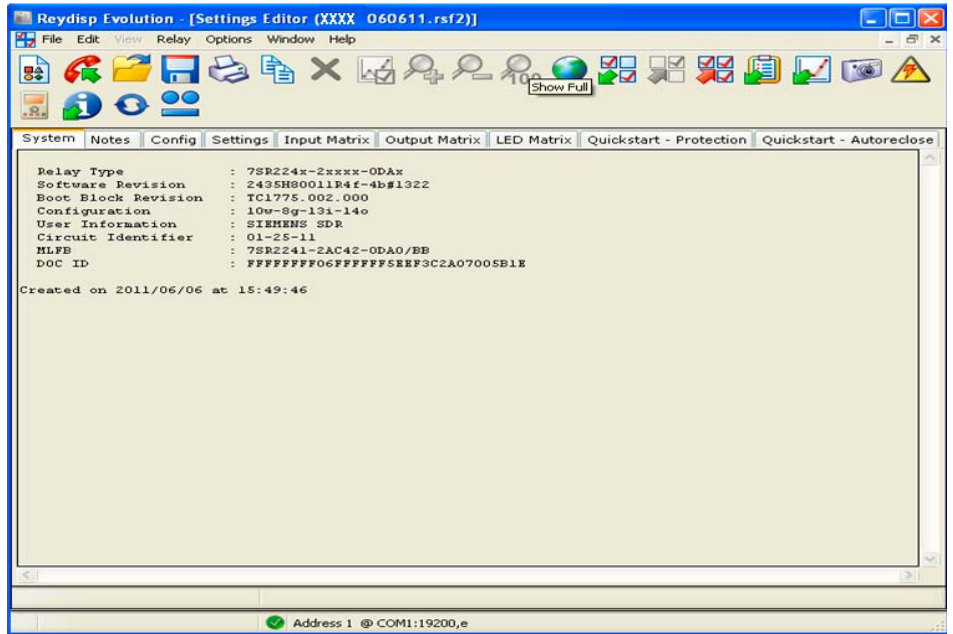


Type 7SR224 controller settings files edit settings

System and Notes tabs

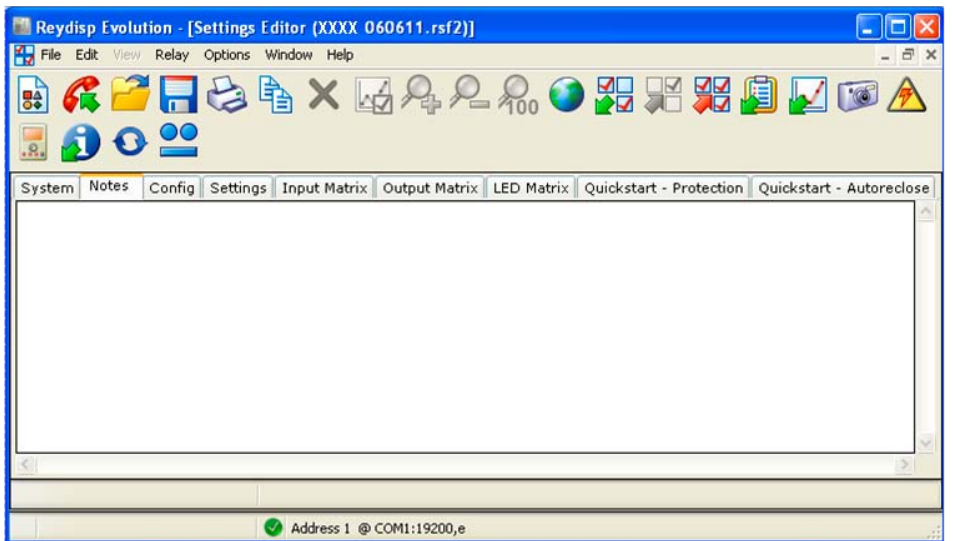
System tab

The "System" tab at the top left of the "Reydisp Evolution [Settings Editor...]" window displays information about the device from which the settings originate. The user may be asked for information displayed on this screen when contacting Siemens for support.



Notes tab

The "Notes" tab provides the user a place to add additional information, procedures or operational notes in a free-form format.



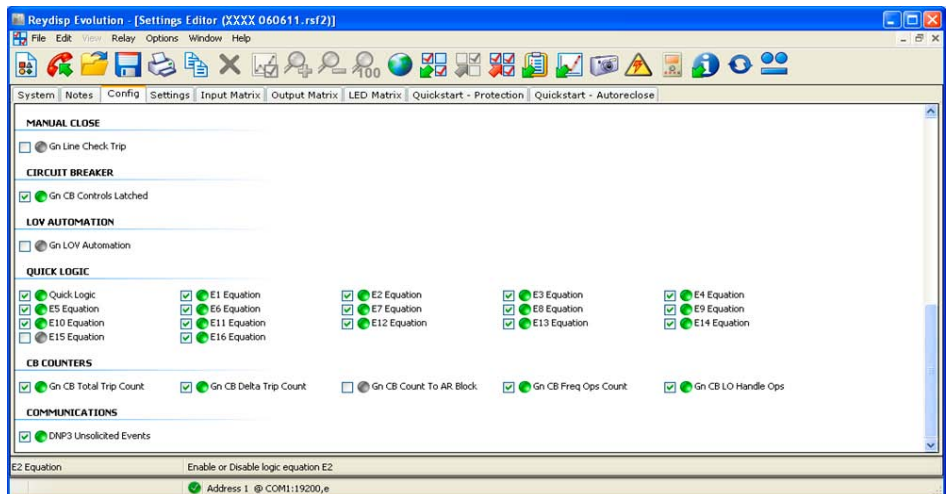
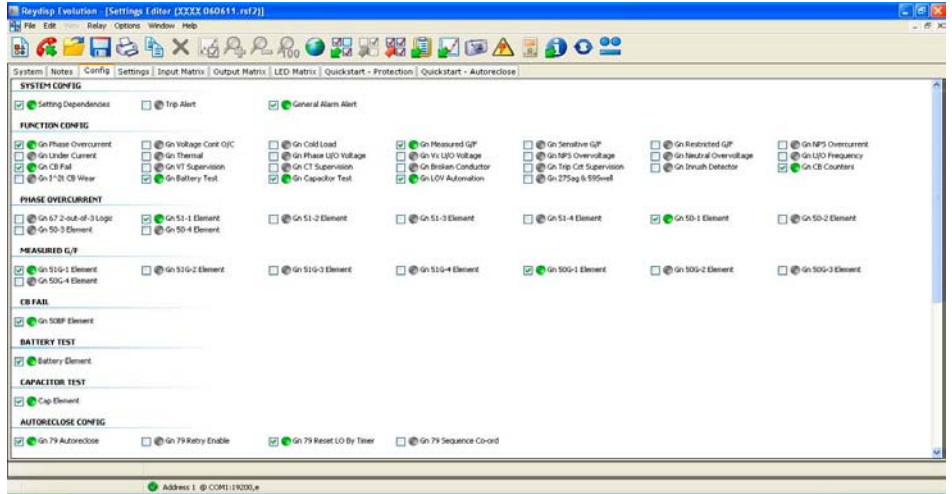
Type 7SR224 controller settings files edit settings

Config tab

Config

The “Config” tab is a shortcut window that allows the user to enable or disable elements. The settings are organized to correspond with the settings in the folder tree on the “Settings” tab.

To use the Config editor, check the box to the left of the setting to enable or disable it. These settings may also be enabled or disabled directly from the appropriate folders in the “Settings” tab.



Type 7SR224 controller settings files edit settings

Settings tab

Settings tab


The “Settings” tab displays the “Settings Editor” window in a tree-style format, with each folder containing all of the settings related to a particular topic and arranged to correspond with the headings on the “Config” tab.

To view or modify values, select the appropriate folder or subfolder from the tree on the left-side of the editor window to display the editable selections in the window on the right.

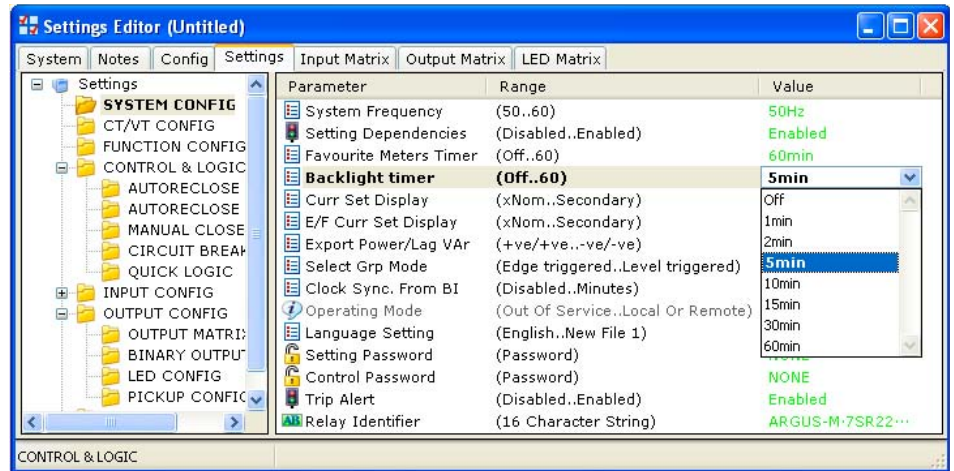
There are different methods to change settings depending on the type of setting.

To change a selectable setting, select the setting, and choose the desired value from the resulting list.

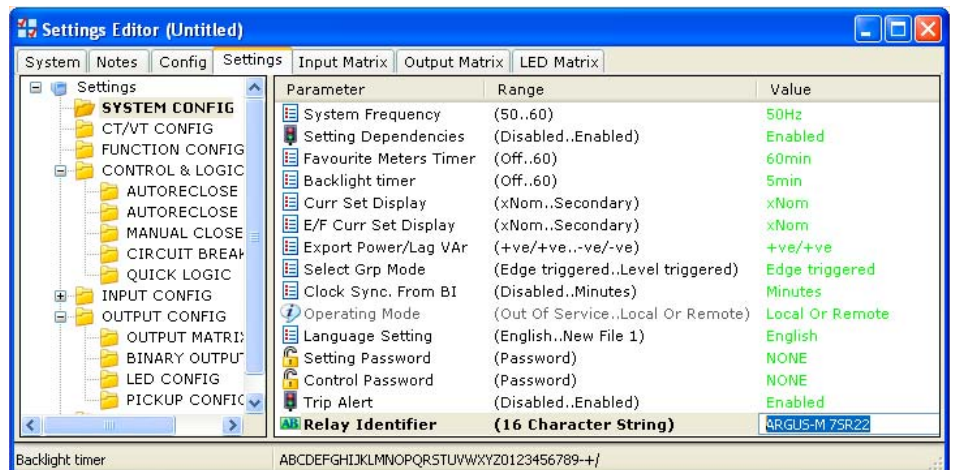
For a text setting, (for example, “Relay Identifier” or “Password”), the text editor will be displayed. Type the text required and then press return/enter. The characters that can be used are shown in the status bar at the bottom of the window.

For bit selection settings a  button is displayed next to the setting. Click the button or double click the setting to open the bitwise editor. After changing the values, click “OK” to store.

Selectable setting



Text setting

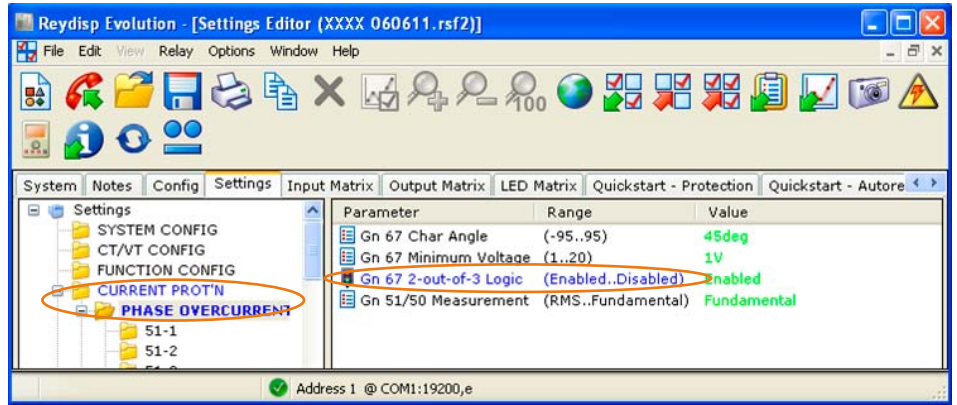


Bit setting



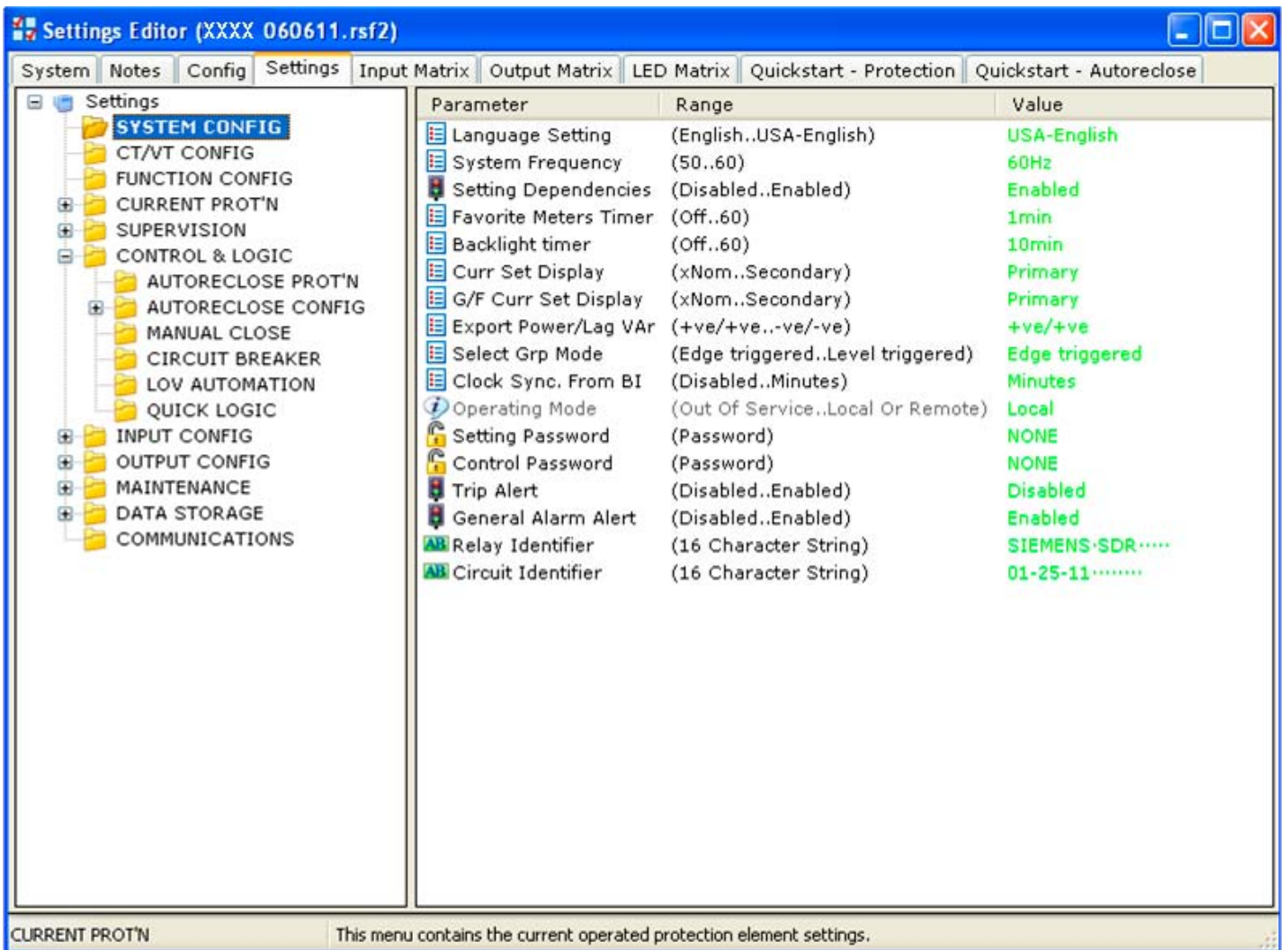
To aid the user in quickly locating any settings that may have been changed, the folders that contain these settings and the settings themselves are highlighted in blue as shown in the example to the right circled in orange.

Note: Settings will not be displayed in the edit window for any elements that are disabled. Selections will appear for each setting after the selection has been enabled .



The following examples are displayed for reference. These selections may vary depending the model or MLFB number of the type 7SR224 controller file that has been selected.

SYSTEM CONFIG folder



The screenshot shows the Settings Editor window for file 'XXXX 060611.rsf2'. The 'Settings' tab is active, and the 'CT/VT CONFIG' folder is selected in the left-hand tree view. The right-hand pane displays a list of parameters with their respective ranges and values.

| Parameter | Range | Value |
|------------------------------|-------------------------|-------------|
| Phase Nom Voltage | (40..160) | 63.5V |
| Phase Voltage Trim Magnitude | (0..20) | 17.5V |
| Phase Voltage Trim Angle | (-45..45) | 41.7deg |
| Phase Voltage Config | (Van,Vbn,Vcn..Va,Vb,Vc) | Van,Vbn,Vcn |
| Phase VT Ratio Prim | (6 Character String) | 27000- |
| Phase VT Ratio Sec | (40..160) | 110 |
| Vx Nom Voltage | (40..160) | 63.5V |
| Vx Voltage Trim Magnitude | (0..20) | 11.3V |
| Vx Voltage Trim Angle | (-45..45) | 0deg |
| Vx VT Ratio Prim | (6 Character String) | 15588- |
| Vx VT Ratio Sec | (40..160) | 110 |
| Phase Current Input | (1..5) | 1A |
| Phase CT Ratio | (1:0.2..5000:7) | 800:1 |
| Ground Current Input | (1..5) | 1A |
| Ground CT Ratio | (1:0.2..5000:7) | 800:1 |
| I1,I2,I3 Connections | (A,B,C..C,B,A) | A,B,C |
| V1,V2,V3 Connections | (A,B,C..C,B,A) | A,B,C |
| Phase Rotation | (A,B,C..A,C,B) | A,C,B |

At the bottom of the window, a status bar indicates: COMMUNICATIONS | This menu contains communications settings.

