

VisiLogic 8.6.0 Help Highlights

5/2010

Creating Project files (Clone files, *.dvi, *.vdf *.urc, *.ura)	4
UniDownloader Designer	6
Send e-mail	7
Determining the Protocol Type.....	Error! Bookmark not defined.
Determining the IP	Error! Bookmark not defined.
Intranet (LAN) mail	Error! Bookmark not defined.
How to Configure and Send Messages.....	Error! Bookmark not defined.
Configuring the Send e-mail Function	Error! Bookmark not defined.
SD: Cloning via Ladder.....	9
SD: Safely Remove.....	11
SNMP	13
Telegram Parser	15
String Library	17
How String Library works	Error! Bookmark not defined.
Configuring Strings	Error! Bookmark not defined.
Importing/Exporting Strings to/from Excel or .csv	17
Linking HMI Elements to Text in a String Library	17
Switching Libraries	18
Data Tables and Excel	Error! Bookmark not defined.
Project Optimizer.....	19
Digital Signatures	21
Calling a Subroutine via Display	Error! Bookmark not defined.
Standard Vision Controllers	Error! Bookmark not defined.
Enhanced Vision.....	Error! Bookmark not defined.

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Creating Project files (Clone files, *.dvi, *.vdf *.urc, *.ura)

Project files contain application data in compressed format. There are several kinds of files.

- **Clone Files:**

These can contain complete applications in compressed format, including Ladder and HMI applications and OS. Clone files are very convenient for OEMs, or for those wanting to 'Clone' a PLC and its application. These files can be created in VisiLogic as well as via SD Clone Ladder functions or in Information mode.

- **Project Files: UniDownloader Designer**

These files include both the Ladder and HMI applications, Data Tables, and an Upload file.

-Standard Vision: .dvi files

-Enhanced Vision: .vdf

Note that the DownLoader files you create here are compatible with UniDownloader 4.0.0 and later; provide your users with the correct UniDownloader version.

- **Cache files: Remote Access and Remote Operator**

These are compressed HMI Displays. They improve Remote Access reaction times, and must be used to display graphic images when using Remote Operator.

- Monochrome Vision (.ura files)

A .ura cache file enables Remote Operator to load Displays more quickly. Note that V130, which loads displays quickly, does not use .ura files.)

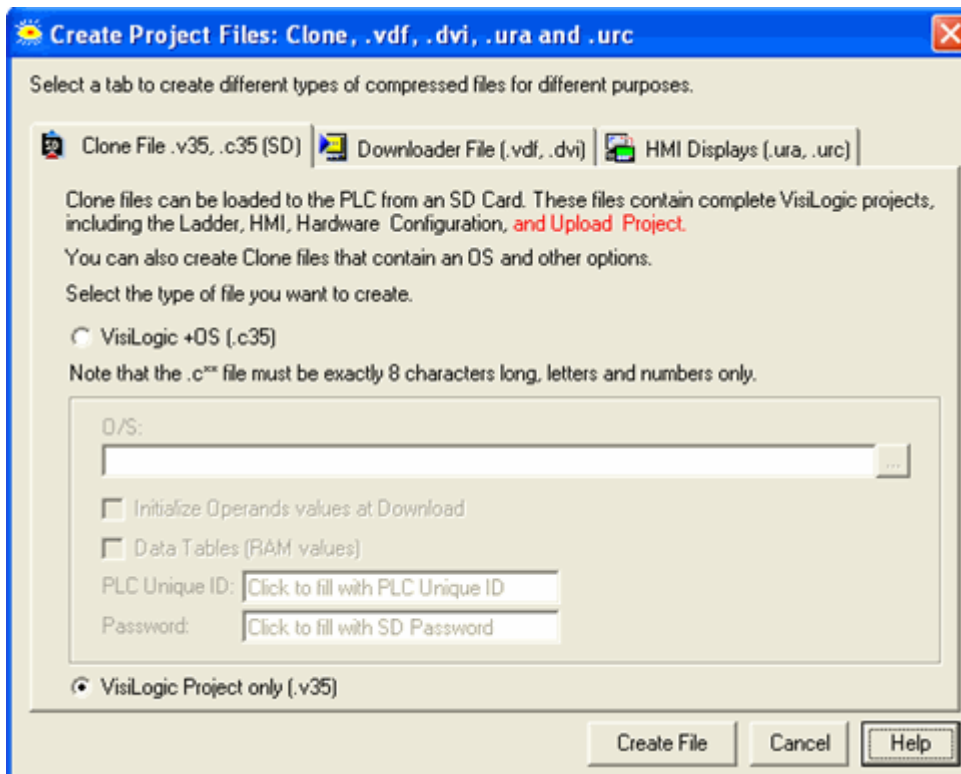
- Colour Vision (.urc files).

If a .urc is not used, images are not displayed and fonts may be distorted.

A cache file includes fonts, and can include images. If the file does not include images, a red 'X' displays in place of graphics.

To create Project files:

1. Click on the Project menu and select Create Project files.
2. Select the appropriate tab and follow the on-screen directions.



