



Electrical Solutions
for
Power Generation

Thomas & Betts. Your best connection for innovative solutions.

Thomas & Betts
A Member of the ABB Group

Fossil, nuclear and hydroelectric power generation plants are the Goliaths of heavy industry in size, scope and influence. Their continuous streams of energy are crucial to the everyday lives of people across the globe, making the operators unrelentingly focused on reliability, availability and efficiency.



Challenge and commitment

Power generation using fossil, nuclear and hydroelectric sources has long proven to be effective, reliable and economical to the global consumer. These utilities have served growing populations and increasing energy demand for decades, but mounting pressures on the industry are motivating infrastructure changes. With each technological innovation deployed, suppliers must assess the impact on performance and design compatibilities from:

- Key electrical equipment
- Critical parts
- System design
- Quality power output
- Consumer demand satisfaction

The business drivers for change are many. Fossil fuels, such as coal and oil, are seeing competition from green, renewable sources. Fossil power generators are retooling, modifying and upgrading their plants with technology that is cleaner and more energy efficient. Hybrid auxiliary systems are also being deployed.

Natural gas, the cleanest fossil fuel, has been the fuel of choice for most plants constructed since the 1990s. Higher-efficiency combined-cycle and peaker plants, new distributed generation options and modern extraction methods increase the importance of natural gas. Nuclear and hydroelectric sources are clean, but new construction has stagnated. Aging plants must be rejuvenated to increase capacity and efficiency. New plants are subject to substantial capital investments and greater regulations, requiring developers to meet objectives for reliability, efficiency and safety.

The advent of the Smart Grid deepens the reliance on an advanced network of electrical solutions, requiring suppliers to deliver superior products that will perform as described when they are needed. Thomas & Betts meets these expectations by providing:

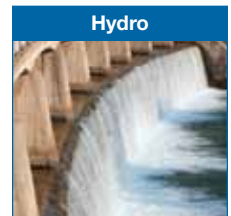
- High-quality products
- Product performance guarantees
- Product warranties
- Expert services and training
- Pre-sets of engineering design solutions

Thomas & Betts warranties and guarantees demonstrate the confidence we have in our electrical products and services. Full-wrap warranties on product alignment assure our customers of the quality of whole, integrated systems. All products, regardless of supplier, are aligned and integrated throughout the entire supply chain.

Output performance guarantees assure Thomas & Betts customers that they will be able to generate sufficient reactive power to fill consumer demand. Because our products will perform reliably, your system will perform at the guaranteed level of effectiveness.

Performance ratio guarantees set standards for the amount of output produced by the generator that is actually available, which ultimately affects consumer pricing and ROI. To support this guarantee, Thomas & Betts focuses on system optimization through engineering, system design and manufacture of supply chain components and a high level of service response. Calibrated performance guarantees reflect our dedication to eliminating underperformance of any part of the system by ensuring optimal engineering, design and product quality.

Power Generation



Delivering value through system solutions based on engineered innovation

Our Value Commitment

Extending the lives of aging power generation plants and constructing new, high-tech utilities requires implementing advanced networks of electrical products.

Thomas & Betts takes an active role in ensuring total system performance and availability through optimal product design and engineering, expert services and training, and a layered approach to guarantees and warranties that reflects our confidence in our solutions.

Our value commitment includes:

T&B Engineered solutions — Our products are designed to perform continuously and dependably, in compliance with regulatory requirements and with full system compatibility.

Tested reliability — Our products are rigorously tested for use in harsh and demanding environments, with proven results in thousands of installations.

Expert support — Thomas & Betts trained sales representatives and technical services experts are available at every stage of a project, from planning and site preparation through construction and MRO.

Training and certification — Thomas & Betts conducts training programs on specific products and systems, and works closely with accredited electrical industry associations.

Product availability — Our industry-leading distributor network assures you of reliable and on-time delivery. This global electrical product support system ensures that our solutions are available when and where you need them.

Product Platforms

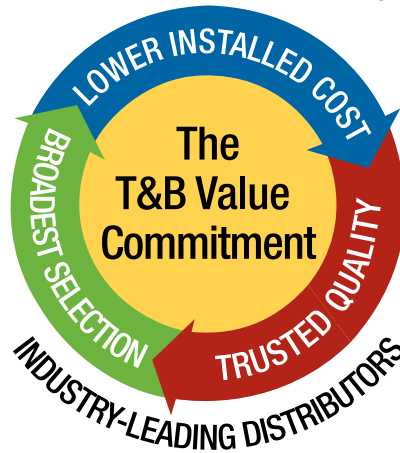
Quality, performance and energy efficiency top the list of power utility supplier specifications. Thomas & Betts offers an array of electrical solutions that work together to ensure high plant availability and output reliability.

Wire & Cable Management — Thomas & Betts invented the Ty-Rap® cable tie in 1958 and continues to lead the world in innovative wire and cable management solutions. OEMs, panel builders, contractors and maintenance personnel depend on Thomas & Betts electrical boxes, cable ties, weatherproof enclosures, cable tray and modular metal framing to do the job right and help reduce installation time and costs.

Cable Protection Systems — Thomas & Betts Cable Protection Systems provide unsurpassed protection for wire and cables in the most demanding applications. They encompass industry-leading flexible conduit systems, PVC-coated conduit and fittings recognized as the standard in oil and gas applications and explosion-proof conduit systems meeting worldwide standards for hazardous locations.

Power Connection & Control — For reliable connection and intelligent control of electrical power, Thomas & Betts mechanical and compression connectors, grounding products, medium-voltage cable accessories, high-voltage fuses, vacuum interrupters, reclosers and capacitor switches are specified worldwide in the industrial, construction and utility markets.

Safety Technology — Protecting lives and property requires state-of-the-art technology. Thomas & Betts is a worldwide leader in emergency lighting and supporting central battery systems, lighting for hazardous locations and surge protection. Thomas & Betts Safety Technology extends the life of your electrical system and protects your employees and assets.



