

PID Temperature Controller - Dual Output

PID-922, PID-722, PID-422

Features

- Multi Sensor Input - J/K or PT-100
- Economical & Easy to Use Model
- PID and ON-OFF Control Action
- 4 Digit 0.8inch* Bright LED Display with RED and WHITE color option in PID-922

TECHNICAL SPECIFICATION

INPUT SPECIFICATION:

Input Types	Input	Range
	J / K	J : 0 to 850.0°C, K : 0 to 1200.0°C
	PT-100 2W/3W	PT-100: -50.0 to 400.0°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	4 Digit, Two Line, 7 Segment LED, 0.8 inch in PID-922(Upper Display),
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DIMENSION:

PID-922

Size (mm)	96 (H) x 96 (W) x 50 (D) mm
Panel Cutout	92 (H) x 92 (W) mm

PID-722

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

PID-422

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	2 (1 st O/P Relay, 2 nd Relay or SSR)
Relay Type	1C/O (NO-C-NC)
Rating	10A (Resistive Load)
SSR Output	12V DC, 30mA DC (On - Off)

POWER SUPPLY:

Supply Voltage	110V to 270V AC, 50-60Hz
Power Consumption (VA Rating)	4VA @ 230V AC MAX

ENVIRONMENT CONDITION:

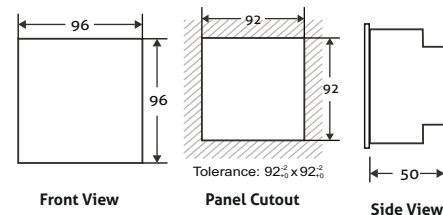
Operating Temp.	0°C to 55°C
Relative Humidity	UP to 95% RH (non-condensing)
Protection Level (As per request)	IP-65 (Front side) As per IS/IEC 60529 : 2001

KEY OPERATION

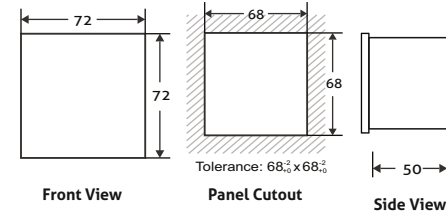
Key	Function
	SET Key (Long Press to Enter Set Point Menu)
	UP Key (To increase the value/navigate in menu)
	DOWN Key (To decrease the value/navigate in menu)
	ENTER Key (To Enter the Menu / Exit the menu)
	Long Press DOWN KEY (To enter parameter configuration menu)

MECHANICAL DIMENSIONS

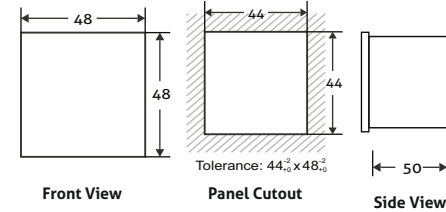
Dimensions for PID-922



Dimensions for PID-722



Dimensions for PID-422



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 its 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 :

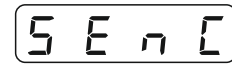


- To prevent the risk of electric shock power supply to the equipment must be kept OFF while doing the wiring arrangement.
- Wiring shall be done strictly accordingly to the terminal layout with the shortest connection. Confirm that all connection are correct.

INSTRUMENT CONFIGURATION

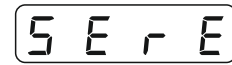
ERROR CONDITIONS

- If the display shows below message



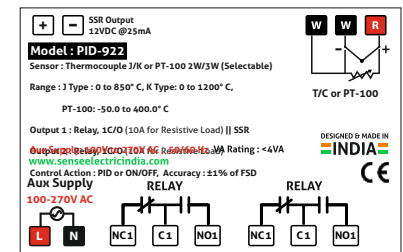
It means Input **Sensor Not Connected** or any error with connected sensor. In such case please check the sensor connections

- If the display shows below message

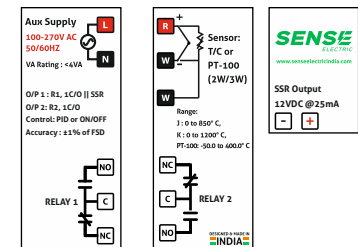


This means Input **Sensor Reverse**; In such case please check the sensor connections

