

Klixon® M2 Series Thermostats

0°F to 300°F, Narrow Differential, Hermetically Sealed ½"

- Hermetically sealed
- Vacuum baked and back-filled with dry nitrogen
- Single pole, single throw (SPST)
- Normally open or normally closed
- Low profile
- Narrow differential
- Preset, non-adjustable calibration
- Long cycle life (250,000 cycles)
- Qualified to MIL-S-24236/20
- Qualified to NASA S-311-641/02

The Klixon® M2 thermostat is constructed with a snap-acting bimetal disc that serves as the actuating element. As the temperature reaches a predetermined calibration point, the disc snaps to reverse its curvature, producing the crisp, positive switching action inherent to Klixon thermostats. This feature assures precision temperature accuracy and long life reliability in any position.

The M2 thermostat is engineered to provide reliable, narrow differential switching in the most demanding applications. Prior to final weld, finished assemblies are vacuum baked and back-filled with dry nitrogen. The inert, dry atmosphere eliminates moisture and other volatiles to prevent condensation at low temperatures or possible contact contamination at high temperatures. This back-fill also improves the dielectric characteristics of the device and prevents oxidation of the contacts. The M2 thermostat is the ideal choice where reliable, narrow differential switching is a must.

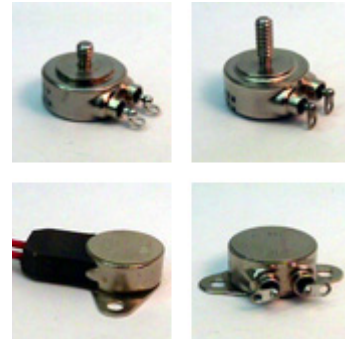
Precision temperature accuracy and long life reliability are achieved through the use of the well known Klixon snap-acting disc. This unique mechanism multiplies the motion of the temperature sensor and actuates a switch capable of handling high power. Welded closed after accurate calibration, the M2 is tamperproof. For more information, [see the page of drawings available](#).

Performance

Contact Ratings (Resistive) Based on standard differential		
30 VDC	120 VAC	Life Cycles
2.0 Amps	2.0 Amps	250,000 cycles

Characteristics	
Switch	SPST, normally open or normally closed

KLIXON



Qualifications

Military Specifications:

- MIL-PRF-24236/20

NASA Specifications:

- S-311-641/02

Action	
Contact resistance	0.050 ohms maximum, per MIL-STD-202, Method 307
Dielectric Strength	1250 VAC, rms, 60 cycles for 1 minute, terminal to case per MIL-STD-202, Method 301
Vibration Resistance	10-2000 Hz, 10G, per MIL-STD-202, Method 204, Condition D, (monitored)
Shock Resistance	100G, 6 milliseconds, per MIL-STD-202, Method 213
Hermeticity	1 X 10 ⁻⁸ atm cc/sec. maximum, per MIL-STD-202, Method 112, Condition C
Salt Spray Resistance	Per MIL-STD-202, Method 101, Condition B, 5% solution
Weight	5.4 grams (average)
Ambient Temperature Range	-65°F to 400°F (-53.9°C to +204.4°C), depending on calibrated temperature. Exposure is limited to 100°F above operating temperature for close on rise devices or 100°F below operating temperature for open on rise devices. Consult factory if you need to exceed these limits and we can adjust the switch build to accommodate your needs.
Operating Temperature Range	0°F to 300°F, (-17.8°C to +148.9°C)

The standard operating temperatures, differential and tolerances are shown in the table below, but can be customized to meet your specific requirements.

Closing Temperature Range	Opening Temperature Differential	Closing Temperature Tolerance	
		Standard	Spec.
0 to 250°F (-17 to 121°C)	2 to 5°F (1.1 to 2.8°C)	± 4°F (± 2.2°C)	± 3°F (± 1.7°C)
251 to 300°F (122 to 149°C)	3 to 7°F (1.7 to 3.9°C)	± 5°F (± 2.8°C)	± 4°F (± 2.2°C)
<i>Thermostats should not be subjected to temperature overrides in excess of 100°F in the closed position.</i>			

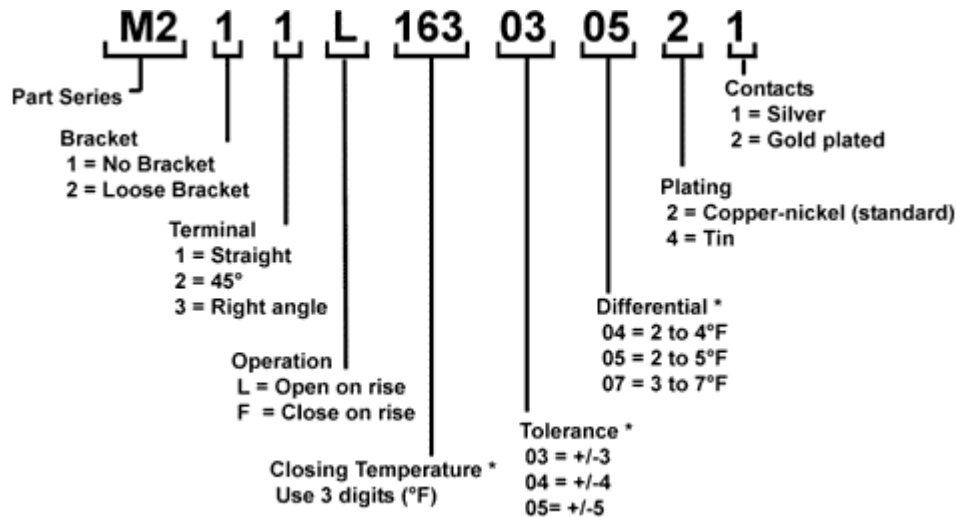
Configuration

The M2 is available with a variety of terminals and can be mounted in any position: through openings in metal closures, in casting wells, in ducts for control of air temperature. A surface

mounting bracket or stud can be provided.

To facilitate ordering M2 thermostats to your specifications, please use the part number code below. The code permits you to call out a complete production part number at the time of component selection.

For more information, see the [page of M2 drawings available for download](#), [contact us](#), [contact a distributor](#), or [make an online request for additional information](#).



* See temperature table for standards

