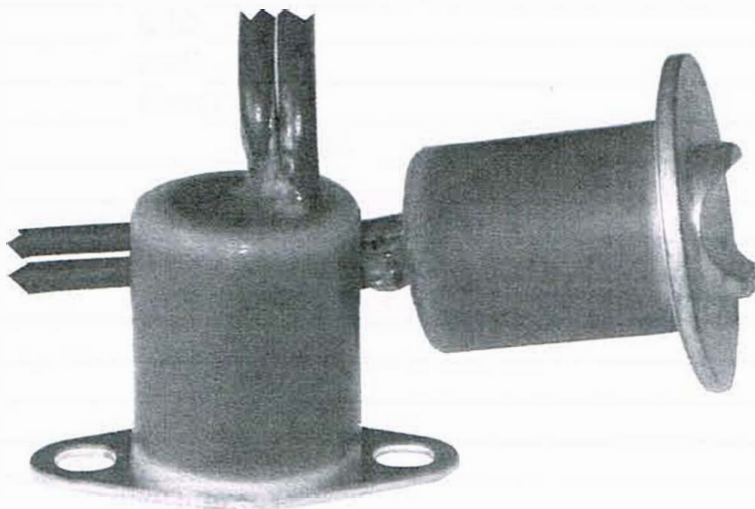


## 431 Encapsulated Automatic Reset 1/2" Snap Disc Thermostats



431 Models shown with Surface Mount, and Pipe Mount Mounting Options.

### Product Data:

The 431 series encapsulated 1/2" automatic reset snap discs are used whenever a moisture and dust-proof enclosure is required for safe, sensitive and reliable operation. A polypropylene boot enclosure, filled with epoxy resin, covers the thermostat. The bimetal disc control element is in close proximity to the sensor cap to provide rapid response to temperature changes. Since the bimetal disc used in the Type 431 thermostat is thermally and electrically insulated from the current carrying parts of the thermostat, the disc reacts only to the temperature of the controlled device or medium surrounding the disc. Instantaneous, positive action of the disc prolongs thermostat life by minimizing arcing and eliminates chattering, false cycling and electrical interference with radio and television reception. Long life is assured with wiping contacts.

Lead wires are normally furnished with #18 gauge wire size, covered with 1/32" or 1/16" thick 105°C plastic insulation. Standard length is 2 ft. of combined length. Other lengths are available to specification. Lead wire ends are normally stripped as shown. Connectors can be furnished to customer specifications at extra cost.

### 431 Features:

Size/Type:	1/2"/Auto Reset
Switch Action:	SPST
Control Options:	Break on Rise or Fall
Resistive Load:	8.7-15 Amps
Inductive FLA	2.9-5.8 Amps
Inductive LRA	17.4-34.8 Amps
Temp. Range:	20-176°F
Differential range:	15-80°F
Open Tolerances:	+/- 5°F - +/-7°F
Close Tolerances:	+/- 8°F - +/-10°F
Cycle Ratings:	100,000 @ 120VAC
UL File #s:	E40404
CSA File #:	12619
VDE File #:	15357-4510-1003

### Additional Options:

Bimetal Exposure:	Enclosed
Terminals:	Flagged or Straight Quick Connect, or Eyelets
Mounting Options	None, Surface Mount, Larger Surface Mount, Threaded Stud, NPT Thread Mount, or Pipe Mount.

Mounting and Terminal Options Illustrated on following pages.

# 431 Encapsulated Automatic Reset 1/2" Snap Disc Thermostats

431 Temperature Range - Tolerance - Differential Chart							
Temperature °F Range	Open °F Tolerance	Close °F Tolerance	Mean °F Differential	Temperature °C Range	Open °C Tolerance	Close °C Tolerance	Mean °C Differential
20-79	+/-5	+/-8	15-29	(-6)-26	+/-3	+/-5	8-16
	+/-7	+/-10	30-80		+/-4	+/-6	17-45
80-221	+/-5	+/-8	15-29	27-105	+/-3	+/-5	8-16
	+/-7	+/-10	30-80		+/-4	+/-6	17-45

Differential is the difference between the opening and closing temperatures. Allow an additional 2 degrees greater than specified for inspection due to differences in methods and equipment.

