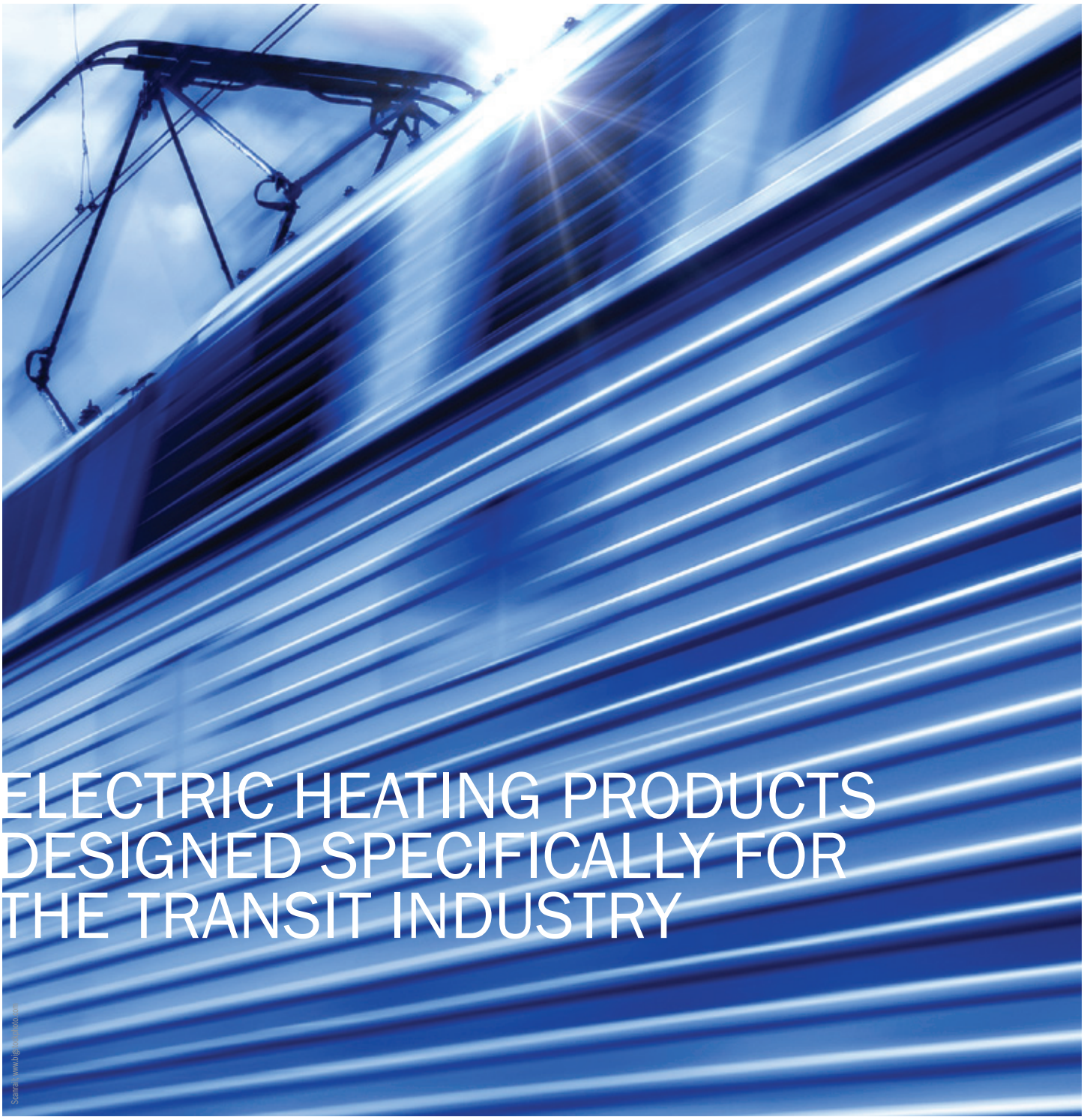


ELECTRIC HEATING PRODUCTS DESIGNED SPECIFICALLY FOR THE TRANSIT INDUSTRY

TRIVOLT INDUSTRIES

TRIVOLT INDUSTRIES

TRIVOLT INDUSTRIES IS A LEADING MANUFACTURER OF INDUSTRIAL ELECTRIC HEATING PRODUCTS DESIGNED SPECIFICALLY FOR THE TRANSIT INDUSTRY. QUALITY, INNOVATION AND CUSTOMER SERVICE ARE OUR PRIMARY FOCUS.