FUNCTION CONFIG folder

Settings Editor (XXXX 060611.rsf2)

System Notes Config Settings Input Matrix Output Matrix LED Matrix Quickstart - Protection Quickstart - Autoreclose

Settings

- SYSTEM CONFIG
- CT/VT CONFIG
- FUNCTION CONFIG**
- CURRENT PROT'N
- SUPERVISION
- CONTROL & LOGIC
- AUTORECLOSE PROT'N
- AUTORECLOSE CONFIG
- MANUAL CLOSE
- CIRCUIT BREAKER
- LOV AUTOMATION
- QUICK LOGIC
- INPUT CONFIG
- OUTPUT CONFIG
- MAINTENANCE
- DATA STORAGE
- COMMUNICATIONS

| Parameter | Range | Value |
|-----------------------------|---------------------|----------|
| Gn Phase Overcurrent | (Enabled..Disabled) | Enabled |
| Gn Voltage Cont O/C | (Enabled..Disabled) | Disabled |
| Gn Cold Load | (Enabled..Disabled) | Disabled |
| Gn Measured G/F | (Enabled..Disabled) | Enabled |
| Gn Sensitive G/F | (Enabled..Disabled) | Disabled |
| Gn Restricted G/F | (Enabled..Disabled) | Disabled |
| Gn NPS Overcurrent | (Enabled..Disabled) | Disabled |
| Gn Under Current | (Enabled..Disabled) | Disabled |
| Gn Thermal | (Enabled..Disabled) | Disabled |
| Gn Phase U/O Voltage | (Enabled..Disabled) | Disabled |
| Gn Vx U/O Voltage | (Enabled..Disabled) | Disabled |
| Gn NPS Overvoltage | (Enabled..Disabled) | Disabled |
| Gn Neutral Overvoltage | (Enabled..Disabled) | Disabled |
| Gn U/O Frequency | (Enabled..Disabled) | Disabled |
| Gn CB Fail | (Enabled..Disabled) | Enabled |
| Gn VT Supervision | (Enabled..Disabled) | Disabled |
| Gn CT Supervision | (Enabled..Disabled) | Disabled |
| Gn Broken Conductor | (Enabled..Disabled) | Disabled |
| Gn Trip Cct Supervision | (Enabled..Disabled) | Disabled |
| Gn Inrush Detector | (Enabled..Disabled) | Disabled |
| Gn CB Counters | (Enabled..Disabled) | Enabled |
| Gn I ² t CB Wear | (Enabled..Disabled) | Disabled |
| Gn Battery Test | (Enabled..Disabled) | Enabled |
| Gn Capacitor Test | (Enabled..Disabled) | Enabled |
| Gn LOV Automation | (Enabled..Disabled) | Enabled |
| Gn 27Sag & 59Swell | (Enabled..Disabled) | Disabled |

AUTORECLOSE CONFIG This menu contains the autorecloser configuration settings.

CURRENT PROT'N/PHASE OVERCURRENT/51-1 folder

Reydisp Evolution - [Settings Editor (XXXX - 7SR1103-1xA12-xDA0.rsf2)]

File Edit View Relay Options Window Help

System Notes Config Settings Input Matrix Output Matrix LED Matrix

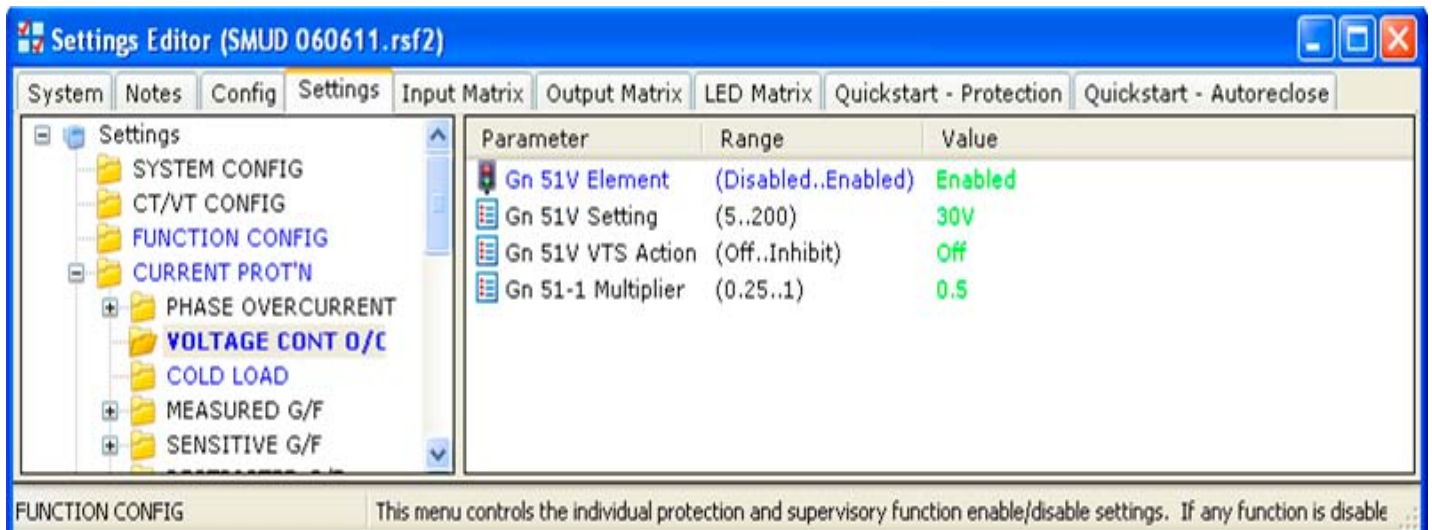
Settings

- SYSTEM CONFIG
- CT/VT CONFIG
- FUNCTION CONFIG
- CURRENT PROT'N
 - PHASE OVERCURRENT
 - 51-1**
 - 51-2
 - 50-1
 - 50-2
 - MEASURED E/F
 - CONTROL & LOGIC

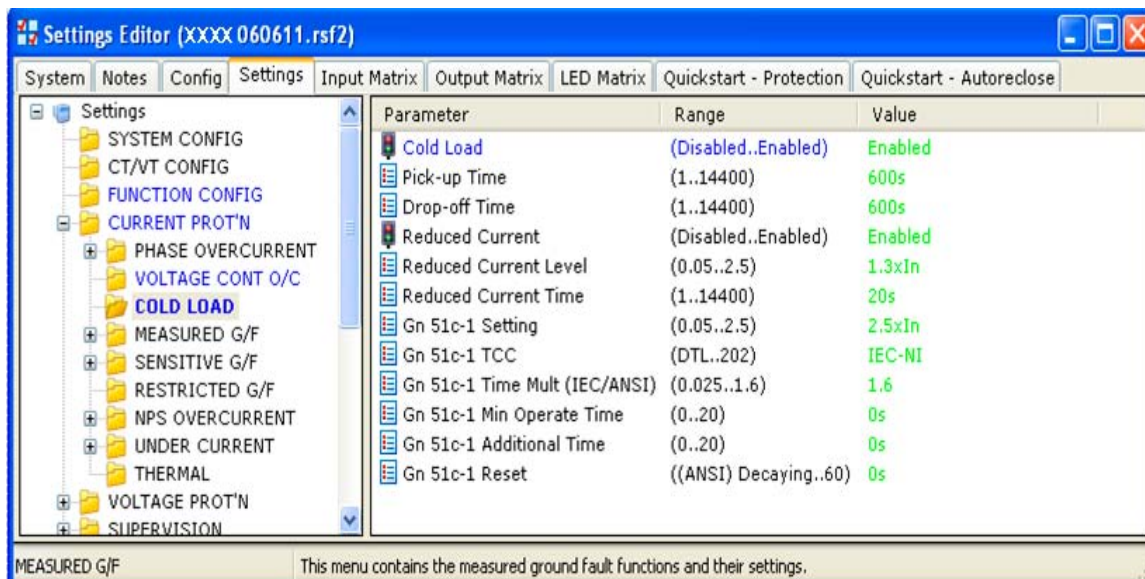
| Parameter | Range | Value |
|------------------------------|-----------------------|---------|
| Gn 51-1 Element | (Disabled..Enabled) | Enabled |
| Gn 51-1 Setting | (0.05..2.5) | 1.5xIn |
| Gn 51-1 Char | (DTL..ANSI-EI) | IEC-NI |
| Gn 51-1 Time Mult (IEC/ANSI) | (0.025..1.6) | 1 |
| Gn 51-1 Min Operate Time | (0..20) | 0s |
| Gn 51-1 Follower DTL | (0..20) | 0s |
| Gn 51-1 Reset | ((ANSI) Decaying..60) | 0s |

51-2 Address 1 @ COM1:19200,e

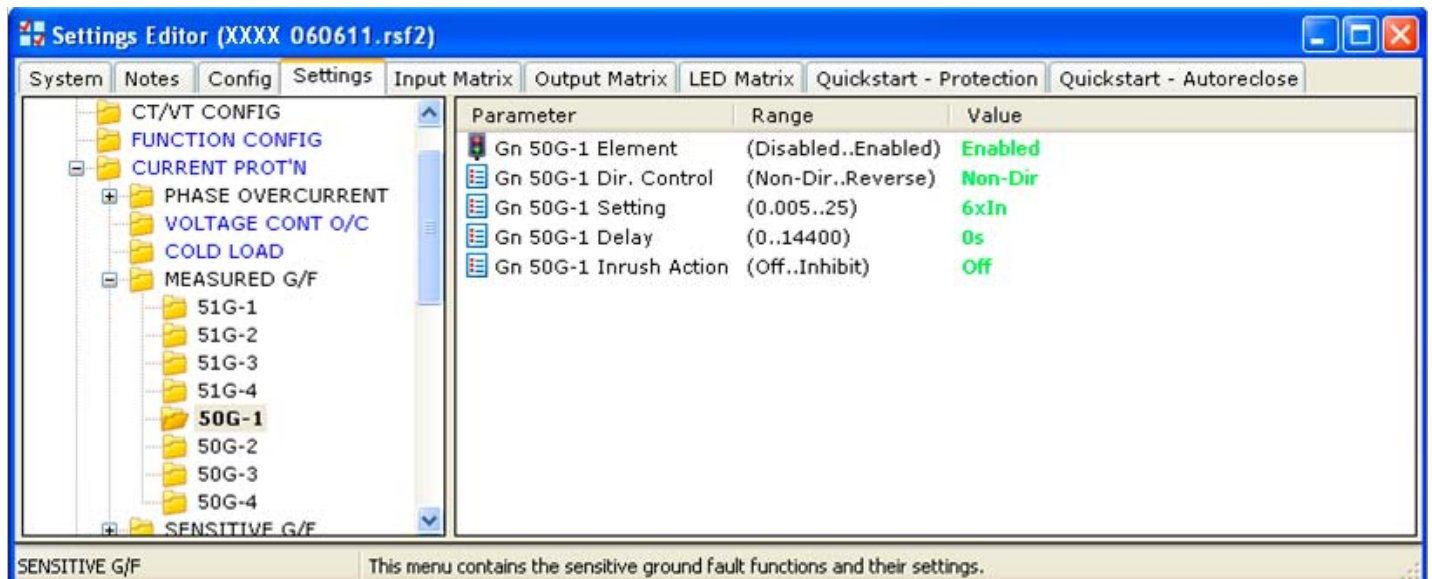
CURRENT PROT'N/VOLTAGE CONT O/C folder



CURRENT PROT'N/COLD LOAD folder



CURRENT PROT'N/MEASURED G/F/50G-1 folder



CURRENT PROT'N/SENSITIVE G/F/51SGF-3 folder

Settings Editor (XXXX 060611.rsf2)

System Notes Config Settings Input Matrix Output Matrix LED Matrix Quickstart - Protection Quickstart - Autoreclose

51G-3
51G-4
50G-1
50G-2
50G-3
50G-4
SENSITIVE G/F
51SGF-1
51SGF-2
51SGF-3
51SGF-4
50SGF-1
50SGF-2
50SGF-3
50SGF-4
RESTRICTED G/F

| Parameter | Range | Value |
|---------------------------------|-----------------------|---------|
| Gn 51SGF-3 Element | (Disabled..Enabled) | Enabled |
| Gn 51SGF-3 Dir. Control | (Non-Dir..Reverse) | Non-Dir |
| Gn 51SGF-3 Setting | (0.005..1) | 0.2xIn |
| Gn 51SGF-3 TCC | (DTL..202) | IEC-NI |
| Gn 51SGF-3 Time Mult (IEC/ANSI) | (0.025..1.6) | 1 |
| Gn 51SGF-3 Min Operate Time | (0..20) | 0s |
| Gn 51SGF-3 Additional Time | (0..20) | 0s |
| Gn 51SGF-3 Reset | ((ANSI) Decaying..60) | 0s |

51SGF-3 This menu contains IDMTL/DTL overcurrent element 51SGF-3 and its settings.

CURRENT PROT'N/RESTRICTED G/F folder

Settings Editor (XXXX 060611.rsf2)

System Notes Config Settings Input Matrix Output Matrix LED Matrix Quickstart - Protection Quickstart - Autoreclose

SENSITIVE G/F
51SGF-1
51SGF-2
51SGF-3
51SGF-4
50SGF-1
50SGF-2
50SGF-3
50SGF-4
RESTRICTED G/F

| Parameter | Range | Value |
|----------------|---------------------|---------|
| Gn 64H Element | (Disabled..Enabled) | Enabled |
| Gn 64H Setting | (0.005..0.95) | 0.2xIn |
| Gn 64H Delay | (0..14400) | 0s |

RESTRICTED G/F This menu contains the restricted ground fault functions and their settings.

CURRENT PROT'N/NPS OVERCURRENT/46IT folder

Settings Editor (XXXX 060611.rsf2)

System Notes Config Settings Input Matrix Output Matrix LED Matrix Quickstart - Protection Quickstart - Autoreclose

NPS OVERCURRENT
46IT
46DT
UNDER CURRENT
THERMAL
VOLTAGE PROT'N
SUPERVISION
CONTROL & LOGIC
AUTORECLOSE PROT'N
AUTORECLOSE CONFIG

| Parameter | Range | Value |
|------------------------------|-----------------------|---------|
| Gn 46IT Element | (Disabled..Enabled) | Enabled |
| Gn 46IT Setting | (0.05..2.5) | 0.25xIn |
| Gn 46IT TCC | (DTL..ANSI-EI) | IEC-NI |
| Gn 46IT Time Mult (IEC/ANSI) | (0.025..1.6) | 1 |
| Gn 46IT Reset | ((ANSI) Decaying..60) | 0s |

MANUAL CLOSE This menu contains the manual close settings.

CURRENT PROT'N/UNDER CURRENT/37-1 folder

The screenshot shows the Settings Editor window for file XXXX 060611.rsf2. The left sidebar displays a tree view with folders: UNDER CURRENT, 37-1, 37-2, THERMAL, VOLTAGE PROT'N, SUPERVISION, CONTROL & LOGIC, AUTORECLOSE PROT'N, AUTORECLOSE CONFIG, and MANUAL CLOSE. The 'Settings' tab is active, showing a table of parameters for the selected folder.

| Parameter | Range | Value |
|-----------------|---------------------|---------|
| Gn 37-1 Element | (Disabled..Enabled) | Enabled |
| Gn 37-1 Setting | (0.05..5) | 0.25xIn |
| Gn 37-1 Delay | (0..14400) | 0s |

At the bottom, the 'SUPERVISION' menu is selected, with the description: "This menu contains supervisory functions and their settings."

CURRENT PROT'N/THERMAL folder

The screenshot shows the Settings Editor window for file XXXX 060611.rsf2. The left sidebar shows the 'THERMAL' folder selected. The 'Settings' tab displays the following parameters:

| Parameter | Range | Value |
|------------------------|---------------------|----------|
| Gn 49 Thermal Overload | (Disabled..Enabled) | Enabled |
| Gn 49 Overload Setting | (0.1..3) | 1.05xIn |
| Gn 49 Time Constant | (1..1000) | 10m |
| Gn 49 Capacity Alarm | (Disabled..100) | Disabled |

At the bottom, the 'AUTORECLOSE PROT'N' menu is selected, with the description: "This menu contains the settings required to map the protection elements to the autorecloser."

VOLTAGE PROT'N/PHASE U/O VOLTAGE folder

The screenshot shows the Settings Editor window for file SMUD 060611.rsf2. The left sidebar shows the 'PHASE U/O VOLTAGE' folder selected. The 'Settings' tab displays the following parameters:

| Parameter | Range | Value |
|----------------------------|---------------|-------|
| Gn Voltage Input Mode | (Ph-N..Ph-Ph) | Ph-N |
| Gn 27/59 U/V Guard Setting | (1..200) | 5V |

At the bottom, the 'SUPERVISION' menu is selected, with the description: "This menu contains supervisory functions and their settings."

VOLTAGE PROT'N/PHASE U/O VOLTAGE/27/59-1 folder

| Parameter | Range | Value |
|------------------------|---------------------|---------|
| Gn 27/59-1 Element | (Disabled..Enabled) | Enabled |
| Gn 27/59-1 Operation | (Under..Over) | Over |
| Gn 27/59-1 Setting | (5..200) | 80V |
| Gn 27/59-1 Hysteresis | (0..80) | 3% |
| Gn 27/59-1 Delay | (0..14400) | 0.1s |
| Gn 27/59-1 U/V Guarded | (No..Yes) | No |
| Gn 27/59-1 VTS Inhibit | (No..Yes) | No |
| Gn 27/59-1 O/P Phases | (Any..All) | Any |

NPS OVERVOLTAGE This menu contains the NPS over voltage functions and their settings.

VOLTAGE PROT'N/Vx U/O VOLTAGE folder

| Parameter | Range | Value |
|------------------------|---------------------|---------|
| Gn Vx 27/59 Element | (Disabled..Enabled) | Enabled |
| Gn Vx 27/59 Operation | (Under..Over) | Over |
| Gn Vx 27/59 Setting | (5..200) | 80V |
| Gn Vx 27/59 Hysteresis | (0..80) | 3% |
| Gn Vx 27/59 Delay | (0..14400) | 0.1s |

SUPERVISION This menu contains supervisory functions and their settings.

VOLTAGE PROT'N/NPS OVERVOLTAGE/47-1 folder

| Parameter | Range | Value |
|--------------------|---------------------|---------|
| Gn 47-1 Element | (Disabled..Enabled) | Enabled |
| Gn 47-1 Setting | (1..90) | 20V |
| Gn 47-1 Hysteresis | (0..80) | 3% |
| Gn 47-1 Delay | (0..14400) | 1s |

AUTORECLOSE PROT'N This menu contains the settings required to map the protection elements to the autorecloser.

