PPI OmniX Single Set Point Temperature Controller Instruction Manual

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PPI

PPI OmniX Single Set Point Temperature Controller

Product Information

Omni Economic Self-Tune PID Temperature Controller

The Omni Economic Self-Tune PID Temperature Controller is a device that controls temperature by using a PID algorithm. It has various input/output configurations and parameters that can be set according to the specific application needs. The device has a front panel layout with keys for operation and temperature error indications for easy user experience. The electrical connections include control output and input for T/C Pt100.

Input/Output Configuration Parameters

The Input/Output Configuration Parameters can be set according to the specific application needs. The parameters include input type, control logic, setpoint low, setpoint high, offset for measured temp, and digital filter. The control output type can be set as Relay or SSR.

PID Control Parameters

The PID Control Parameters include control mode, hysteresis, compressor time delay, cycle time, proportional band, integral time, and derivative time. These parameters can be set to enable the device to control temperature more precisely.

Supervisory Parameters

The Supervisory Parameters include self-tune command, overshoot inhibit enable/disable, and overshoot inhibit factor. These parameters help in preventing overshooting of the temperature beyond the setpoint.

Setpoint Locking

The Setpoint Locking parameter can be set to Yes or No. If set to Yes, it locks the setpoint value to prevent

accidental changes.

Operation Manual

The Operation Manual provides brief information regarding wiring connections and parameter searching. For more detailed information on operation and application, users can visit **www.ppiindia.net**.

Front Panel Layout

The Front Panel Layout includes upper and lower readouts, output status indicator, PAGE key, DOWN key, ENTER key, UP key, and temperature error indications. The keys operation includes PAGE, DOWN, UP, and ENTER keys.

Electrical Connections

The Electrical Connections include control output, input for T/C Pt100, and 85 ~ 265 V AC supply.

Product Usage Instructions

1. Connect the device to the power supply (85 ~ 265 V AC).

2. Connect the input for T/C Pt100 to the device.

3. Set the Input/Output Configuration Parameters according to the specific application needs by referring to page 12 of the user manual.

4. Set the PID Control Parameters to enable the device to control temperature more precisely by referring to page 10 of the user manual.

5. Set the Supervisory Parameters to prevent overshooting of the temperature beyond the setpoint by referring to page 13 of the user manual.

6. Set the Setpoint Locking parameter to Yes or No according to your preference by referring to page 0 of the user manual.

7. Use the PAGE, DOWN, UP, and ENTER keys for operation.

8. Monitor the temperature error indications for any error type such as over-range, under-range, or open (thermocouple/RTD broken).

9. For more detailed information on operation and application, visit **www.ppiindia.net**.

PARAMETERS

INPUT / OUTPUT CONFIGURATION PARAMETERS

INPUT / OUTPUT CONFIGURATION PARAMETERS : PAGE - 12	
Parameters	**Settings (Default Value)**
Input Type InPt	Refer Table 4.2 for various available 'Input Types' along with their respective Ranges and Resolutions. (Default : Type K)
Control Logic C.LOG	rEu Reverse dir Direct (Default : Reverse)
Setpoint Low SP.LO	Min. Range to Setpoint High for the selected Input type (Default : Min. Range for the selected Input Type)
Setpoint High SP.Hi	Setpoint Low to Max. Range for the selected Input type (Default : Max. Range for the selected Input Type)
Offset for Measured Temp. OFSt	-1999 to 9999 **or** -199.9 to 999.9 (Default : 0)
Digital Filter Filt	0.5 to 25.0 Seconds (in steps of 0.5 Seconds) (Default : 1.0)
Control Output Type C_OP	rLY Relay (Default) SSr SSR

PID CONTROL PARAMETERS

PID CONTROL PARAMETERS : PAGE - 10	
Parameters	**Settings (Default Value)**
CONTROL MODE CtrL	On.OF On-Off P Id PID (Default)
HYSTERESIS HYSt	1 to 999 **or** 0.1 to 99.9 (Default : 2 **or** 0.2)
Compressor Time Delay dLY	0 to 600 Sec. (in steps of 0.5 Sec.) (Default : 0)
Cycle Time Ct	0.5 to 120.0 Seconds (in steps of 0.5 secs.) (Default : 20.0 sec)
Proportional Band Pb	0.1 to 999.9 (Default : 10.0)
Integral Time It	0 to 1000 Seconds (Default : 100 sec)
Derivative Time dt	0 to 250 Seconds (Default : 25 sec)

