TC544C

Temperature Controller

PRELIMINARY DATASHEET

48 x 48mm

Features :

- **4+4 digits, 7 segment LED Dual Display**
- **TC / RTD Input**
- **PID, ON - OFF Control**
- **Auto Tuning / Self Tuning**
- **Two Set points**
- **°C / °F Selectable**
- **Field selectable Control Output (Relay or SSR)**
- **Auxiliary Output : Relay / SSR**

Display Specifications

Display	4+4 digits, 7 Segment LED dual display Height of Upper Display : 15.3mm Height of Lower Display : 8mm
LED Indication	1. Output 1 ON T : Auto tune 2. Output 2 ON S : Dwell timer

Input Specifications

Inputs	Thermocouple (J, K, T, R, S) / RTD (PT100)
Resolution	0.1 / 1° for TC / RTD inputs (fixed 1° for R & S type TC input)
Indication Accuracy	For J, K & T inputs : 0.25% of F.S. ±1° For R & S inputs : 0.5% of F.S. ±2° (20 min of warm up time for TC inputs) For RTD inputs : 0.1% of F.S. ±1° (F.S. = Full Scale)
Temperature Unit	°C / °F selectable
Input Filter (FTC)	0.2 to 10.0sec
Sampling time	250 ms

Output Specifications

Control Output (Relay or SSR user selectable)

Relay contact (SPST)	5A resistive @ 250V AC / 30V DC
SSR drive (Voltage Pulse)	12V DC, 30 mA

Auxiliary Output

Relay Contact (SPST)	5A resistive @ 250V AC / 30V DC

Functional Specifications

Control Action	1) PID Control with auto tuning 2) ON-OFF Control
Proportional Band (P)	1.0 to 400.0°
Integral Time (I)	0 to 9999 sec
Derivative Time (D)	0 to 9999 sec
Cycle Time	0.1 to 99.9 sec
Hysteresis Width	0.1 to 99.9°
Manual Reset Value	-19.9 to 19.9°
Heat-cool	
Control Action	PID
Proportional Band-Cool	0.0 to 400.0°
Cycle Time-Cool	0.1 to 99.9 sec
Dead Band	Programmable from set point low limit to set point high limit.
Settings for Alarm Output	
Modes	Deviation, Absolute
Hysteresis	0.1 to 99.9°

Auxiliary Supply Specifications

Supply Voltage	85 to 270V AC / DC (50 / 60Hz)
Power Consumption	6 VA max @ 230V AC

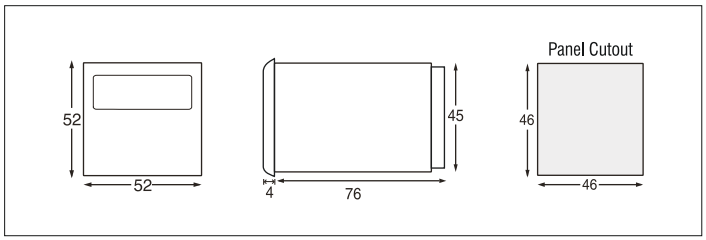
Environmental Specifications

Temperature	Operating : 0 to 50°C Storage : -20 to 75°C
Humidity (non - condensing)	95% RH

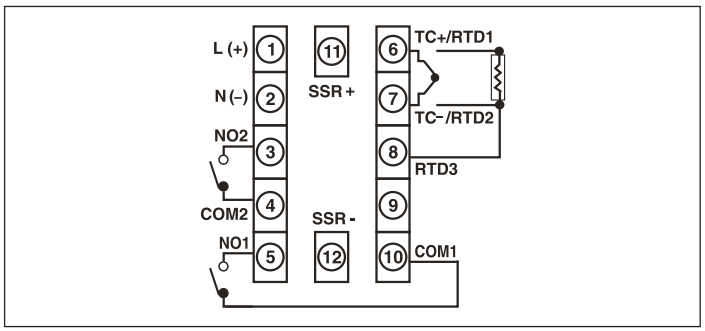
Mechanical Specifications

Mounting	Panel
Weight	116 gms

Dimensions



Terminal Connections



Compliance

Applicable EMI / EMC Standards		
Product Standard : IEC 61326-1		
Category		**Standards Compliance**
ESD Immunity	IEC 61000-4-2	Level III
Surge Immunity	IEC 61000-4-5	+/- 2 kV common mode, +/- 1 kV differential mode
Radiated Susceptibility	IEC 61000-4-3	Level III, 80 to 1000MHz Level II, 1.4GHz to 2GHz Level I, 2GHz to 2.7GHz
Conducted Susceptibility	IEC 61000-4-6	Level II
Voltage Dips and Interruptions	IEC 61000-4-11	**Dips** : 0% residual voltage / 1 cycle (Criteria B), 40% residual voltage / 10 cycles 50Hz / 12 cycles 60Hz (Criteria C)70% residual voltage / 25 cycles50Hz / 30 cycles 60Hz (Criteria C) **Interruptions** : 0% residual voltage / 250 cycles 50Hz / 300 cycles 60Hz (Criteria C)
Conducted Emission	CISPR-11	
Radiated Emission	CISPR-11	
Electrical Fast Transient	IEC 61000-4-4	Level III

Ordering Information

PRODUCT CODE	OUTPUT 1	OUTPUT 2	SUPPLY VOLTAGE	CERTIFICATION
TC544C	RELAY SSR	RELAY	85-270V AC / DC	CE in process

Accessories (Optional)

tandard SELEC accessories that can be used with this product.

Adapter plate

1) AP7248 : Plastic adapter plate, used to mount 1/16 DIN (cutout size 48 x 48) Instrument into existing (72 x 72) cutout size.
2) AP9648 : Plastic adapter plate, used to mount 1/16 DIN (cutout size 48 x 48) Instrument into existing (96 x 96) cutout size.
3) AP4896-4848-G-C : Plastic adapter plate, used to mount 1/16 DIN (cutout size 48 x 48) Instrument into existing (48 x 96) cutout size.

Mounting Accessories (Supplied with units)

For 48 X 48 Collar clamp	ACL4802

Input Sensor Ranges

Sensor type	Resolution	Ranges	
		1	0.1
Pt100	°C	-150 to 850	-150 to 850
	°F	-238 to 1562	-199 to 999
J	°C	-199 to 750	-199 to 750
	°F	-328 to 1382	-199 to 999
K	°C	-199 to 1350	-199 to 999
	°F	-328 to 2462	-199 to 999
T	°C	-199 to 400	-199 to 400
	°F	-328 to 750	-199 to 750
R & S	°C	0 to 1750	N/A
	°F	32 to 3182	N/A