CURRENT PROT'N/NEUTRAL OVERVOLTAGE/59NIT folder

The screenshot shows the 'Settings Editor' window for 'XXXX 060611.rsf2'. The 'Settings' tab is active, and the left-hand tree view shows the '59NIT' folder selected under 'NEUTRAL OVERVOLTAGE'. The right-hand pane displays a table of parameters for this folder.

| Parameter | Range | Value |
|----------------------------|-----------------------|---------|
| Gn 59NIT Element | (Disabled..Enabled) | Enabled |
| Gn 59NIT Setting | (1..100) | 5V |
| Gn 59NIT TCC | (DTL..IDMTL) | IDMTL |
| Gn 59NIT Time Mult (IDMTL) | (0.1..140) | 1 |
| Gn 59NIT Reset | ((ANSI) Decaying..60) | 0s |

At the bottom of the window, a status bar indicates: 'U/O FREQUENCY This menu contains the under/over frequency functions and their settings.'

CURRENT PROT'N/U/O FREQUENCY/81-2 folder

The screenshot shows the 'Settings Editor' window for 'XXXX 060611.rsf2'. The 'Settings' tab is active, and the left-hand tree view shows the '81-2' folder selected under 'U/O FREQUENCY'. The right-hand pane displays a table of parameters for this folder.

| Parameter | Range | Value |
|---------------------|---------------------|---------|
| Gn 81-2 Element | (Disabled..Enabled) | Enabled |
| Gn 81-2 Operation | (Under..Over) | Under |
| Gn 81-2 Setting | (40..69.99) | 49Hz |
| Gn 81-2 Hysteresis | (0..80) | 0.1% |
| Gn 81-2 Delay | (0..14400) | 0.8s |
| Gn 81-2 U/V Guarded | (No..Yes) | Yes |

At the bottom of the window, a status bar indicates: '81-3 This menu contains under/over frequency element 81-3 and its settings.'

SUPERVISION/CB FAIL folder

The screenshot shows the 'Settings Editor' window for 'XXXX 060611.rsf2'. The 'Settings' tab is active, and the left-hand tree view shows the 'CB FAIL' folder selected under 'SUPERVISION'. The right-hand pane displays a table of parameters for this folder.

| Parameter | Range | Value |
|--------------------|---------------------|---------|
| Gn 50BF Element | (Disabled..Enabled) | Enabled |
| Gn 50BF Setting | (0.05..2) | 0.05xIn |
| Gn 50BF-14 Setting | (0.005..2) | 0.05xIn |
| Gn 50BF-1 Delay | (20..60000) | 250ms |
| Gn 50BF-2 Delay | (20..60000) | 500ms |

At the bottom of the window, a status bar indicates: 'INRUSH DETECTOR This menu contains the inrush detector functions and their settings.'

SUPERVISION/VT SUPERVISION folder

Settings Editor (XXXX 060611.rsf2)

System Notes Config Settings Input Matrix Output Matrix LED Matrix Quickstart - Protection Quickstart - Autoreclose

SUPERVISION

- CB FAIL
- VT SUPERVISION**
- CT SUPERVISION
- BROKEN CONDUCTOR
- TRIP CCT SUPERVISION
- INRUSH DETECTOR
- BATTERY TEST
- CAPACITOR TEST
- POWER QUALITY
- CONTROL & LOGIC
- AUTORECLOSE PROT'N
- AUTORECLOSE CONFIG
- MANUAL CLOSE
- CIRCUIT BREAKER
- LOV AUTOMATION
- QUICK LOGIC
- INPUT CONFIG

| Parameter | Range | Value |
|-----------------------|---------------------|---------|
| Gn 60VTS Element | (Disabled..Enabled) | Enabled |
| Gn 60VTS Component | (NPS..ZPS) | NPS |
| Gn 60VTS V | (7..110) | 7V |
| Gn 60VTS I | (0.05..1) | 0.1xIn |
| Gn 60VTS Vpps | (1..110) | 15V |
| Gn 60VTS Ipps Load | (0.05..1) | 0.1xIn |
| Gn 60VTS Ipps Fault | (0.05..20) | 10xIn |
| Gn 60VTS Delay | (0.03..14400) | 10s |
| Gn 60VTS-X Element | (Disabled..Enabled) | Enabled |
| Gn 60VTS-X Component | (NPS..ZPS) | NPS |
| Gn 60VTS-X V | (7..110) | 7V |
| Gn 60VTS-X I | (0.05..1) | 0.1xIn |
| Gn 60VTS-X Vpps | (1..110) | 15V |
| Gn 60VTS-X Ipps Load | (0.05..1) | 0.1xIn |
| Gn 60VTS-X Ipps Fault | (0.05..20) | 10xIn |
| Gn 60VTS-X Delay | (0.03..14400) | 10s |

BROKEN CONDUCTOR This menu contains the broken conductor functions and their settings.

SUPERVISION/CT SUPERVISION folder

Settings Editor (XXXX 060611.rsf2)

System Notes Config Settings Input Matrix Output Matrix LED Matrix Quickstart - Protection Quickstart - Autoreclose

SUPERVISION

- CB FAIL
- VT SUPERVISION
- CT SUPERVISION**
- BROKEN CONDUCTOR
- TRIP CCT SUPERVISION
- INRUSH DETECTOR
- BATTERY TEST
- CAPACITOR TEST

| Parameter | Range | Value |
|------------------|---------------------|---------|
| Gn 60CTS Element | (Disabled..Enabled) | Enabled |
| Gn 60CTS Inps | (0.05..1) | 0.1xIn |
| Gn 60CTS Vnps | (7..110) | 10V |
| Gn 60CTS Delay | (0.03..14400) | 10s |

BATTERY TEST This menu contains the Battery Test functions and their settings.

SUPERVISION/BROKEN CONDUCTOR folder

Settings Editor (XXXX 060611.rsf2)

System Notes Config Settings Input Matrix Output Matrix LED Matrix Quickstart - Protection Quickstart - Autoreclose

SUPERVISION

- CB FAIL
- VT SUPERVISION
- CT SUPERVISION
- BROKEN CONDUCTOR**
- TRIP CCT SUPERVISION
- INRUSH DETECTOR
- BATTERY TEST
- CAPACITOR TEST

| Parameter | Range | Value |
|-----------------|---------------------|---------|
| Gn 46BC Element | (Disabled..Enabled) | Enabled |
| Gn 46BC Setting | (20..100) | 30% |
| Gn 46BC Delay | (0.03..14400) | 20s |

CAPACITOR TEST This menu contains the Capacitor Test functions and their settings.

SUPERVISION/TRIP CCT SUPERVISION folder

| Parameter | Range | Value |
|------------------|---------------------|---------|
| Gn 74TCS-1 | (Disabled..Enabled) | Enabled |
| Gn 74TCS-1 Delay | (0..60) | 0.4s |
| Gn 74TCS-2 | (Disabled..Enabled) | Enabled |
| Gn 74TCS-2 Delay | (0..60) | 0.4s |
| Gn 74TCS-3 | (Disabled..Enabled) | Enabled |
| Gn 74TCS-3 Delay | (0..60) | 0.4s |

SUPERVISION/INRUSH DETECTOR folder

| Parameter | Range | Value |
|-------------------|---------------------|---------|
| Gn 81HBL2 Element | (Disabled..Enabled) | Enabled |
| Gn 81HBL2 Bias | (Phase..Sum) | Cross |
| Gn 81HBL2 Setting | (0.1..0.5) | 0.2xI |

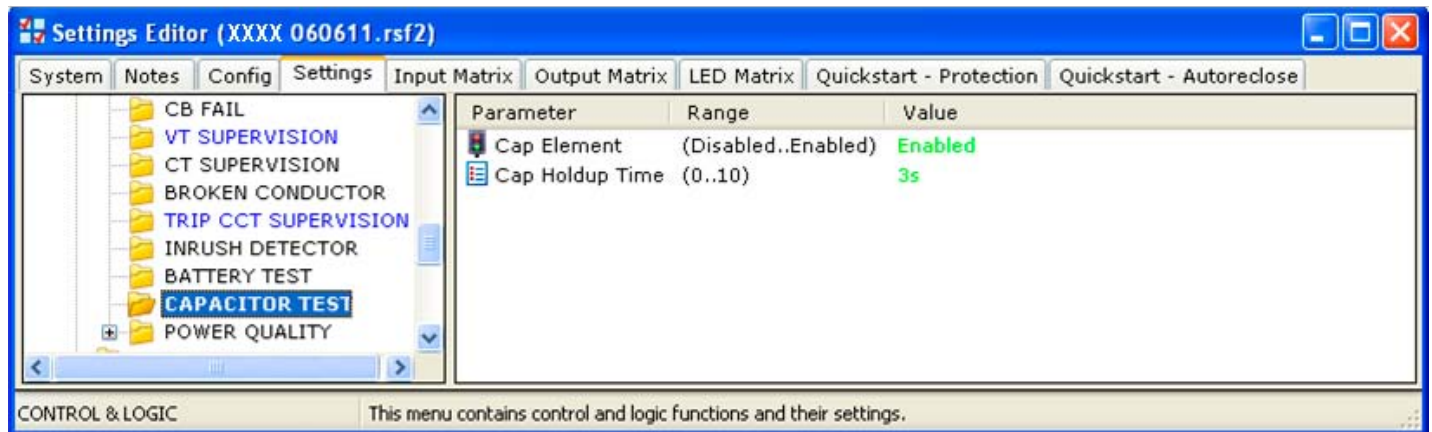
POWER QUALITY This menu contains the Power Quality functions and their settings.

SUPERVISION/BATTERY TEST folder

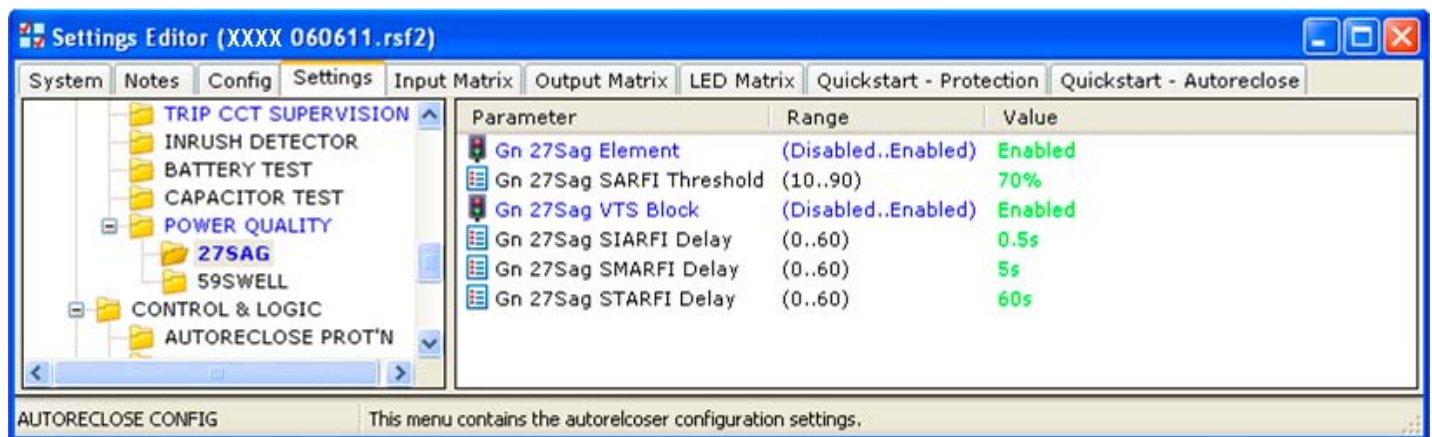
| Parameter | Range | Value |
|-------------------------|---------------------------------|-----------------|
| Battery Element | (Disabled..Enabled) | Enabled |
| Battery Nominal Voltage | (24..220) | 48V |
| Battery Test Rate | (Every 12 Hours..Every Dec 1st) | Every Month 1st |
| Battery Test Time | (0..23) | 10 |
| Battery Test Load | (2.5..100) | 6.8ohms |
| Battery Volts Drop | (0.5..3.5) | 2.5V |

CONTROL & LOGIC This menu contains control and logic functions and their settings.

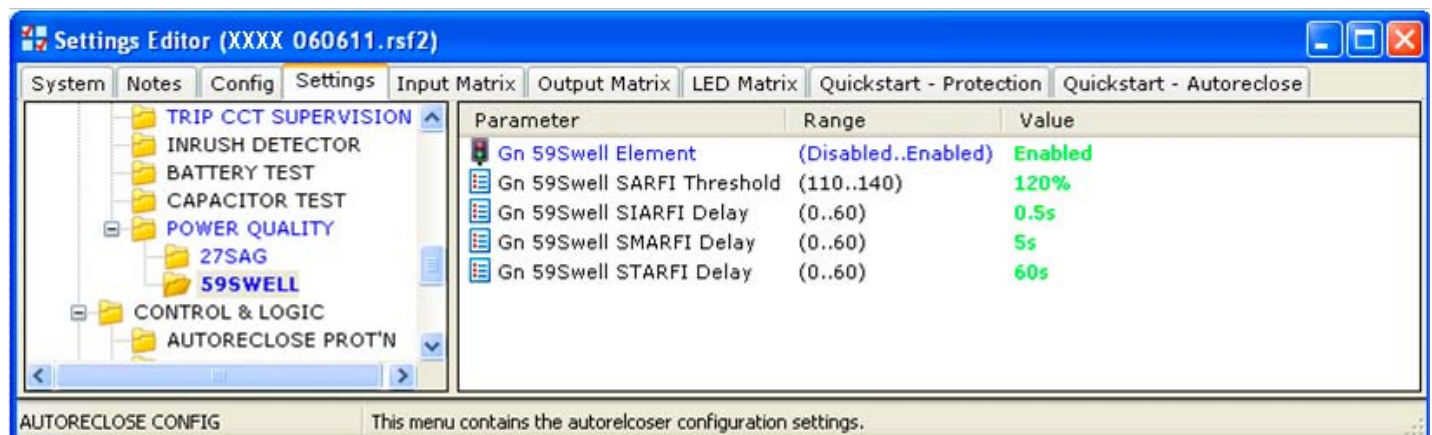
SUPERVISION/CAPACITOR TEST folder



SUPERVISION/POWER QUALITY/27SAG folder



SUPERVISION/POWER QUALITY/59SWELL folder



CONTROL & LOGIC/AUTORECLOSE PROT'N folder

The screenshot shows the 'Reydisp Evolution - [Settings Editor (XXXX - 7SR224x-2xxxx-0EAX group 1.rsf2)]' application. The left-hand tree view is expanded to the 'AUTORECLOSE PROT'N' folder. The main window displays a table of parameters:

| Parameter | Range | Value |
|---|-----------------|---------|
| <input checked="" type="checkbox"/> Gn 79 P/F Fast Trips | (8 Bit Binary) | 50-1 |
| <input checked="" type="checkbox"/> Gn 79 G/F Fast Trips | (8 Bit Binary) | 50G-1 |
| <input checked="" type="checkbox"/> Gn 79 SGF Fast Trips | (8 Bit Binary) | 50SGF-1 |
| <input checked="" type="checkbox"/> Gn 79 P/F Delayed Trips | (8 Bit Binary) | 50-2 |
| <input checked="" type="checkbox"/> Gn 79 G/F Delayed Trips | (8 Bit Binary) | 51G-1 |
| <input checked="" type="checkbox"/> Gn 79 SGF Delayed Trips | (8 Bit Binary) | 50SGF-2 |
| <input checked="" type="checkbox"/> Gn 79 P/F HS Trips | (4 Bit Binary) | ---- |
| <input checked="" type="checkbox"/> Gn 79 G/F HS Trips | (4 Bit Binary) | ---- |

Below the table, a status bar indicates 'AUTORECLOSE PROT'N' and provides a description: 'This menu contains the settings required to map the protection elements to the autorecloser.' At the bottom, a connection status shows 'Address 1 @ COM1:19200,e' with a green checkmark.

CONTROL & LOGIC/AUTORECLOSE CONFIG folder

The screenshot shows the 'Reydisp Evolution - [Settings Editor (XXXX 060611.rsf2)]' application. The left-hand tree view is expanded to the 'AUTORECLOSE CONFIG' folder. The main window displays a table of parameters:

| Parameter | Range | Value |
|---|---------------------|----------|
| <input checked="" type="checkbox"/> Gn 79 Autoreclose | (Disabled..Enabled) | Enabled |
| <input checked="" type="checkbox"/> Gn 79 Num Shots | (1..4) | 1 |
| <input checked="" type="checkbox"/> Gn 79 Retry Enable | (Disabled..Enabled) | Disabled |
| <input checked="" type="checkbox"/> Gn 79 Reclose Blocked Delay | (0..600) | 5s |
| <input checked="" type="checkbox"/> Gn 79 Sequence Fail Timer | (0..600) | 60s |
| <input checked="" type="checkbox"/> Gn 79 Minimum LO Delay | (0..600) | 2s |
| <input checked="" type="checkbox"/> Gn 79 Reset LO By Timer | (Disabled..Enabled) | Enabled |
| <input checked="" type="checkbox"/> Gn 79 Sequence Co-ord | (Disabled..Enabled) | Disabled |
| <input checked="" type="checkbox"/> Gn 79 Cold Load Action | (Off..Delayed) | Delayed |

Below the table, a status bar indicates 'OUTPUT CONFIG' and provides a description: 'This menu contains the binary output matrix, the binary output configuration, the LED and starter LED configuration.' At the bottom, a connection status shows 'Address 1 @ COM1:19200,e' with a green checkmark.

