

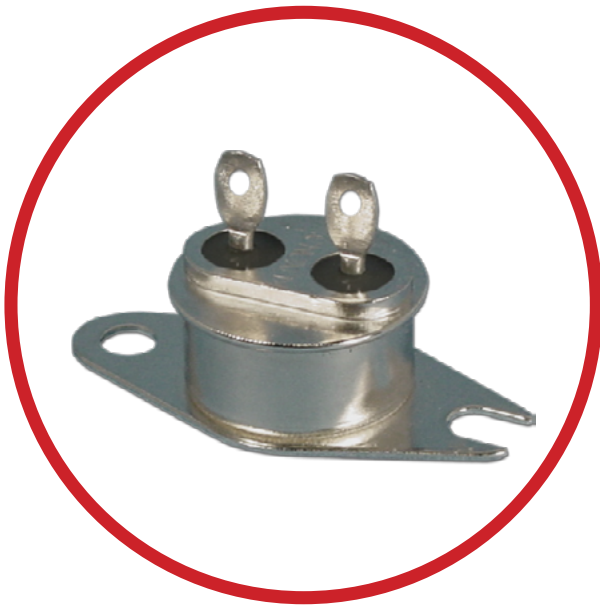


11041 (M1) SERIES

½" DISC HERMETIC THERMOSTATS, -65°F TO 550°F, SPST

Introduction

The Klixon® M1/11041 series of thermostats are engineered for exceptional vibration and shock resistance to provide reliable switching in the most demanding applications. Prior to the final weld, finished assemblies are vacuum baked and back-filled with dry nitrogen. The inert, dry atmosphere eliminates moisture and other volatilizates 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 M1 thermostat is the ideal choice where quality and reliability are paramount.



Features

- Single Pole / Single Throw (SPST)
- Preset temperature set points, non-adjustable calibration
- High resistance to shock and vibration
- Hermetically sealed, vacuum baked and back-filled with nitrogen
- Various mounting configurations available
- Qualified to MIL-PRF-24236/1
- Qualified to NASA S-311-P641/05



SPECIFICATIONS

	Cycles	30VDC / 30VAC	125VAC	250VAC
Contact Ratings (Resistive)	100,000	5.0 amps	2.0 amps	1.0 amps
	50,000	5.5 amps	3.0 amps	1.5 amps
	25,000	6.0 amps	4.0 amps	2.0 amps
	10,000	6.5 amps	5.0 amps	2.5 amps
	5,000	7.0 amps	6.0 amps	3.0 amps
	<i>Contact ratings shown are based on the standard differential shown under Standard Temperature Settings</i>			
Operating Temperature	-65°F to 550°F (-53.9°C to 287.8°C)			
Dielectric Strength	1250 VAC, rms, 60 cycles for 1 minute, terminal to case per MIL-STD-202, Method 301			
Contact Resistance	0.050 ohms maximum per MIL-STD-202, Method 307			
Insulation Resistance	100 megohms min. at 500 VDC			
Vibration	5-2000 Hz, 20G, per MIL-STD-202, Method 204, Condition D (monitored) 5-1000 Hz, 100G, per MIL-STD-202, Method 204, Condition D (unmonitored) 1000-2000 Hz, 50G, per MIL-STD-202, Method 204, Condition D (unmonitored)			
Shock	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	Per MIL-STD-202, Method 101, Condition B, 5% solution
Average Weight	4.8 grams (without bracket) to 5.9 grams (with bracket)
Ambient Temperature Range	-80°F to +550°F (-62.2°C to 287.8°C) <i>Maximum ambient exposure while in the closed position is 200°F above contact closing temperature.</i>

Standard Temperature Settings

Sensata can manufacture thermostats to any custom set point temperature within the specified operating temperature range. The table gives standard limits for our thermostats. Contact factory for assistance with custom set point temperatures.

Operating Temp. Range (°F)	Available Differential Range (°F)			Temperature Tolerance (°F)	
	Minimum	Standard	Maximum	Open	Closed
-65 to -1	25	30	80	±10	±8
0 to +200	9	20	80	±5	±5
+201 to +300	20	30	80	±8	±6
+301 to +450	30	40	80	±12	±12
+451 to +550	60	70	80	±25	±25

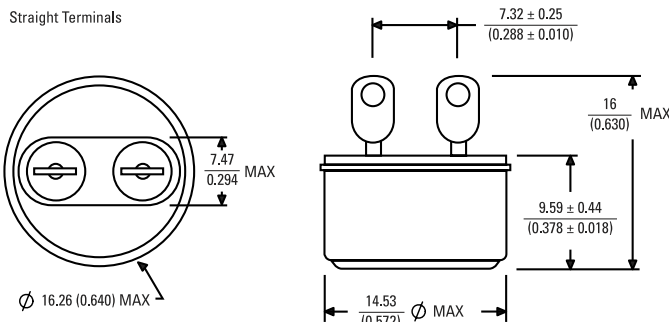
Notes:

1. Thermostat life is reduced when at minimum or maximum differential
2. Differential is the difference between the nominal Open & Close temperature set points

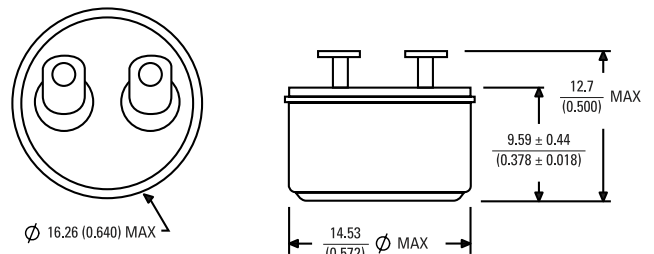
COMMON CONFIGURATIONS

No Bracket | SPST (Single Pole, Single Throw)
All dimensions are in millimeters (Inches).

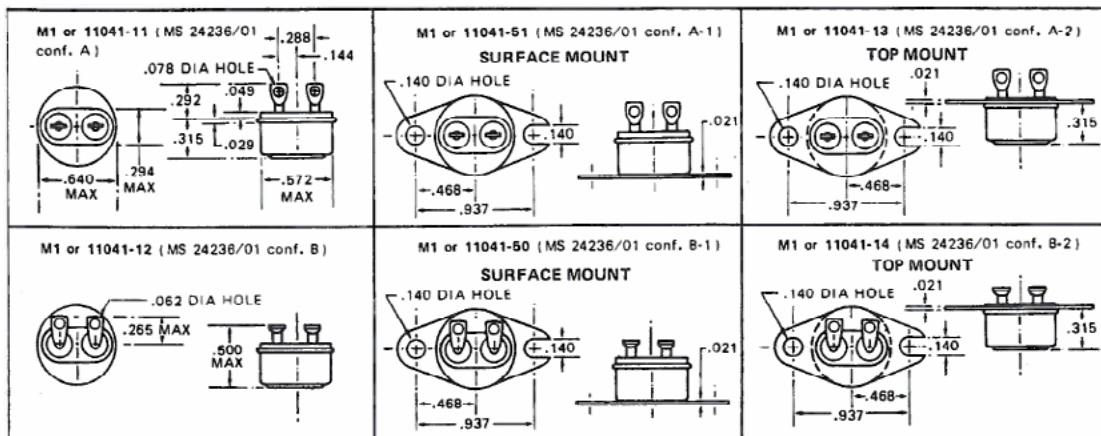
Straight Terminals



Bent Terminals



NOTE: Stud mount, surface and top mounting brackets are available. Dimensions listed are for reference only. Please contact Sensata for more detailed envelope drawings.