Notes ♦

.c35 Files

- PLC Unique ID
Each PLC has a unique ID number, which is shown in SDW9. Use this number to restrict a program to a particular PLC.
- Password:
This is assigned to the SD Card via the Set SD Card Password function.

♦ Both the controller you use to make the download file (source), and the controller that is installed with the file (target) should be installed with the same OS Version.

♦ To avoid errors in the file, the creation process must run smoothly, without being aborted or affected by PC faults.

Checking the integrity of the .dvi file

Although you do not need to have Remote Access installed on your PC in order to create .dvi files, you need to install it in order to check .dvi files.

1. After you have created the .dvi file, save the project from which it was downloaded.
2. Open a new, empty project and download it to the controller.
3. Start Remote Access and select the appropriate Vision model.
4. Click on the Project Downloader which is located on the Remote Access Tools menu.
5. Navigate to the .dvi file and download it into the controller.

6. Reopen the original Ladder project used to create the .dvi file.
7. Select Verify from the Controller menu; the Verify process will compare the project in your PC with the .dvi application installed in the controller.

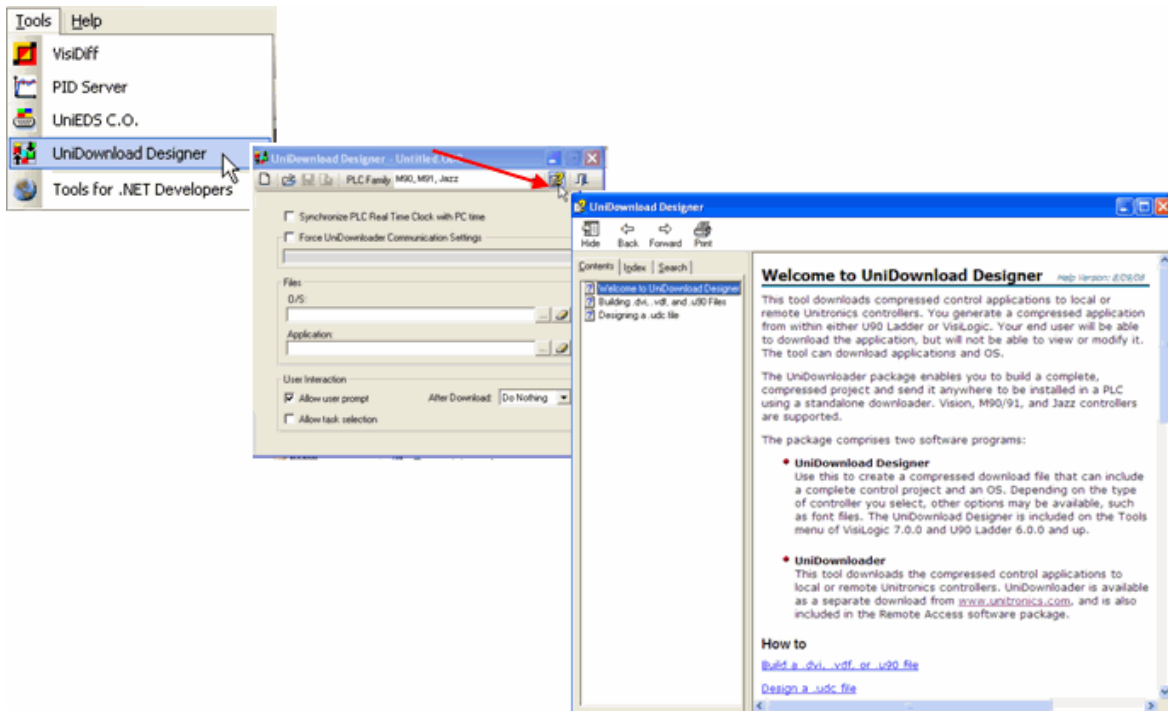
If the Verify process is successful, the .dvi file is valid.

UniDownloader Designer

The UniDownloader package enables you to build a complete, compressed project and send it anywhere to be installed in a PLC using a standalone downloader. Your end user will be able to download the application, but will not be able to view or modify it. The tool can download applications and OS.

The package comprises the UniDownload Designer, located on the Tools menu, and the UniDownloader, available as a separate download from www.unitronics.com.

To learn about UniDownloader, click on the Tools menu in VisiLogic, U90 Ladder, or Remote Access, select UniDownloader Designer, and then access the UniDownloader Designer Help.



Send e-mail attachments

Note the Attach field; Enhanced Vision controllers with SD cards enable you to attach a file from the SD card. Note that the file name must adhere to the 8.3 file format.