CONTROL & LOGIC/AUTORECLOSE CONFIG/P/F SHOTS folder

Reydisp Evolution - [Settings Editor (SDR RECLOSER TS - 7SR224x-2xxxx-0EAX group 1.rsf2)]

File Edit View Relay Options Window Help

System Notes Config Settings Input Matrix Output Matrix LED Matrix Quickstart - Protection Quickstart - Autoreclose

SUPERVISION
CONTROL & LOGIC
AUTORECLOSE PROT'N
AUTORECLOSE CONFIG
P/F SHOTS
G/F SHOTS
SGF SHOTS
EXTERN SHOTS
MANUAL CLOSE
CIRCUIT BREAKER
QUICK LOGIC
INPUT CONFIG
INPUT MATRIX
FUNCTION KEY MATRIX
BINARY INPUT CONFIG
FUNCTION KEY CONFIG
GENERAL ALARMS
OUTPUT CONFIG

| Parameter | Range | Value |
|------------------------------------|-----------------|---------|
| Gn 79 P/F Prot'n Trip 1 | (Fast..Delayed) | Fast |
| Gn 79 P/F Dearthime 1 | (0.08..14400) | 0.12s |
| Gn 79 P/F Prot'n Trip 2 | (Fast..Delayed) | Fast |
| Gn 79 P/F Dearthime 2 | (2..14400) | 2s |
| Gn 79 P/F Prot'n Trip 3 | (Fast..Delayed) | Fast |
| Gn 79 P/F Dearthime 3 | (2..14400) | 2s |
| Gn 79 P/F Prot'n Trip 4 | (Fast..Delayed) | Delayed |
| Gn 79 P/F Dearthime 4 | (30..14400) | 30s |
| Gn 79 P/F Prot'n Trip 5 | (Fast..Delayed) | Delayed |
| Gn 79 PhA HS Trips To Lockout | (1..5) | 5 |
| Gn 79 PhB HS Trips To Lockout | (1..5) | 5 |
| Gn 79 PhC HS Trips To Lockout | (1..5) | 5 |
| Gn 79 PhA Delayed Trips To Lockout | (1..5) | 5 |
| Gn 79 PhB Delayed Trips To Lockout | (1..5) | 5 |
| Gn 79 PhC Delayed Trips To Lockout | (1..5) | 5 |

BINARY INPUT CONFIG This menu contains the settings to configure the Binary Input timers and inversion functionality.

Address 1 @ COM1:19200,e

CONTROL & LOGIC/AUTORECLOSE CONFIG/G/F SHOTS folder

Reydisp Evolution - [Settings Editor (SDR RECLOSER TS - 7SR224x-2xxxx-0EAX group 1.rsf2)]

File Edit View Relay Options Window Help

System Notes Config Settings Input Matrix Output Matrix LED Matrix Quickstart - Protection Quickstart - Autoreclose

SUPERVISION
CONTROL & LOGIC
AUTORECLOSE PROT'N
AUTORECLOSE CONFIG
P/F SHOTS
G/F SHOTS
SGF SHOTS
EXTERN SHOTS
MANUAL CLOSE
CIRCUIT BREAKER
QUICK LOGIC
INPUT CONFIG
INPUT MATRIX
FUNCTION KEY MATRIX
BINARY INPUT CONFIG
FUNCTION KEY CONFIG
GENERAL ALARMS
OUTPUT CONFIG

| Parameter | Range | Value |
|------------------------------------|-----------------|---------|
| Gn 79 G/F Prot'n Trip 1 | (Fast..Delayed) | Fast |
| Gn 79 G/F Dearthime 1 | (0.08..14400) | 0.08s |
| Gn 79 G/F Prot'n Trip 2 | (Fast..Delayed) | Fast |
| Gn 79 G/F Dearthime 2 | (2..14400) | 2s |
| Gn 79 G/F Prot'n Trip 3 | (Fast..Delayed) | Fast |
| Gn 79 G/F Dearthime 3 | (2..14400) | 2s |
| Gn 79 G/F Prot'n Trip 4 | (Fast..Delayed) | Delayed |
| Gn 79 G/F Dearthime 4 | (30..14400) | 30s |
| Gn 79 G/F Prot'n Trip 5 | (Fast..Delayed) | Delayed |
| Gn 79 G/F HS Trips To Lockout | (1..5) | 5 |
| Gn 79 G/F Delayed Trips To Lockout | (1..5) | 5 |

OUTPUT CONFIG This menu contains the binary output matrix, the binary output configuration, the LED and starter LED configuration.

Address 1 @ COM1:19200,e

CONTROL & LOGIC/AUTORECLOSE CONFIG/SGF SHOTS folder

Reydisp Evolution - [Settings Editor (SDR RECLOSER TS - 7SR224x-2xxxx-0EAx group 1.rsf2)]

File Edit View Relay Options Window Help

System Notes Config Settings Input Matrix Output Matrix LED Matrix Quickstart - Protection Quickstart - Autoreclose

| Parameter | Range | Value |
|------------------------------------|-----------------|---------|
| Gn 79 SGF Prot'n Trip 1 | (Fast..Delayed) | Fast |
| Gn 79 SGF Deadtime 1 | (0.08..14400) | 0.08s |
| Gn 79 SGF Prot'n Trip 2 | (Fast..Delayed) | Fast |
| Gn 79 SGF Deadtime 2 | (2..14400) | 2s |
| Gn 79 SGF Prot'n Trip 3 | (Fast..Delayed) | Fast |
| Gn 79 SGF Deadtime 3 | (2..14400) | 2s |
| Gn 79 SGF Prot'n Trip 4 | (Fast..Delayed) | Delayed |
| Gn 79 SGF Deadtime 4 | (30..14400) | 30s |
| Gn 79 SGF Prot'n Trip 5 | (Fast..Delayed) | Delayed |
| Gn 79 SGF Delayed Trips To Lockout | (1..5) | 5 |

EXTERN SHOTS This menu contains the autoreclose settings that will be applied for an External trip.

Address 1 @ COM1:19200,e

CONTROL & LOGIC/AUTORECLOSE CONFIG/EXTERN SHOTS folder

Reydisp Evolution - [Settings Editor (SDR RECLOSER TS - 7SR224x-2xxxx-0EAx group 1.rsf2)]

File Edit View Relay Options Window Help

System Notes Config Settings Input Matrix Output Matrix LED Matrix Quickstart - Protection Quickstart - Autoreclose

| Parameter | Range | Value |
|-------------------------------|------------------------|-------------|
| Gn 79 Extern Prot'n Trip 1 | (Not Blocked..Blocked) | Not Blocked |
| Gn 79 Extern Deadtime 1 | (0.08..14400) | 5s |
| Gn 79 Extern Prot'n Trip 2 | (Not Blocked..Blocked) | Not Blocked |
| Gn 79 Extern Deadtime 2 | (2..14400) | 5s |
| Gn 79 Extern Prot'n Trip 3 | (Not Blocked..Blocked) | Not Blocked |
| Gn 79 Extern Deadtime 3 | (2..14400) | 5s |
| Gn 79 Extern Prot'n Trip 4 | (Not Blocked..Blocked) | Not Blocked |
| Gn 79 Extern Deadtime 4 | (30..14400) | 30s |
| Gn 79 Extern Prot'n Trip 5 | (Not Blocked..Blocked) | Not Blocked |
| Gn 79 Extern Trips To Lockout | (1..5) | 5 |

FUNCTION KEY MATRIX This menu contains the settings required to map Function Keys to relay functionality.

Address 1 @ COM1:19200,e

CONTROL & LOGIC/MANUAL CLOSE folder

The screenshot shows the 'Settings Editor' window for 'SDR RECLOSER TS - 7SR224x-2xxxx-0EAX group 1.rsf2'. The 'Settings' tab is active, and the 'MANUAL CLOSE' folder is selected in the left-hand tree view. The main table displays the following parameters:

| Parameter | Range | Value |
|---------------------------|------------------------|-------------|
| Gn Line Check Trip | (Disabled..Enabled) | Enabled |
| Gn P/F Line Check Trip | (Fast..Delayed) | Delayed |
| Gn G/F Line Check Trip | (Fast..Delayed) | Delayed |
| Gn SGF Line Check Trip | (Fast..Delayed) | Delayed |
| Gn Extern Line Check Trip | (Not Blocked..Blocked) | Not Blocked |

The status bar at the bottom indicates 'Address 1 @ COM1:19200,e'.

CONTROL & LOGIC/CIRCUIT BREAKER folder

The screenshot shows the 'Settings Editor' window for 'SDR RECLOSER TS - 7SR224x-2xxxx-0EAX group 1.rsf2'. The 'Settings' tab is active, and the 'CIRCUIT BREAKER' folder is selected in the left-hand tree view. The main table displays the following parameters:

| Parameter | Range | Value |
|------------------------|----------------|-------|
| Gn Close CB Delay | (0..900) | 0s |
| Gn Close CB Pulse | (0.1..60) | 0.2s |
| Gn Reclaim Timer | (0..600) | 5s |
| Gn Blocked Close Delay | (0..600) | 10s |
| Gn Open CB Delay | (0..900) | 0s |
| Gn Open CB Pulse | (0.1..2) | 0.2s |
| Gn CB Travel Alarm | (0.01..2) | 0.2s |
| Gn PD Time Delay | (1..14400) | 10s |
| Gn CB Controls Latched | (Latch..Reset) | Latch |

Below the table, a text box states: 'CIRCUIT BREAKER This menu contains the circuit breaker specific settings.' The status bar at the bottom indicates 'Address 1 @ COM1:19200,e'.

QUICK LOGIC
 This menu contains the use definable logic equations and their settings.

Equation ::= <Expression>
 Expression ::= <Source>
 | (<BraceExpression>
 | !<InverseExpression>
 BraceExpression ::= <Expression>
 [<Operator><Expression>]
 InverseExpression ::= <Source>
 | (<BraceExpression>
 | <Tag><UnsignedNumber>
 | [<Operator><Expression>]
 Tag ::= Any One of {E | I | O | V | L | F}
 Operator ::= Any One Of {+ | . | ^}
Where
 E - Equation, I - Binary Input, O - Binary Output
 V - Virtual Input/Output, L - LED, F - Function Key.
And in operator precedence order
 ! - NOT Operator - highest precedence
 . - AND operator
 ^ - XOR operator
 + - OR operator - lowest precedence

Examples:
 E1 = !E1 - E1 will be made to toggle. E1 is the inverse of itself.
 E1 = (I1+I3).O2 - E1 will be true if Binary Output 2 is energised and either Binary Input 1 or Binary Input 3 is picked up.
 E1 = (V12.I1)+(IV12.I1) - E1 will be true if Virtual 12 and Binary input 1 are in the same state.
 E1 = !(I!(I3+E4)+F1).L2

| | | |
|--------------|---------------------|----------|
| E8 Equation | (Disabled..Enabled) | Disabled |
| E9 Equation | (Disabled..Enabled) | Disabled |
| E10 Equation | (Disabled..Enabled) | Disabled |
| E11 Equation | (Disabled..Enabled) | Disabled |
| E12 Equation | (Disabled..Enabled) | Disabled |
| E13 Equation | (Disabled..Enabled) | Disabled |
| E14 Equation | (Disabled..Enabled) | Disabled |
| E15 Equation | (Disabled..Enabled) | Disabled |
| E16 Equation | (Disabled..Enabled) | Disabled |

E3 Dropoff Delay Time before equation output resets, after equation no longer satisfied
 Address 1 @ COM1:19200,e

Reydisp Evolution - [Settings Editor (SDR RECLOSER TS - 7SR224x-2xxxx-0EAx group 1.rsf2)]

File Edit View Relay Options Window Help

System Notes Config Settings Input Matrix Output Matrix LED Matrix Quickstart - Protection Quickstart - Autoreclose

Settings

- SYSTEM CONFIG
- CT/VT CONFIG
- FUNCTION CONFIG
- CURRENT PROT'N
- VOLTAGE PROT'N
- SUPERVISION
- CONTROL & LOGIC
 - AUTORECLOSE PROT'N
 - AUTORECLOSE CONFIG
 - P/F SHOTS
 - G/F SHOTS
 - SGF SHOTS
 - EXTERN SHOTS
 - MANUAL CLOSE
 - CIRCUIT BREAKER
 - QUICK LOGIC
- INPUT CONFIG
 - INPUT MATRIX**
 - FUNCTION KEY MATRIX
 - BINARY INPUT CONFIG
 - FUNCTION KEY CONFIG
 - GENERAL ALARMS
- OUTPUT CONFIG
- MAINTENANCE
- DATA STORAGE
- COMMUNICATIONS

| Parameter | Range | Value |
|-----------------|-----------------|-----------|
| Inhibit 51-1 | (39 Bit Binary) | V1 |
| Inhibit 51-2 | (39 Bit Binary) | V1 |
| Inhibit 51-3 | (39 Bit Binary) | ----- |
| Inhibit 51-4 | (39 Bit Binary) | ----- |
| Inhibit 50-1 | (39 Bit Binary) | V1 |
| Inhibit 50-2 | (39 Bit Binary) | V1 |
| Inhibit 50-3 | (39 Bit Binary) | ----- |
| Inhibit 50-4 | (39 Bit Binary) | ----- |
| Inhibit 51G-1 | (39 Bit Binary) | V1 |
| Inhibit 51G-2 | (39 Bit Binary) | V1 |
| Inhibit 51G-3 | (39 Bit Binary) | ----- |
| Inhibit 51G-4 | (39 Bit Binary) | ----- |
| Inhibit 50G-1 | (39 Bit Binary) | {II13}.06 |
| Inhibit 50G-2 | (39 Bit Binary) | V1 |
| Inhibit 50G-3 | (39 Bit Binary) | ----- |
| Inhibit 50G-4 | (39 Bit Binary) | ----- |
| Inhibit 51SGF-1 | (39 Bit Binary) | V1 |
| Inhibit 51SGF-2 | (39 Bit Binary) | V1 |
| Inhibit 51SGF-3 | (39 Bit Binary) | ----- |
| Inhibit 51SGF-4 | (39 Bit Binary) | ----- |
| Inhibit 50SGF-1 | (39 Bit Binary) | V1 |
| Inhibit 50SGF-2 | (39 Bit Binary) | V1 |
| Inhibit 50SGF-3 | (39 Bit Binary) | ----- |
| Inhibit 50SGF-4 | (39 Bit Binary) | ----- |
| Inhibit 64H | (39 Bit Binary) | ----- |
| Inhibit 46IT | (39 Bit Binary) | ----- |
| Inhibit 46DT | (39 Bit Binary) | ----- |
| Inhibit 37-1 | (39 Bit Binary) | ----- |
| Inhibit 37-2 | (39 Bit Binary) | ----- |
| Inhibit 49 | (39 Bit Binary) | ----- |

INPUT MATRIX This menu contains the settings required to map Binary Inputs and Virtuals to relay functionality.

Address 1 @ COM1:19200,e

Reydisp Evolution - [Settings Editor (SDR RECLOSER TS - 7SR224x-2xxxx-0EAx group 1.rsf2)]

File Edit View Relay Options Window Help

System Notes Config Settings Input Matrix Output Matrix LED Matrix Quickstart - Protection Quickstart - Autoreclose

Settings

- SYSTEM CONFIG
- CT/VT CONFIG
- FUNCTION CONFIG
- CURRENT PROT'N
- VOLTAGE PROT'N
- SUPERVISION
- CONTROL & LOGIC
 - AUTORECLOSE PROT'N
 - AUTORECLOSE CONFIG
 - P/F SHOTS
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 - SGF SHOTS
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 - MANUAL CLOSE
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 - QUICK LOGIC
- INPUT CONFIG
 - INPUT MATRIX
 - FUNCTION KEY MATRIX**
 - BINARY INPUT CONFIG
 - FUNCTION KEY CONFIG
 - GENERAL ALARMS
- OUTPUT CONFIG
- MAINTENANCE
- DATA STORAGE

| Parameter | Range | Value |
|---|-----------------|-------|
| <input checked="" type="checkbox"/> Open CB-A | (12 Bit Binary) | 1 |
| <input checked="" type="checkbox"/> Close CB-A | (12 Bit Binary) | 2 |
| <input checked="" type="checkbox"/> Open CB-B | (12 Bit Binary) | 3 |
| <input checked="" type="checkbox"/> Close CB-B | (12 Bit Binary) | 4 |
| <input checked="" type="checkbox"/> Open CB-C | (12 Bit Binary) | 5 |
| <input checked="" type="checkbox"/> Close CB-C | (12 Bit Binary) | 6 |
| <input checked="" type="checkbox"/> 79 In/Out | (12 Bit Binary) | 9 |
| <input checked="" type="checkbox"/> Mode A - 3PTrip3PLO | (12 Bit Binary) | ----- |
| <input checked="" type="checkbox"/> Mode B - 1PTrip3PLO | (12 Bit Binary) | ----- |
| <input checked="" type="checkbox"/> Mode C - 1PTrip1PLO | (12 Bit Binary) | ----- |
| <input checked="" type="checkbox"/> 79 Trip & Reclose 3Ph | (12 Bit Binary) | ----- |
| <input checked="" type="checkbox"/> 79 Trip & Lockout A | (12 Bit Binary) | 1 |
| <input checked="" type="checkbox"/> 79 Trip & Lockout B | (12 Bit Binary) | 3 |
| <input checked="" type="checkbox"/> 79 Trip & Lockout C | (12 Bit Binary) | 5 |
| <input checked="" type="checkbox"/> Hot Line Work In/Out | (12 Bit Binary) | 10 |
| <input checked="" type="checkbox"/> G/F In/Out | (12 Bit Binary) | 11 |
| <input checked="" type="checkbox"/> SGF In/Out | (12 Bit Binary) | 12 |
| <input checked="" type="checkbox"/> Fast Prot'n In/Out | (12 Bit Binary) | 8 |
| <input checked="" type="checkbox"/> Out Of Service Mode | (12 Bit Binary) | ----- |
| <input checked="" type="checkbox"/> Local Mode | (12 Bit Binary) | ----- |
| <input checked="" type="checkbox"/> Remote Mode | (12 Bit Binary) | ----- |
| <input checked="" type="checkbox"/> Local Or Remote Mode | (12 Bit Binary) | ----- |
| <input checked="" type="checkbox"/> BatteryTestRequired | (12 Bit Binary) | ----- |

DATA STORAGE This menu contains data recorder functions and their settings.

