Honeywell

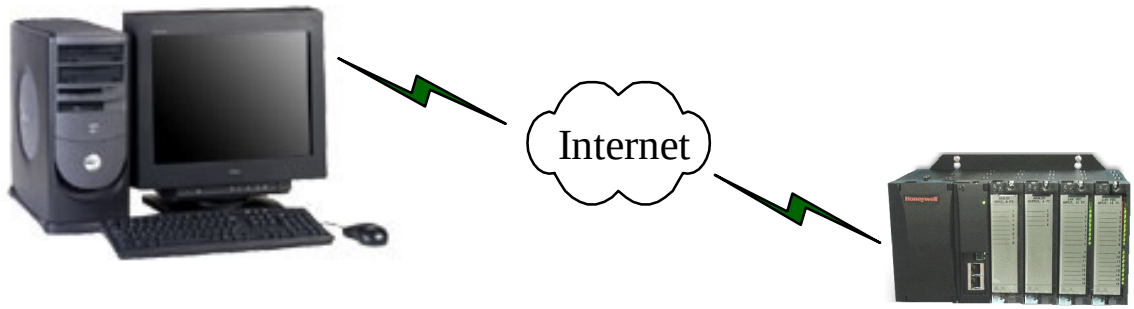
HC900 Product Note

Internet Access to Honeywell HC900 Controller via HC Designer Demo Software

Revision Date: 12/17/02

Summary

Honeywell has provided public Internet access from your Windows-based PC to an HC900 controller! It is located at Fort Washington, PA (home of the Honeywell Industrial Measurement and Control Marketing and Engineering groups). Its IP address may be accessed using the demo Hybrid Control (HC) Designer software to upload the controller configuration remotely. After upload, the HC900 demo configuration can be easily monitored and parameters changed. This will allow you to review the HC Designer functional environment for configuring a control and/or data acquisition strategy. However, configuration changes are protected from download by a switch position on the controller. We strongly advise that you review the Study Guide lessons included on this CD, especially Lesson 1 that overviews the user interface, to gain familiarity with this easy-to-use configuration tool. The following steps describe how to access the controller.



Accessing the Remote HC900 Over the Internet

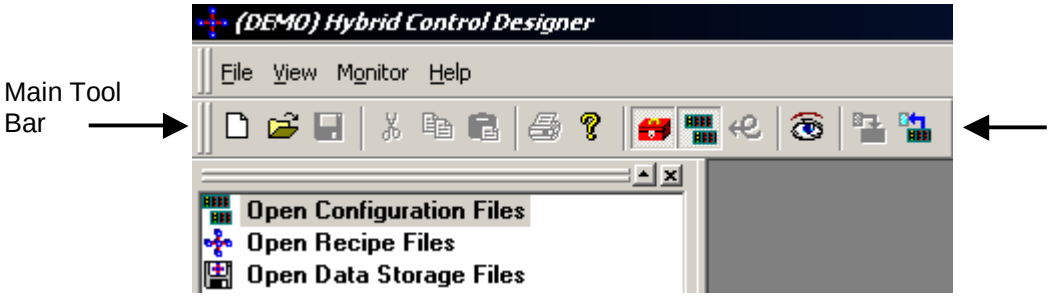
1. Click on the 

button on the main menu of the HC900 Explorer CD to load the demo HC Designer demo software on your PC.