E-Mail: Send e-mail

SMTP Authentication
 My outgoing server (SMTP) requires authentication

Username: Password:

Protocol: Socket/Port:

From: Display Name:

To...:

Cc...:

Bcc...:

Subject:

Attached:

Direct mail content Indirect mail content Body Content Type:

Status Messages: Recipients Status:

OK Cancel Help

SD: Cloning via Ladder

SD Clone functions can:

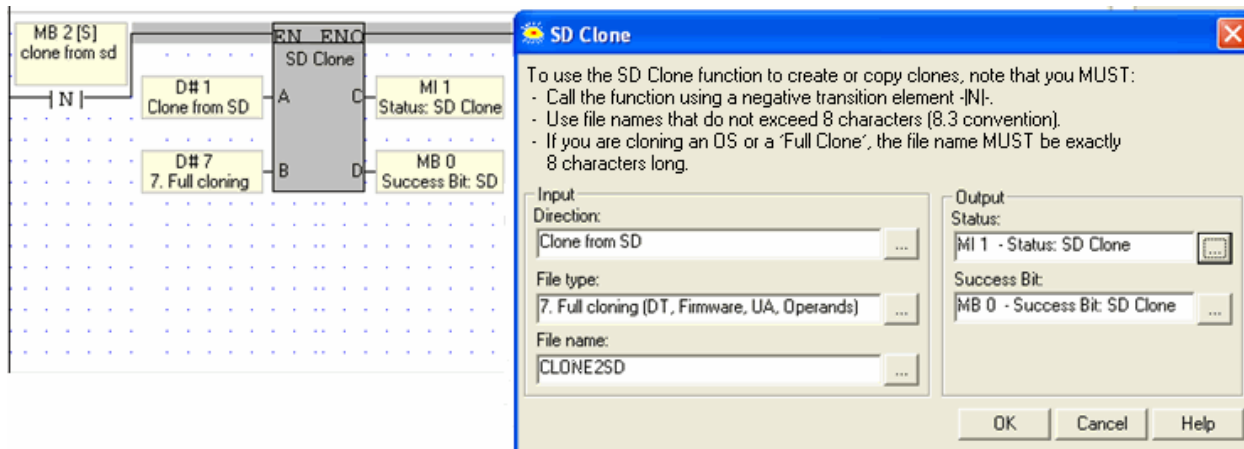
- Create compressed data files and store them on an SD card.
- Upload compressed files from an SD card to a PLC.

You can 'clone' a complete PLC or data using the SD Ladder functions

These Ladder functions are parallel to the actions you can carry out via Information Mode.

Note ♦ You can use Unitronics' SD Card Explorer, included in the SD Card Suite, to access SD card files and either upload them to a PC for viewing and editing, or transfer them into another PLC's SD card.

This function must be used with a negative transition element.

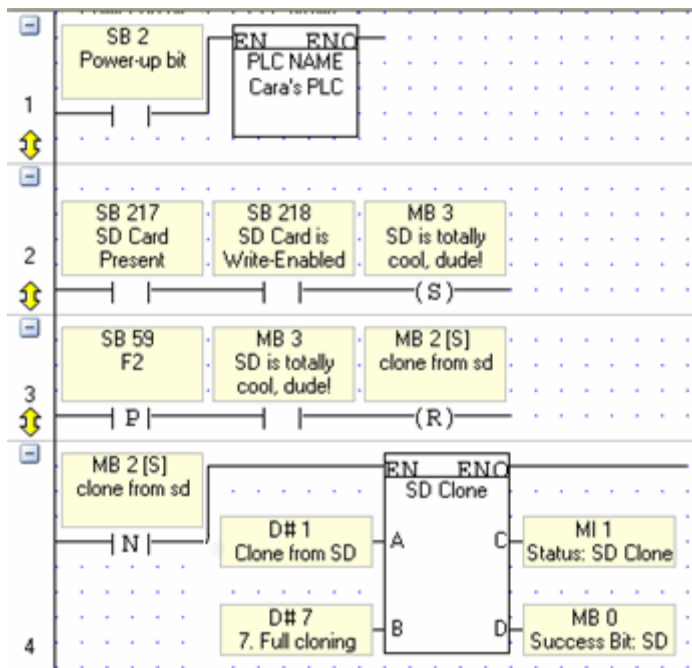


Parameter	Purpose
Direction	Clone To SD: Creates a compressed data file in the correct SD card folder Clone From SD: Installs a compressed data file from an SD card folder into the PLC
File Type	Select Direct or Constant. If you select Direct, the value in the register determines the data file that the function creates/installs according to the following legend: 2 = Full Data Table (*.fdt files) 4 = Firmware (*.Oxx files: .O13, .O35, or .O57) 5 = User Application (+VLP if exists) (*.vxx files: .V13, .V35, .V57) 7 - Full cloning (DT, Firmware, UA, Operands)(*.Cxx) .C13, .C35, or C57) 8 = Operands (*.Dxx files: .D13, .D35, .D57) Note that the file extension numbers relate to the Vision model: .x13 =V130, .x35 =V350, .x57 =V570
File Name	This is limited to 8 characters. The file extension is automatically assigned by the PLC

