

## PID Temperature Controller - Dual Display

PID-912, PID-712, PID-412

### Features

- Multi Sensor Input - J/K or PT-100
- Economical & Easy to Use Model
- PID and ON-OFF Control Action
- 3 Digit 0.8inch\* Bright LED Display with RED and WHITE color option in PID-912

### TECHNICAL SPECIFICATION

#### INPUT SPECIFICATION:

Input Types	Input	Range
	J / K PT-100 2W/3W	J: 0 to 850°C, K: 0 to 999°C PT-100: -50 to 400°C PT.1: -19.9 to 99.9°C
Resolution	1°C for (J,K), 0.1°C (PT-100)	
Indication Accuracy	±1% of FSD ± 1°C (FSD:- Full Scale Deflection)	

#### DISPLAY

Display	3 Digit, Two Line, 7 Segment LED, 0.8 inch in PID-912(Upper Display),
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#### DIMENSION:

##### PID-912

Size (mm)	96 (H) x 96 (W) x 40 (D) mm
Panel Cutout	92 (H) x 92 (W) mm

##### PID-712

Size (mm)	72 (H) x 72 (W) x 50 (D) mm
Panel Cutout	68 (H) x 68 (W) mm

##### PID-412

Size (mm)	48 (H) x 48 (W) x 50 (D) mm
Panel Cutout	44 (H) x 44 (W) mm

### CONTROL ACTION

Control Mode	PID or ON-OFF
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### OUTPUT SPECIFICATION:

Output	1 Relay    SSR
Relay Type	1C/O (NO-C-NC)
Rating	10A (Resistive Load)
SSR Drive Output	12V DC, 30mA DC (On - Off)

### POWER SUPPLY:

Supply Voltage	100V to 270V AC, 50-60Hz
Power Consumption (VA Rating)	4VA @ 230V AC MAX

### ENVIRONMENT CONDITION:

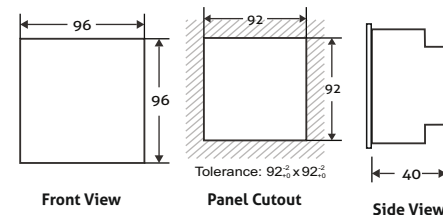
Operating Temp.	0°C to 55°C
Relative Humidity	UP to 95% RH (non-condensing)
Protection Level (As per request)	IP-65 (Front side) As per IS/IEC 60529 : 2001

### KEY OPERATION

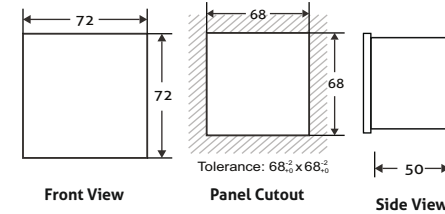
Key	Funtion
	<b>SET Key</b> (Long Press to Enter Set Point Menu)
	<b>UP Key</b> (To increase the value/navigate in menu)
	<b>Down Key</b> (To decrease the value/navigate in menu)
	<b>Enter Key</b> (To Enter the Menu / Exit the menu)
	<b>Long Press DOWN KEY</b> (To enter parameter configuration menu)

### MECHANICAL DIMENSIONS

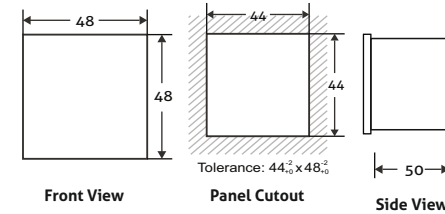
#### Dimensions for PID-912



#### Dimensions for PID-712



#### Dimensions for PID-412



### INSTALLATION

#### For installing the meter

- Prepare the panel cutout with proper dimensions as shown above.
- Push the meter into the panel cutout. Secure the meter in it's place by fitting the clamp on the rear side. Fit the clamps on both the sides in diagonally opposite location for optimum fitting.
- For proper sealing, tighten the screws evenly with required torque.

#### Terminal screw tightening torque:

0.68 Nm to 0.79 Nm (6.018In-Lb to 6.992 In-Lb)  
Screw clamp tightening torque: 0.1N-m  
(0.885 Lb-inch)

### SAFETY PRECAUTIONS :

All safety related conditions, symbols and instruction that appear in this operating manual or on the equipment must be strictly followed to ensure the safety of the operating personnel as well as the instrument.

If the equipment is not used in a manner specified by the manufacturer it might impair the protection provided by the equipment.

- Do not use the equipment if there is any mechanical damage
- Ensure that the equipment is supplied with correct voltage

If there is physical damage to the unit then do not use it.

Read complete instruction prior to installation and operation of the unit.

### Wiring Guidelines:

#### CAUTION :



- To prevent the risk of electric shock power supply to the equipment must be kept OFF while doing the wiring arrangement.
- Wiring shall be done strictly accordingly to the terminal layout with the shortest connection. Confirm that all connection are correct.

### INSTRUMENT CONFIGURATION

#### ERROR CONDITIONS

- If the display shows below message



It means Input **Sensor Not Connected** or any error with connected sensor.

