



**CONNECT AND PROTECT**

# nVent ERICO

Protection Solutions from the Ground Up



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NVENT ERICO HAS MORE THAN

**100**

YEARS OF EXPERIENCE

— SINCE 1903 —

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MORE THAN

**100  
MILLION**

NVENT ERICO CADWELD

— CONNECTIONS —

**WORLDWIDE**

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OPERATIONS IN

**30+**

**COUNTRIES**

— *for* —

LOCALIZED SOLUTIONS

ACROSS THE

**GLOBE**

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For more than a century, nVent ERICO has been the leader in protecting structures, equipment and people in the rail, commercial, telecom, utility, and industrial markets.

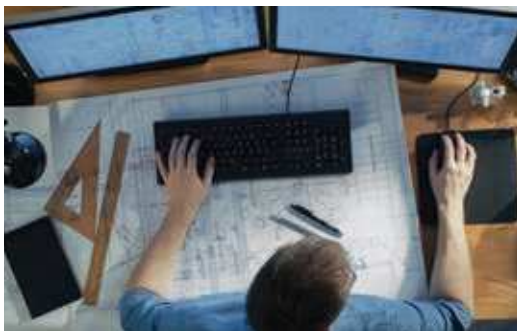


# nVent ERICO

## PROTECTION SOLUTIONS FROM THE GROUND UP

Our engineered solutions, application expertise and quality products provide reliable protection from the ground up through grounding and bonding, surge protection and lightning protection. With our unique, holistic approach to protecting facilities from the effects of lightning and induced-surge transients, we protect some of the world's most sensitive equipment, buildings and critical processes.

Grounding, equipotential bonding, surge protection and lightning protection demand the expertise and experience that only nVent ERICO can provide. Our services and solutions assist facility owners, design engineers and installation contractors with the necessary support to implement a complete facility electrical protection system customized for their application.



### STANDARDS COMPLIANCE AND PRODUCT DEVELOPMENT

nVent ERICO employees are members of industry standards committees, including Institute of Electrical and Electronics Engineers (IEEE), International Electrotechnical Commission (IEC), American National Standards Institute (ANSI) and National Fire Protection Association (NFPA). All nVent ERICO products undergo extensive development, testing and certification to adhere to requirements of certification agencies such as UL, CE, and Canadian Standards Association (CSA).

### TRAINING AND BEST PRACTICES

nVent ERICO provides extensive training for the specification, installation and maintenance of electrical protection systems to ensure optimal performance and compliance. Training can be provided online, on-site or in a classroom and may be eligible for professional development hours.

### DESIGN ASSISTANCE AND SPECIFICATION

With decades of diverse application experience, the nVent ERICO team helps develop project specifications to best protect against damage from electrical events by assessing risks, recommending methods and auditing sites. At times when environmental conditions impose a higher risk of damage, specification and design may be warranted beyond the minimum standards.

### SERVICE AND SUPPORT

Customer and technical support teams assist with product selection and troubleshooting, and our application engineering teams can review designs and inspect sites to ensure installations meet and exceed relevant standards and specifications. We also commission and recommend verified external parties to complete installations that meet quality standards.

# Our History

Since 1903, nVent ERICO has been a leading designer and manufacturer of precision-engineered solutions. Beginning with the invention of nVent ERICO Cadweld and pioneering the development and standardization of copper-bonded ground rods in the 1970s, we have built a strong legacy of application expertise and product innovation. As an industry leader, we strive for continual improvements in protection from the ground up.



**1903**

**1930**

**1938**

**1949 + 1951**

**1959**

**1973**

The Electric Railway Improvement Company (ERICO) was formed to manufacture power bonds, signal bonds and related welding equipment.

Advances in portable welding equipment make possible on-site arc welding for rail bonds.

Charles A. Cadwell, Ph.D. of the Electric Railway Improvement Company invents the Cadweld process – a copper-based, exothermic process for welding copper conductors to steel rails.

Cadweld process is introduced into cathodic protection applications.  
  
Cadweld adapted for use in grounding connections.

ERICO engineers develop Cadweld One Shot – a disposable mold for one-time use in connecting a copper conductor to a ground rod.

Electrical connections developed for welding to high-pressure pipelines.



**1992**

**1997**

**1999**

**2002**

**2003**

**2006**

Release of patented Movtec Surge Diverter. GEM Permanent Ground Enhancement Material is introduced.

In-house 150kA 8/20µs surge generator developed. CRITEC Transient Discriminating (TD) Technology is invented.

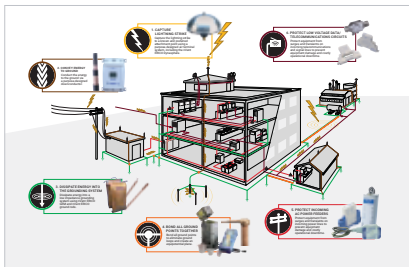
ERICO acquires Global Lightning Technologies in Australia.

