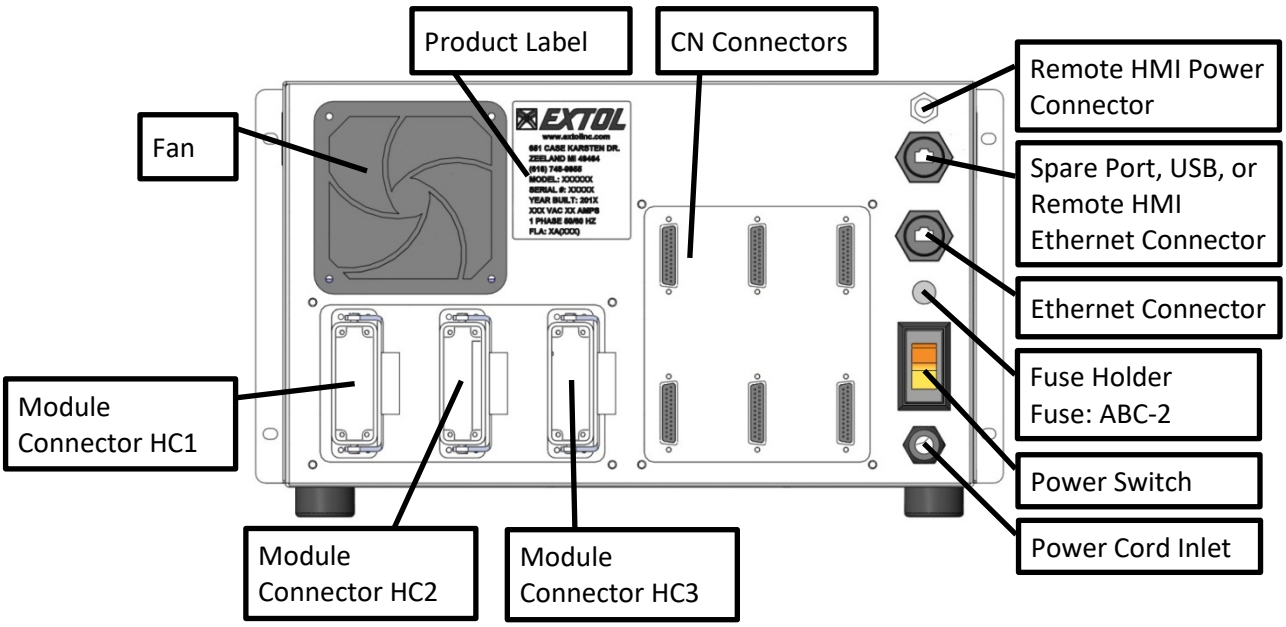
InfraView™ Controller PSC Series
Quick Start Guide

This Quick Start Guide is a condensed version of the User Manual. Please refer to the User Manual for complete instructions on the use of this product.

Thank you for selecting the InfraView Controller from Extol. We appreciate your business and welcome your feedback regarding our equipment and this guide!

Product Front View

Product Back View



Mounting & Wiring the Controller

Dimensions, Mounting, & Power

Please see the Quick Design Reference document for dimensions, mounting information, and power requirements.

Installation Procedure

1. Mount the PSC controller using either the mounting flange or the feet.
    a. Refer to the Quick Design Reference or User Manual Appendix A for mounting dimensions.
    b. The controller feet may be removed for fixed mounting to a horizontal surface (always leave at least a ¼" gap under the controller for cooling air to circulate).
    c. Use M6 or ¼" screws for mounting.
    d. When mounting PSC1600s or larger using the flange you must also install a bracket to support the back of the controller.
2. Connect the controller to the proper AC electrical service for your controller (see table below).

