



CONNECT AND PROTECT

Rail Switch Heating System

The Optimized Self-Regulating Heating Solution With Improved
System Efficiency & Reliability During Winter Operations


nvent

ERICO



A Long-Term Global Rail Industry Partner Actively Involved In Developing Solutions For More Than 100 Years.

nVent ERICO has been actively involved in developing products and solutions specifically for the rail market for more than 100 years. With development, manufacturing and logistics networks in North America, Latin America, Europe and Asia, we provide worldwide competence while guaranteeing proximity to our customers and optimal satisfaction of local market demands.

Snow and ice buildup can be hazardous and can interfere with rail infrastructure, transit equipment, operations and service. nVent ERICO provides full engineering support and customized solutions for rail switches, including snow melting and de-icing for rail switch points - providing confidence even in the harshest environments.

The nVent ERICO Rail Switch Heating System is designed to provide improved snow and ice melting performance at a vastly reduced total installed cost compared with conventional heating elements.

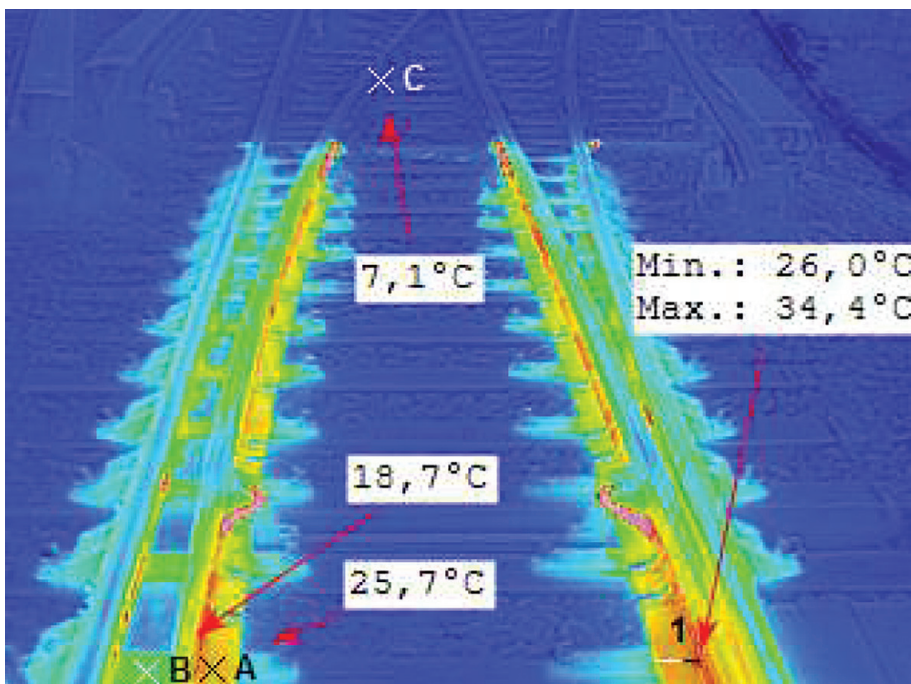
Normally mounted to rail switch points, the system is designed to avert ice buildup and assist with reliable track operations on passenger and freight trains, metros and tramways.

The heating system is self-regulated, allowing itself to automatically adjust the power output to compensate for temperature changes. This advanced technology was developed to:

- Provide significant savings compared to older techniques in which the heaters are either constantly on for the entire winter or operated by a control sensor.
- Provide a simplified installation method and energy efficient design.
- Monitor individual track switch heaters and local environmental conditions.
- Eliminate the need for field visits during adverse winter conditions.



Self-Regulating Heating Technology



Infrared thermography taken with a thermal imaging camera detects infrared energy emitted from an object, converts it to temperature and displays an image of temperature distribution. In this photo, you will see nVent ERICO Rail Switch Heating System distributing heat evenly and no hot spots appear along both of the fixed and the moving rail. The nVent ERICO Rail Switch Heating System warms both rails melting snow and ice and clearing the switch points, even in the harshest winter weather.

The nVent ERICO Rail Switch Heating System consists of self-regulating cables designed for rail heating applications. This state-of-the-art, self-regulating heating system demonstrates easy and flexible installation, excellent thermal performance and a long service life with low operating costs.

