

# TMC Series Thermoelectric Modules from SCTB NORD



- Increase your thermal cycling system reliability with extended durability thermal-cycling peltier coolers
- Reduce your thermal cycling system ramp times and increase throughput with enhanced thermoelectric module heat-pumping performance
- Upgrade your existing thermal cycling system TECs with easy no-redesign plug-in replacements for competitive modules

## High Performance & High Durability Peltier Coolers for Thermal Cycling Applications

### Optimized for the Challenges of Thermal Cycling Applications

Introducing the TMC Series of Thermal Cycling Peltier Coolers from Ferrotec and SCTB NORD. These Thermoelectric Modules are designed for extended life in temperature cycling applications. Thermal cycling exposes a peltier cooler to demanding physical stresses as the module shifts from heating to cooling, and this can significantly reduce the operational life of a standard TEC. TMC Series modules combine SCTB NORD's high-performance thermoelectric material with patented technology for increased durability, making TMC series modules the premier peltier cooler solution for thermal cycling systems.

### Increased Life in Thermal Cycling Environments

Optimized for thermal cycling, Ferrotec's intensive testing has shown that the TMC Series TECs can extend thermal cycling operational life by as much as 900% over competitive thermal cycling modules.

### Perfect for Your Thermal Cycling Application

TMC series modules deliver proven performance in precision medical and scientific applications including instrumentation, chillers, PCR devices, thermal cyclers, and analyzers. TMC series TECs are also becoming increasingly popular in technology industry applications such as burn-in and temperature testing equipment for semiconductor processors, electronic systems, and components.

### Optimizations Available for Performance or Durability

TMC series modules are available in two options, M and MM. M modules offer better performance. MM modules are designed for longer operational life. All TMC-series modules are available in either configuration, but the listed option is the standard available configuration enabling reduced delivery lead time.

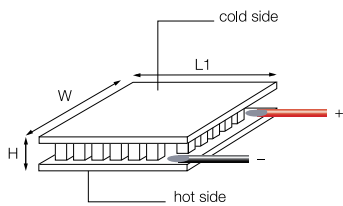
Types of Cycles	Test -20/+120 °C	Test +40/+90 °C nonsymmetric cycle	Test +40/+90 °C symmetric cycle
Technology			
TMC Series Modules	20–30 x 10 <sup>3</sup>	400–600 x 10 <sup>3</sup>	1500–2000 x 10 <sup>3</sup>

NOTE: The values in the table are numbers of cycles before failure. The module failure criteria -5% change in resistance.

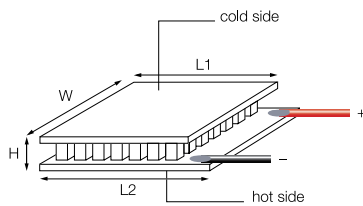


# TMC Series Module Specifications

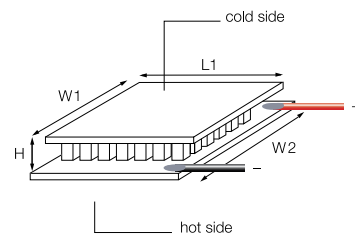
Model Number	I Max	V Max	$\Delta T$ Max	Qc Max	W1 Dim	W2 Dim	L1 Dim	L2 Dim	Height
TMC-31-1.0-2.5 M	2.5	3.6	71.0	5.5	15.00	-	15.00	-	4.00
TMC-71-1.0-3.9 M	3.9	8.1	71.0	19.0	22.40	-	22.40	-	3.60
TMC-127-1.4-6.0 M	6.0	14.7	71.0	52.0	40.00	-	40.00	-	3.80
TMC-71-1.4-8.5 M	8.5	8.1	71.0	40.0	30.00	-	30.00	34.00	3.40
TMC-32-2.0-9.0 M	9.0	3.7	71.0	20.0	25.40	-	25.40	28.40	4.60
TMC-70-2.0-15.0 M	15.0	8.1	69.0	70.0	36.40	-	50.20	54.40	3.20
TMC-71-1.6-15.0 M	15.0	8.2	71.0	70.0	29.20	29.80	29.20	33.80	2.35
TMC-144-1.2-8.0 MM	8.0	16.5	69.0	81.0	16.20	16.76	72.40	76.68	2.70
TMC-71-1.4-9.0 MM	9.0	8.1	69.0	41.0	34.00	-	34.00	-	3.50
TMC-241-1.5-10.0 MM	10.0	27.5	69.0	160.0	55.00	-	55.00	-	3.40
TMC-32-2.0-15.0 MM	15.0	3.7	69.0	32.0	25.40	-	25.40	28.40	3.60
TMC-127-1.6-15.0 MM	15.0	14.7	69.0	120.0	39.80	-	39.80	-	3.20
TMC-127-2.0-15.0 MM	15.0	15.5	69.0	110.0	50.00	-	54.00	-	3.60
TMC-161-1.6-15.0 MM	15.0	15.4	69.0	120.0	39.80	-	39.80	-	3.20
TMC-241-1.6-15.0 MM	15.0	27.6	70.0	230.0	50.00	-	50.00	-	3.65
TMC-241-1.5-17.0 MM	17.0	27.6	69.0	262.0	50.00	-	50.00	-	3.50
TMC-75-2.5-20 MM	20.0	8.3	69.0	102.0	37.40	-	54.78	59.00	3.20
TMC-70-2.5-24 MM	24.0	8.1	69.0	105.0	36.40	-	50.20	54.40	3.20



standard version

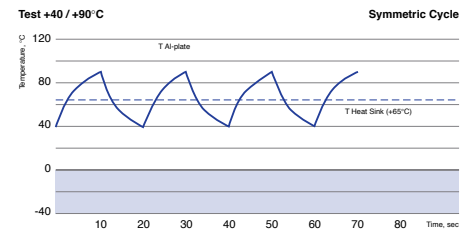
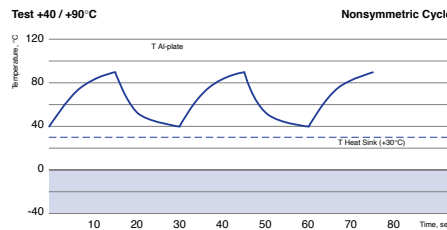
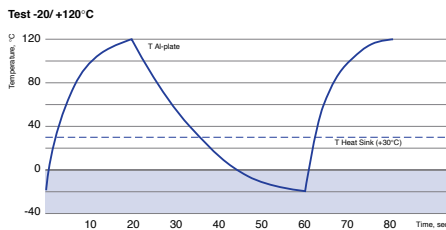


porch-style version



butterfly-style version

## Thermal Cycling Test Mode Examples



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