Software Installation

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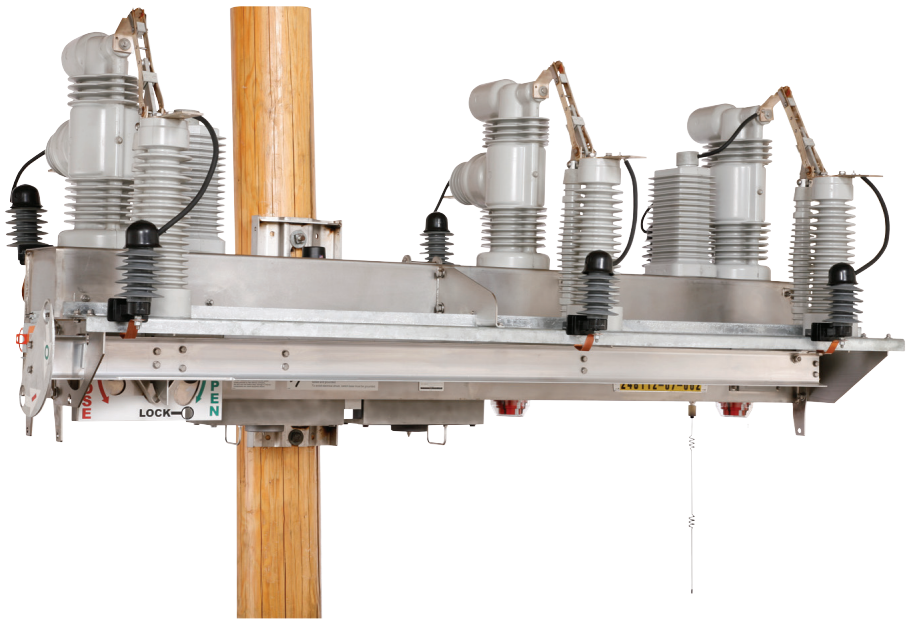
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September 8, 2026
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Qualified Persons

⚠ WARNING

Only qualified persons knowledgeable in the installation, operation, and maintenance of overhead and underground electric distribution equipment, along with all associated hazards, may install, operate, and maintain the equipment covered by this publication. A qualified person is someone trained and competent in:

- The skills and techniques necessary to distinguish exposed live parts from nonlive parts of electrical equipment
- The skills and techniques necessary to determine the proper approach distances corresponding to the voltages to which the qualified person will be exposed
- The proper use of special precautionary techniques, personal protective equipment, insulated and shielding materials, and insulated tools for working on or near exposed energized parts of electrical equipment

These instructions are intended only for such qualified persons. They are not intended to be a substitute for adequate training and experience in safety procedures for this type of equipment.

Read This Instruction Sheet

NOTICE

Thoroughly and carefully read this instruction sheet and all materials included in the product's instruction handbook before installing or operating an IntelliRupter PulseCloser Fault Interrupter. Become familiar with the Safety Information on page 3 and Safety Precautions on page 4. The latest version of this publication is available online in PDF format at **sandc.com/en/product-literature/.**

Retain This Instruction Sheet

This instruction sheet is a permanent part of the IntelliRupter PulseCloser Fault Interrupter. Designate a location where users can easily retrieve and refer to this publication.

⚠ WARNING

The equipment in this publication is only intended for a specific application. The application must be within the ratings furnished for the equipment. Ratings for the IntelliRupter PulseCloser Fault Interrupter are listed in the ratings table in Specification Bulletin 766-31.

Understanding Safety-Alert Messages

Several types of safety-alert messages may appear throughout this instruction sheet and on labels attached to the IntelliRupter PulseCloser Fault Interrupter. Become familiar with these types of messages and the importance of these signal words:

⚠ DANGER

"DANGER" identifies the most serious and immediate hazards that will likely result in serious personal injury or death if instructions, including recommended precautions, are not followed.

⚠ WARNING

"WARNING" identifies hazards or unsafe practices that can result in serious personal injury or death if instructions, including recommended precautions, are not followed.

⚠ CAUTION

"CAUTION" identifies hazards or unsafe practices that can result in minor personal injury if instructions, including recommended precautions, are not followed.

NOTICE

"NOTICE" identifies important procedures or requirements that can result in product or property damage if instructions are not followed.

Following Safety Instructions

If any portion of this instruction sheet is unclear and assistance is needed, contact the nearest S&C Sales Office or S&C Authorized Distributor, or call the S&C Global Support and Monitoring Center at 1-888-762-1100. Telephone numbers are also listed on S&C's website, **sandc.com**.

NOTICE

Read this instruction sheet thoroughly and carefully before software installation for the IntelliRupter PulseCloser Fault Interrupter.



Replacement Instructions and Labels

If additional copies of this instruction sheet are required, contact the nearest S&C Sales Office, S&C Authorized Distributor, S&C Headquarters, S&C Electric Canada Ltd.

It is important any missing, damaged, or faded labels on the equipment be replaced immediately. Replacement labels are available by contacting the nearest S&C Sales Office, S&C Authorized Distributor, S&C Headquarters, or S&C Electric Canada Ltd.

⚠ DANGER



IntelliRupter PulseCloser Fault Interrupters operate at high voltage. Failure to observe the precautions below will result in serious personal injury or death.

Some of these precautions may differ from your company's operating procedures and rules. Where a discrepancy exists, follow your company's operating procedures and rules.

1. **QUALIFIED PERSONS.** Access to an IntelliRupter PulseCloser Fault Interrupter must be restricted only to qualified persons. See the "Qualified Persons" section on page 2.
2. **SAFETY PROCEDURES.** Always follow safe operating procedures and rules.
3. **PERSONAL PROTECTIVE EQUIPMENT.** Always use suitable protective equipment, such as rubber gloves, rubber mats, hard hats, safety glasses, and flash clothing, in accordance with safe operating procedures and rules.
4. **SAFETY LABELS.** Do not remove or obscure any of the "DANGER," "WARNING," "CAUTION," or "NOTICE" labels.
5. **OPERATING MECHANISM AND BASE.** IntelliRupter PulseCloser Fault Interrupter contain fast-moving parts that can severely injure fingers. Do not remove or disassemble operating mechanisms or remove access panels on the IntelliRupter PulseCloser Fault Interrupter base unless directed by S&C Electric Company.
6. **ENERGIZED COMPONENTS.** Always consider all parts live until de-energized, tested, and grounded. The integrated power module contains components that can retain a voltage charge for many days after the IntelliRupter PulseCloser Fault Interrupter has been de-energized and can derive a static charge when in close proximity to a high-voltage source. Voltage levels can be as high as the peak line-to-ground voltage last applied to the unit. Units that have been energized or installed near energized lines should be considered live until tested and grounded.
7. **GROUNDING.** The IntelliRupter PulseCloser Fault Interrupter base must be connected to a suitable earth ground at the base of the utility pole, or to a suitable building ground for testing, before energizing an IntelliRupter fault interrupter and at all times when energized.
   - The ground wire(s) must be bonded to the system neutral, if present. If the system neutral is not present, proper precautions must be taken to ensure the local earth ground, or building ground, cannot be severed or removed.
8. **VACUUM INTERRUPTER POSITION.** Always confirm the **Open/Close** position of each interrupter by visually observing its indicator.
   - Interrupters, terminal pads, and disconnect blades on disconnect-style models may be energized with the interrupters in any position.
   - Interrupters, terminal pads, and disconnect blades on disconnect-style models may be energized from either side of the IntelliRupter fault interrupter.
9. **MAINTAINING PROPER CLEARANCE.** Always maintain proper clearance from energized components.

Computer Requirements

The following are required to install IntelliRupter fault interrupter software on a computer:

- A portable personal computer with Microsoft® Windows® 10 or 11, an Intel® Core™ i7 Processor with 8 GB of RAM (recommended) or a dual-core processor with 4 GB RAM (minimum), a wireless card (onboard or USB), an Internet browser, and access to **sandc.com**
- Administrative privileges
- Microsoft.Net Framework Version 4.8 (Verify the software has been installed on the computer by opening *C:\Windows\Microsoft.Net\Framework*. If v4.8 has not been installed, download it from this link: **microsoft.com/net**.)

Note: If the installer does not detect the correct version of .Net, it will not install IntelliLink6 software.

- Windows PowerShell 5.0 set for an AllSigned execution policy (RemoteSigned and Unrestricted execution policies will also work.)
- Policy selection should be based on IT department security policy. The AllSigned execution policy will result in the appearance of a dialog box after a firmware upgrade has begun.
- To perform the firmware upgrade, the **Run once** or **Always run** button must be selected. Selection should be based on the IT department security policy. Windows PowerShell comes installed by default in every Microsoft® Windows® operating system.

  Follow these steps to set the AllSigned execution policy:

STEP 1. Click on the Microsoft® Windows® **Start** button and open *All Programs>Accessories>Windows PowerShell>Windows PowerShell (x86)* to start the application.

STEP 2. In the PowerShell console, type: **set-executionpolicy AllSigned** to set the policy.

STEP 3. In the PowerShell console, type: **get-executionpolicy** to verify the policy setting.

The latest IntelliRupter fault interrupter software release is posted at the S&C Customer Portal. This library of present and legacy software requires a password and gives users access to the software needed for S&C equipment operated by their utility. See Figure 1. Request a password by using this link: **sandc.com/en/support/sc-customer-portal/**. The link can also be used if you are having trouble logging in to the S&C Customer Portal.

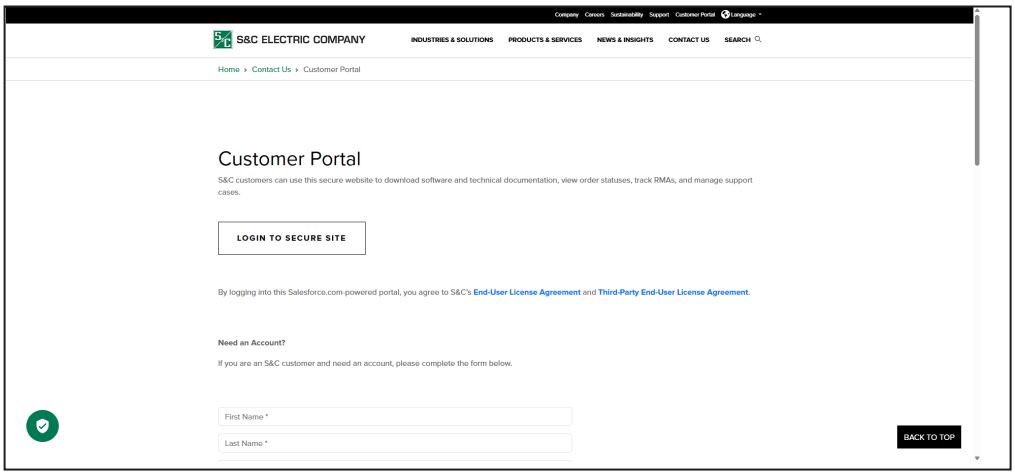


Figure 1. The S&C Customer Portal is accessed at sandc.com.

IntelliLink® Setup Software License Activation

NOTICE

Remote operation of firmware version 7.3 and later with IntelliLink Setup Software versions 6.12.19 and later do not need to be activated and are backward-compatible with S&C automation controls with software revision 3.6.11 and later. A license activation file is not required, and the "Installing a License Activation File" section of this document can be ignored. When using IntelliLink Setup Software earlier than 6.12.19, an IntelliLink Setup Software license key is required.

IntelliLink Setup Software will be installed as a part of the IntelliRupter PulseCloser Fault Interrupter software installer package as described in the "IntelliRupter® Fault Interrupter Software Installer" section on page 10. If unable to install IntelliLink Setup Software version 6.12.19 or higher (found in the 7.3.x or higher software installers), an account is needed on the S&C Customer Portal to obtain a license activation file used with IntelliLink Setup Software versions earlier than 6.12.19. When there is no account, use this link to request a password: **sandc.com/en/support/sc-customer-portal/**. Alternatively, follow the procedure to obtain one before proceeding:

STEP 1. Register computers requiring IntelliLink Setup Software. Register the computer with the MAC address for the Local Area Ethernet adapter. Make sure to obtain the onboard physical adapter and not an add-on or wireless adapter.

If unfamiliar with the command prompt, obtain the S&C **CheckMacAddress.exe** utility found under the *Files* screen on the S&C Customer Portal. See Figure 2.

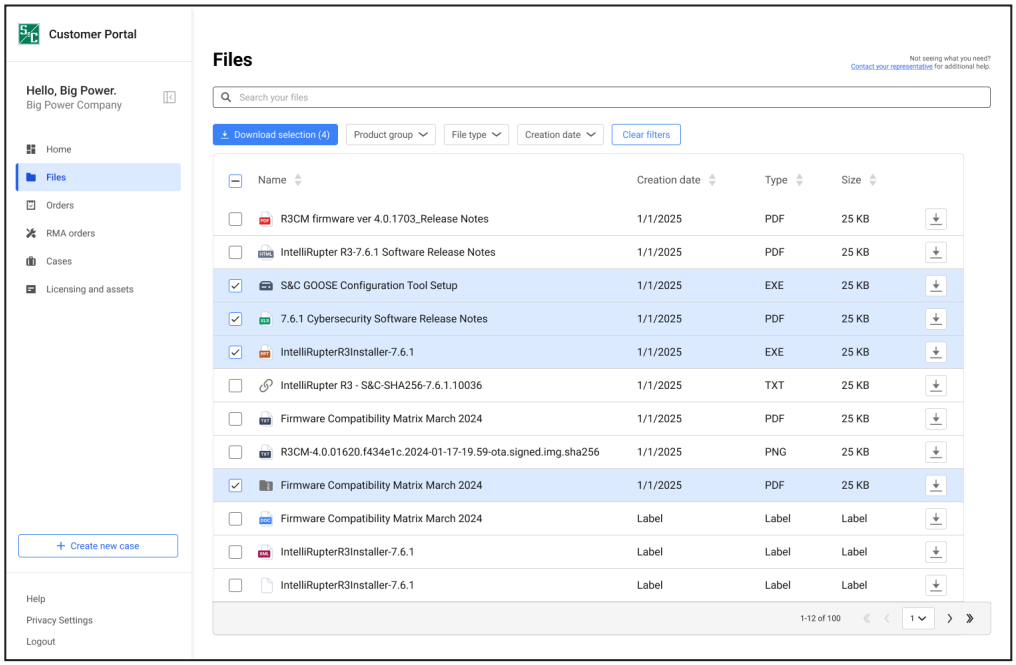


Figure 2. The *Files* screen on the S&C Customer Portal.

STEP 2. Send the MAC address in an email to customersupport@sandc.com with the name of the company that owns the IntelliLink Setup Software license, the name of the primary computer user, and the computer user's email address and phone number. Customer support will send the license activation file for older versions of the IntelliLink Setup Software.

STEP 3. To see whether the computer is already registered, first go to the **Licensing and Assets** menu. See Figure 3.

