

PID Temperature Controller

AI-7481 / 7681 / 7781 / 7881 / 7981



Features

- Selectable sensor Input (T/C & RTD)
- Control Action : PID Control / ON-OFF
- Input Signal Conditioning (Filter & Offset)
- Programmable Setpoint limit
- Program Lock function
- Selectable Control Output (Relay / SSR Drive)
- Overshoot Control Protection
- Single Step Ramp
- Time Delay for Compressor
- Universal supply voltage (90 to 270 VAC)
- 24 VDC Available on Request





Technical Specifications

Display Specification

Digits	4 Digits Dual Row 7 Segment LED Display					
LED Indication	1 - Control Output Status					
Height	Model	AI-7481	AI-7781	AI-7981	AI-7681	AI-7881
PV (White)		0.36"	0.59"	0.80"	0.36"	0.36"
SV (Green)		0.24"	0.39"	0.56"	0.36"	0.36"

Keys

4 Controlling keys for configuration and operation

SET  AT  UP  DOWN 

Auxiliary Supply Specification

Supply Voltage 90 - 270 VAC
(24 VDC Available on Request)



Make in India



Accurate



Reliable



Affordable



User Friendly

Input Specification

Sensor Input	Thermocouple - J, K, R, S, N, T, B RTD - Pt-100
Resolution	T/C - 1°C Pt-100 - 1°C / 0.1°C
Accuracy	0.3% FSD
Temperature Unit	°C
Sampling Rate	250 m Sec
CJC Error	± 2°C
Sensor Open	All Input
Sensor Burnout Current	1.10uA
RTD Excitation Current	0.2mA
Input Impedance	>1M
Max Voltage	20 VDC

Output Specification

Control Output	Relay / SSR Drive (User Selectable)
Relay	5A @ 250VAC / 30VDC
SSR Drive	12 VDC @ 30mA

Environmental Specification

Temperature	Operating - 0 to 50°C
Storage	-20° to 75°C
Humidity	95% RH (Non-condensing)
Protection	IP 65 (Front Side)

Certification

None

General Description

Model	AI-7481	AI-7681	AI-7781	AI-7881	AI-7981
Weight (Gms)	130	180	190	160	240
Enclosure	Molded ABS				
Color	Black				
Accessories	1 Pair of Mounting clamp				
Terminal Cable Size	Barrier Type terminal cable Size (2.5 mm ²)				

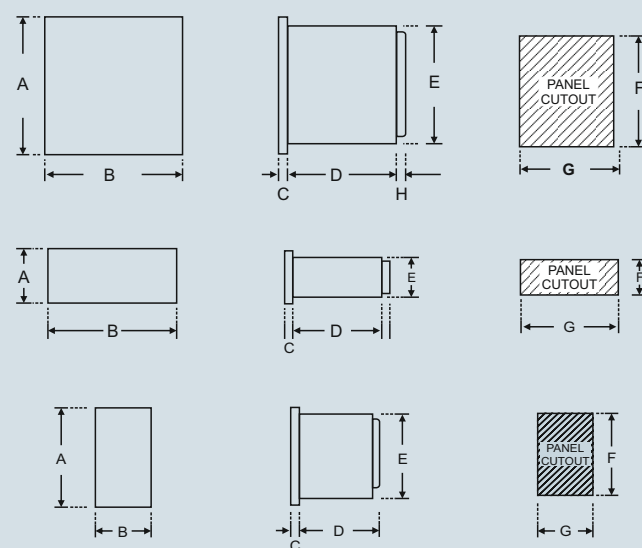
Functional Specification

Control Action	PID Control / ON-OFF
Control Logic	Heat / Cool
Proportional Band	0.5 to 99.9°C
Integral Time	0 to 3600 sec
Derivative Time	0 to 300 sec
Cycle Time	1.0 to 100.0 sec
Overshoot Control Point	0 to 100%
Output Power Limit	0 to 100%
Hysteresis	J, K, RTD - 1 to 100°C
Delay	0 to 500 sec