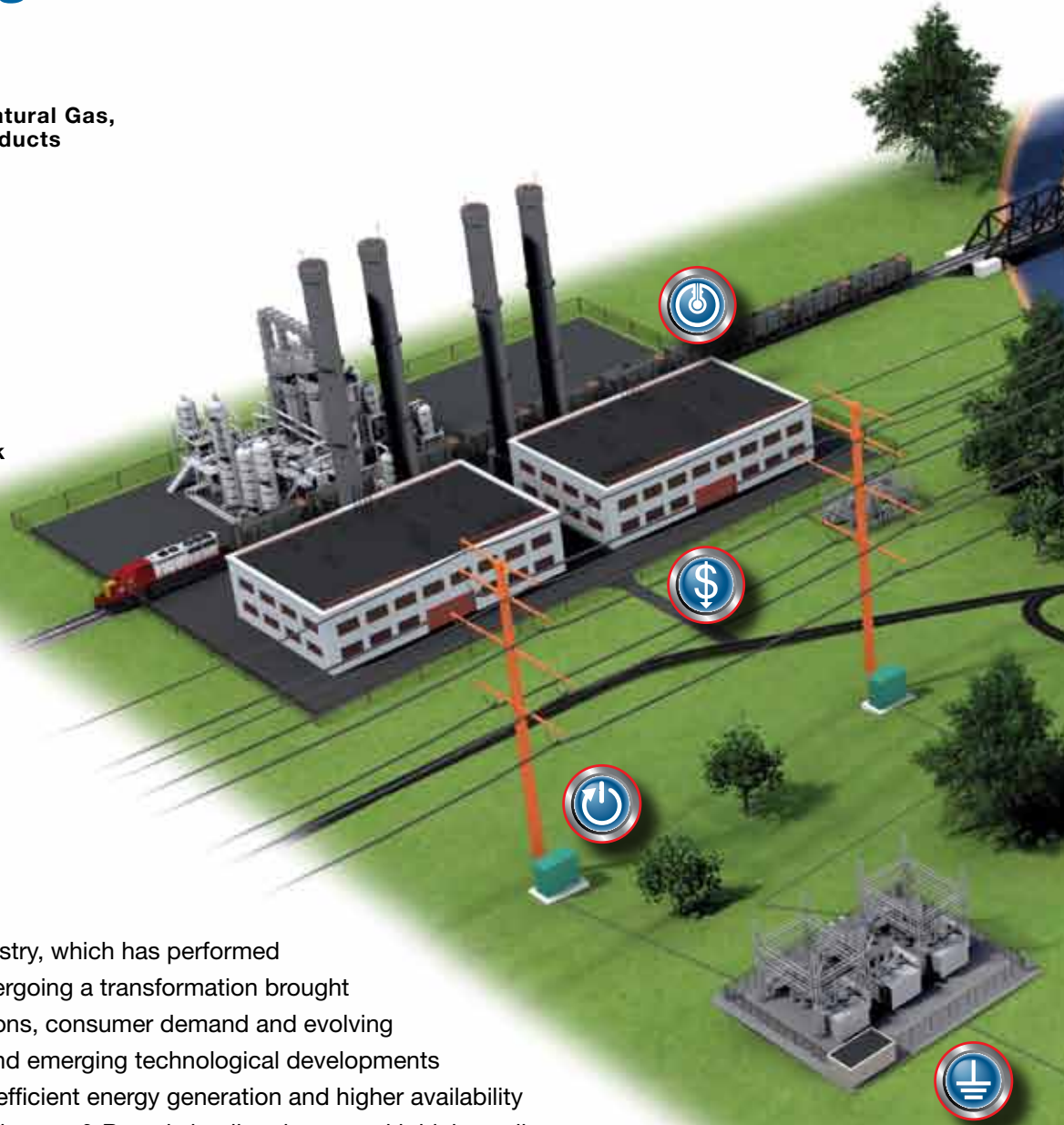


Key drivers for power generation facilities

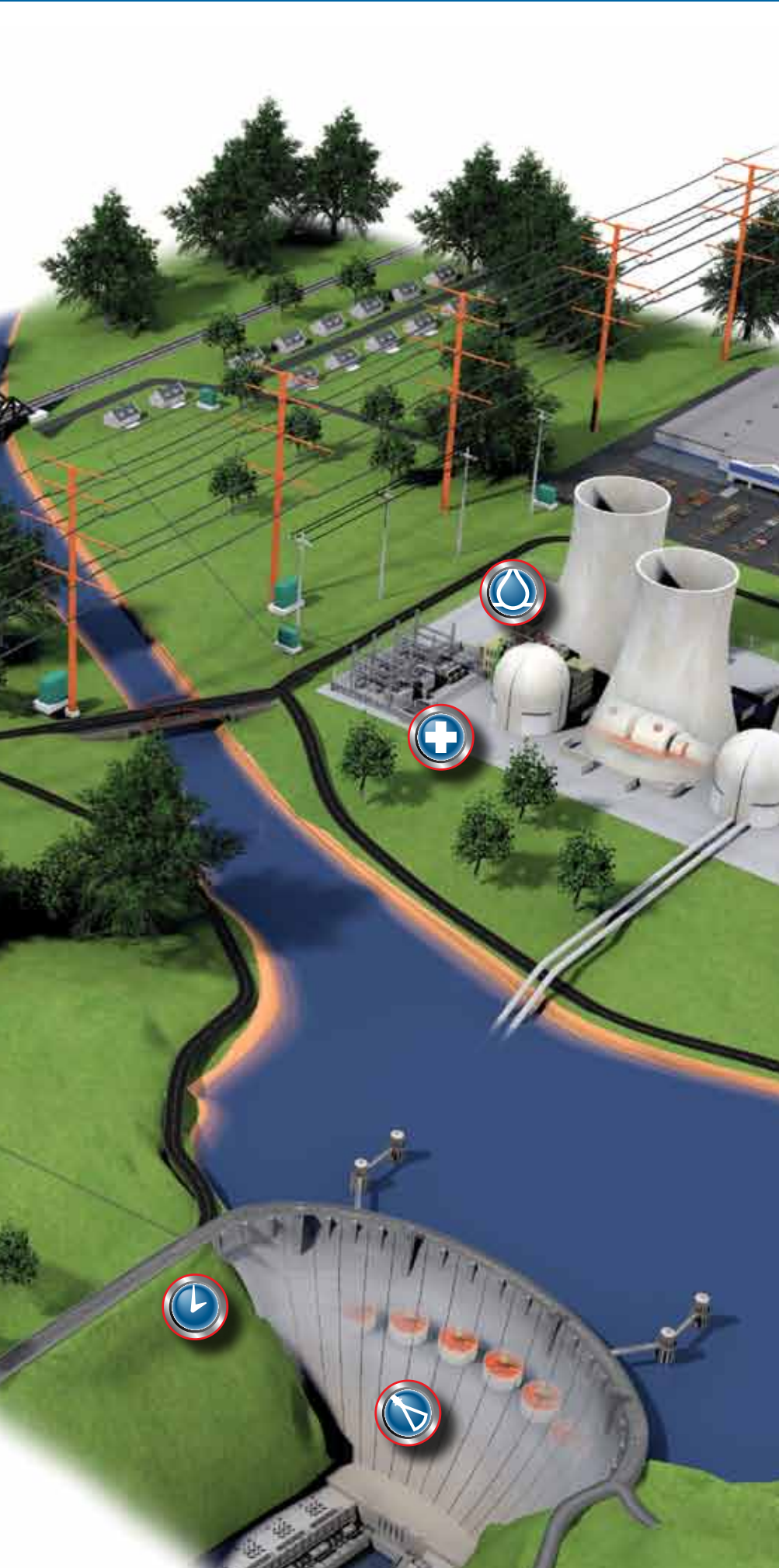
- **Increase product safety and reliability**
- **Improve quality awareness**
- **Ensure power sustainability**
- **Enhance power plant availability**
- **Minimize maintenance and operating cost**
- **Maximize production and site availability**
- **Ensure worker safety**