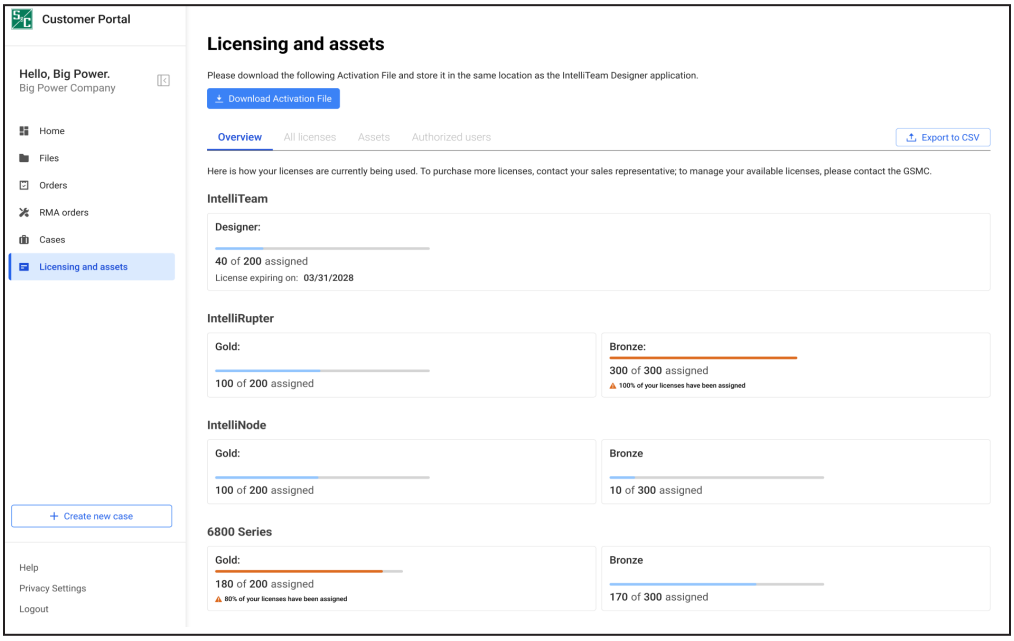


Figure 3. The Licensing and Assets menu.

STEP 4. Select the **Authorized Users** tab to view a list of the computers registered to the account. See. Look for the designation of "INTELLILINK REMOTE" next to the computer's MAC address. See Figure 4.

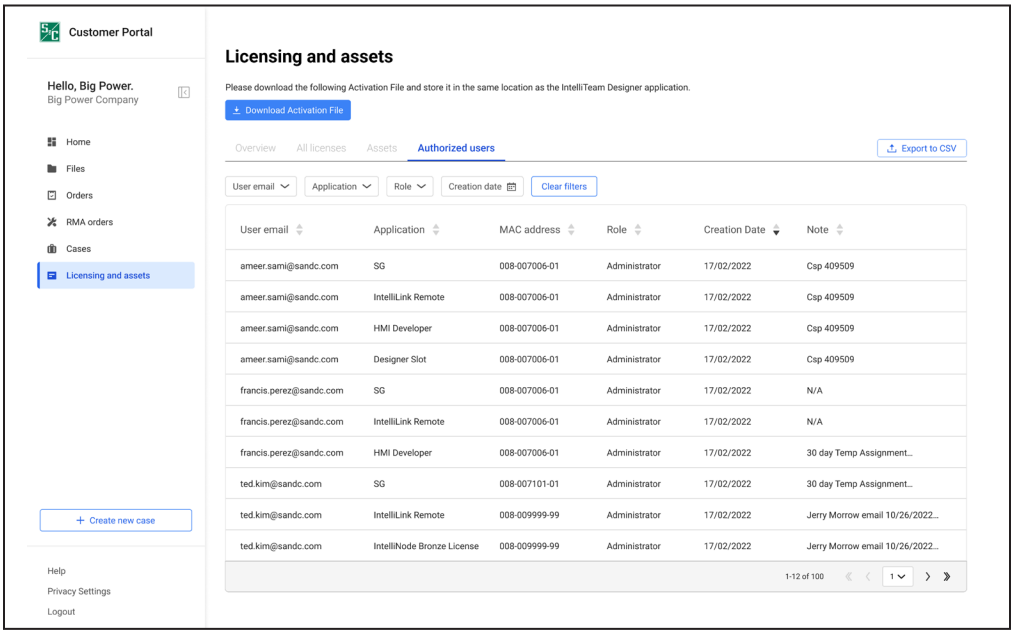


Figure 4. The *Authorized Users* tab.

STEP 5. Log in, download, and save the license activation file: **ActivationFile.xml** as directed in the "Installing a License Activation File" section, then follow the installation steps.

IntelliLink Setup Software can be used with IntelliRupter fault interrupters, 6800 Series Automatic Switch Controls, or IntelliNode™ Interface modules if the license activation file has been saved.

Installing a License Activation File

Activate IntelliLink Setup Software for Microsoft® Windows® 10 or 11 on the computer:

Save the activation file provided by customer support in the folder:

C:\Users\Public\Public Documents\S&C Electric

This directory supports multiple users logging remotely into a Microsoft® Windows® server.

Note: IntelliTeam® Designer software requires an account to have at least one asset registered with an IntelliTeam Designer slot. See S&C Instruction Sheet 1044-570, "IntelliTeam® Designer: *User's Guide*" for more information about how to install and activate IntelliTeam Designer.

IntelliRupter® Fault Interrupter Software Installer

Follow these steps to download the IntelliRupter fault interrupter software installer:

STEP 1. Go to the S&C Customer Portal and open the *Files* screen.

STEP 2. Download the IntelliRupter fault interrupter software installer program. Save the installer to the computer desktop.

Note: Administrative privilege is required to install IntelliRupter fault interrupter software.

To install the IntelliRupter fault interrupter software on a computer:

STEP 1. Click on the downloaded **IRInstaller.x.x.x.x.exe** file, and it will self-extract to start the installation process.

STEP 2. The *IntelliRupter Software Installer* screen will appear, as shown in Figure 5.

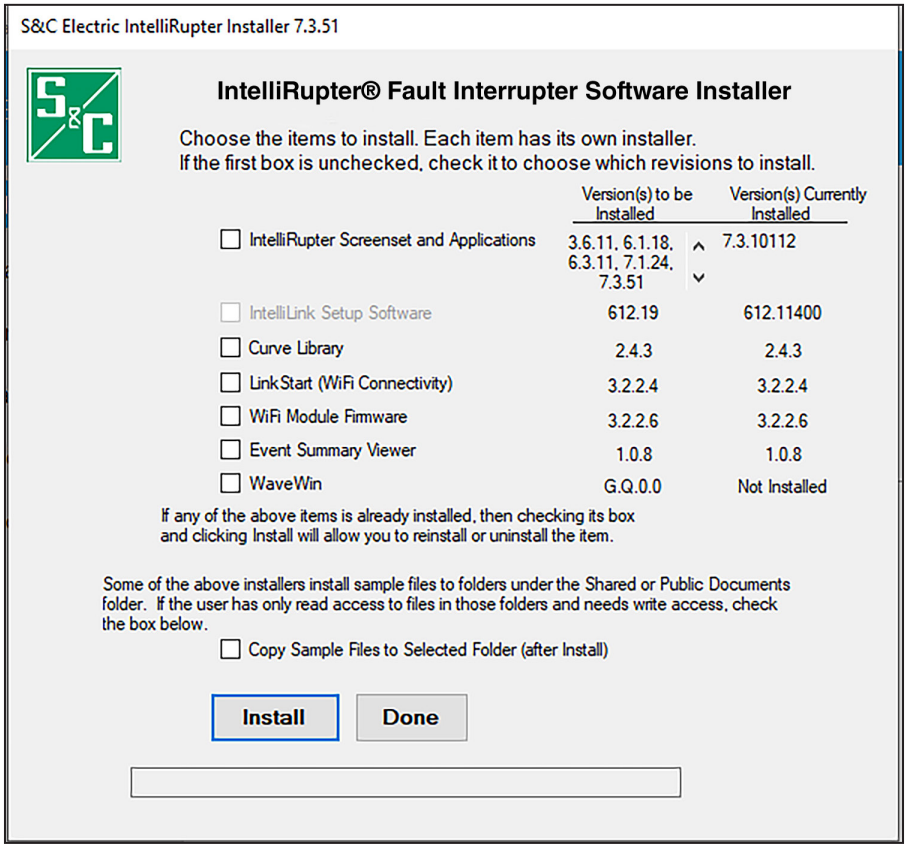


Figure 5. The *IntelliRupter fault interrupter Software Installer* screen.

STEP 3. The software installer will guide the user through the installation process.

STEP 4. Select these updates:

- IntelliRupter Screenset and Applications
- IntelliLink Setup Software
- Curve Library
- LinkStart (Wi-Fi connectivity)
- Event Summary Viewer
- WaveWin
- Copy Sample Files to Selected Folder (after install)

STEP 5. When checking the IntelliRupter Screenset and Applications check box, the Choose Revisions to Install dialog box will open and provide a check box for each available screenset that is not already installed on the computer. Check the revisions to install and click on the **OK** button. See Figure 6.

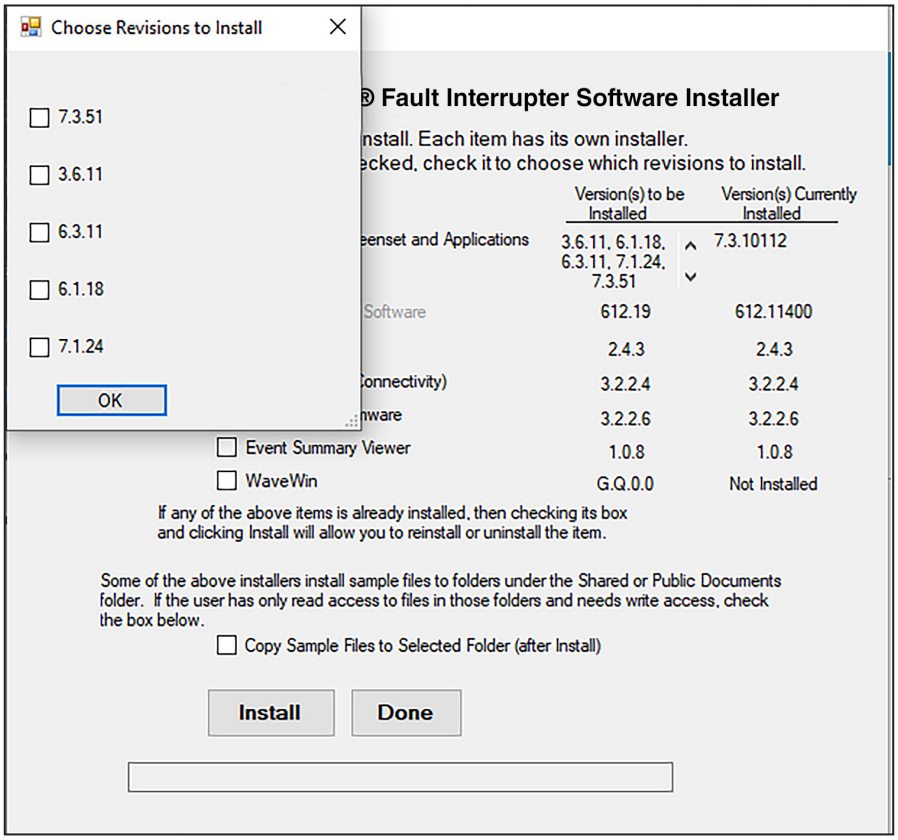


Figure 6. The Choose Revisions to Install dialog box for the IntelliRupter fault interrupter screenset.

STEP 6. If the utility operates any other S&C controls, check the IntelliLink Setup Software for Other Products check box, and this version of IntelliLink Setup Software will also be configured to communicate with S&C controls other than the IntelliRupter fault interrupter.

STEP 7. Several of the installers install sample files to folders under the Shared Documents folder. To move those sample files to another location, select the last check box labeled Copy Sample Files to Selected Folder (after Install). If this option is selected, a dialog box will open that allows selecting the location and/or creating a new folder for the sample files after all of the selected components have been installed.

Note: The Version Currently Installed column will show "Not Installed" the first time the software is installed in an IntelliRupter fault interrupter control module.

Note: Each checked box signifies a different software component that will be installed separately, and each component will have its own installer.

STEP 8. After verifying the requirements have been met, click on the **Install** button.

STEP 9. A dialog box displays the next component to be installed and its version number. Click on the **Next** button to continue. See Figure 7.

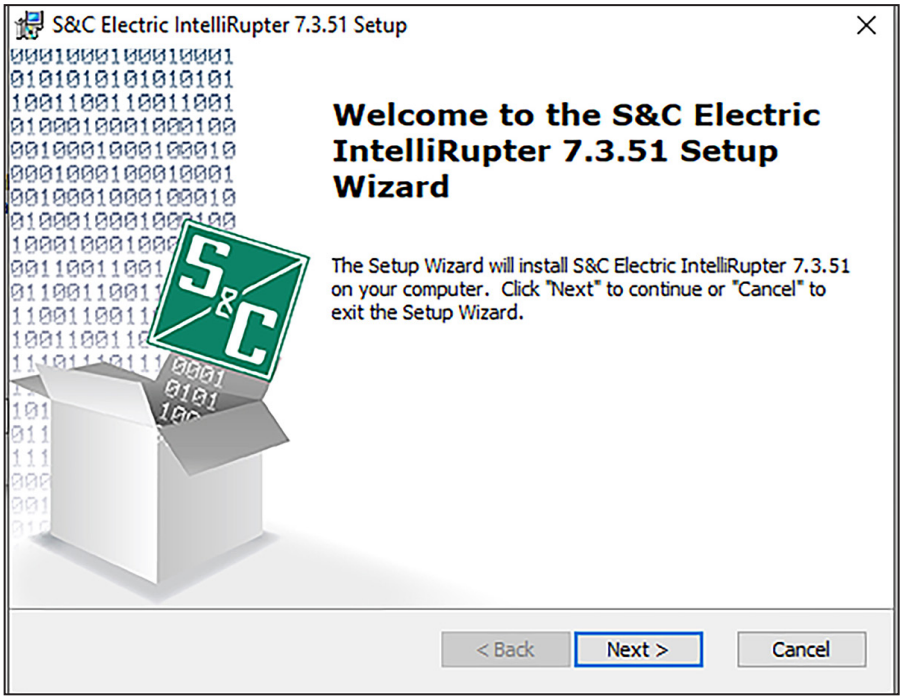


Figure 7. The first dialog box of the IntelliRupter fault interrupter Setup Wizard.

STEP 10. Click on the **Next** button to proceed, and then click on the **Install** button on the screen that automatically opens.

STEP 11. When "Installation Complete" is displayed, that component has been installed. Click on the **Finish** button, and the installer for the next component will start. Follow the screen prompts to install each component. Depending on the options selected, some installer screens may look different from what is shown in Figure 8.

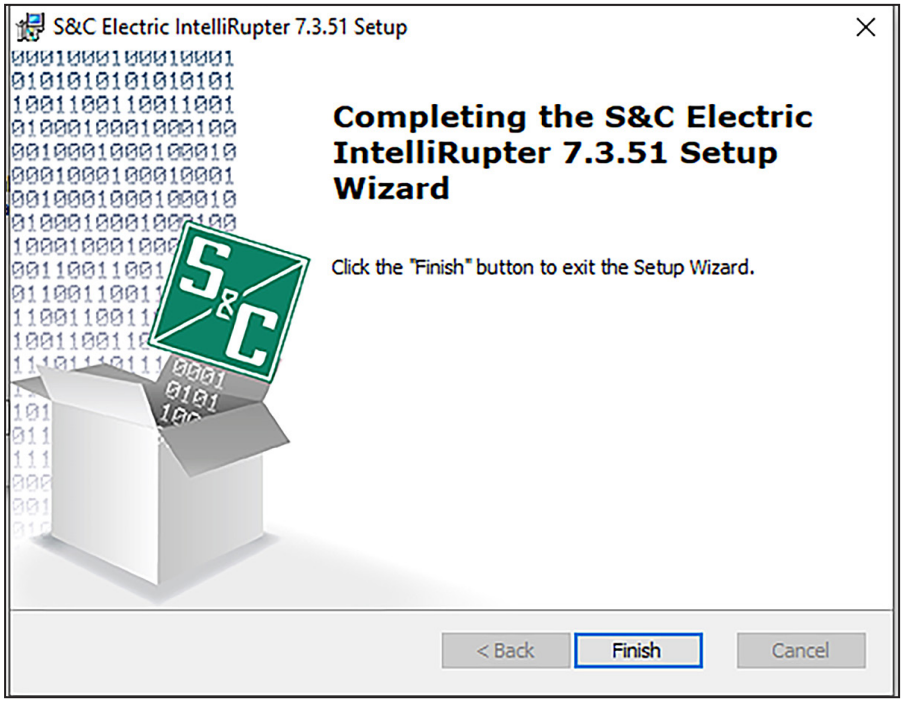


Figure 8. Installation complete. Click on the Finish button to run the next installer.

