

Module 7

Documentation



Allen Bradley RSLogix 5000

Lesson 7 Documentation

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Documentation in L5K

The main purpose of documenting a PLC project is that it will assist the user in troubleshooting a problem in the system, and to assist the user in tracing through a project during modification or development.

The basic documentation (descriptive) segments used in the RSLogix5000 software are:

Tags Tags are used instead of addresses in the Logix5000 processor. These are descriptive identifiers of memory segments. They can be 40 characters in length. These are stored in the processor after a download.

Descriptions These are tag descriptions. Descriptions can be approximately 5 rows of 20 characters, and will be viewed anytime the tag it is assigned to is shown on the screen. The tag descriptions are stored in the .ACD file in the Default Directory after a download.

Rung Comments Rung comments can be a full page long, and is used to describe the operation of a rung in the PLC program.

Tag Alias Tag alias is a tag that represents another tag, typically an I/O tag. This is used primarily from an engineering aspect. A tag could be created for a program, then assigned to an I/O address when adapted to a machine.

Note: The terms description, comments and documentation are synonymous.

The following illustration shows these documentation elements and where they are found on the ladder display.

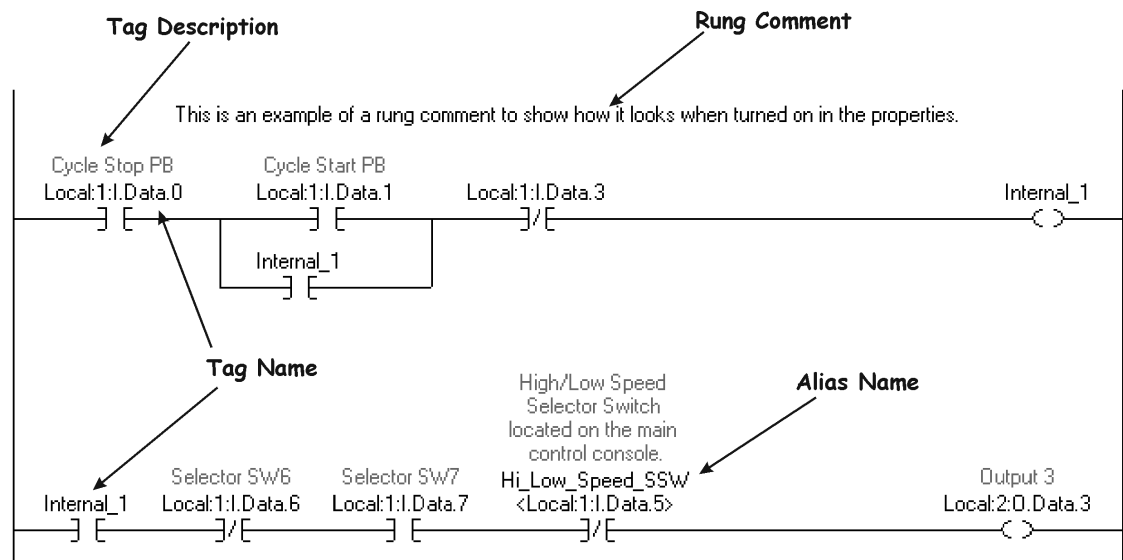


Figure 1-A. Illustration of documentation elements.

An important aspect to remember is that when the user is offline, all of the ladder, data, tags and descriptions comes from the .ACD file found in the project's Directory.

When the user is Online, the ladder, data, tag names and alias names come from the processor's project. The descriptions and rung comments come from the .ACD file found in the project's Directory – Offline

Note: 1756-L7x series of ControlLogix processor allows descriptions and rung comments to be downloaded to the processor.

The Project Directory setting is found under the “Tool – Options” menu. This is a critical setting, and once set, should not be changed.

The following illustration shows how to view the Default Directory.