Address 1 @ COM1:19200,e

Reydisp Evolution - [Settings Editor (SDR RECLOSER TS - 7SR224x-2xxxx-0EAx group 1.rsf2)]

File Edit View Relay Options Window Help

System Notes Config Settings Input Matrix Output Matrix LED Matrix Quickstart - Protection Quickstart - Autoreclose

Settings

- SYSTEM CONFIG
- CT/VT CONFIG
- FUNCTION CONFIG
- CURRENT PROT'N
- VOLTAGE PROT'N
- SUPERVISION
- CONTROL & LOGIC
 - AUTORECLOSE PROT'N
 - AUTORECLOSE CONFIG
 - P/F SHOTS
 - G/F SHOTS
 - SGF SHOTS
 - EXTERN SHOTS
 - MANUAL CLOSE
 - CIRCUIT BREAKER
 - QUICK LOGIC
- INPUT CONFIG
 - INPUT MATRIX
 - FUNCTION KEY MATRIX
 - BINARY INPUT CONFIG**
 - FUNCTION KEY CONFIG
 - GENERAL ALARMS
- OUTPUT CONFIG
- MAINTENANCE
- DATA STORAGE
- COMMUNICATIONS

| Parameter | Range | Value |
|---|------------|-------|
| <input checked="" type="checkbox"/> Inverted Inputs (33 Bit Binary) | | 13 |
| <input type="checkbox"/> BI 1 Pickup Delay | (0..14400) | 0.02s |
| <input type="checkbox"/> BI 1 Dropoff Delay | (0..14400) | 0s |
| <input type="checkbox"/> BI 2 Pickup Delay | (0..14400) | 0.02s |
| <input type="checkbox"/> BI 2 Dropoff Delay | (0..14400) | 0s |
| <input type="checkbox"/> BI 3 Pickup Delay | (0..14400) | 0.02s |
| <input type="checkbox"/> BI 3 Dropoff Delay | (0..14400) | 0s |
| <input type="checkbox"/> BI 4 Pickup Delay | (0..14400) | 0.02s |
| <input type="checkbox"/> BI 4 Dropoff Delay | (0..14400) | 0s |
| <input type="checkbox"/> BI 5 Pickup Delay | (0..14400) | 0.02s |
| <input type="checkbox"/> BI 5 Dropoff Delay | (0..14400) | 0s |
| <input type="checkbox"/> BI 6 Pickup Delay | (0..14400) | 0.02s |
| <input type="checkbox"/> BI 6 Dropoff Delay | (0..14400) | 0s |
| <input type="checkbox"/> BI 7 Pickup Delay | (0..14400) | 0.02s |
| <input type="checkbox"/> BI 7 Dropoff Delay | (0..14400) | 0s |
| <input type="checkbox"/> BI 8 Pickup Delay | (0..14400) | 0.02s |
| <input type="checkbox"/> BI 8 Dropoff Delay | (0..14400) | 0s |
| <input type="checkbox"/> BI 9 Pickup Delay | (0..14400) | 0.02s |
| <input type="checkbox"/> BI 9 Dropoff Delay | (0..14400) | 0s |
| <input type="checkbox"/> BI 10 Pickup Delay | (0..14400) | 0.02s |
| <input type="checkbox"/> BI 10 Dropoff Delay | (0..14400) | 0s |
| <input type="checkbox"/> BI 11 Pickup Delay | (0..14400) | 0.02s |
| <input type="checkbox"/> BI 11 Dropoff Delay | (0..14400) | 0s |
| <input type="checkbox"/> BI 12 Pickup Delay | (0..14400) | 0.02s |
| <input type="checkbox"/> BI 12 Dropoff Delay | (0..14400) | 0s |
| <input type="checkbox"/> BI 13 Pickup Delay | (0..14400) | 0.02s |
| <input type="checkbox"/> BI 13 Dropoff Delay | (0..14400) | 0s |
| <input type="checkbox"/> BI 14 Pickup Delay | (0..14400) | 0.02s |
| <input type="checkbox"/> BI 14 Dropoff Delay | (0..14400) | 0s |

BINARY INPUT CONFIG This menu contains the settings to configure the Binary Input timers and inversion functionality.

Address 1 @ COM1:19200,e

INPUT CONFIG/FUNCTION KEY CONFIG folder

Reydisp Evolution - [Settings Editor (SDR RECLOSER TS - 7SR224x-2xxxx-0EAx group 1.rs2)]

File Edit View Relay Options Window Help

System Notes Config Settings Input Matrix Output Matrix LED Matrix Quickstart - Protection Quickstart - Autoreclose

AUTORECLOSE CONFIG

- P/F SHOTS
- G/F SHOTS
- SGF SHOTS
- EXTERN SHOTS
- MANUAL CLOSE
- CIRCUIT BREAKER
- QUICK LOGIC
- INPUT CONFIG
- INPUT MATRIX
- FUNCTION KEY MATRIX
- BINARY INPUT CONFIG
- FUNCTION KEY CONF**
- GENERAL ALARMS
- OUTPUT CONFIG
- MAINTENANCE
- DATA STORAGE

| Parameter | Range | Value |
|---|-----------------------|-----------------------|
| AB Function Key 1 Text | (20 Character String) | F1·CB·A·OPEN·..... |
| AB Function Key 2 Text | (20 Character String) | F2·CB·A·CLOSED·..... |
| AB Function Key 3 Text | (20 Character String) | F3·CB·B·OPEN·..... |
| AB Function Key 4 Text | (20 Character String) | F4·CB·B·CLOSED·..... |
| AB Function Key 5 Text | (20 Character String) | F5·CB·C·OPEN·..... |
| AB Function Key 6 Text | (20 Character String) | F6·CB·C·CLOSED·..... |
| AB Function Key 7 Text | (20 Character String) | F7·PROTECTION·ON/OFF |
| AB Function Key 8 Text | (20 Character String) | F8·Inst·Protn·ON/OFF |
| AB Function Key 9 Text | (20 Character String) | F9·AutoReclose·ON/OFF |
| AB Function Key 10 Text | (20 Character String) | F10·Live·Line·ON/OFF |
| AB Function Key 11 Text | (20 Character String) | F11·E/F·Protn·ON/OFF |
| AB Function Key 12 Text | (20 Character String) | F12·SEF·Protn·ON/OFF |
| <input checked="" type="checkbox"/> Enabled In Remote | (12 Bit Binary) | |

GENERAL ALARMS This menu contains the settings to specify the general alarms text.

Address 1 @ COM1:19200,e

INPUT CONFIG/GENERAL ALARMS folder

Reydisp Evolution - [Settings Editor (SDR RECLOSER TS - 7SR224x-2xxxx-0EAx group 1.rs2)]

File Edit View Relay Options Window Help

System Notes Config Settings Input Matrix Output Matrix LED Matrix Quickstart - Protection Quickstart - Autoreclose

AUTORECLOSE CONFIG

- P/F SHOTS
- G/F SHOTS
- SGF SHOTS
- EXTERN SHOTS
- MANUAL CLOSE
- CIRCUIT BREAKER
- QUICK LOGIC
- INPUT CONFIG
- INPUT MATRIX
- FUNCTION KEY MATRIX
- BINARY INPUT CONFIG
- FUNCTION KEY CONFIG
- GENERAL ALARMS**
- OUTPUT CONFIG
- MAINTENANCE
- DATA STORAGE

| Parameter | Range | Value |
|---------------------|-----------------------|-------------------|
| AB General Alarm-1 | (16 Character String) | PROTECTION·OFF·.. |
| AB General Alarm-2 | (16 Character String) | BATTERY·WARNING· |
| AB General Alarm-3 | (16 Character String) | ALARM·3·..... |
| AB General Alarm-4 | (16 Character String) | ALARM·4·..... |
| AB General Alarm-5 | (16 Character String) | ALARM·5·..... |
| AB General Alarm-6 | (16 Character String) | ALARM·6·..... |
| AB General Alarm-7 | (16 Character String) | ALARM·7·..... |
| AB General Alarm-8 | (16 Character String) | ALARM·8·..... |
| AB General Alarm-9 | (16 Character String) | ALARM·9·..... |
| AB General Alarm-10 | (16 Character String) | ALARM·10·..... |
| AB General Alarm-11 | (16 Character String) | ALARM·11·..... |
| AB General Alarm-12 | (16 Character String) | ALARM·12·..... |

OUTPUT CONFIG This menu contains the binary output matrix, the binary output configuration, the LED and starter LED configuration.

Address 1 @ COM1:19200,e

Reydisp Evolution - [Settings Editor (SDR RECLOSER TS - 7SR224x-2xxxx-0EAX group 1.rsf2)]

File Edit View Relay Options Window Help

System Notes Config Settings Input Matrix Output Matrix LED Matrix Quickstart - Protection Quickstart - Autoreclose

Settings

- SYSTEM CONFIG
- CT/VT CONFIG
- FUNCTION CONFIG
- CURRENT PROT'N
- VOLTAGE PROT'N
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 - AUTORECLOSE CONFIG
 - P/F SHOTS
 - G/F SHOTS
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 - EXTERN SHOTS
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- INPUT CONFIG
 - INPUT MATRIX
 - FUNCTION KEY MATRIX
 - BINARY INPUT CONFIG
 - FUNCTION KEY CONFIG
 - GENERAL ALARMS
- OUTPUT CONFIG
 - OUTPUT MATRIX**
 - BINARY OUTPUT CONFIG
 - LED CONFIG
 - PICKUP CONFIG
- MAINTENANCE
- DATA STORAGE
- COMMUNICATIONS

| Parameter | Range | Value |
|--|-----------------|-------|
| <input checked="" type="checkbox"/> Protection Healthy | (64 Bit Binary) | B01 |
| <input checked="" type="checkbox"/> 51-1 | (64 Bit Binary) | ----- |
| <input checked="" type="checkbox"/> 51-2 | (64 Bit Binary) | ----- |
| <input checked="" type="checkbox"/> 51-3 | (64 Bit Binary) | ----- |
| <input checked="" type="checkbox"/> 51-4 | (64 Bit Binary) | ----- |
| <input checked="" type="checkbox"/> 50-1 | (64 Bit Binary) | ----- |
| <input checked="" type="checkbox"/> 50-2 | (64 Bit Binary) | ----- |
| <input checked="" type="checkbox"/> 50-3 | (64 Bit Binary) | ----- |
| <input checked="" type="checkbox"/> 50-4 | (64 Bit Binary) | ----- |
| <input checked="" type="checkbox"/> 51G-1 | (64 Bit Binary) | L4 |
| <input checked="" type="checkbox"/> 51G-2 | (64 Bit Binary) | L4 |
| <input checked="" type="checkbox"/> 51G-3 | (64 Bit Binary) | L4 |
| <input checked="" type="checkbox"/> 51G-4 | (64 Bit Binary) | L4 |
| <input checked="" type="checkbox"/> 50G-1 | (64 Bit Binary) | L4 |
| <input checked="" type="checkbox"/> 50G-2 | (64 Bit Binary) | L4 |
| <input checked="" type="checkbox"/> 50G-3 | (64 Bit Binary) | L4 |
| <input checked="" type="checkbox"/> 50G-4 | (64 Bit Binary) | L4 |
| <input checked="" type="checkbox"/> 51SGF-1 | (64 Bit Binary) | L5 |
| <input checked="" type="checkbox"/> 51SGF-2 | (64 Bit Binary) | L5 |
| <input checked="" type="checkbox"/> 51SGF-3 | (64 Bit Binary) | L5 |
| <input checked="" type="checkbox"/> 51SGF-4 | (64 Bit Binary) | L5 |
| <input checked="" type="checkbox"/> 50SGF-1 | (64 Bit Binary) | L5 |
| <input checked="" type="checkbox"/> 50SGF-2 | (64 Bit Binary) | L5 |
| <input checked="" type="checkbox"/> 50SGF-3 | (64 Bit Binary) | L5 |
| <input checked="" type="checkbox"/> 50SGF-4 | (64 Bit Binary) | L5 |
| <input checked="" type="checkbox"/> 64H | (64 Bit Binary) | ----- |
| <input checked="" type="checkbox"/> Cold Load Active | (64 Bit Binary) | ----- |
| <input checked="" type="checkbox"/> 46IT | (64 Bit Binary) | ----- |
| <input checked="" type="checkbox"/> 46DT | (64 Bit Binary) | ----- |

LED CONFIG This menu contains the settings to specify the colours of the LEDs.

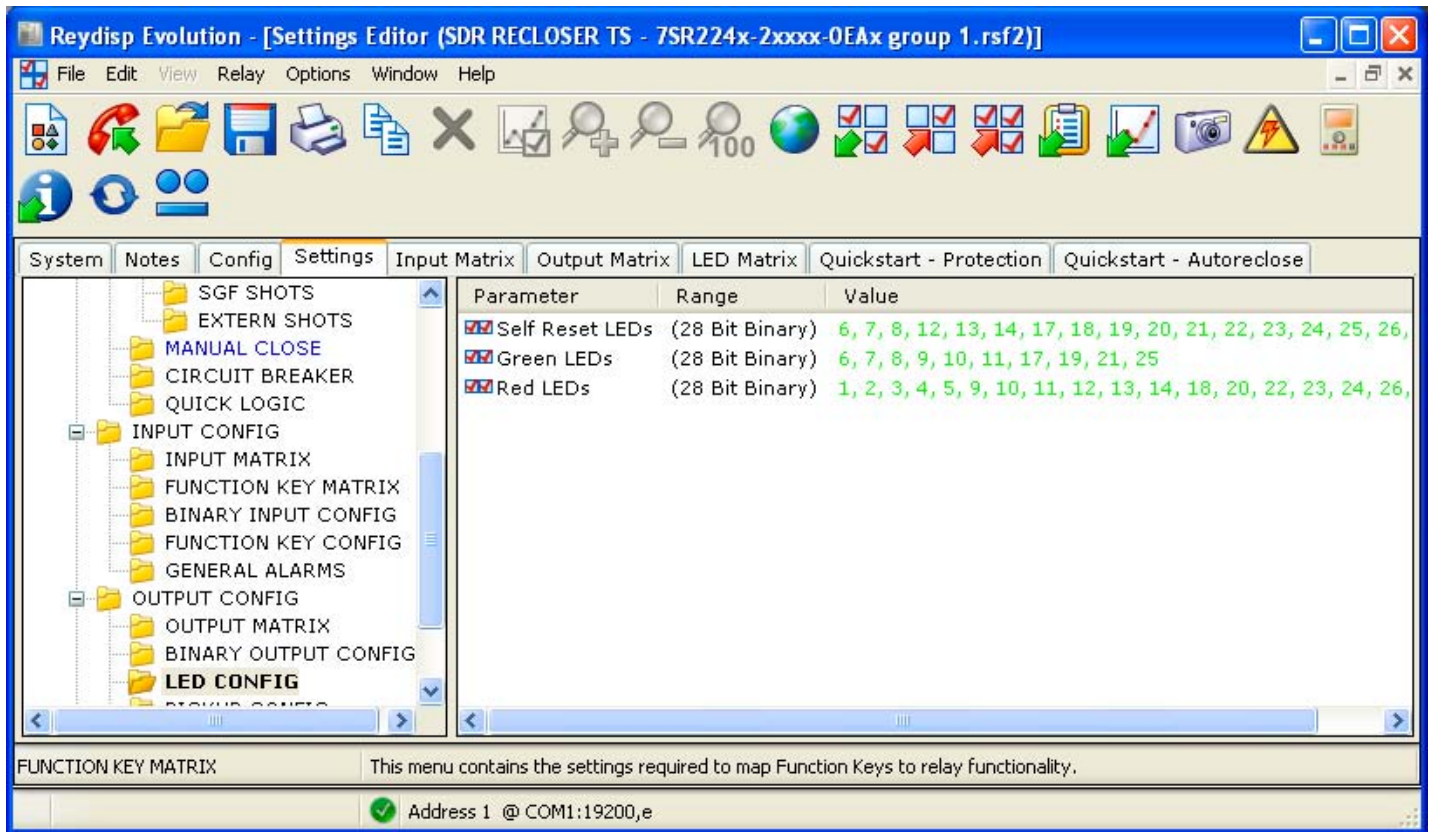
Address 1 @ COM1:19200,e

The screenshot shows the 'Settings Editor' window for 'SDR RECLOSER TS - 7SR224x-2xxxx-0EAx group 1.rsf2'. The 'Settings' tab is active, and the 'BINARY OUTPUT CONFIG' folder is selected in the left-hand tree view. The main pane displays a list of parameters with their ranges and values.

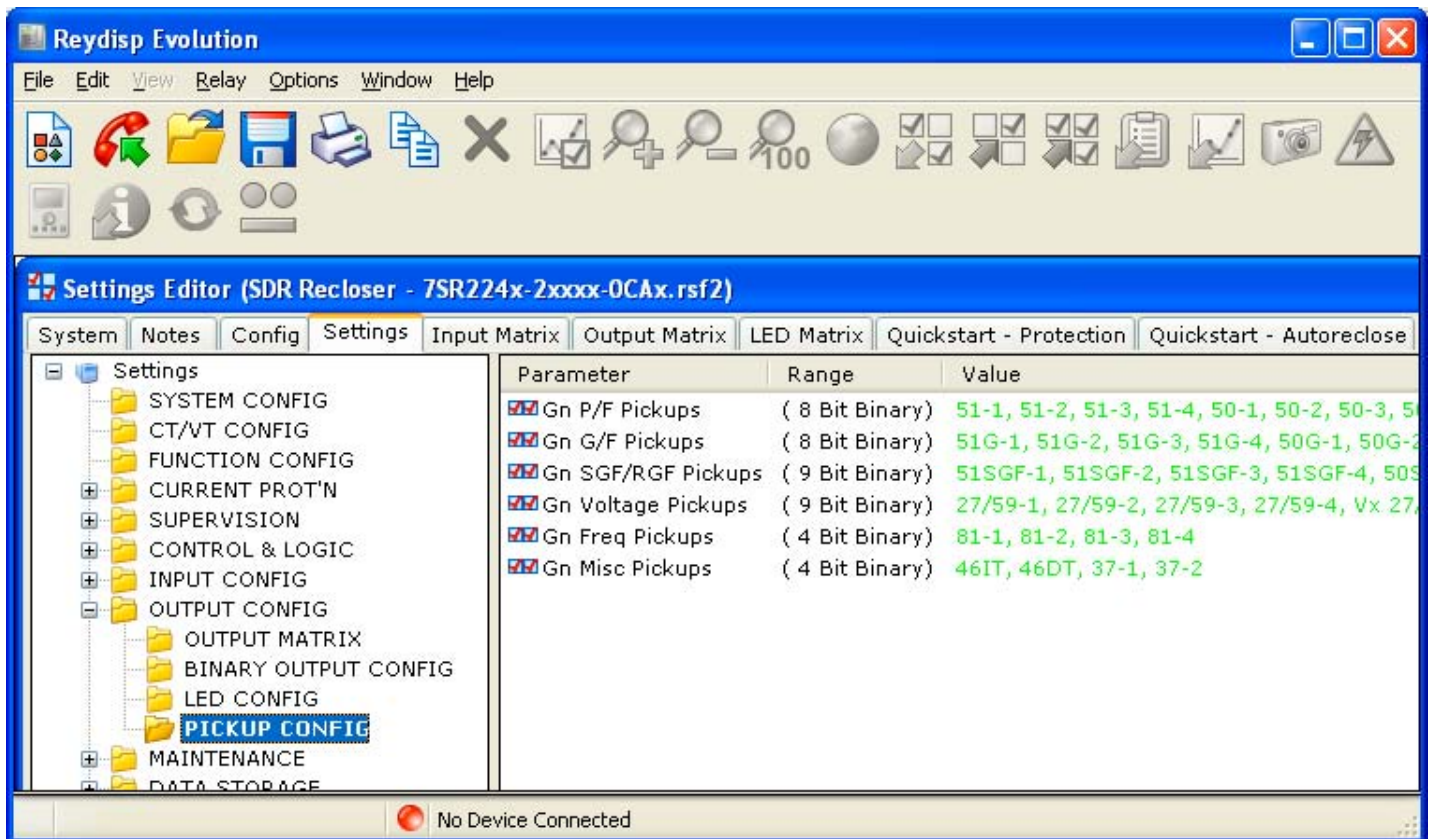
| Parameter | Range | Value |
|--|-----------------|-------|
| <input checked="" type="checkbox"/> CB-A Trip Contacts | (30 Bit Binary) | B08 |
| <input checked="" type="checkbox"/> CB-B Trip Contacts | (30 Bit Binary) | B016 |
| <input checked="" type="checkbox"/> CB-C Trip Contacts | (30 Bit Binary) | B024 |
| <input checked="" type="checkbox"/> Hand Reset Outputs | (30 Bit Binary) | ----- |
| Min Operate Time 1 | (0..60) | 0.1s |
| Min Operate Time 2 | (0..60) | 0.1s |
| Min Operate Time 3 | (0..60) | 0.1s |
| Min Operate Time 4 | (0..60) | 0.1s |
| Min Operate Time 5 | (0..60) | 0.1s |
| Min Operate Time 6 | (0..60) | 0.1s |
| Min Operate Time 7 | (0..60) | 0.1s |
| Min Operate Time 8 | (0..60) | 0.1s |
| Min Operate Time 9 | (0..60) | 0.1s |
| Min Operate Time 10 | (0..60) | 0.1s |
| Min Operate Time 11 | (0..60) | 0.1s |
| Min Operate Time 12 | (0..60) | 0.1s |
| Min Operate Time 13 | (0..60) | 0.1s |
| Min Operate Time 14 | (0..60) | 0.1s |
| Min Operate Time 15 | (0..60) | 0.1s |
| Min Operate Time 16 | (0..60) | 0.1s |
| Min Operate Time 17 | (0..60) | 0.1s |
| Min Operate Time 18 | (0..60) | 0.1s |
| Min Operate Time 19 | (0..60) | 0.1s |
| Min Operate Time 20 | (0..60) | 0.1s |
| Min Operate Time 21 | (0..60) | 0.1s |
| Min Operate Time 22 | (0..60) | 0.1s |
| Min Operate Time 23 | (0..60) | 0.1s |
| Min Operate Time 24 | (0..60) | 0.1s |
| Min Operate Time 25 | (0..60) | 0.1s |
| Min Operate Time 26 | (0..60) | 0.1s |

