



SWARAJ ENTERPRISES

Manufacture of Aluminum Panel Space Heater and Thermostat

ALUMINUM SPACE HEATER



**BIMETAL HEATING
& COOLING
THERMOSTATS**



THERMOSTATS



Aluminum Space Heater



Aluminum Space Heater
End Fixing



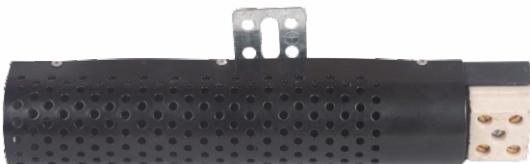
Connector Left Side
Fixing



Metal Body with Middle
Fixing with Shrouded Cover



Round Shrouded Cover
with End Fixing



Round Middle Fixing
with Shrouded Cover



Square End Fixing
with Shrouded Cover

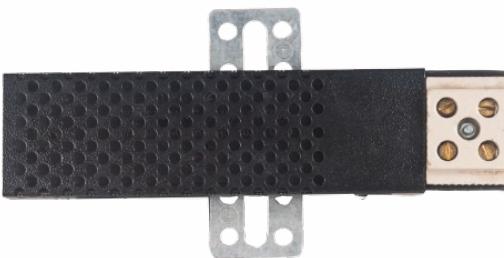
Aluminum Space Heater



**Connector Right Fixing
with Square Shrouded Cover**



**Aluminum Space Heater
End Fixing**



**Aluminum Space Heater Middle
2 side BKT Fixing with Shrouded Cover**

Aluminum Space Heater

Working Principle & Features

Body is made of anodized heat sink grade extruded aluminum for fast dissipation of heat into air. High quality resistance heating element is insulated with mica for optimum insulation even in extreme humid conditions. Resistance element and insulation are held tight in between aluminum parts and squeezed for quick and uniform heating. Heater can withstand much higher degree of mechanical shock and vibration. Elevated body provides for easy passage of heat directly to air, without heating panel body.



Each heater is tested for following specific tests

- High Voltage Test At 2kv/1 Min.
- Insulation Resistance > 10 Mega Ohms.
- Power Rating within $\pm 5\%$.

Intended Use

Prevention of condensation, corrosion, Leakage current in L.T. & H.T Switchgear panel boards, enclosures, switch boards, & electronic instruments etc.

Installation

Two fixing oval holes of 6.3 mm x 8.4 mm are provided at each end. Installation can be done in vertical or horizontal position although horizontal mounting is preferred. Distance from surface of panel should be at least 10mm. and distance from plastic parts should be at least 50mm.

Remark

It is recommended to use a the Thermostat to control the Heater.

Aluminum Space Heater

Product Specification

Watt	Volts	Total length end fixing	Total length middle fixing	Model Number
25	24	240 mm	180 mm	PH25/24
	230	270 mm	210 mm	PH25/230
	240	270 mm	210 mm	PH25/240
30	48	240 mm	180 mm	PH30/48
	110	240 mm	180 mm	PH30/110
	120	240 mm	180 mm	PH30/120
	220	240 mm	180 mm	PH30/220
	230	240 mm	180 mm	PH30/220
	240	240 mm	180 mm	PH30/240
	250	240 mm	180 mm	PH30/250
40	48	240 mm	180 mm	PH40/48
	110	240 mm	180 mm	PH40/110
	120	240 mm	180 mm	PH40/120
	220	240 mm	180 mm	PH40/220
	230	240 mm	180 mm	PH40/230
	240	240 mm	180 mm	PH40/240
	250	240 mm	180 mm	PH40/250
50	110	210 mm	150 mm	PH50/110
	120	210 mm	150 mm	PH50/120
	127	210 mm	150 mm	PH50/127
	220	210 mm	150 mm	PH50/220
	230	210 mm	150 mm	PH50/230
	240	210 mm	150 mm	PH40/240
	250	210 mm	150 mm	PH40/250
60	48	210 mm	150 mm	PH60/48
	110	210 mm	150 mm	PH60/110
	120	210 mm	150 mm	PH60/120
	220	210 mm	150 mm	PH60/220
	230	210 mm	150 mm	PH60/230
	240	210 mm	150 mm	PH60/240
	250	210 mm	150 mm	PH60/250