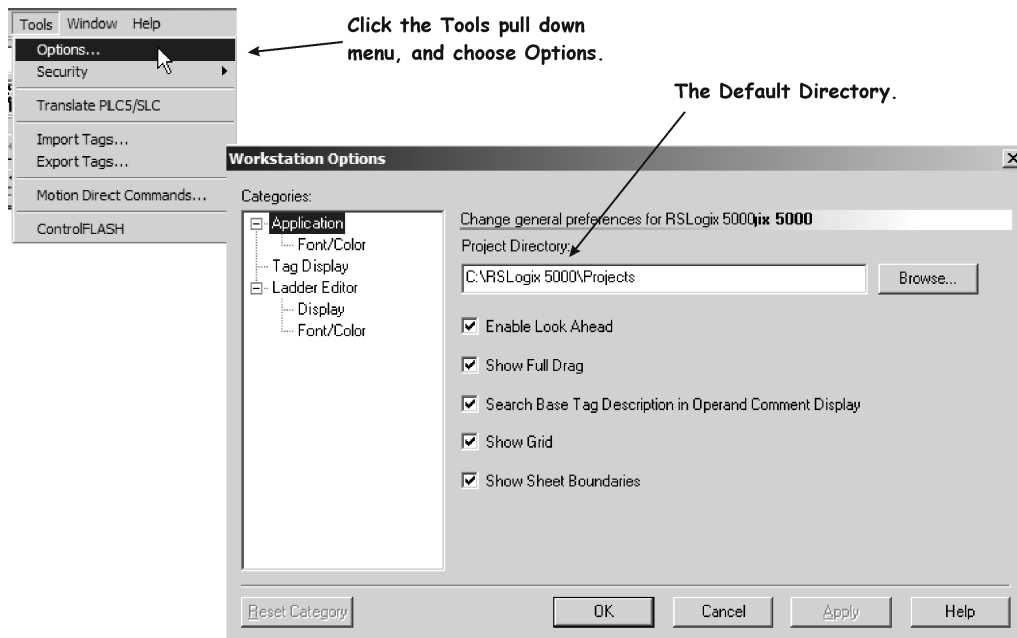


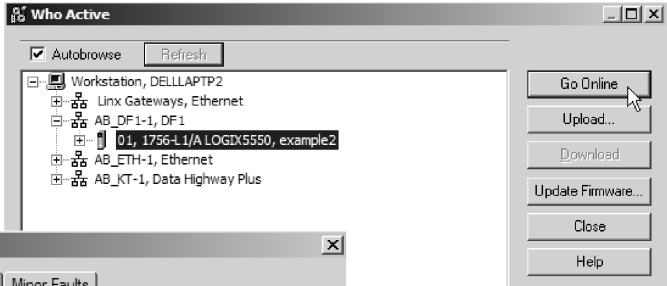
Figure 2-A. Viewing the default directory.

When RSLogix5000 goes online to the processor, the software looks at the name in the processor, then goes to the Project Directory and checks each project for a matching name. When a match is found, RSLogix5000 uses the descriptions from the .ACD file on the ladder display. This is why each PLC processor in the plant should have a unique name.

In the following example, the PLC project “Example2” was removed from the Project Directory. When the user went Online to the processor, L5K went into the Project Directory, could not find the matching processor name, then asked the user to select and upload the file, which has no documentation.

The file is then uploaded into the Project Directory. The problem with this is that there are no descriptions. Users can get confused between the project file without descriptions, and the one with descriptions.

Choose Communications and Who Active, choose the driver and Go Online.



Go Online

Upload...

Download

Update Firmware...

Close

Help

Connected To Go Online

Options | General | Date/Time | Major Faults | Minor Faults

Condition: The project file 'example2.ACD' was not found in your project directory.

Connected Controller:

- Controller Name: example2
- Controller Type: 1756-L1/A ControlLogix5550 Controller
- Comm Path: AB_DF1-1\1
- Security: <None>

Offline Project:

- Controller Name:
- Controller Type:
- File:
- Security:

No matching project was found, so choose select a file.

Select File

Look in: Projects

- Samples
- B7_relav_instr1.ACD
- B7_relav_instr2.ACD
- B8_TOI
- B8_TOI
- B8_TOI
- B9_counter_1_program.ACD
- B9_counter_lab2.ACD

RSLogix 5000

Create project file 'example2.ACD' and upload?

Yes No

File name: example2.ACD

The software asks the user to select an existing file, or upload the program into an empty project file.

If the user does an upload, the ladder will be shown with no descriptions.

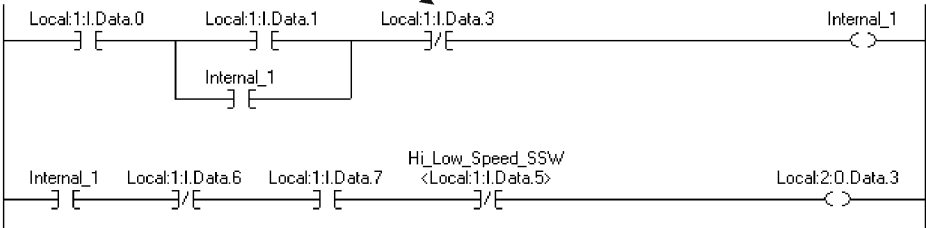


Figure 3-A. Upload after no matching file.