	<p>according to the file type.</p> <p>⊕ If you are cloning an OS or a 'Full Clone', the file name MUST be exactly 8 characters long.</p>
Status	<p>This MI is a bitmap; a bit turns ON to indicate status. The MI is initialized when the function starts.</p> <ul style="list-style-type: none"> • All bits OFF – No errors, and the process is idle • Bit 1 – No SD card found, or the card is locked (Write-enable OFF) • Bit 2 – Clone utility busy • Bit 3 -File type not found (*.FDT,*.Oxx,*.Vxx,*.Dxx,*.Cxx) • Bit 4- Incompatible Boot Version/Firmware/Clone file • Bit 5 - Internal use • Bit 6- Timeout exceeded • Bit 7 - - Safe to Remove Bit is ON • Bit 8 - Path not found (Install Clone) • Bit 9 - Password error
Success Bit	<p>Turns ON when the data is successfully written to the SD. It remains ON until it is reset by the application, or until the application calls the function.</p>

SB 366: Clone in Progress. Note that he process can take from several seconds to several minutes)

The following nets show the conditions required to run the function.



SD: Safely Remove

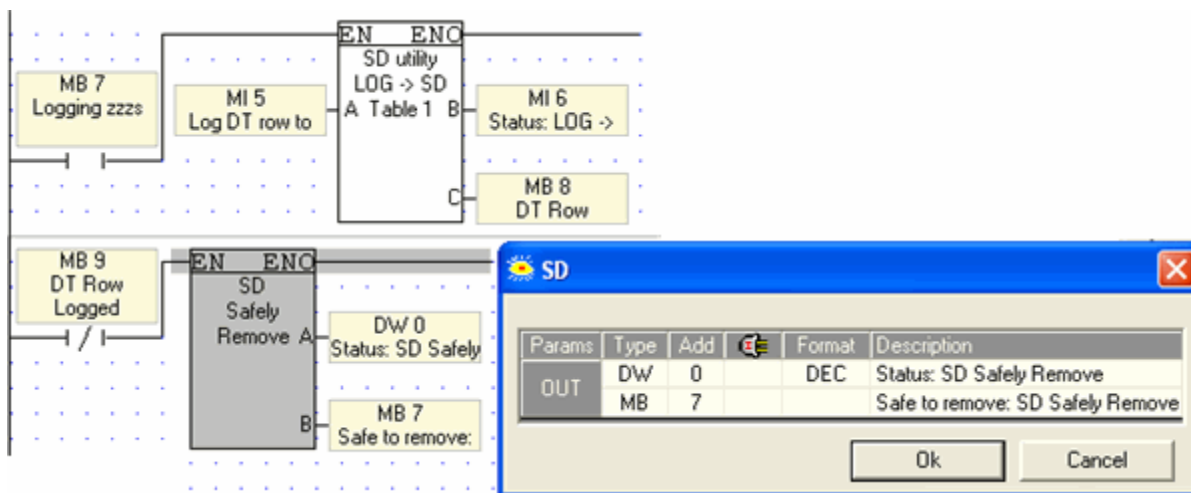
Use SD: Safely Remove to prevent the card from being physically removed while an SD function is in progress.

When SD: Safely Remove is called, it:

- Checks to see if any SD functions are running.
- If so, Safe to Remove indicates which function is active via the Status DW.
- It allows a current task to be completed, but prevents new ones from starting.

When the SD card is completely free, the Safe to Remove bit turns ON. This must be reset by the user.

The following image shows the Log > SD Success MB used in conjunction with the SD: Safely Remove function.



The Status DW is a bitmap.

Bits and their indications are shown in the following table. When a bit is ON, the related function is active.

Bit	Function
0-5 (reserved)	
6	Start Saving to SD is running: SD Trend 8
7	Start Saving to SD is running: SD Trend 7
8	Start Saving to SD is running: SD Trend 6
9	Start Saving to SD is running: SD Trend 5
10	Start Saving to SD is running: SD Trend 4
11	Start Saving to SD is running: SD Trend 3

VisiLogic 8.6.0—Help Highlights

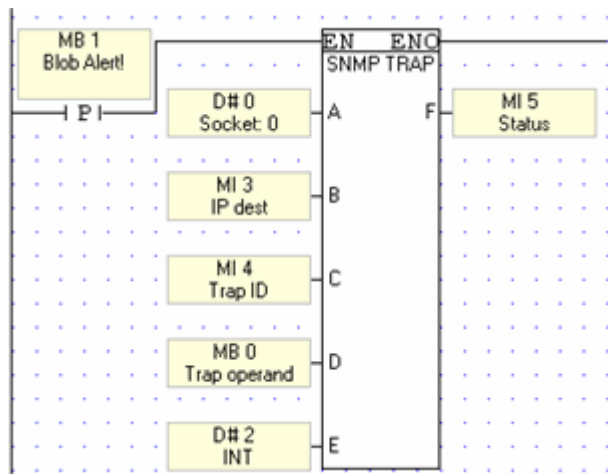
12	Start Saving to SD is running: SD Trend 2
13	Start Saving to SD is running: SD Trend 1
14	HMI function Trend from SD
15	SD File Info
16	Delete SD File
17	Folder Report: Number of Files
18	Create Excel Delimited Line
19	SD File Utilities: SD File Write
20	SD File Utilities: SD File Read
21	SD Block Utilities: Read/Write to Block 3
22	SD Block Utilities: Read/Write to Block 2
23	SD Block Utilities: Read/Write to Block 1
24	SD Block Utilities: Read/Write to Block 0
25	HMI Variable SD Browser
26	PC Utility is communicating with SD
27	Information Mode is accessing SD
28	SD Data Table Utilities: Log DT Row
29	SD Data Table Utilities: Read from DT /Search DT for Tag or Index
30	SD Data Table Utilities: Write to DT
31	Alarm History is being logged to SD

