

# 49T/49F Series Snap-Action Temperature Controls



## Snap-Action Temperature Controls

The 49T line of controls from Therm-O-Disc offers proven 3/4" (19mm) bimetal disc reliability in a high temperature package. The ceramic design of the 49T control, along with the snap action of the bimetal disc, provides exceptional life characteristics at calibrations up to 550°F (288°C).

The bimetal disc housing may be either enclosed for protection from contaminants or exposed for greater thermal sensitivity. To ensure electrical integrity, terminal connections are made with #8 terminal screws. The ability to handle electrical loads up to 25 amps at high temperatures has made the Therm-O-Disc 49T a popular choice with heating and major appliance manufacturers.



## Features and Benefits

The 49T series features include:

- Ceramic construction for high-temperature operation up to 550°F (288°C).
- Snap-action bimetal disc for high-speed contact separation.
- Available with an exposed or enclosed bimetal disc in either increased thermal response or protection from airborne contaminants.
- Welded construction for integrity of current-carrying components.



## Switch Actions and Typical Applications

The 49T is an automatic reset single pole, single throw (SPST) switch that can be built to either open or close its electrical contacts on temperature rise. Once the temperature in the application has returned to the specified reset calibration, the switch will automatically return to its original state.

Typical uses of the Therm-O-Disc 49T include limiting or regulating temperatures in appliances and heating systems. This reliable, economical switch also provides temperature control in a variety of commercial and industrial applications. Airstream or surface mounting flanges are available with the 49T and are interchangeable with the Therm-O-Disc 60T series of temperature controls.

## Mounting Configurations

**Airstream Mounting** – In this mounting configuration, the bimetal disc sensing element protrudes through the mounting surface where the temperature being sensed is contained within an enclosure (air duct, heater box, etc.), (see figure 1).

**Surface Mounting** – The surface mounting configuration positions the bimetal disc sensing element firmly against the mounting surface, thereby sensing the actual mounting surface temperature (see figure 2).

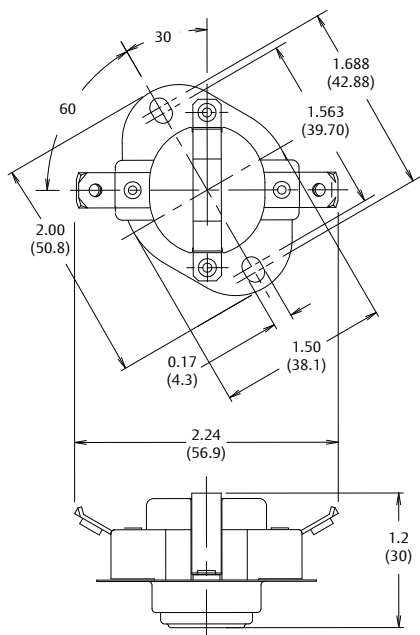


Figure 1

Airstream Mount

Dimensions are shown in inches and (millimeters).

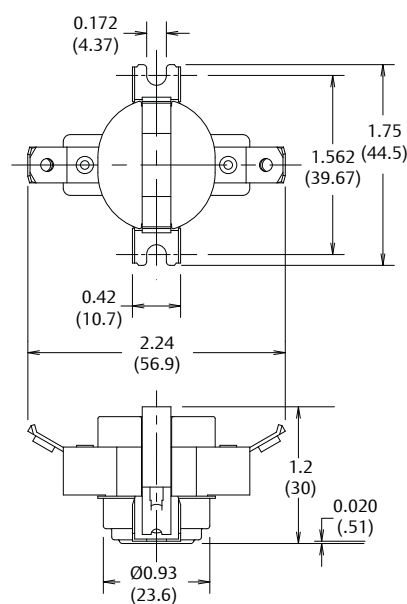


Figure 2

Surface Mounting

Dimensions are shown in inches and (millimeters).



