

COGNEX

VisionView[®] Application Note

Siemens HMI Panels

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Introduction

This application note describes the necessary steps to integrate the Cognex VisionView® application onto a Windows® CE-based Siemens HMI panel.

The VisionView application allows for real-time view and recognition of automotive parts during the assembly process using Cognex sensors to provide the real-time images to the SIMATIC HMI panel. The VisionView application can be configured for the runtime environment of the machine HMI panel used to visualize and control the machine.

The VisionView application can be deployed on the following Siemens devices:

Table 1-1: Supported Windows CE-based Siemens HMI Panels

Panel Type (Windows CE Version)	Model	SIMATIC ProSave	SIMATIC WinCC®
TP Comfort PRO series (Windows CE 8.0)	TP1200 Comfort PRO	15.0.0.0 or higher	WinCC (TIA Portal) Comfort/Advanced V14 SP1
	TP1500 Comfort PRO		
	TP1900 Comfort PRO		
	TP2200 Comfort PRO		

Note:

- The VisionView CE-SL 1.6.8 PR2 software only supports the above Siemens HMI panels with WinCC (TIA Portal) V14 SP1. You cannot install the VisionView CE-SL 1.6.8 PR2 software to the previously supported Siemens HMI panels with WinCC (TIA Portal) V12 or V13.
- It is necessary to use the Ethernet port on the SIMATIC HMI panel to connect to the Cognex sensor.
- VisionView requires a minimum of 32,000 KB to run, but more memory may be used as sensors are connected. It is recommended that the default 82,000 KB of program memory is used. Reducing this amount can cause sensors to disconnect or out of memory errors. To adjust the program memory on the Siemens panel, click *Control Panel > System > Memory tab* and adjust the amount of allocated memory in use.
- VisionView does not support the Portrait screen orientation on TP Comfort PRO series panels.
- Siemens CE-based HMI panels do not include Asian fonts. In order to display some languages, it may be required to install the necessary resources, including fonts, on the panel.
- A power cycle is required after uninstalling the VisionView application from a TP Comfort PRO series panel using ProSave. After the power cycle, manually remove the VisionView desktop shortcut icon from the panel.

VisionView Support

Cognex online support is available to assist you in using the VisionView application software. For online support, documentation, and downloads, visit:

<http://www.cognex.com/Support/VisionView>.

Installation and Configuration

Install the Software to the PC

1. For TP Comfort PRO series panels, install WinCC (TIA Portal) V14 SP1 to the PC. During the WinCC installation, SIMATIC ProSave is also installed to the PC.



Tip: To learn more about the WinCC software, visit the Siemens [website](#).

2. Manually upgrade SIMATIC ProSave to V15.



Tip: The SIMATIC ProSave software is available as a free [download](#) from the Siemens website.

3. Install the VisionView CE-SL software to the PC. This will automatically install the following to the PC:
 - Files required for the configuration software.
 - Component files provided by Cognex for ProSave software, that are used to install VisionView and its required components to the Siemens panel.
 - Files required for sample applications for use in WinCC to demonstrate the VisionViewHMIControl program.

Configure SIMATIC ProSave

SIMATIC ProSave is used to transfer software between the PC and the HMI panel.

1. Power-cycle the Siemens panel.
2. If transferring software to a TP Comfort PRO series panel, from the panel, click *Control Panel > System > Memory tab* and set the allocated storage memory greater than **82,000 KB**.

WARNING: On TP Comfort PRO series panels, installing VisionView fails if the panel does not have enough allocated storage memory.

3. From the PC, launch the SIMATIC ProSave software.

Note: SIMATIC ProSave can be typically found by clicking *Start menu > All Programs > Siemens Automation > SIMATIC > ProSave > SIMATIC ProSave* on Windows 7/Windows 10.