T&B Engineered solutions for power generation

- **Prime Mover**
 - Fossil Fuels: Coal, Natural Gas, Liquid Petroleum Products
 - Nuclear Steam
 - Hydro-Liquid Turbine
- **Reduction**
 - Electrical
 - Mechanical
- **Power Generation**
- **Distribution to Network**



The power generation industry, which has performed solidly for decades, is undergoing a transformation brought on by government regulations, consumer demand and evolving industry standards. New and emerging technological developments support cleaner and more efficient energy generation and higher availability for plants young and old. Thomas & Betts is leading the way with high-quality, innovative electrical systems and devices that perform optimally with minimal product lifecycle costs. Integrated engineering design solution sets simplify product selection. Fewer, snap-together parts ease installation and maintenance. Training and support services ensure ongoing safe and reliable operation, while warranties instill confidence that our products will perform as required and meet your performance and output demands.



Power Generation Solutions

-  ***Safety***
-  ***Continuous Operation & Sustainability***
-  ***Grounding & Bonding***
-  ***Power Quality, Efficiency & Reliability***
-  ***Corrosion & Harsh Environment Protection***
-  ***Extreme Temperature Protection***
-  ***Total Project Cost Reduction***
-  ***Liquid Ingress Protection***

Health, safety and contamination are key concerns in fossil, nuclear and hydroelectric power generation. Fossil fuel pollution, coal tar leaks, radiation from nuclear plants and dam integrity breaches get immediate attention from industry regulators and the public. However, the more common causal issues such as arc flash, grounding errors and vibratory abrasion must be actively mitigated in order to:

- Avoid electrical shocks and burns
- Prevent explosions and fire
- Protect against sustained vibration
- Avert exposure to toxins
- Avoid fugitive emissions
- Eliminate equipment contamination
- Prevent code violations

These issues are alleviated when quality electrical products are properly selected and installed. Thomas & Betts offers a full suite of electrical solutions that provide active protection against safety and contamination risks. The products include safety labels and lights, cable ties to reduce abrasion and heat-shrink and conduit products to insulate and protect wiring.

Ty-Rap®

UV-Stabilized Cable Ties

- UV resistant
- “The Grip of Steel®” non-magnetic stainless steel locking device
- Versatile nylon 6/6 material
- Wide range of colours available
- Smooth notchless body reduces stress concentration points under tension



Ty-Rap®
UV-Stabilized
Cable Ties



Emergi-Lite®/Lumacell®/Ready-Lite®
Emergency Lighting
Systems



E-Z-CODE®
Safety Labels, Tags,
Signs and Barricade Tapes



Shrink-Kon™
Self-Fusing
Insulation Tape



EMERGI-LITE® / LUMACELL® / READY-LITE®

Emergency Lighting Systems

- NEMA 4X certified for wall or ceiling mount
- High-efficiency MR16 lamps up to 12 V, 12 W or white LED emergency lights
- Come standard with tamper-proof screws

E-Z-CODE®

Safety Labels, Tags, Signs and Barricade Tapes

- Help to ensure personnel and workplace safety
- Highly visible and long-lasting materials
- Barricades and burial marking tapes in a variety of materials and colours
- Custom labels, tags and signs

Shrink-Kon™

Self-Fusing Insulation Tape

- Instant low-cost durable solution for repairs to deteriorated insulation on cables and conductors
- Insulates and seals underground and above-ground bonding installations
- UV-, radiation-, ozone-, steam-, moisture- and saltwater-resistant
- Insulates harnessing, bundling, cabling and wiring in industrial machinery and equipment
- Ideal for motor connections
- Protects against vibration, scratching and moisture



Safety failures at power generation plants bring increased scrutiny and regulations on the industry. What are you doing to stay protected?

Thomas & Betts products for safety

Blackburn®

- E-Z-Ground® Compression Connectors
- Mechanical Grounding Connectors
- Exothermic Welding System
- Compression Lugs and Splices
- Metallic Gradient Control Mat
- Ground Rods
- Ergonomic Compression Tools

Elastimold®

- High-Voltage Separable Connectors
- Solid-Dielectric Switchgear, Switchgear Automation Packages, Molded Vacuum Interrupters and Arresters
- Fuse Break Elbows

Emergi-Lite®

- Emergency Lighting and Exit Signs
- Nexus® Emergency Lighting Management Systems

E-Z-CODE®

- Danger/Warning Labels and Signs, Industrial/Wire Markers, Barricade/Burial Tapes

Fisher Pierce™

- Faulted Circuit Indicators

Hazlux®

- Quick-Pole® Light Fixture Mounting Assembly
- HazFlash® M4 Strobe Lighting Fixture

Hi-Tech™

- Trans-Guard™ Fuses, Molded Current-Limiting Fuses, Molded Canister Fuses

Joslyn Hi-Voltage®

- Capacitor Switches, Air Disconnect Switches and Obstruction Light-Lowering Device

Lumacell®

- Emergency Lighting and Exit Signs
- Nexus® Emergency Lighting Management Systems

