

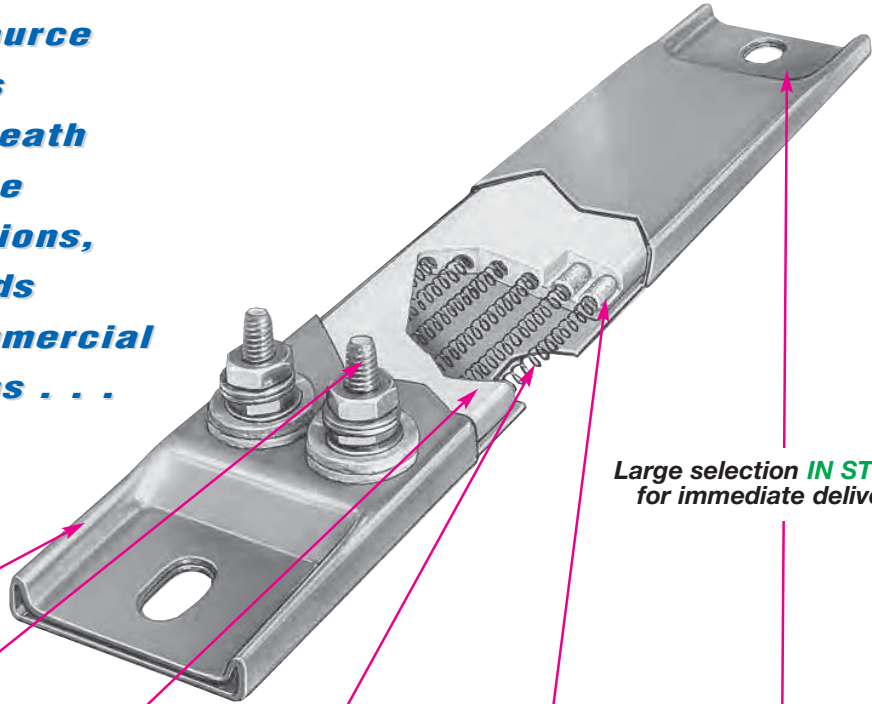
## Strip Heaters



### Ceramic Insulated

## CHANNEL STRIP HEATERS

**A Reliable Heat Source  
with Seamless  
Stainless Steel Sheath  
For Flat Surface  
Mounting Installations,  
Used in Hundreds  
Of Industrial and Commercial  
Heating Applications . . .**



**Large selection *IN STOCK*  
for immediate delivery**

**A** Type 304  
Stainless  
Steel

sheath provides the best combination of physical strength and resistance to high temperatures and chemical corrosion. Dependable at sheath temperatures of up to 1200°F (650°C).

**B** Stainless  
Steel  
10-32

threaded screws are standard and are securely fastened. Various termination configurations and options are available. See pages 8-4 through 8-7.

**C** Specially  
selected  
and de-

signed ceramic insulator houses the resistance wire coil, insulating it from the outer sheath.

**D** Helically  
wound  
resistance

wire coil made from nickel-chrome wire is evenly stretched and precisely strung through the ceramic insulator, providing uniform heat. Resistance wire is then mechanically connected to screw terminals or lead wires for a strong positive joint.

**E** A custom  
mixture  
of several

high purity magnesium oxide grain sizes, chosen to increase thermal conductivity and dielectric strength, are used to fill all remaining space inside and around the ceramic insulator. Voids are densely packed.

**F** Channel  
strip  
heaters

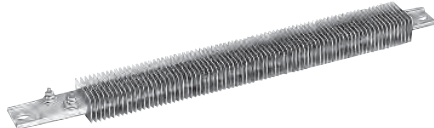
are available with or without mounting tabs. If without, the ends are silver soldered shut to prevent moisture and contaminants from entering the heater.

### Typical Applications

- ➔ Ovens
- ➔ Platens
- ➔ Hot Plates
- ➔ Food Warmers
- ➔ Dies
- ➔ Welding Preheating
- ➔ Molds
- ➔ Air Heating
- ➔ Drying
- ➔ Sealing Bars
- ➔ Melting
- ➔ Thermoforming
- ➔ Baking
- ➔ Tank Heating
- ➔ Incubators



**Note:** Channel Strip Heaters are available with fins for air heating applications. See pages 8-12 through 8-15.



### Agency US Approvals

**Channel Strip Heaters** have been certified as Recognized Components by Underwriters Laboratories (File Number E65652) under CCN KSOT2/8 to meet UL standard 499 and Canadian Standard C22.2, No 72.