At Trivolt Industries, we believe the most important criteria is working in partnership with our customers, providing unparalleled expertise and depth of knowledge to perfectly match our customer's needs.

For example, our proprietary design for Moisture Proof Strip Heaters came about from the challenges that faced many of our customers who for years looked to their suppliers for a viable solution to problems that can plague standard strip heaters used in transit industry applications.

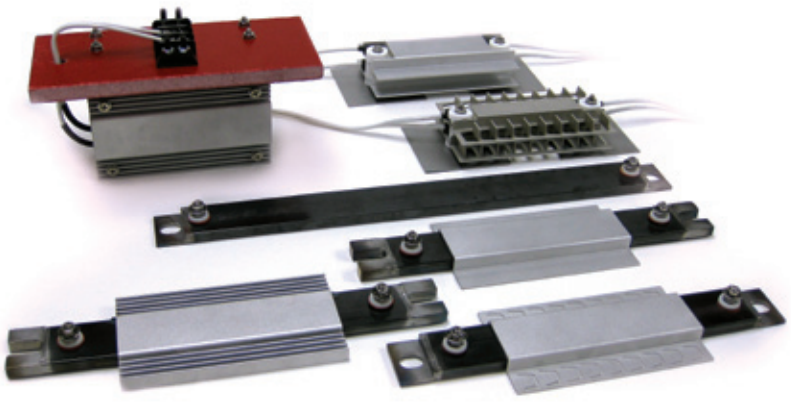
Our exceptional growth is the result of our commitment to providing quality products driven by continuous customer feedback.

The message from our customers is clear; "*provide quality heaters and respect promised delivery dates*".

To that end, Trivolt Industries invests heavily in research and development, staffed with highly qualified personnel and the latest test equipment.

The Trivolt team is dedicated, experienced and efficient ensuring the customer with a supply of heating product built right the first time and providing on-time deliveries.

Trivolt Industries will provide your company with industry leading before and after sales service!



>> Quality Assurance Program

From quotation to delivery, a continuous improvement system monitors and ensures that we never lose sight of what is important to our customers. At Trivolt Industries we operate to a stringent internal Quality Control Management System to ensure our customers of the consistent quality of our products.

>> Service and Capabilities

As part of this objective, we have put together a dedicated team of engineers, design and project managers with vast experience in the industry to offer assistance on application data and one-on-one field support and follow-up.

Trivolt Industries can comply with “Buy America” guidelines.

We have the resources and manufacturing capability to respond to and meet our customers’ specific criteria.

Our Moisture Proof Strip Heaters are being used with great success by many transit groups in cities across North America. We’ve designed proprietary installation and closure mechanisms that vastly improve on existing products and provide tremendous results.

Trivolt is committed to best serve your market needs.

>> Approvals & Certifications

All of our products have International approval certificates from CSA, UL and CE.

In addition our products have successfully passed Shock and Vibration testing to simulate Railway applications!

CSA Std.C22.2. no 72-M1984

UL Standard 1030 6th Edition

EN 60335-1:2004

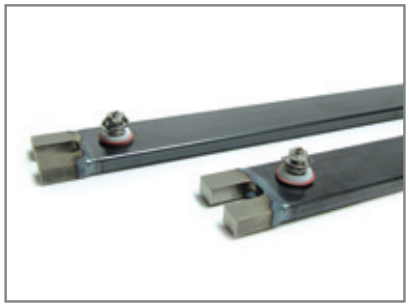
Shock and Vibration: IEC 61373; Category 1; Class B

Trivolt Industries can also comply with any other tests required by customer specs.

Our high standards extend beyond our product line.

We have gained the respect of our customers by conducting our business in a forthright, open and honest manner. High quality products provided by an organization with a reputation for integrity are what our customers expect, deserve and receive from Trivolt Industries.

FLOOR HEATERS



>> Moisture Proof Strip Heaters

MPS heaters are designed as part of the floor heating system in passenger train cars. The seamless structure is available in steel or stainless steel. Our TR-65 treatment is available for both materials. This treatment prevents rust from attacking the heater element. Salt bath test results are available.