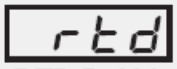
SUPERVISORY PARAMETERS

SUPERVISORY PARAMETERS : PAGE - 13	
Parameters	**Settings (Default Value)**
Self-Tune Command tUnE	no Yes YES No (Default : No)
Overshoot Inhibit Enable / Disable oS.i h	dSbL Disable EnbL Enable (Default : Disable)
Overshoot Inhibit Factor Oi h.F	1.0 to 2.0 (Default : 1.2)

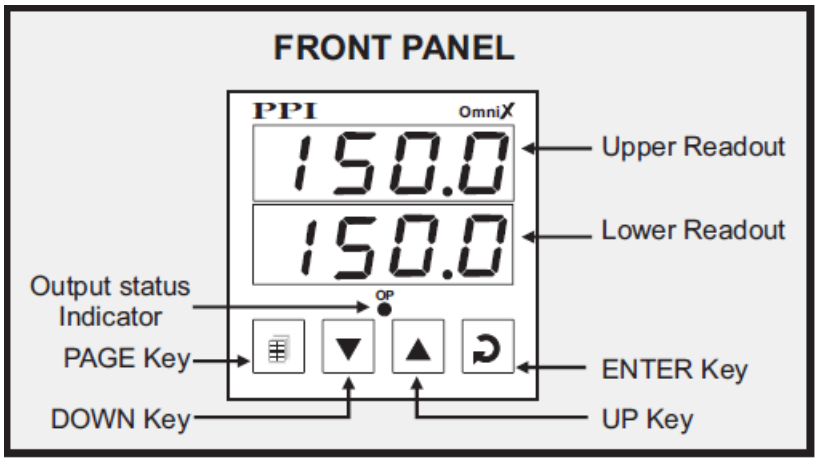
SETPOINT LOCKING

SETPOINT LOCKING : PAGE - 0	
Parameters	**Settings (Default Value)**
Setpoint Locking 	 No  Yes (Default : No)

TABLE- 1

TABLE- 1		
Option	**Range (Min. to Max.)**	**Resolution**
 **J Type T/C**	0 to +960°C	1°C
 **K Type T/C**	-200 to +1375°C	1°C
 **RTD Pt100**	-199 to +600°C	1°C
 **RTD Pt100**	-199.9 to +600.0°C	0.1°C