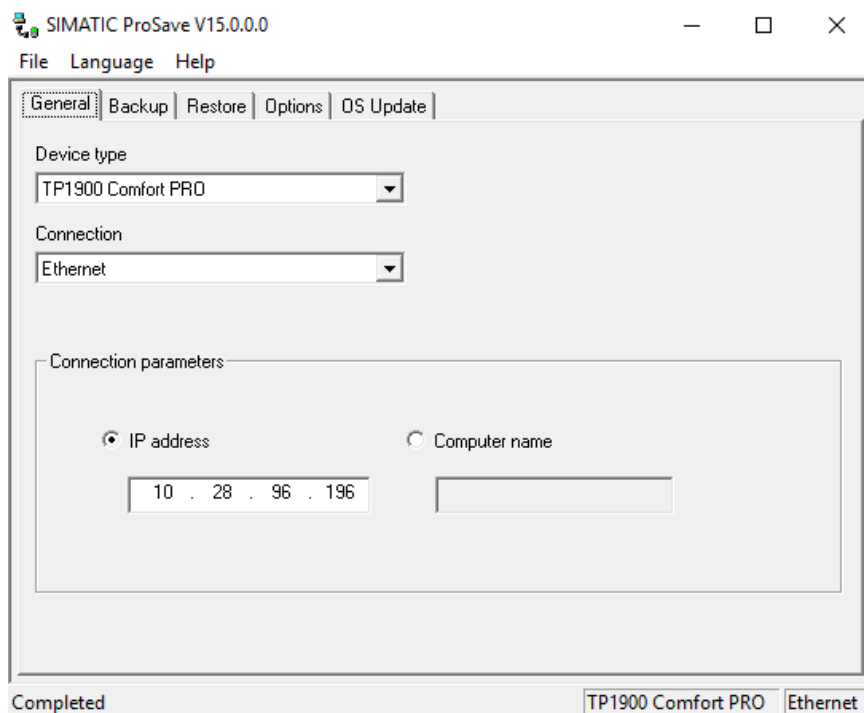


Figure 2-1: General Tab

4. From the General tab, select the appropriate Device type.
5. Select **Ethernet** as the Connection.
6. Select the **IP address** radio button and type in the IP address of the HMI panel on which the VisionView application will be installed.

7. Select the **Options** tab. The following components should be displayed in the Available options list:
Microsoft.NET CF 3.9 and **VisionView 1.6.8 PR2**.

Note:



- The Selection field auto-populates the VisionView installation directory path. The default installation directory is: C:\Program Files (x86)\Cognex\VisionView\CE-SL x.x.x\Siemens. If the Selection path doesn't contain the VisionView installation directory path, click the browse button, manually browse to the VisionView installation directory and click **OK**.
- The panel type (TP Comfort PRO Panels) is appended to each component name.