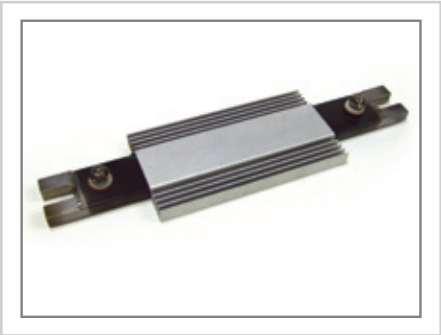
- Completely resistant to moisture and frosting
- Maximum length of 120 inches
- Width of standard heater is 1.5 inches
- Maximum nominal voltage 750 volts (stand-off insulating bushings where req'd)
- Up to 25 watts per square inch
- Wire terminals and ends are hermetically sealed
- Wire terminals are reinforced to withstand up to an industry leading 40 inch/pounds of torque to ensure solid electrical connections
- Wire terminals can be positioned in any configuration
- Lead wire terminations are also available
- Multiple types of treatments available against corrosive environments

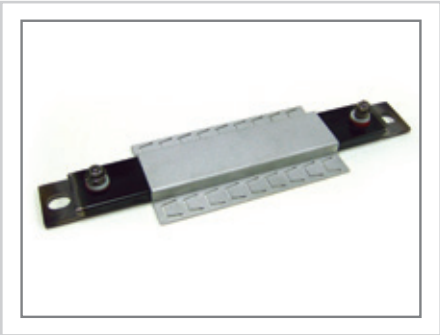
>> Moisture Proof Strip Heater with Integrated Aluminum Heat Sink

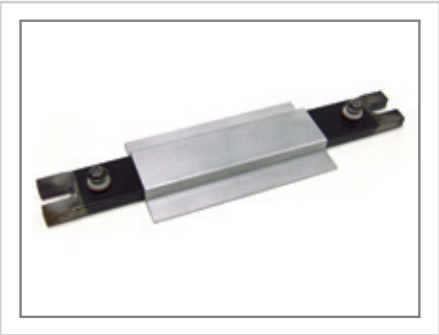
These heating elements are based on our Moisture Proof Strip Heaters with temperature reducing heat sinks applied to reduce the effective watts per square inch and provide lower skin temperatures.

The heat sink is an aluminum extrusion mechanically adapted to the heater for a tight fit and uniform dissipation of heat.

- Heat sinks are offered with raised fins for maximum surface and air flow
- Extruded to a maximum width of 3.25 inches







>> Aluma-Heat® and Aluma-Heat® Light

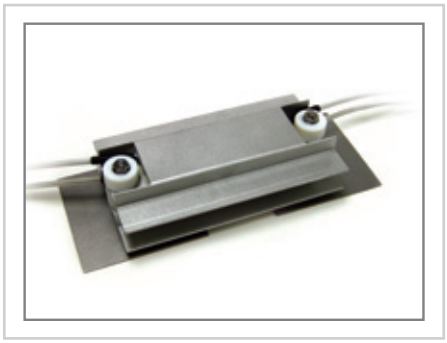
The Trivolt ALUMA-HEAT® model is manufactured using a custom extruded aluminum design.

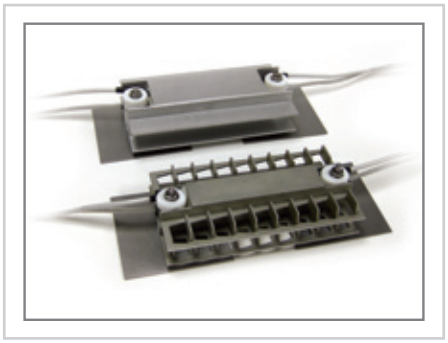
It is a very light-weight heater, making it easy to handle and install. The time lapse from hot to cold skin temperature is greatly reduced compared to traditional heater elements. There are many advantages both electrically and mechanically for the car builder because of this heater's sturdy construction and different profiles.

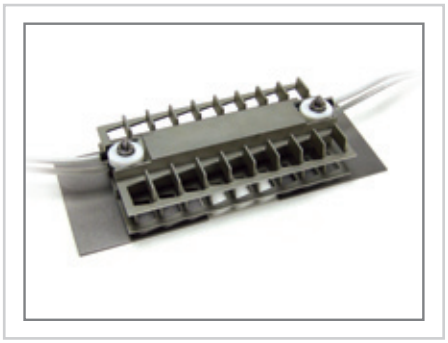
- Manufactured in aluminum extrusion 6065T1
- Light-weight construction
- Multiple fins allow for very low skin temperature and efficient airflow patterns that maximize the surface dissipation of heat
- Easy installation and mounting
- Maximum length of 60 inches
- Available in 2 profiles;
- 3.25 x 0.525 inches with 1 inch core including raised fins for maximum surface exposure and airflow
- 3.25 x 0.50 inches with 1.5 inch core
- The profiles have a solid core making them sturdy and allowing for minimal mounting brackets
- Can be manufactured at all applicable voltages and up to 25 watts per square inch
- Optional extrusions, see images below
- Extrusions can be anodized against corrosion
- Heaters can be stacked up to 3 at a time with Teflon bushings in the machined slots to accommodate thermal expansion
- Available high temperature gasket can be installed between the Teflon bushing and heater assembly to reduce the noise caused by expansion
- Terminals or wire terminations are available