Model	Power Requirement
PSC400	92-264 VAC, 15 A service, 47/63Hz, 530W (FLA: 5.8/2A)
PSC800	92-264 VAC, 15 A service, 47/63Hz, 980W (FLA: 10.7/3.7A)
PSC1200	92-264 VAC, 1Ph, 15A service (240VAC)/20A (120VAC), 47/63Hz, 1440W (FLA: 15.7-5.4A)
PSC1600	158-264 VAC, 1Ph, 15A service (240VAC), 47/63Hz, 1890W (FLA: 12.0-7.2A)
PSC2000	195-264 VAC, 1Ph, 15A service, 47/63Hz, 2350W (FLA: 12.0-8.9A)
PSC2400	175-264 VAC, 1Ph, 20A service, 47/63Hz, 2800W (FLA: 16.0-10.6A)

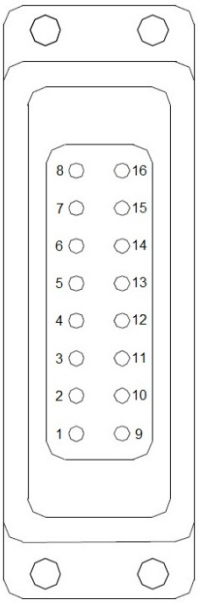
3. Plug the CN connector cables into the back of the controller and terminate the wires in a junction box. The wiring configuration of CN1 is in the table below. Refer to the User Manual Appendix B and/or the electrical schematic for the wiring configurations of CN2 – CN6. The standard I/O configuration uses PNP type inputs and outputs.

Pin #	Wire Color	Address	Description
1	Blk	%IX0.0	Control Power Input (%IX0.0 is reserved for Control Power)
2	Wht	%IX0.1	Cycle Start Input
3	Red	%IX0.2	Machine Reset Input
4	Grn	%IX0.3	Configurable Recipe Select Input
5	Org	%IX0.4	Configurable Recipe Select Input
6	Blu	%IX0.5	Configurable Recipe Select Input
7	Wht/Blk	%IX0.6	Configurable Recipe Select Input
8	Red/Blk	%IX0.7	Fault Reset Input
9	Grn/Blk	%QX0.0	System Ready Output (%QX0.0 is reserved for System Ready)
10	Org/Blk	%QX0.1	Low Flow Cooling Air Valve
11	Blu/Blk	%QX0.2	High Flow Cooling Air Valve
12	Blk/Wht	%QX0.3	Punch 1 Valve
13	Red/Wht	%QX0.4	Punch 2 Valve
14	Grn/Wht	%QX0.5	Cycle Complete 1 Output
15	Blu/Wht	%QX0.6	Cycle Complete 2 Output
16	Blk/Red	%QX0.7	Fault Present Output
17	Wht/Red	NC	
18	Org/Red	NC	

Pin #	Wire Color	Address	Description
19	Blu/Red	NC	
20	Red/Grn	NC	
21	Org/Grn	Reserved	Reserved
22	Blk/Wht/Red	Reserved	Reserved
23	Wht/Blk/Red	+24	+24 VDC
24	Red/Blk/Wht	DC COM	DC COM
25	Grn/Blk/Wht	DC COM	DC COM

4. Terminate the InfraStake or InfraWeld modules to the HC connector(s) on the back of the controller using the provided cables. 16ga or 17ga wire is required to handle the current and minimize voltage drop to the module. The wiring configuration of the HC connectors is below. Refer to section 3.4 of the user manual and the electrical schematic for additional information.

Module #	HC Pin #	Description	Used On
1	HC1-1	+ VDC – module 1	All models
	HC1-2	0 VDC – module 1	
2	HC1-3	+ VDC – module 2	All models
	HC1-4	0 VDC – module 2	
3	HC1-5	+ VDC – module 3	All models
	HC1-6	0 VDC – module 3	
4	HC1-7	+ VDC – module 4	All models
	HC1-8	0 VDC – module 4	
5	HC1-9	+ VDC – module 5	PSC800 and up
	HC1-10	0 VDC – module 5	
6	HC1-11	+ VDC – module 6	PSC800 and up
	HC1-12	0 VDC – module 6	
7	HC1-13	+ VDC – module 7	PSC800 and up
	HC1-14	0 VDC – module 7	
8	HC1-15	+ VDC – module 8	PSC800 and up
	HC1-16	0 VDC – module 8	
9	HC2-1	+ VDC – module 9	PSC1200 and up
	HC2-2	0 VDC – module 9	
10	HC2-3	+ VDC – module 10	PSC1200 and up
	HC2-4	0 VDC – module 10	
11	HC2-5	+ VDC – module 11	PSC1200 and up
	HC2-6	0 VDC – module 11	
12	HC2-7	+ VDC – module 12	PSC1200 and up
	HC2-8	0 VDC – module 12	
13	HC2-9	+ VDC – module 13	PSC1600 and up
	HC2-10	0 VDC – module 13	
14	HC2-11	+ VDC – module 14	PSC1600 and up
	HC2-12	0 VDC – module 14	
15	HC2-13	+ VDC – module 15	PSC1600 and up
	HC2-14	0 VDC – module 15	
16	HC2-15	+ VDC – module 16	PSC1600 and up
	HC2-16	0 VDC – module 16	