SNMP: Trap and Community Name

SNMP Trap

In addition, the Vision can send Trap messages in response to Ladder conditions, via the function COM>TCP/IP>SNMP Trap.

The PLC supports integer values, strings, and null.

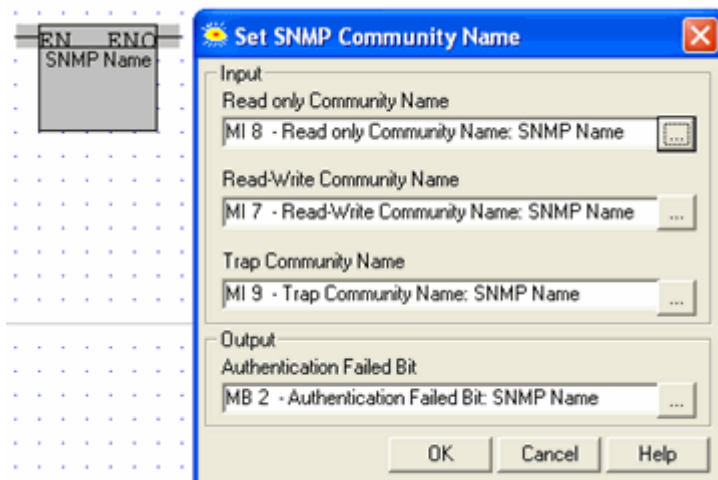


Parameter	Purpose
Socket	Select any socket
IP: Target device	The operand value will be sent to this IP
Trap ID	Use this to assign an SNMP number to the device
Trap Operand	This is the operand that is sent to the target device. If the data sent is a string, the Trap operand is the start of a vector; the PLC will send data from the vector until it reaches a null.
Trap Format	Select integer, string, or null
SNMP Trap Status:	<ul style="list-style-type: none"> 0: Valid trap. 1: Invalid port (the Rx socket is not Port 161) 2: The destination IP is in an invalid format

-

SNMP Community Name

Use this function to assign the controller a name, enabling it to be accessed via SNMP.



Telegram Parser

This function parses data sent to a vector of operands. You can use this function in conjunction with FB Protocol to parse messages.

The image shows a ladder logic diagram on the left and a 'Telegram' dialog box on the right. The ladder logic diagram features a 'Telegram Parser' function block with inputs EN and ENO. It has four input operands: A (D# 1, PCOM = 1), B (MI 0, Rx Message start), C (MI 1, Rx Message), and D (MI 2, Tx Buffer Length). It has three output operands: E (MI 3, Tx Message start), F (MI 4, Tx Message), and G (MB 0, Parsing Success:). The 'Telegram' dialog box contains a table with the following data:

Params	Type	Add		Format	Description
IN	D#	1		DEC	PCOM = 1
	MI	0		DEC	Rx Message start vector: Telegram Parse
	MI	1		DEC	Rx Message Length: Telegram Parser
OUT	MI	2		DEC	Tx Buffer Length: Telegram Parser
	MI	3		DEC	Tx Message start Vector: Telegram Parse
	MI	4		DEC	Tx Message Length: Telegram Parser
	MB	0			Parsing Success: Telegram Parser

String Library: Strings to/from Excel or .csv

These tools are located on the String Library File menu.

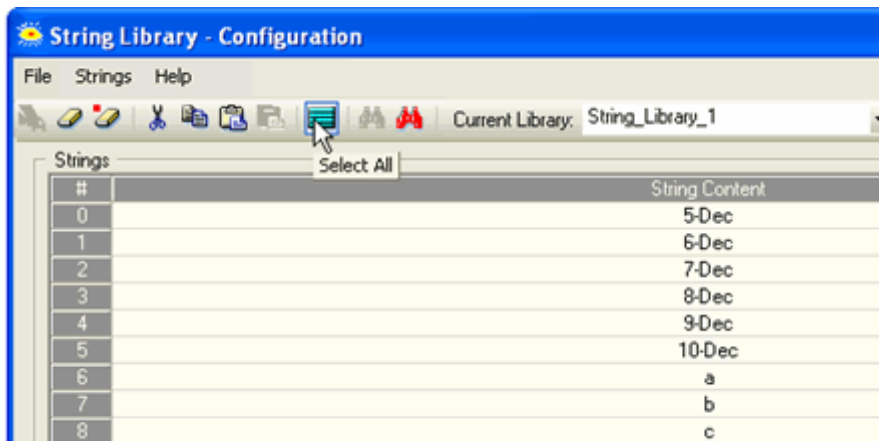


Excel: you cannot create an Excel file and import it. You must export a String Library from a String Library, delete any undesired information, and then enter your own strings.