Our Teflon bushings are manufactured from mechanical Teflon and can withstand up to 450 degrees F. They are resistant to the car's shock and vibration during use and solve the constant problem of cracking and breakage associated with ceramic and porcelain secondary insulating bushings.

These Teflon bushings have been successfully used in the field for over the past 10 years with outstanding results.

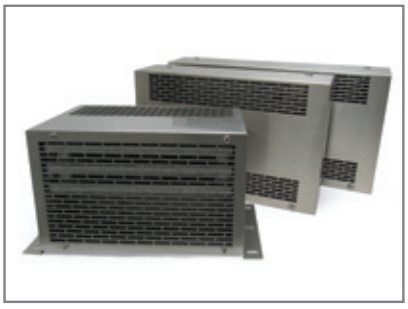


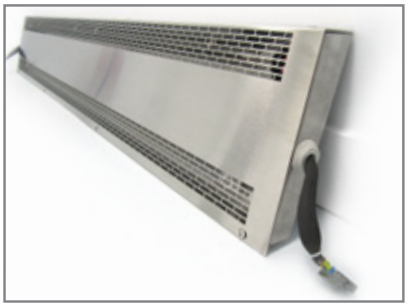




FLOOR HEATING SYSTEMS

The combination of low profile baseboard design and highly efficient chimney effect maximizes the installed watts per foot without excessive grille temperatures. The custom engineered internal baffling efficiently dissipates heat to maintain a uniform grille temperature.





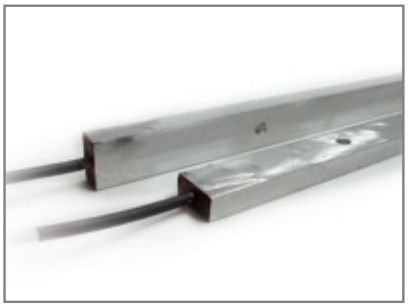
- Trivolt Floor Heaters are custom designed and manufactured to match customer requirements for space and wattage.
- Baseboards can be built with integral fans to increase airflow allowing for higher wattages when required.
- Trivolt designs meet or exceed new Railway grille temperature requirements of 125 deg. F.
- Trivolt proprietary Aluma-Heat® heating elements are integrally mounted with Teflon bushings to allow for expansion and eliminate noise.
- Integrated high temperature thermal cutouts ensure the safe operation of Trivolt heaters under any operating situation.
- Cabinet finishes as required by the customer from brushed stainless steel to high temperature epoxy colored finishes
- Single or multiple heating stages.
- Any standard worldwide voltage at one or three phase.
- Trivolt heaters can be assembled with customized wire leads and connectors or internal customer connection points.
- Trivolt Floor Heaters can be designed as a retrofit for railcar refurbishment applications or entirely new sleek architectural designed cabinetry.

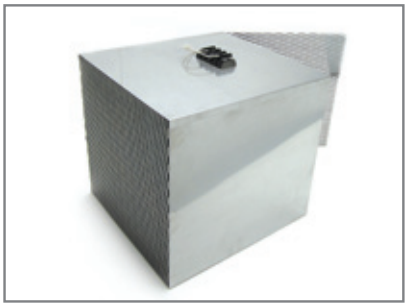
THRESHOLD HEATERS

Threshold heaters are installed below the foot panel to prevent snow build-up and freezing allowing the door to work freely. These heaters are designed and manufactured to resist moisture and harsh applications. Threshold heaters can also be treated to prevent damage from corrosive material such as salt.

- Manufactured in 6065T1 aluminum extrusion
- Full hermetically sealed ends with mechanical Teflon, epoxy and high temperature silicone
- Maximum length of 60 inches
- Maximum nominal voltage 600 volts ac
- Up to 25 watts per square inch
- Can be manufactured with any lead configuration
- Industry standard cross section of 0.5 inch high and 1 inch wide
- Custom retrofit designs to fit any existing installations

These threshold heater elements are compatible with all car models and can replace existing threshold heaters in the market.