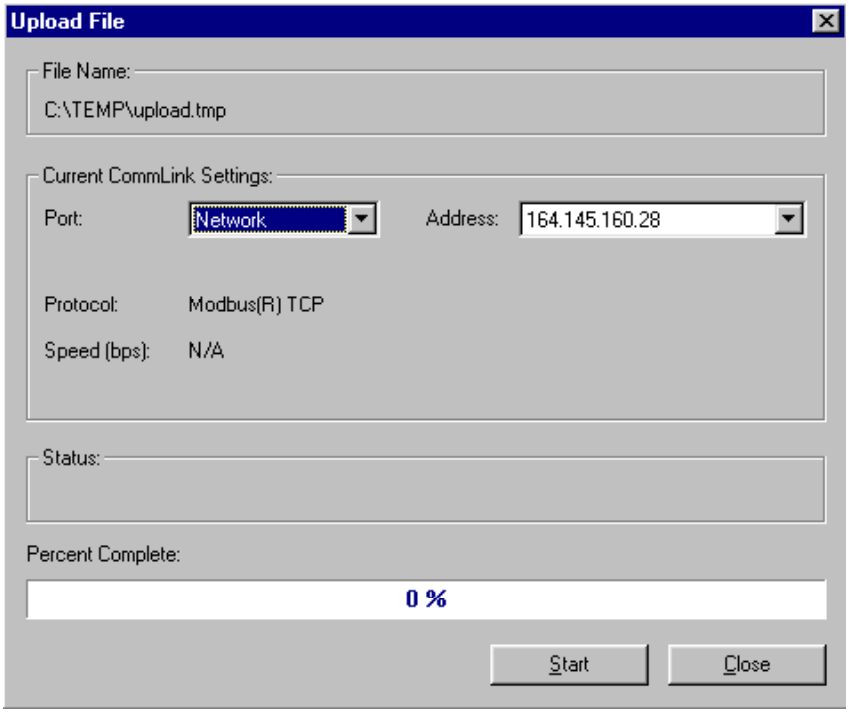
2. Make sure that you are connected into your company network or to an Internet Service Provider (ISP) such as AOL. Note that your company firewall may prevent access.

3. From the Windows **Start** menu, select the Hybrid Control Designer Demo program.

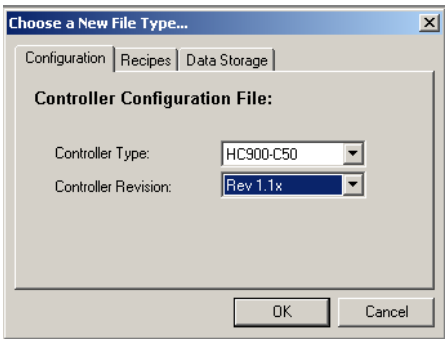
4. From the HC Designer Main tool bar menu, click on the Upload  button.



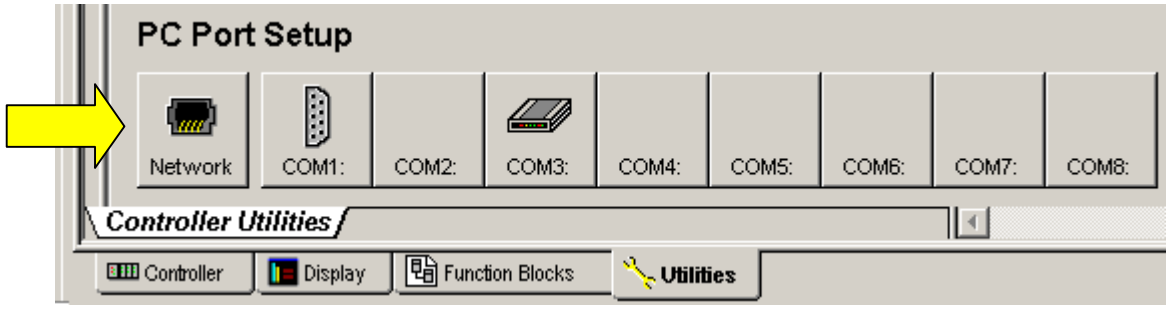
This will display the dialog box below that has the remote HC900 controller's IP address, **164.145.160.28** as a default using the Network port.