## Calibration Temperatures, Differentials and Standard Tolerances of the 49T Series

Highest Calibration Set Point Range (Open or Close)	Nominal Differentials (nominal open and close set point)											
	20-29 °F 11.1-16.1 °C		30-39 °F 16.7-21.7 °C		40-49 °F 22.2-27.2 °C		50-59 °F 27.8-32.8 °C		40-59 °F 22.2-32.8 °C		60-90 °F 33.3-50.0 °C	
	Open	Close	Open	Close	Open	Close	Open	Close	Open	Close	Open	Close
80°-200°F 26.7°-93.3°C	±5°F ±2.8°C	±6°F ±3.3°C	±5°F ±2.8°C	±7°F ±3.9°C	±6°F ±3.3°C	±8°F ±4.4°C	-	-	-	-	-	-
201°-250°F 93.9°-121.1°C	±6°F ±3.3°C	±7°F ±3.9°C	±6°F ±3.3°C	±8°F ±4.4°C	±7°F ±3.9°C	±9°F ±5.0°C	-	-	-	-	-	-
251°-300°F 121.7°-148.9°C	-	-	±7°F ±3.9°C	±10°F ±5.6°C	±8°F ±4.4°C	±15°F ±8.3°C	±8°F ±4.4°C	±15°F ±8.3°C	-	-	-	-
301°-350°F 149.4°-176.7°C	-	-	±8°F ±4.4°C	±15°F ±8.3°C	±9°F ±5.0°C	±20°F ±11.1°C	±9°F ±5.0°C	±20°F ±11.1°C	-	-	-	-
351°-400°F 177.2°-204.4°C	-	-	-	-	-	-	-	-	±10°F ±5.6°C	±20°F ±11.1°C	-	-
401°-450°F 205.0°-232.2°C	-	-	-	-	-	-	-	-	±15°F ±8.3°C	±20°F ±11.1°C	-	-
451°-500°F 232.8°-260.0°C	-	-	-	-	-	-	-	-	±20°F ±11.1°C	±25°F ±13.9°C	±20°F ±11.1°C	±25°F ±13.9°C
501°-550°F 260.6°-287.8°C	-	-	-	-	-	-	-	-	±25°F ±13.9°C	±30°F ±16.7°C	±25°F ±13.9°C	±30°F ±16.7°C

## Type 49F One shot Fuse Disc

The 49F is identical in construction to the 49T automatic reset, except that it's bimetal disc is calibrated to reclose at -31°F (-35°C) maximum.

It is available with the same disc housings: airstream or surface, enclosed or exposed, as the 49T.

Screw terminals are also supplied

It is an excellent choice as a primary or back up limit in applications with high temperature such as cooking appliances.

## 49T Calibration Temperatures and Tolerances

Open Temperature	Tolerance
80 °F- 200 °F (28 °C-93 °C)	±8°F (±4.5°C)
201 °F-300 °F (94 °C-149 °C)	±10°F (±5.5°C)
301 °F-550 °F (150 °C-288 °C)	±25°F (±13.9°C)



## General Electrical Ratings- 49T/49F

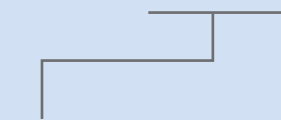
The agency ratings can be used as a guide when evaluating specific applications. However, the mechanical, electrical, thermal and environmental conditions to which a control may be exposed in an application may differ significantly from agency test conditions. Therefore, the user must not rely solely on agency ratings, but must perform adequate testing of the product to confirm that the control selected will operate as intended in the user's application.

Thermostat Type	Max Temp.	Volts AC	Inductive Amps		Pilot Duty VA	Resistive Amperes	Cycles	Agency Recognition
			FLA	LRA				
49T Auto Reset	550°F (288°C)	250	-	-	-	25	100,000	UL File MH-5304
		277	-	-	-	15	100,000	
		120	10	60	125	-	100,000	
		240	5	30	125	-	100,000	
49T Auto Reset	550°F (288°C)	277	-	-	-	15	100,000	CSA File LR19988
		120	10	60	125	-	100,000	
		240	5	30	125	-	100,000	
		277	-	-	-	25	6,000	
49F One-Shot Fuse Disc	550°F (288°C)	250	-	-	-	25	1	UL/CB IEC60730-1 Reference 99NK43584-053000
49F One-Shot Fuse	550°F (288°C)	250	-	-	-	25	1	CSA File LR10281C
49F One-Shot Fuse Disc	550°F (288°C)	250	-	-	-	10	1	VDE Certificate 400338916

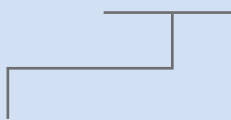
Note: At thermostat end-of-life, the contacts may remain closed or open. Please contact our Sales Engineering Department for specific agency ratings.

## Part Numbering System

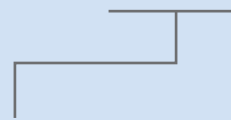
# 49



T- Automatic reset  
F- One-shot fuse disc



1- Airstream mount  
2- Surface mount



1- Contacts open on temperature rise (normally closed)  
2- Contacts close on temperature rise (normally open)