FRONT PANEL LAYOUT



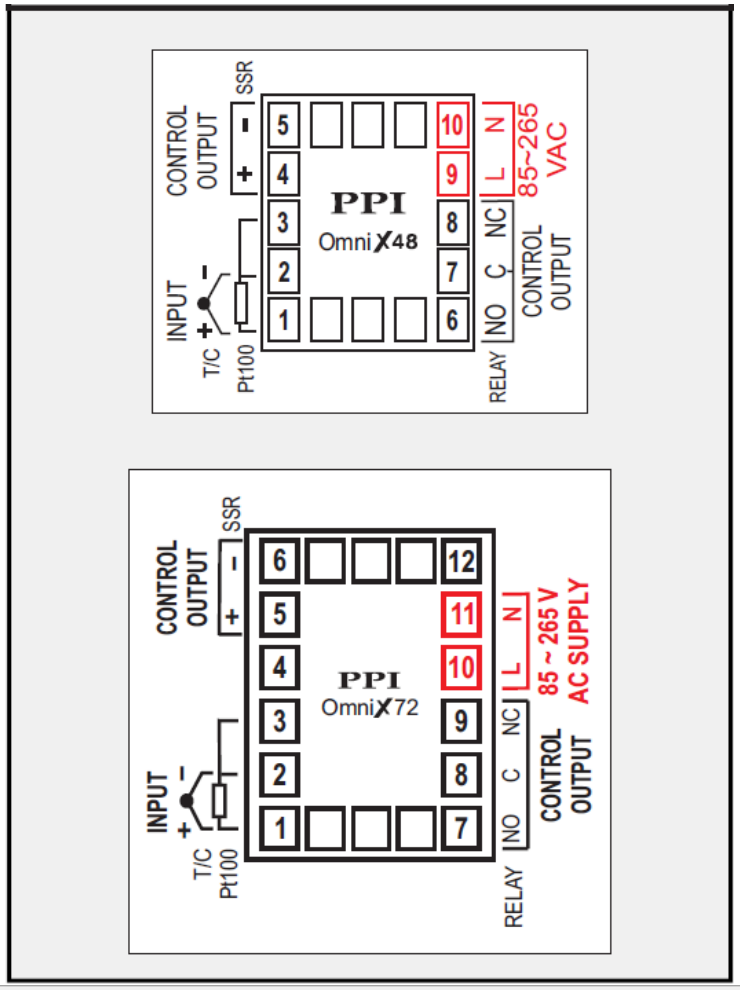
Temperature Error Indications

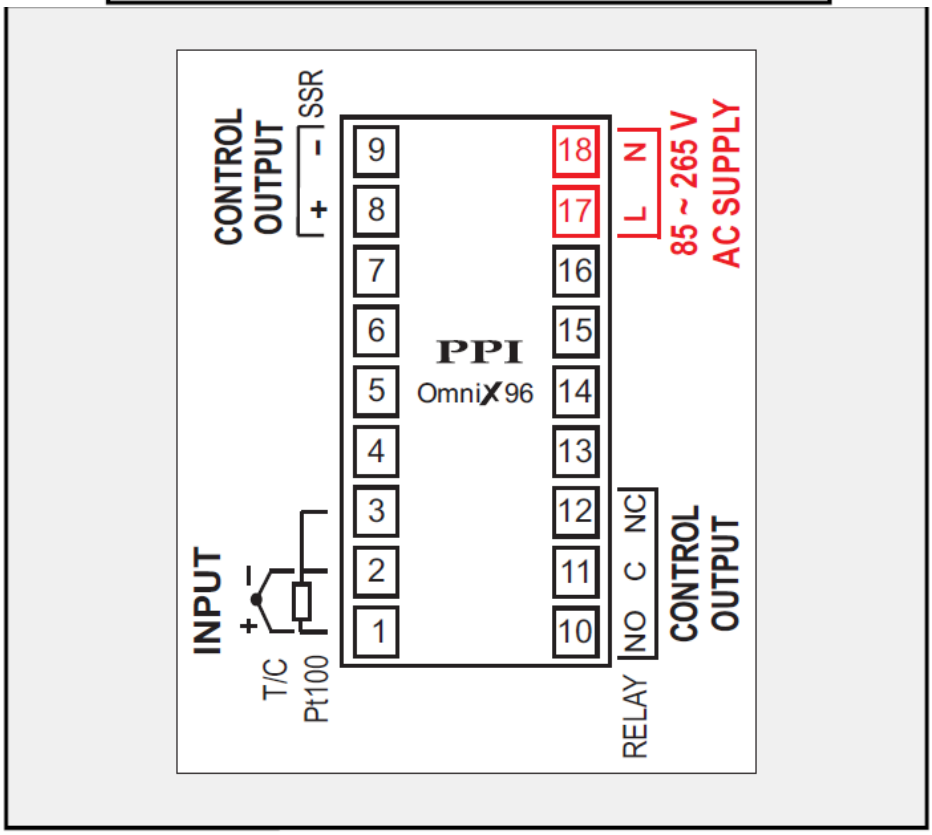
Message	Temperature Error Type
	Over-range (Temperature above Max. Range)
	Under-range (Temperature below Min. Range)
	Open (Thermocouple / RTD broken)

Keys Operation

Symbol	Key	Function
	PAGE	Press to enter or exit set-up mode.
	DOWN	Press to decrease the parameter value. Pressing once decreases the value by one count; keeping pressed speeds up the change.
	UP	Press to increase the parameter value. Pressing once increases the value by one count; keeping pressed speeds up the change.
	ENTER	Press to store the set parameter value and to scroll to the next parameter on the PAGE.

ELECTRICAL CONNECTIONS





This brief manual is primarily meant for quick reference to wiring connections and parameter searching. For more details on operation and application; please log on to **www.ppiindia.net**

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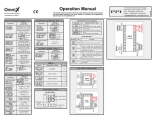
Documents / Resources

	PPI OmniX Single Set Point Temperature Controller [pdf] Instruction Manual OmniX Single Set Point Temperature Controller, Single Set Point Temperature Controller, Set Point Temperature Controller, Point Temperature Controller, Temperature Controller, Controller

References

- Factory Automation Products India | Automation Solutions in India