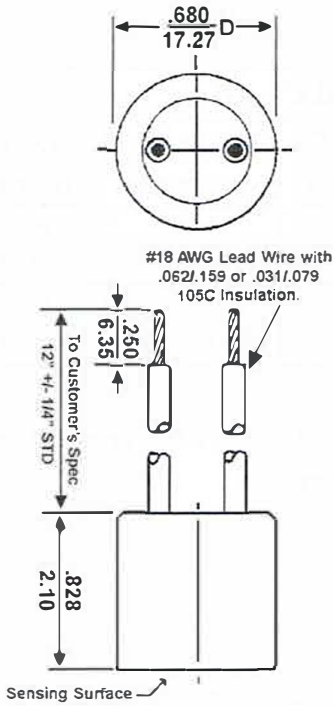
Electrical Ratings			
Load	120 VAC	240 VAC	277 VAC
Resistive	15	10	8.7
	Amps	Amps	Amps
Inductive	5.8 FLA	2.9 FLA	N/A
	34.8 LRA	17.4 LRA	
Pilot Duty	125 VA	125 VA	125 VA
Millivolt	125 VA Pilot Duty, 120-277 VAC .5A Resistive                      24VDC		

Approvals	
Agency	File #'s
UL	E40404
C.S.A.	12619
V.D.E.	15357-4510-1003

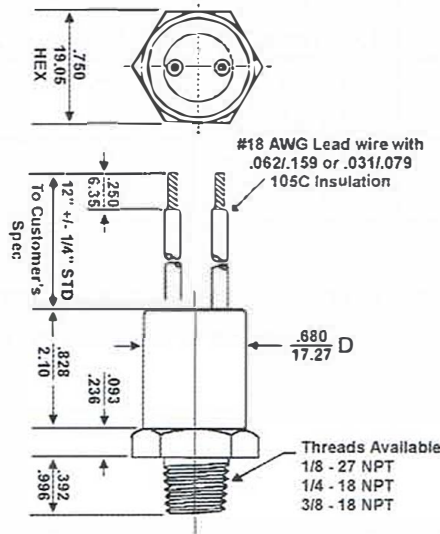
Ratings of 100,000 cycles per U.L. file #40404.  
Maximum ambient temperature rating of 221°F per C.S.A and V.D.E..

