

Specification Sheet

1. Scope : This specification is applied to thermostat type 22N
2. Structure
  - 2.1 Type : Single pole single throw thermostat with bimetallic disc.
  - 2.2 Type of action : Contacts open on temperature rise. Contacts close on temperature fall. (To be called "A" operation at NGT)
  - 2.3 Insulation distance : To satisfy the UL, CSA standard.
3. Initial characteristics
  - 3.1 Electrical Rating : Resistive Load AC125V/15A, AC250V/10A
  - 3.2 Operating temperature : ( $\pm$ )°C Open ( $\pm$ )°C Close  
 Testing device = Hot air circulation system of NGT manufacture.  
 Temperature changing rate = 1°C/min. measuring load is LED load of not more than 20mA.  
 Maximum ambient temperature = 200°C
  - 3.3 Resistance between terminals : Initial value shall be not more than 30 m ohm measured by Micro Current Ohm Meter.
  - 3.4 Insulation resistance : Not less than 1,000 M ohm measured by DC500V Megger between Live part and dead metal part.
  - 3.5 Dielectric strength : Shall stand AC1,500V for 1 minutes or AC1,800V for 1 second without a brakedown between live part and Insulator. (Leakage current : 5 mA)
4. Test
  - 4.1 Heat test : 24 hour at ( $200 \pm 5$ )°C.
  - 4.2 Cold test : 24 hour at ( $-30 \pm 2$ )°C.
  - 4.3 Thermal cycle test : When subjected to 10 cycles, 30 minutes at ( $20 \pm 2$ )°C ~ 30 minutes at ( $200 \pm 5$ )°C.
  - 4.4 Humidity test : At relative humidity of (95~98%), ( $40 \pm 3$ )°C x 24 hour, thereafter 10 minutes at the room temperature.  
 The insulation resistance shall be not less than 10M ohm.
  - 4.5 Vibration test : When subjected to the vertical vibration for 60 minutes under no load, 50 Hz total amplitude of 2 mm gravity acceleration of 10G.
  - 4.6 Drop shock test : Fixed to a steel plate of 10 sq cm x 1 cm thick and when subjected to the drop from 1 meter high to a wooden floor.
  - 4.7 Endurance test : When subjected to 10,000 cycles, thermal operation at approved voltage and current.
  - 4.8 Terminal strength : When subjected to 8 Kgs. tension to the direction of terminal and 4 Kgs. static load to the vertical direction of terminal for 1 minutes, the insulator shall show no abnormalities.

The sample shall satisfy the clauses 3.3~3.5 and the change of the operating temperature shall be within  $\pm 3$ °C compared with the initial ones after finishing the tests of 4.1~4.6 & 4.8.

The sample shall satisfy the clauses 3.4~3.5 and resistance between terminals shall be not more than 100 mohm, and the change of the operating temperatures shall be within  $\pm 5$ °C compared with the initial ones after finishing the test of 4.7.

5. Marking : Stamping on Cap

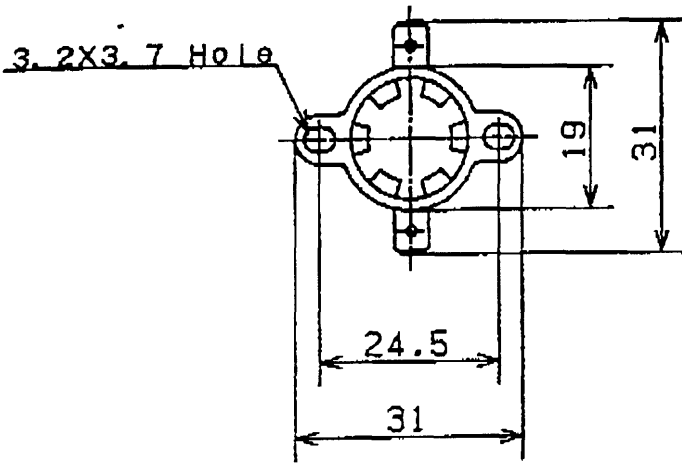
example	Type of action	→ A * * *	← Open temperature
	Type	→ 2 2 N * * * *	← Style No.
	Lot No.	→ * * * *	
		* ← Factory	☆ None : Yamagata ☆ C : California ☆ S : Singapore

6. Recognition :

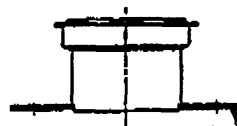
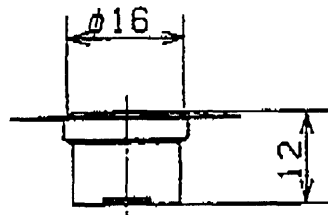
UL File No. E43273	Resistive Load AC125V/15A, AC250V/10A	100,000 Cycles	200°C
	Inductive Load AC125V/15A, AC250V/10A	6,000 Cycles	200°C
CSA File No. LR67165~87167	Resistive Load AC125V/15A, AC250V/10A	100,000 Cycles	200°C
	Inductive Load AC125V/15A, AC250V/10A	100,000 Cycles	200°C

\* The data contained in this specification is for reference information only.  
 The user must determine the suitability of the product for the application and assumes all risk and liability associated therewith.