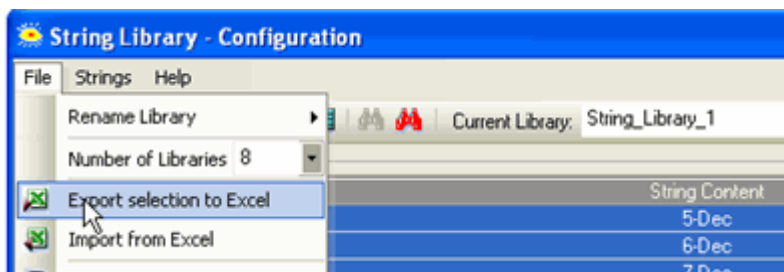
.csv: you must use a delimiter that does not appear within the string's data, or the values will not be separated according to expectations.

Import/Export from Excel

1. Select all of the Strings in a Library. and then select Export



2. From the File menu, select Export to Excel.



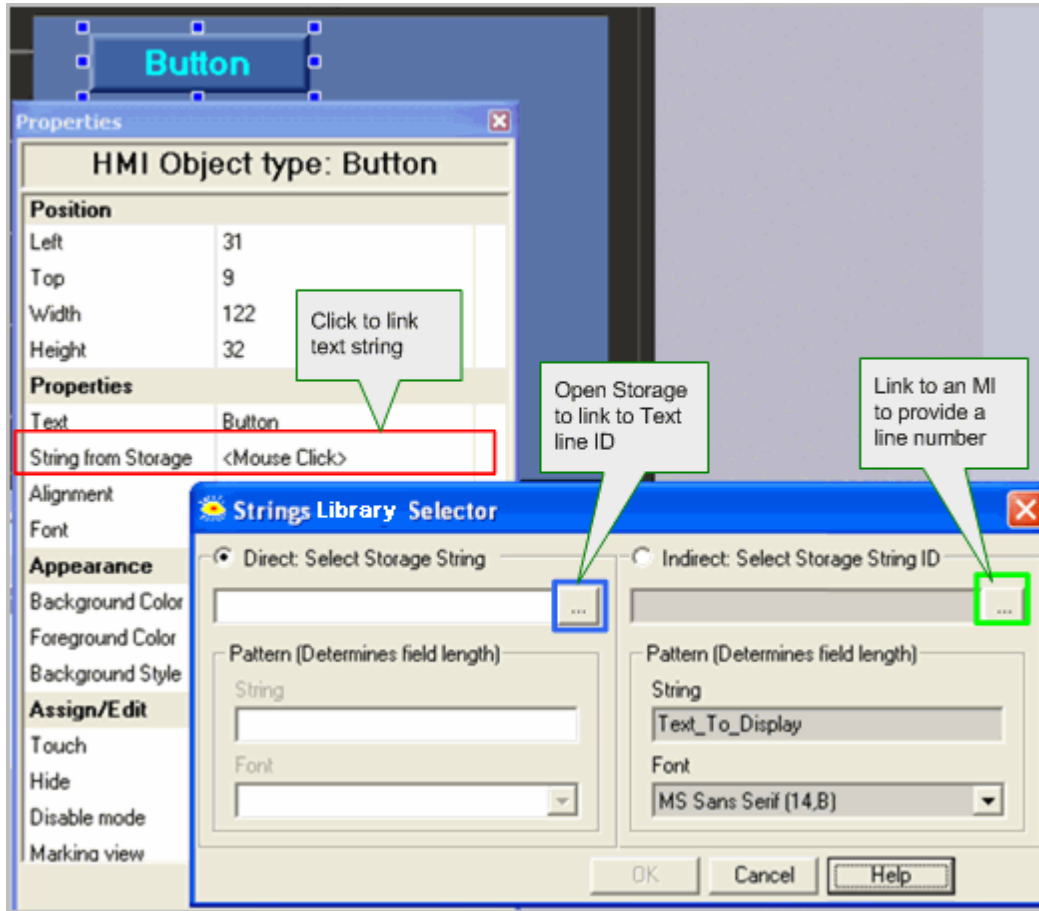
3. Open and edit the Library, and then import it into any Library.

Linking HMI Elements to Text in a String Library

1. Place a Frame, Button, or Fixed Text HMI element. Within the element properties, click the String from String Library option.

You can either link a Text ID line directly, or use an MI to indirectly provide the Text line ID.

Note that the size of the HMI element must be large enough for the longest text line it may hold.



