

375 High-Temperature Strip Heaters

Rugged Heater Capable of High Temperatures and High Watt Densities

Named for its 0.375 in. (9.5 mm) thickness, the rugged Watlow® 375 strip heater is capable of both high temperatures and high watt densities.

Watlow begins construction by accurately placing a coiled, nickel-chromium element wire in the center of the heater. The element wire is then embedded in magnesium oxide (MgO)-based insulation compacted into a solid mass creating excellent heat conductivity and high dielectric strength. The heater is then enclosed in aluminized steel or 430 stainless steel sheathing.

Performance Capabilities

- Aluminized steel sheath temperatures up to 1100°F (595°C)
- 430 stainless steel sheath temperatures up to 1200°F (650°C)
- Watt densities up to 100 W/in² (15.5 W/cm²)
- UL® approved up to 240VAC (File No. E52951)
- CSA approved up to 600VAC (File No. LR7392)

Features and Benefits

Nickel-chromium element wire is centered in the heater

- Assures uniform heat

Aluminized steel sheath

- Operates at higher temperatures and resists corrosion better than iron-sheathed heaters
- Minimizes heat-up time

Optional 430 stainless steel sheath

- Meets temperature requirements that reach up to 1200°F (650°C)

Post terminals, welded to the element wire

- Produces strong, trouble-free connections

Rigid 3/8 in. (9.5 mm) thick design

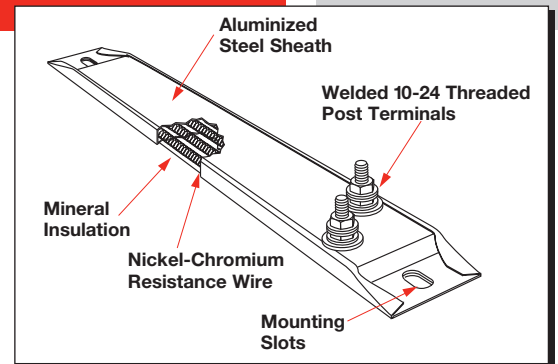
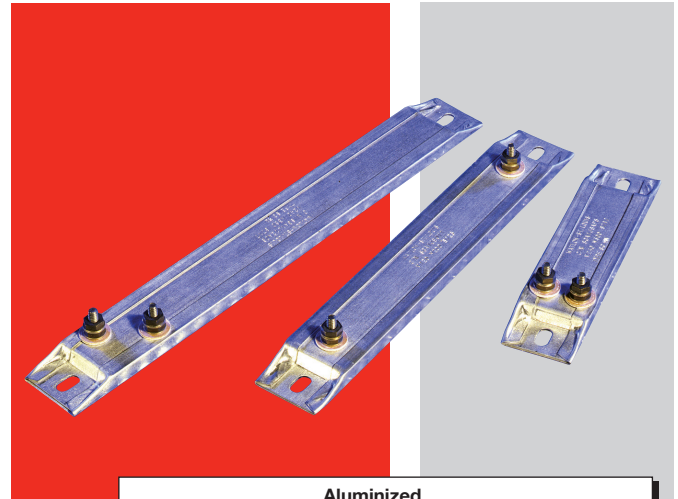
- Enables the heater to fit into many existing applications

Over 100 in-stock models in popular sizes and ratings

- Allows next day shipment

Available dimensions are 1½ in. (38 mm) wide and 5½ to 48 in. (140 to 1219 mm) long

- Fits a variety of application needs



Typical Applications

- Food warming
- Freeze and moisture protection
- Tank and platen heating
- Packaging
- Dies and mold heating
- Autoclaves
- Ovens
- Telecom

Technical Information

Calculating Watt Density

Use the *Maximum Allowable Watt Density* graphs and formulas to ensure the allowable watt density for the heater does not exceed the specific application requirements. **Watt density is calculated for one side of the heater only.**