TERMINAL DIAGRAM



Model : PID-922



Model : PID-722

Model : PID-422

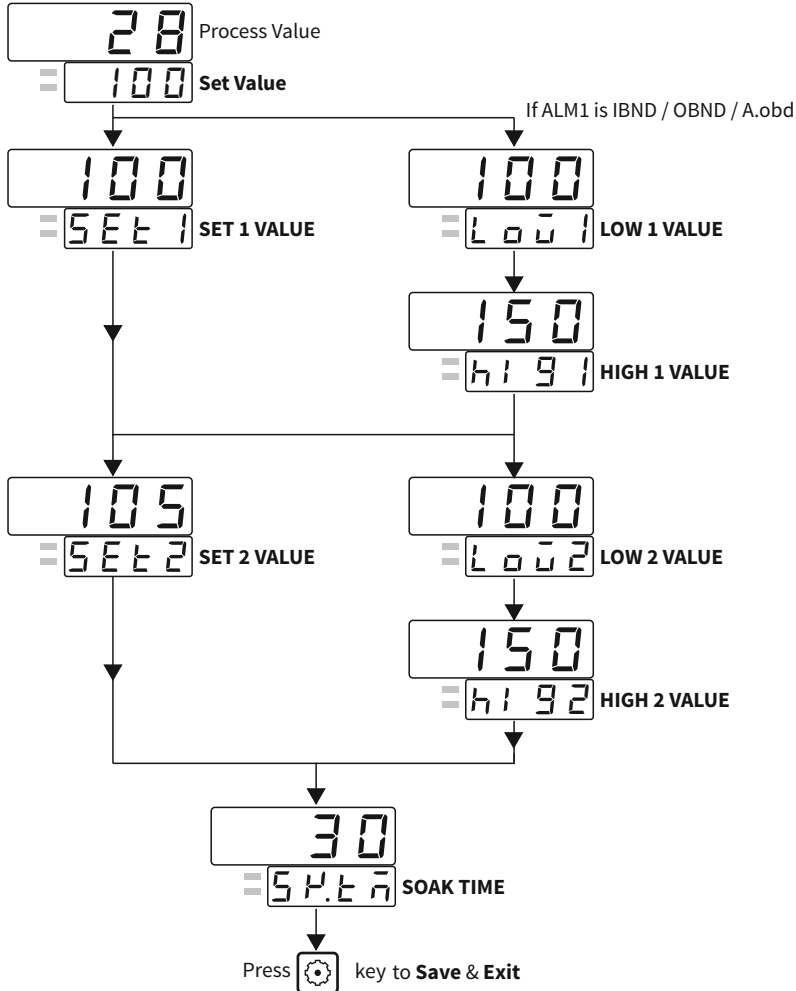
SET POINT MENU



Long press key to enter Set Point Menu

8600 SET Value
= 85Et Menu Name

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



*Note: If the instruments stays in idle condition while inside the Configuration Menu for more than 30 seconds, then 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.

BASIC PARAMETER SETTINGS

Long press key
to enter the parameter setting menu

8001 Password
Enter value 1-9999; press SET key
-PASS Menu Name

If Password is 15

tc J/K or PT-100
-InPt Input Selection

press SET key

Next Menus will be based on the below selected conditions

- Condition 1: Heat + Soak + Alarm
- Condition 2: Heat + Heat
- Condition 3: Heat + Cool
- Condition 4: Heat + Alarm
- Condition 5: Cool + Cool
- Condition 6: Cool + Alarm
- Condition 7: Alarm + Alarm