In such case please check the sensor connections

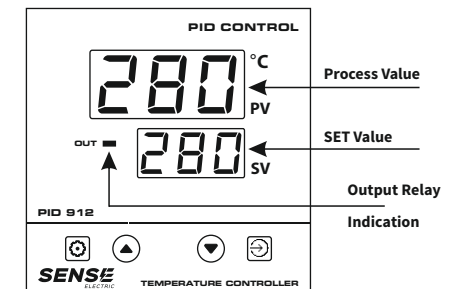
- If the display shows below message




This means Input **Sensor Reverse;**

In such case please check the sensor connections

### FRONT PANEL DESCRIPTION




## SET POINT MENU

Long press  key for 3 Sec  
to enter Set Point Menu

600 SET Value  
SET Menu Name

Using up & down key to change SET point  
Press the SET key it will store the latest SET Value

Long press  Key for 3 Sec to exit the menu

### \*\* Important Note:

Range for J Type Input : 0 to 600°C  
Range for K Type Input : 0 to 999°C  
Range for PT 100 Input : -50 to 400°C  
Range for PT.1 Input : -19.9 to 99.9°C

\*Note: If the instruments stays in idle condition while inside the Configuration Menu for more than **30 seconds**, it will automatically exit the configuration menu.

### \*Installation Note:

It is been advised that the settings should be done by a professional, after going through user operating manual and after having understood the application.

## ORDERING CODE

Order Code	Technical Specifications
<b>PID 912-WG</b>	WHITE + GREEN Display Input: Thermocouple J/K or PT-100 2W/3W (Selectable) Size: 96x96mm, PID / ON-OFF Control, Supply: 100-270V AC
<b>PID 912-RG</b>	RED + GREEN Display Input: Thermocouple J/K or PT-100 2W/3W (Selectable) Size: 96x96mm, PID / ON-OFF Control, Supply: 100-270V AC
<b>PID 712-WG</b>	WHITE + GREEN Display Input: Thermocouple J/K or PT-100 2W/3W (Selectable) Size: 72x72mm, PID / ON-OFF Control, Supply: 100-270V AC
<b>PID 712-RG</b>	RED + GREEN Display Input: Thermocouple J/K or PT-100 2W/3W (Selectable) Size: 72x72mm, PID / ON-OFF Control, Supply: 100-270V AC
<b>PID 412-WG</b>	WHITE + GREEN Display Input: Thermocouple J/K or PT-100 2W/3W (Selectable) Size: 48x48mm, PID / ON-OFF Control, Supply: 100-270V AC
<b>PID 412-RG</b>	RED + GREEN Display Input: Thermocouple J/K or PT-100 2W/3W (Selectable) Size: 48x48mm, PID / ON-OFF Control, Supply: 100-270V AC

## BASIC PARAMETER SETTINGS

Long press  key for 3 Sec  
to enter the parameter setting menu

### Password

Enter value  
1-999; press SET key

### Menu Name

Password is 15

press SET key

J/K or PT-100

press SET key

Heat / Cool

press SET key

PID or ON-OFF

press SET key

Control Action

Only if  
ON-OFF  
Control  
Action  
selected

press SET key

Range : 1 to 100

press SET key

Hysteresis

press SET key

Range : -20 to 20

press SET key

Offset

press SET key

Range as per Input Sensor

press SET key

SET LOW LIMIT

press SET key

Range as per Input Sensor

press SET key

SET HIGH LIMIT

Press  key for 3 Sec to Save & Exit the menu

## PID SETTING MENU

Long press  key for 3 Sec  
to enter the parameter setting menu

### Password Value

Enter value  
1-999 and press SET key

### Menu Name

Password is 12

press SET key

Proportional Value

press SET key

Integration Value

press SET key


Derivative Value

press SET key

Cyclic Time

press SET key


Manual Reset

Press  key to Save & Exit

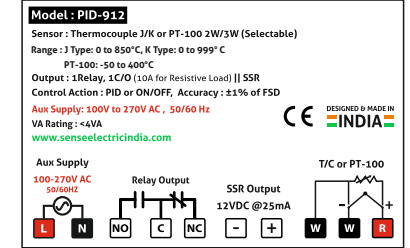
## AUTO TUNE

The Auto-tuning function computes and sets the Proportional band (Pb), Integral time (It), Derivative time (dt), and cycle time automatically based on process characteristics.

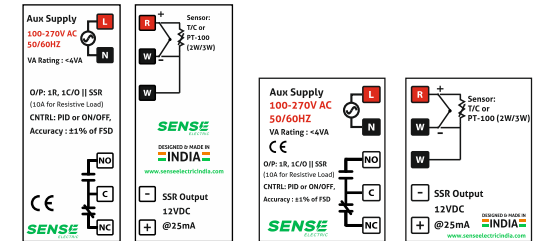
If the power is turned off before auto-tuning is finished, it will be restarted when the power is turned back on.

Press  key for 6 Seconds to Start / Stop PID Auto Tuning

## TERMINAL DIAGRAM



## Model : PID-912



## Model : PID-712

## Model : PID-412

## Designed & Manufactured in India

Product up-gradation is a continuous process. Hence, data in this manual is subject to change without prior notice.

For latest information, please get in touch with our Sales Office.

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ELECTRIC

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