



# MODEL PC100-2

## 1/4 DIN CONTROLLER

- **2 Channel Isolated Sensor Inputs**  
RTD's, T/C's, Solid State, Current & Voltage
- **Dual PID Control**
- **8 On/Off Process Control Outputs**
- **Automatic Ramping**
- **Guaranteed Soak Timing**
- **10 Local Programs**
- **Time Of Day Auto Start**
- **Auto Restart After Power Failure**
- **Two Analog Outputs**  
Chart Recorder & Process Control
- **Remote Interfaces Built In**  
IEEE-488 (GPIB), RS232, & RS422/485
- **Safety Features**  
Upper Limit, Lower Limit, Failsafe
- **Battery Backed Memory/Clock**



Sun Systems Model PC100-2 is a dual sensor input, single channel control, 1/4 DIN, digital process controller with a host of advanced features. The PC100-2 adds to the standard PC100 a second, electrically isolated, sensor input channel and advanced control routines that allow you to select which sensor, or sensor combination, will be used for control. Both sensors are displayed and can be read from the remote interfaces. The unit was designed to be easy to use while still providing all the features most users will ever need. The PC100-2 consists of the controller and two flat cable connected assemblies. The IEEE-488, RS232, and RS422/RS485 interface connectors are provided on a small assembly to allow for mounting at an easily accessible location in your equipment. The Process I/O board provides for the line input power connection and outputs to control your high power process circuits. All the line voltage related connections are located on the process I/O board allowing only low voltage flat cable connections to the controller.

Programming can be performed locally from the 20 key front panel or remotely. From the front panel you can set a single segment (Rate/Wait/Set) or an entire program can be entered via the local program EDIT mode. The Model PC100-2 provides for 10 separate local programs. The programs can either be entered via the front panel or down loaded from a host computer. Local programs can also be uploaded to a host computer for storage. Battery backed-up memory/clock is provided so that programs entered will not be lost when the

PC100-2 is turned off or when power is removed from the controller. Local programs can be run immediately or programmed to run at a particular time of day. A local program can typically have 100+ segments with FOR-NEXT loops for cycling and programs may call other programs as subroutines. Remote control of the PC100-2 is performed by the IEEE-488, RS232 or RS422/RS485 remote interfaces. These interfaces come as a standard feature of the PC100-2.

A front panel MENU key is provided for configuration. The Menu items include, but are not limited to, Sensors Calibration, C,F,K or User Units selection, Analog or Chart Recorder Output setup, Baud Rate, Deviation Limit, Low Limit, High Limit, Enable/Disable Buzzer, Compressor Control, Cool Boost Output, Heat and Cool PID adjustments and it allows you to run a program at a selectable time of day.

Call Sun Systems for further information on the Model PC100-2.

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# Model PC100-2 - Specifications

## INPUTS

### SENSOR INPUTS

- RTD's, T/C's, Solid State, Current & Voltage
- Sensor Type configured at Factory
- C,F, K or User Units
- Open/Short Probe Detect
- Automatic Lead Compensation
- Automatic Cold Junction Compensation
- Standard Sensor Input Selection

RTD	-200C to +325C
Solid State	-60C to +160C
J t/c	-200C to +760C
K t/c	-200C to +1250C
T t/c	-200C to +325C
0 to 20mA	User Units
4 to 20mA	User Units
0 to 5V	User Units

- For other Sensor Input Selections contact factory

### OTHER INPUTS

- Two TTL Level
- One 5 Volt 8 bit A/D
- External Failsafe

## OUTPUTS

### 8 PROCESS CONTROL OUTPUTS (#0 to #7 ) ( open collector 100mA on/off pulse with modulated )

- #0 Heat  
Goes on when heating is required (+/- logic).
- #1 Cool  
Goes on when cooling is required (+/- logic).
- #2 Compressor Control or User Usable  
Compressor Control (is front panel selectable).  
Easily Configured for +/- Logic also.
- #3 Boost Cooling or User Usable.  
Boost Cooling (is front panel selectable).  
Easily Configured for +/- Logic also.
- #4 to #6 User definable outputs (Open collector 12Volt, 100mA)
- #7 Power On/Off

## ANALOG OUTPUT

- Two 0 to 5Volt outputs: one for charting, one for process control

## REMOTE CONTROL

- IEEE-488
- RS232
- RS422/RS485

## DIMENSIONS

- 6.62" Depth x 3.81"Width x 3.81"Height
- Panel Cutout 3.62" x 3.62"
- Weight [Net/Shipping] 2.75 / 4.0 Pounds

## POWER

- Power Consumption 10 Watts
- Voltage 110/220/240
- Frequency 50/60 Hz
- Data Retention upon power failure via nonvolatile memory.

## LOCAL OPERATION

- 20 key keypad
- 32 character alphanumeric LCD, 16 characters per line
- 2 line alphanumeric LCD

**RESOLUTION** = selected range / 32768. (.02 deg C typ)

## CONTROL TECHNIQUE

- PID Algorithm with user controllable auto tune
- Pulse Width Modulation on/off or 0-5 V analog control

## ALARMS

- User Adjustable Upper, Lower and Deviation Limits
- Internal and External Failsafe

## ACCURACY

- Line Voltage Sensitivity +/- .025% for a 10% Line Voltage Change
- Absolute Error after probe calibration +/- .05%
- Long Term Stability (per month) +/- .025%

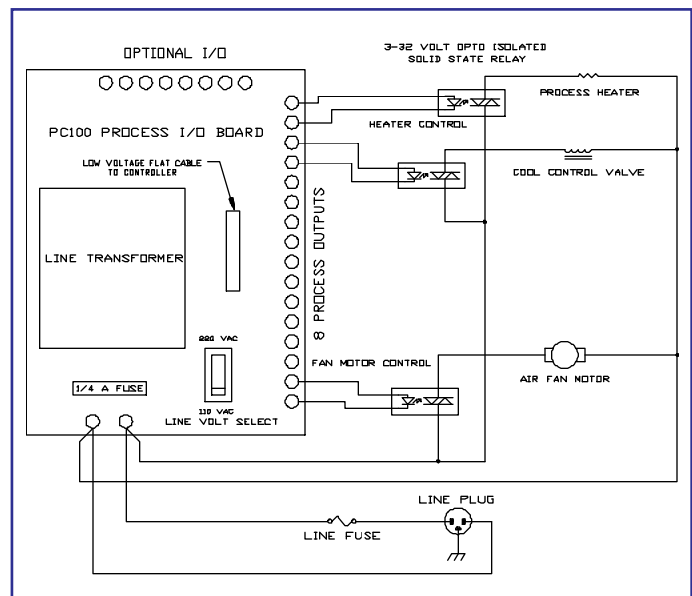
## RANGE

- Temperature see SENSOR INPUTS
- Time 1.0 sec to 99hr: 59 min: 59 sec or Continuous
- Ramping Rate .1/min up to 1000

REMOTE, CONTROLLER, I/O



EXAMPLE PROCESS CONNECTION



PC100-2 01/11

*For further information on our complete line of temperature & process controllers, environmental chambers, and calibrators - CALL SUN SYSTEMS.*

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