Documentation Display Settings

It is important for the user to understand how to configure the display of the application and the ladder editor. The application settings will be the settings common to RSLogix5000, no matter which programming language is used. The ladder editor is just for the ladder display. The following illustration shows how to adjust the settings.

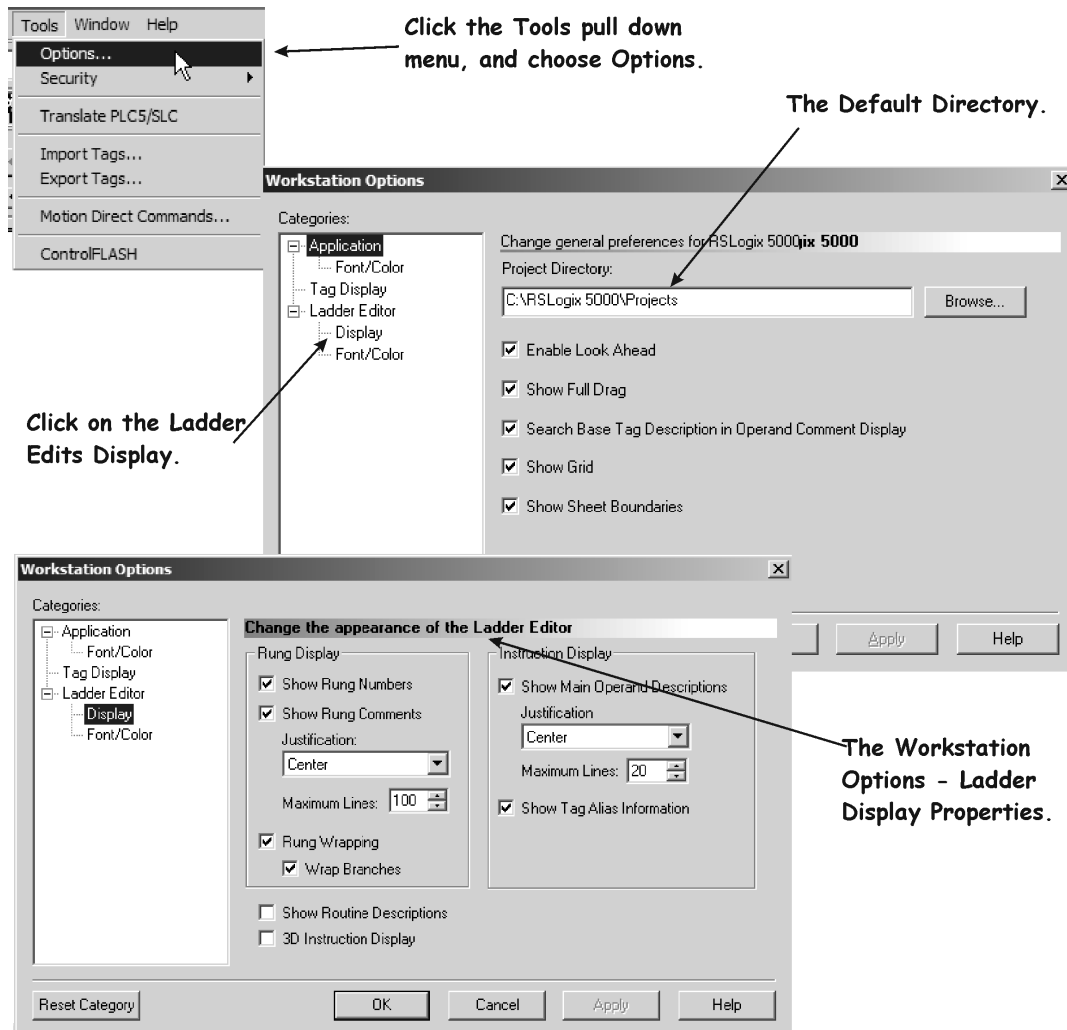


Figure 4-A. Ladder Editor Appearance.

Show Rung Numbers - check this box if you want rung numbers to appear in the ladder display.