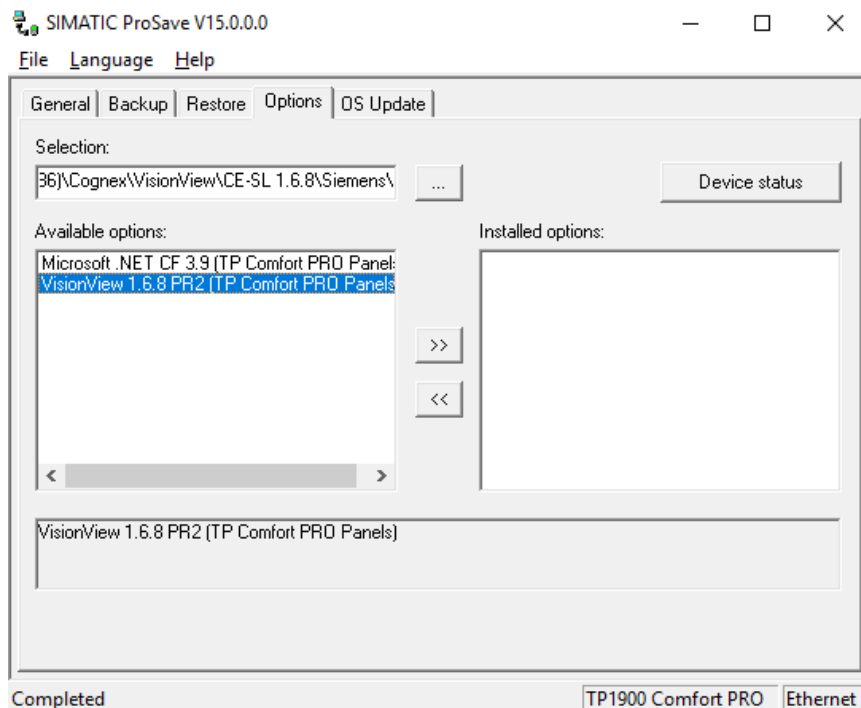


Figure 2-2: Options Tab

8. From the Available options list, select **Microsoft.NET CF 3.9** and click the double arrow (>>) to transfer the component file to the panel.
9. From the Available options list, select **VisionView 1.6.8 PR2** and click the double arrow (>>) to transfer the component file to the panel.

Note:



- If an error occurs when transferring files to the Siemens panel, power-cycle the panel and place it into Transfer mode.
- The VisionView 1.6.8 PR2 component is installed to the following location: \Program Files\VisionView.

10. If transferring components to a TP Comfort PRO series panel, restart the panel manually when prompted.
11. Close the SIMATIC ProSave software.

Configure WinCC (TIA Portal)

The WinCC (TIA Portal) software is used to configure the sample application that demonstrates the use of the VisionViewHMIControl program on TP Comfort PRO series panels.

Note:

- VisionView supports WinCC (TIA Portal) Comfort/Advanced V14 SP1.
- ① • The sample application included in the VisionView CE-SL software can be used on the TP1200 Comfort PRO, TP1500 Comfort PRO, TP1900 Comfort PRO, and TP2200 Comfort PRO. No other panels are supported by this release.

1. From the PC, launch the WinCC (TIA Portal) software.
2. TIA Portal V14 SP1 does not have the necessary support packages for TP Comfort PRO series panels preinstalled. To install them, first click on the **Installed software** button, and then **Detailed information about installed software** link.

