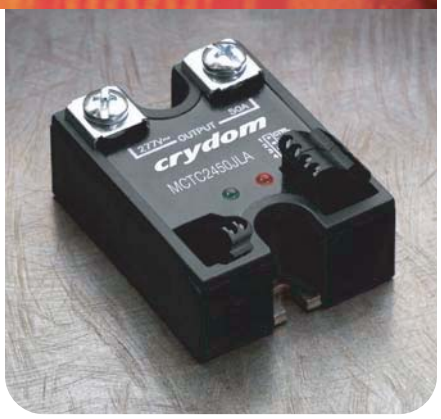
series MCTC

25-90Amp - 120/480 Vac - AC OUTPUT

- > *Temperature Controller/SSR in One Package*
- > *Direct J or K Internally Compensated Thermocouple Input*
- > *Four Heating Ranges Available with Burst Fire Control*
- > *Setpoint is Adjustable by Voltage or 4-20mA Control*
- > *Separate Output Enable/Disable Control*
- > *SCR Based Output Load Switching*
- > *Open Thermocouple Protection Feature*
- > *One Refrigeration Range Available with Built-In 2 Minute Short-Cycle Protection*



GENERAL SPECIFICATIONS

Dielectric Strength 50/60Hz, Input/Output/Base	4000 Vrms
Insulation Resistance (Min.) @ 500 Vdc	10^9 Ohm
Max. Capacitance Input/Output	10 pF
Ambient Operating Temperature Range	-20 to 80°C
Ambient Storage Temperature Range	-40 to 125°C

MECHANICAL SPECIFICATIONS

Weight: (typical)	3.0 oz. (86.5g)
Encapsulation	Thermally Conductive Epoxy
Terminals - Power	Screws and Saddle Clamps Furnished, Unmounted
Control/Thermocouple	Barrier Strip Screw Terminals

OUTPUT SPECIFICATIONS

	Voltage Suffix 24	48
Operating Voltage (47-63 Hz) [Vrms]	24-280	48-530
Transient Overvoltage [Vpk]	600	1200
Max. Off-State Leakage Current @ Rated Voltage [mA]	7	12
Power Factor (Min.) with Max. Load	0.5	0.5
Maximum Voltage Drop (100% On) [Vpk]	1.6	1.6
Minimum Off-State dv/dt [V/µsec]	200	200

	Current Suffix 25 Amp	50 Amp	90 Amp
Max. Load Current [Arms]	25	50	90
Min. Load Current (mArms)	150	150	150
Max. Surge Current (16.6ms) [Apk]	250	625	1200
Thermal Resistance Junction to Case ($R_{\theta JC}$) [°C/W]	1.02	0.63	0.28
Maximum I^2t for Fusing, (8.3 msec.) [A^2s]	260	1620	6000

INPUT SPECIFICATIONS*

	Minimum	Typical	Maximum
DC Voltage Supply Range [Vdc] [P1]	8	12 or 24	32
Input Current [mA]	28		30
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
Control Nominal Input Impedance		30K	
PLVI Range Option A [Vdc][P4]**	0.8		5
PLVI Range Option B [Vdc][P4]**	1		7
PLVI Range Option C [Vdc][P4]**	2		10
PLVI Range Option D [mA][P4]	4		20
Nominal Input Impedance Option A,B,C [Ohms][P4]		20K	
Nominal Input Impedance Option D [Ohms][P4]		220	

*Voltages are reference to GND (Ground = 0Vdc) P2.
**PLVI voltage can go up to max. supply voltage without damage.
†Heating Option Only.

The Crydom MCTC is a unique self-contained state of the art basic Temperature Controller that combines all the necessary fuctions into one easy to set up and use standard size package. The MCTC is ideal for temperature control users that do not need multiple built-in options, displays, and functions that they will never use.

