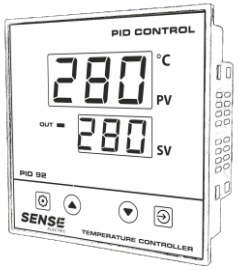
SENSE ELECTRIC



CE

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	Range
Input Types	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),***

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

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:

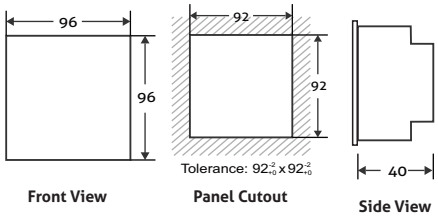
Operating Temp.	0°C to 55°C
Relative Humidity	UP to 95% RH (non-condensing)
Protection Level (As per request)	IP-65 (Front side) As per IS/IEC 60529 : 2001

KEY OPERATION

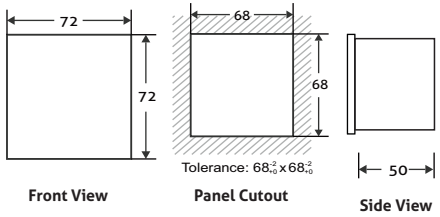
Key	Funtion
	SET Key (Long Press to Enter Set Point Menu)
	UP Key (To increase the value/navigate in menu)
	Down Key (To decrease the value/navigate in menu)
	Enter Key (To Enter the Menu / Exit the menu)
	Long Press DOWN KEY (To enter parameter configuration menu)

MECHANICAL DIMENSIONS

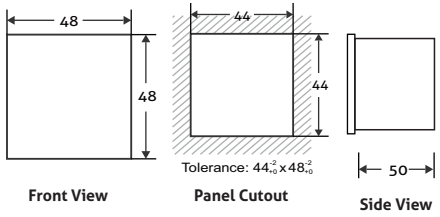
Dimensions for PID-912



Dimensions for PID-712



Dimensions for PID-412



INSTALLATION

For installing the meter

1. Prepare the panel cutout with proper dimensions as shown above.
2. 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.
3. For proper sealing, tighten the screws evenly with required torque.

Terminal screw tightening torque:
0.68 Nm to 0.79 Nm (6.018ln-Lb to 6.992 ln-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 :

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

INSTRUMENT CONFIGURATION

ERROR CONDITIONS

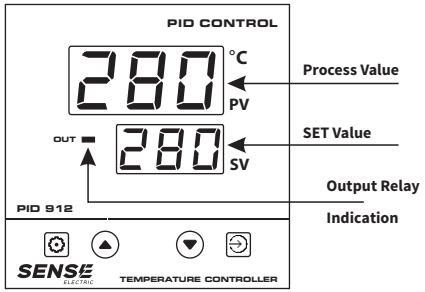
◆ If the display shows below message

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

1 **Password**
Enter value
1-999; press **SET** key
PAS **Menu Name**

Password is 15

press **SET** key

tCJ J/K or PT-100
InP **Input Selection**

press **SET** key

hEt Heat / Cool
Mod **Mode Selection**

press **SET** key

PId PID or ON-OFF
CtL **Control Action**

Only if **ON-OFF** Control Action selected:

press **SET** key

0 Range : 1 to 100
hYS **Hysteresis**

press **SET** key

0 Range : -20 to 20
OFS **Offset**

press **SET** key

0 Range as per Input Sensor
SL.O **SET LOW LIMIT**

press **SET** key

800 Range as per Input Sensor
Sh. 1 **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

1 **Password Value**
Enter value
1-999 and press **SET** key
PAS **Menu Name**

Password is 12

press **SET** key

200 **Proportional Value**

press **SET** key

125 **Integration Value**

press **SET** key

30 **Derivative Value**

press **SET** key

15 **Cyclic Time**

press **SET** key

0.0 **Manual Reset**

Press key to Save & Exit

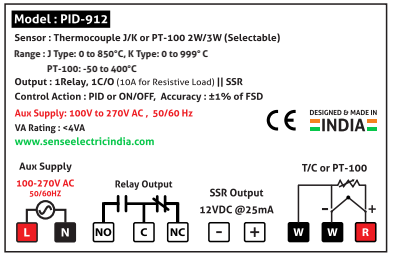
AUTO TUNE

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.

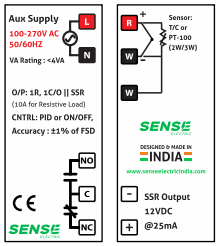
If the power is turned off before auto-tuning is finished, it will be restarted when the power is turned back on.

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

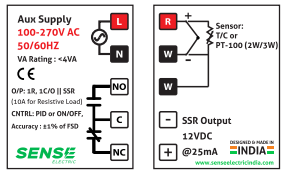
TERMINAL DIAGRAM



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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