press SET key

0
-OFSt Off Set Value

press SET key

1
-SEt.L Set LOW Limit

press SET key

600
-SEt.h Set HIGH Limit

Press key to Save & Exit

PID SETTING MENU

Long press key
to enter the parameter setting menu

8001 Password Value
Enter value 1-9999 and press SET key
-PASS Menu Name

Password is 12

200
-P.PId Proportional Value

press SET key

125
-I.PId Integration Value

press SET key

30
-d.PId Derivative Value

press SET key

15
-Cyt.n Cyclic Time

press SET key

15
-nrSt Manual Reset

Press key to Save & Exit

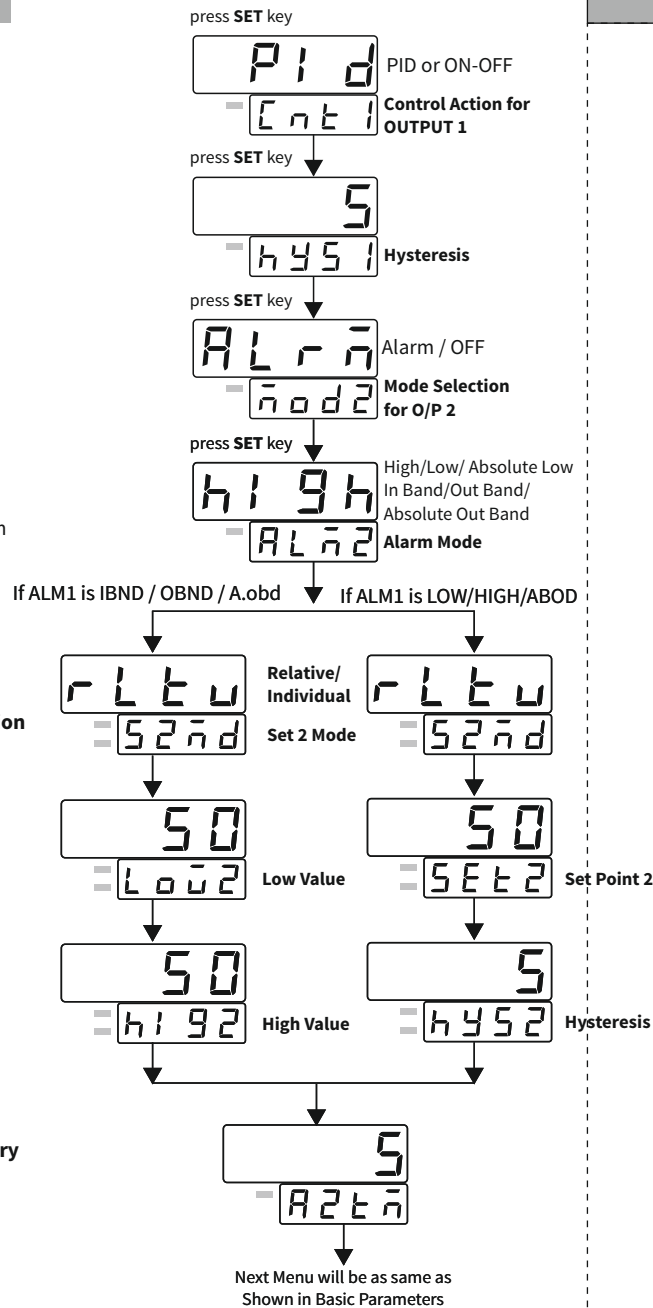
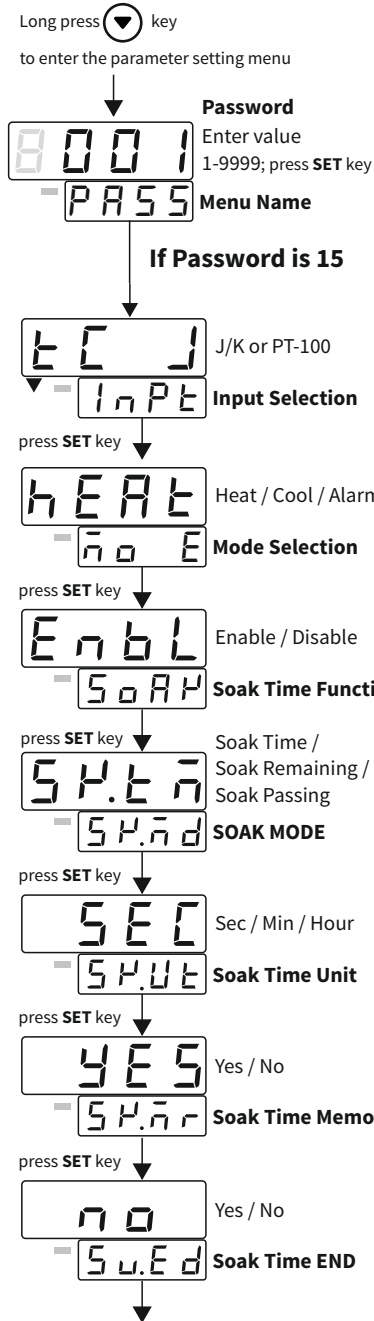
AUTO TUNE

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.