Aluminum Space Heater

Product Specification

Watt	Volts	Total length end fixing	Total length middle fixing	Model Number
70	110	210 mm	150 mm	PH70/110
	120	210 mm	150 mm	PH70/120
	127	210 mm	150 mm	PH70/127
	220	210 mm	150 mm	PH70/220
	230	210 mm	150 mm	PH70/230
	240	210 mm	150 mm	PH70/240
	250	210 mm	150 mm	PH70/250
75	230	210 mm	150 mm	PH75/230
	240	210 mm	150 mm	PH75/240
80	48	210 mm	150 mm	PH80/48
	110	210 mm	150 mm	PH80/110
	120	210 mm	150 mm	PH80/120
	220	210 mm	150 mm	PH80/220
	230	210 mm	150 mm	PH80/230
	240	210 mm	150 mm	PH80/240
	250	210 mm	150 mm	PH80/250
100	110	240 mm	180 mm	PH100/110
	120	240 mm	180 mm	PH100/120
	127	240 mm	180 mm	PH10/127
	220	240 mm	180 mm	PH100/220
	230	240 mm	180 mm	PH100/230
	240	240 mm	180 mm	PH100/240
	250	240 mm	180 mm	PH100/250
120	110	240 mm	180 mm	PH120/110
	120	240 mm	180 mm	PH120/120
	220	240 mm	180 mm	PH120/220
	230	240 mm	180 mm	PH120/230
	240	240 mm	180 mm	PH120/240
	250	240 mm	180 mm	PH120/250

Aluminum Space Heater

Product Specification

Watt	Volts	Total length end fixing	Total length middle fixing	Model Number
150	110	270 mm	210 mm	PH150/110
	120	270 mm	210 mm	PH150/120
	220	270 mm	210 mm	PH150/220
	230	270 mm	210 mm	PH150/230
	240	270 mm	210 mm	PH150/240
	250	270 mm	210 mm	PH150/250
160	110	270 mm	210 mm	PH160/110
	120	270 mm	210 mm	PH160/120
	220	270 mm	210 mm	PH160/220
	230	270 mm	210 mm	PH160/230
	240	270 mm	210 mm	PH160/240
	250	270 mm	210 mm	PH160/250
180	110	300 mm	240 mm	PH180/110
	120	300 mm	240 mm	PH180/120
	220	300 mm	240 mm	PH180/220
	230	300 mm	240 mm	PH180/230
	240	300 mm	240 mm	PH180/240
	250	300 mm	240 mm	PH180/250
200	110	300 mm	240 mm	PH200/110
	120	300 mm	240 mm	PH200/120
	220	300 mm	240 mm	PH200/220
	230	300 mm	240 mm	PH200/230
	240	300 mm	240 mm	PH200/240
	250	300 mm	240 mm	PH200/250
250	110	330 mm	270 mm	PH250/110
	120	330 mm	270 mm	PH250/120
	220	330 mm	270 mm	PH250/220
	230	330 mm	270 mm	PH250/230
	240	330 mm	270 mm	PH250/240
	250	330 mm	270 mm	PH250/250

Stem Thermostat



Thermostat 175 mm Flat
BKT 0-75°C



Stem Thermostat 175 mm 'L'
BKT 0 - 60°C



Stem Thermostat Flat
BKT Both Side 0 - 60°C



Stem Thermostat 'L'
BKT 30 - 90°C



Stem Thermostat 'L'
BKT 25 - 75°C



Stem Thermostat 175 mm
0 - 75°C with Clip

Stem Thermostat



**Stem Thermostat Flat
BKT Both Side 25 - 75°C**

Thermostats are ideal for temperature control of space heaters used in LT & HT switchgear & panel boards etc.

Principle of operation

With temp rise, the principle of differential expansion of brass tube and a nickel/iron (invar) rod is used to actuate a highly accurate snap action micro gap switch located in the head which makes it keep the temperature constant within the differential i.e. a single pole, single throw, normally closed circuit breaks (opens) on rise of temperature.



Construction

The micro gap switch assembly is mounted on a heat resistant base, with rigid brass pillar terminals. heavy duty ag cdo contacts are provided for long trouble free life. a thermoplastic cover with clear and precise graduations is provided along with a setting knob. optional bracket with two fixing oval holes of dia. 5x 8mm at a center distance of 58mm can be provided. thermostat can be fixed in any position. these are available in standard stem lengths of 7" (175mm)

Stem Thermostat

Intended Use

Temperature control of space heaters used in LT & HT switchgear & panel boards etc.

Installation

A spring steel clip is provided for snap on fixing of thermostat, optional bracket with two fixing holes of dia. 5mm at a center distance of 58mm can be provided. it can be fixed in any position.

Also available

- * 48V, 110V & 415V AC
- * Stem length 1) 140mm 2) 175mm 3) 275mm
- * Normallay open contacts (N.O.C.)