Show Rung Comments - check this box if you want rung comments to appear in the ladder display.

Justification - select the alignment for the rung display.

Maximum Lines - enter the maximum number of lines you want to appear in the display.

Rung Wrapping - check this box if you would like rungs to wrap to the next line as you change the width of your display.

Show Main Operand Tag Description – check this option if you would like to show the description of the tag that is entered into the main operand of the instruction.

Show Tag Alias Information – check this option if you would like to show the I/O address that the Tag Alias is referenced to on the ladder display.

If the user chooses the “Application – Font Color” option, changes will take place for not only ladder, but also SFC and structured text types of programming languages. The following illustration shows these options.

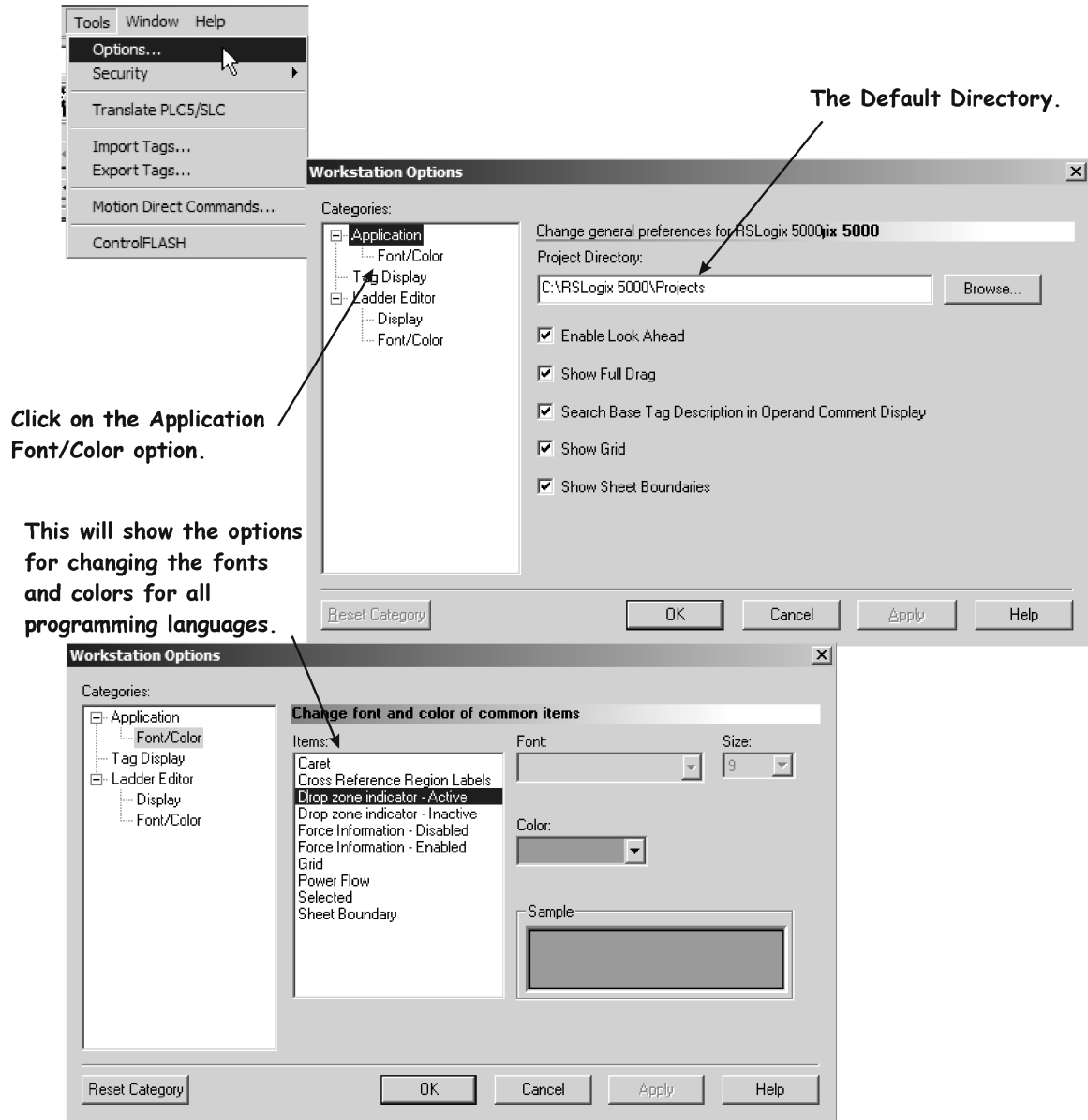


Figure 5-A. Font/Color options for the Application.