This file specifies the end use limitations and conditions of acceptability for the use of this type of heater. For additional information consult Thermal Devices.

*If you require UL, CSA, or other NRTL Agency Approvals, please specify when ordering.*

***Ceramic Insulated Channel Strip Heaters***

**Channel Strip Heaters** have proven to be extremely efficient and dependable as a heat source for surface heating in hundreds of industrial and commercial applications. The rectangular tube gives full surface contact when used in a milled slot to provide maximum heat transfer area.

For surface mounting installations, Channel Strip heaters must be securely clamped along their entire length to a smooth metal surface. When supported by mounting tabs, the terminal end should be secured firmly. Opposite end should be loose to allow for thermal expansion.

***TEMPCO offers Channel Strip Heaters in three rectangular sizes*****1" WIDE BY 5/16" THICK**

Available with or without mounting tabs. When supplied with Type L lead wire termination, mounting tabs are not available.

**1-1/2" WIDE BY 5/16" THICK**

Available with or without mounting tabs. When supplied with Type L lead wire termination, mounting tabs are not available.

**1-1/2" WIDE BY 3/8" THICK**

Available with or without mounting tabs. When supplied with Type L lead wire termination, mounting tabs are not available.  
(3/8" thick heaters have radius corners)



**Standard Specifications and Tolerances** of Channel Strip Heaters  
If tighter tolerances are required, consult Thermal Devices

**PERFORMANCE RATINGS**

**Maximum Sheath Temperature:** 1200°F (650°C)

**Nominal Watt Density:** 20 W/in<sup>2</sup> (3.1 W/cm<sup>2</sup>)

**Maximum Watt Density:** 45 W/in<sup>2</sup> (dependent on design parameters)

**ELECTRICAL SPECIFICATIONS**

**Maximum Voltage:** 480VAC (dependent on design parameters)

**Maximum Recommended Voltage with Leads:** 480V

**Maximum Amperage:** Lead Wire Termination: 10 amp  
Screw Terminations: 10-32UNF—25 amp

**Resistance Tolerance:** +10%, -5%

**Wattage Tolerance:** +5%, -10%

**PHYSICAL SIZE CONSTRUCTION LIMITATIONS****Width**

1" and 1-1/2" wide heaters ..... +.000, -.010"

**Thickness**

5/16" and 3/8" thick heaters ... +.000, -.008"  
(3/8" thick heaters have radius corners)

**Length**

Up to 24" ..... ±1/16"

Over 24" ..... ±1/8"

**Mounting Slot Size**

Standard ..... 5/16" × 1/2"

Special Bushings ..... 1/2" × 5/8"

# Strip Heaters



## Terminations

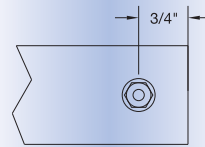
### Screw Terminal Terminations

#### Type T1

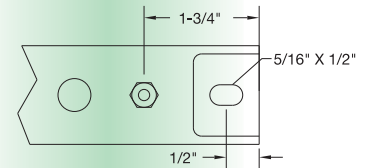
- 10-32 Screw Terminals at each end
- Available on 1" and 1-1/2" wide heaters



#### No Mounting Tabs

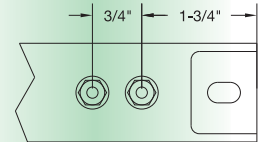
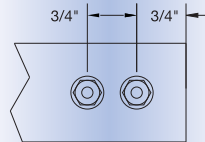


#### With Mounting Tabs



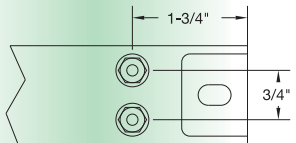
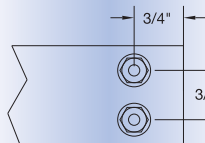
#### Type T2

- 10-32 Screw Terminals (Tandem) at one end
- Available on 1" and 1-1/2" wide heaters



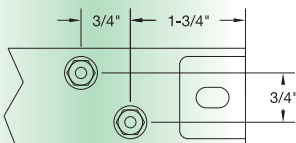
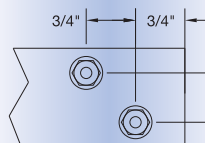
#### Type T3

- 10-32 Screw Terminals (Parallel) at one end
- Available on 1-1/2" wide heaters only