Ocal™

- PVC-Coated Conduit Systems

Ready-Lite®

- Emergency Lighting and Exit Signs
- Nexus® Emergency Lighting Management Systems

Red•Dot®

- Code Keeper™ Weatherproof While-in-Use Covers

Russellstoll®

- Max-Gard® Pin-and-Sleeve Connectors and Explosion-Proof Interlocked Receptacles
- GSUL Ground Indicator System

Shrink-Kon™

- Self-Fusing Insulation Tape

Superstrut®

- 316 Stainless Steel, Aluminum, PVC-Coated or Nonmetallic Channel, Hangers and Clamps
- Seismic Bracing Systems

Ty-Rap®

- Coated and Uncoated Stainless Steel, Extra High-Temperature and Flame-Retardant UL94V-0 Nylon Cable Ties
- Ty-Rap Tote™ Cable Tie Dispensers and Ergonomic Installation Tools

Continuous Operation & Sustainability

In power generation utilities, costly downtime and expensive repairs are to be avoided. If power is lost during generation and reactive power is lost, it could shut down grid operations and cause the need to draw power from other sources. To prevent downtime, power generators need electrical solutions that ensure:

- Superior product engineering
- Quality product construction
- Accurate product selection
- Availability on demand
- Proper installation

UPS systems, motor lead disconnects, liquidtight conduit fittings and electrical interconnection systems are just a few of the solutions that Thomas & Betts offers to maximize uptime. Our distributor network makes certain that all product needs are filled in a timely manner. With more than 100 years of serving the power generation industry, you can count on Thomas & Betts products, services and support to prevent outages and ensure sustainable operations.

elastimold

Underground Cable Accessories and Arresters

- Underground cable accessories rated for 5 to 35 kV applications including elbows, joints and accessories
- Underground arresters



Elastimold®
Underground
Cable Accessories
and Arresters



Russellstoll®

Max-Gard® Interconnection System

- Heavy service amp loads
- Ever-Lok® system for durable operations
- Back-up door safety latch

T&B® Fittings

Liquatite™ Flexible Metallic and Nonmetallic Conduit

- Ideal for continuous flexing or vibration applications
- Creates a liquid-, dust- and oil-tight seal
- Suitable for operating temperatures from -20° to 60°C

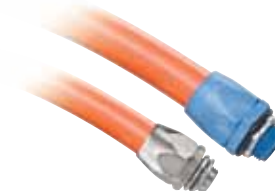
Blackburn®

Motor Lead Disconnects

- Quick, reliable change-out of electric motors with no bolting, taping or loose connections
- Complete line for 600 V – 5 kV applications, and total assembly fits into tight motor housings
- Featuring the Color-Keyed® Compression System that ensures proper connections



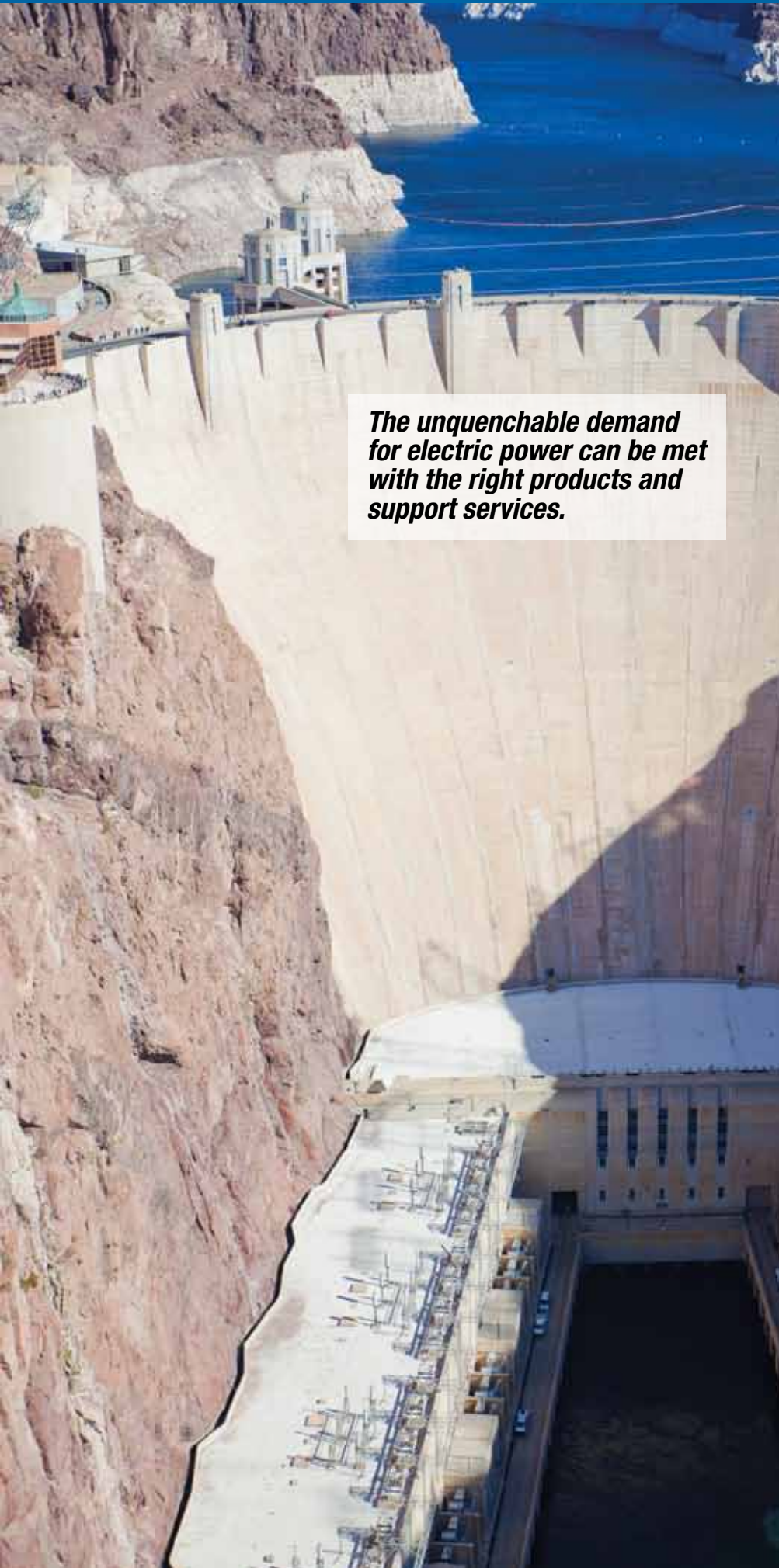
Russellstoll®
Max-Gard®
Interconnection System



T&B® Fittings
Liquatite™
Flexible Conduit



Blackburn®
Motor Lead
Disconnects



The unquenchable demand for electric power can be met with the right products and support services.