The MCTC requires only a single, non-regulated low current DC source, (10-32Vdc at 32mA max.), and a type J or K thermocouple, to be able to accurately control heater and cooling compressor loads up to 530Vac at 90A.The unit incorporates an internally compensated thermocouple input, 5 available temperature ranges including an inverse function refrigeration version, with adjustable setpoint using analog low voltage or 4-20mA inputs, separate output enable/disable control, and built in Crydom Solid State Relay technology for load control. With integrated zerocross burst firing, and proportional derivative control to avoid set-point overshoot†, the unit also includes 2 LED status indicators for visual reference of operation and setpoint conditions.

series MCTC

25-90Amp - 120/480 Vac - AC OUTPUT

Part Number Nomenclature

SERIES **MC** **TC** **24** **25** **J** **L** **A**

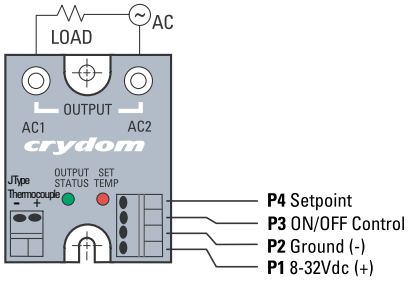
- **TC**: Product Type — **TC:** Temperature Controller
- **24**: Line Voltage — **24:** 24-280Vrms; **48:** 48-530Vrms
- **25**: **Rated Current** — **25:** 25 Amps; **50:** 50 Amps; **90:** 90 Amps
- **J**: **Thermocouple Type** — **J:** Type J; **K:** Type K
- **L**: **Temp. Range** — **L:** 100˚F to 500˚F; **H:** 300˚F to 700˚F; **VH:** 500˚F to 900˚F; **EH:** 700˚F to 1100˚F; **R:** +100˚F to -100˚F
- **A**: **Setpoint Input** — **A:** 0-5Vdc; **B:** 0-7Vdc; **C:** 0-10Vdc; **D:** 4-20mA

Output Status Functions

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

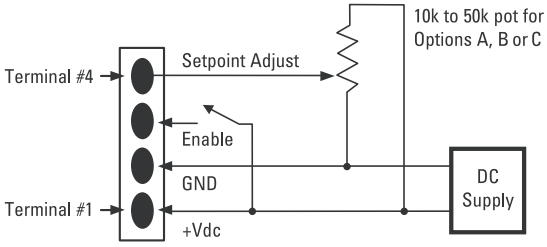
†Below Setpoint for "R" suffix

Electrical Connections



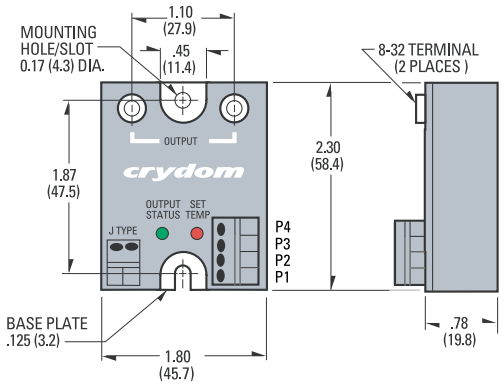
Wiring Example

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



Mechanical

Dimensions are in inches (millimeters)



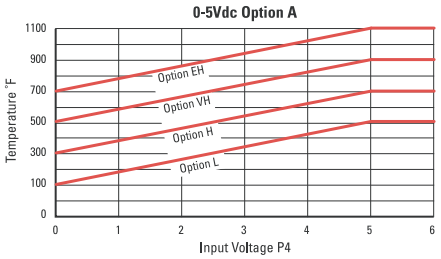
Screw Torque Requirements:

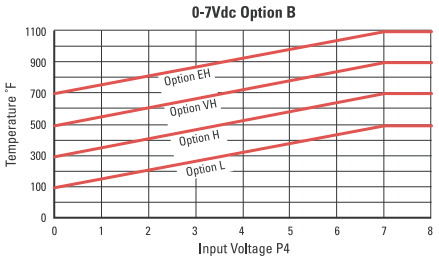
8-32 Screws - 20in. lbs. (Screws dry without grease.)
Input Connections via Screw Type Barrier Strip

