

MCTC Series

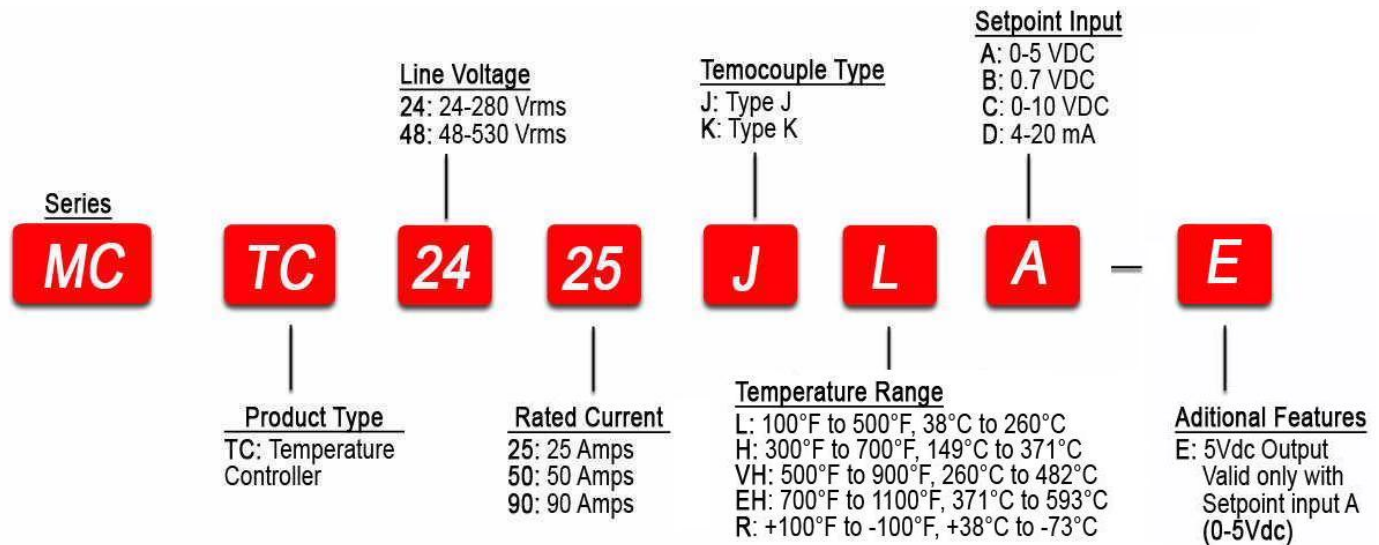


- Microprocessor based temperature controller / SSR
- Ratings from 25A to 90A @ 48-530 VAC
- Direct J or K thermocouple input
- Voltage or current controlled setpoint
- Separate output enable / disable control
- Open thermocouple protection
- LED status indicators
- Optional 5Vdc output voltage for setpoint voltage reference

PRODUCT SELECTION

Description	25 A	50 A	90 A
280 VAC	MCTC2425	MCTC2450	MCTC2490
480 VAC	MCTC4825	MCTC4850	MCTC4890

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (voltage)

Description	240 VAC	480 VAC
Operating Voltage (47-63Hz) [Vrms]	24-280	48-530
Transient Overvoltage [Vpk]	600	1200
Maximum Off-State Leakage Current @ Rated Voltage [mArms]	7	12
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec]	200	200

OUTPUT SPECIFICATIONS (current)

Description	25 A	50 A	90 A
Maximum Load Current [Arms]	25	50	90
Minimum Load Current [mArms]	150	150	150
Maximum Surge Current (16.6ms) [Apk]	250	625	1200
Maximum On-State Voltage Drop @ Rated Current [Vpk]	1.6	1.6	1.6
Thermal Resistance Junction to Case (Rjc) [°C/W]	1.02	0.63	0.28
Maximum I²t for Fusing (8.3 msec) [A²sec]	260	1620	6000
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5



DataSheet **Control Relays**

INPUT SPECIFICATIONS (1)

Description	DC Control
P1 Voltage Supply Range [VDC]	8-32
P1 Supply Current Range [mA] (2)	28-30
Control Nominal Input Impedance [Ohms] [P3]	30K
Control Must Operate Voltage "On"[VDC][P3]	5-32
Control Must Release Voltage "Off" [VDC][P3]	0-4
Control Input Current [mA][P3]	0-1.25
PLVI Range Option A [VDC][P4] (3)	0.8-5
PLVI Range Option B [VDC][P4] (3)	1-7
PLVI Range Option C [VDC][P4] (3)	2-10
PLVI Range Option D [VDC][P4] (3)	4-20
Nominal Input Impedance Option A,B,C[ohms][P4]	20K
Nominal Input Impedance Option D [ohms][P4]	220
Output Voltage [VDC][P5]	5
Maximum Output Current [mA][P5]	0.1

GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	4000 Vrms
Minimum Insulation Resistance (@ 500 V DC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	10 pF
Ambient Operating Temperature Range	-20 to 80°C
Ambient Storage Temperature Range	-40 to 125 °C
Weight (typical)	3.0 oz (86.5g)
Encapsulation	Thermally conductive Epoxy
Terminals-Power	Screws and Saddle Clamps Furnished, Unmounted
Terminals-Control	Barrier Strip Screw Terminals
Recommended Terminal Screw Torque Range:	8-32 Screws -20 in. lbs.(Screws dry without grase)

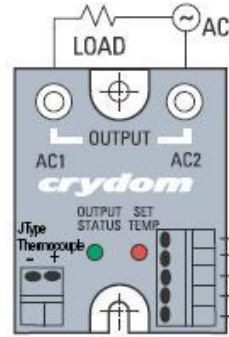
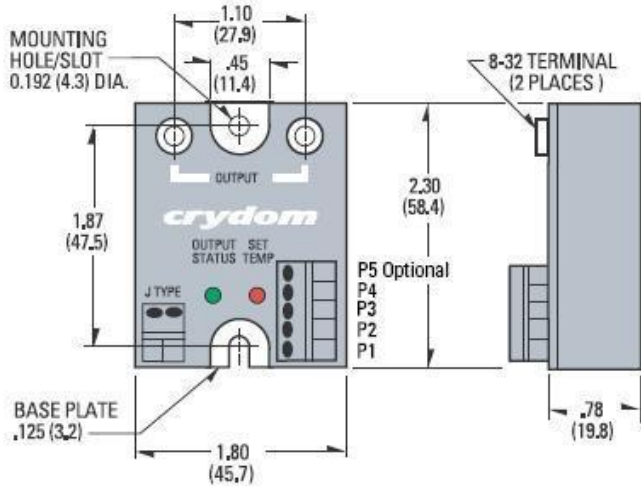
OUTPUT STATUS FUNCTIONS

Description	GREEN LED (setpoint)	RED LED (output)
Initial Logic Supply On	Flash Once	Flash Once
Operating (to 85 % of set point)	Off	On
Approaching Setpoint	Off	Variable Flashing
At Setpoint (± 5%)	On	Slow Flashing
Over Setpoint (>5%) (4)	Flashing	Off
Short-Cycle Timing ("R" suffix only)	Flash 2x Intermittently	Off
Open Thermocouple	Flash 3x Intermittently	Off

GENERAL NOTES

- 1) Voltages are reference to GND (Ground = 0 VDC) P2
- 2) Input current may vary with -E option.
- 3) PLVI voltage can go up to max. supply voltage without damage.
- 4) Below Setpoint for "R" suffix

MECHANICAL SPECIFICATIONS

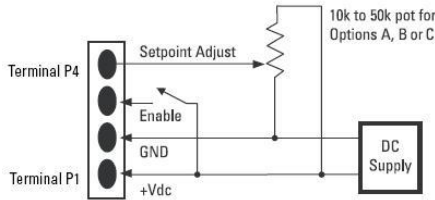


Note: P5 Terminal only comes with -E Option

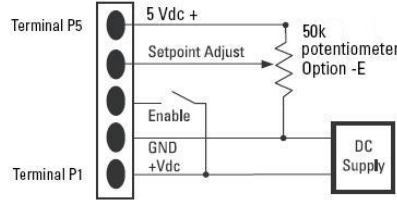
WIRING DIAGRAM

Wiring Example

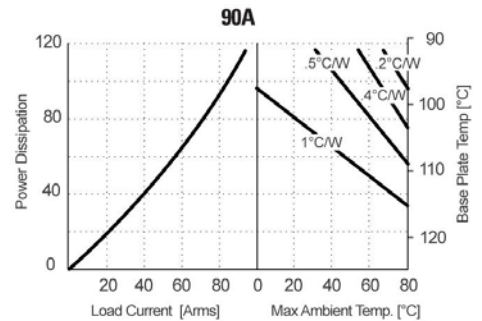
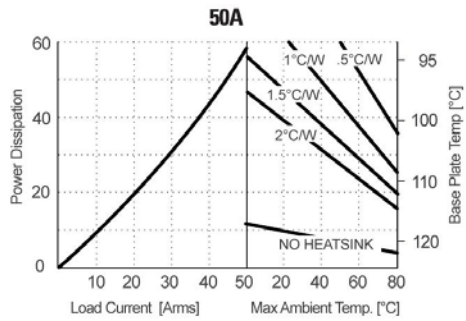
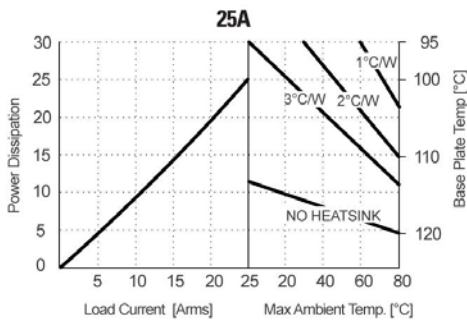
(for Options A, B or C using an external potentiometer)