STEP 12. When installation is complete for all selected components, the IntelliRupter Software Installer dialog box will open and show the revision number of each installed software component in the right-hand column. See Figure 9. Either click the **Install** button or **Done** button.

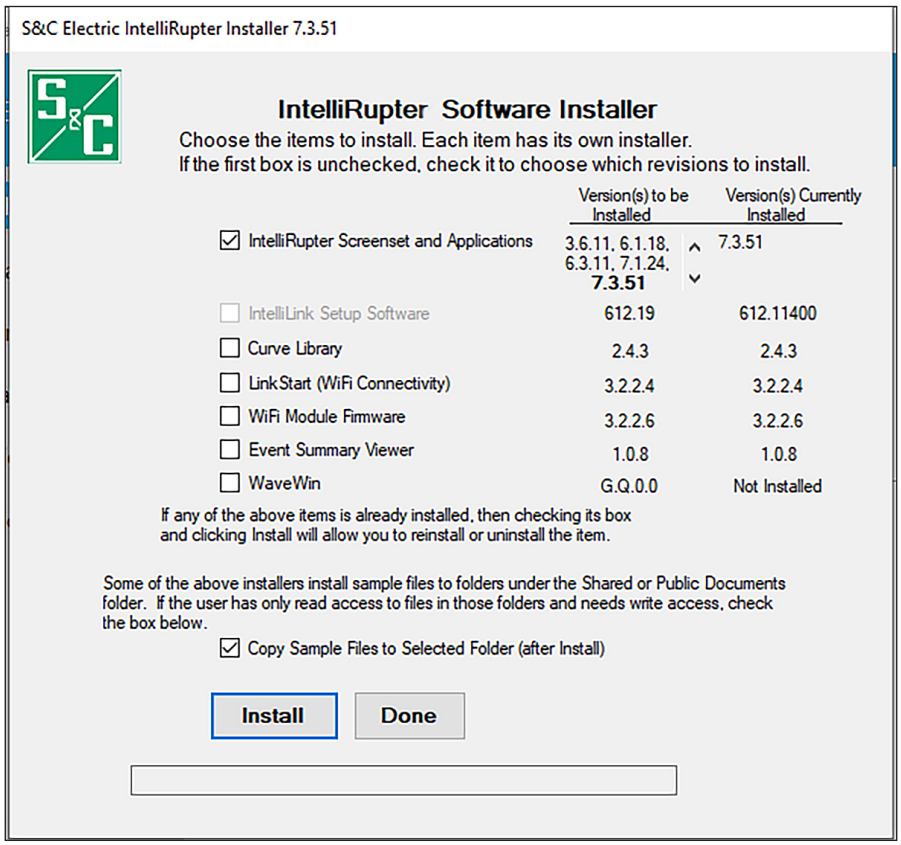


Figure 9. Installed IntelliRupter fault interrupter software revisions are shown when installation is complete.

STEP 13. When the Copy Sample Files to Selected Folder (after clicking the **Install** button) check box is selected before clicking the **Install** button, a dialog box opens to allow the user to choose the location of the sample files. When selecting the check box, choose the location of the files by either selecting a pre-existing location or create a new folder and name it, as shown in Figure 10 on page 15 through Figure 13 on page 16. Otherwise, click on the **Done** button on the IntelliRupter Software Installer dialog box to close the installer, as seen in Figure 9.



Figure 10. Dialog box to select a sample file location.

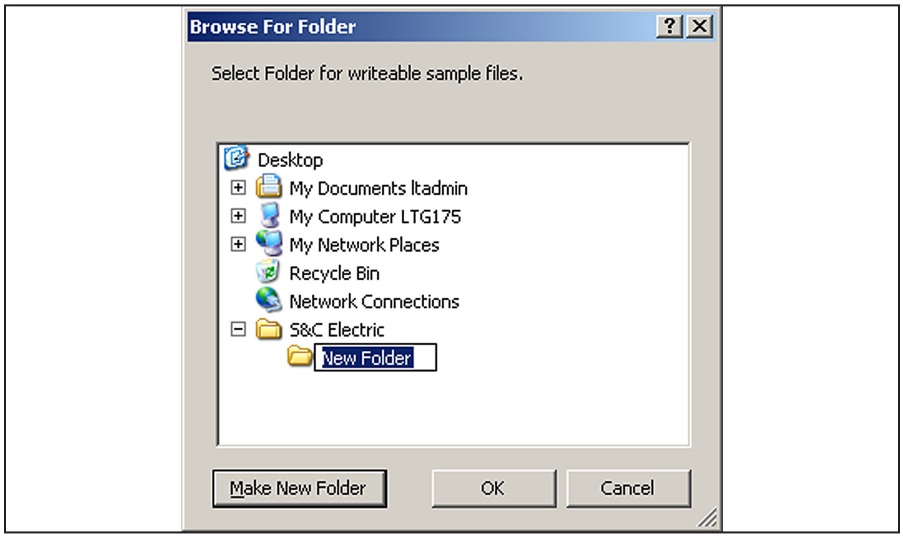


Figure 11. Create a new sample file folder in the S&C Electric folder.

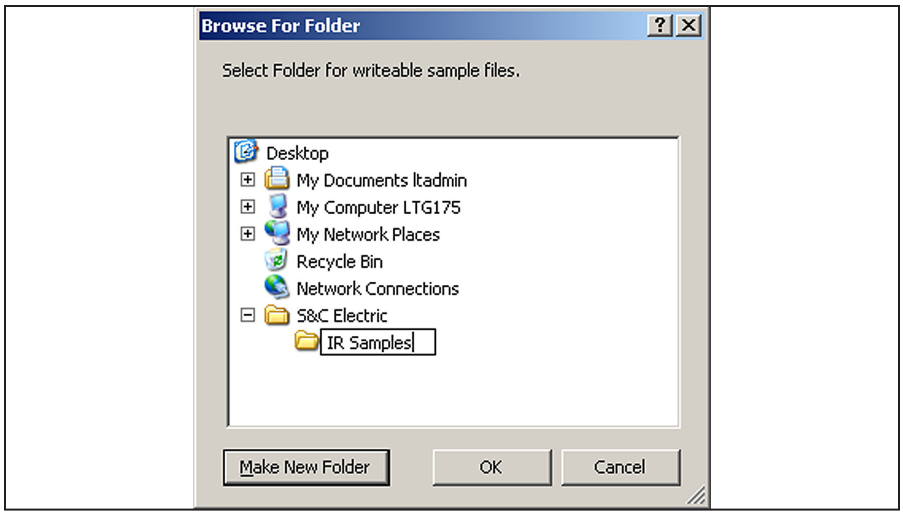


Figure 12. As an example, name the new sample file folder "IR Samples," and click on the OK button.



Figure 13. This dialog box is displayed when the sample files have been installed.

STEP 14. The installer has created an S&C Electric folder on the desktop. This folder contains shortcuts to some of the installed components.

STEP 15. Click on the **OK** button to close the installer, as seen in Figure 13.

NOTICE

Some laptop computers may have a Wi-Fi adapter power setting set too low for LinkStart software to operate, resulting in the inability to connect to an IntelliRupter fault interrupter. For Microsoft® Windows® 10, Wi-Fi power settings are found in the Control Panel. To increase the Wi-Fi power setting:

1. Go to the **Control Panel>Power Options** setting.
2. Click on the **Change Plan Settings** option for the present plan.
3. Click on the **Change Advanced Power Settings** option.
4. Go to the **Wireless Adapter Settings>Power Saving Mode>On battery** setting.
5. Change the setting to either “Low Power Saving” or “Maximum Performance.”
6. Click on the **OK** button, and then click on the **Save** button to save the settings.
7. A reboot may be required to engage the new configuration.

The Wi-Fi adapter may have a vendor-supplied option to set the power, and many Intel adapter drivers provide this. Open the Wi-Fi adapter Properties dialog box, and on the **General** tab click on the **Configure** button. Browse the tabs to determine whether there is a power setting (often found in the **Advanced** tab). There may be additional settings, such as **Transmit Power**, that also can affect performance.

NOTICE

Port Requirements:

- IntelliLink Setup Software has a valid port range of 20000-20999.
- LinkStart uses the following ports:
  - TCP Remote: 8828
  - UDP Remote: 9797

These two ports can be modified. To reconfigure either port, the port number must be updated in both LinkStart and in the R3 Communication Module. To update a port in LinkStart, select the **Tools** and **TCP/IP Port Options** menu options. Then, modify the value.

To update a port in the R3 Communication Module, open LinkStart and select the **Tools** and **WiFi Administration** menu options. This will open the R3 Communication Module web UI *Login* screen. Log in to the R3 Communication Module, click on the **Interfaces** menu option, and update the port.

Follow these steps to establish a computer connection to the control:

STEP 1. Click on the Microsoft® Windows® **Start** button and click on the **All Programs** menu item. Open the S&C Electric folder and click on the **IntelliLink** icon. See Figure 14.

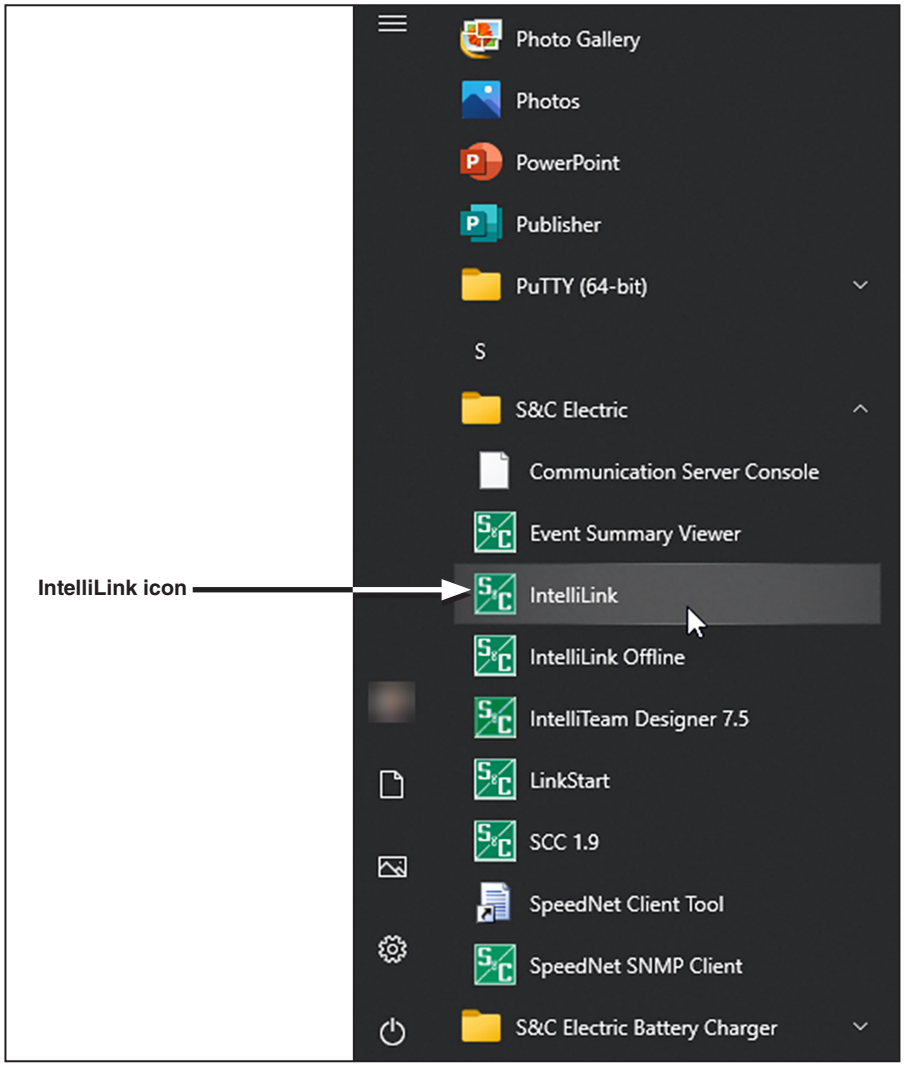


Figure 14. The Microsoft® Windows® Start menu.

STEP 2. Select the **Local Connection** option in the S&C IntelliShell–Select Connection Mode dialog box. See Figure 15.

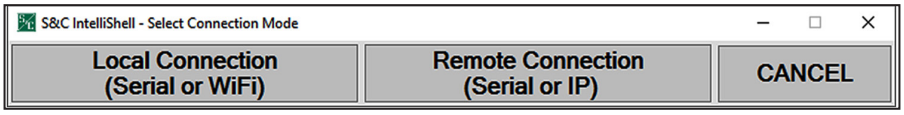


Figure 15. The S&C IntelliShell—Select Connection Mode dialog box.

STEP 3. Select the **IntelliRupter Pulsecloser** option and click on the **Serial** button to make a serial connection, or click on the **Wi-Fi** button to make a Wi-Fi connection. See Figure 16.

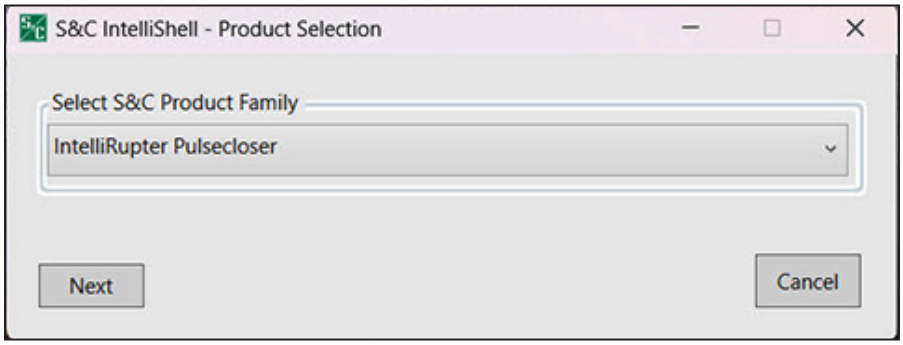


Figure 16. The S&C IntelliShell—Product Selection dialog box.

STEP 4. When the **Serial** button is selected:

(a) Set the **Comm Port** setpoint appropriate for the computer.

(b) Set the **Timeout(ms)** setpoint to 1000 or longer.

(c) Set the **Baud Rate** setpoint. The default baud rate for an IntelliLink Setup Software connection is 9600. If the baud rate setting was changed and is unknown, use the **Auto** setting, and the IntelliLink Setup Software will try the available baud rates to attempt to make a connection.

(d) Click on the **IntelliLink** button. See the "Firmware Update" section on page 24 when a firmware update is required. See Figure 17.

