

## Strip/Clamp-On Heaters

### 375 High-Temperature Strip Heaters

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/in<sup>2</sup> (15.5 W/cm<sup>2</sup>)
- 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

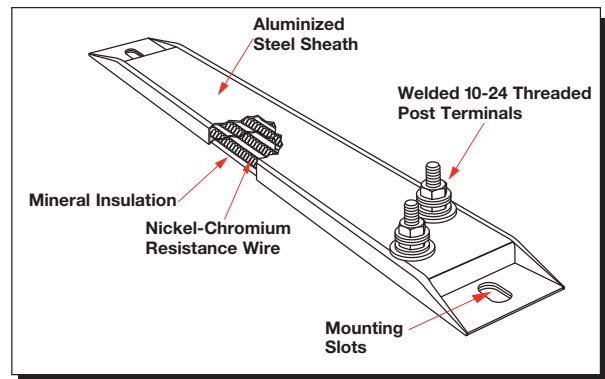
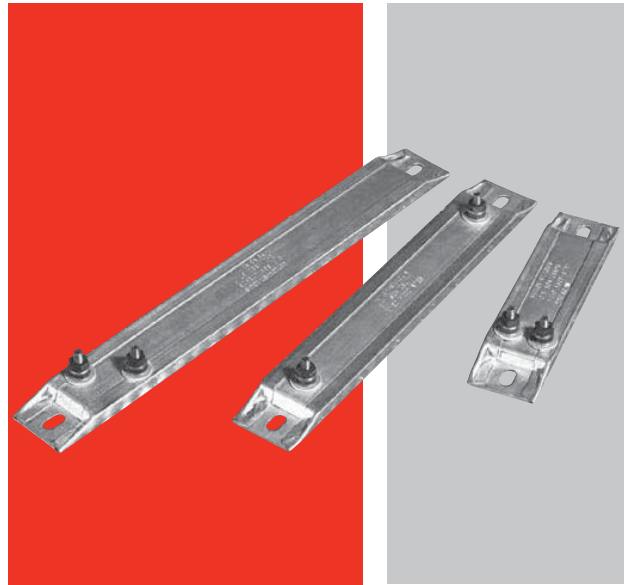
- Enables the heater to fit into many existing applications

##### Over 100 in-stock models in popular sizes and ratings

- Allows next day shipment

##### Available dimensions are 1 1/2 in. (38 mm) wide and 5 1/2 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

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### Applications and Technical Data

#### 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

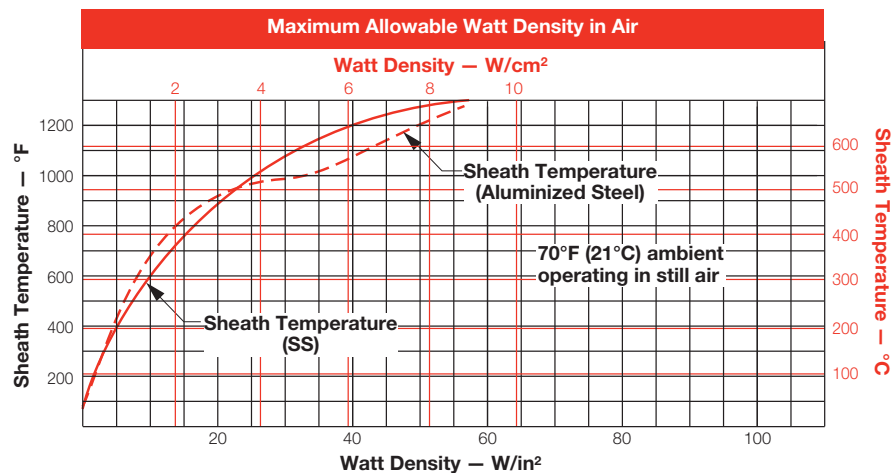
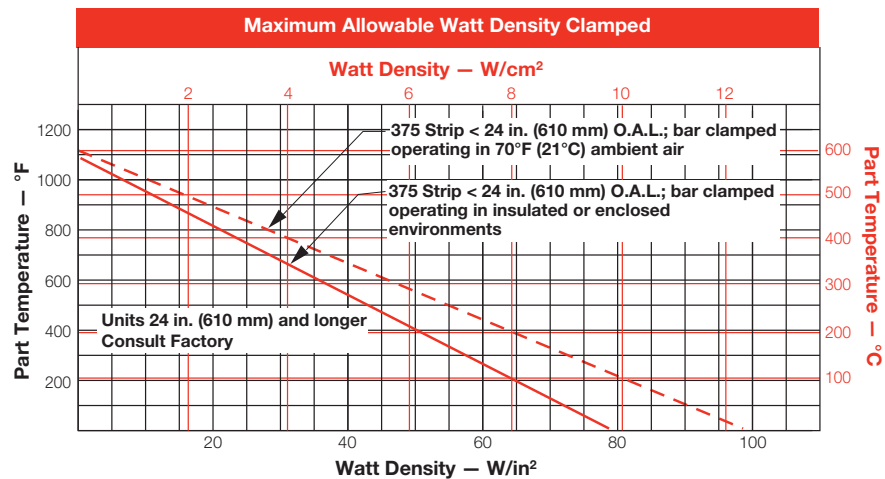
$$\begin{aligned} \text{(Offset Terminals)} &= [\text{Overall Length (A)} \times 1.5 \text{ in.}] - 6 \text{ in}^2 \\ &= [\text{Overall Length (A)} \times 38 \text{ mm}] - 38.7 \text{ cm}^2 \end{aligned}$$