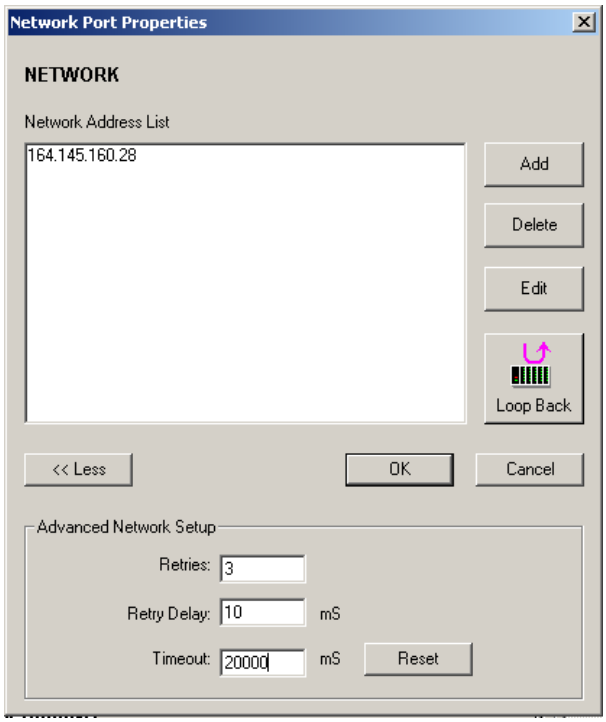
Click on **Start** to upload the controller's configuration. Depending on your Internet service, this may take several minutes (Note: when a controller is direct connected over Ethernet this is very fast, done in a few seconds). If the upload fails in the middle of a transmission, change the settings for retry and timeout. This may be due to Internet traffic at that particular time with your service. To do this, you will need to establish a new controller configuration first. Select File, New and enter the Controller Type and Revision as shown below.



Maximize the window, select the Utilities tab at the bottom of the display, and click on the Network button for PC Port Setup as shown below.



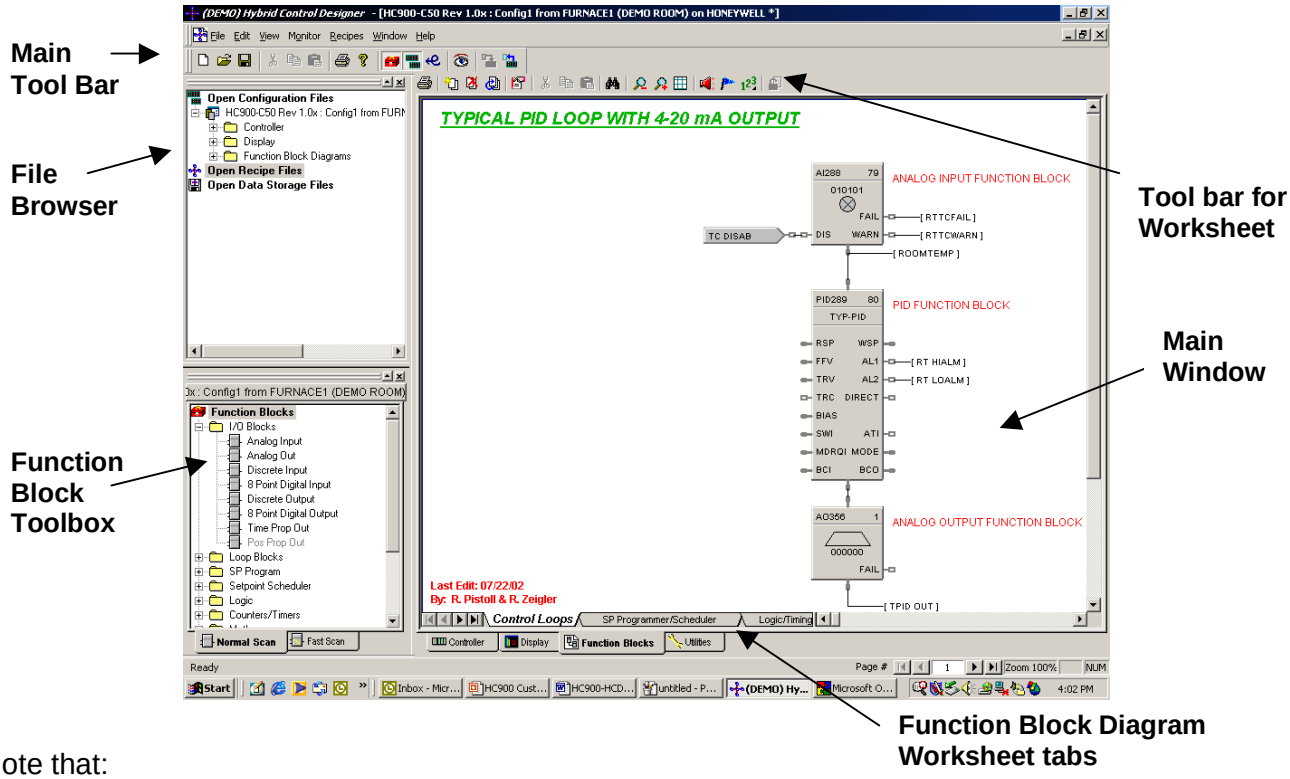
In the dialog box, click on the More >> button. Enter 3 for Retries and 20000 for the timeout as shown below.



