

1B-TC TEMPERATURE CONTROLLER + SCR OUTPUT

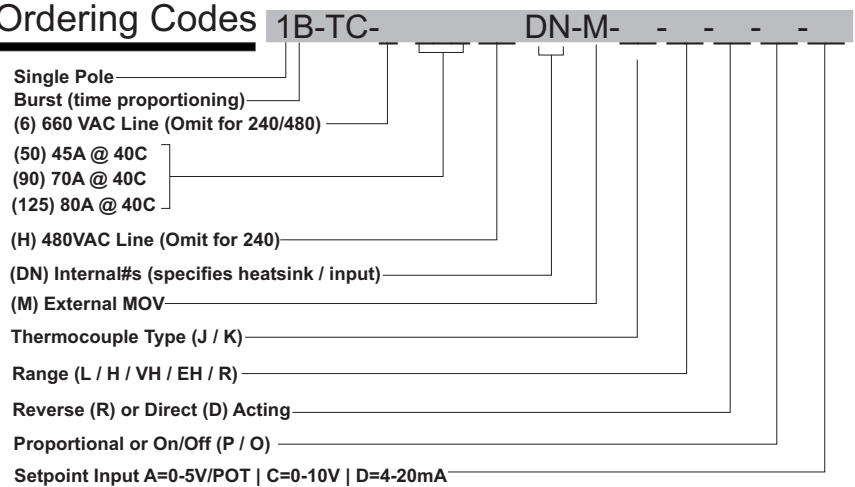


- **Integrated temperature & SCR power controller**
- **J or K type thermocouple input**
- **Pot, 0-5V, 0-10V or 4-20mA setpoint input**
- **Output enable/disable control input**
- **Output and status LEDs**

Product Description

The 1B-TC provides a low cost temperature and SCR power control solution. The input accepts J or K type thermocouples and can be ordered for heat or cool processes with on/off or proportional control. The setpoint can be controlled by a potentiometer or analog voltage/current. The setpoint is proportional to the voltage or current at the setpoint input.

Ordering Codes



Output Specifications

MODEL	1B-50DN	1B-50HDN	1B-90HDN	1B-125HDN
Operating Voltage (47-63 Hz) [Vrms]	24-280	48-530	48-530	48-530
Load Current Range [Arms] @ 40degC	.04-45	.04-45	.04-70	.04-80
Transient Overvoltage [Vpk]	600	1200	1200	1200
Max. Surge Current, (16.6ms) [Apk]	625	625	1200	1750
Max. On-State Voltage Drop [Vpk]	1.6	1.7	1.7	1.7
Max. I ² t for fusing (8.3mS) [A ² sec]	1620	1620	6000	12,700
Max. Off-State Leakage Current [mArms]	10	10	10	10
Power Factor (Min.) with Max. Load	0.5	0.5	0.5	0.5
Response Time	500mS			
Output Cycle Time (Proportional)	500mS			
Setpoint Potentiometer Excitation	5V, +/-3%, 5mA Max, 5K-10K potentiometer is suggested			

Thermal Specifications

Operating Temperature Range	0 to 60 degC
Storage Temperature Range	-40 to 100 degC

Input Specifications

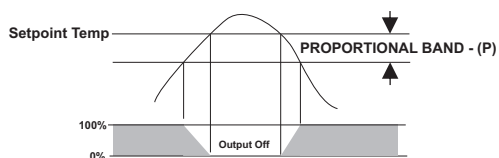
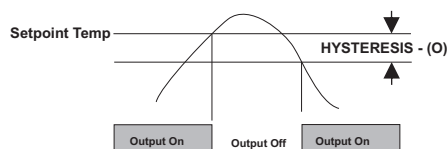
Controller Power Supply	10-28VDC
Sensor Input	J or K thermocouple (see range selections below)
Setpoint Control Input	0-5V, 0-10V, 4-20mA (input impedance is 20K for V, 250Ohms for mA)
Enable / Disable Input	10K internal pull-up for external switch, <0.5V=OFF, >4.5V=ON
Setpoint Accuracy	+/-1.5% of Setpoint (not including normal proportional droop error)

Temperature Range Selections

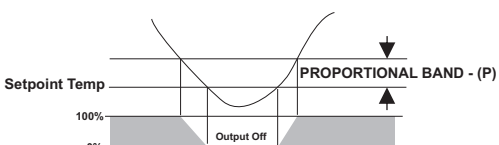
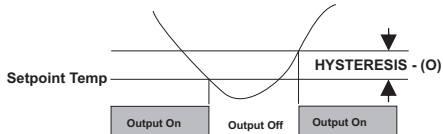
	Range Low (F)	Range High(F)	Range Low (C)	Range High (C)
L	100	500	38	260
H	300	700	149	371
VH	500	900	260	482
EH	700	1100	371	593
R	32	100	0	38

Temperature Control Operation

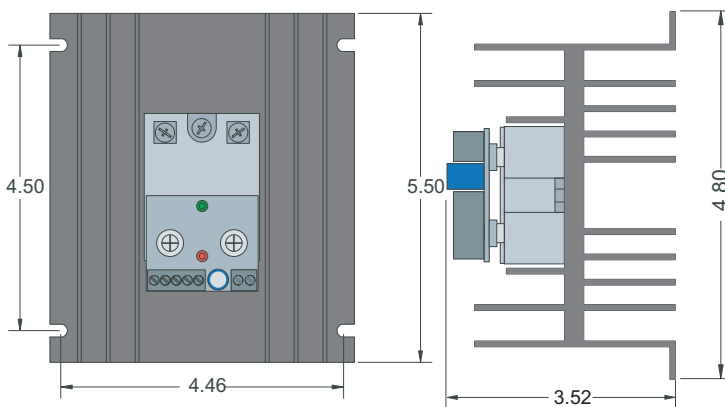
Reverse Acting (Heating) Examples:



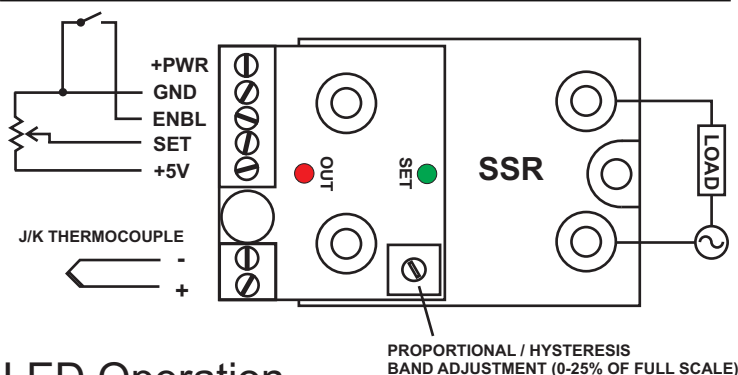
Direct Acting (Cooling) Examples:



Dimensions



Wiring Example



LED Operation

Description	GREEN LED (SET)	RED LED (OUT)
Power Applied	Flash Once	Flash Once
Approaching Setpoint	Off	On when output is on
At Setpoint +/-5%	On	On when output is on
Over Setpoint >5%	Flashing Slow	Off
Open Thermocouple	Flashing Fast	Off