HC Connector

5. Terminate the Full Stroke and Boss Presence sensors to the junction box where the CN connectors are terminated. Refer to the electrical schematic for address and terminal information.
6. If the Remote HMI Enclosure option was purchased, mount it in your desired location and route the wires to the back of the PSC controller. Plug the M12 power cable and Ethernet cable into the back of the PSC controller.

Power Up

Once you've finished all the wiring you may power up the controller. If at any time during operation you do not get the expected result, use the troubleshooting guide in the user manual (section 10.3) to try to resolve the problem. The user manual is stored in the controller memory. Go to the "Help" screen and select "About". Insert a USB stick in the USB port on the back of the controller (or on the HMI enclosure if the remote HMI option was purchased) and press the USB icon in the lower left. When the operation is complete pull out the USB stick, insert it in your computer, and open the user manual.

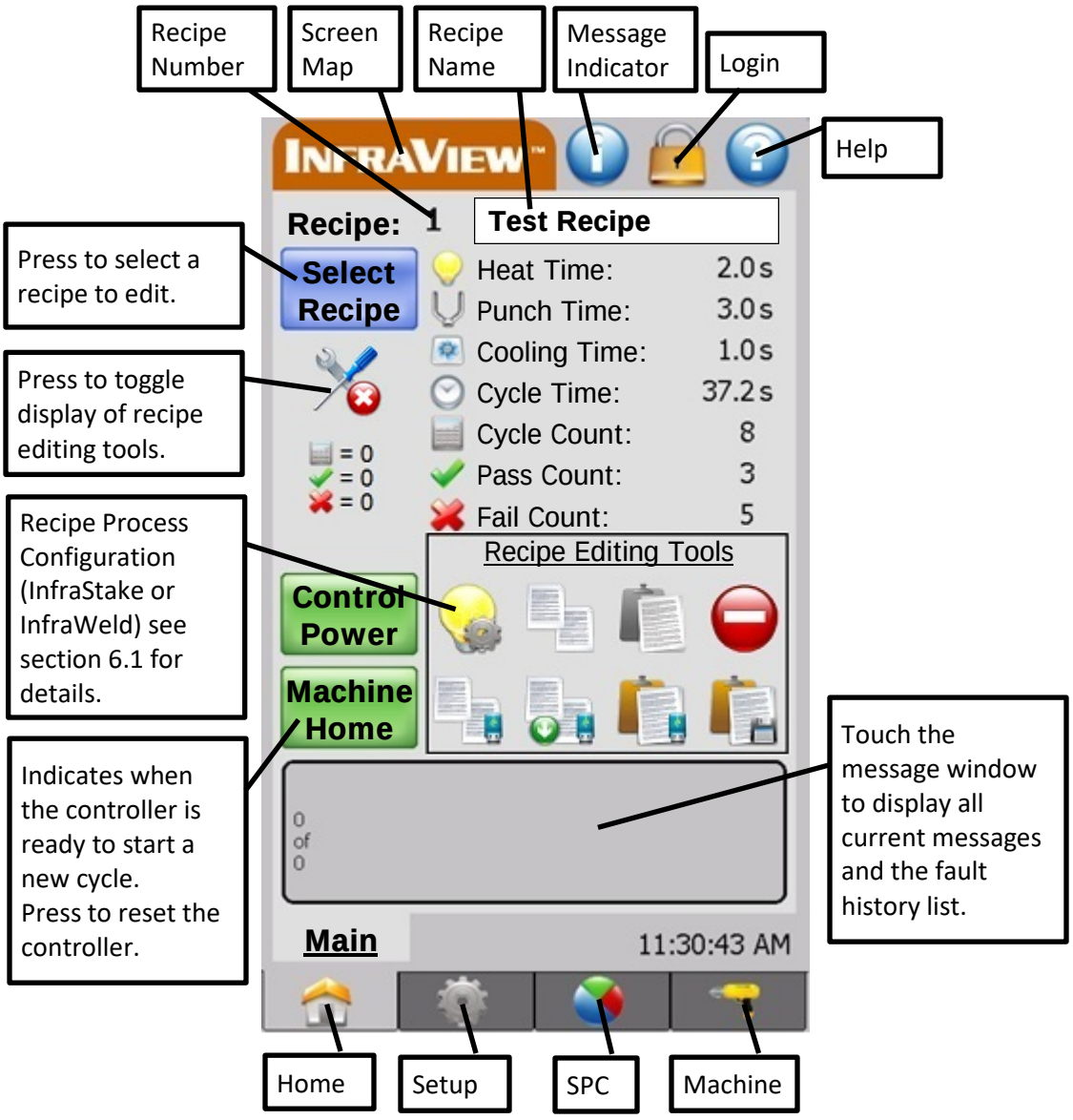
Recipe Setup

Login

Flip the switch on the back of the controller to turn on the power. When powered up, touch the Lock icon in the title bar to access the login screen.

Touch the Login icon to enter a password. To login as User Level 3 enter password: 3333. Other passwords can be found in section 4.3.3 of the user manual.

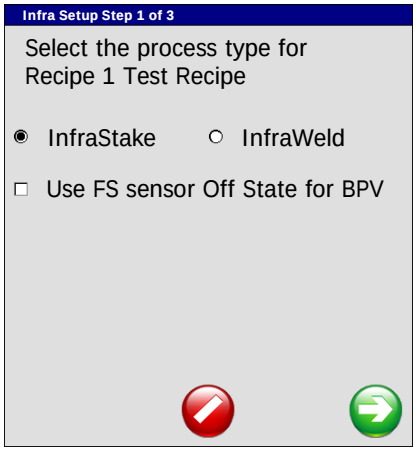
Main Screen Overview

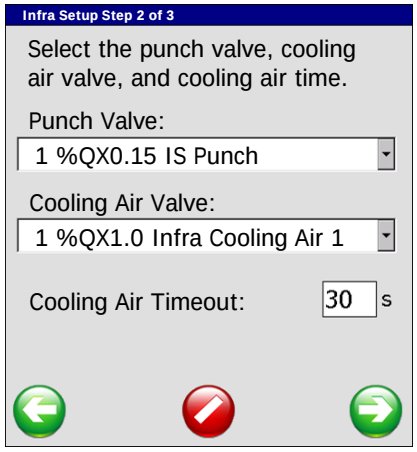


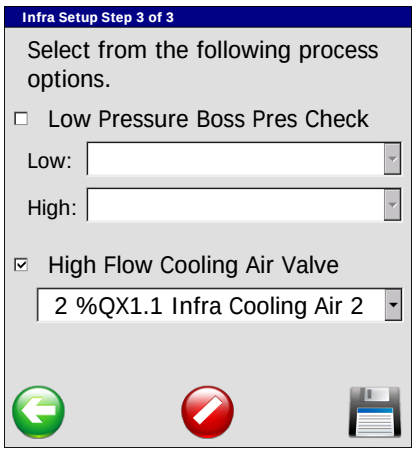
Recipe Process Configuration