Formulas

$$\text{Watt Density} = \frac{\text{Wattage}}{\text{Heated Area}}$$

Heated Area

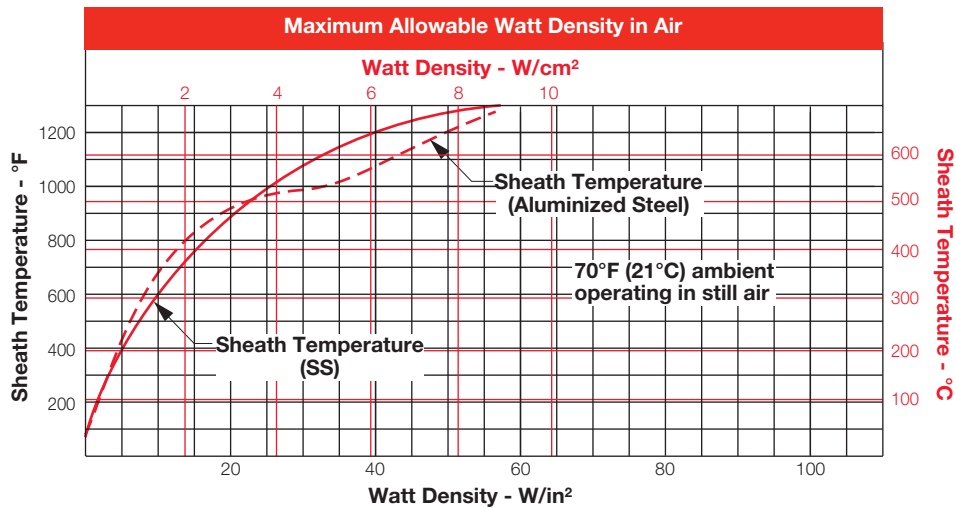
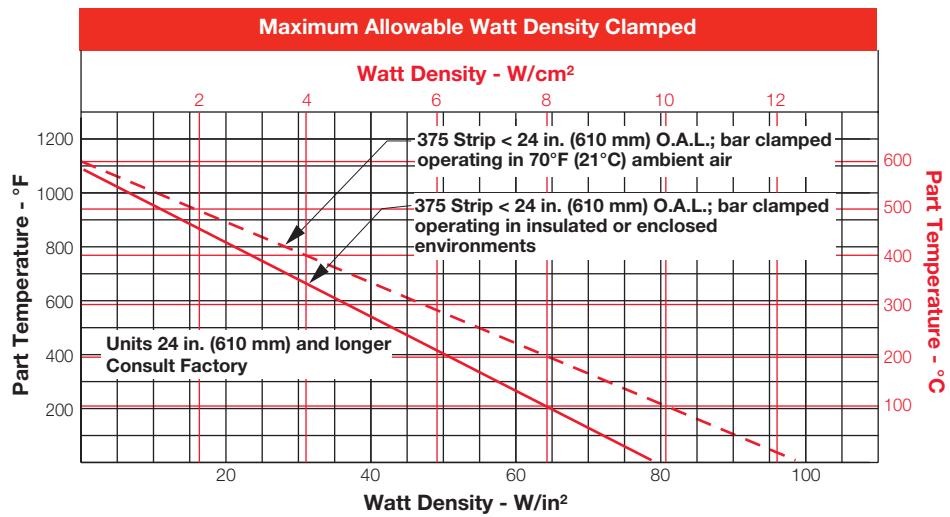
$$\begin{aligned} \text{(Offset Terminals)} &= [\text{Overall Length (A)} \times 1.5 \text{ in.}] - 6 \text{ in}^2 \\ &= [\text{Overall Length (A)} \times 38 \text{ mm}] - 38.7 \text{ cm}^2 \end{aligned}$$

Heated Area

$$\begin{aligned} \text{(Parallel Terminals)} &= [\text{Overall Length (A)} \times 1.5 \text{ in.}] - 4.7 \text{ in}^2 \\ &= [\text{Overall Length (A)} \times 38 \text{ mm}] - 30.3 \text{ cm}^2 \end{aligned}$$

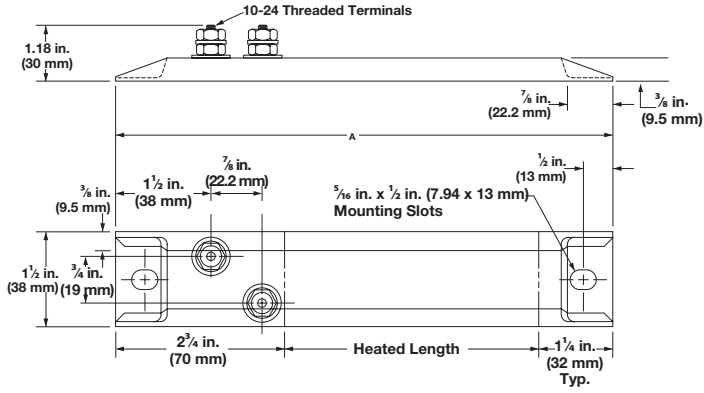
Heated Area

$$\begin{aligned} \text{(One-on-One Terminals)} &= [\text{Overall Length (A)} \times 1.5 \text{ in.}] - 6 \text{ in}^2 \\ &= [\text{Overall Length (A)} \times 38 \text{ mm}] - 38.7 \text{ cm}^2 \end{aligned}$$