At the bottom of the window, a status bar indicates the current folder is 'BINARY OUTPUT CONFIG' and provides a description: 'This menu contains the settings to specify which Binary Outputs are the trip contacts & configure the Binary Output timers an...'. A connection status 'Address 1 @ COM1:19200,e' is also visible.

OUTPUT CONFIG/LED CONFIG folder



OUTPUT CONFIG/PICKUP CONFIG folder



The screenshot shows the 'Settings Editor' window for 'SDR Recloser - 7SR224x-2xxxx-0CAx.rs2'. The 'Settings' tab is active, and the 'MAINTENANCE' folder is expanded to show 'CB COUNTERS'. The right pane displays a list of parameters with their ranges and current values.

| Parameter | Range | Value |
|-------------------------------|---------------------|----------|
| Gn CB Total Trip Count | (Disabled..Enabled) | Enabled |
| Gn CB Total Trip Count Target | (0..10000) | 1000 |
| Gn CB Delta Trip Count | (Disabled..Enabled) | Enabled |
| Gn CB Delta Trip Count Target | (0..10000) | 100 |
| Gn CB Count To AR Block | (Disabled..Enabled) | Disabled |
| Gn CB Freq Ops Count | (Disabled..Enabled) | Enabled |
| Gn CB Freq Ops Count Target | (0..10000) | 20 |
| Gn CB LO Handle Ops | (Disabled..Enabled) | Enabled |
| Gn CB LO Handle Ops Target | (0..10000) | 20 |

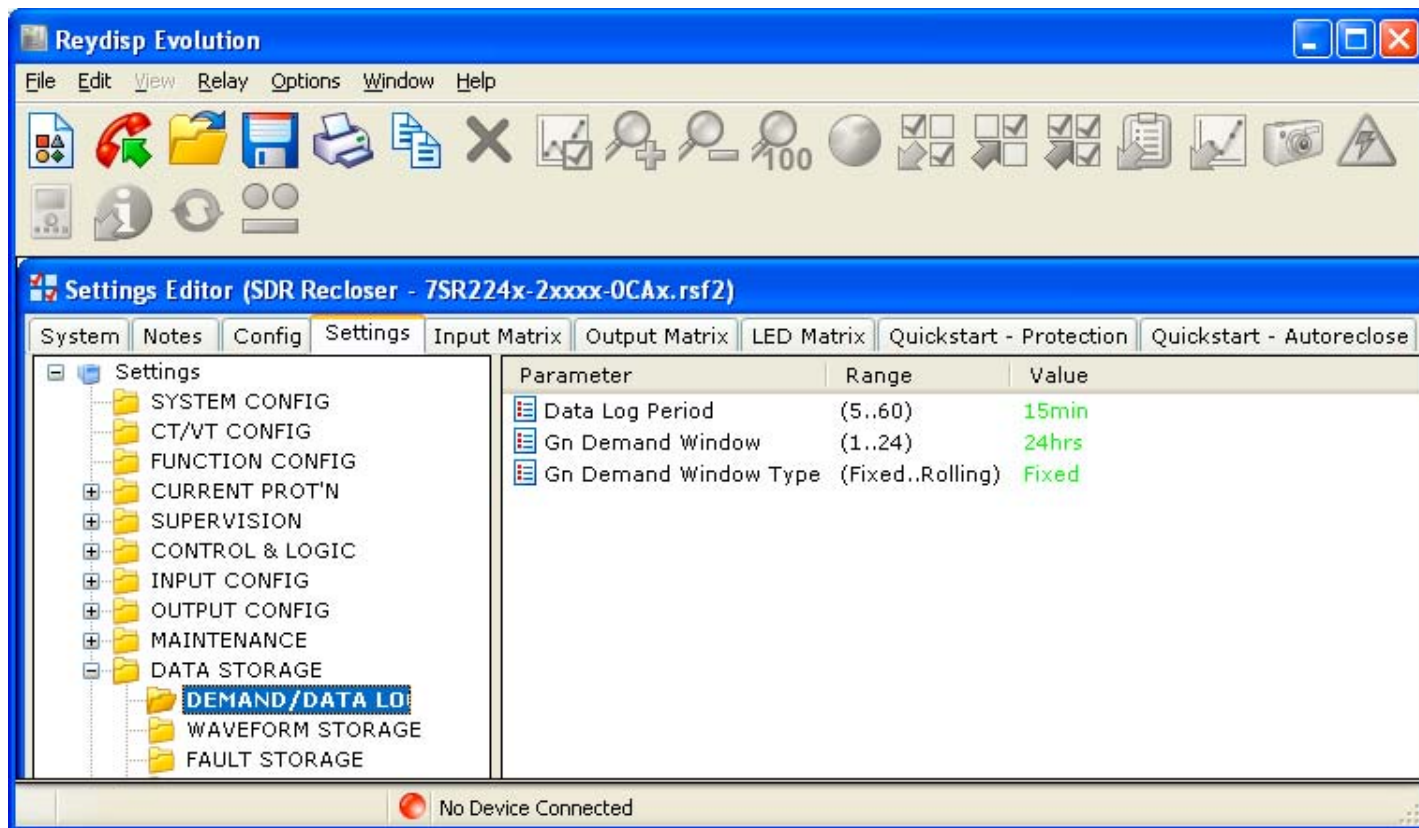
At the bottom of the window, a status bar indicates 'No Device Connected'.

The screenshot shows the 'Settings Editor' window for 'SDR Recloser - 7SR224x-2xxxx-0CAx.rs2'. The 'Settings' tab is active, and the 'MAINTENANCE' folder is expanded to show 'I^2T CB WEAR'. The right pane displays a list of parameters with their ranges and current values.

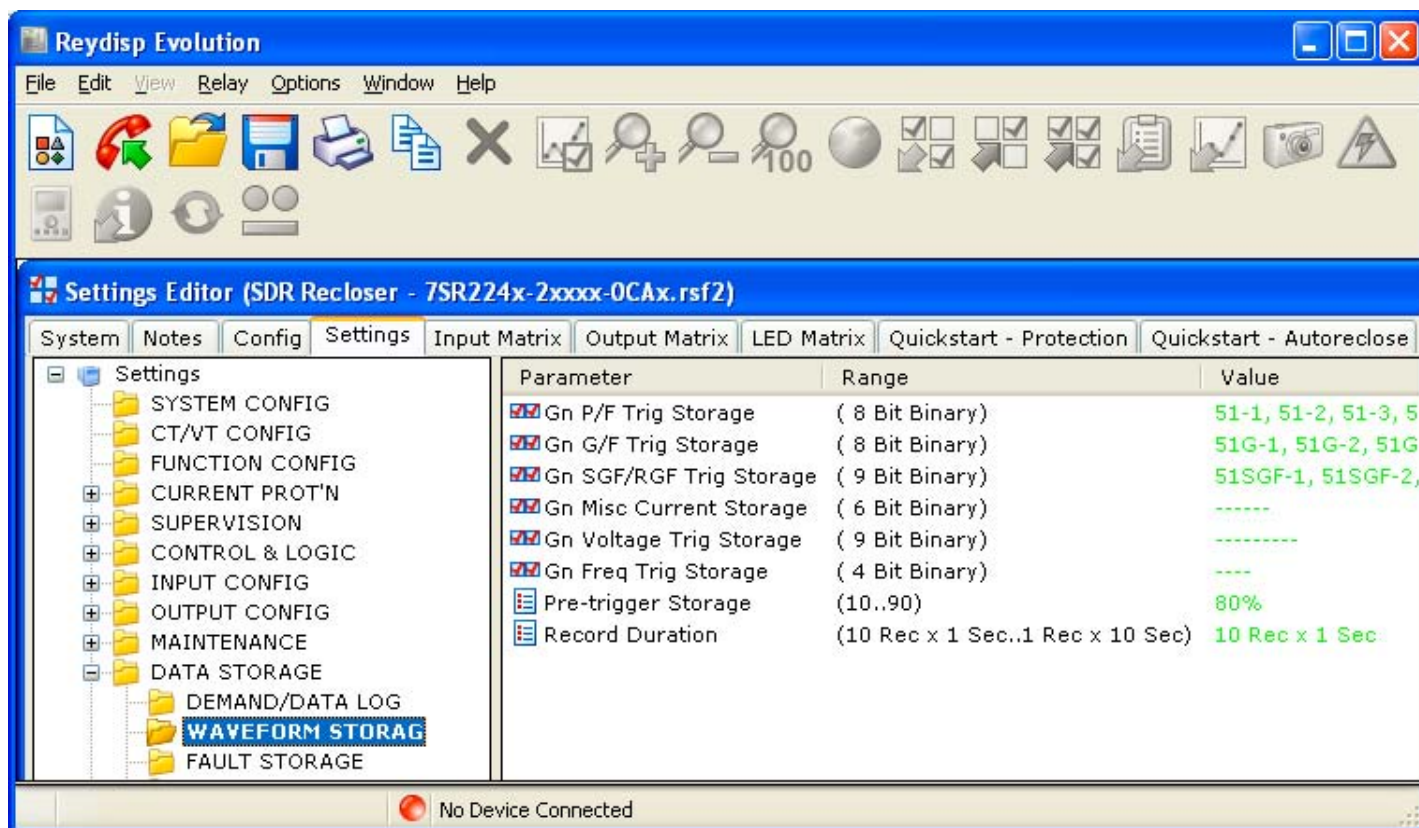
| Parameter | Range | Value |
|--------------------|---------------------|---------|
| Gn I^2t Counter | (Disabled..Enabled) | Enabled |
| Gn Alarm Limit | (10..100000) | 10MA^2s |
| Gn Separation Time | (0..0.2) | 0.025s |
| Gn Clearance Time | (0..0.2) | 0.04s |

At the bottom of the window, a status bar indicates 'No Device Connected'.

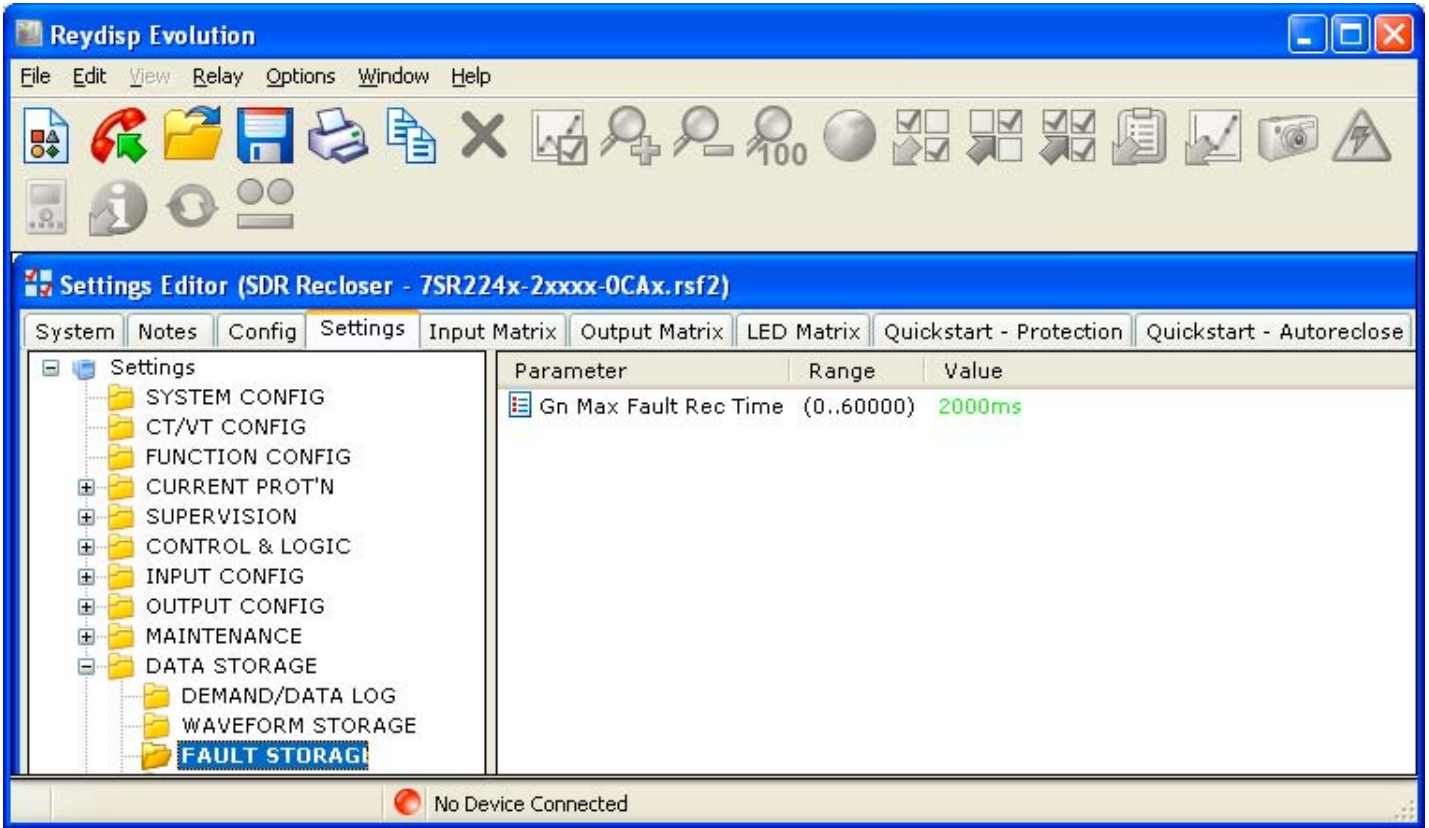
DATA STORAGE/DEMAND/DATA LOG folder



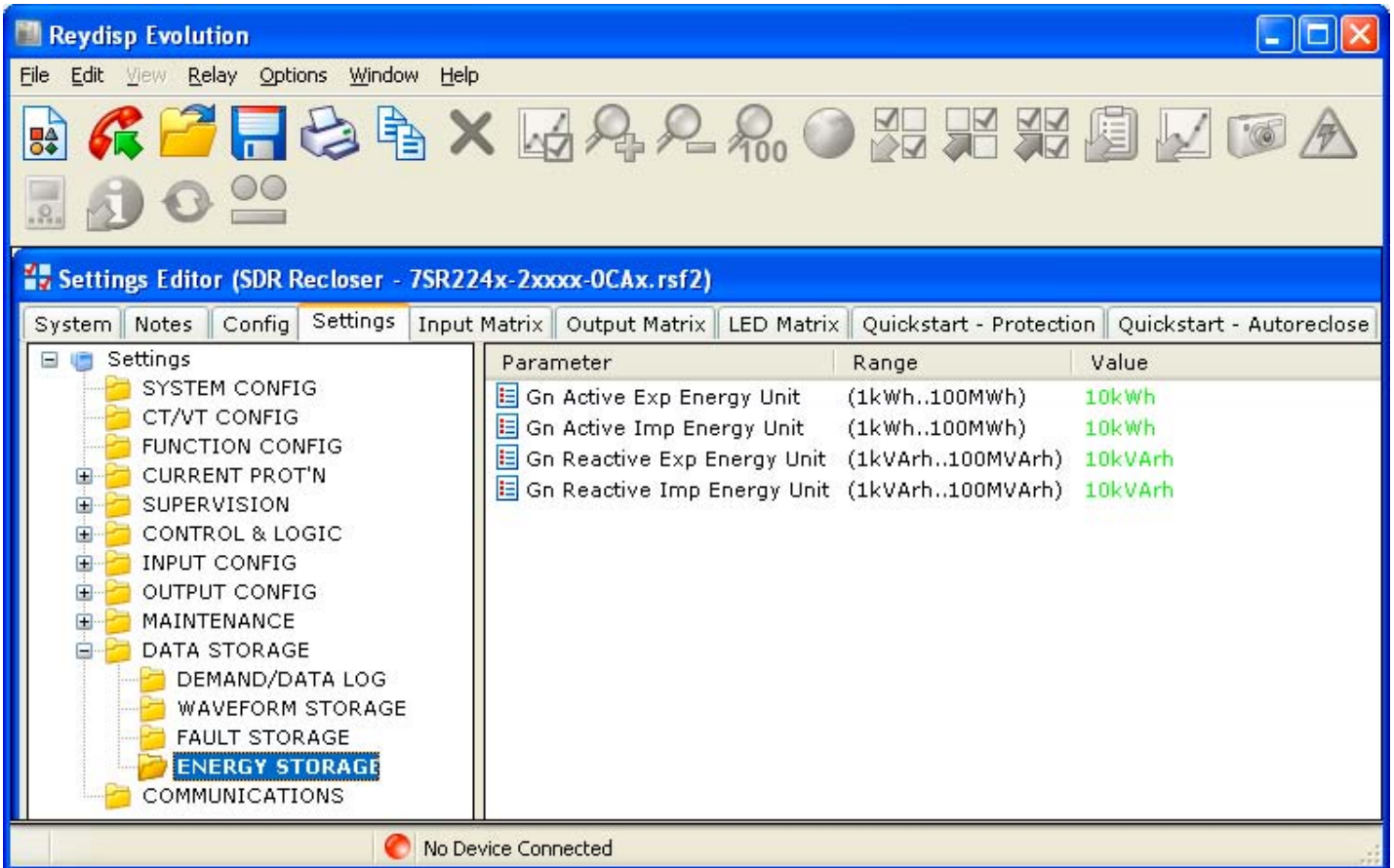
DATA STORAGE/WAVEFORM STORAGE folder



DATA STORAGE/FAULT STORAGE folder



DATA STORAGE/ENERGY STORAGE folder



The screenshot shows the 'Reydisp Evolution' application window. The title bar reads 'Settings Editor (SDR Recloser - 7SR224x-2xxxx-0CAx.rsf2)'. The interface includes a menu bar (File, Edit, View, Relay, Options, Window, Help) and a toolbar with various icons. Below the toolbar, there are tabs for 'System', 'Notes', 'Config', 'Settings', 'Input Matrix', 'Output Matrix', 'LED Matrix', 'Quickstart - Protection', and 'Quickstart - Autoreclose'. The 'Settings' tab is active, displaying a tree view on the left and a parameter list on the right. The 'COMMUNICATIONS' folder is selected in the tree view. The parameter list on the right is as follows:

| Parameter | Range | Value |
|-------------------------|--------------------------|-----------------|
| Station Address | (0..65534) | 1 |
| COM1-RS485 Protocol | (OFF..DNP3) | DNP3 |
| COM1-RS485 Baud Rate | (75..38400) | 19200 |
| COM1-RS485 Parity | (NONE..EVEN) | EVEN |
| COM1-RS485 Mode | (Local..Local Or Remote) | Local Or Remote |
| DNP3 Unsolicited Events | (Disabled..Enabled) | Disabled |

At the bottom of the window, a status bar indicates 'No Device Connected' with a red light icon.