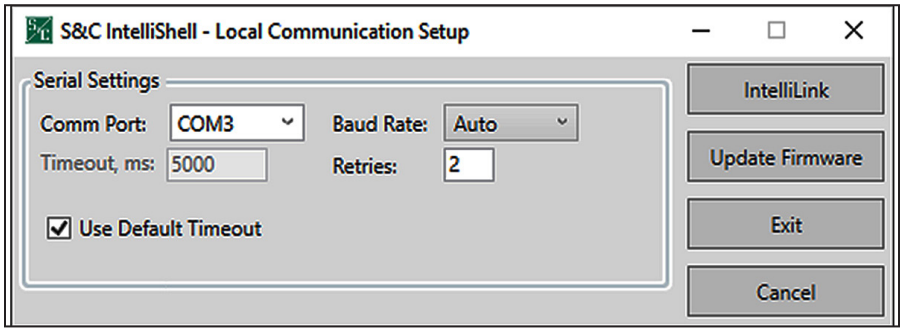


Figure 17. The Communications Parameters entries in the S&C Electric IntelliShell—Local Communication Setup dialog box.

STEP 5. When the **Wi-Fi** button is selected:

(a) Use the **Prev** and **Next** buttons to select the control serial number, or enter the control serial number in the **Serial Number** field.

Note: The control serial number is displayed on the *Setup>General>Site-Related* screen in the **IntelliRupter Base Serial Number** field.

(b) Click on the **Connect** button. See Figure 18.

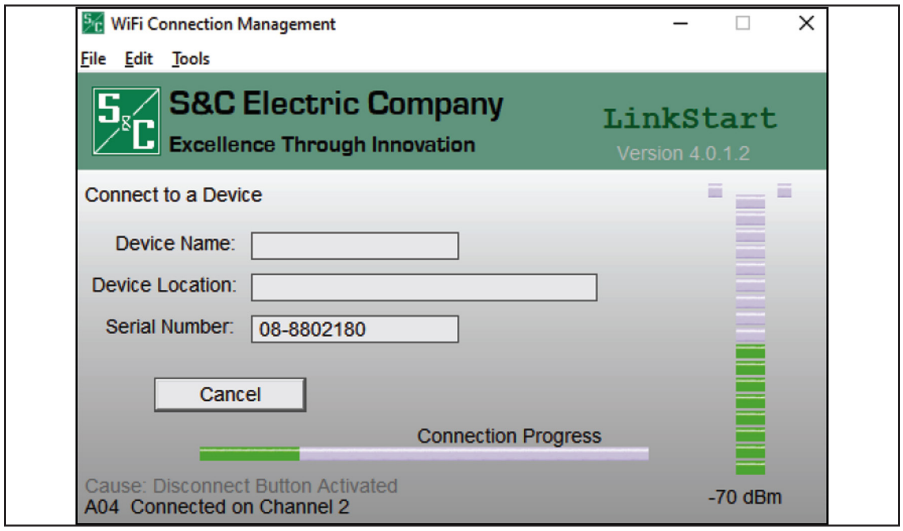


Figure 18. The Wi-Fi Connection Management dialog box.

STEP 6. When connected, click on the **IntelliLink** option to open the IntelliLink Setup Software. For additional information on how to connect via Wi-Fi, see S&C Instruction Sheet 766-528 for the SDA-4554R3 Wi-Fi module and S&C Instruction Sheet 766-522 for older Wi-Fi modules.

STEP 7. The S&C IntelliLink Loader dialog box will open followed by the S&C IntelliLink Log in dialog box. See Figure 19 and Figure 20. Enter the User Name and Password, and click on the **OK** button. Contact the Global Support and Monitoring Center at 1-888-762-1100 when assistance with these entries is needed.

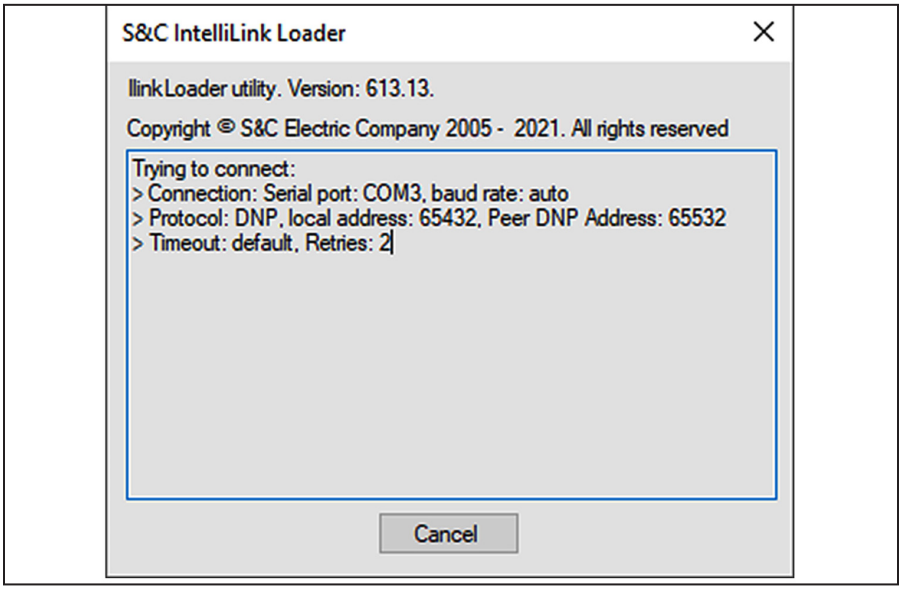


Figure 19. The S&C IntelliLink Loader dialog box.

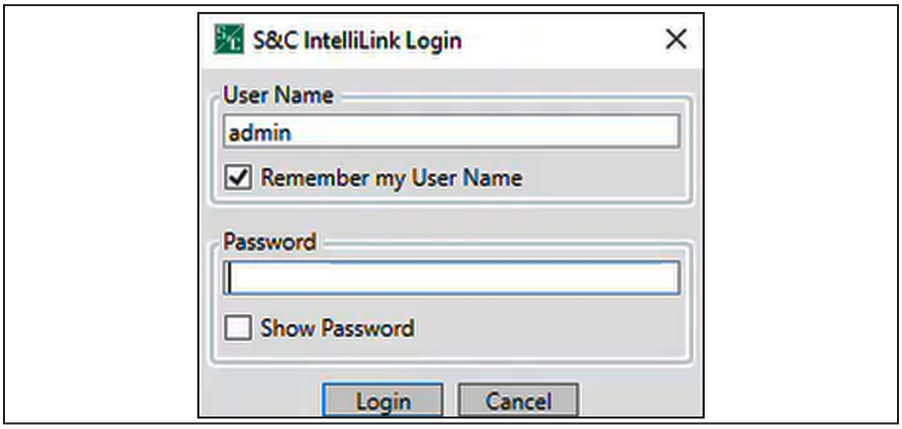


Figure 20. The User Name and Password entries in the S&C IntelliLink Login.

STEP 8. If IntelliLink Setup Software is unable to connect, the S&C IntelliLink Loader dialog box will display "Could not connect to device." Check the connection and settings.

NOTICE

With software versions 7.3.100 and later, the default passwords for all user accounts, including the Admin user, must be changed before the IntelliLink Setup Software can connect to and configure a control. See S&C Instruction Sheet 766-530, "IntelliRupter® PulseCloser® Fault Interrupter: *Protection and Communication Setup,*" for more information.

NOTICE

Wi-Fi Status and Transfer Wi-Fi configurations became no longer valid for Wi-Fi options shipped on or after January 1, 2021.

STEP 9. When the login has completed, the *Operation* screen appears. See Figure 21.

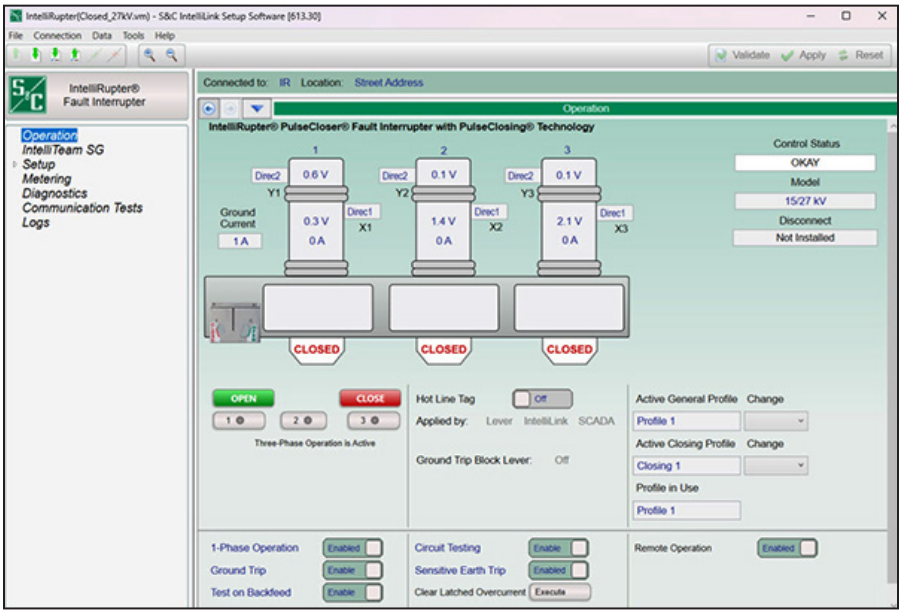


Figure 21. The IntelliRupter fault interrupter *Operation* screen.

Save Settings

Complete the following steps to save the control configuration:

STEP 1. On the menu bar, click on the **File** menu item and click on the **Save Setpoints…** option.

STEP 2. In the Save Setpoints dialog box, click on the **Select All** button followed by the … button. See Figure 22.

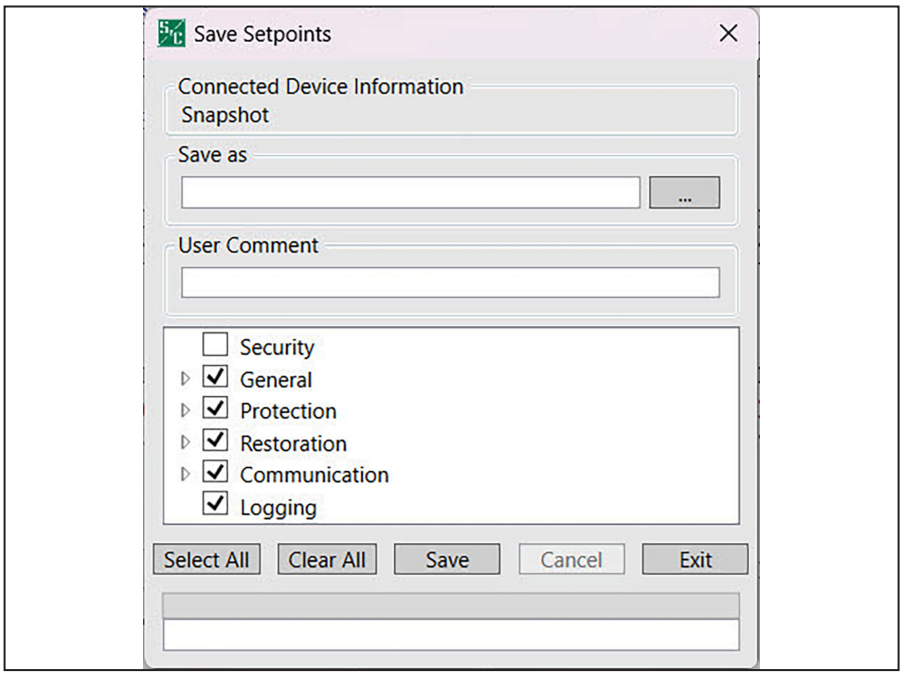


Figure 22. The Save Setpoints dialog box.

STEP 3. The Microsoft® Windows® *File Explorer* screen will open. Browse to the desired storage location, enter a name for the settings file to be saved, and click on the **Save** button in the dialog box.

NOTICE

Updating firmware can result in loss of settings. Always save the settings and a snapshot file before starting a firmware update.

STEP 4. To save a snapshot (a copy of the control memory, including logs), click on the **File** menu item in the menu bar and click on the **Save Memory Snapshot** option.

IntelliRupter Fault Interrupter Settings File Update

If the settings file uses intelligent fuse saving, S&C recommends the intelligent fuse saving TCC curves be re-loaded from the newly installed Curve Library 2.3. All intelligent fuse saving TCC curves have been recalculated to improve coordination up to higher current levels, and they work universally with all fuse manufacturers.

Firmware Update

NOTICE

Before beginning a firmware update, verify both the new firmware version and the firmware version existing in the control have been properly installed on the computer performing the upgrade. If the existing firmware is missing, the update will not execute properly.

NOTICE

Two files with the same firmware version (e.g., 7.5.23 and 7.5.36) must not be installed on the computer during a firmware upgrade or downgrade.

NOTICE

Upgrading firmware can result in loss of settings. Always save the settings and save a snapshot file before upgrading firmware.

NOTICE

A remote or local update puts a control into the **Prohibit Restoration** state. When updating controls in an IntelliTeam SG system, use the following procedure:

1. Update the control software. This can be done with IntelliLink Setup Software or the IntelliLink Setup Software **Remote** option.
2. After the update, verify all settings were preserved.
3. Use the IntelliTeam Designer version compatible with the firmware version the control is running to re-push IntelliTeam SG system configurations to all FeederNets that have updated devices. See S&C Instruction Sheet 1044-570 for the firmware compatibility chart.
4. If a device is an open point, push the configuration to both FeederNets for that device.
5. Verify the team configurations.
6. For IntelliNode modules only, set the **External Device Data Updated** setting to the **Running** mode.
7. Enable **Automatic Restoration** mode on all updated controls.

Complete the following steps to update the firmware:

STEP 1. Start the IntelliLink Setup Software and select between a local or remote connection. See Figure 23.

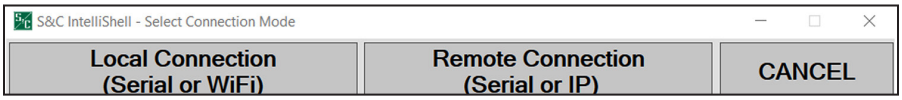


Figure 23. The S&C IntelliShell - Select Connection Mode dialog box.

STEP 2. Select the IntelliRupter Pulsecloser option to update an IntelliRupter fault interrupter control. Click on either the Serial or Wi-Fi button based on the communication method used to connect to the control. See Figure 24.

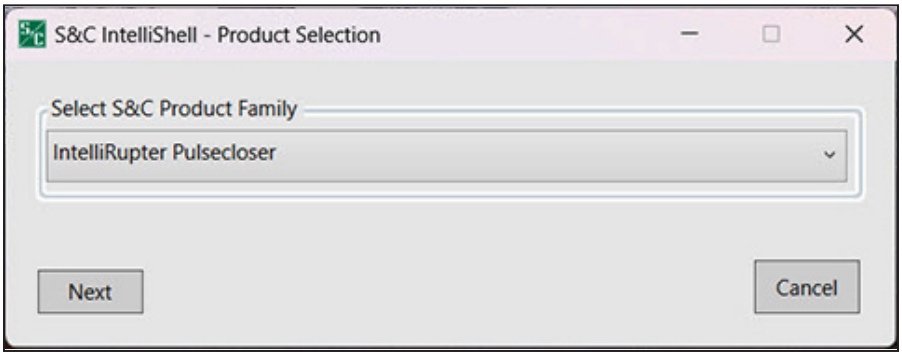


Figure 24. The S&C IntelliShell - Product Selection dialog box.

STEP 3. When the **Serial** button is selected:

(a) Set the **Comm Port** setpoint appropriate for the computer.

(b) Set the **Timeout(ms)** setpoint to 1000 or longer.

(c) Set the Baud Rate setpoint. The default baud rate for an IntelliLink Setup Software connection is 9600. If the baud rate setting was changed and is unknown, use the Auto setting, and the IntelliLink Setup Software will try the available baud rates to attempt to make a connection.

(d) Click on the **Update Firmware** button. See Figure 25.