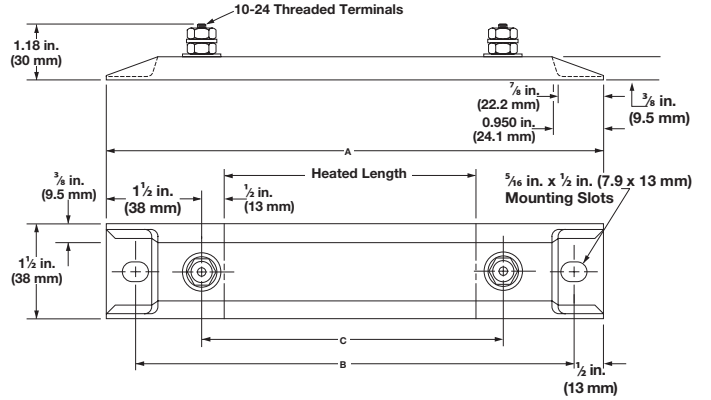
Termination Options

Offset Terminals*



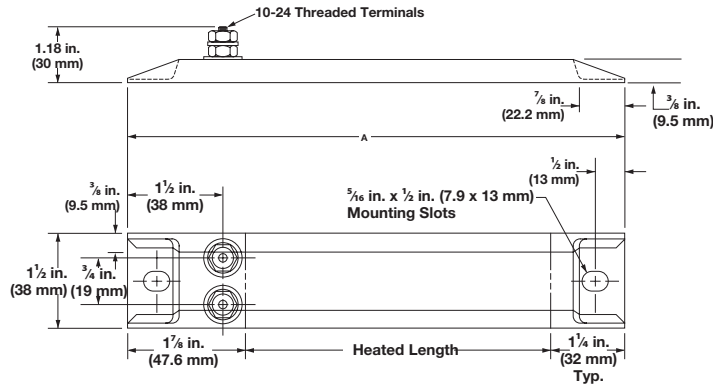
Two 10-24 threaded post terminals are offset from each other on the same end.

One-on-One Terminals*



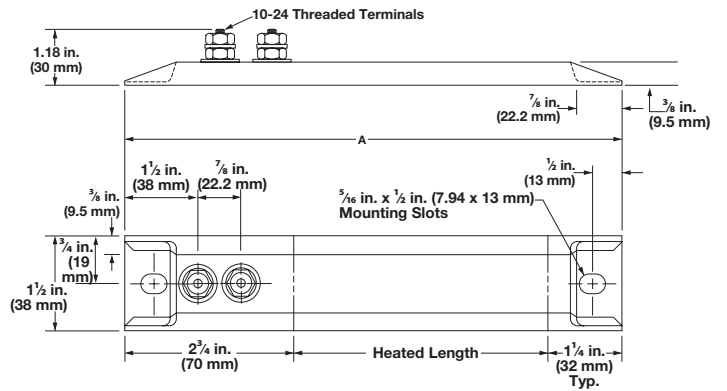
Two 10-24 threaded post terminals are placed one on each end.

Parallel Terminals*



Two 10-24 threaded post terminals are used; both terminals on one end.

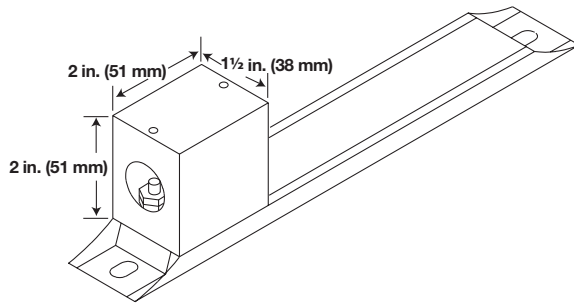
In-Line Terminals*



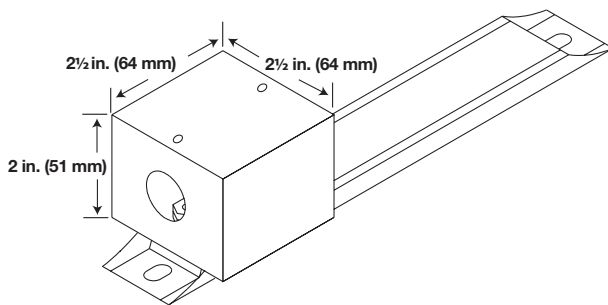
Two 10-24 threaded post terminals are in-line with each other on the same end.

Termination Options (Con't)

Metallic Terminal Boxes - Variations



Available on in-line terminals only.

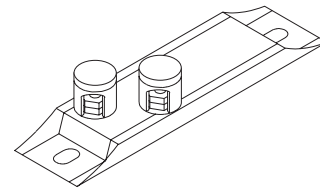


Available on offset terminals from stock and manufactured.

Metallic terminal boxes are available from stock on offset terminals. Terminal boxes act as a safety feature by covering the terminals. A conduit may be attached to the box through $\frac{7}{8}$ in. (22.2 mm) diameter holes in the ends of the box. To order, specify **terminal box**.

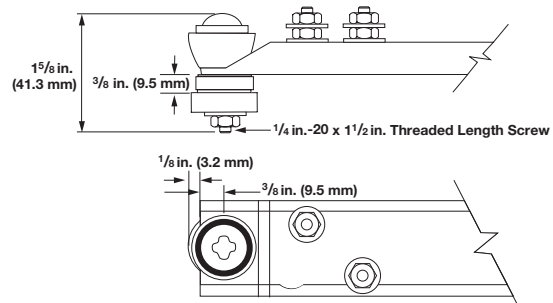
Accessories

Ceramic Terminal Covers



Ceramic terminal covers offer a convenient and economic method to insulate post terminals. They are sized for standard length posts with 10-24 screw thread size, supplied as an accessory item and shipped separately. Specify **Z-4918** and quantity.

Secondary Insulation Bushings



Insulators are suitable when air heating and/or voltage to ground is a concern. A secondary insulation bushing kit, part number **Z5230**, contains one set of bushings for one heater. To accommodate bushings, $1\frac{7}{32}$ x $\frac{11}{16}$ inch diameter mounting holes **must** be specified when ordering the heater.

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