Close the dialog box and retry the upload by selecting the upload button  on the menu bar or in the Utilities window, 

. This may still require several tries dependent on your Internet service.

5. When the upload is completed, you will be presented with the first page of the first function block worksheet for the HC900 configuration, labeled ***Control Loops*** as shown below after maximizing the window.



Note that:

- The function block configuration diagram is segmented by worksheet tabs according to function (there can be 20 worksheets of 20 pages each). Click on each tab to review the content.
- There is a Page selector and a slider bar to navigate to worksheet pages (Page # is shown in the status bar at lower right). Use it to see other pages.
- The text annotations are stored in the controller, not in the PC.
- There is a function block toolbox at the left that lists the function blocks by category, either Normal Scan (500 ms. Typ.) or Fast Scan (27 ms. Typ.). This is a dockable window and may be expanded.
- You can right click on any block in the diagram to get Help for the block
- There is a file browser that lists all configurations available. In this case, there is one that has been uploaded (right click on file name in browser to access if another is added).
- You can add/remove the Toolbox or browser using the  buttons on the main tool bar.
- The worksheet tabs below the main window allow access to functions related to:

Controller - lists the I/O blocks entered on the function block diagram, their location in the racks(s) plus I/O range assignment

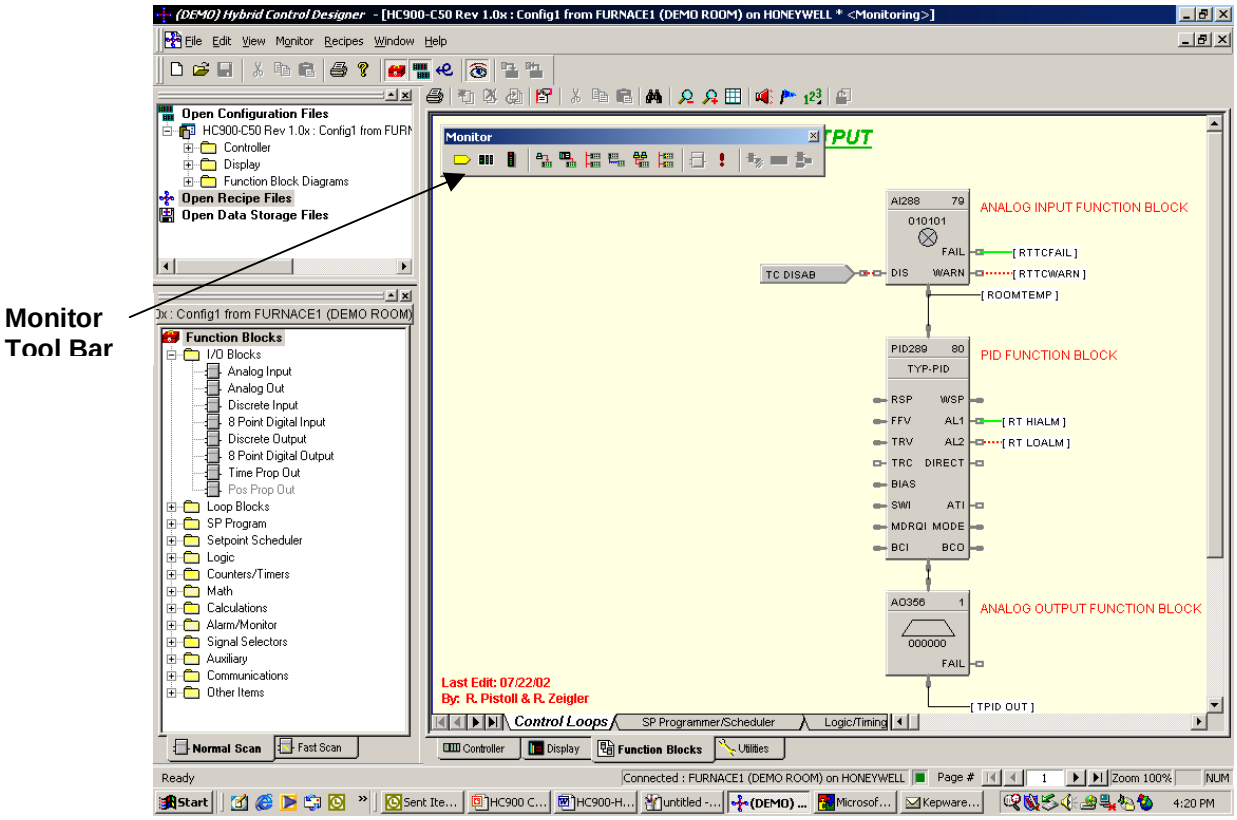
Display – for Operator Interface display assignment and tag selections for the displays via drag and drop. The worksheet shown lists the displays assigned to each button of the HC900 Operator Interface. The displays tool button  accesses the display configuration.