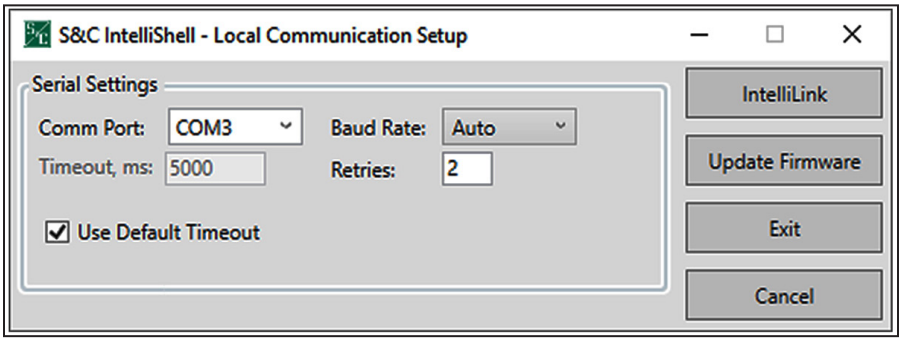


Figure 25. The S&C IntelliShell—Local Communication Setup dialog box.

STEP 4. For Wi-Fi connections, LinkStart software starts and the device serial number must be entered in the Serial Number field. Then, click on the Connect button. See Figure 26.

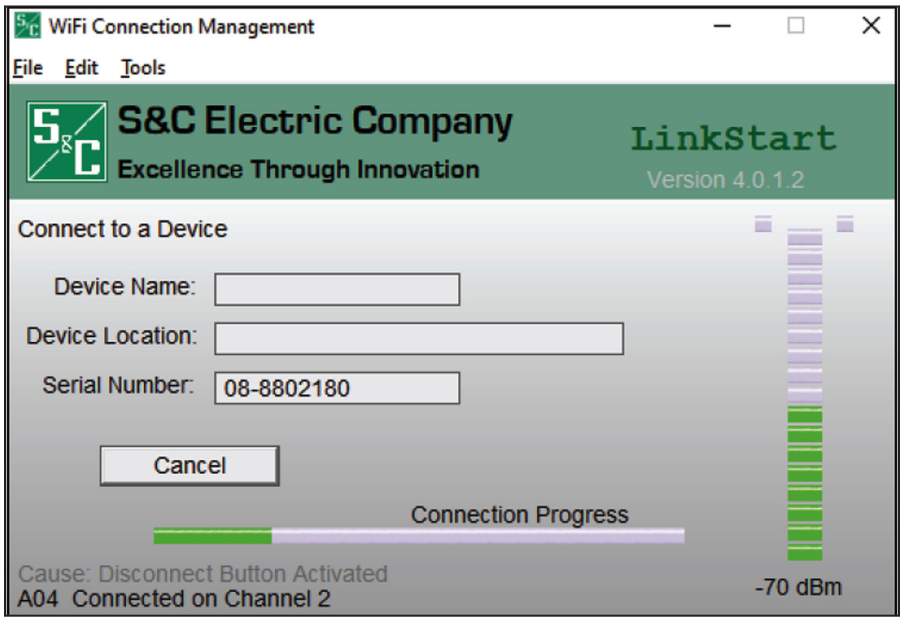


Figure 26. The Wi-Fi connection Management dialog box.

STEP 5. When the connection is successful, click on the **Firmware Update** button. See Figure 27.

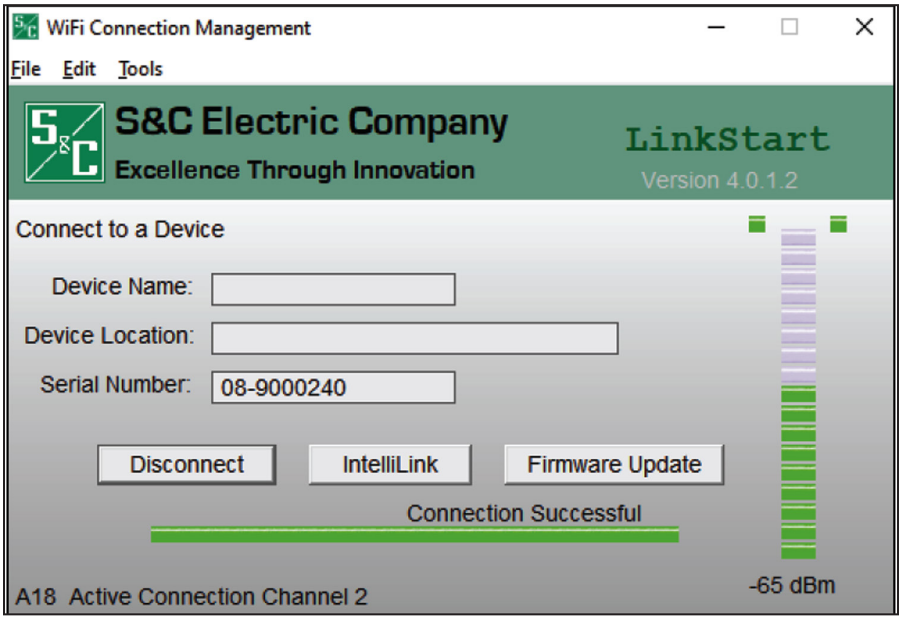


Figure 27. The connection successfully completed indication.

STEP 6. In the **Tools** menu on the menu bar, click on the **Firmware Update** menu option. See Figure 28.

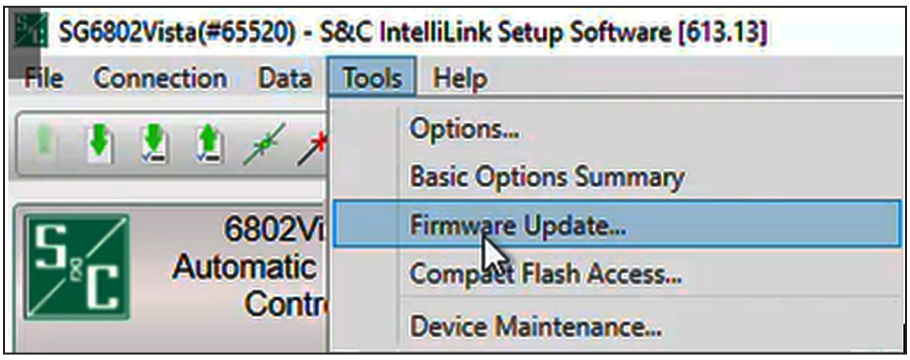


Figure 28. The Tools>Firmware Update menu option.

STEP 7. When the firmware update Choose Revision dialog box appears, select the firmware version to upgrade the control to. See Figure 29.

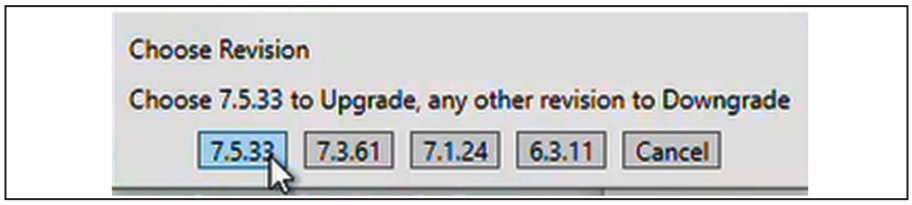


Figure 29. The Choose Revision dialog box for selecting the firmware version.

Note: This dialog box only appears if the control is already on the version the upgrade is being performed on. Otherwise, it will not appear, and the upgrade script will upgrade the control to the latest firmware downloaded on the computer where the upgrade is being performed.

STEP 8. The Firmware Update dialog box will prompt for selection of the upgrade method. Click on one of the options to proceed. See Figure 30 for the SDA-4540R2 control options and Figure 31 on page 29 for the SDA-4540R3 options.

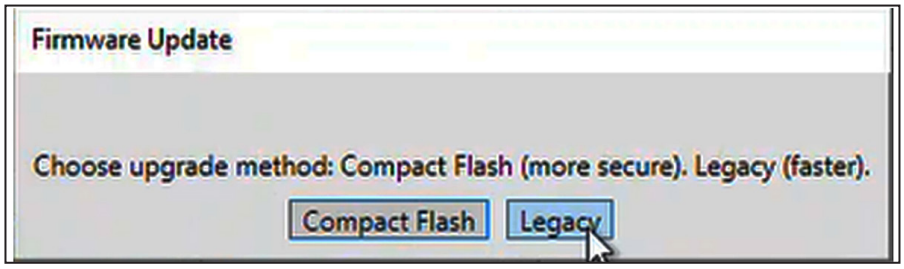


Figure 30. The Firmware Update dialog box upgrade method choice for the SDA-4540R2 control.

Note: This dialog box only appears when upgrading from software version 7.3.x to 7.5.x or later for the SDA-4540R2 control.

Note: For the SDA-4540R2 control, the **Compact Flash** option is more robust because it downloads the firmware image to the compact flash memory before applying the firmware update. This should be used when updating remotely because it compensates for communication disruptions but takes longer to perform. The **Legacy** option is less robust because it sends the firmware file to the control and applies the update without staging it in the compact flash memory. It should only be used with a local connection to the control.

Note: For the SDA-4540R3 control there are two options to perform firmware updates. The **Differences Only** option will look at the files on the control and only update those that require updates. The **All Components** option will update all files whether they are on the latest version or not. See Figure 31.

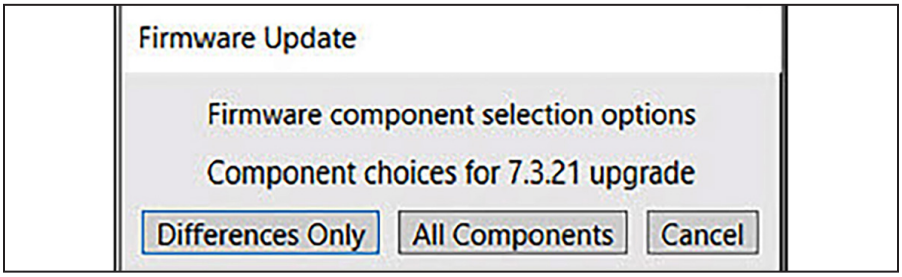


Figure 31. The Firmware Update dialog box upgrade method choice for the SDA-4540R3 control.

STEP 9. When any of the software components installed in the control have the same or later version number as the versions being downloaded, a message similar to that shown in the Upgrade Choice dialog box will open. S&C recommends clicking on the **Yes** button unless instructed otherwise by an S&C representative. See Figure 32.

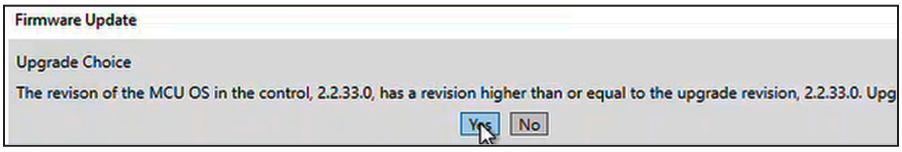


Figure 32. The MCU OS revision dialog box.

STEP 10. In the Firmware Update dialog box, click on the **Yes** button. See Figure 33. Selecting "No" will end the **Update** process.

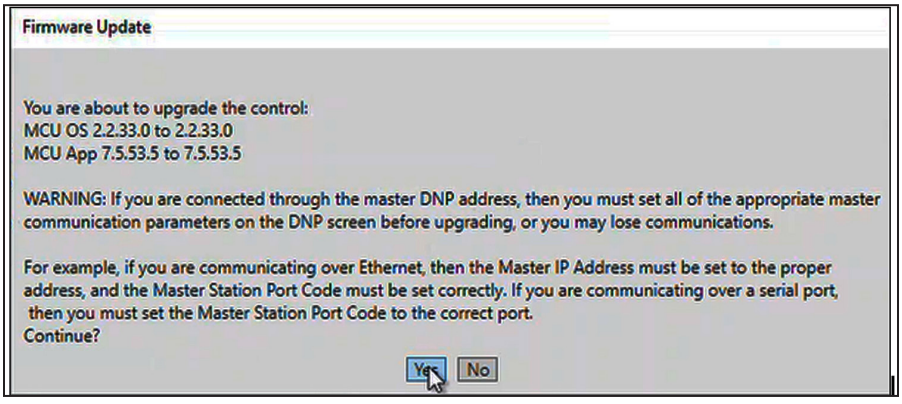


Figure 33. The Firmware Update dialog box.

STEP 11. When upgrading the firmware from 7.3.x to 7.5.x and the Firmware Update dialog box prompts to retain passwords, click on one of the options to proceed. See Figure 34.



Figure 34. The Firmware Update dialog box requesting password retention.

Note: This dialog box only appears when upgrading from software version 7.3.x to 7.5.x. When upgrading from any release to version 7.6.x or later, the existing passwords will be retained. If the passwords are still at the default passwords, then the Admin user will be required to change them to one that meets the password complexity requirements upon initial login after the firmware update is completed.

Note: When "Yes" is selected, all user passwords are retained during the upgrade. However, if the passwords do not meet the complexity requirements, the Admin user must change them at the initial login after an upgrade to meet the requirements. See Figure 35.

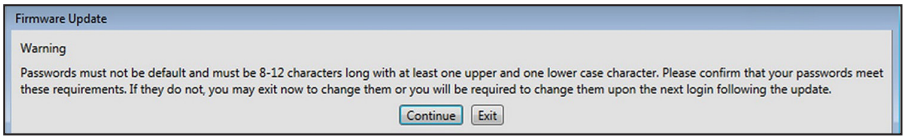


Figure 35. The Firmware Update dialog box requiring passwords that meet complexity requirements.

When "No" is selected, after the upgrade, all passwords will revert to the defaults. At initial login, all passwords must be changed to meet the password complexity requirements.

STEP 12. If the Windows PowerShell Credential dialog box appears, enter the User Name and Password, and click on the **OK** button. Contact the Global Support and Monitoring Center at 1-888-762-1100 if assistance is needed. See Figure 36.

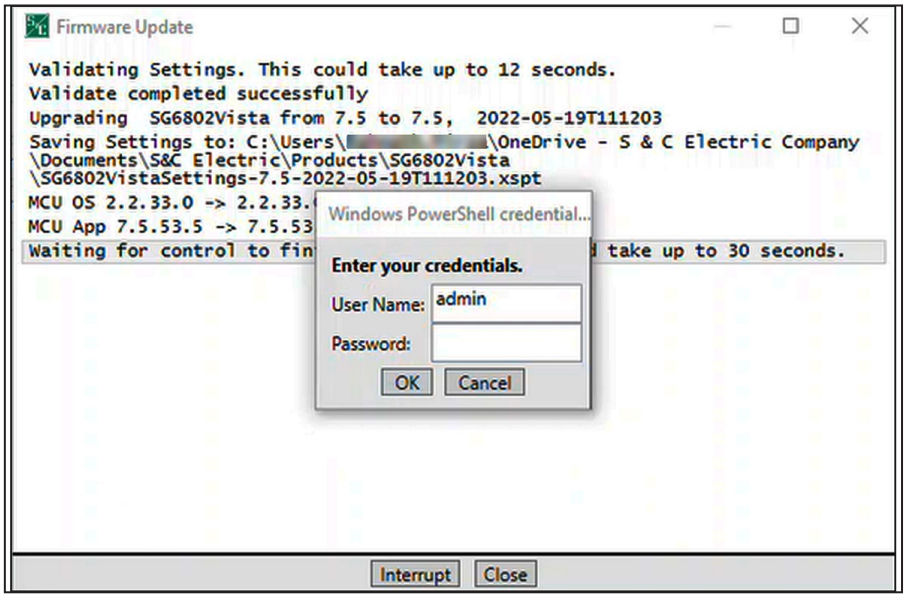


Figure 36. The Windows PowerShell Credential dialog box.