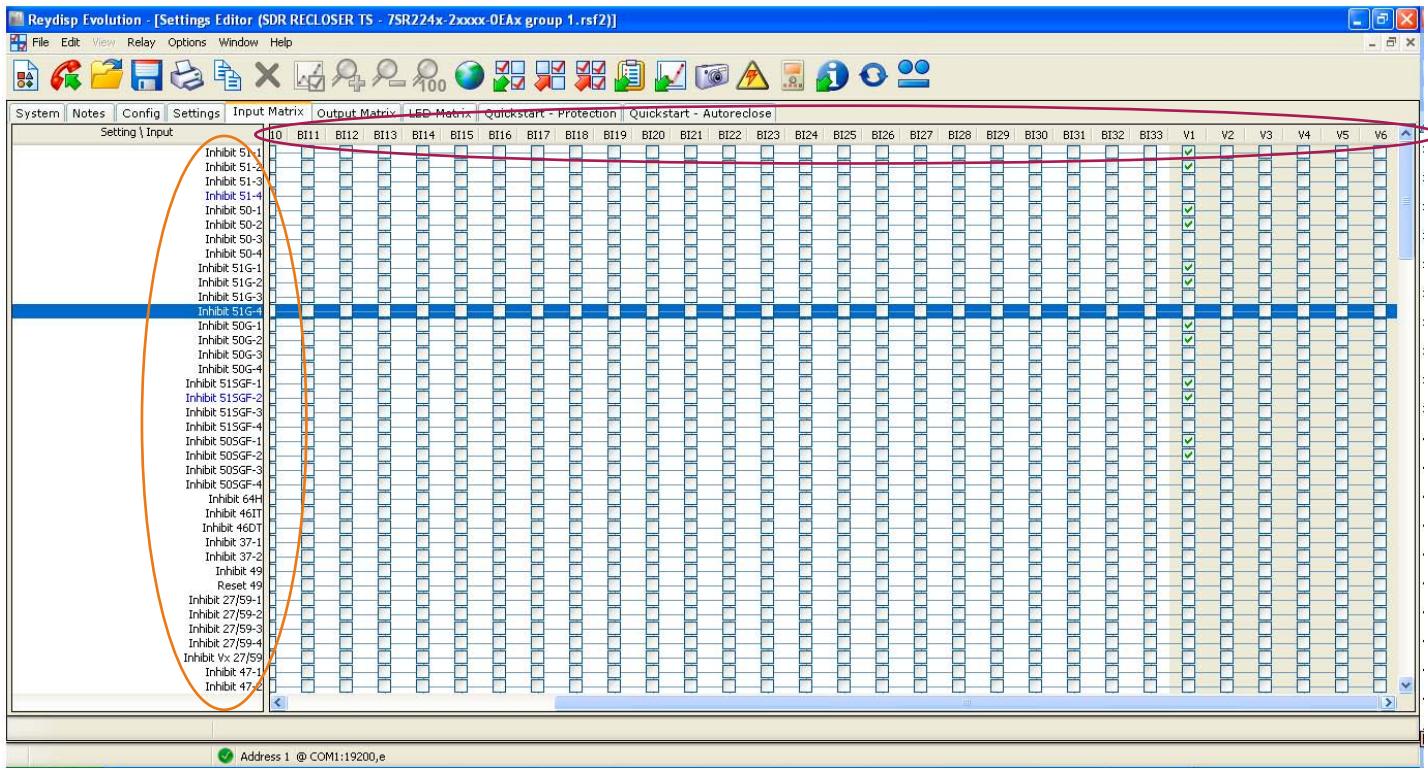
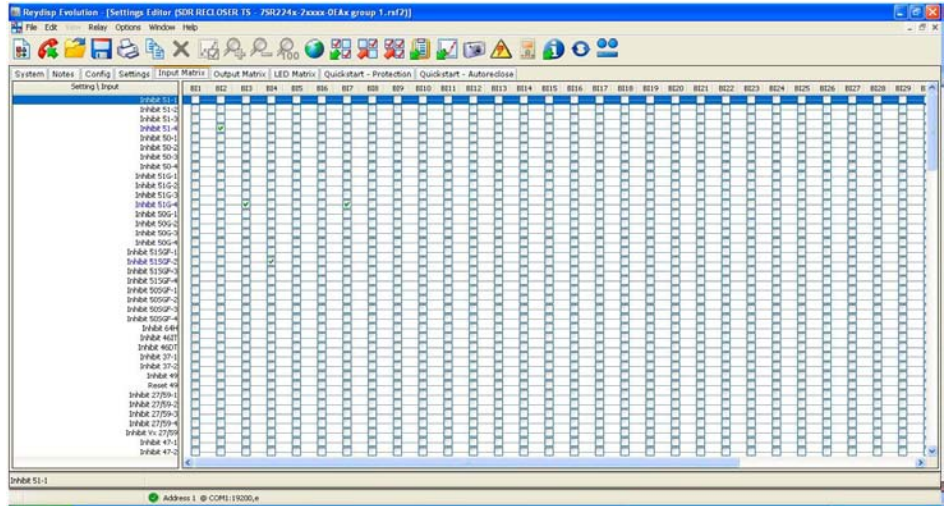
Type 7SR224 controller settings files edit settings

Input Matrix tab

Input Matrix tab

The "Input Matrix" tab is used to map binary inputs (BI) and virtual inputs (V) to relay functions. Virtual inputs are used with the quick logic editor as memory locations.

To use the input matrix editor, locate the intersection of the desired relay function, which has been circled in orange, with the desired BI or V, which has been circled in red, and select the appropriate check box. Deselect the check box to remove the mapping.



Type 7SR224 controller settings files edit settings

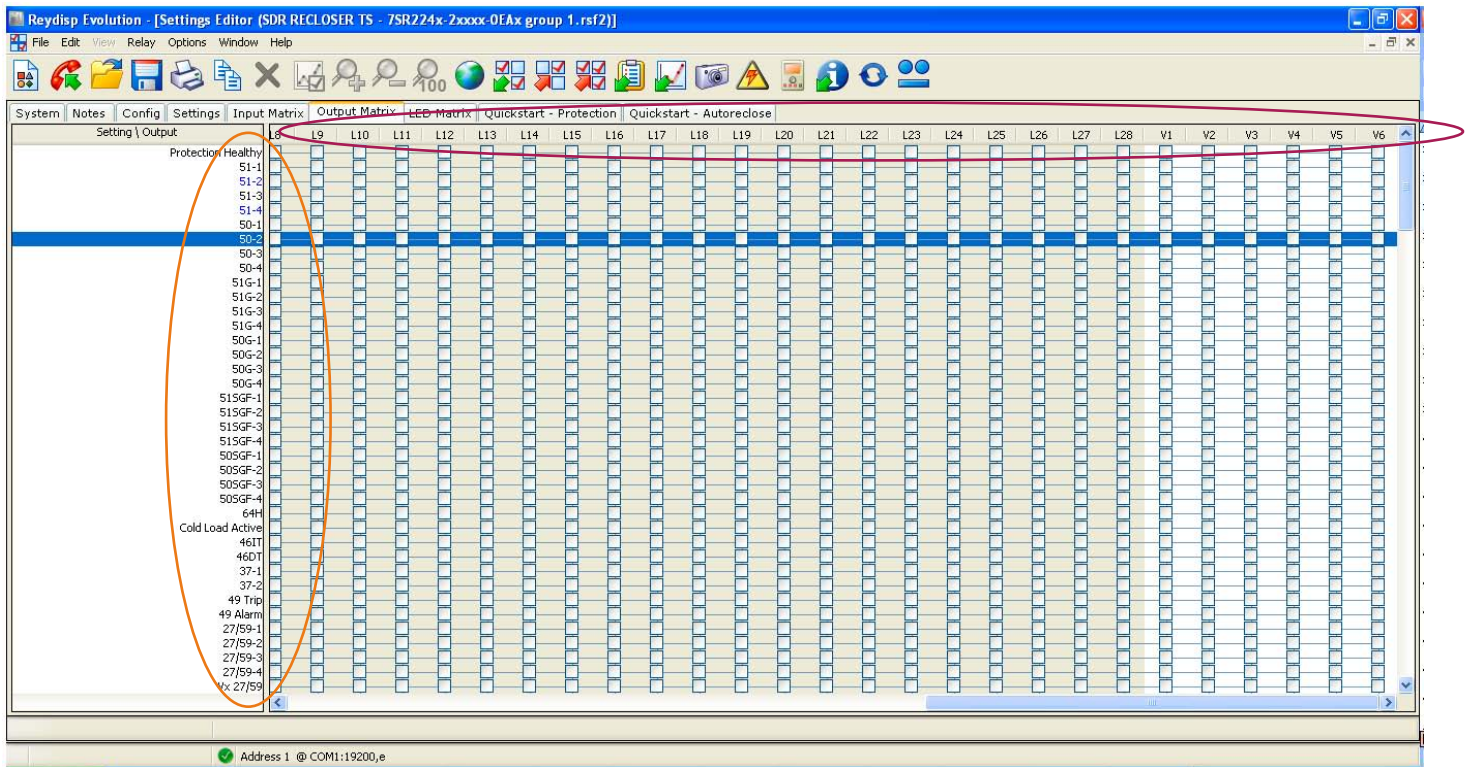
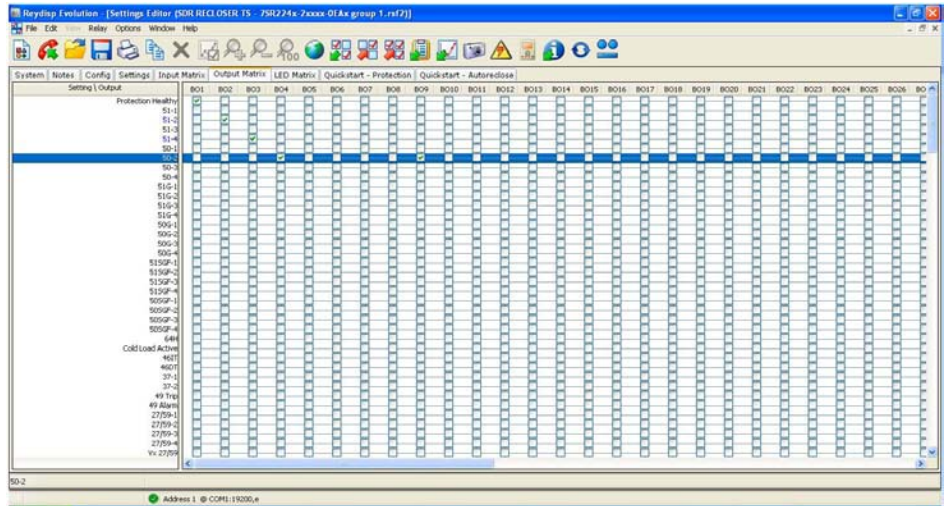
Output Matrix tab

Output Matrix tab

The "Output Matrix" tab is used to map relay functions to binary outputs (BO), LEDs (L) and virtual outputs (V).

To use the output matrix editor, locate the intersection of the desired relay function, which is circled in orange, with the desired BO, V or LED, which is circled red, and select the appropriate check box. Deselect the check box to remove the mapping.

Note: When the controller is withdrawn from the case, all normally closed contacts become open circuited. This should be considered in the design of control and protection circuitry.

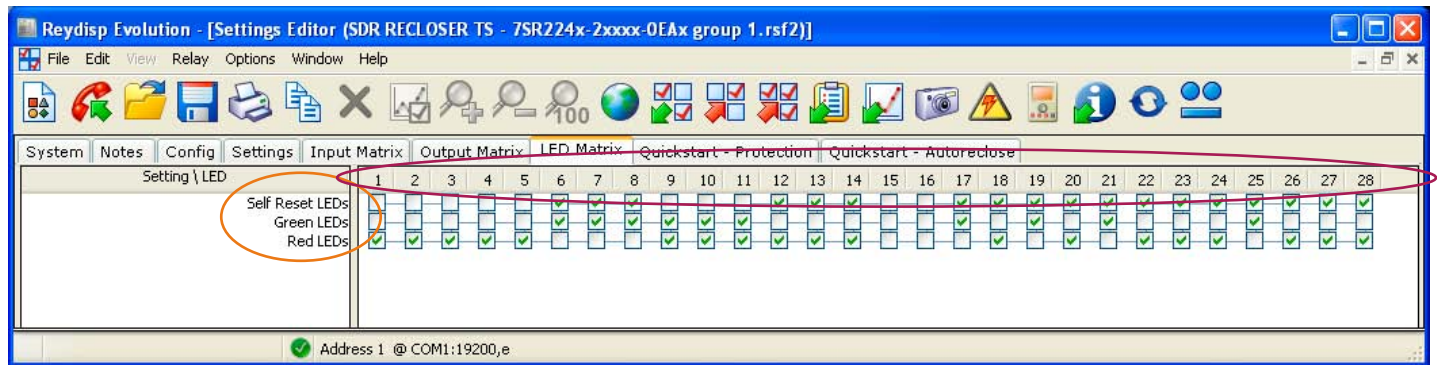


Type 7SR224 controller settings files edit settings LED Matrix tab

LED Matrix tab

The "LED Matrix" tab is used to illuminate and select the color of the LEDs. To use the LED matrix editor, locate the intersection of the desired LED colors, which is shown circled in orange, with the desired LED number, which is shown circled in red, and select the appropriate check box.


Note: The LEDs are numbered from top left to bottom right when facing the type 7SR224 controller. Selecting both green and red options will illuminate the tri-color LEDs in the color amber.



Type 7SR224 controller settings files send settings

If settings files have been retrieved from the type 7SR224 controller and edited, it is only necessary to return the updates to the controller.

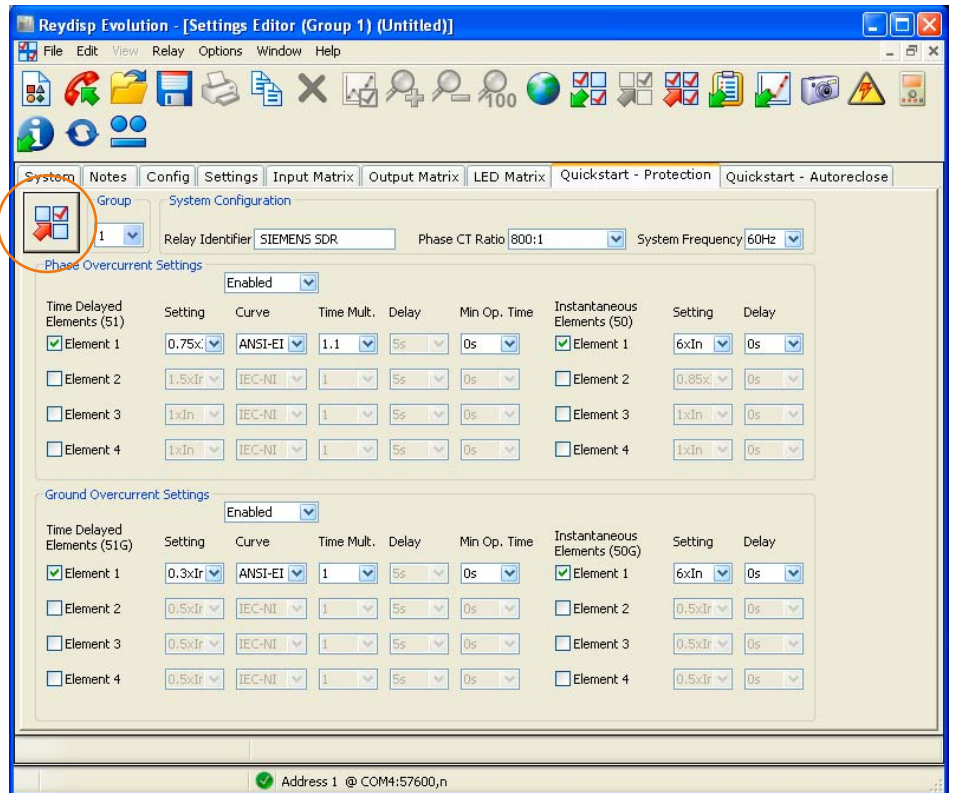
To send updates, select

1. Relay
2. Settings
3. Update Changed Settings from the menu bar or use the Update Changed Settings  button.
4. The "Confirm Action" dialog box will be displayed. Click "Yes" to confirm.