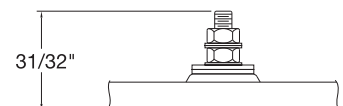


#### Type T4

- 10-32 Screw Terminals offset at one end
- Available on 1-1/2" wide heaters only



#### 10-32 Screw Terminal Height





## Strip Heaters

### CHANNEL STRIP

#### Lead Wire Terminations

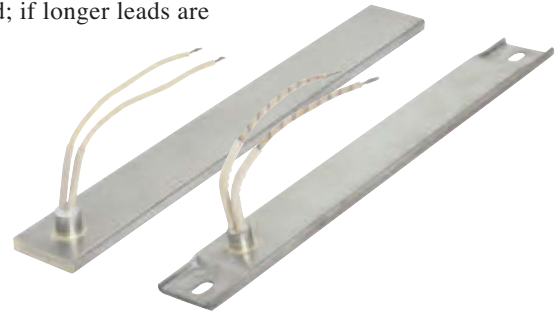
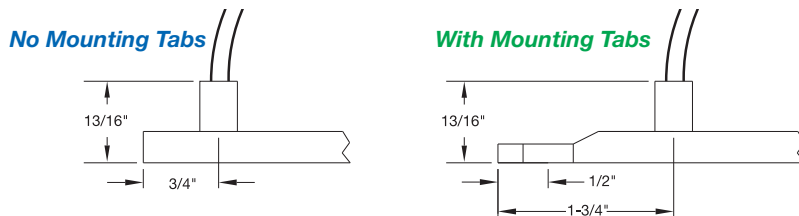
**Type L** Flexible lead wires exit from end of heater. 10" long leads standard; if longer leads are required, specify. Recommended only for tight quarters or where flexibility of the lead wire is required. Not available on heaters with tabs.

**Maximum Amps:** 10 at 240VAC **Maximum Volts:** 480



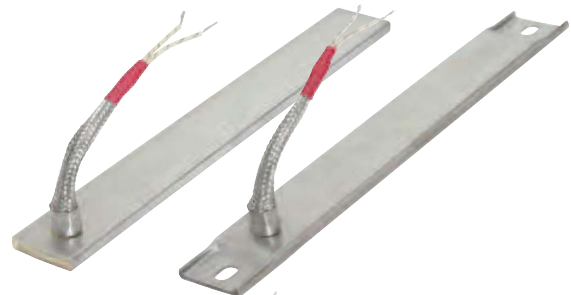
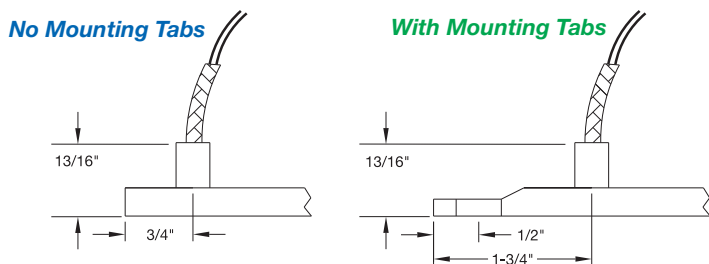
**Type L1** Flexible lead wires exit from top of heater. 10" long leads standard; if longer leads are required, specify.

**Maximum Amps:** 10 at 240VAC **Maximum Volts:** 480



**Type W1** Wire braid provides strength and protection to the lead wire insulation, offering sharp bending not possible with armor cable. 10" of wire braid over 12" long leads is standard; if longer leads or braid are required, specify.

**Maximum Amps:** 10 at 240VAC **Maximum Volts:** 480



**Type W2** Stainless steel braid over each lead wire offers sharp bending not possible with armor cable, as well as abrasion protection. 10" long leads standard; if longer leads are required, specify. Not available on heaters with tabs.

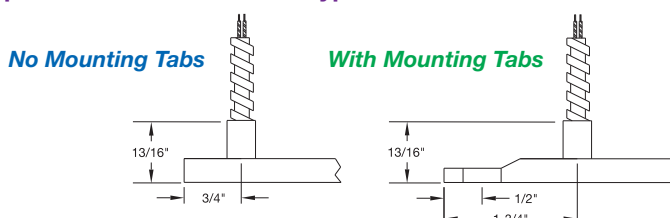
**Maximum Amps:** 10 at 240VAC **Maximum Volts:** 480



**Type R1** Armor cable provides strength and prevents contamination from getting into the heater. 10" of armor over 12" long leads are standard; if longer leads or armor are required, please specify.