STEP 13. When "Script completed successfully" is indicated in the Firmware Update dialog box, click on the **Close** button. See Figure 37.

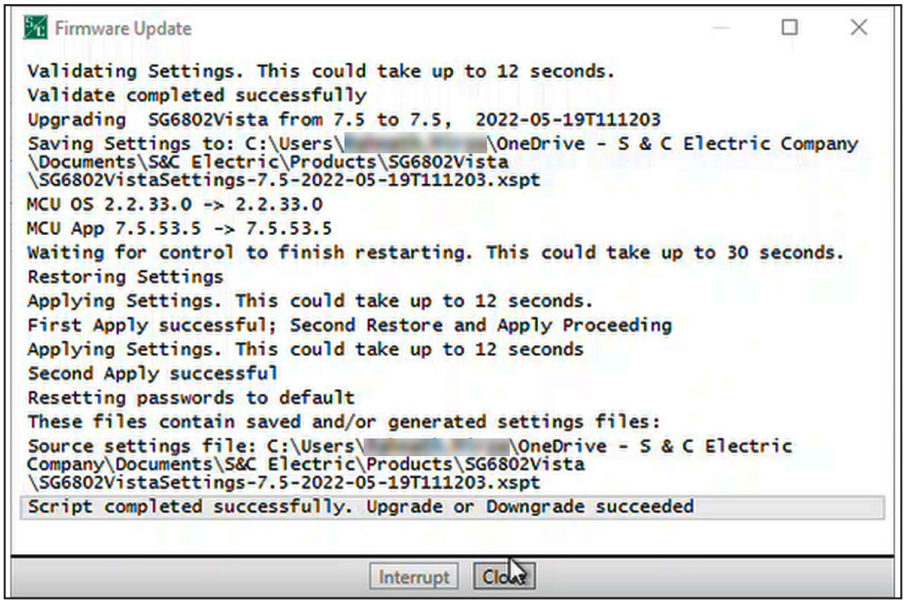


Figure 37. The Script completed successfully notice.

NOTICE

If power is disrupted during a firmware update using the **Compact Flash** option, **Cyclic Redundancy Check (CRC)** errors may occur and, if seen, the compact flash must be formatted before another update can be attempted using the **Compact Flash** option. Or at that point, the **Legacy** option can be used to perform the upgrade. See the "Memory Formatting" section in S&C Instruction Sheet 1032-570, "IntelliLink® Setup Software—Compact Flash Access: Operation."

In some cases, it may be necessary to revert to a previous version of IntelliRupter control firmware. Follow these steps to change to a previous version:

STEP 1. Choose the required firmware revision and obtain the software from the S&C Customer Portal. See the "Software Versions" section in S&C Instruction Sheet 766-530 for more information about the S&C Customer Portal.

STEP 2. Click on the **Start** button, and select "Control Panel." See Figure 38.

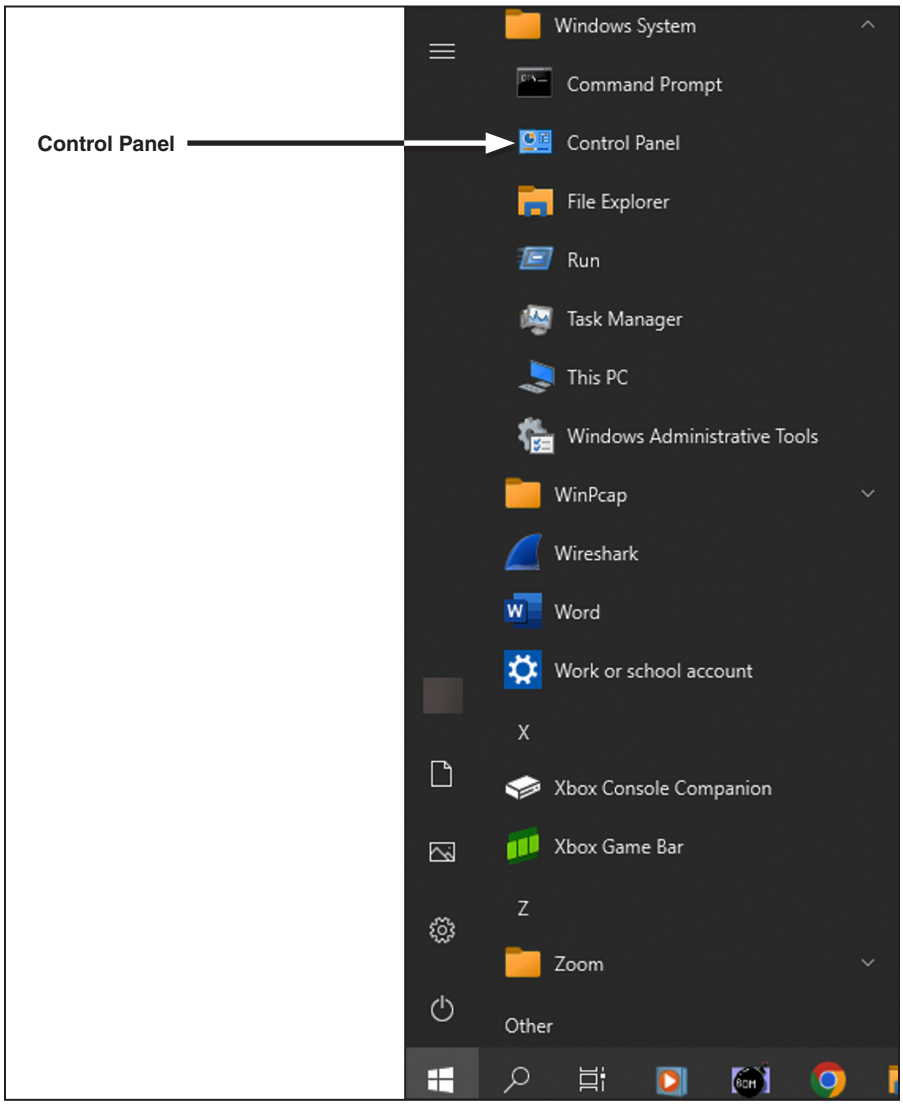


Figure 38. The Microsoft® Windows® Start Menu.

STEP 3. From the Control Panel dialog box, select "Programs." See Figure 39.

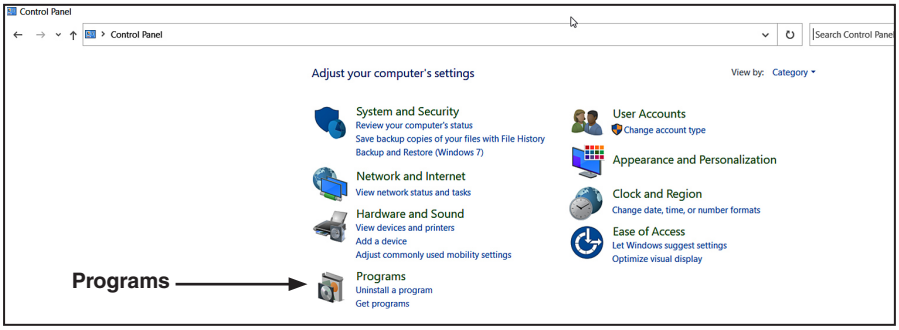


Figure 39. The Control Panel dialog box.

STEP 4. Uninstall all IntelliRupter control software versions later than the target version. If there are multiple revisions, work from the latest first to the earliest downgrade version last.

STEP 5. If any IntelliLink Setup Software is already installed, remove it by uninstalling it from the Microsoft® Windows® program with the **Uninstall** option. See Figure 40.

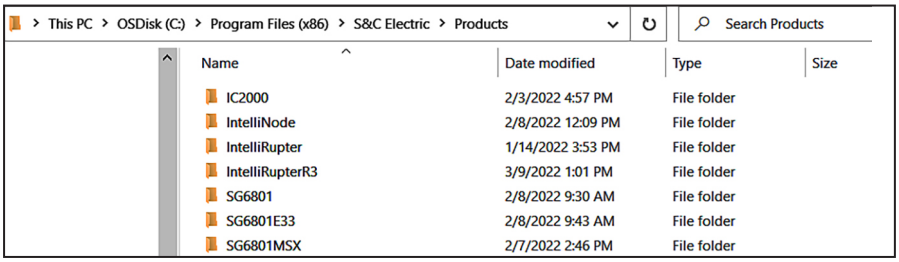


Figure 40. The selected program folder to be uploaded.

STEP 6. Open the Microsoft® Windows® *File Explorer* screen and navigate to the program folder **C:\Program Files (x86)\S&C Electric\Products\<product** folder downgrading to>\Firmware\Upgrades. See Figure 41. Delete any folders that have a version number later than the target downgrade version.

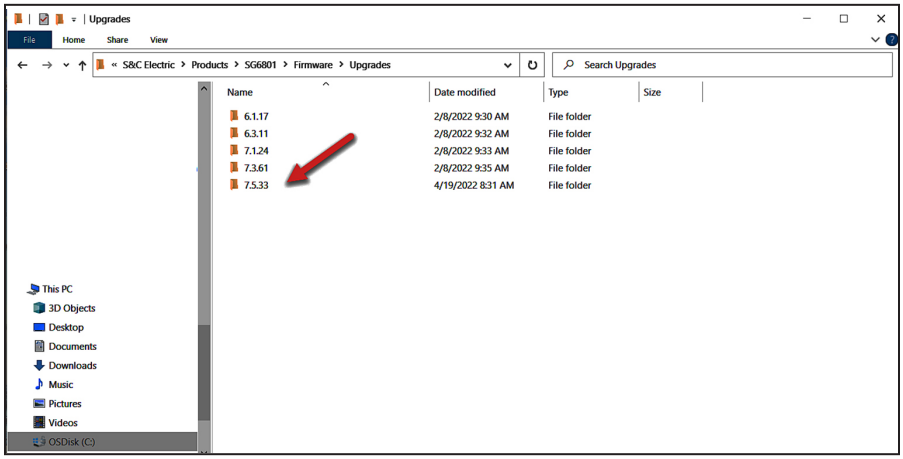


Figure 41. The C:\Program Files (x86)\S&C Electric\Products\<product folder>\ Firmware\Upgrades dialog box.

STEP 7. Run the installer for the target version. If the target downgrade version is already installed, select the **Repair** option when it is presented by the installer.

NOTICE

With software later than version 7.3.100, the default passwords for all user accounts, including the Admin account, must be changed before the IntelliLink Setup Software can connect to and configure a control. See S&C Instruction Sheet 766-530, "IntelliRupter® PulseCloser® Fault Interrupter: *Setup,*" for more information.

STEP 8. Start the IntelliLink Setup Software.

STEP 9. Set the **Timeout(ms)** setpoint to 1000 or longer.

STEP 10. Set the **Baud Rate** setpoint. The default baud rate for an IntelliLink Setup Software connection is 9600. If the baud rate setting was changed and is unknown, use the **Auto** setting, and the IntelliLink Setup Software will try the available baud rates to attempt to make a connection.

STEP 11. Click on the **Update Firmware** button. See Figure 42.

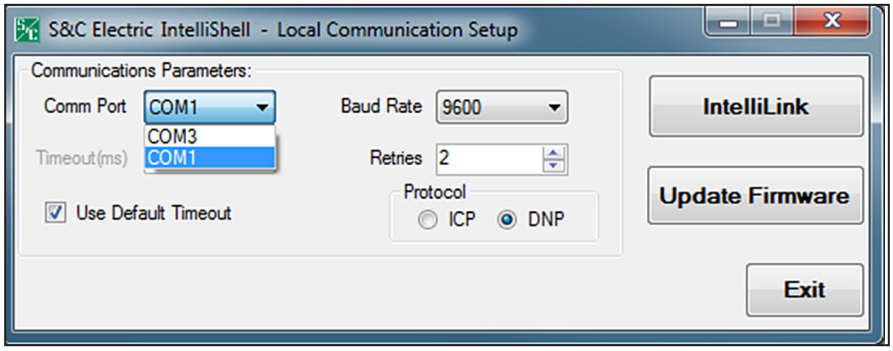


Figure 42. The S&C Electric IntelliShell—Local Communication Setup dialog box.

STEP 12. Enter the Admin password when prompted to enter credentials. The default password can be obtained by contacting the Global Support and Monitoring Center at 1-888-762-1100. If the default password has been changed, enter the user-configured password.

STEP 13. In the **Tools** menu on the menu bar, click on the **Firmware Update** menu item. See Figure 43.

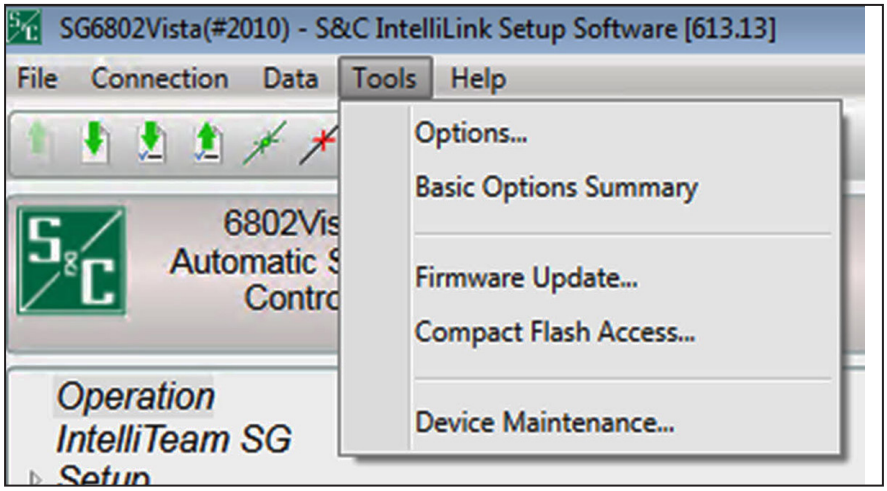


Figure 43. The Tools>Firmware Update menu option.

STEP 14. When the Firmware Update Choose Revision dialog box appears, select the desired firmware version. See Figure 44.

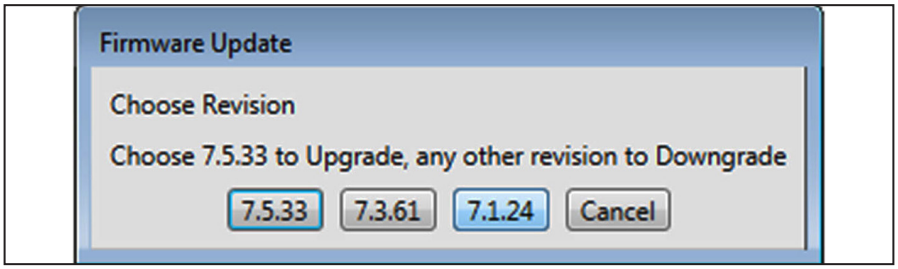


Figure 44. The Firmware Update Choose Revision dialog box for selecting the firmware version.

STEP 15. The Firmware Update dialog box will prompt for selection of the upgrade or downgrade method. Click on one of the options to proceed. See Figure 45 for the SDA-4540R2 control options and Figure 46 on page 38 for the SDA-4540R3 options.

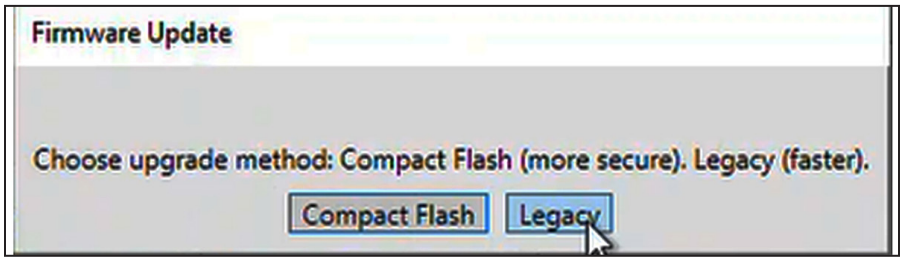


Figure 45. The Firmware Update dialog box for the SDA-4540R2 control.

