

Digital Temperature Controller

AI-5441 / 5741 / 5841 / 5941



Features

- | | |
|---|--|
| ➤ Selectable sensor Input (T/C & RTD) | ➤ Time Delay for Compressor |
| ➤ Control Action : T.P Control / ON-OFF | ➤ Universal supply voltage (90 ~ 270VAC) |
| ➤ Input Signal Conditioning (Digital Filter & Offset) | ➤ Programmable Lower and Higher Setpoint Limit |
| ➤ Selectable Control Output (Relay / SSR Drive) | ➤ 24 VDC Available on Request |
| ➤ Program Lock function | |

Technical Specifications

Display Specification

Digits		4 Digits Dual Row 7 Segment LED Display			
LED Indication		1 - Control Output Status			
Height	Model	AI-5441	AI-5741	AI-5841	AI-5941
PV (White)		0.36"	0.56"	0.56"	0.56"

Keys

4 Controlling keys for configuration and operation

SET 	SHIFT 	UP 	DOWN 
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Auxiliary Supply Specification

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

Sensor Input	Thermocouple - J, K, R, S RTD - Pt-100
Resolution	T/C - 1°C Pt-100 - 1°C / 0.1°C
Accuracy	0.3% FSD
Temperature Unit	°C / °F
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



Make In India



Accurate



Reliable



Affordable



User Friendly

Output Specification

Control Output	Relay / SSR Drive (User Selectable)
Output 2	Relay / SSR Drive (Factory Set)
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

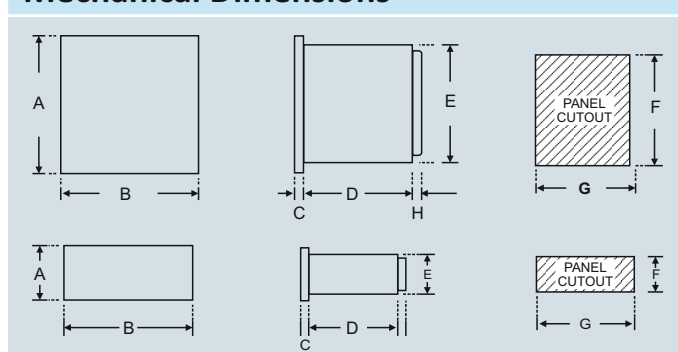
General Description

Model	AI-5441	AI-5741	AI-5841	AI-5941
Weight (Gms)	130	220	200	240
Enclosure	Molded ABS			
Color	Transparent			
Accessories	1 Pair of Mounting clam			
Terminal Cable Size	Barrier Type terminal cable Size (2.5 mm ²)			

Functional Specification

Control Action	T.P. Control / ON-OFF
Control Logic	Heat / Cool
Proportional Band	0.5 to 99.9°C
Cycle Time	1.0 to 100.0 sec
Hysteresis	J, K, R, S, RTD - 1 to 100°C RTD.1 - 0.1 to 100.0°C
Delay	0 to 500 sec

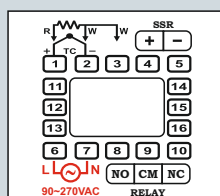
Mechanical Dimensions



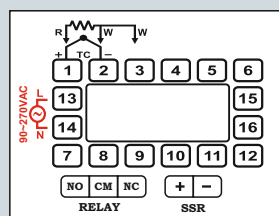
Mechanical Dimensions

Model \ Dim	A	B	C	D	E	F	G	H
AI-5441	48	48	8	75	43	44	44	9
AI-5741	72	72	10	45	66	68	68	9
AI-5941	96	96	10	45	89	92	92	9
AI-5841	48	96	10	45	43	44	92	9

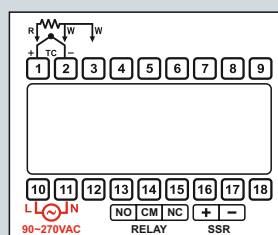
Terminal Diagram



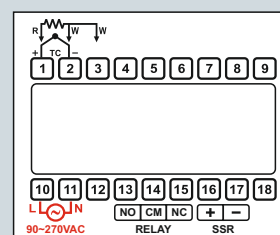
AI-5441



AI-5741



AI-5841



AI-5941

Order Code : AI-5XXX Series

Control Action	Size	No. Of Digits	No. of Output	O/P1 Type	O/P2 Type
5 (ON-OFF / TP)	4 (48X48X70)	4 Digits	One	R (Relay)	R (Relay)
	7 (72X72X60)	8 Digits	Two	S (SSR Drive)	S (SSR Drive)
	8 (48X96X53)				N (None)
	9 (96X96X53)				

Example : AI-5741-R-N

Control Action	Size	No. Of Digits	No. of Output	O/P1 Type	O/P2 Type
5	7	4	1	R	N
ON-OFF / TP	7 (72X72X65)	4 Digits	One	R (Relay)	N (None)

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
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