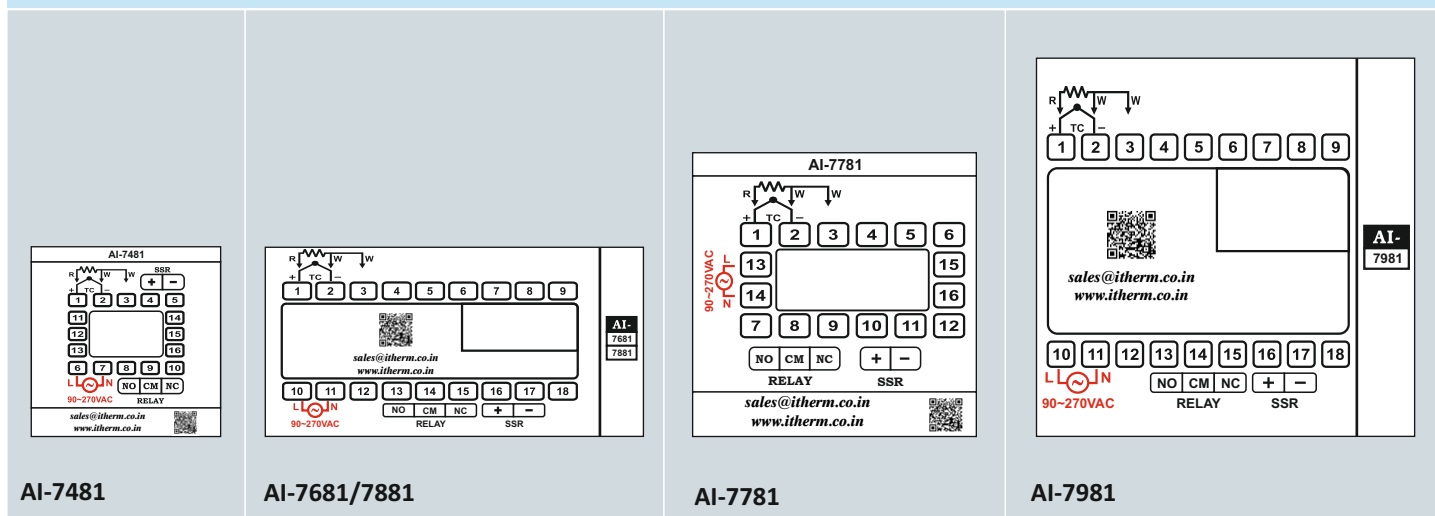
Mechanical Dimensions

Model	Dim	A	B	C	D	E	F	G	H
AI-7481		48	48	8	75	43	44	44	9
AI-7781		72	72	10	45	66	68	68	9
AI-7981		96	96	10	45	89	92	92	9
AI-7681		96	48	10	45	89	92	44	9
AI-7881		48	96	10	45	43	44	92	9

Mechanical Dimensions



Terminal Diagram



Order Code : AI-7XXX Series

Control Action	Size	No. Of Digits	No. of Output
7 (PID / ON-OFF)	4 (48X48X70)	4 Digits	One
	6 (96X48X53)	8 Digits	Two
	7 (72X72X60)		
	8 (48X96X53)		
	9 (96X96X53)		

Example : AI-7781-R-N

Control Action	Size	No. Of Digits	No. of Output
7	7	8	1
PID / ON-OFF	7 (72X72X65)	8 Digits	One

Input Sensor Range

Sensor Input	Range	Resolution	Accuracy
Thermocouple (J) Type	0 ~ 760 °C	1 °C	± 1 °C
Thermocouple (K) Type	-99 ~ 1300 °C	1 °C	± 1 °C
Thermocouple (R) Type	0 ~ 1700 °C	1 °C	± 1 °C
Thermocouple (S) Type	0 ~ 1700 °C	1 °C	± 1 °C
Thermocouple (N) Type	-99 ~ 1300 °C	1 °C	± 1 °C
Thermocouple (T) Type	-99 ~ 400 °C	1 °C	± 1 °C
Thermocouple (B) Type	0 ~ 1800 °C	1 °C	± 1 °C
Pt-100(RTD)	-100 ~ 450 °C	1 °C	± 1 °C
Pt-100(RTD.1)	-99.9 ~ 450.0 °C	0.1 °C	± 0.3 °C