**Maximum Amps:** 10 at 240VAC **Maximum Volts:** 480

**Type R1A:** Galvanized cable **Type R1B:** Stainless steel cable



**CONTINUED**

# Strip Heaters



## Terminations

### Lead Wire Terminations

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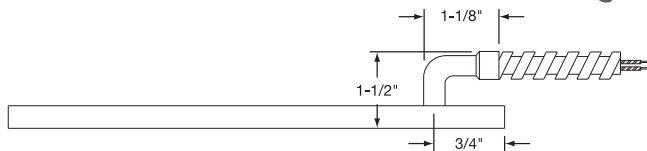
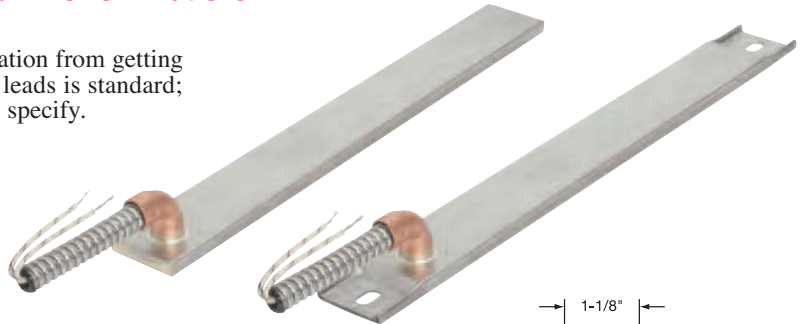
**Type R2** Right-angle armor cable prevents contamination from getting into the heater. 10" of armor over 12" long leads is standard; if longer leads or armor are required, please specify.

**Maximum Amps:** 10 at 240VAC **Maximum Volts:** 480

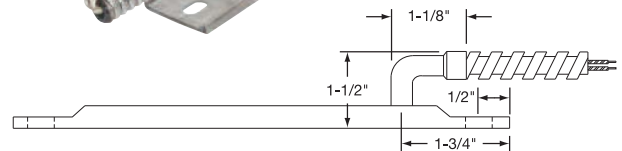
**Type R2A** Galvanized cable

**Type R2B** Stainless steel cable

**Type R2C** Elbow and leads only (no cable)



No Mounting Tabs



With Mounting Tabs

### Terminal Protection

**Type P** High-Temperature Quick Disconnect Plug. If armor protected lead wires are required, specify armor and lead length. Available on 1-1/2" wide heaters only.

**Maximum Amps:** 10 at 240VAC **Maximum Volts:** 250

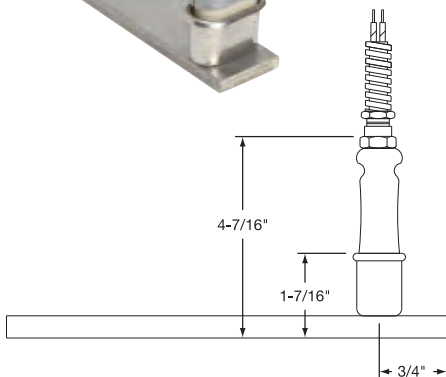
**Type P1A** Cup only (UT900)

**Type P1B** Cup and straight plug (H900)

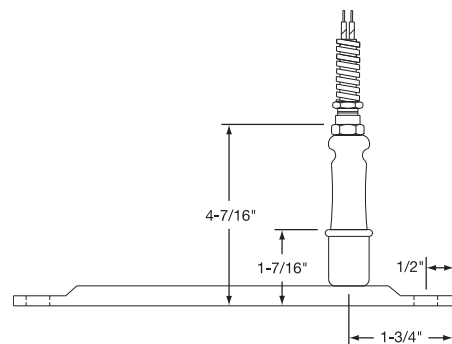
**Type P1C** Cup and 90° plug (HW900)

**Type P1D** Cup, straight plug and galvanized cable

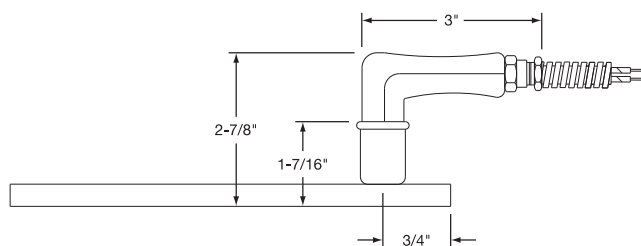
**Type P1G** Cup, 90° plug and galvanized cable