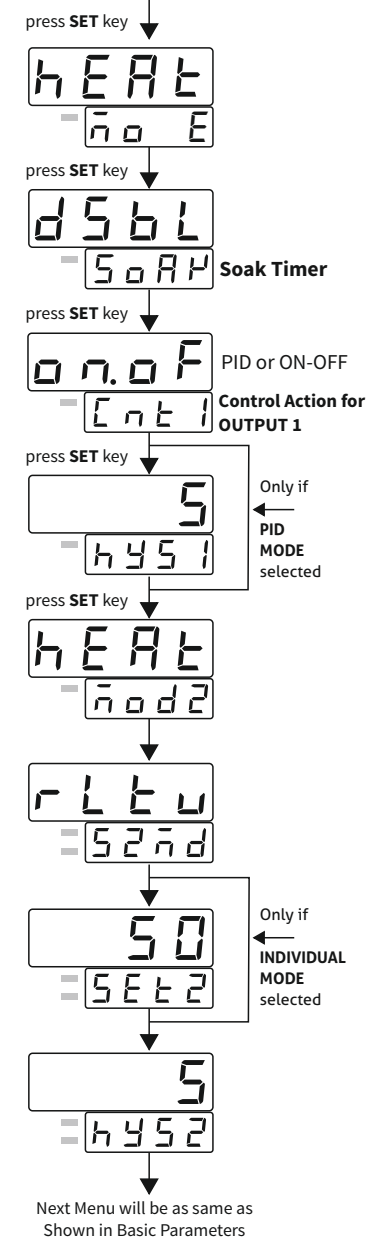
If the power is turned off before auto-tuning is finished, it will be restarted when the power is turned back on.

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

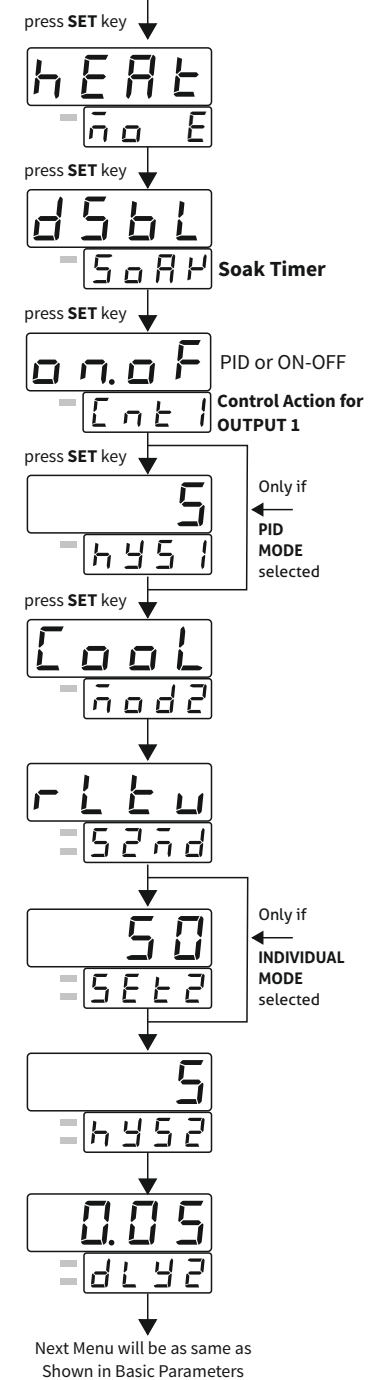
CONDITION 1 (HEAT+SOAK+ALARM)



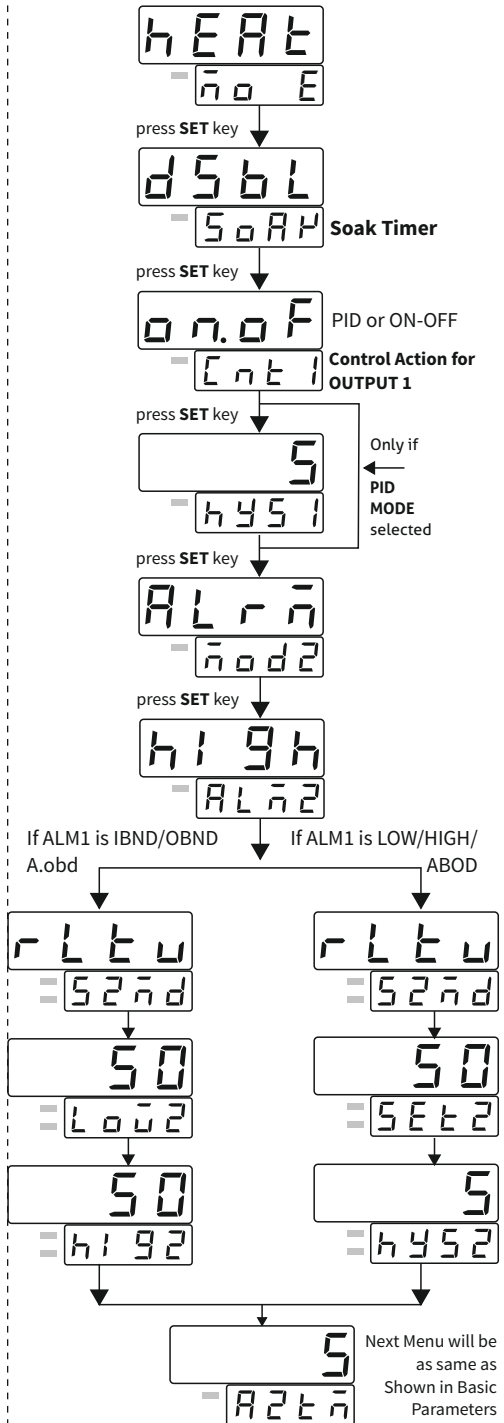
CONDITION 2 (HEAT + HEAT)



