Introduction: Understanding Your Fuji PXR3 Controller

AIM Manufacturing & Kiln Company has used Fuji PXR3 PID controllers for decades because of their reliability and versatility. One particularly useful feature is set point operation, which allows the user to change the desired temperature without editing a stored ramp/soak program.

Set Point Operation

Set point mode is especially convenient for lampworking. You can make temperature adjustments during a working session and still use an automated ramp/soak program when needed. To begin, turn on the kiln using the toggle switch and allow approximately 5–10 seconds for the controller to start. In normal set point operation, the kiln will heat toward its previously selected temperature and maintain that setting until it is changed or the operating mode is changed.

Checking or Changing the Temperature

Press the green SEL button (the leftmost of the three buttons) to display the current set point. Use the UP or DOWN arrow button to adjust the desired temperature. Become familiar with this basic operation before attempting an automated program.

IMPORTANT: AIM lampworking kiln models have a maximum operating temperature of 1200°F. Exceeding this limit can damage the interior firebrick and void the manufacturer’s warranty.

Before Using an Automated Program

AIM recommends using set point operation for several complete working sessions before creating an automated ramp/soak program. Learn the controller’s settings and functions first. When testing a new program, remain present and check its progress regularly to confirm that the kiln is following the intended temperature schedule. Never leave an operating kiln unattended.

If a Program Is Not Operating as Intended

If the controller behaves unexpectedly during a newly created program, turn off the kiln at the toggle switch to stop the cycle. When power is restored, the controller is intended to return to its normal set point operation. Review and correct the program before attempting to run it again.

Factory Settings and Parameters

Every AIM kiln is shipped with its controller already configured. Certain menus and parameter screens are hidden to reduce the chance of accidental changes. If an unfamiliar screen appears, stop pressing buttons and allow the controller to return to its normal display. If settings are inadvertently changed, refer to the included parameter reference sheet for the appropriate AIM factory configuration.

This introduction precedes the Fuji PXR3 cheat sheet, parameter reference, and Autotune instructions.

FUJI PXR3 | CONTROLLER QUICK REFERENCE

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Understanding the programming sequence

Press and hold **SEL** to enter the programming menu. Use the **UP/DOWN arrows** to locate a parameter, press **SEL** to edit it, adjust its value with the arrows, and press **SEL** again to confirm. For each stage, set the target temperature (**SV**), ramp time (**7N…R**) and soak time (**7N…S**).

Program 1 — example settings from the supplied instructions

Stage	Target temperature	Ramp time	Soak time
SV1	950°F	0.05	1.30
SV2	700°F	3.00	0
SV3	0	0	0
SV4	0	0	0

The original sheet identifies these as example/programmed values, not universal kiln settings. Verify the program against the intended glass process before running it.

Program 2 — user-defined

Enter the programming menu (**STAT**), then configure stages **SV5–SV8**. For each stage, enter the desired target temperature, ramp time and soak time using the same sequence shown above. The supplied sheet leaves these values open for a custom program.

Change the normal setpoint

With the kiln powered on, press **SEL** once to display the setpoint (the original sheet uses 925°F as its example). Adjust with the **UP/DOWN arrows**, then press **SEL** again to return to the actual kiln temperature display.

Select Program 1 or 2

Hold **SEL** until **STAT** appears. Press the **DOWN arrow** to **PTn**, then press **SEL**. Select **1** or **2** with the arrows. Allow approximately 20 seconds for the normal temperature display to return. **Do not select 3:** the supplied instructions say this runs both programs.

Start a program

Hold **SEL** until **PROG** appears. Press **SEL** to display **OFF**; press the **UP arrow** to **RUN** (blinking). Press **SEL** twice to confirm. The display returns to kiln temperature after approximately 20 seconds; the original instructions say the program stops automatically when complete.

Autotune (advanced procedure)

Set the process setpoint to the application’s critical temperature and confirm heating begins. Hold **SEL** to access the primary menu; use the **DOWN arrow** to find **AT** (the T may resemble a backward 7). Set **AT = 1**. A lower-right indicator blinks while the controller cycles around the setpoint; when it stops, new PID values are saved. Only perform autotune when appropriate for the kiln and process.

Important

The original reference also contains an older PXV3-style programming procedure. That legacy procedure is not reproduced here because its displayed menu labels differ from the PXR3 steps above. Consult AIM technical support before changing unfamiliar parameters.

Fuji PXR3 Controller Reference

Parameter Settings

1. Set DSP values

Hold SEL until P-N1 is displayed, then use the down arrow to access the following settings.

Parameter	Value
DSP1	245
DSP2	63
DSP3	254
DSP4	47
DSP5	248
DSP6	1
DSP7	0
DSP8	0
DSP9	240
DSP10	255
DSP11	255
DSP12	255
DSP13	31

2. Set second-tier parameters

Hold SEL until P is displayed, then set the following:

Parameter	Value
P-N2	3 for Type K thermocouple; 6 for Type S
P-SL	0
P-SU	2400
P-F	Fahrenheit or Celsius (select as appropriate)
PRN	1
NOD	4

3. Reset DSP values

Hold SEL and the down arrow to access the DSP settings, then change these values to hide the items configured in step 2.

Parameter	Value
DSP4	255

DSP5	255
DSP9	248