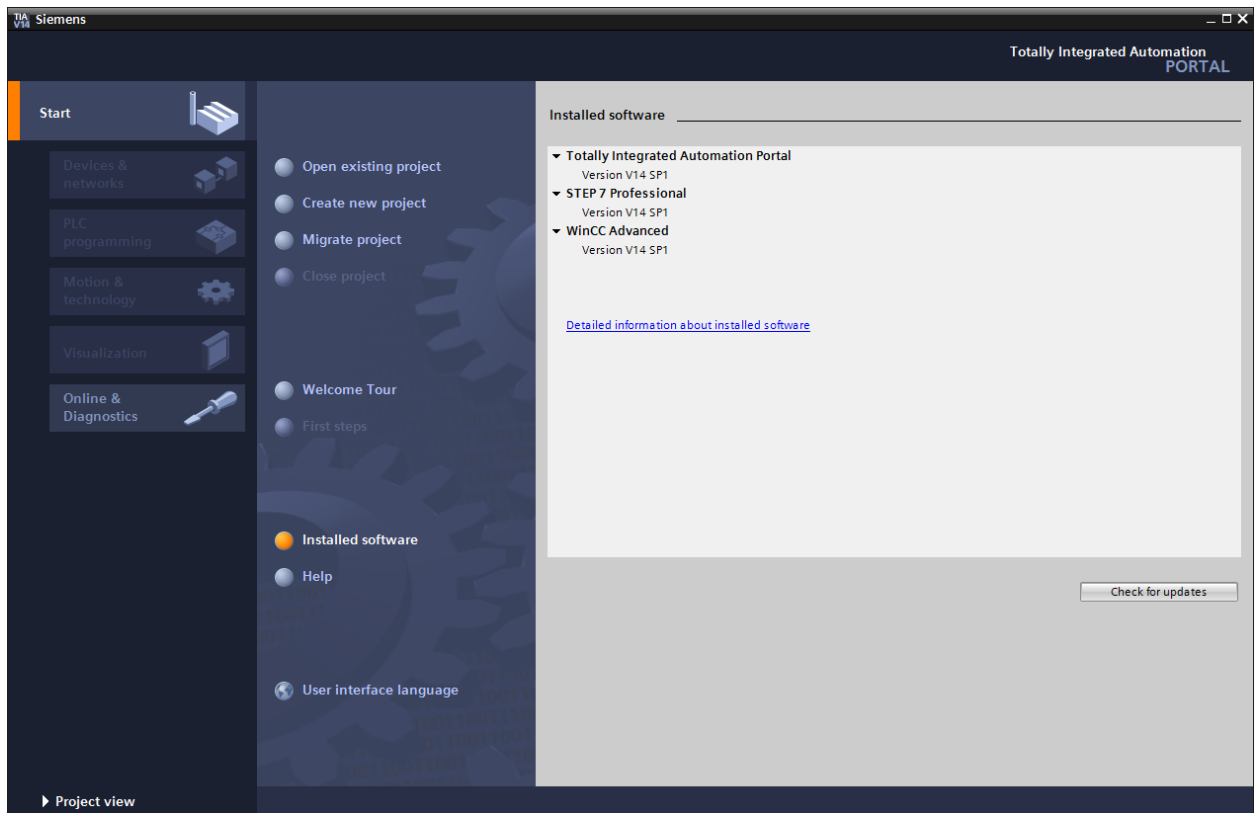


Figure 2-3: Installed Software

3. In the **Installation of support packages** section, click the **Download from the Internet** link.

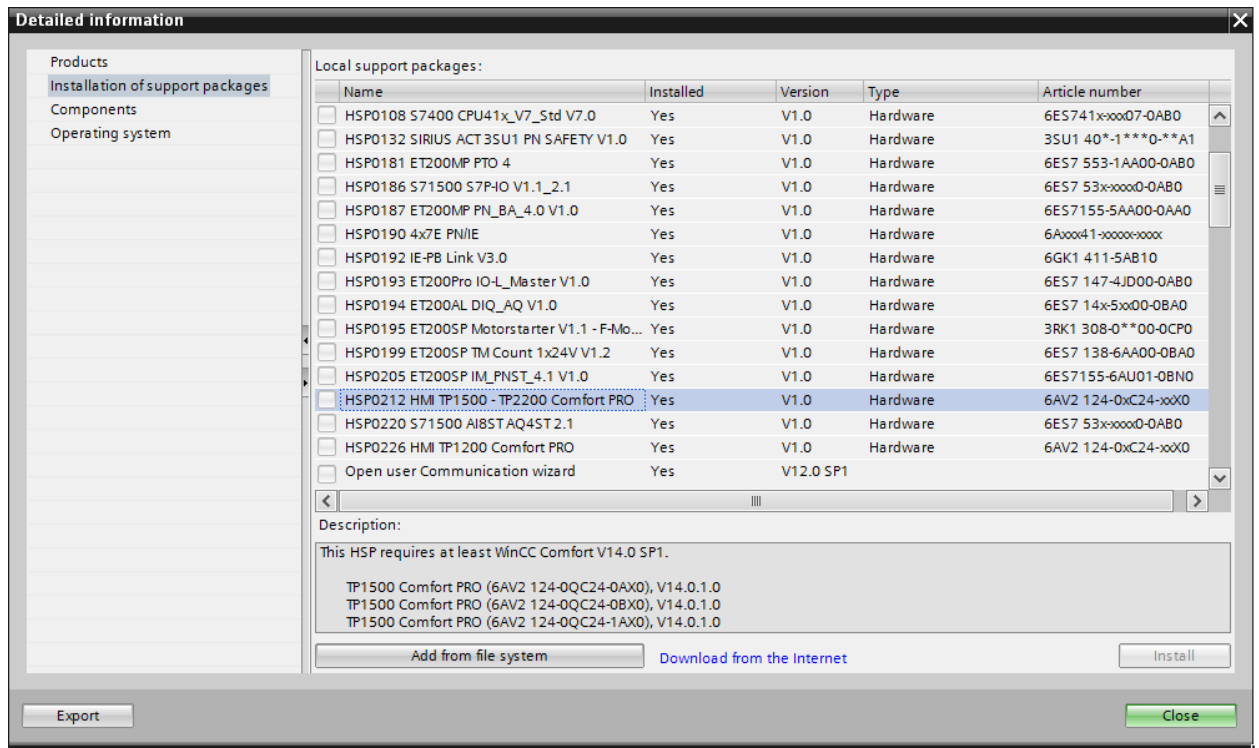


Figure 2-4: Installation of support packages

4. From the webpage, download the V14 support packages, which are contained in a zip file. Extract the zip file on your PC.
5. In the **Detailed information** window (as seen in [Figure 2-4](#)), click the **Add from file system** button. Find the files you have extracted, and select the **HMI TP1200 Comfort PRO** and the **HMI TP1500 - TP2200 Comfort PRO** files.
6. Check the checkboxes next to the newly loaded support package files. Click the **Install** button. The installation will occur in a new window and will require you to close TIA Portal.
7. Close TIA Portal, and then click the **Continue** button in the installation window.
8. Once installed, click the **Finish** button and reopen TIA Portal. The required support packages are now installed and the sample HMI project can be used.