Thomas & Betts products for continuous operation & sustainability

Blackburn®

- E-Z-Ground® Compression, Mechanical and Exothermic Grounding Systems
- Compression Lugs and Splices
- KUBE™ Power Connectors and Motor Lead Disconnects
- Ergonomic Compression Tools

Elastimold®

- High-Voltage Separable Connectors
- Solid-Dielectric Switchgear, Switchgear Automation Packages, Molded Vacuum Interrupters and Arresters

Fisher Pierce™

- Faulted Circuit Indicators, and Voltage and Current Sensors

Joslyn Hi-Voltage®

- Capacitor Switches, Reclosers, Air Disconnect Switches and Interrupter Attachments

Ocal™

- PVC-Coated Conduit Systems

Russellstoll®

- GSUL Ground Indicator System
- Max-Gard® Interconnection System

Shrink-Kon™

- Heat-Shrinkable Insulation for Harnesses, Wires or Cables

Sta-Kon®

- Nylon-, Vinyl- and Non-Insulated Wire Terminals
- Corrosion-Resistant, Nickel-Plated Wire Terminals
- Heat-Shrinkable Terminals
- Ergonomic Comfort Crimp™ Tools and Disconnect Installation Tools

Superstrut®

- 316 Stainless Steel, Aluminum, PVC-Coated or Nonmetallic Channel, Hangers and Clamps
- Seismic Bracing Systems

T&B Cable Tray Systems

- Aluminum, Stainless Steel and Fiberglass Support and Wire Management Systems

T&B® Fittings

- Liquefitite™ Flexible Conduit
- Liquidtight Metallic and Nonmetallic Fittings
- Wire-Mesh Strain-Relief Cord and Conduit Grips



Grounding & Bonding

The electronic technologies in power generation utilities are subject to electrical hazards if improperly grounded or bonded. Grounding absorbs current surges, and bonding eliminates the electrical potential. Together, proper grounding and bonding will:

- Ensure personnel safety
- Eliminate lightning interruptions
- Protect critical equipment
- Meet IEEE, UL and CSA obligations
- Provide electrical continuity and reliability

Good electrical connections are required for grounding and bonding. Thomas & Betts offers a wide-ranging selection of products and sizes to accommodate all grounding and bonding applications. The right product selection will minimize the number of conductors and terminations required.

Our durable, code-compliant systems, onsite grounding and bonding training and installation support are designed to ensure the safe and reliable operation of your plant's electrical systems and increase overall equipment effectiveness.

T&B® Fittings

Star Teck Extreme® Bond Star®

- Bond Star® grounding locknut for use in data and control applications
- Innovative design makes installation quicker and easier



Blackburn®

E-Z-Ground® Compression Connectors

- High-conductivity copper and bronze connectors for direct burial

Mechanical Grounding Connectors

- High-strength split-bolt connectors for copper-to-copper connections
- Service post connectors for steel structures, fence posts or transformers using one or two cables
- ViceLock™ connectors for cable tray, channel and strut applications

Exothermic Welding System

- Simple, self-contained system to form high-quality electrical connections

Grounding Components

- Ground Rods
- Metallic Gradient Control Mat
- Electrode Boxes
- Compression Tools and Dies



T&B® Fittings
Star Teck Extreme®
Bond Star®



Blackburn®
Mechanical
Grounding Connectors



Blackburn®
E-Z-Ground®
Compression Connectors



Blackburn®
Exothermic Welding
System



Thomas & Betts products for grounding & bonding

***Do you have the right mechanical,
compression and exothermic products
for your above-ground and direct-burial
grounding applications?***

Blackburn®

- E-Z-Ground® Compression Connectors
- Compression Lugs and Splices
- Mechanical Grounding Connectors
- Exothermic Welding System
- Metallic Gradient Control Mat
- Ground Rods

Boreal™

- High-Quality Flexible Braided Connectors

Elastimold®

- High-Voltage Separable Connectors
and Solid-Dielectric Switchgear

E-Z-CODE®

- Danger/Warning Labels and Signs,
Industrial/Wire Markers, Barricade/Burial Tapes

Fisher Pierce™

- Faulted Circuit Indicators

Russellstoll®

- GSUL Ground Indicator System

Sta-Kon®

- Shield-Kon® Coaxial Grounding Connectors

T&B® Fittings

- Bond Star® Grounding Locknut
- XD Expansion/Deflection Coupling for Rigid Conduit
- Blackjack® Grounding Bushings
- Ranger™ Grounding Rings

Power Quality, Efficiency & Reliability

When a fossil, nuclear or hydroelectric power generator experiences power quality issues such as voltage drops, it puts the plant at risk of equipment damage, blackouts and large financial losses. Thomas & Betts offers solutions that answer the need for power quality, efficiency and reliability. Our products and systems enable maximum uptime and control by:

- Detecting faults and protecting against overcurrent and voltage drops
- Preventing damage due to power quality disturbances
- Eliminating underperformance, minimizing system losses and increasing usable power

Electrical solutions from Thomas & Betts prevent electrical network events, improve customer satisfaction and protect stakeholder ROI.

elastimold™

Distribution Switchgear

- Solid EPDM insulating media makes it maintenance-free and environmentally friendly — no oil, no gas
- Compact and modular designs allow for smaller footprint and field assembly inside tight vaults

JOSLYN

Overhead Switches and Reclosers

- Capacitor switches for distribution and substations
- Reclosers
- Interrupter accessories for disconnect switches



FISHER PIERCE™

Faulted Circuit Indicators

- Adaptive trip reset reduces inventory and eliminates the need to replace devices as the load changes
- Temporary fault detection option to help locate nuisance temporary faults
- Highly visible strobe, LED and fluorescent orange flag indication options — and SCADA ready

Hi-Tech™

Current-Limiting Fuses

- Greatly reduce energy let-through, minimizing the risk of catastrophic failures
- Interrupting capabilities up to 50,000 A
- Address arc flash concerns and generate no external arcing or by-products