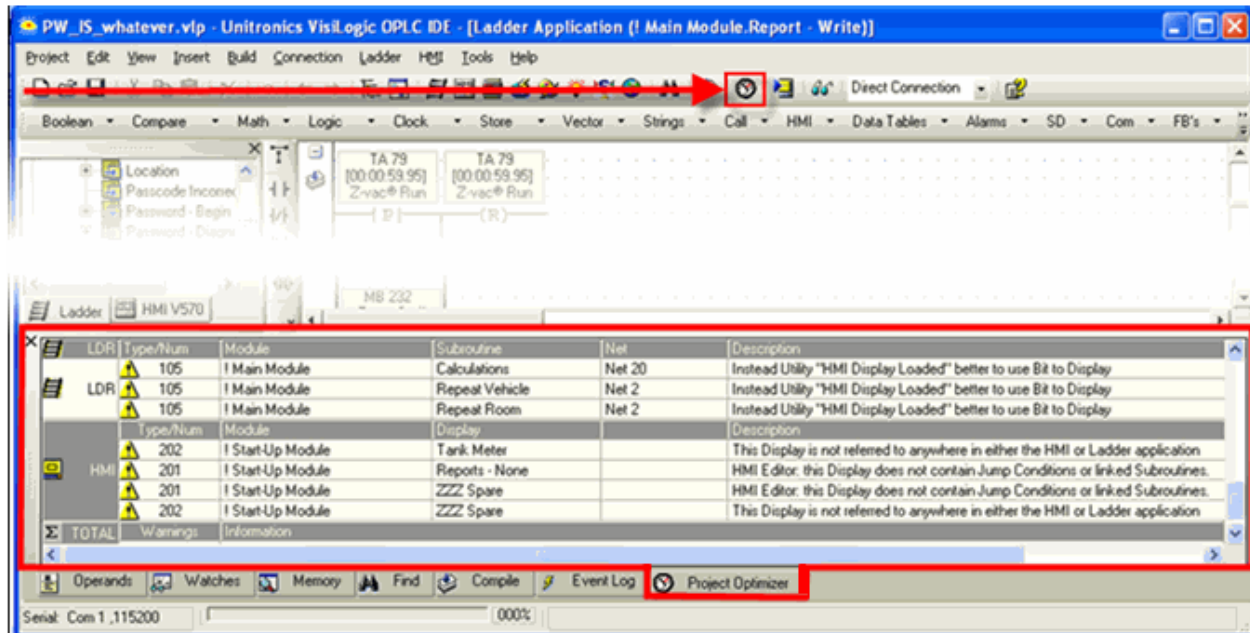
Switching Libraries

To switch Libraries, use one of these methods:

- Use the Ladder function Strings>Set String Library
- Write a value to SI 491 Switch current Text Library

Project Optimizer

Run the Optimizer to view a list of possible improvements that you can make in your project. In the results window, double click a line to jump to the appropriate location in the project.



Digital Signatures

View Digital Signatures by clicking the View menu and selecting Show Signature Log. This project security feature can enable Vision PLCs to meet standards in niche industries such as pharmaceuticals. The log:

- Records changes made in a project.

Signature Value	Time		VisiLogic Version				Firmware	
	PC	PLC	Path	Created	Modified	DB	PLC Model	O/S
{E8C2CF2E-E2C7-41A3-8}	1/13/2010 11:06:14	1/13/2010 12:10:52 PM	top\SD cloning\clone	8.0.60	8.0.63	144	V350-35-T2(B)	3.0 (67)
{EA60F312-5D8C-418B-A}	1/5/2010 3:31:09	1/5/2010 4:35:58 PM	ktop\SD cloning\clone	8.0.60	8.0.62	144	V350-35-T2(B)	3.0 (67)
{9CC1559D-E399-408F-B}	1/5/2010 2:58:56	1/5/2010 4:03:44 PM	ktop\SD cloning\clone	8.0.60	8.0.62	144	V350-35-T2(B)	3.0 (67)
{8E64E6B7-7931-4509-A}	1/5/2010 2:52:23	1/5/2010 3:57:11 PM	ktop\SD cloning\clone	8.0.60	8.0.62	144	V350-35-T2(B)	3.0 (67)
{92439365-EC0D-4A36-9}	1/5/2010 2:45:03	1/5/2010 3:49:52 PM	ktop\SD cloning\clone	8.0.60	8.0.62	144	V350-35-T2(B)	3.0 (67)
{049A588A-8E84-46D3-A}	1/5/2010 2:42:43	1/5/2010 3:47:31 PM	ktop\SD cloning\clone	8.0.60	8.0.62	144	V350-35-T2(B)	3.0 (67)
{F24521D8-F581-4B48-A2}	1/5/2010 2:40:22	1/5/2010 3:45:10 PM	ktop\SD cloning\clone	8.0.60	8.0.62	144	V350-35-T2(B)	3.0 (67)
{5683F402-0099-494E-98}	1/5/2010 2:35:40	1/5/2010 3:40:29 PM	ktop\SD cloning\clone	8.0.60	8.0.62	144	V350-35-T2(B)	3.0 (67)
{189FB7A8-BDFF-4C6D-8}	1/5/2010 2:23:40	1/5/2010 3:28:28 PM	ktop\SD cloning\clone	8.0.60	8.0.62	144	V350-35-T2(B)	3.0 (67)
{41B0944E-889A-4F19-B5}	1/3/2010 3:34:12	1/3/2010 4:39:04 PM	ktop\SD cloning\clone	8.0.60	8.0.60	144	V350-35-T2(B)	3.0 (23)
{97604273-A59D-45E1-A}	12/21/2009 3:22:36	12/21/2009 4:27:31 PM	ktop\SD cloning\clone	8.0.60	8.0.60	144	V350-35-T2(B)	3.0 (23)