9. Select the **Open existing project** radio button, and click the **Browse** button.

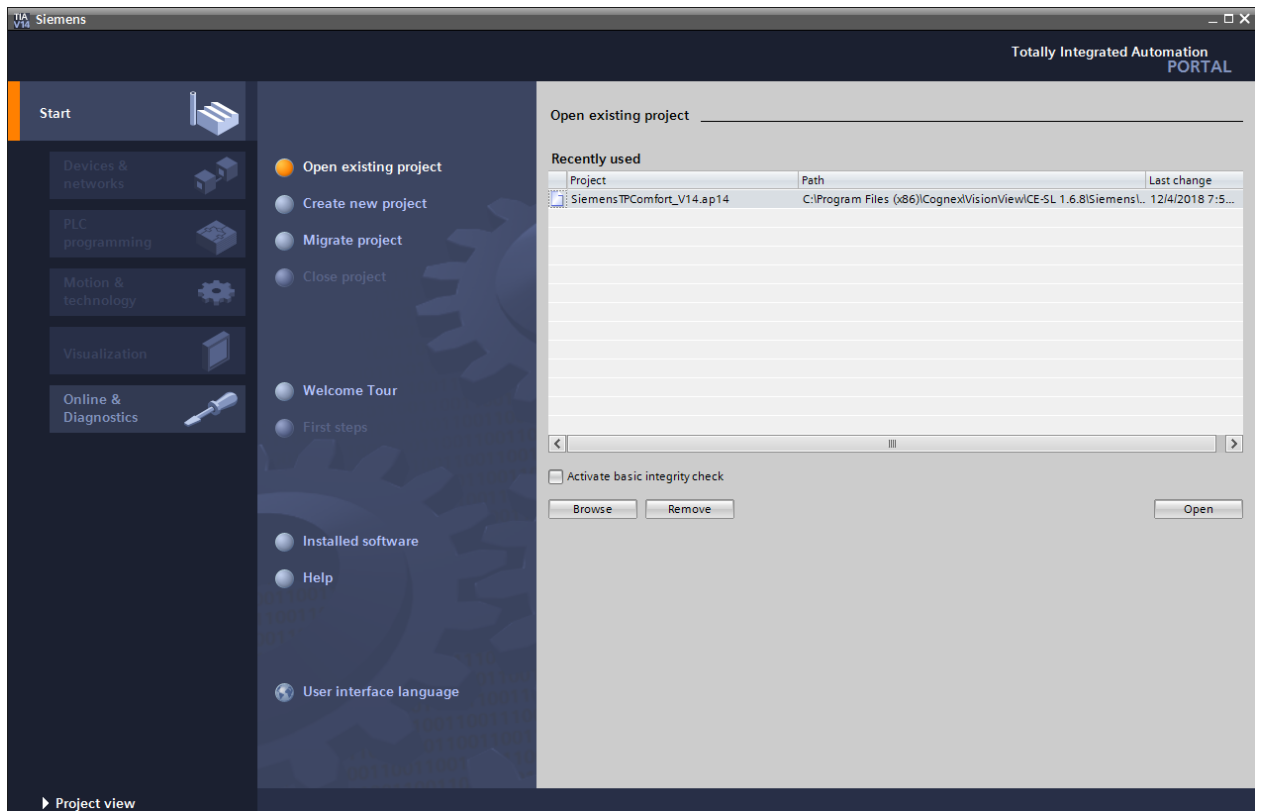


Figure 2-5: Sample Application

10. Select the **SiemensTPComfort_V14** folder and click the **Open** button.

Note: By default, the sample application folders are installed to: C:\Program Files (x86)\Cognex\VisionView\CE-SL x.x.x\Siemens\TIA Portal.

11. Select **Open the project view**.

- The sample application includes four buttons across the bottom of the screen to demonstrate the use of the VisionViewHMIControl program: **Show VisionView (Bounds