Note: This dialog box only appears when downgrading from software version 7.5.x or later to another 7.5 release or a 7.3 release for the SDA-4540R2 control.

Note: For the SDA-4540R2 control, the **Compact Flash** option is more robust because it downloads the firmware image to the compact flash memory before applying the firmware update. This should be used when updating remotely because it compensates for communication disruptions but takes longer to perform. The **Legacy** option is less robust because it sends the firmware file to the control and applies the update without staging it in the compact flash memory. It should only be used with a local connection to the control.

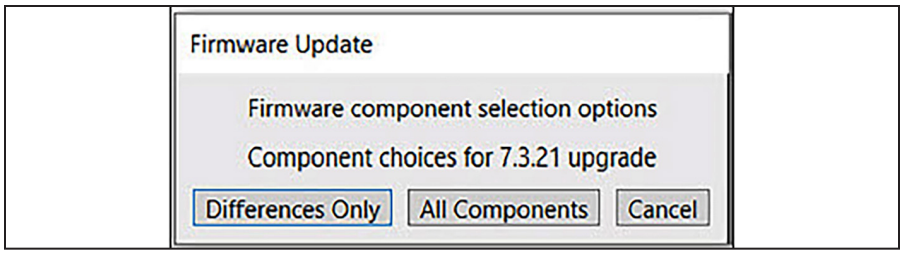


Figure 46. The Firmware Update dialog box upgrade method choice for the SDA-4540R3 control.

Note: The SDA-4540R3 control has two options to perform firmware updates, as shown in Figure 46. The **Differences Only** option will look at the files on the control and only update those that require updates. The **All Components** option will update all files whether they are on the latest version or not.

STEP 16. When any of the software components installed in the control have the same or later version number as the versions being downloaded, a message similar to that shown in the Upgrade Choice dialog box will appear. S&C recommends clicking on the **Yes** button unless instructed otherwise by an S&C representative. See Figure 47.

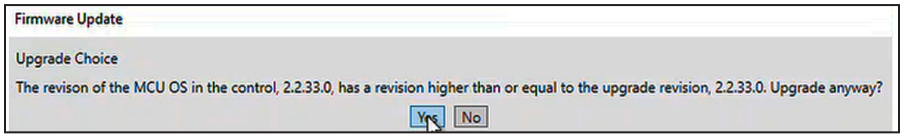


Figure 47. The Firmware Update dialog box for the SDA-4540R2 control.

STEP 17. In the Firmware Update dialog box, click on the **Yes** button. See Figure 48. Selecting "No" will end the **Downgrade** process.

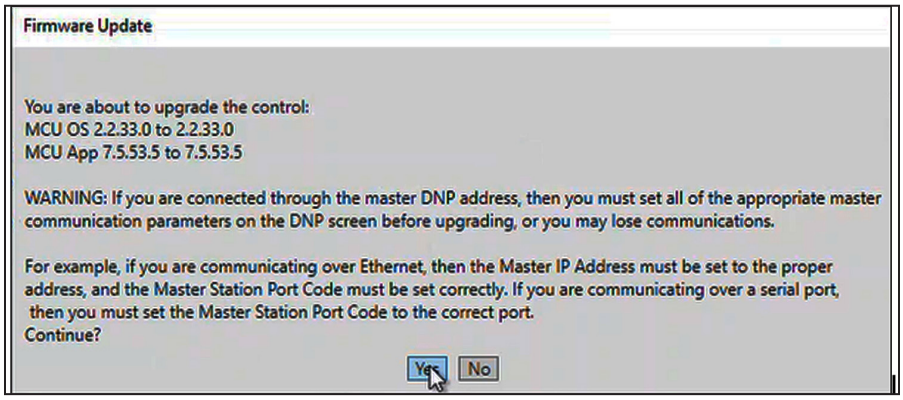


Figure 48. The Firmware Update dialog box.

STEP 18. When downgrading from a software version of 7.3.100 or later to a software release earlier than 7.3.100, a message will appear about the passwords being reverted to defaults during the downgrade process. Click on the **Yes** button to proceed with the downgrade. Choosing "No" will stop the downgrade process. See Figure 49.

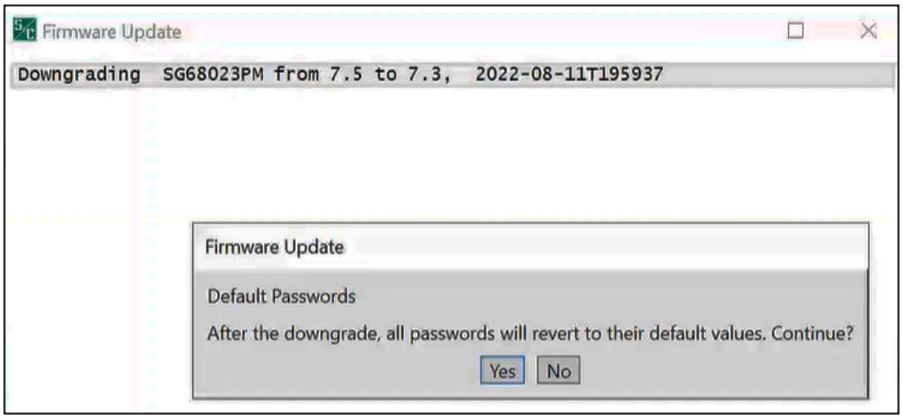


Figure 49. The Default Password downgrade message.

Note: When downgrading from a software version 7.6.x or later to a 7.5.x or 7.3.1x version, the passwords will always be retained. If any of the users account passwords are still at the default value, the Admin must change them to a password that meets the complexity requirements before those user accounts can login.

STEP 19. If the Windows PowerShell Credential dialog box appears, enter the same password entered in Step 12 on page 36. See Figure 50.

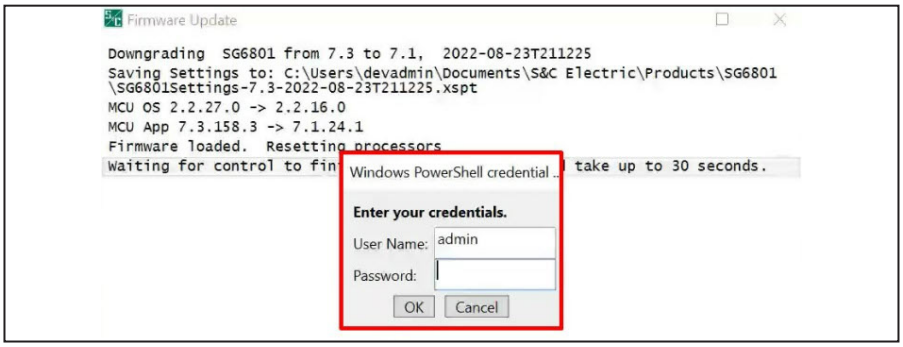


Figure 50. The Windows PowerShell Credentials dialog box.

STEP 20. When downgrading from a software version of 7.3.100 or later to a software version 7.3.x or earlier, a message will appear about the passwords being reverted to defaults after the downgrade process completes. Click on the **OK** button to proceed. See Figure 51.

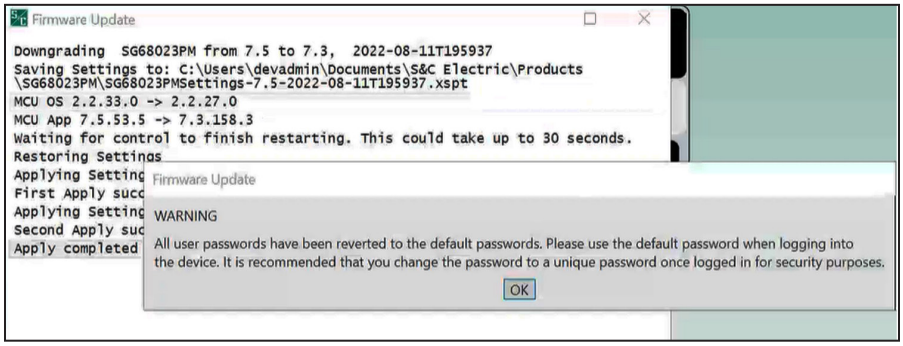


Figure 51. The message that appears after reverting passwords to defaults after a downgrade process completes.

STEP 21. When "Script completed successfully" is indicated in the Firmware Update dialog box, click on the **Close** button. See Figure 52.

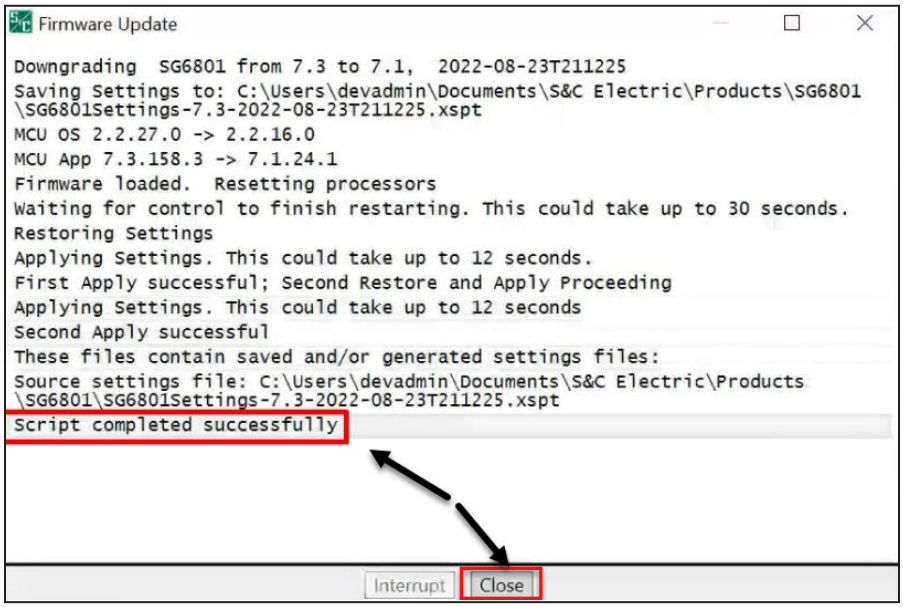


Figure 52. The "Script completed successfully" message.

When two or more IntelliRupter fault interrupters use the same software version and a similar setup configuration, the configuration setpoint profile from one can be saved and loaded into the other(s). Then, only the site-related setpoints need to be adjusted. The setpoint profile can also be used to restore setpoints if they are lost during a configuration.

Follow these steps to share a configuration:

STEP 1. Start the IntelliLink Setup Software and connect to the IntelliRupter fault interrupter with the setup configuration to be saved or shared.

STEP 2. Select the **File>Save Setpoints** option.

STEP 3. In the Save Setpoints dialog box, click the check boxes for the groups to be saved. See Figure 53.

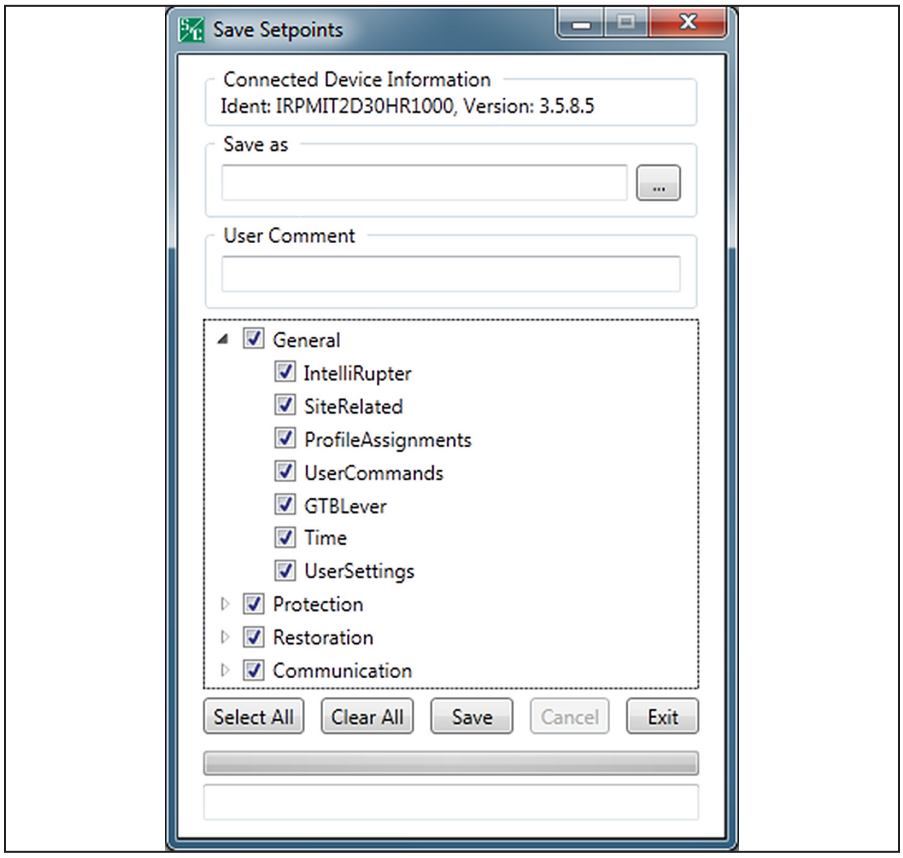


Figure 53. Save Setpoints dialog box.

STEP 4. In the Save Setpoints dialog box, specify a name and location for this configuration. Use the **...** button for more file and folder information. Then, click on the **Save** and **OK** buttons.

To configure identical IntelliTeam SG *Operation* screens in every team member, save the setpoint profile from one control and load it into the other team members. Be sure to name the setpoint profiles logically (for example, "Team2" for Team 2 setpoints). When loading a setpoint profile into another team member, the IntelliLink Setup Software automatically configures the *Setup>Restoration>IntelliTeam SG>Team x* screen and displays the team number.

To save all setpoint values (including values for setpoint groups that may not have been configured), click on the **Select All** button.

NOTICE

The **Security Setpoint Group** setpoint is not included when the **Select All** button is used. It can be included by manually selecting its check box, but in software versions 7.3.100 and later it does not store any user passwords.

Close the IntelliLink Setup Software program and disconnect the computer.

NOTICE

S&C provides default setpoint files to provide a starting point for setting up an IntelliRupter fault interrupter. However, the user must be logged in at the Administrator level to load the default files.

The settings conversion script enables users to convert any number of saved IntelliRupter fault interrupter version 7.1 or 7.3 software settings files for the SDA-4540R2 control into version 7.3 settings files for the SDA-4540R3 control so the settings can be loaded using IntelliLink Setup Software.

Note: Do not select the default settings .xspt files. The script cannot convert the default settings .xspt files. When the converted v7.3 software opens, it uses the default settings for that software version.

The script does not process default settings. Default settings for each product are available with each release, generally located in C:\Users\Public\Documents\S&C Electric\Products\IntelliRupterEC.

Prerequisites to the conversion include:

- IntelliRupter fault interrupter SDA-4540R2 control software version 7.1 or 7.3 and IntelliRupter fault interrupter SDA-4540R3 control software version 7.3.36. Both SDA-4540R2 and SDA-4540R3 software versions must be installed on the computer. For conversions from versions 7.1 and 7.3 R2, both versions 7.1 and 7.2 R2 must be installed.
- The Powershell Execution Policy must be RemoteSigned or more inclusive.

Follow these steps to convert the files:

STEP 1. Download the IntelliRupterToIREC7.3.ps1 script from the *Files* screen on the S&C Customer Portal and save it to a convenient location.