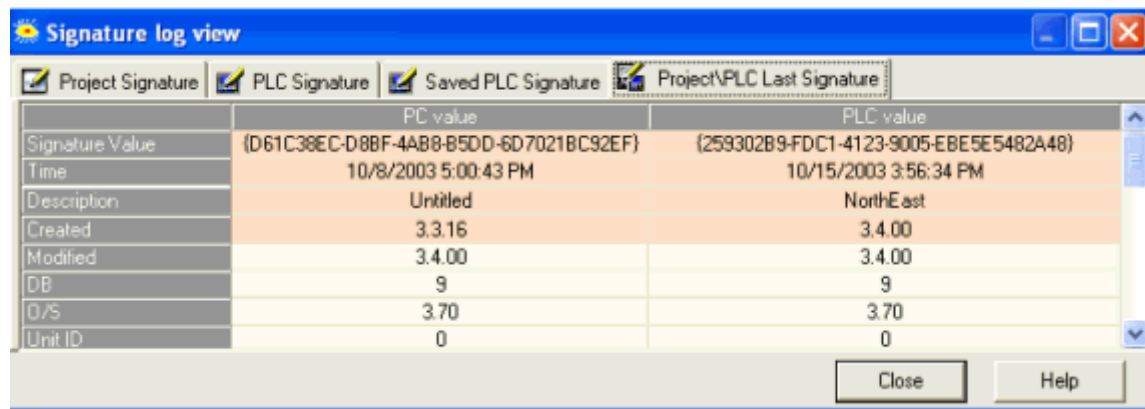
- Tracks the last projects downloaded to a PLC.

Signature Value	Time		VisiLogic Version				Firmware	
	PC	PLC	Path	Created	Modified	DB	PLC Model	O/S
{48C701B4-C36F-4DCC-8316-9}	1/3/2010 3:49:25 PM	10/14/2006 10:33:31 PM	ettings\Cara\	8.0.60	8.0.62	144	V350-35-TA24(3.0 (67)
{2B154D28-46F9-4034-B2A3-D}	1/3/2010 3:26:36 PM	10/14/2006 10:10:42 PM	ettings\Cara\	8.0.60	8.0.62	144	V350-35-TA24(3.0 (67)
{920C7DDA-4091-4B19-890F-4}	12/23/2009 2:48:19 PM	10/3/2006 9:32:39 PM	ettings\Cara\	8.0.60	8.0.60	144	V350-35-TA24(3.0 (67)
{57E75158-E119-45AF-8552-0A}	12/21/2009 3:27:17 PM	10/1/2006 10:11:39 PM	Cara\Dev\top	8.0.60	8.0.60	144	V350-35-TA24(3.0 (67)

- Enables you to save the signature log within a VisiLogic project.

Signature Value	Time	Project Properties			Version	
		User Name	Description	Path	Created	Mod
{5C9EEFA7-7559-42DA-8A58-E3A7C6E7ECAD}	10/15/2003 1:42:52 PM	Unknown	Untitled	Untitled	3.4.00	
{74CC6F89-9832-4707-8F39-4D8A9A30AE55}	10/15/2003 1:43:35 PM	Unknown	Untitled	ations\Station 1.vlp	3.4.00	3
{90BE6152-0BCB-454F-A9E3-D73A41B2CD30}	10/15/2003 1:44:17 PM	Unknown	Untitled	ations\Station 1.vlp	3.4.00	3
{4F85492C-13ED-464F-936B-91FEE435CB64}	10/15/2003 1:45:23 PM	Unknown	Untitled	ations\Station 1.vlp	3.4.00	3

- Compares the signature of the project to the signature of the last project that was downloaded to the PLC.



The screenshot shows a window titled "Signature log view" with four tabs: "Project Signature", "PLC Signature", "Saved PLC Signature", and "Project\PLC Last Signature". The "Project\PLC Last Signature" tab is active, displaying a comparison table between a Project signature and a PLC signature.

	PC value	PLC value
Signature Value	{D61C38EC-D8BF-4A88-B5DD-6D7021BC92EF}	{259302B9-FDC1-4123-9005-EBE5E5482A48}
Time	10/8/2003 5:00:43 PM	10/15/2003 3:56:34 PM
Description	Untitled	NorthEast
Created	3.3.16	3.4.00
Modified	3.4.00	3.4.00
DB	9	9
O/S	3.70	3.70
Unit ID	0	0

Buttons: Close, Help

HMI Display Bit

You can link an MB which will be ON while the Display is shown on screen, or an XB which will change status.