Function Blocks – provides access to function block diagram worksheets

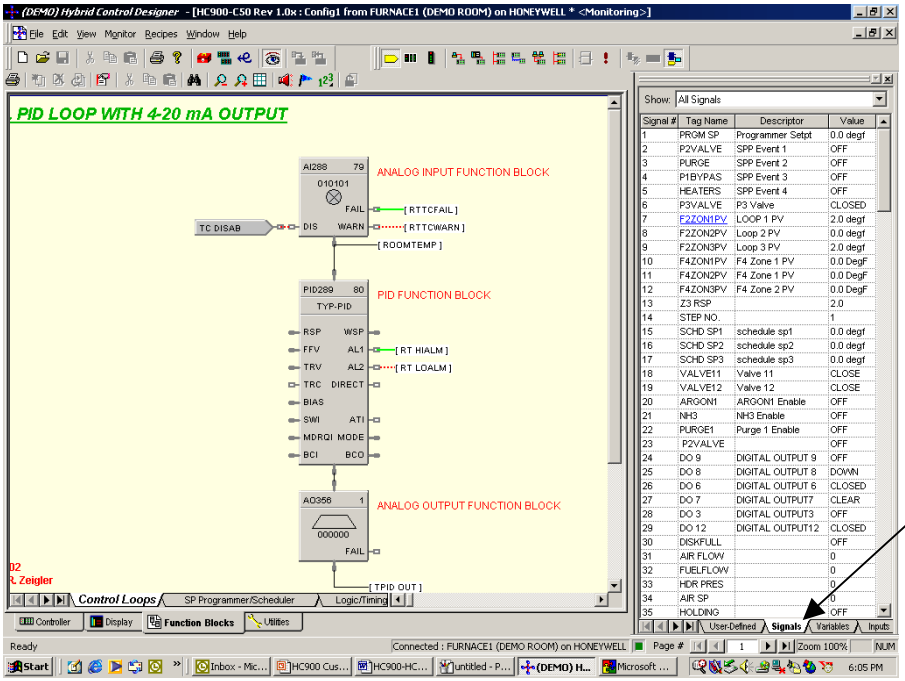
Utilities – provides access to utility functions

- There is a tool bar above the main window related to the worksheet tab.

6. To monitor the configuration (assuming no additions were made), click on the monitor button on the main tool bar  . Click on OK at the dialog box to enter the monitor mode. A monitor tool box will appear that allows access to the Watch Window and diagnostic windows. See below.