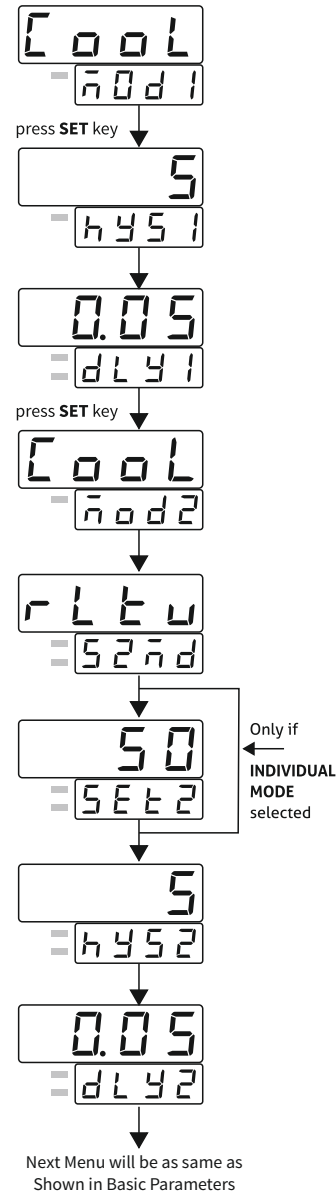
CONDITION 3 (HEAT + COOL)



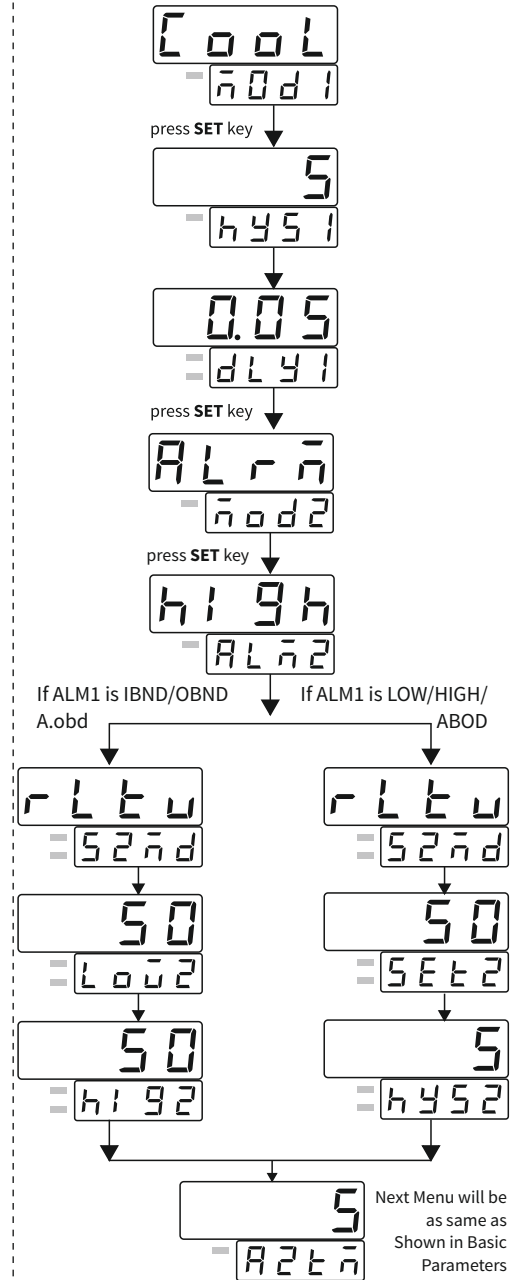
CONDITION 4 (HEAT + ALARM)



CONDITION 5 (COOL + COOL)



CONDITION 6 (COOL + ALARM)



CONDITION 7 (ALARM + ALARM)