If the user clicks on the “Application – Tag Display” option, they can set how the tags will be viewed from the Tag Editor. The following illustration shows these options.

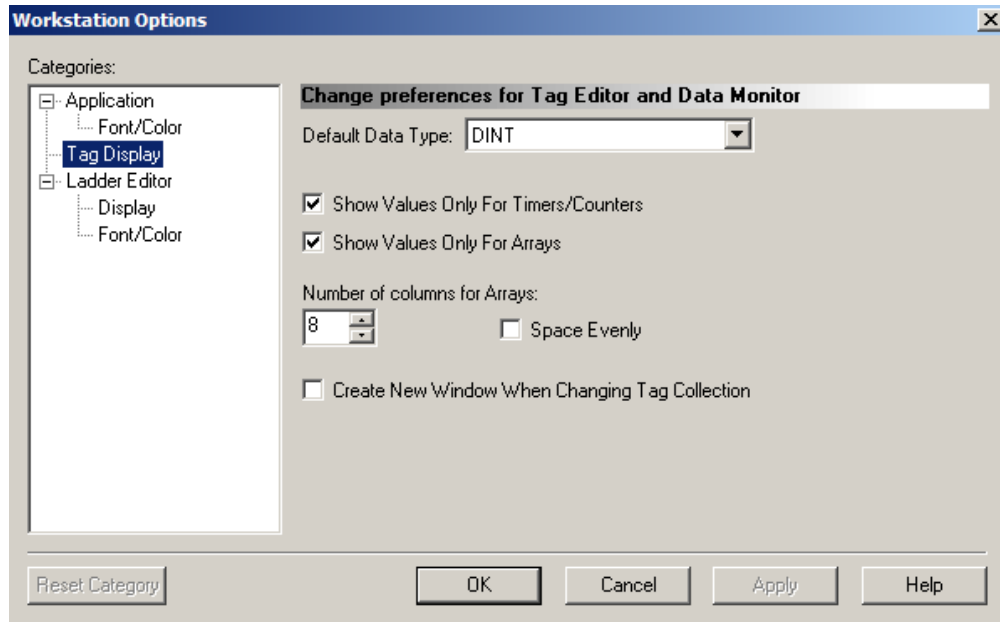


Figure 6-A. The Application-Tag Display options.

If the user clicks on the “Ladder Editor-Font/Color” option, they can set how the fonts and colors of the ladder editor display. The following illustration shows these options.

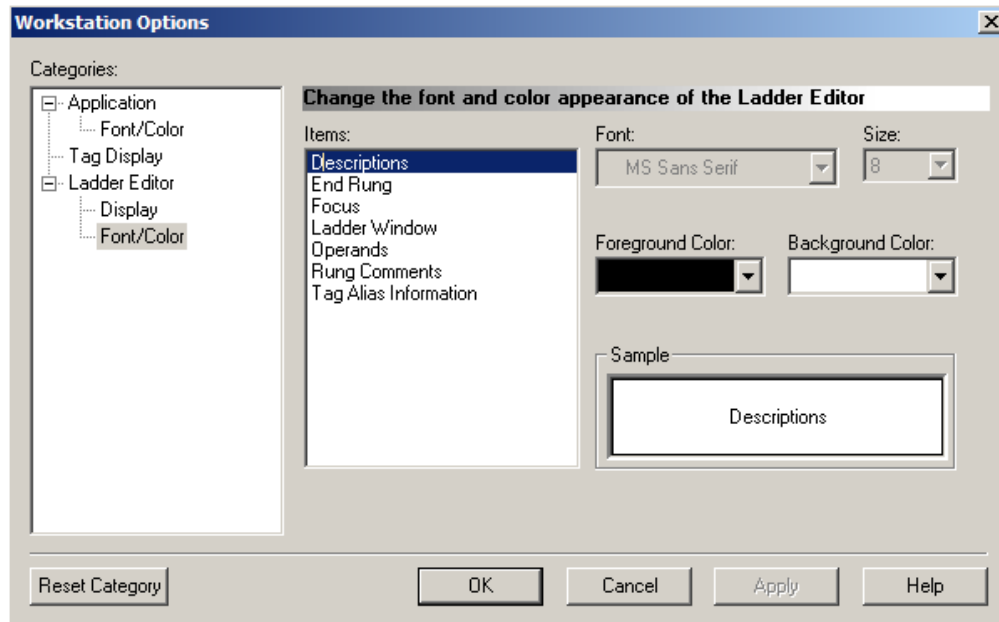


Figure 7-A. The Ladder Editor-Font/Color option.