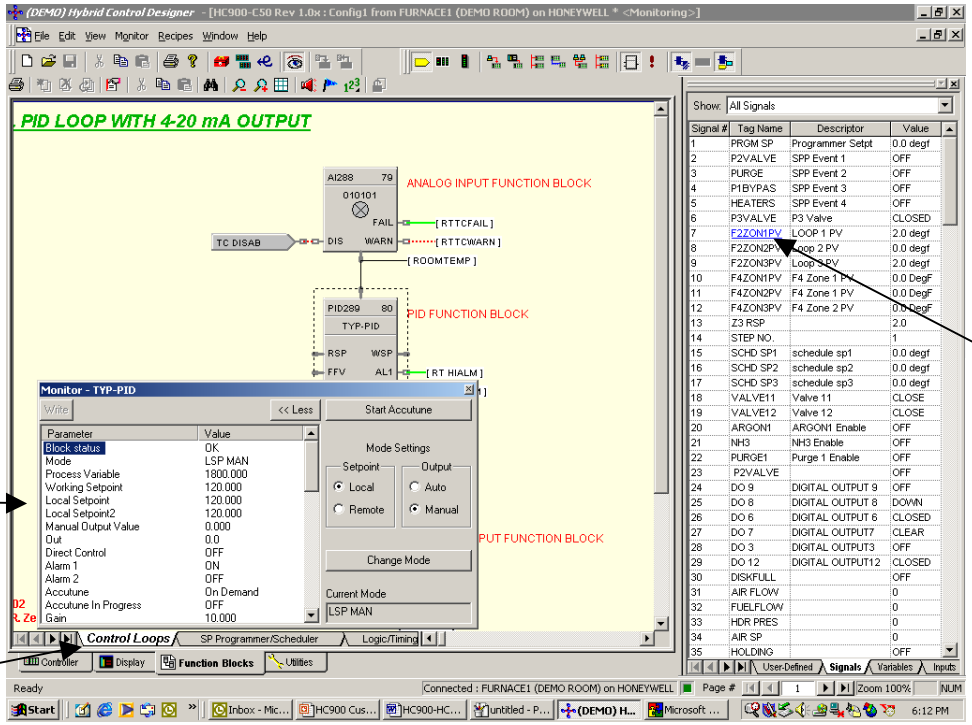


Close Browser and Toolbox  on Main Menu bar, move Monitor tool bar, activate Watch Window icon  on Monitor tool bar for data groups and select **Signals** as the data group for the watch window as shown below. Note that you make your own Watch list by right clicking on any signal tag on the diagram (attached to output pins) or Variable (attached to input pins and writeable), then selecting “Add to Watch Summary”. Access the User-Defined watch window to view.



Watch list data group selections plus User-Defined group

- Right click on PID loop block and select Monitor in the dialog box to monitor the block. Change PID Mode Settings and click on Change Mode to activate.
- Click on tag name in data group for direct access to tag location.
- Click on worksheet tabs to access other Function block worksheets.
- Right click on multiple blocks to monitor concurrently even from different worksheets.