ERICO acquires AC Lightning in the United States.

ERICO introduces signaling and communications SPDs for rail bungalows

ERICO Cadweld Plus introduced as first contained welding material with electronic ignition.

Modular CRITEC TDX range introduced.



**1975**

Company formed in Hobart, Tasmania, Australia to provide lightning protection.

**1977**

Six Point Plan for Facilities Protection first formulated integrating grounding, bonding, surge and lightning protection systems.

**1981 + 1983**

ERICO acquires Knight Metalcraft, a manufacturer of copper-bonded ground rods, and Carolina Galvanizing, a manufacturer of galvanized and copper-bonded ground rods which later combine to form ERITECH.

**1985**

Active system Dynasphere Lightning Terminals concept developed.

**1986**

Signal reference grid (SRG) is developed to minimize the effects of transient or electrical noise on sensitive electronic equipment.

First in-house testing capability (5kA surge generator)

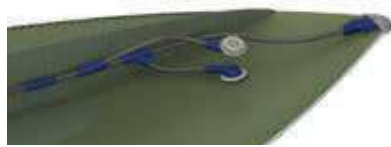
**1988**

ERICO introduces Cadweld Exolon low-emission welding connections.



**2008**

ERICO launches range of theft-deterrent conductors.



**2011**

ERICO introduces innovative lightning protection system for wind turbine blades



**2014**

ERICO Cadweld is first connection type to pass IEEE 837-2014 requirements for substation grounding.

**ERICO**

**PENTAIR**

**2015**

Pentair acquires ERICO International Corporation and its portfolio of brands, CADDY, ERIFLEX, LENTON and ERICO



**2018**

Electrical brands from Pentair spin off to establish nVent, a global manufacturer dedicated to connecting and protecting customers with inventive electrical solutions.

# Our Solutions

Grounding, equipotential bonding, surge protection and lightning protection are all interdependent disciplines. Reliable protection of structures, industrial and commercial operations and personnel demands a systematic and comprehensive approach to minimizing threats caused by transients, from the ground up. No air terminal, for instance, can safely capture lightning energy without a dependable route to ground.

Equally, even the most expensive surge protective Devices (SPDs) are poor performers without a low-impedance electrical ground. However, a low-impedance ground can create problems if good installation bonding practices are not followed. These interdependent disciplines are best applied when looking at a total facility rather than an individual piece of equipment or portion of a facility.



## GROUNDING AND BONDING

**The foundation of facility electrical protection starts with the grounding and bonding system.** Connecting equipment directly to earth will not protect equipment or personnel without also having bonding connections between them to create a complete equipotential bonding system. In addition to designing a system that performs and protects, it is critical to have a grounding and bonding system that is meant to last.

With high-quality materials and testing, as well as theft-deterrent technology, nVent ERICO systems and products are designed to last.

## NVENT ERICO CADWELD

nVent ERICO provides application-specific design assistance for code compliance globally as well as technical training for specifications and best practices for grounding and bonding systems.

The weakest link in the grounding system is the connections between below-grade ground electrode conductors. They are the most susceptible to corrosion over time through the presence of moisture and contamination. nVent ERICO Cadweld is the ultimate grounding connection as it will not loosen or corrode over time and will typically outlast the life of the conductors it connects.



## SURGE PROTECTION

Even with the best grounding and bonding system, electrical transient events and disturbances can cause a loss of electrical equipment and increase downtime. **A coordinated surge protection system is crucial to ensuring protection during a major electrical event**, and prolonging the life of equipment by reducing the impact of low-magnitude transient events.

For both building power and low-voltage applications, nVent ERICO has the products and expertise for a comprehensive protection scheme for surges on power and communication lines caused by lightning, building systems, and other switching events. Our involvement in the industry predates the creation of the initial IEC and UL low-voltage surge protection standards, and we have been active on all major worldwide surge protective device (SPD) standards committees and industry bodies, including IEEE, IEC and UL.

## LIGHTNING PROTECTION

Direct or indirect lightning strikes can cause devastating damage to a facility. Besides the danger to people, it may cause expensive electronic equipment failure and costly business disruption. Lightning protection systems control the passage of a discharge in a manner that prevents personal injury or property damage since no known method of preventing a lightning discharge exists.

**nVent ERICO has developed expertise in lightning protection through years of research involving long-term field studies, testing and countless research study programs**, including joint ventures with accomplished scientists in the field. This extensive research has resulted in some of the latest published technical papers and journals.

**400+**  
Patents

**9,000**  
Global Workforce



Global  
Customers



Positioned to Serve  
Fast-Growing Economies



Local Capabilities +  
Localized Solutions

**80+**  
Manufacturing,  
service, sales and  
distribution centers

Our powerful portfolio of brands:

**CADDY ERICO HOFFMAN RAYCHEM SCHROFF TRACER**



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