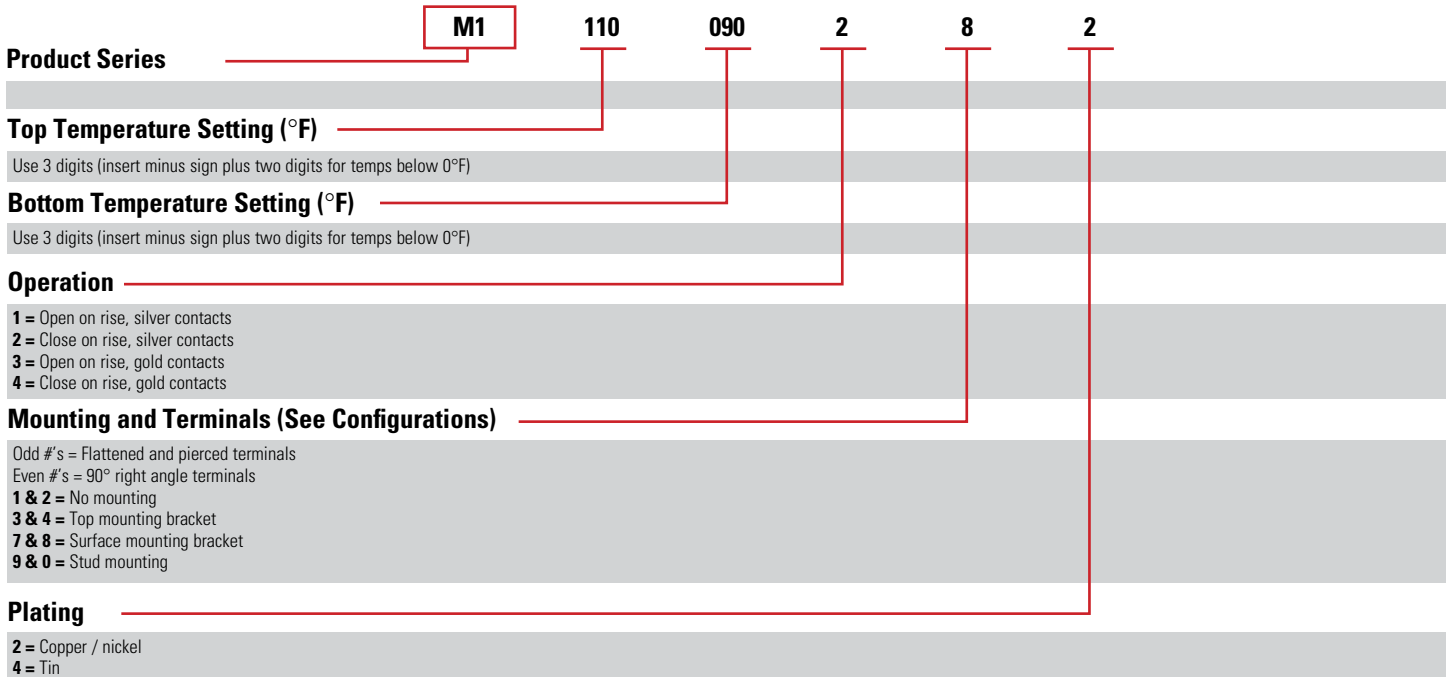
All dimensions nominal / inches



ORDERING OPTIONS

Example : M1 110 090 2 8 2

The example above describes a M1 series thermostat which closes on temperature rise at 110°F, opens at 90°F, has silver contacts, a surface mounting bracket, 90° bent terminals, and is plated with copper/nickel



Configurations built to the standard tolerances and differentials are available as the M1 series and are described above.

Customers should order an 11041 series thermostat if the application requires custom set point tolerances, differentials, or physical configurations not available as an M1

For applications that require thermostat certified to the M24236, customers must order to the M24236/1 part number.

For applications that require the thermostat to be certified to NASA S-311-P641/05, customers should contact the factory to ensure the correct part number



WARNINGS



RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE

- The product's side panels may be hot, allow the product to cool before touching
- Follow proper mounting instructions including torque values
- Do not allow liquids or foreign objects to enter this product

Failure to follow these instructions can result in serious injury, or equipment damage.



HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

- Disconnect all power before installing or working with this equipment
- Verify all connections and replace all covers before turning on power

Failure to follow these instructions will result in death or serious injury

Sensata Technologies, Inc. ("Sensata") data sheets are solely intended to assist designers ("Buyers") who are developing systems that incorporate Sensata products (also referred to herein as "components"). Buyer understands and agrees that Buyer remains responsible for using its independent analysis, evaluation and judgment in designing Buyer's systems and products. Sensata data sheets have been created using standard laboratory conditions and engineering practices. Sensata has not conducted any testing other than that specifically described in the published documentation for a particular data sheet. Sensata may make corrections, enhancements, improvements and other changes to its data sheets or components without notice.

Buyers are authorized to use Sensata data sheets with the Sensata component(s) identified in each particular data sheet. HOWEVER, NO OTHER LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE TO ANY OTHER SENSATA INTELLECTUAL PROPERTY RIGHT, AND NO LICENSE TO ANY THIRD PARTY TECHNOLOGY OR INTELLECTUAL PROPERTY RIGHT, IS GRANTED HEREIN. SENSATA DATA SHEETS ARE PROVIDED "AS IS". SENSATA MAKES NO WARRANTIES OR REPRESENTATIONS WITH REGARD TO THE DATA SHEETS OR USE OF THE DATA SHEETS, EXPRESS, IMPLIED OR STATUTORY, INCLUDING ACCURACY OR COMPLETENESS. SENSATA DISCLAIMS ANY WARRANTY OF TITLE AND ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, QUIET ENJOYMENT, QUIET POSSESSION, AND NON-INFRINGEMENT OF ANY THIRD PARTY INTELLECTUAL PROPERTY RIGHTS WITH REGARD TO SENSATA DATA SHEETS OR USE THEREOF.

All products are sold subject to Sensata's terms and conditions of sale supplied at www.sensata.com SENSATA ASSUMES NO LIABILITY FOR APPLICATIONS ASSISTANCE OR THE DESIGN OF BUYERS' PRODUCTS. BUYER ACKNOWLEDGES AND AGREES THAT IT IS SOLELY RESPONSIBLE FOR COMPLIANCE WITH ALL LEGAL, REGULATORY AND SAFETY-RELATED REQUIREMENTS CONCERNING ITS PRODUCTS, AND ANY USE OF SENSATA COMPONENTS IN ITS APPLICATIONS, NOTWITHSTANDING ANY APPLICATIONS-RELATED INFORMATION OR SUPPORT THAT MAY BE PROVIDED BY SENSATA.

Mailing Address: Sensata Technologies, Inc., 529 Pleasant Street, Attleboro, MA 02703, USA.

CONTACT US

Americas

+1 (888) 438 2214

sensors@sensata.com

Europe, Middle East & Africa

+31 (74) 357 8156

temperature-info.eu

@sensata.com

Asia Pacific

sales.isasia@list.sensata.com

China +86 (21) 2306 1500

Japan +81 (45) 277 7117

Korea +82 (31) 601 2004

India +91 (80) 67920890

Rest of Asia +886 (2) 27602006

ext 2808