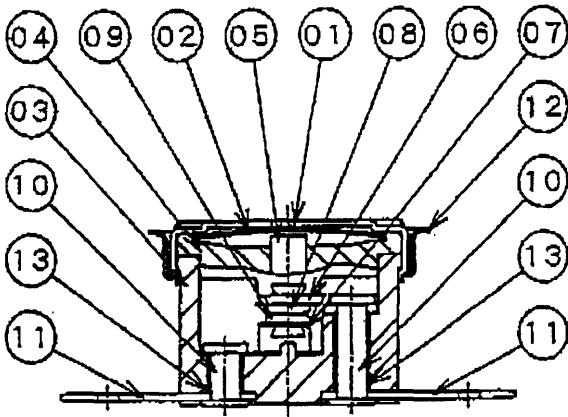
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Return	<input type="checkbox"/>	
1 Selling	<input type="checkbox"/>	
Manufacturing	<input type="checkbox"/>	
1 Engineering		REVISION
Distribute		PUBLICATION:



REFERENCE DRAWING



3/16" Quick connect



13	Sleeve	Copper
12	Bracket	Stainless steel
11	Terminal	Copper alloy
10	Rivet	Copper
09	Contact	Silver-Nickel alloy
08	Contact	Silver-Nickel alloy
07	Movable arm	Copper alloy
06	Stationary arm	Copper alloy
05	Pin	Ceramic
04	Retainer	Polyethylene sulfide
03	Case	Polyethylene sulfide
02	Bimetal	
01	Cap	Aluminum
No.	Name	Material

Check	Drawing	Indication
		Tolerance Project
		±0.5 3rd
		NIPPON

5	
	ification
	No.

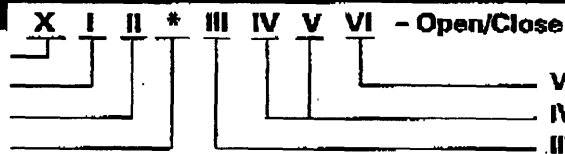
1073



# Thermostat Part Number Key/Variation Chart

## Our Designation of Type-Code

**X** = Type No., Basic Models  
**I** = Electrical Rating & Contact Point  
**II** = Switch Action on Temperature Rise  
**\*** = Body Material (Automatic Only, 1.Phenolic 2.Ceramic)



**VI** = Bracket, Mounting Arrangement  
**IV + V** = Terminals  
**III** = Sensing Cap

<b>N</b>	AC 120V/AC 240V 15A/10A	: Standard Contact Point
<b>S</b>	AC 120V/AC 250V 6A/3A	: For Short Body
<b>X</b>	AC 120V/DC 30V 10M-1A	: Cross-Bar Contact Point
<b>P</b>	AC 120V/DC 6-30V 10M-100mA	: Cross-Bar Contact Point

<b>1</b>	Open on rise (operation type A)
<b>3</b>	Close on rise (operation type B)
<b>4</b>	Open on rise: one time operation

<b>0, 1, 4, T, W</b>	Aluminum	No. 0	No. 1,2,3	No. 4,5	No. 6	No. 7	No. A	No. P	No. S	No. T,U,V	No. W
<b>2, 7, S, U</b>	Copper Alloy										
<b>3, 5, 6, A, P, V</b>	Stainless Steel										
<b>0, 1, 2, 3, A, P, W</b>	Fits w/Bracket #...										
<b>0</b>	Open Cap										
<b>T, U, V</b>	Close On Rise (Operation Type B)										
<b>S</b>	Screw Threads (6-32, 8-32UNC)										
<b>7, P</b>	Tube Mounting										
		<b>No. 0+5 Fixed Bracket</b>					<b>No. 1+5, 2+5, 3+5 Fixed Brackets</b>				

<b>No. 01 Solder</b>	<b>No. 02 Solder</b>	<b>No. 05 .187 Quick Connect</b>	<b>No. 06/10 .187 Quick Connect</b>	<b>No. 07 Strap</b>
<b>No. 08 Weld</b>	<b>No. 11 Strap</b>	<b>No. 12 Crimp</b>	<b>No. 14 .187 Quick Connect</b>	<b>No. 27 Tube</b>
<b>No. 28 Strap</b>	<b>No. 36 .187 Quick Connect</b>	<b>No. 43 .250 Quick Connect</b>	<b>No. 44 .250 Quick Connect</b>	

<b>0</b>	No Bracket				
<b>B, E, H</b>	Fixed Bracket	<b>No. 1</b>	<b>No. 2</b>	<b>No. 3</b>	<b>No. 4</b>
<b>1, 2, 3, 4, A</b>	Loose Bracket				
<b>E, A (With Spring)</b>	Tube Mounting				
		<b>No. A</b>	<b>No. B</b> (Fits with Cap A)	<b>No. E</b> (Fits with Cap P)	<b>No. H</b> (Fits with Cap W)

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