Launch)**, **Show VisionView (Fullscreen Launch)**, **Hide VisionView** and **Close VisionView** (the buttons are placed on the screen template called "Template_1"). Select the appropriate button control and make adjustments to the VisionViewHMIControl program as needed (refer to [Using the VisionViewHMIControl Program in WinCC on page 11](#)).

Note: To use the sample application, VisionView must be installed to the default location on the panel (\Program files\VisionView).

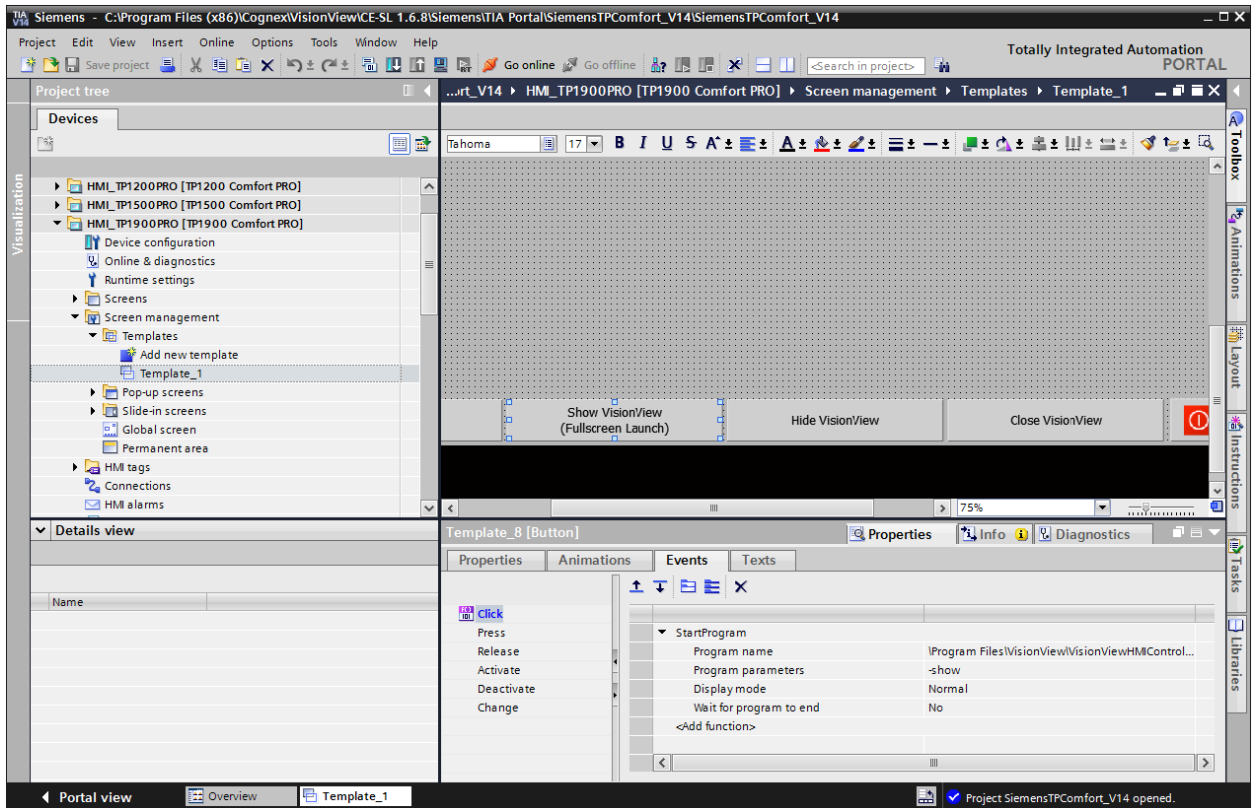


Figure 2-6: Sample Application

- Save any changes to the project.

