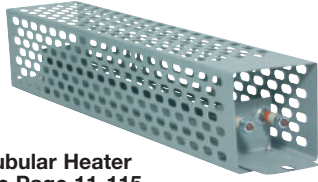


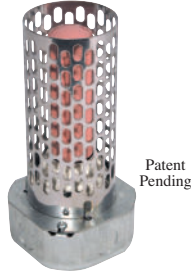
Enclosure Heaters



Tubular Heater
See Page 11-115



Silicone Rubber Heater
See Page 9-18



Ceramic Heater
See Page 7-41

Patent Pending



Finned Strip Heater
See Page 8-15

Cabinet Enclosure Heaters

Tempco enclosure heaters are the answer to all your enclosure heater needs. Our heaters are designed to help electric, electronic, pneumatic, hydraulic and mechanical equipment perform at top capacity by protecting them against low temperatures, condensation and corrosion. Tempco offers many different styles of heaters that can be used in enclosure heating applications. Our most popular styles are displayed on the next few pages.

Typical Applications

- ✦ Traffic Signal Control Boxes
- ✦ Automatic Teller Machines
- ✦ Outdoor Electrical Power Enclosures
- ✦ Control Panels
- ✦ Control Valve Housings
- ✦ Switch Gear
- ✦ Clothing Lockers

Determining the Minimum Wattage for Your Application

1. Determine the lowest temperature to which the enclosure is expected to be exposed.
2. Determine the operating temperature to which you want the enclosure heated.
3. Subtract the ambient temperature from the enclosure temperature to get the temperature change required.
4. Calculate the surface area of the enclosure. For a rectangular enclosure use the formula:

$$2 [(Length \times Width) + (Length \times Height) + (Width \times Height)]$$
5. Select the correct table below depending upon whether your box is insulated or non-insulated. Read from the table the wattage required depending upon your calculated temperature change and surface area.
6. Add an additional 50% of the determined wattage if the enclosure is to be located in windy conditions.

Selecting the Right Heater for Your Application

1. Determine the wattage of heater(s) that you need. See the instructions on this page to determine your wattage requirements.
2. Determine the type of heater that you need. Depending upon conditions, one heater type might be better than others. Items to take into consideration are space constraints inside the enclosure and wattages required.
3. Determine the number of heaters you need. You can combine multiple heaters to achieve your wattage requirements.
4. Determine how you will control the heaters. Will you use built-in thermostats to monitor the temperature? Or will you use a single temperature control to monitor and control the heaters? Tempco manufactures a wide range of temperature control devices and when multiple heaters are required, Tempco can supply you with the temperature controls that will meet your needs.

Insulated Enclosure Wattage Selection Table

Δ Temperature	TOTAL SURFACE AREA ft ² (m ²)														
	2	3	4	5	6	7.5	9	10	15	20	25	30	40	50	
°F (°C)	(0.19)	(0.28)	(0.37)	(0.47)	(0.56)	(0.70)	(0.84)	(0.93)	(1.40)	(1.86)	(2.33)	(2.79)	(3.72)	(4.65)	
20 (11)	10	10	15	20	20	25	30	35	50	65	80	100	130	160	
40 (22)	15	20	30	35	40	50	60	65	100	130	160	195	260	320	
60 (33)	20	30	45	50	60	75	90	100	145	195	240	290	385	480	
80 (44)	30	40	55	65	80	100	115	130	195	260	320	320	515	640	
100 (56)	35	50	65	80	100	125	145	160	240	320	400	400	640	800	
120 (67)	40	60	80	100	115	150	175	195	290	385	480	480	770	960	
140 (78)	45	70	90	115	135	175	205	225	340	450	560	560	900	1120	

Uninsulated Enclosure Wattage Selection Table

Δ Temperature	TOTAL SURFACE AREA ft ² (m ²)														
	2	3	4	5	6	7.5	9	10	15	20	25	30	40	50	
°F (°C)	(0.19)	(0.28)	(0.37)	(0.47)	(0.56)	(0.70)	(0.84)	(0.93)	(1.40)	(1.86)	(2.33)	(2.79)	(3.72)	(4.65)	
20 (11)	30	40	55	70	80	100	120	135	205	270	335	405	540	670	
40 (22)	55	80	110	135	160	200	245	270	405	540	670	805	1075	1340	
60 (33)	90	120	160	205	245	300	365	405	605	805	1005	1210	1610	2010	
80 (44)	110	160	215	270	325	400	485	540	805	1075	1340	1610	2145	2680	
100 (56)	135	200	270	335	405	500	605	670	1005	1340	1675	2010	2680	3350	
120 (67)	165	240	320	405	485	600	725	805	1210	1610	2010	2415	3220	4020	
140 (78)	190	280	375	470	565	700	845	940	1410	1880	2345	2815	3775	4690	