# 431 Type Snap Disc Mounting Options

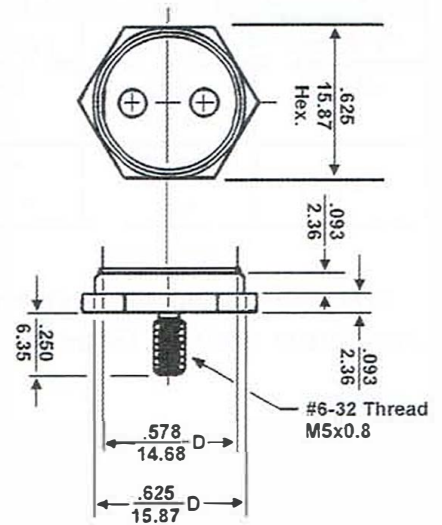
All dimension are inches/millimeters



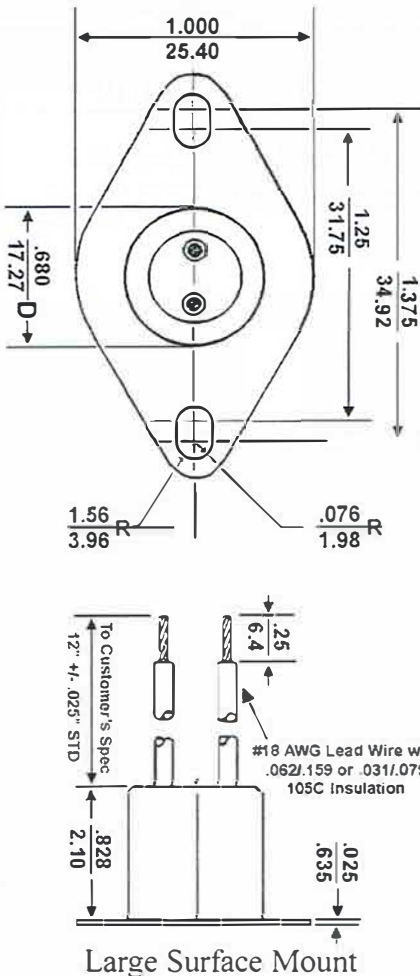
Direct Sensing



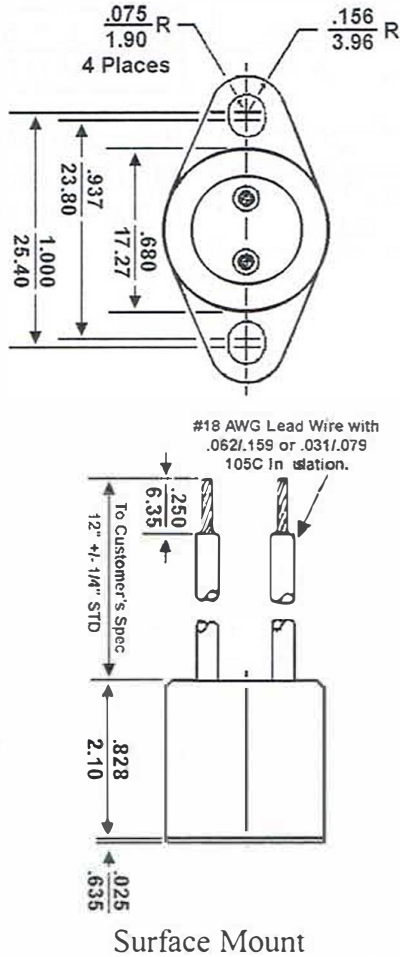
NPT Thread Mount



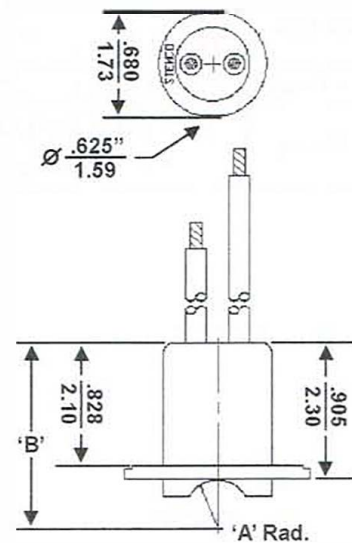
Threaded Stud Mount



Large Surface Mount



Surface Mount



Pipe Mount Options

Tube Sizes	A' Radius	B' Height
3/16"	.094"	.999"
3/8"	.187"	1.092"
1/2"	.250"	1.155"
5/8"	.312"	1.217"
7/8"	.438"	1.343"
1 1/8"	.562"	1.467"



# 431 1/2" Encapsulated Snap Disc Quote Request Form

Customer: \_\_\_\_\_ QR#: \_\_\_\_\_  
 Attn: \_\_\_\_\_ Date: \_\_\_\_\_  
 Address: \_\_\_\_\_ Cust#: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Tel: \_\_\_\_\_ Fax: \_\_\_\_\_  
 Email: \_\_\_\_\_  
 Salesman: \_\_\_\_\_ Agency #: \_\_\_\_\_  
 Send Quote to: Customer: \_\_\_\_\_ Rep Agency: \_\_\_\_\_ (Check one or both)

Application: \_\_\_\_\_  
 Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Est. Yearly Qty: \_\_\_\_\_ Target Cost: \_\_\_\_\_

## Specifications: Please Fill Out Completely

Load/Operation: Refer to Page 43		Mounting Brackets: Refer to Page 44	
Voltage		No Mount (Direct Sensing)	
AC or DC		Surface Mount	
Current (Amps)		Large Surface Mount	
Inductive or Resistive Load		Threaded Stud Mount #6-32	
Open Temperature		Threaded Stud Mount M5-0.8(metric)	
Close Temperature		Threaded Stud Mount #8-24	
		NPT Stud Mount 1/8-27 NPT	
<b>Lead information: Refer to page 42</b>		NPT Stud Mount 1/4-18 NPT	
16 AWG (Specify Length)		NPT Stud Mount 3/8-18 NPT	
18 AWG (Specify Length)		Pipe Mount 3/16"	
1/16" Insulation		Pipe Mount 3/8"	
1/32" Insulation		Pipe Mount 1/2"	
		Pipe Mount 5/8"	
<b>Connectors (indcate one or both leads)</b>		Pipe Mount 7/8"	
None (Wire Stripped 1/4")		Pipe Mount 9/8"	
Straight 1/4" Quick Connect			
Flagged 1/4" Quick Connect			
Eyelet		<b>Approvals</b>	
		UL	
		CSA	
<b>Wire Colors</b>		VDE	
Black		Additional Comments	
White			
Red			
Other			

Please fax or e-mail this form to the attention of Customer Service.