Wiring Example Option -E



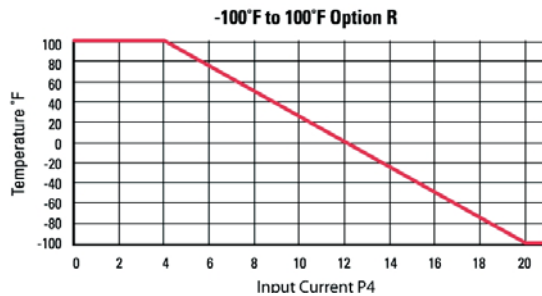
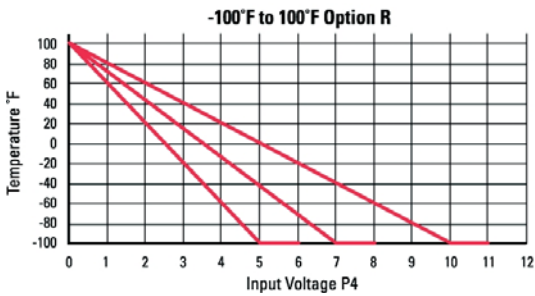
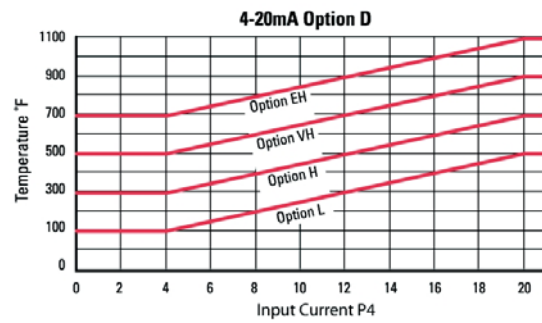
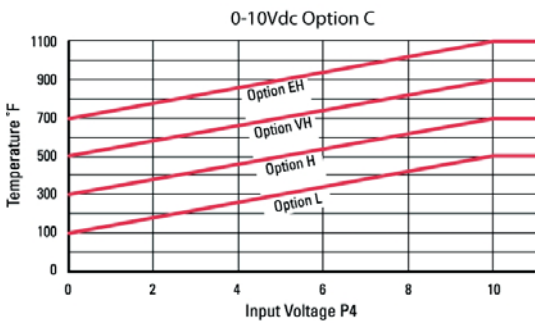
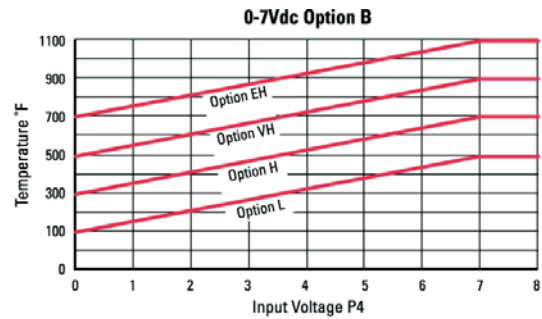
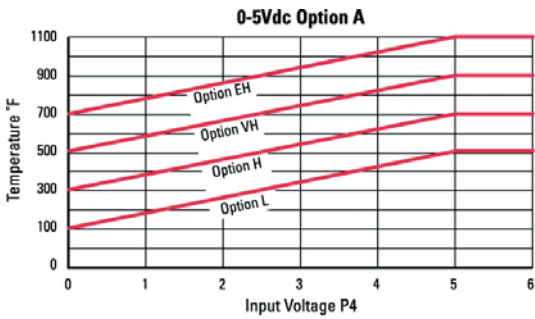
THERMAL DERATE INFORMATION





DataSheet Control Relays

TEMPERATURE VS SETPOINT INPUT P4



AGENCY APPROVALS

UL E116949



Rev. 082710

MCTC2425JLA; MCTC2450JLA; MCTC2490JLA; MCTC4825JLA; MCTC4850JLA; MCTC4890JLA;
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