Each recipe that is selected must be configured as an InfraStake or InfraWeld process. Additionally, there are specific process options and valves used for punch and cooling air control that must be selected. Recipe Process Configuration is accessed from the Main screen on the Home tab. Refer to section 6.1 in the user manual for additional setup details and screenshots.

1. On the Main screen press the **Select Recipe** button and select the recipe you wish to configure.
2. Touch the icon to display the recipe editing tools.
   - Touch the text box and enter the recipe name.
   - Touch to open the dialog for configuring the recipe process.
3. Select the process type and any process options (refer to screen shots on this page).
   - InfraStake recipe: Select whether or not to use the full stroke sensor off state for boss presence verification (as opposed to a separate boss presence sensor).
   - InfraWeld recipe: Select a sealed concentrator or an open concentrator.
4. Select the punch valve (InfraStake) or module extend valve (InfraWeld), the cooling air valve (this is the low flow cooling air valve for dual flow configurations), and the cooling air timeout value.
   - The dropdown lists for valve selection are automatically populated by the I/O that have been configured. If nothing appears in the dropdown list go to the I/O configuration wizard and configure the I/O.
5. Select whether low pressure will be used during the boss presence check (InfraStake) and select the high flow cooling air valve for dual flow cooling configurations (Note: Dual flow cooling is standard on all new systems).
   - The dropdown lists for valve selection are automatically populated by the I/O that have been configured. If nothing appears in the dropdown list go to the I/O configuration wizard and configure the I/O.
6. Press the save icon to save the process settings and close the dialog or press the cancel icon to close without saving.