HOMAC™

Substation Connectors

- Superior performance under extreme operating conditions



Elastimold®
Distribution Switchgear



Joslyn Hi-Voltage®
Overhead Switches
and Reclosers




Fisher Pierce™
Faulted Circuit
Indicators



Hi-Tech™
Current-Limiting
Fuses



Homac®
Substation Connectors



*Do your electrical products meet your tolerance requirements?
Do you need to improve your power factor?*

Thomas & Betts products for power quality, efficiency & reliability

Blackburn®

- E-Z-Ground® Compression Connectors
- Compression Lugs and Splices
- Exothermic Welding System
- Ground Rods

Elastimold®

- High-Voltage Separable Connectors and Solid-Dielectric Switchgear

Emergi-Lite®

- EMEX™ Central Battery Systems

Fisher Pierce™

- Faulted Circuit Indicators

Hi-Tech™

- Current-Limiting Fuses

Homac®

- Copper Flood-Seal™ Compression Splice Kits
- Substation Connectors

Joslyn Hi-Voltage®

- Capacitor Switches, Air Disconnect Switches and Obstruction Light-Lowering Device

Lumacell®

- ARGES Central Battery Systems

Ready-Lite®

- Central DC Battery Systems

Russellstoll®

- Computer System Plugs, Connectors and Receptacles



Corrosion & Harsh Environment Protection

Power generation facilities are often situated in harsh environments, whether it's the freezing North, hot and humid South or a hydroelectric plant facing the daily onslaught of moisture and humidity. In each case, corrosion and oxidation pose a direct threat to operational safety and reliability. Protecting against harsh and corrosive conditions requires specially designed electrical systems and devices that are able to withstand:

- Excessive moisture and high winds
- Lightning
- Sand, dust and salt spray
- Prolonged sunlight, ice and hail

Several approaches can be taken to protect the electrical infrastructure from the elements. For instance, Thomas & Betts offers products designed with corrosion-resistant stainless steel, heat-shrink insulation to protect exposed wiring and conductors, coatings to provide water resistance and a product portfolio designed to avoid dissimilar metal occurrences. Thomas & Betts' extensive electrical product line is designed, manufactured and tested to meet all NEMA, UL, NEC, IEEE and other specified code requirements.

Ty-Rap®

Cable Ties

- Polypropylene ties engineered for harsh environments, especially for corrosion resistance
- Stainless steel ties for enhanced corrosion protection



Ty-Rap®
Cable Ties



T&B® Fittings
Stainless Steel Liquidtight
Conduit Fittings



T&B® Fittings
BlueKote™
Conduit Bodies



Ocal™
OCAL-BLUE™
PVC-Coated Conduit



T&B® Fittings

Stainless Steel Liquidtight Conduit Fittings

- Quickly seal with low torque
- Quality ground through metallic compression
- Single helical threads for easy installation
- Rolled-over edge for conductor protection

BlueKote™ Conduit Bodies

- Multi-layer protection with epoxy external finish for superior corrosion control
- Tapered NPT threads for integrated bushing
- BlueKote™ internal finish for faster, easier wire pulling

Ocal™

OCAL-BLUE™ PVC-Coated Conduit

- PVC-coated, hot-dipped galvanized conduit and threads 80.1
- Fully complies with UL6, NEMA RN-1 and ANSI C80.1
- Exterior PVC coating provides superior corrosion protection against many harmful elements
- Interior blue polyurethane finish provides corrosion protection around wire, cable or fiber optics



Thomas & Betts products for corrosion & harsh environment protection

Kopex-Ex™

- Stainless Steel Flexible Conduit and Fittings for Hazardous Locations

Ocal™

- PVC-Coated Conduit Systems
- OCAL-BLUE™ NEMA Type 4X Form 8 Conduit Bodies

Red•Dot®

- Code Keeper™ Weatherproof While-in-Use Covers

Russellstoll®

- Max-Gard® Pin-and-Sleeve Connectors and Explosion-Proof Interlocked Receptacles

Shrink-Kon™

- Heat-Shrinkable Insulation for Harnesses, Wires or Cables
- Self-Fusing Insulation Tape

Sta-Kon®

- Corrosion-Resistant, Nickel-Plated Wire Terminals

Superstrut®

- 316 Stainless Steel, Aluminum, PVC-Coated or Nonmetallic Channel, Hangers and Clamps
- Seismic Bracing Systems

T&B Cable Tray Systems

- Aluminum, Stainless Steel and Fiberglass Support and Wire Management Systems

T&B® Fittings

- Liqatite™ Flexible Metallic and Nonmetallic Conduit
- Bullet® Nonmetallic Liquidtight Fittings
- BlueKote™ and Stainless Steel Conduit Bodies
- Stainless Steel Flexible Metallic Conduit Fittings

Ty-Rap®

- Coated and Uncoated Stainless Steel Cable Ties

Uncontrolled corrosion can cause leaks, component failure and potentially hazardous conditions.



Extreme Temperature Protection

Power generation plants that are exposed to extreme temperature conditions need products that can withstand the heat or cold and still perform effectively. Environmental damage can shorten the electrical product lifecycle and prove costly to the plant. Instead, the owner/operator must:

- Prevent premature material aging due to prolonged heat
- Avoid material contraction and expansion due to ground frost
- Protect against physical damage from hail

Extreme high and low temperatures may also affect a product's malleability, making it brittle or weaker than intended. Thomas & Betts offers numerous electrical systems and devices that are designed to withstand and insulate against severe temperatures.

Among the solutions that Thomas & Betts offers are cable ties made of heavy-duty stainless steel and extra high-temperature resistant nylon; insulated terminals with high-temperature ratings; high- and low-temperature fittings; flexible metal conduit; and other products designed specifically to protect against intense heat or cold conditions.