STEP 2. From the **Microsoft® Windows® Start** menu, click on the Windows PowerShell ISE (x86) program.

STEP 3. In the *Windows PowerShell ISE (x86)* screen, type the path of the script, including the full script name (or drag and drop the file). For example: PS **C:\ users\username>C:\users\public\downloads\ IntelliRuptertoIREC7.3.ps1** See Figure 54.

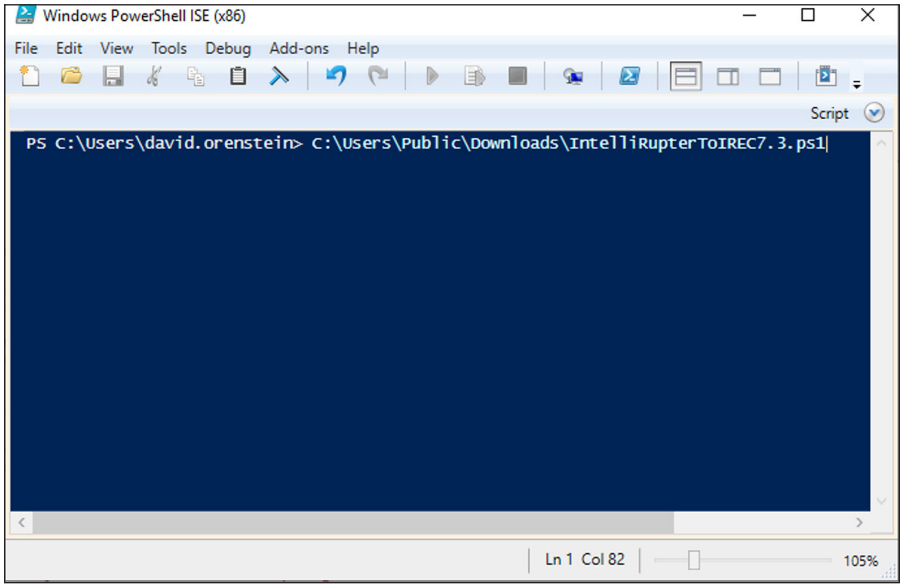


Figure 54. The *Windows PowerShell ISE (x86)* screen.

STEP 4. Press the <Enter> key on the keyboard to run the script. The Source Revision Ch… dialog box opens. See Figure 55.

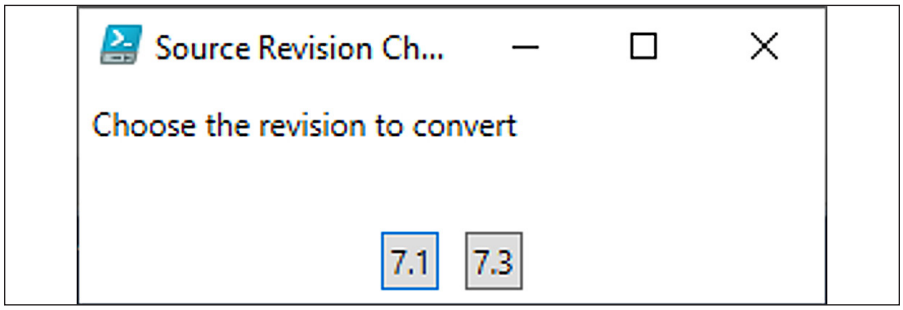


Figure 55. The Source Revision Ch… dialog box.

STEP 5. Select the existing revision to be converted. In Figure 55, 7.1 and 7.3 are the available revisions.

STEP 6. When the Choose a Settings File to Load dialog box opens, browse to the folder containing the IntelliRupter fault interrupter .xspt files based on the file selection in Step 5 on page 44. Select the file(s) to be converted and click on the **Open** button. See Figure 56.

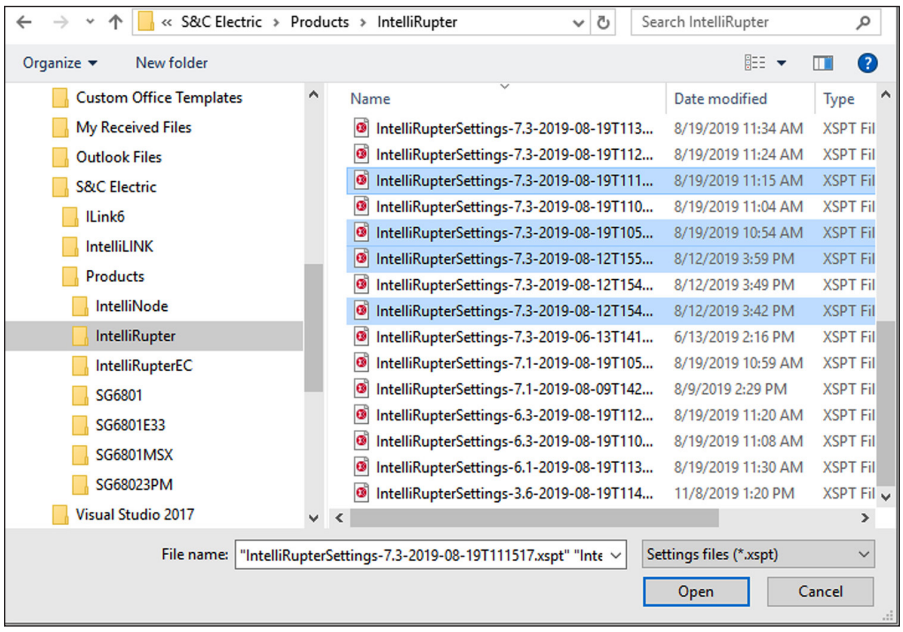


Figure 56. The Choose a Settings File to Load dialog box.

If the conversion succeeds, the converted files will be written to the "Documents\ S&C Electric\Products\IntelliRupterEC" folder.

Note: The converted files have the same name as the original files except:

- All instances of "IntelliRupter" are changed to "IntelliRupterEC."
- The files have a timestamp reflecting the creation time. The script waits one second between each conversion. Therefore, each file will have a different timestamp to prevent overwriting a file with the same original name.

Enabling Fast Firmware Upgrades for the SDA-4540R3 IntelliRupter Fault Interrupter Control

The 7.6.1 software release includes a new protocol to perform fast firmware updates called zModem. This only works with R3 IntelliRupter controls using the standard serial wiring configuration.

- Firmware release (4.0.0162) for the SDA-4554R3 communication module is also required to enable fast firmware upgrades on the SDA-4540R3 control.
- Earlier software revisions do not have this protocol. A patch release is available to enable this protocol on earlier software. See Step 2 for the download options.

Note: To perform this procedure on multiple controls, the user must have Admin rights to uninstall and reinstall the 7.6.1 firmware on the computer. Otherwise, when 7.6.1 firmware is installed, the upgrade script will not allow the user to upgrade to the zModem patch first.

Follow these steps to enable fast firmware upgrades for the SDA-4540R3 control using standard serial wiring:

STEP 1. Download the IntelliRupterR3Installer-7.6.1 and the R3CM-4.0.0162 firmware from the IntelliRupter Software folder on the S&C Customer Portal.

STEP 2. Run the 7.6.1 installer and select the appropriate version 7.4 or 7.5 firmware patch. Select one matching the present version the R3 control is running. For example, when the R3 control is running 7.5.44, select the **7.5.44->7.5.82** option. See Figure 57.

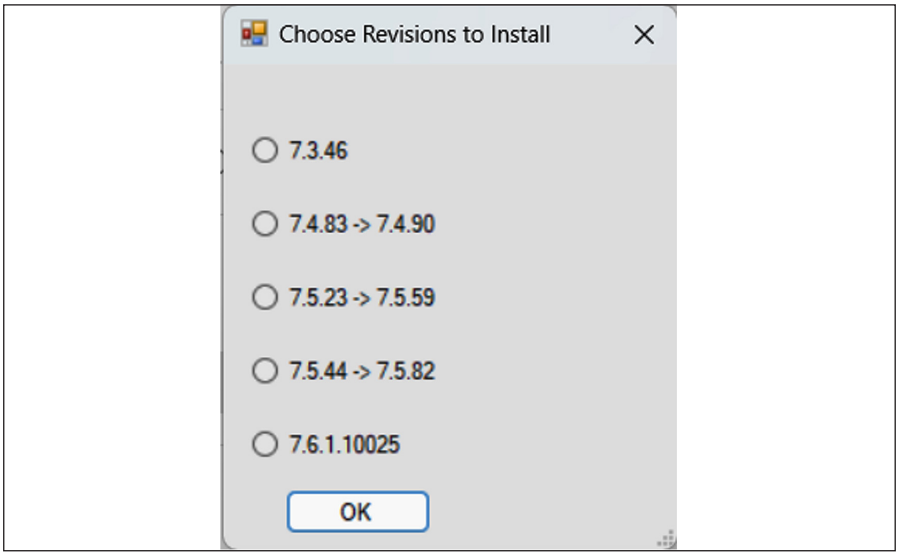


Figure 57. The Choose Revisions to Install dialog box.

Note: If the control is not running one of the version 7.4 or 7.5 releases shown in Figure 55 (i.e., 7.4.83, 7.5.23, or 7.5.44), the control must first be upgraded to one of those releases as part of this step before proceeding to Step 3 on page 47.

STEP 3. Launch the IntelliLink Setup Software and connect to the R3 control. Upgrade the firmware on the R3 control to the new patch release. When prompted, select the **Differences Only** option.

STEP 4. When the R3 control firmware update is complete, update the R3 communications module to the 4.0.0162 firmware release.

STEP 5. Launch the IntelliLink Setup Software and connect to the R3 control.

STEP 6. Go to the *Setup>Communications>Serial Port* screen and change the **Port B, WiFi Communications Baud Rate** setting to "230400." Validate and apply the new setting. See Figure 58.

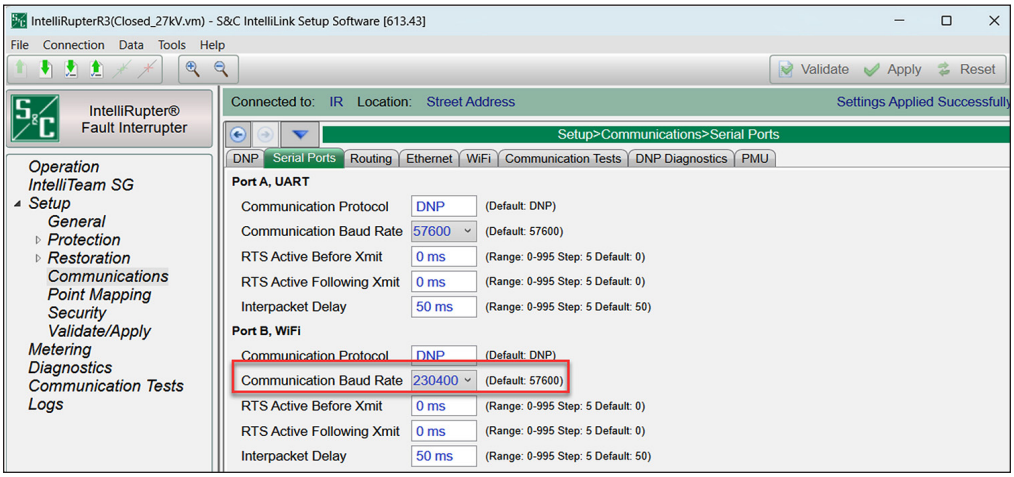


Figure 58. The *Setup>Communications>Serial Ports* screen.

STEP 7. Launch the LinkStart application and connect to the R3 communications module.

STEP 8. Go to the *Interfaces* screen. For the Wi-Fi Serial Interface setting at the bottom of the screen, change the **Speed** setting to "230,400." See Figure 59.

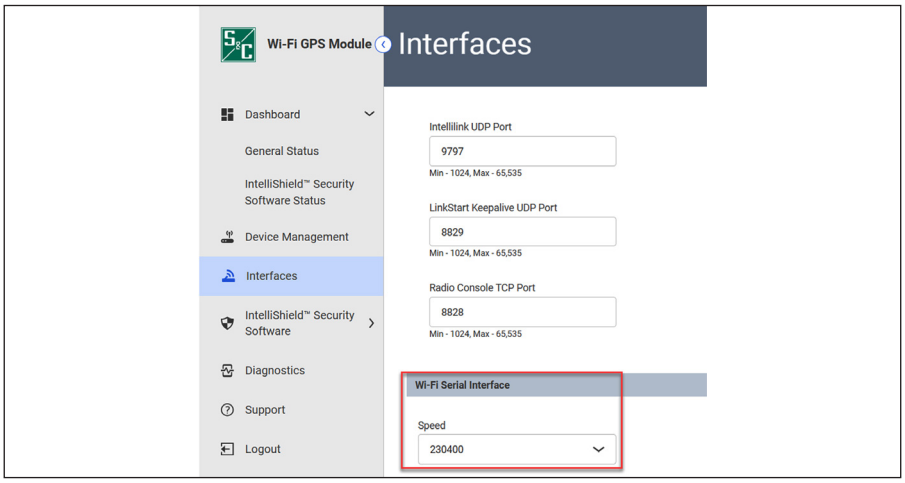


Figure 59. The *Interfaces>Wi-Fi Serial Interface* screen.

NOTICE

These steps must be performed in the order specified or communication will be lost to the R3 control. The baud rate on the R3 control must be changed first. Then, the R3 Communication Module baud rate must be changed to match it. (If the baud rate on the R3 Communication Module is changed first, there is no way to communicate to the R3 control when it is using a different baud rate.)

STEP 9. Re-run the version 7.6.1 installer and download the version 7.6.1 firmware.

STEP 10. Launch the IntelliLink Setup Software and connect to the R3 control. Start the version 7.6.1 firmware update on the R3 control.

STEP 11. When prompted, select the zModem option to perform the firmware update. See Figure 60.

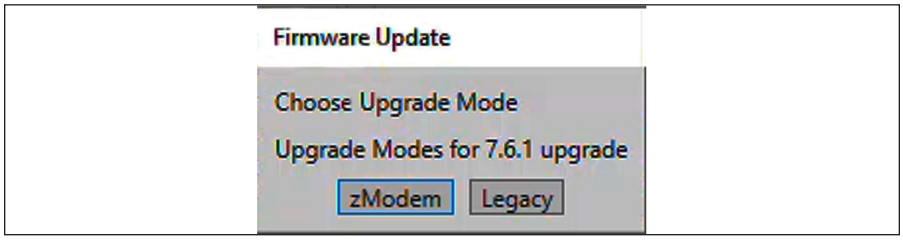


Figure 60. The Firmware Update dialog box.

NOTICE

If the **Legacy** option is selected instead of the **zModem** option, the upgrade will take 6-8 hours to complete. S&C recommends cancelling the upgrade and relaunching the firmware update to select the **zModem** option.

When the same computer is used to perform multiple upgrades, the following additional steps must be followed:

STEP 12. After the upgrade is complete, uninstall the 7.6.1 firmware from the computer by going to the **Control Panel>Programs>Uninstall a program** option on the computer and selecting the version 7.6.1 installer. See Figure 61.

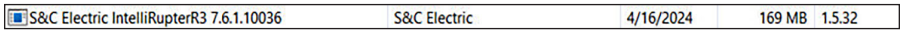


Figure 61. The version 7.6.1 firmware selected to uninstall.

STEP 13. Repeat Step 3 on page 47 through Step 12 until all controls are upgraded.

Note: After the final upgrade, the version 7.6.1 firmware can remain on the computer, but for any future upgrades using zModem, the version 7.6.1 firmware must be removed before performing those upgrades.

If any issues are encountered during the firmware update process, or there are questions, contact the local S&C sales representative or call the Global Support Monitoring Center at 1-888-762-1100.