Product Specification

Temperature Range	Stem Length	Model Number
0-60°C	175	TH/0-60/175
0-75°C	175	TH/0-75/175
0-90°C	175	TH/0-90/175
25-75°C	175	TH/25-75/175
0-80°C	175	TH/0-80/175
30-90°C	175	TH/30-90/175
10-90°C	175	TH/010-90/175
30-120°C	175	TH/30-120/175
15-75°C	175	TH/15-75/175
0-75°C	140	TH/0-75/140
25-75°C	140	TH/25-75/140
30-90°C	140	TH/30-90/140
0-60°C	140	TH/0-60/140
25-75°C	275	TH25-75/275

Bimetal Thermostat



**Bimetal Heating Thermostat
0-60°C (NC) Red Knob**



**Bimetal Cooling Thermostat
0-60°C (NO) Blue Knob**



**Bimetal Cooling Thermostat
0-80°C (NO) Blue Knob**



**Proslane Connector (15 A, 250V)
with Brass Screw**

Product Specification

BIMETAL THERMOSTAT	Model Number
THERMOSTAT	0-60°C NO
0-60° C NO (cooling)	
THERMOSTAT	0-80°C NO
0-80° C NO (cooling)	
THERMOSTAT	0-60°C NC
0-60° C NC (Heating)	
THERMOSTAT	0-80°C NC
0-80° C NC (Heating)	

Small Compact Thermostat

- Large setting range
- Small size
- Simple to mount
- High switching performance

Heating Bimetal Thermostat (normally closed); contact breaker for regulating heaters. The contact opens when temperature is rising.

Cooling Bimetal Thermostat (normally open); contact maker for regulating of filter fans and heat exchangers or for switching signal devices when temperature limit has been exceeded. The contact closes when temperature is rising.



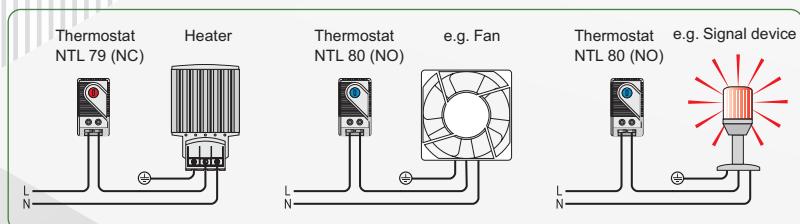
Technical Data

Bimetal Heating / Cooling Thermostat	
Switch temperature difference	+/-5°C
Sensor element	thermostatic bimetal
Contact type	snap-action contact
Service life	> 100,000 cycles
Max. switching capacity	250VAC, 10 (2) A / 120VAC, 15 (2) A DC 30W at 24VDC to 72VDC
Max. inrush current	AC 16A for 10 sec.
Connection	2-pole terminal, clamping torque 0.5Nm max.: rigid wire 2.5mm ² (AWG 14) stranded wire 1.5mm ² (AWG 16)
Mounting	clip for 35mm DIN rail, EN 60715
Casing	plastic according to UL94 V-0, light grey
Dimensions	60 x 33 x 43mm
Weight	approx. 40g
Fitting position	variable
Operating/Storage temperature	-45 to +80°C (-49 to +176°F)
Operating/Storage humidity	max. 90% RH (non-condensing)

¹ When connecting with wires, wire end ferrules must be used.

Important note: The contact system of the regulator is subjected to environmental influences, thus the contact resistance may change. This can lead to a voltage drop and/or self-heating of the contacts.

Examples of connection



Strip Heater (Pati Heater)



**Galvanize Strip Heater
with Prowling Connector**



**SS Strip Heater
(Pati Heater)**



**Galvanize Strip Heater
(Pati Heater)**

Strip Heaters : Made of Kanthal wire, supported in Fluted Refractory, sheathed in rust resisting steel with end tab holes for mounting.

Uses : Provides black heat in ovens. Industrial & commercial heating chambers converters & panel boards.

Product Specification

Watt	Volts	Total length	Model Number (Galvanized Material)	Model Number (S.S.Material)
50	230	9" & 13"	GI 50/230	SS 50/230
60	230	9" & 13"	GI 60/230	SS 60/230
70	230	9" & 13"	GI 70/230	SS 70/230
80	230	9" & 13"	GI 80/230	SS 80/230
100	230	9" & 13"	GI 100/230	SS 100/230
150	230	9" & 13"	GI 150/230	SS 150/230
200	230	9" & 13"	GI 200/230	SS 200/230
250	230	9" & 13"	GI 250/230	SS 250/230

About Us

We Swaraj Enterprises engaged in the manufacturing of heating devices and thermostats has been offering to our customers a highly efficient and productive array of industrial goods. We design our products complying with all the market norms and standards. This ensures that we are actively manufacturing items that are very highly appreciated and accepted in the industry.

Our products have always been in demand due to their high quality & affordable prices. Furthermore, we ensure timely delivery of these products to our customers, our products are performed satisfactorily And this has been possible because of the premium quality of the raw materials that we use.

We assure you that we will continue serving you in the same intensity that we began with as long as we are there in the market.

We hope to establish business relations with you.

Our Products Range



ALUMINUM SPACE HEATER



THERMOSTATS



BIMETAL HEATING
& COOLING THERMOSTATS

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