

# PID TEMPERATURE CONTROLLERS

## PID500 PID TEMPERATURE CONTROLLER



- Dual display of set point and process value
- On demand autotuning of PID parameters
- Programmable thermocouple, PT100, mV, 0-10V or 0-20mA inputs
- Up to 3 relay or SSR outputs (mV/mA available)
- 1 or 2 on/off or PID control outputs + alarms
- Sensor break detection & error compensation

The PID500 is a sophisticated autotuning PID controller with selectable thermocouple, RTD or analogue inputs and up to three outputs. Versions are available with relay, SSR, and analogue outputs. The controller can be configured as 1 on/off or PID control and up to 2 alarm outputs, or as 2 on/off or PID controls (heat/cool) plus 1 alarm output. It has a large dual 4 digit LED display to show the set point and the process value and is suitable for use with power supplies of 85 to 270 Vac or 24Vac/dc.

### SPECIFICATION

Supply voltage: 24Vac/dc

85-270Vac, 50/60 Hz

Inputs : J, K, T, R, S, C, E, B, N, U, W and Platinel thermocouples, PT100 2/3 wire, -5 to 56mV, 0 to 10V, 0 to 20mA

Sensor range:

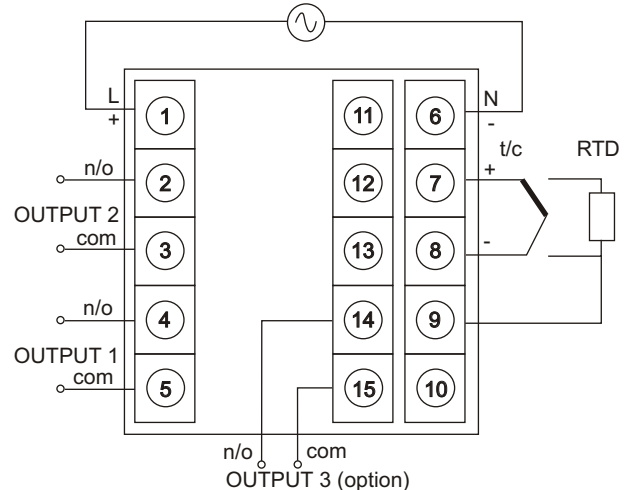
|             |                |
|-------------|----------------|
| J           | -200 to 750°C  |
| K           | -200 to 1350°C |
| T           | -200 to 400°C  |
| R           | 0 to 1750°C    |
| S           | 0 to 1750°C    |
| C           | 0 to 2300°C    |
| E           | -200 to 750°C  |
| B           | 149 to 1820°C  |
| N           | -200 to 1300°C |
| L           | -200 to 900°C  |
| U           | -200 to 400°C  |
| W           | 0 to 2300°C    |
| Platinel II | 0 to 1390°C    |
| PT100       | -100 to 850°C  |

Outputs 1-3: 5A @ 240Vac NO relay or 18Vdc 20mA SSR drive

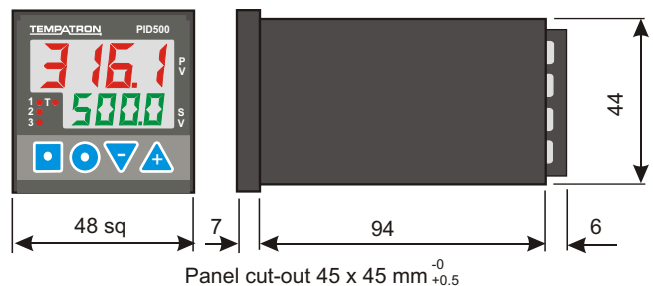
Output 1: Optional 0/ 4-20mA, 0-10V or 0-5V

Control action: PID (autotune) or on/off forward or reverse action.  
 outputs 1&2 Absolute or deviation alarm  
 outputs 2&3 Greater of +/-0.25% FS or +/- 1°C  
 Accuracy: 1/0.1/0.01/0.001 for analogue I/P  
 Resolution: Conforms to CE generic standards EN50081-1 and EN50082-1 for emc and EN61010-1 for low voltage  
 Approvals: 0 to 50°C, 85% RH non-condensing  
 Ambient range: 195gms  
 Weight:

### CONNECTION DIAGRAM



### DIMENSIONS



### Part Numbering Options : PID500M A - B - C - D

| A | Power supply | 24Vac/dc<br>85/270 Vac/dc                                           | L<br>H                     |
|---|--------------|---------------------------------------------------------------------|----------------------------|
| B | Output 1     | Relay<br>SSR drive<br>4 to 20mA<br>0 to 10V<br>0 to 5V<br>0 to 20mA | 0<br>1<br>2<br>3<br>4<br>5 |
| C | Output 2     | Relay<br>SSR drive                                                  | 0<br>1                     |
| D | Output 3     | None<br>Relay<br>SSR drive                                          | 00<br>01<br>02             |

### STANDARD ITEMS

| Op voltage | OP1   | OP2   | OP3 | Part Number   |
|------------|-------|-------|-----|---------------|
| 24Vac/dc   | Relay | Relay | -   | PID500ML-0000 |
| 24Vac/dc   | SSR   | Relay | -   | PID500ML-1000 |
| 85-270Vac  | Relay | Relay | -   | PID500MH-0000 |
| 85-270Vac  | SSR   | Relay | -   | PID500MH-1000 |