SYSTEM HAS BEEN USED FOR MORE THAN 20 YEARS ON THE FOLLOWING RAIL NETWORKS:

- High-speed tracks
- Passenger and freight trains
- Metros
- Tramways
- Light rapid transit systems

Celsius to Fahrenheit conversions:

- 0°C = 32°F
- 7°C = 44.6°F
- 18.7°C = 65.6°F
- 25.7°C = 78.2°F
- 26.0°C = 78.8°F
- 34.4°C = 93.92°F

Self-Regulating Heating Technology

The self-regulating feature enables the heating cable to vary its power output in response to sensed changes in temperature at every point along its length.

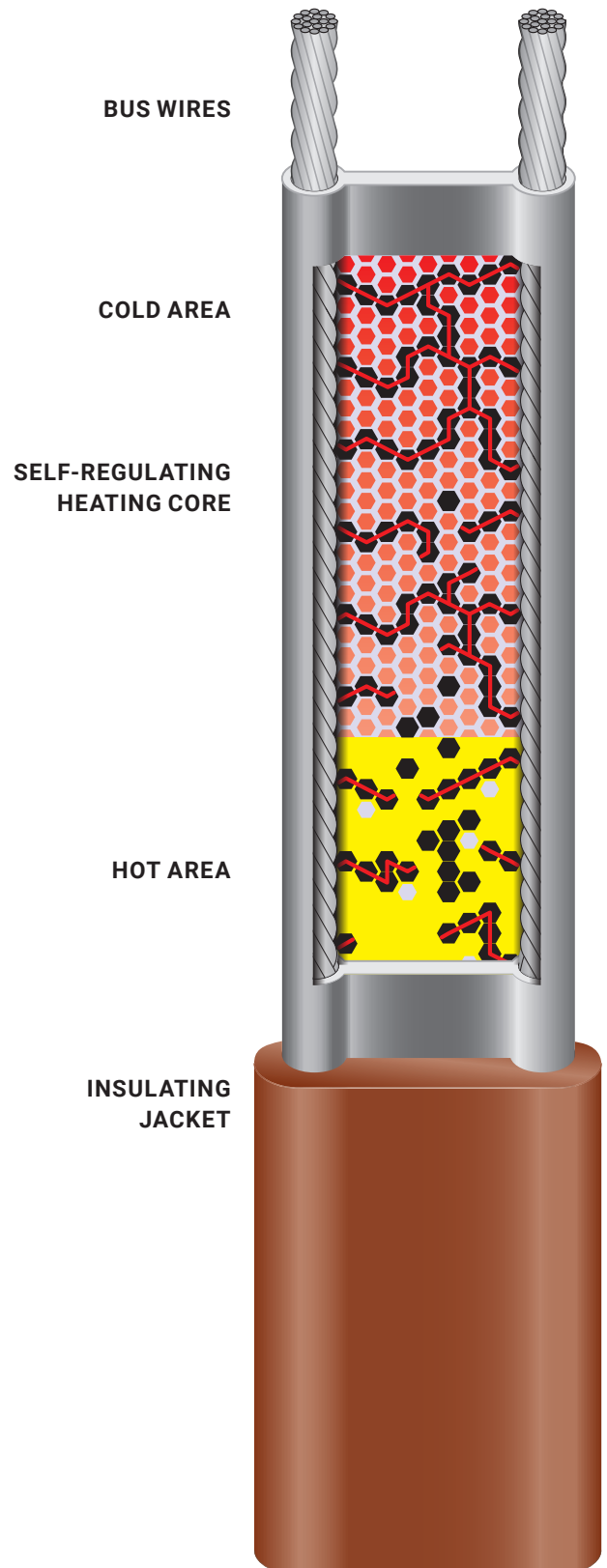
Power consumption varies with changes in surrounding temperature, unlike conventional constant-wattage heaters that draw the same power regardless of temperature changes or localized needs. The heating cable conserves energy by providing heat when and where it is needed over the entire circuit length. Simple design and rugged construction ensure long life and minimum maintenance.