The user can click on the “Help” button to view the definition of each option.

The Reset Category button returns the settings back to the software’s default settings.

Adding / Modifying Rung Comments

Modify Rung Comments, right mouse click on the Rung Comment to modify and choose Edit Rung Comment from the selection menu.

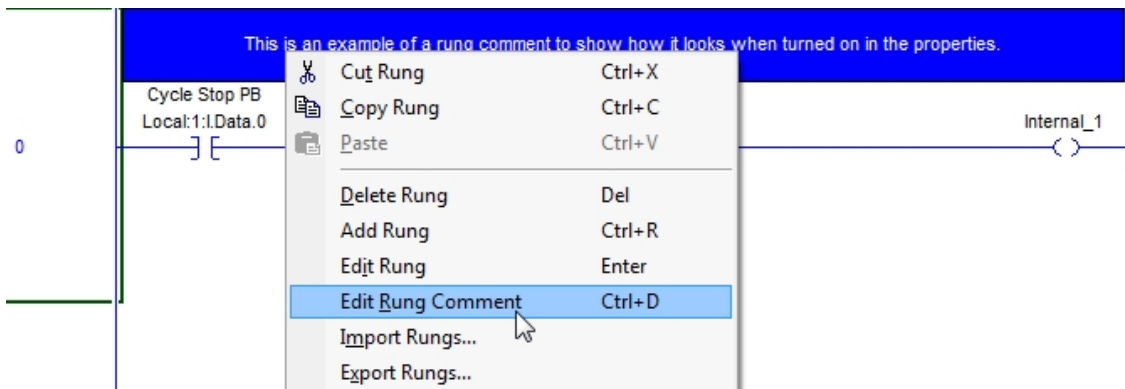


Figure 8-A. Edit Rung Comment

Note: Can also double-click on the Rung Comment

The Rung Comment editing screen opens.

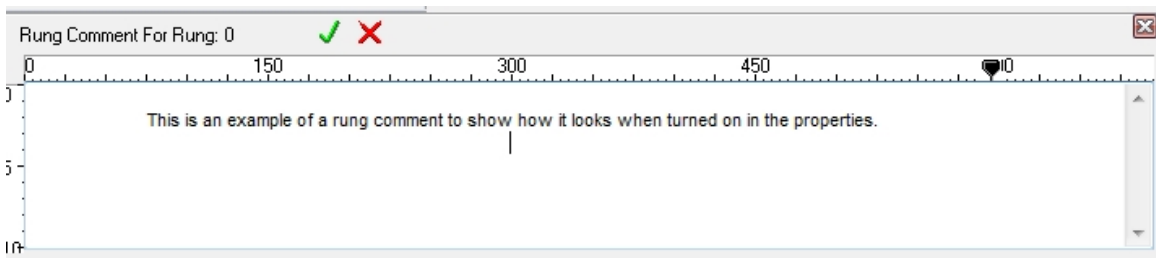


Figure 9-A. Rung Comment Editing Screen

Modify the rung comment.

Click the Green check mark to save changes and close the Rung Comment editing screen.

To add a Rung Comment, right mouse click on the Rung Number to which the comment will be added.

Choose Edit Rung Comment from the selection menu.