- From the Online menu, select **Download to device** to open the Extended download to device screen.

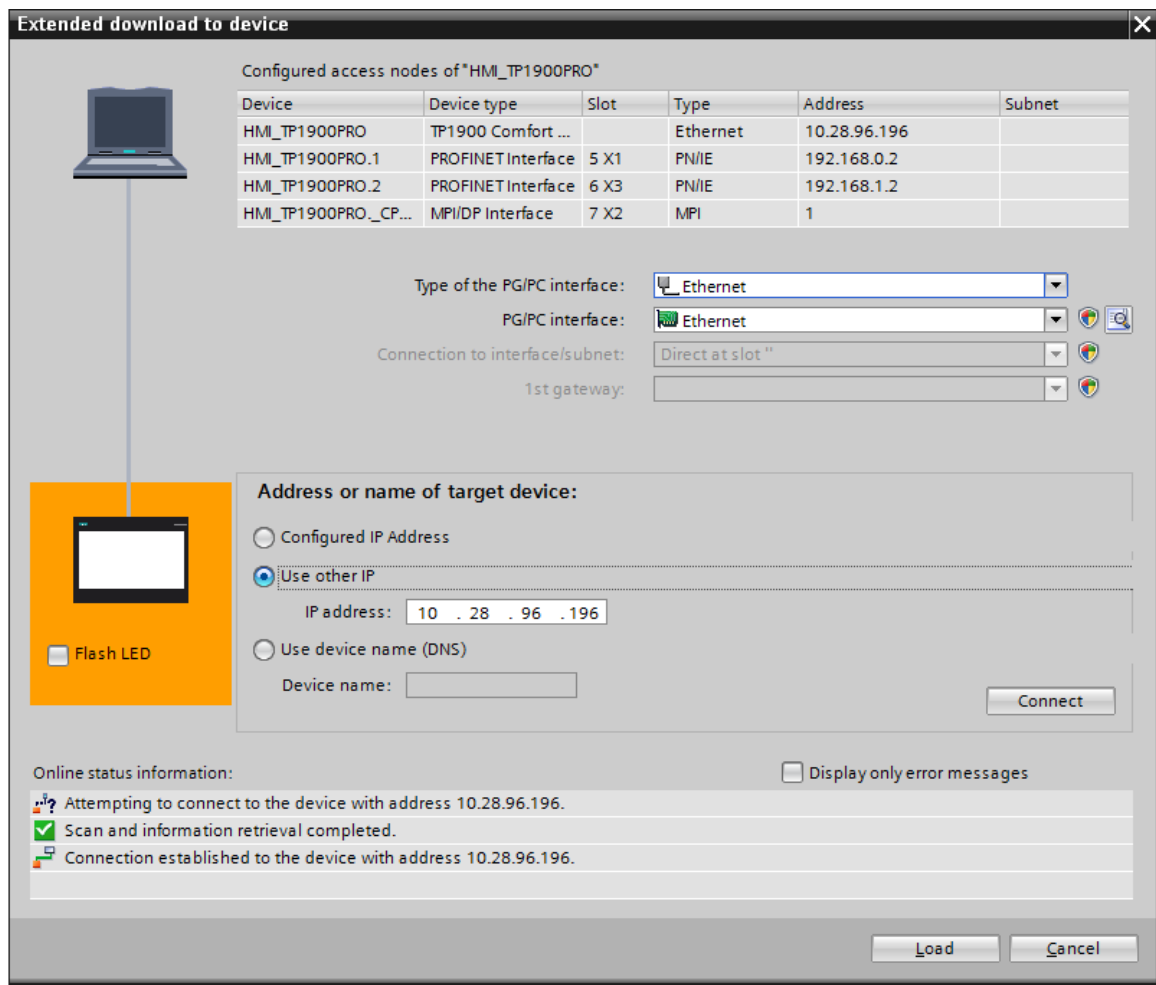


Figure 2-7: Extended Download To Device Screen

- Select the appropriate device and configure the transfer settings.