Ty-Rap®

Extra High-Temperature Nylon Cable Ties

- For use in temperatures from -40° to 150°C
- Feature "The Grip of Steel®" stainless steel locking device and offer infinite adjustability



Ty-Rap®
Extra High-Temperature
Nylon Cable Ties



T&B® Fittings
Liquatite™
Type ATX Liquidtight
Flexible Metal Conduit



Sta-Kon®
High-Temperature
Wire Terminals

T&B® Fittings

Liquatite™ Type ATX Liquidtight Flexible Metal Conduit

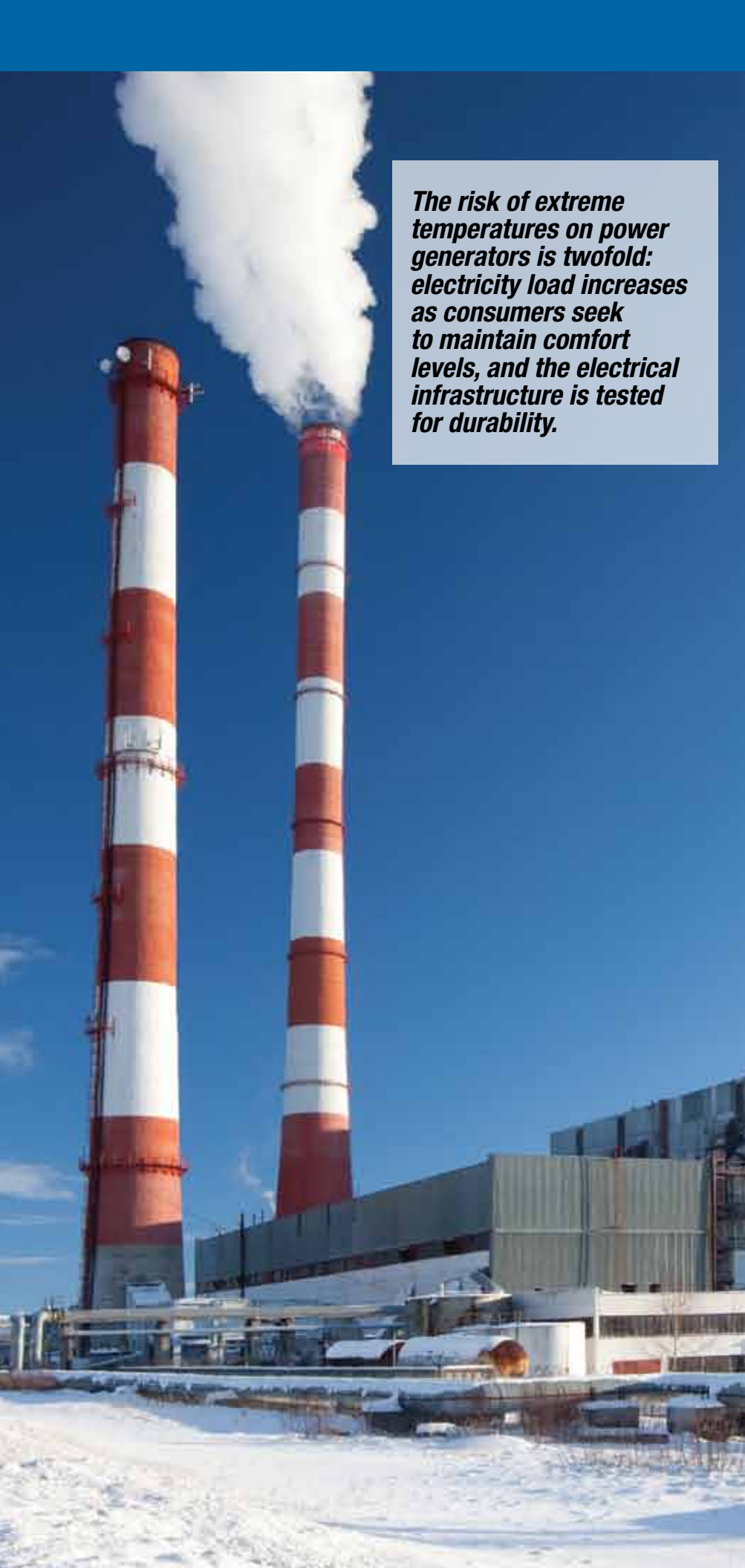
- Construction utilizes the flexibility of a standard cable core
- Engineered with the advantage of a thermoplastic rubber jacket
- Virtually unaffected by temperature extremes
- Contain no halogens
- Flammability rating of UL94-HB

Sta-Kon®

High-Temperature Wire Terminals

- Tefzel® insulated terminations for high temperatures
- Braised and overlapped seams eliminate chances for lost wire strands, poor resistance, wire pullout and electrical failure
- Selective annealing to strengthen materials and reduce installer fatigue
- Anti-rotational tongue prevents shorting by keeping terminal secure within the block

Tefzel is a registered trademark of the DuPont Corporation.



The risk of extreme temperatures on power generators is twofold: electricity load increases as consumers seek to maintain comfort levels, and the electrical infrastructure is tested for durability.

Thomas & Betts products for extreme temperature protection

Kopex-Ex™

- Stainless Steel Flexible Conduit Systems for Hazardous Locations

PMA®

- Nylon Cable Protection Systems

Sta-Kon®

- High-Temperature Wire Joints and Terminals

T&B® Fittings

- Liqueatite™ Type ATX Liquidtight Flexible Metal Conduit

Ty-Rap®

- Coated and Uncoated Stainless Steel, Extra High-Temperature and Flame-Retardant UL94V-0 Nylon Cable Ties
- Ty-Rap Tote™ Cable Tie Dispensers and Ergonomic Installation Tools



Total Project Cost Reduction

Government funding, taxpayer-subsidized loans and other investment sources are essential to getting new power generation projects off the ground. To convince investors of a project's cost effectiveness, developers must control:

- Financing costs
- Construction costs
- Environmental regulations
- Fuel expense

Selecting Tier 1 suppliers increases the probability of winning favorable funding. Thomas & Betts, a Tier 1 supplier that is LEAN and ISO certified, has a proven ability to deliver high-quality, high-performance electrical solutions.

Thomas & Betts develops products that are easy to install and maintain to save on labor costs. Our systems are engineered with fewer parts to reduce product costs. We enable regulatory compliance upfront to prevent rework later. Our ongoing research and product development helps our customers achieve high energy efficiency, which translates into greater electricity production from less fuel consumption. Manufacturing process controls, safety controls, Factory Acceptance Testing (FAT) and prompt product availability further reduce total project costs.

T&B Cable Tray Systems

Helix™ Fitting

The latest evolution in cable tray fittings, the Helix™ fitting assembly was developed specifically for use in confined areas. It allows installers to transition from horizontal to vertical surfaces in less time, using significantly less space.

