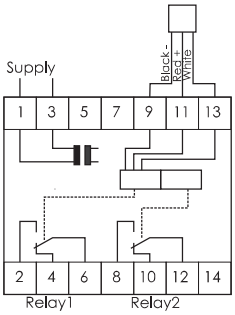
DDTC

Digital Temperature Controller

Description

Multi-function four digit Temperature Controller designed with the latest microprocessor technology. Setup and set-points can be adjusted with an easy to access and control menu system to make all common function available. The controller interfaces with a highly accuracy digital temperature probe. Two relays can be controlled separately for heating and cooling at different temperature settings.

Wiring Diagram



FEATURES

- Microprocessor controlled
- Multi Function
- High Accuracy 0.5 ^{O}C
- Two Separately controllable relays
- Function 2 PID Controller
- User friendly menu system
- 2 * 10A SPDT output relay
- Interface and power supply for digital temperature sensor
- Modular 53.5mm Din rail mountable

Probe Specifications

Probe Type	Digital Temperature Probe
Accuracy	0.5^{O}C
Range	-55^{O}C to +125^{O}C
Refresh Rate	<1sec

Timing Specifications

Temperature setting 1&2	-50 - 120^{O}C
Function 1 Hysteresis 1&2	0 - 20^{O}C
Function 2	
Proportional 1&2	0-200
Integral 1&2	0-200
Derivative 1&2	0-200
Heating or Cooling	Relay 1 / Relay2
Display Relay ON	On / Off

Supply Specifications

Power Supply AC Type	24, 48, 110, 230, 400 ±10% 50-60Hz ±5%
Galvanic Isolation	4kV
Consumption	±3VA
Power Supply DC Type	24, 48 ±10%
Galvanic Isolation	None
Consumption	± 200 mA

Output Specifications

Relay Output	2 * DPDT
Rated Isolation	
Voltage	6000 VAC (contact / electric) 1000 VAC (contact / contact)
Nominal Rate in Ac1	2500 VA
Rated Current	10A
Rated Voltage	250V
Mechanical Life	$10*10^{6}$ cycles
Electrical Life	$110*10^{3}$ cycles (at max load)
Operating Frequency	≤ 1800 cycles/h

General Specifications

Power ON Delay	≤ 500 ms
Indication	Two sets of 4*seven Segment Red LED's Flashing "RLY1" / "RLY2" when relay active
Count	Top display
Set point / status	Bottom display
Environment	
Degree Of Protection	IP 20
Operating Temperature	-10 to + 50^{O}C
Storage Temperature	-50 to + 85^{O}C
Weight	200g

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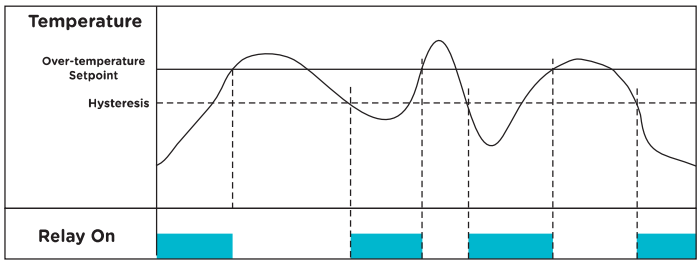
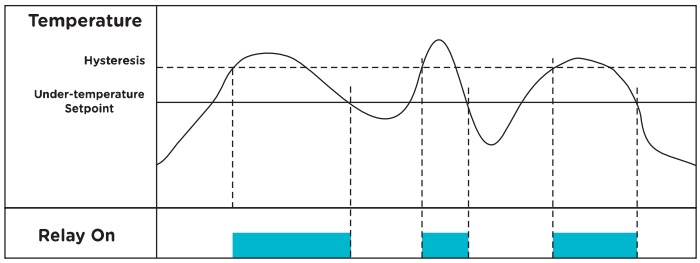
Mode of Operations

Function 1: Temperature Controller

A trip point can be set for each of the two relay. Hysteresis for each trip point can be set. The two relay can be set independently for over or under operation. The maximum and minimum temperature for the set point adjustment can also be set.

Operation Diagram





Menu Diagram

"SET" Button Momentarily
Temperature setpoint

"SET" Button 4 seconds

"SET"
- Function setting (1)
- Hysterisis 1
- Hysterisis 2
- Max temperature set point
- Min temperature set point
- Heating/Cooling 1
- Heating/Cooling 2

- Function setting (2)
- Proportional 1
- Integral 1
- Derivative 1
- Proportional 2
- Integral 2
- Derivative 2
- Max temperature set point
- Min temperature set point
- Heating/Cooling 1
- Heating/Cooling 2