Each meter of the conductive-polymer core of the heating cable operates as though it contains millions of parallel resistors between its bus wires. Because of this parallel circuit design, it can be cut to length without affecting heat output per meter, making design and installation, fast and simple.

nVent ERICO Railclips are required to safely hold the system in position on the rail in order to optimize heat transfer.

nVent ERICO offers a versatile range of products and accessories that are designed to increase the useful lifetime of trackside conductors, reduce maintenance, improve wayside safety and reduce the total project cost over time.

Railclips are weather and UV resistant and are capable of withstanding excessive vibration of heavy rail traffic. They are resistant to oil, diesel fuel, deicer, weed killer and other chemicals found in the environment.



nVent ERICO Rail Switch Heating System Features & Benefits



| Features | Benefits |
|----------------------------|--|
| Safety | <ul style="list-style-type: none"> • Melts snow and ice in switch points, allowing proper and safe operation • 24V, low-voltage system • Heating element's maximum temperature is 176°F/80°C, making it safe for personnel and components • System will not contact wires under electrified lines during installation |
| Energy Efficient | <ul style="list-style-type: none"> • Power consumption varies with changes in surrounding environment • Self-regulating feature provides dependable over temperature protection • Optimum heat transfer eliminates wasted wattage (\$\$\$) |
| Customized Solution | <ul style="list-style-type: none"> • Designed to meet customer needs • Include state-of-the-art connection kits and accessories |
| Low Maintenance | <ul style="list-style-type: none"> • Unlike hot air blowers, our rail switch heating system maintains the structural integrity of ballasted track • Simple design and rugged construction • Highest quality ensures reliability and minimum maintenance • Uses corrosion resistant components for longevity of system life • Repairable for unexpected damage to the system |
| Flexibility | <ul style="list-style-type: none"> • Optimized mounting with Railclips • System can work around obstructions on the rail • Can be adjusted during installation for unanticipated field obstructions |

Design & Engineering Services



A SWITCH POINT HEATING SYSTEM MUST:

1. Prevent the moving switch (point) blade from freezing.
2. Prevent the switch rail from freezing to the supporting slide plates.
3. Prevent any buildup of snow, sleet or hail between the switch rail and the stock rail that could compact and prevent the point system from operating correctly.

The nVent ERICO Rail Switch Heating System is available in a range of configurations with performance and specifications to suit the needs of many railway applications.

Dedicated project managers assist with installation and operation of all major projects and ensure that testing methods are in accordance with design specifications and conform to national and international standards and codes.

Training in product knowledge, system design, installation and maintenance procedures can also be provided. Our worldwide network of specialized centers for customer assistance and after-sales services include: spare parts, maintenance, upgrades, retrofitting and more. Partner with nVent ERICO for optimized reliability and performance for your rail and transit operations.

nVent ERICO – Your Partner for Global Railway Reliability



nVent ERICO brings world class products, capabilities and proven track record of providing safe and reliable operations directly to the global railway industry. Our team has worked with multiple rail networks around the world successfully executing large and complex freight, transit, metro and tramway projects.

nVent ERICO understands that operators seek higher reliability, efficiency and power with the lowest cost of ownership, which is why we strive to meet the individual requirements of our valued customers and partners through high-quality, innovatively designed products and on-time delivery.

nVent ERICO offers the widest range of products and solutions to meet the demanding requirements of the global railway industry. All nVent ERICO products and solutions are manufactured in accordance with ISO 9000 series accreditation and are backed by superior technical support and product warranties. Today, nVent ERICO offers the global rail industry a diversified corporation with a network of sales locations serving more than 25 countries and with manufacturing and distribution facilities worldwide.

Visit nVent.com/ERICO for complete nVent ERICO Rail Switch Heating System information, including technical drawings, features and benefits, product certifications, images, videos and more.

Our powerful portfolio of brands:

CADDY ERICO HOFFMAN RAYCHEM SCHROFF TRACER



[nVent.com/ERICO](https://www.nvent.com/ERICO)

©2018 nVent. All nVent marks and logos are owned or licensed by nVent Services GmbH or its affiliates. All other trademarks are the property of their respective owners. nVent reserves the right to change specifications without notice.

Erico-CAT-R1331B-R134LT17WWEN-EN-1805