Note: For more information on the transfer settings, refer to the *SIMATIC WinCC (TIA Portal) Help* file.

- Click the **Load** button to transfer the HMI application from the PC to the TP Comfort PRO series panel.

Using the VisionViewHMIControl Program in WinCC

The VisionViewHMIControl program (TP Comfort PRO series panels) can be used to start, show, hide and close the VisionView application on the Siemens panels. Optionally, command line arguments can be specified to customize the VisionView application.

Note: The VisionViewHMIControl program is an application that is installed together with the VisionView application using ProSave. The VisionViewHMIControl program controls the VisionView application (Start, show and close).

Show VisionView

Launches the VisionView application. If the VisionView application is already running but is hidden, **Show VisionView** will unhide the application.

Note:

- For the VisionViewHMIControl, "-show" is required in the Program parameters field. When appending a command line argument, a space is required after "-show".
- The VisionView application can also be launched from the Start Menu or the desktop shortcut icon from the panel.
- On TP comfort panels, when the sample application is deployed, the taskbar or the desktop is not visible. To launch the VisionView application from the Start menu or the desktop shortcut icon, click the **Exit** button in the lower-right corner of the screen to close the program.

Arguments

By default, the VisionView application is launched (i.e., the first time Show VisionView is called) in full-screen and topmost mode, without a windowed frame. The following optional command line arguments may be specified in the Program parameters field (VisionViewHMIControl program) to launch the VisionView application in different modes.

Table 2-1: Arguments

Argument	Description
-bounds:x,y,w,h	Launches the VisionView application as a sub-region of the screen. The x and y values represent the coordinate positioning of the screen. The w and h values represent the pixel height and width of the screen. Minimum values: 640 (width) and 430 (height).
-windowed	Launches the VisionView application with a windowed frame that has Minimize, Maximize and Close buttons. In this mode, the VisionView application's Minimum and Close buttons (displayed in the lower right of the Run Mode screen) are not displayed. The VisionView application is allowed to be hidden behind other windows.
-nottopmost	The VisionView application is allowed to be hidden behind other windows.
-nomimize	The VisionView application's Minimize button (displayed in the lower right of the Run Mode screen) is not displayed.

Note:

- If the command line argument is not formatted properly, the VisionView application will ignore it.
- If more than one argument is specified, they must be separated with a space. For example, when “-bounds:x,y,w,h” and “-windowed” arguments are specified, the Arguments should be:
-bounds:0,0,640,430 -windowed.



- When specifying the bounds, spaces are not permitted within the argument. If less than the minimum value is specified for the width and/or height, VisionView uses the minimum value for the screen size. For example, if “-bounds:0,0,600,430” is specified, the screen size will be 640 x 430.
- When the VisionView application is launched using the “-windowed” command line argument and not maximized, the window may be moved. However, if moved, it may not be resized dynamically and the Minimize and Close buttons will not be displayed within the VisionView application.

Hide VisionView

Hides the VisionView application. At runtime, when the Hide VisionView button is pressed, the VisionView application is still running in the background and all sensors are still connected, but the window is hidden.



Note: For the VisionViewHMIControl, “-hide” is required in the Program parameters field.

Close VisionView

Closes and exits the VisionView application.



Note: For the VisionViewHMIControl, “-exit” is required in the Program parameters field.

License

License the VisionView Application

To deploy the VisionView application on the panel, you must purchase and install a license. To install a license, launch the VisionView application, click the green key button in the Cognex VisionView Setup screen, enter the Activation ID provided by Cognex in the Enter the Activation ID screen, and click **OK**.