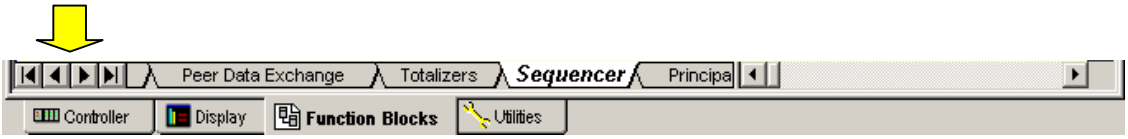


Tag access in diagram

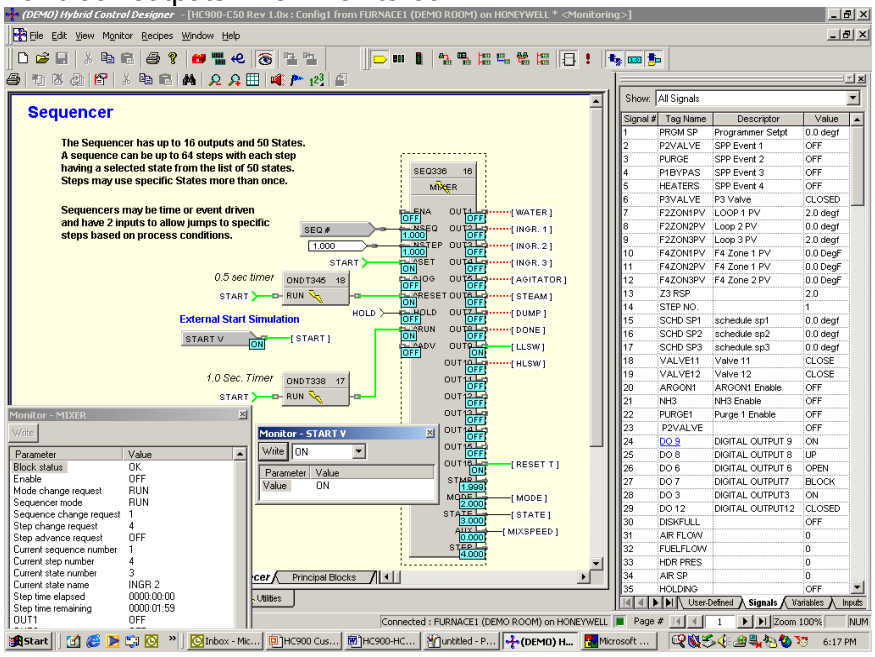
Interactive PID access

Function block Worksheet Access

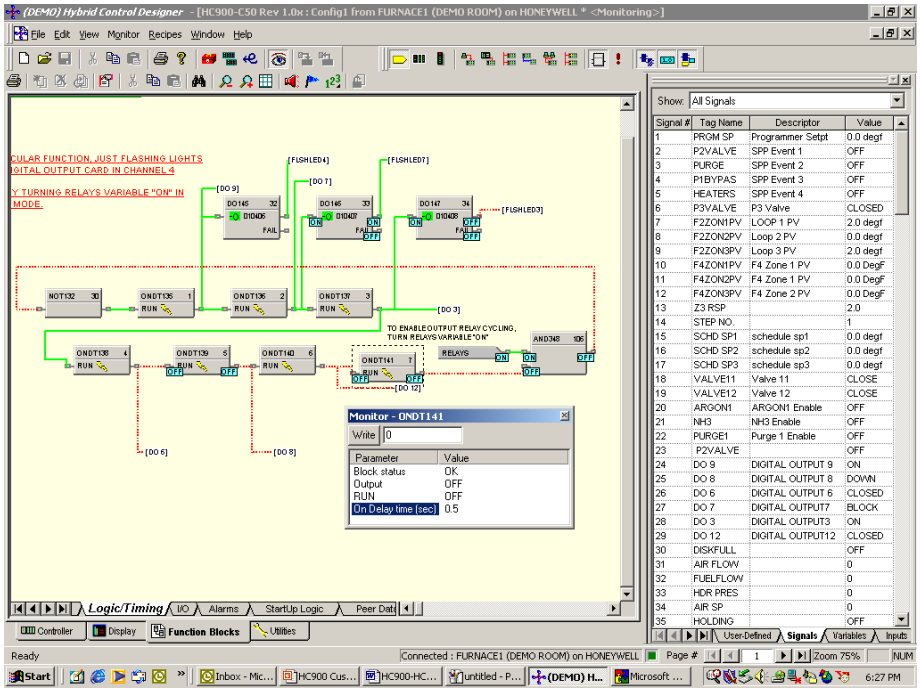
Access the ***Sequencer*** worksheet by scrolling horizontally using the navigation shown below:



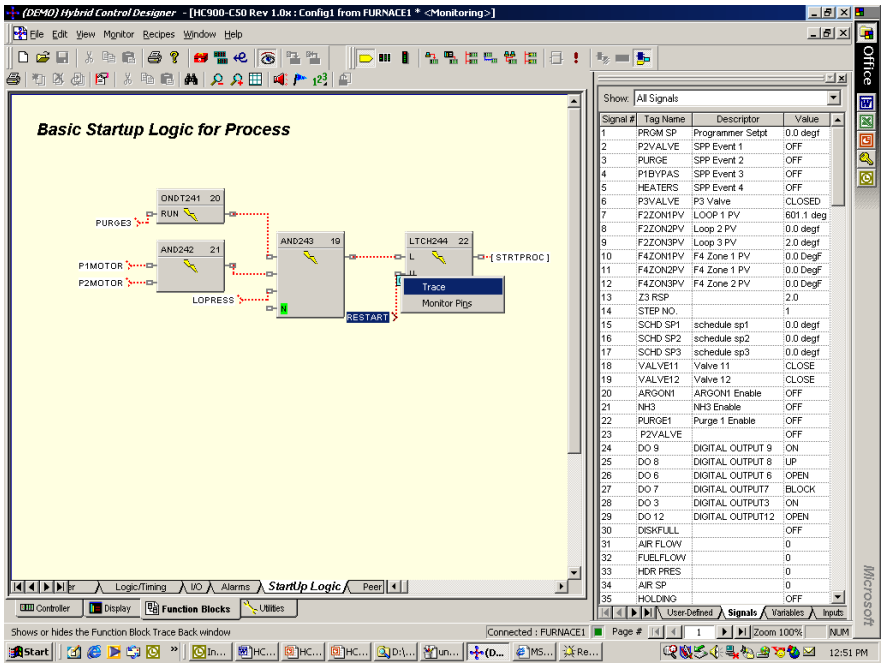
Hover over the block, and click to activate live data on pins. Note the logic power flow for digital status, dotted red for OFF, green for ON. Continue for other blocks. Note that force capability is available at the Watch window (**Variables**, **I/O**) and at function block monitor windows for block outputs when monitored.



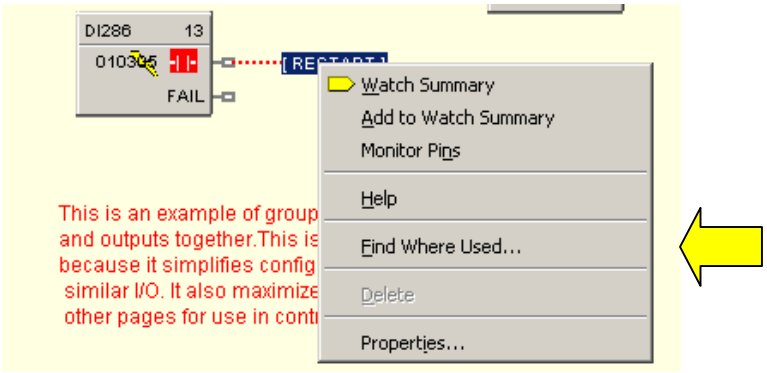
Select the ***Logic/Timing*** Worksheet and view the logic power flow shown on the display. Use the Zoom buttons  on the tool bar to Zoom In or Out. Click on blocks for status.



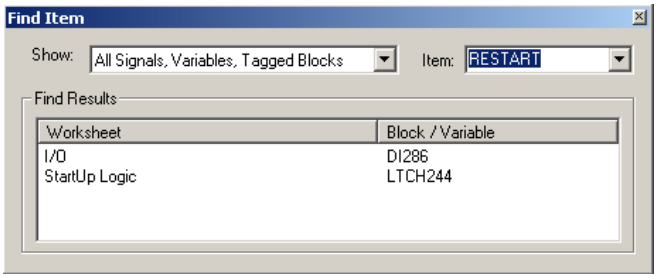
Navigate to and click on the ***StartUp Logic*** worksheet tab as shown below.



Right click on the “U” (Unlatch) pin for the Latch block to execute a traceback to the source of the signal. Select “Trace” which will take you to a Digital Input block on the ***I/O*** worksheet as shown below.



Right click on the Restart tag and select “Find Where Used” to locate all destinations for the selected tag. Click on “StartUp Logic” to return to the destination of the tag. The traceback and Find features make it easy to find the areas of the program desired for easier debug.



You may return to the Edit Mode at any time via the Monitor icon on the Main tool bar and return to Monitor mode with the same settings as in the previous session!