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

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

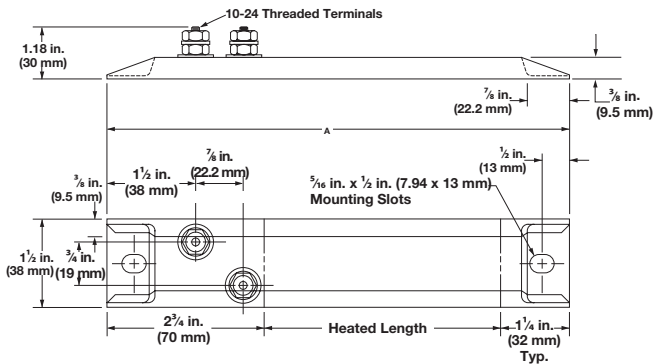


# Strip/Clamp-On Heaters

## 375 High-Temperature Strip Heaters

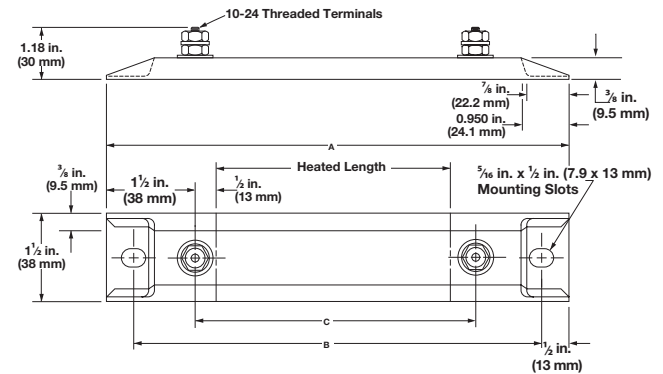
### Termination Options

#### Offset Terminals



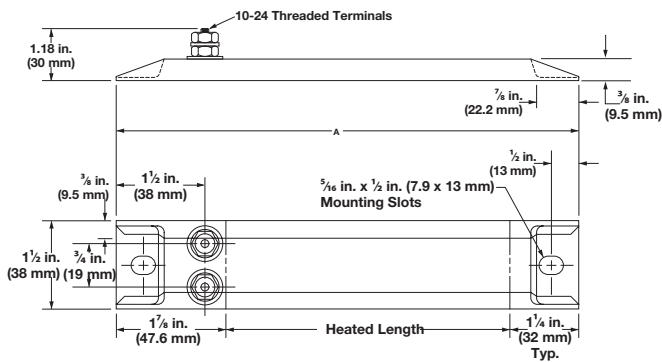
Two 10-24 threaded post terminals are offset from each other on the same end.

#### One-on-One Terminals



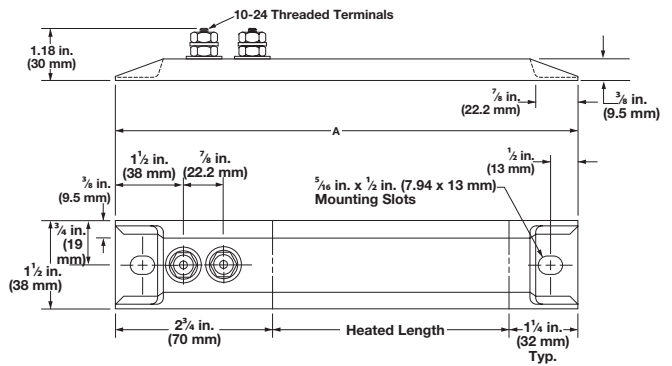
Two 10-24 threaded post terminals are placed one on each end.