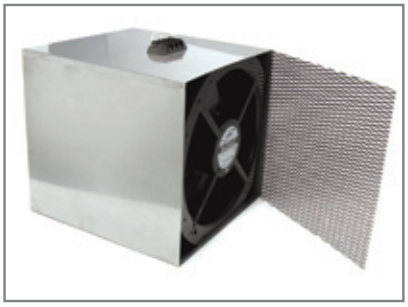




FAN HEATERS

>> Custom designed heaters for Cab heating, Lavatory, Vestibule and Under-seat Heaters are designed using the best applicable technologies such as

- Ball- bearing centrifugal, or axial fans
- Open coil, tubular or fin-tubular heating elements
- Incorporated control and safety over-temperature devices
- Integrated fusing and/or thermal links
- All mounting frames and supports laser cut for high precision fitment and custom designed for easy fitment into the customers application



DUCT HEATERS

>> For HVAC systems

These overhead heating units can be manufactured with both open coil, tubular and fin tubular options.

Open Coil Design

- Mounting frames and all hardware manufactured with stainless steel 304
- The resistance wire is 60/15 Nickel chromium Kanthal® wire
- The resistance wire is designed with the highest rated temperature rating increasing the safety factor
- C-clip ceramic holders provide excellent dielectric insulation
- Structural bars for the clips are designed for easy light weight assembly
- All mounting frames and supports laser cut for high precision fitment

Tubular and Fin-tubular Design

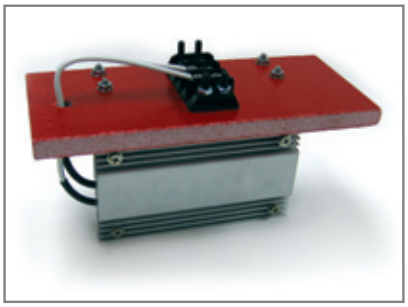
- Mounting frames and all hardware manufactured with stainless steel 304
- Mineral insulated heating elements for superior mechanical strength resistant against shock and vibration

DOOR POCKET HEATERS

These heaters are designed to eliminate freezing of the mechanical and electrical components that operate door mechanisms.

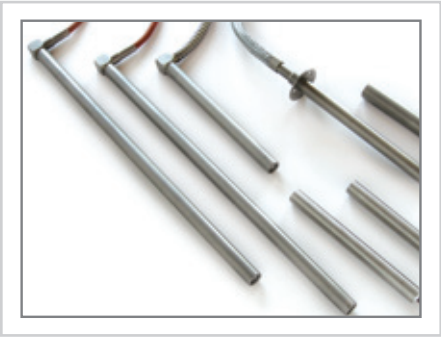
The Trivolt door pocket heater is manufactured using our Aluma-Heat heater element. Its construction provides a greater surface area of heat than traditional fin tubular style heater elements. It is designed to eliminate freezing the mechanical and electrical components that operate the doors.

- Heater element is mounted on a phenolic board and provides the option of screw terminals or wire termination
- Light-weight construction
- Easy installation and mounting
- The fin style Aluma-Heat® extrusions provides a larger surface area of heat therefore lowering skin temperature
- This design tests to a higher dielectric resistance test than standard fin tubular heater elements
- Maximum nominal voltage 750 volts. (secondary insulating bushings used where applicable)
- Up to 25 watts per square inch
- All the benefits from the Aluma-Heat® and Aluma-Heat® Light heater elements apply to door pocket heaters. For more options, see Aluma-Heat® description on page 4



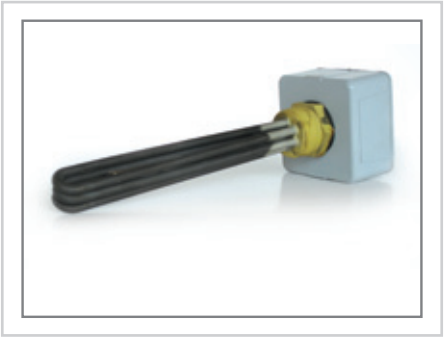
CRANK CASE HEATER

- Prevents oil from freezing
- Eliminates condensation
- Available in different styles and dimensions



IMMERSION HEATERS

- Different sheath materials
- Wire connection terminal boxes rated standard, moisture or explosion proof
- Built-in thermostats or thermocouples



MOUNTING KIT

- Direct replacement of existing ceramic bushings
- Manufactured with mechanical Teflon
- Will not crack or dry out

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INDUSTRIES

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