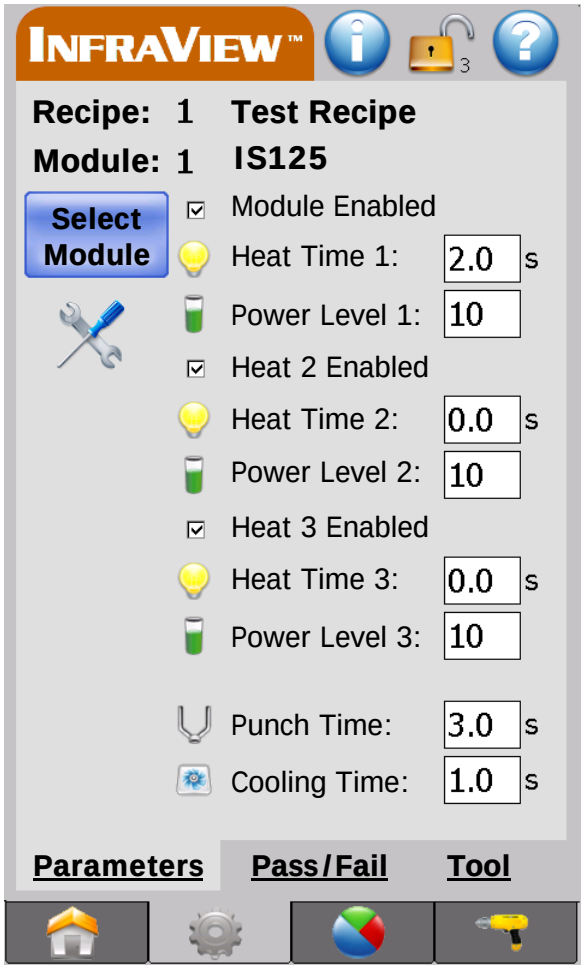






Recipe Parameters Entry

For each recipe the user must define which modules will be controlled (enabled) and what the heat times and power levels are for those modules. The punch time (InfraStake) or hold time (InfraWeld) and cooling time must also be defined. The recipe parameters are defined on the Parameters screen on the Setup tab.



Procedure for Defining Recipe Parameters

1. Press the **Select Module** button and select the module that you wish to edit.
2. Touch the **Module Enabled** checkbox to enable or disable the module. Note: Only user level 3 can change this parameter.
3. Enter the **Heat Times** and **Power Levels** for the module. Often only one heat time and power level will be required. However, the controller offers the ability to transition to two additional power levels, each for a different amount of time. If all three heat times and power levels are used, the module would heat with the following sequence:
   a. Heat at Power Level 1 for the amount of time specified by Heat Time 1
   b. Heat at Power Level 2 for the amount of time specified by Heat Time 2
   c. Heat at Power Level 3 for the amount of time specified by Heat Time 3
   d. Punch

Note: The controller automatically staggers the heating start time of each module so that all of the heat times are done at the same time and all of the punches can extend at the same time.

4. Enter the **Punch Time** (InfraStake) or **Hold Time** (InfraWeld) and the **Cooling Time**. The cooling time parameter applies to the weld cooling during the InfraWeld process or the high flow portion of dual flow cooling during the InfraStake process.

Note: The punch/hold time and the cooling time are specified once for the entire recipe whereas the module heat times and power levels are specified individually for each module in the recipe.

To enter parameters for additional modules, select a new module, enable it, and enter the heat times and power levels for that module. Repeat for as many modules as the recipe requires. To enter heat times and power levels faster use the module copy, paste, and paste all buttons as described in section 6.2.1 of the user manual.

Recipe Pass/Fail Criteria

When developing your recipe leave the Full Stroke, Boss Presence, and Seal Pressure Verification disabled until you have good stakes or welds then add them when ready.