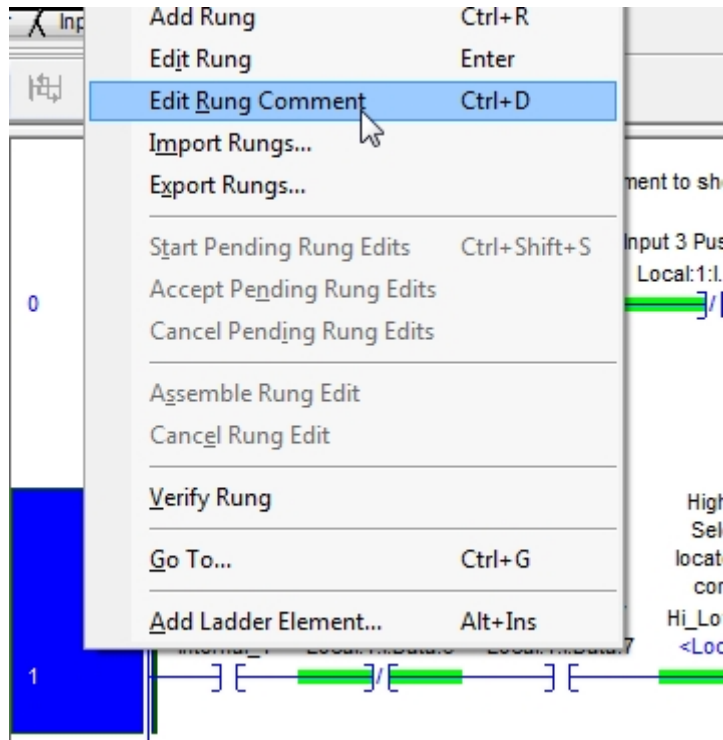


Figure 10-A. Add Rung Comment

A blank Rung Comment Editing screen opens

Add a Rung Comment to in the Rung Comment Editing screen that opens.

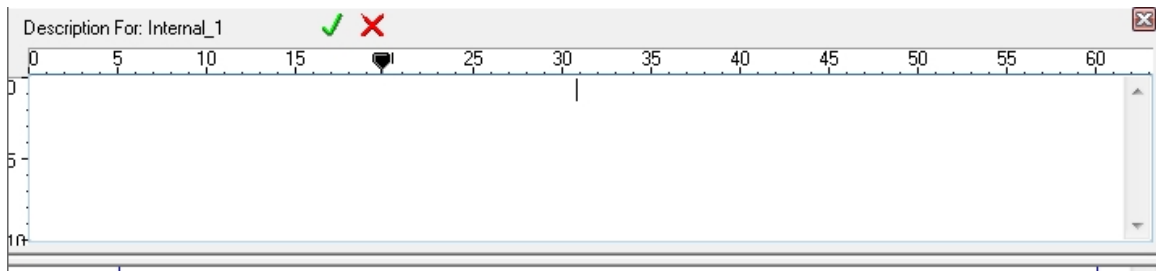


Figure 11-A. Blank Rung Comment Editing Screen

Add rung comment in the editing screen

Click the Green check mark to save changes and close the Rung Comment editing screen.

Adding / Modifying Tag Descriptions

Modify Tag Descriptions, right mouse click on the Tag description to modify and choose Edit Main Operand Description from the selection menu.

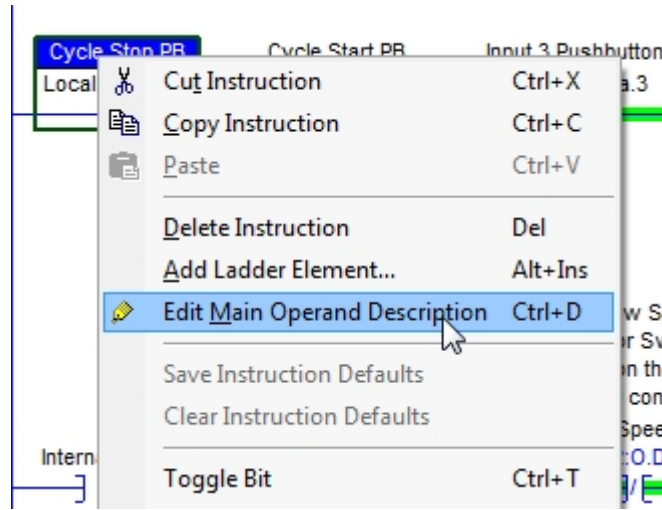


Figure 12-A. Modify Tag Description

Note: Can also double-click on the Tag Description

The Tag Description editing screen opens.

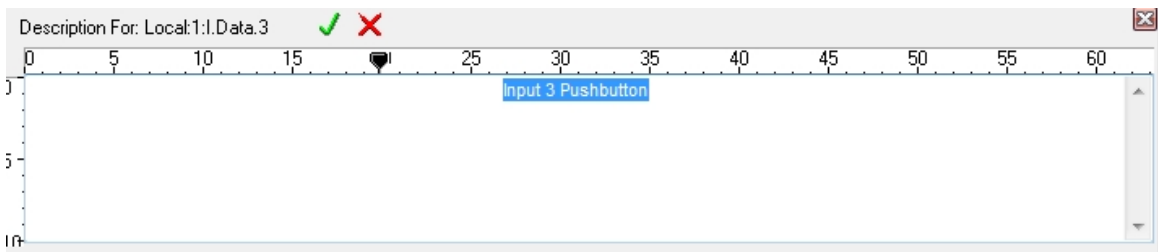


Figure 13-A. Tag Description Editing Screen

Modify the tag description.