#### Parallel Terminals



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

#### In-Line Terminals



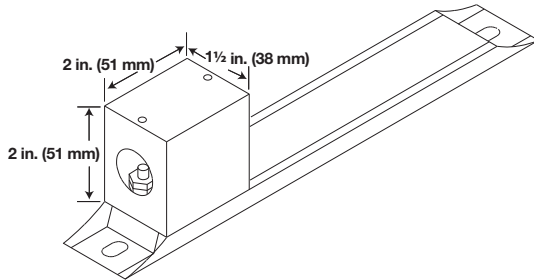
Two 10-24 threaded post terminals are in-line with each other on the same end.

# Strip/Clamp-On Heaters

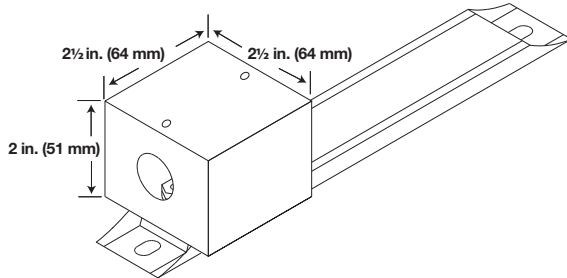
## 375 High-Temperature Strip Heaters

### Termination Options (Continued)

#### Metallic Terminal Boxes - Variations



Available on in-line terminals only.

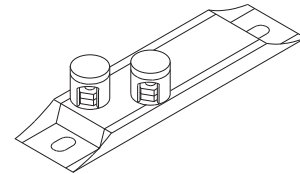


Available on offset terminals from stock and manufactured.

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**.

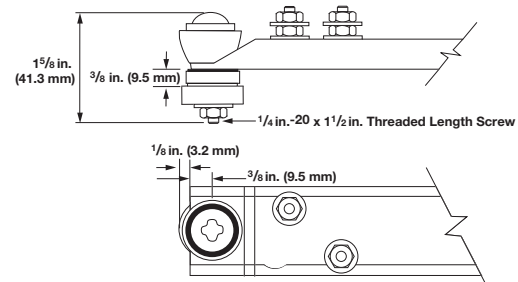
### Accessories

#### 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 **Z4918** 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,  $\frac{17}{32} \times \frac{11}{16}$  inch diameter mounting holes **must** be specified when ordering the heater.

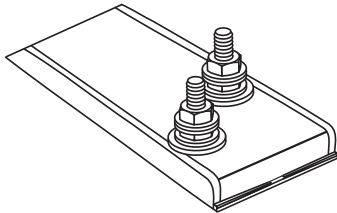
## Strip/Clamp-On Heaters

**EXTENDED  
CAPABILITY**

### Extended Capabilities For 375 High-Temperature Strip Heaters

#### Options

##### Tab Removal



Tab removal is available from stock or manufactured products. Length without tabs equals total length including tabs minus 1 $\frac{1}{2}$  in. (38 mm).

##### Moisture Protection

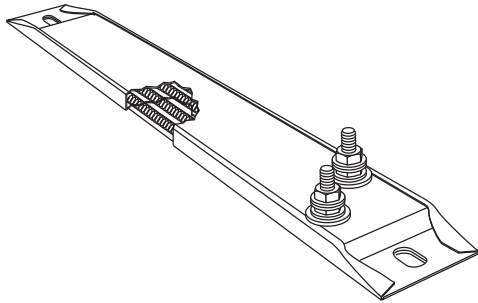
###### Improved Insulation Resistance Value (IIRV)

**Treatment**—This process coats the MgO insulation. The treated insulation fends off moisture when unheated for long periods of time. It is also ideal for heaters that are exported to customers around the world, where high humidity may be a problem.

##### Ground Studs and Mounting Studs

Standard  $\frac{1}{4}$ -20 x 1 $\frac{1}{2}$  in. (38 mm) or M6-1 x 40 steel studs are welded to the heater. Contact your Watlow representative for exact locations on specific heaters.

##### Flat Tabs



Mounting tabs can be formed flat to allow bar clamping.