Note: The "Quickstart - Protection" and "Quickstart - Autoreclose" tabs have an Update Changed Settings button included on the tabs for user convenience. Refer to the button below circled in orange.



The "Action Completed Successfully" dialog box will be displayed upon successful transfer.

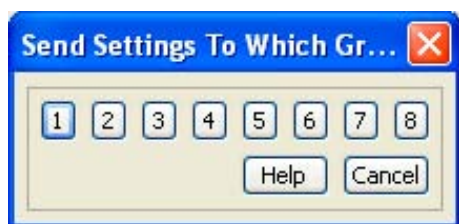


To send new relay settings files to the type 7SR224 controller, select

1. Relay
2. Settings
3. Send All Settings from the menu bar or use the Send All Settings button.



4. The "Send Settings to Which Group ?" dialog box will be displayed. Select the desired group number to send the settings to.



5. The "Confirm Action" dialog box will be displayed. Select "Yes" to confirm.



The "Action Completed Successfully" dialog box will be displayed.



Note: Confirm that active group number is the same group number as settings are sent (refer to page 11).


Type 7SR224 controller event window

The event window provides a list of all status and control changes within the relay and has a capability of 5,000 events in a circular file.

To upload the events list, select

1. Relay
2. Events
3. Get Events from the menu bar or use the Get Events  button.

To reset the historical event log, select

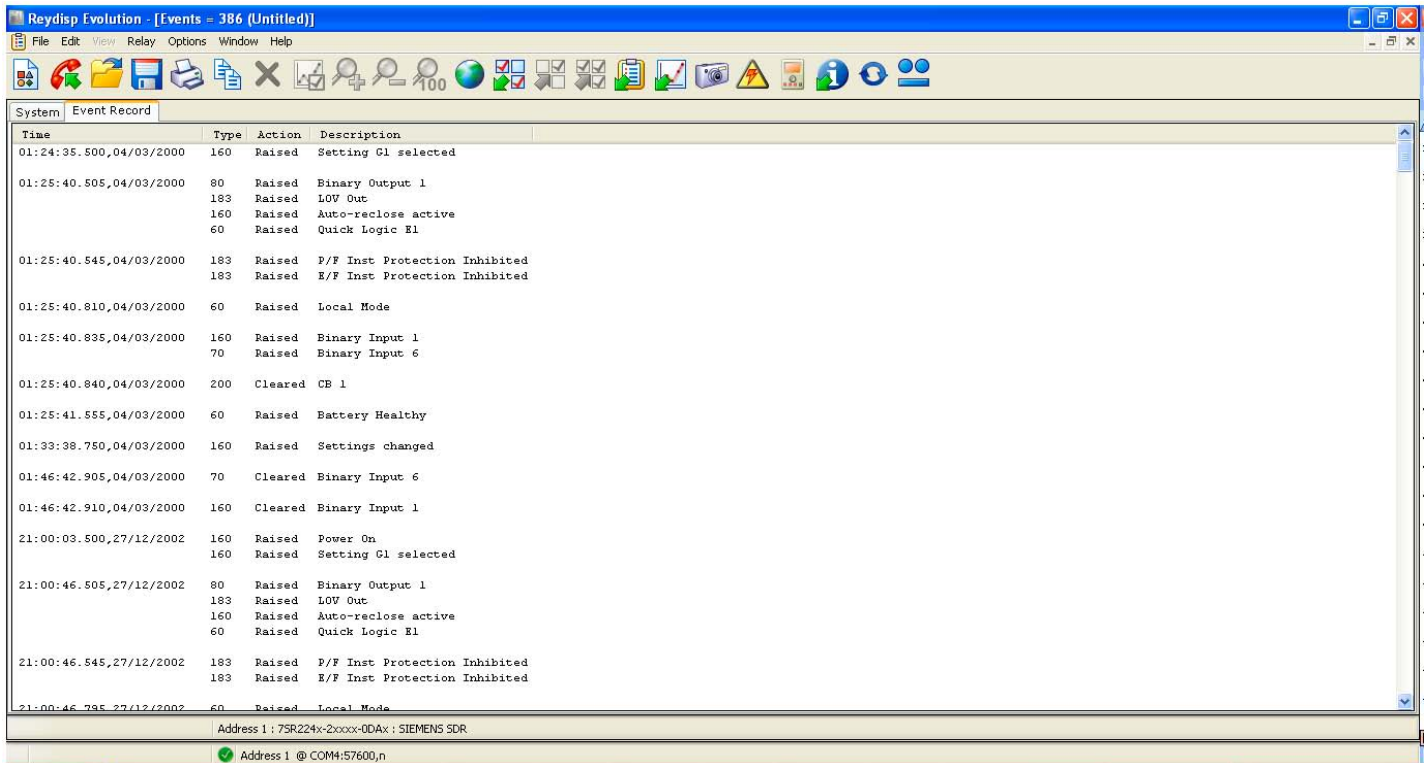
1. Relay
2. Events
3. Reset Events from the menu bar or use the Reset Events  button.

The "Event Window" window will be displayed consisting of two tabs, a "System" tab with information about the source device and an "Event Record" tab with a list of events. Each event is on a separate line, and consists of an event type, an action and a description.

The event list may be saved by using the "File," "Save" or "File, Save As" command and is stored as a standard text file, which may be viewed using a text editor or by using the "File Open" command.

Time format: HH:MM:SS.SSS


Date format: dd/mm/yy.



| Time | Type | Action | Description |
|-------------------------|------|---------|-------------------------------|
| 01:24:35.500,04/03/2000 | 160 | Raised | Setting G1 selected |
| 01:25:40.505,04/03/2000 | 80 | Raised | Binary Output 1 |
| | 183 | Raised | LOV Out |
| | 160 | Raised | Auto-reclose active |
| | 60 | Raised | Quick Logic E1 |
| 01:25:40.545,04/03/2000 | 183 | Raised | P/F Inst Protection Inhibited |
| | 183 | Raised | E/F Inst Protection Inhibited |
| 01:25:40.810,04/03/2000 | 60 | Raised | Local Mode |
| 01:25:40.835,04/03/2000 | 160 | Raised | Binary Input 1 |
| | 70 | Raised | Binary Input 6 |
| 01:25:40.840,04/03/2000 | 200 | Cleared | CB 1 |
| 01:25:41.555,04/03/2000 | 60 | Raised | Battery Healthy |
| 01:33:38.750,04/03/2000 | 160 | Raised | Settings changed |
| 01:46:42.905,04/03/2000 | 70 | Cleared | Binary Input 6 |
| 01:46:42.910,04/03/2000 | 160 | Cleared | Binary Input 1 |
| 21:00:03.500,27/12/2002 | 160 | Raised | Power On |
| | 160 | Raised | Setting G1 selected |
| 21:00:46.505,27/12/2002 | 80 | Raised | Binary Output 1 |
| | 183 | Raised | LOV Out |
| | 160 | Raised | Auto-reclose active |
| | 60 | Raised | Quick Logic E1 |
| 21:00:46.545,27/12/2002 | 183 | Raised | P/F Inst Protection Inhibited |
| | 183 | Raised | E/F Inst Protection Inhibited |
| 21:00:46.795,27/12/2002 | 60 | Raised | Local Mode |


Type 7SR224 controller waveform record

To trigger the 7SR224 controller to immediately record a waveform record, select

1. Relay
2. Waveform
3. Trigger Waveform Record from the menu bar or use the Trigger Waveform Records  button.

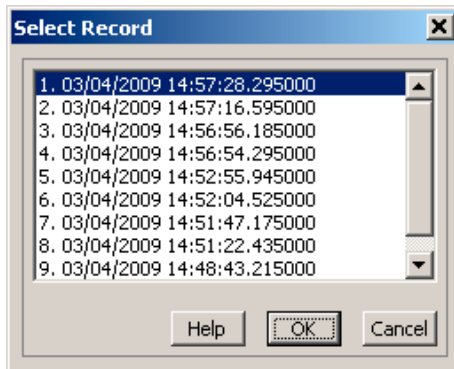


To retrieve a waveform record, select

1. Relay
2. Waveform
3. Get Waveform Record from the menu bar or use the Get Waveform Record  button.

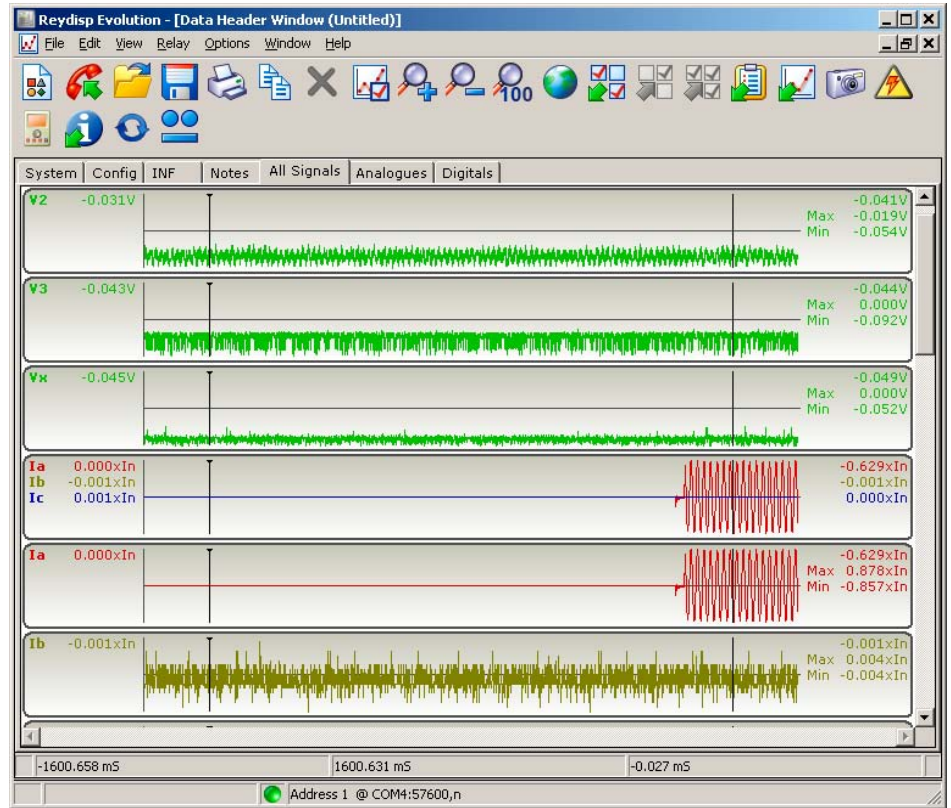


The "Select Record" dialog box will be displayed with a list of available records and their associated timestamps.




4. Select the record to be displayed from the list, then click "OK".

The Data Header Window will then display the waveform records.



Initially for each type of device there are default views defined containing the analogue channels, digital channels and all channels. New views can be created. Existing views can be modified. The analogue channel information can be edited. The display can be formatted using the "View, Properties" command.

To reset waveform records, select

1. Relay
2. Waveform
3. Reset Waveform Records from the menu bar or use the Reset Waveform Record  button.



Type 7SR224 controller data fault record

To retrieve a data fault record, select

1. Relay
2. Data Records
3. Get Data Fault Record from the menu bar or use the Get Data Fault Record button.



The Data Record window will display the data fault record.

The fault display consists of a list with information about the source device at the top followed by the faults, with each fault being located on a separate line.

The data may be saved by using the "File," "Save" or "File, Save As" command and is stored as a standard text file, which may be viewed using a text editor or by using the "File, Open" command.

```
Relay Type      : 7SR224x-2xCx2-0CA0
Software Revision : 2435H80011R3d-2b#ee3e
Boot Block Revision : TC1775.002.000
Configuration    : 10w-8g-23i-22o
User Information  : SDR RECLOSER DEM
MLFB             : 7SR2243-2AC22-0CA0/BB
DOC ID          : FFFFFFFDFFFFFFDF8B0D770700DF53

FAULT 1 03/04/2009 14:57:28.300 G1 G 51G-1 46BC TCS 50BF-1 50BF-2 Ia=0.304kA Ib=0.000kA Ic=0.000kA Va=0.000kV Vb=0.000kV Vc=0.000kV
FAULT 2 03/04/2009 14:57:16.600 G1 G 51G-1 46BC TCS 50BF-1 50BF-2 Ia=0.207kA Ib=0.000kA Ic=0.000kA Va=0.000kV Vb=0.000kV Vc=0.000kV
FAULT 3 03/04/2009 14:56:56.190 G1 G 51G-1 TCS 50BF-1 50BF-2 Ia=0.209kA Ib=0.000kA Ic=0.000kA Va=0.000kV Vb=0.000kV Vc=0.000kV
FAULT 4 03/04/2009 14:56:54.300 G1 A G 51G-1 TCS 50BF-1 50BF-2 Ia=0.385kA Ib=0.000kA Ic=0.000kA Va=0.000kV Vb=0.000kV Vc=0.000kV
FAULT 5 03/04/2009 14:52:55.950 G1 A G 51G-1 TCS 50BF-1 50BF-2 Ia=0.381kA Ib=0.000kA Ic=0.000kA Va=0.000kV Vb=0.000kV Vc=0.000kV
FAULT 6 03/04/2009 14:52:04.530 G1 A G 51G-1 TCS 50BF-1 50BF-2 Ia=0.440kA Ib=0.000kA Ic=0.000kA Va=0.000kV Vb=0.000kV Vc=0.000kV
FAULT 7 03/04/2009 14:51:47.180 G1 A G 51G-1 TCS Ia=0.441kA Ib=0.000kA Ic=0.000kA Va=0.000kV Vb=0.000kV Vc=0.000kV
FAULT 8 03/04/2009 14:51:22.440 G1 A G 51G-1 TCS Ia=0.432kA Ib=0.000kA Ic=0.000kA Va=0.000kV Vb=0.000kV Vc=0.000kV
FAULT 9 03/04/2009 14:48:43.220 G1 G 51G-1 TCS 50BF-1 50BF-2 Ia=0.410kA Ib=0.000kA Ic=0.000kA Va=0.000kV Vb=0.000kV Vc=0.000kV
FAULT 10 03/04/2009 14:47:56.530 G1 A G 51G-1 TCS Ia=0.480kA Ib=0.000kA Ic=0.000kA Va=0.000kV Vb=0.000kV Vc=0.000kV
```

Address 1 @ COM4:57600,n

Type 7SR224 controller instrument window

The "Instruments" window allows real time monitoring of analog and digital signals, communications status and quick logic results. This function requires the type 7SR224 controller to be online.

To connect to the type 7SR224 controller and display instruments in the "Instruments" window, select

1. Relay, Information, Monitor Instruments from the menu bar or use the Monitor Instruments button.

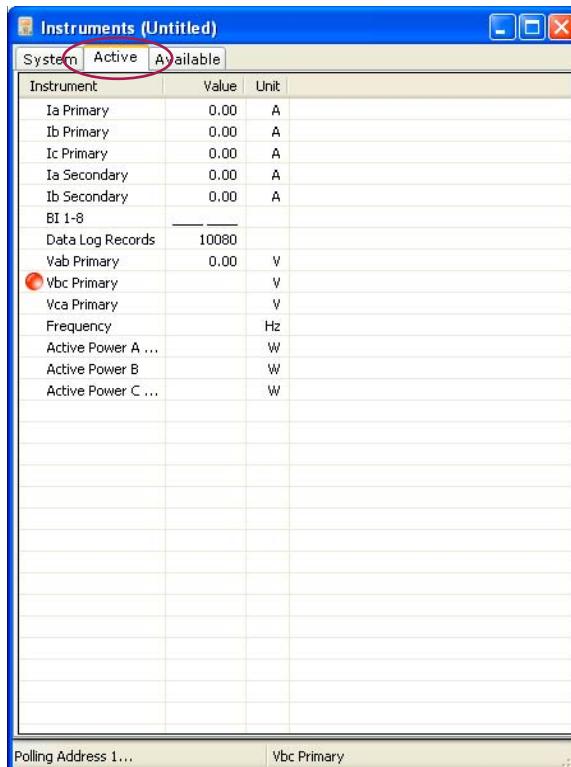
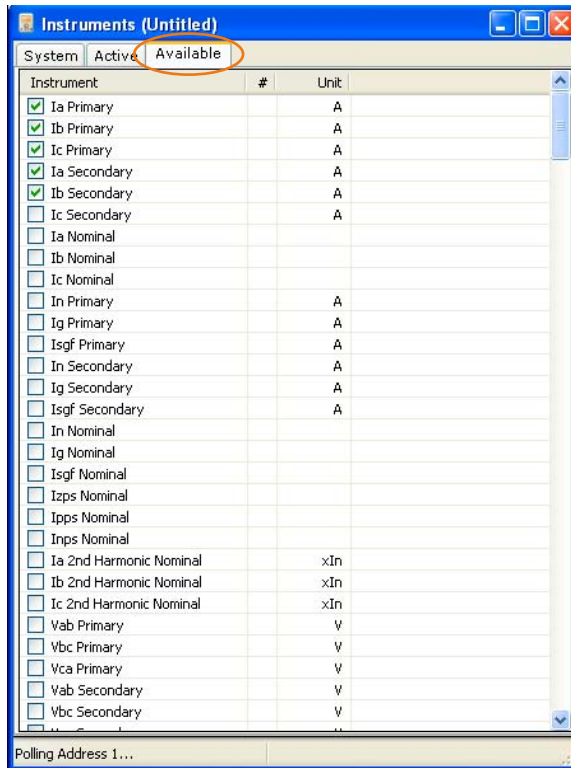


Three tabs are at the top of the "Instruments" window. Use the "Available" tab, which is circled in orange, to show the list of instruments that can be monitored on a particular device. Each instrument in the list has a checkbox that must be selected for the instrument to be polled.

The selected instruments are displayed in the list on the "Active" tab, which is circled in red, and can be sorted by clicking on the column headings.

The "System" tab displays information about the type 7SR224 controller.

Note: Several instrument windows can be opened simultaneously to poll different device addresses. When opened, the instrument window polls the current address. Therefore, before opening an instrument window, set the address using the "Relay," "Set Address," "Address or Relay," "Set Address" and "Device Map" commands.



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