Click the Green check mark to save changes and close the Tag Description editing screen

To add a Tag Description, right mouse click on the Tag to which the description will be added.

Choose Edit Main Operand Description from the selection menu.

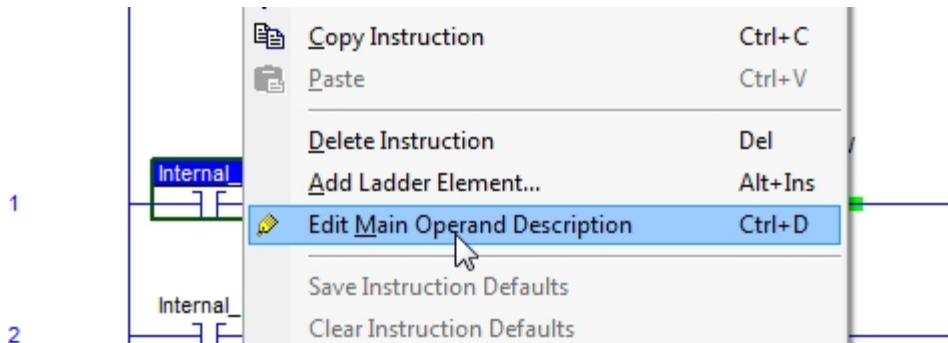


Figure 14-A. Add Tag Description

A blank Tag Description editing screen opens.

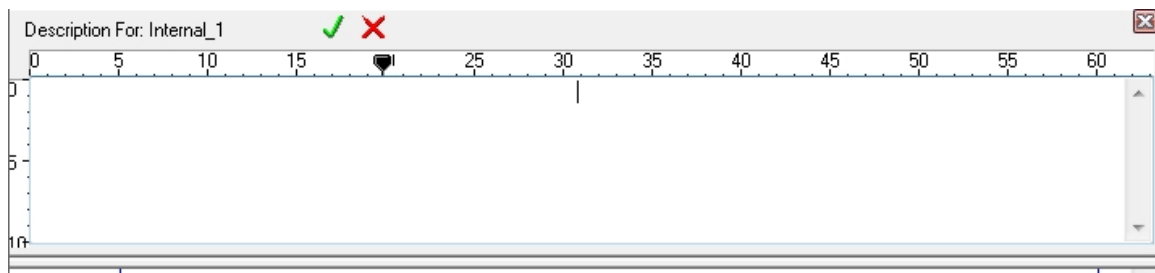


Figure 15-A. Blank Tag Description Editing Screen

Add description in the editing screen

Click the Green check mark to save changes and close the Tag Description editing screen

Review Questions

1. **T F It is not important that PLC processors names are unique.**

2. **The .ACD file which holds the descriptions is stored in the:**
 - a) RSLogix5000 Directory.
 - b) Project Directory.
 - c) Network Drive.
 - d) In a Windows Applications Directory.

3. **The two reasons that the project descriptions (documentation) are not displayed on the ladder display window is:**
 - a) The .ACD file is not in the Project Directory.
 - b) The documentation options are all turned off.
 - c) The processor is in a fault state.
 - d) The user is offline.

4. **T F The term “Comment” is typically used in reference to the text that explains a rung of logic in RSLogix5000.**

- 5. To get to the ladder display options, the user must choose the following menu in RSLogix5000:**
- a) View – Preferences.
 - b) Edit – Preferences.
 - c) View – Options.
 - d) Tools – Options.
- 6. T F If RSLogix5000 tries to go Online to the L5K processor and finds no matching file in the Project Directory, the user will not be able to go Online until a matching file is copied onto the hard drive.**
- 7. RSLogix5000 determines which project (database) descriptions to display on the ladder display while Online from the:**
- a) Processor Name.
 - b) Project Name.

Review Question Answers

1. **F**
2. **d**
3. **a and b**
4. **T**
5. **d**
6. **T**
7. **a**

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