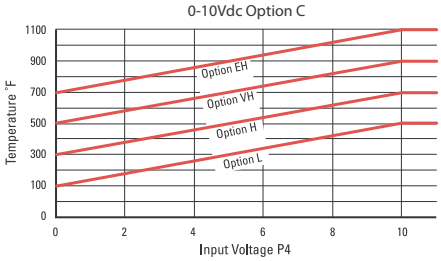
series MCTC

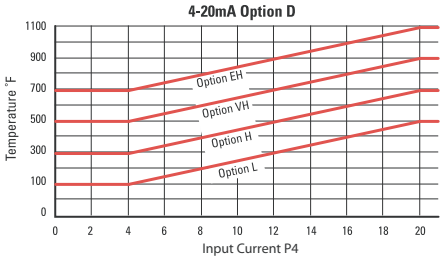
25-90Amp - 120/480 Vac - AC OUTPUT

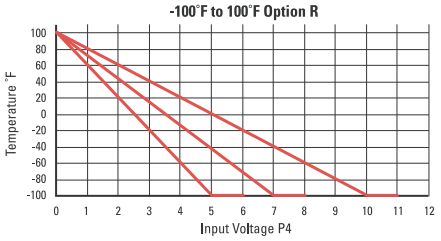
Temperature vs Setpoint Input P4

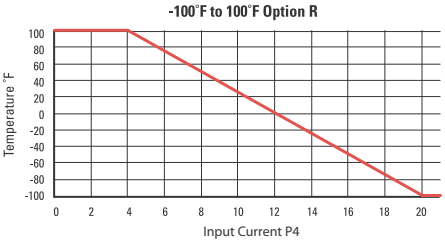




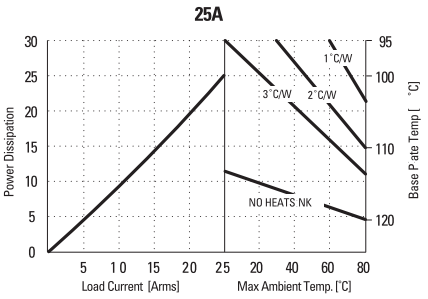


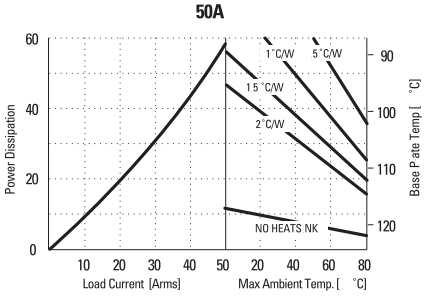


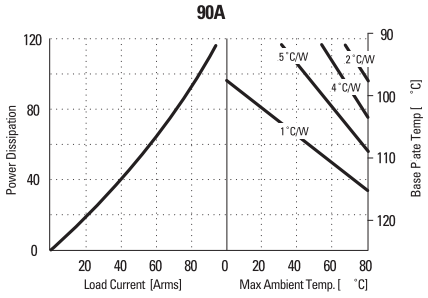




Current Derating Curves







ISO9001 Certified

Approvals

UL - Pending

CE

For recommended applications and more information contact:
USA: Sales Support (877) 502-5500 **Tech Support** (877) 702-7700 FAX (619) 710-8540
Crydom Inc., 2320 Paseo de las Americas, Ste. 201, San Diego, CA 92154
Email: sales@crydom.com **WEB SITE:** http://www.crydom.com
UK: +44 (0)1202 606030 • **FAX** +44 (0)1202 606035 Crydom SSR Ltd., Arena Business Centre, Holyrood Close, Poole, Dorset BH17 7FJ, Email: intsales@crydom.com.
GERMANY: +49 (0)180 3000 506

ANNEX – ENVIRONMENTAL INFORMATION:

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

附件 - 环保信息:

此附件所标示的包括电子信息产品污染图标的环保信息
符合中华人民共和国电子行业标准 SJ/T11364 - 2006,
电子信息产品污染控制标识要求

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O