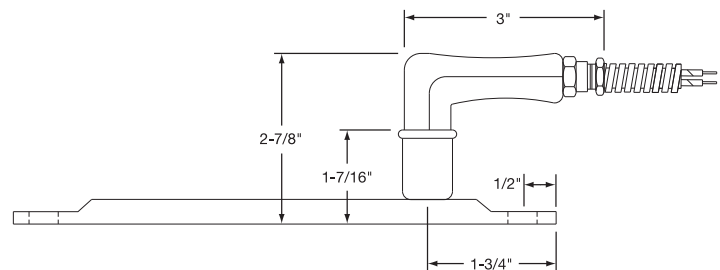
No Mounting Tabs (Type P1D Shown)



With Mounting Tabs (Type P1D Shown)



No Mounting Tabs (Type P1G Shown)



With Mounting Tabs (Type P1G Shown)

Exposed electrical wiring on Strip Heaters is a violation of electrical safety codes, including O.S.H.A.





## Strip Heaters

### CHANNEL STRIP

#### Terminal Protection



No Mounting Tabs

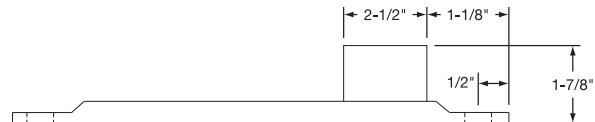
**Type C** Terminal box has a 1/2" trade size knockout (actual diameter 7/8"). Box provides excellent protection to exposed terminals. If armor-protected lead wires are required, specify armor and lead length. Available on 1" and 1-1/2" wide heaters.

**Type CA** No cable or braid

**Type CB** Galvanized cable

**Type CC** Stainless steel cable

**Type CD** Wire braid



With Mounting Tabs

**Type MP** Specially designed box is welded to the Channel Strip Heater and potted with epoxy. The ends of the heater are also welded. Leads exit through a 1/2" NPT nut that can be located at the top or in the front of the box. Armor cable can be supplied with the male fitting, providing a completely sealed Channel Strip. Available on 1-1/2" wide heaters only.

10" long leads standard; if longer leads are required, specify.

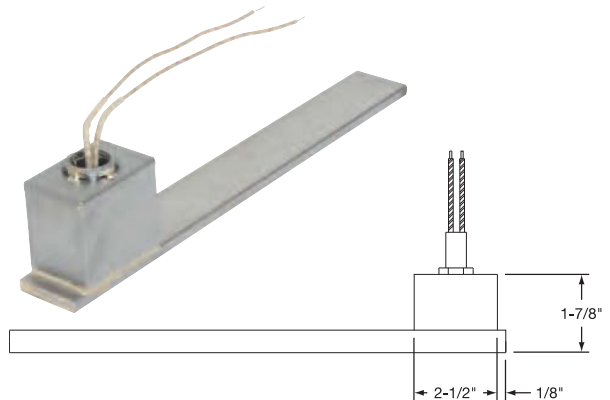
**Maximum Amps:** 25 **Maximum Volts:** 480

**Type MPA** Box only

**Type MPB** Box with prewired galvanized cable

**Type MPC** Box with prewired stainless steel cable

**Type MPD** Box with prewired wire braid



#### Ceramic Covers for Insulating Screw Terminals

**Igloo™** Igloo Ceramic terminal covers consist of two individual ceramic parts. With a tight-fitting cap and a solid base, an Igloo cover will fully insulate any standard 10-32 terminal lug used for electrical wiring hookups. Igloo covers can be assembled on all Channel Strip heaters with Type 1 and Type 4 screw terminals.



**Type C6**

Double Port In-Line

**Part Number:** CER-101-104



**Type C7**

Double Port 90°

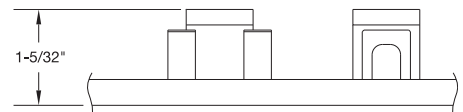
**Part Number:** CER-101-106



**Type C8**

Single Port

**Part Number:** CER-101-107



**Ceramic Cap**

**Thread** 10-32 **Part Number** CER-102-101

Three different types of Igloo bases are available for your wiring convenience. Double Port In-Line, Double Port 90° and Single Port. When ordering, specify the type of Igloo.