- Enables installation close to walls and other surfaces, eliminating need for distance
- Provides enhanced cable protection in confined spaces
- Secures cables within fitting for clean, organized cable runs



T&B Cable Tray Systems
Helix™ Fitting



Superstrut®
Cobra®
Cable and Pipe Clamp



Superstrut®

Cobra® Cable and Pipe Clamp

- Can carry up to 450 lb.
- Durable one-piece construction
- Quick one-handed installation
- Attaches EMT and rigid conduit

Trapnut™ Strut Fastener

- Reduces installation time by up to 43% as compared to traditional methods for many mechanical framing assemblies
- Unique scissor action closes at any point on the rod — no need to thread it on from the end

T&B Fittings

Series 35 Conduit Bodies

- Standard tapered NPT
- Seven bodies from which to choose
- Grey iron zinc-plating with aluminum acrylic coating
- Neoprene gaskets included
- Standard compliance UL, Fed. Spec and CSA



Superstrut®
Trapnut™ Strut Fastener



T&B® Fittings
Series 35
Conduit Bodies



According to the Canadian Electricity Association, 60,000 MW of generating capacity will need to be added by 2020 to meet both system demand growth and plant replacement needs.

Thomas & Betts products for total project cost reduction

Blackburn®

- Compression Lugs and Splices
- Motor Lead Disconnects

Elastimold®

- High-Voltage Separable Connectors
- Solid-Dielectric Switchgear, Switchgear Automation Packages, Molded Vacuum Interrupters and Arresters

Sta-Kon®

- Heat-Shrinkable Terminals
- Ergonomic Comfort Crimp™ Tools and Disconnect Installation Tools

Superstrut®

- Framing Channel and Accessories
- Surface Raceway, Lighting Support and Cable Mounting Systems, Trapnut™ Strut Fastener and Cobra® Cable and Pipe Clamp
- 316 Stainless Steel, Aluminum, PVC-Coated or Nonmetallic Channel, Hangers and Clamps
- Seismic Bracing Systems

T&B® Fittings

- Ranger™ Series Liquidtight Cord Fittings
- Blackjack® Grounding Bushings
- Series 35 Conduit Bodies



Liquid Ingress Protection

If dew point, moisture or liquid breaches an electrical product, it poses a serious and potentially compounding threat to power generation operations. Power plants must prevent liquid ingress in order to:

- Ensure electrical safety
- Prevent corrosion
- Avoid system degradation
- Minimize costly downtime

Wiring systems are a prime concern for protection. Proper product selection and installation minimize the amount of condensed moisture and rain water flowing into electrical system enclosures. Waterproof materials, watertight devices, sealing systems and compounds are among the approaches to mitigating liquid ingress concerns.

At Thomas & Betts, we offer moisture protection systems and equipment such as liquid-, moisture- and vapor-tight fittings; waterproof interconnection systems; watertight connectors and insulating covers; and watersafe boxes. We also provide training and support to ensure proper product installation and maximum protection from liquid ingress.



T&B® Fittings

Stainless Steel Liquidtight Conduit Fittings

- Quickly seal with low torque
- Quality ground through metallic compression
- Single helical threads for easy installation
- Rolled-over edge for conductor protection

Liquatite™ Type A Liquidtight Flexible Nonmetallic Conduit

- Ideal for continuous flexing or vibration applications
- Create a liquid-, dust- and oil-tight seal

Russellstoll®

DuraGard® Pin-and-Sleeve Connectors

- CDA 360 solid brass pin-and-sleeve contacts
- Locking bushing nut with external cable clamps
- Housing mechanical support to hold pin-and-sleeve connections
- Meet NEC 210-7 and OSHA standards



Code Keeper™ Weatherproof While-in-Use Covers

- A380 aluminum alloy, zinc and stainless steel
- Die-cast construction
- Convenient mounting lugs
- NEMA 3R rated, UL E-2969 and CSA certified



Red•Dot®
Code Keeper™ Weatherproof
While-in-Use Covers



T&B® Fittings
Stainless Steel Liquidtight
Conduit Fittings



T&B® Fittings
Liquatite™
Type A Liquidtight
Flexible Nonmetallic Conduit



Russellstoll®
DuraGard®
Pin-and-Sleeve Connectors



Thomas & Betts products for liquid ingress protection

Kopex-Ex™

- Stainless Steel Flexible Conduit Systems for Hazardous Locations

Ocal™

- PVC-Coated Conduit Systems
- OCAL-BLUE™ NEMA Type 4X Form 8 Conduit Bodies

Red•Dot®

- Code Keeper™ Weatherproof While-in-Use Covers

Russellstoll®

- DuraGard® Pin-and-Sleeve Connectors

Shrink-Kon™

- Heat-Shrinkable Insulation for Harnesses, Wires or Cables
- Self-Fusing Insulation Tape

Sta-Kon®

- Heat-Shrinkable Terminals
- Ergonomic Comfort Crimp™ Tools and Disconnect Installation Tools

T&B® Fittings

- Liqueatite™ Flexible Conduit
- Liquidtight Metallic and Nonmetallic Fittings
- Stainless Steel Form 8 and BlueKote™ Conduit Bodies
- Ranger™ Series Liquidtight Cord Fittings

Electrical systems that are engineered and assembled to resist moisture will provide safety, performance and uptime benefits for the owner-operator and stakeholders.

High-quality products to address key issues in

Thomas & Betts Brands	Products	Safety
Blackburn®	E-Z-Ground® Compression, Mechanical and Exothermic Grounding Systems	•
	Compression Lugs and Splices	•
	KUBE™ Power Connectors and Motor Lead Disconnects	
	Ergonomic Compression Tools	•
Elastimold®	High-Voltage Separable Connectors	•
	Solid-Dielectric Switchgear, Switchgear Automation Packages, Molded Vacuum Interrupters and Arresters	•
Emergi-Lite®	Emergency Exit Lighting and Central Battery Systems	•
	Nexus® Real-Time Emergency Lighting Monitoring & Control System	•
E-Z-CODE®	Danger/Warning Labels and Signs, Industrial/Wire Markers, Barricade/Burial Tapes	•
Fisher Pierce™	Faulted Circuit Indicators, and Voltage and Current Sensors	
Hazlux®	Quick-Pole® Light Fixture Mounting Assembly	•
Hi-Tech™	Trans-Guard™ Fuses, Molded Current-Limiting Fuses, Molded Canister Fuses	•
Joslyn Hi-Voltage®	Capacitor Switches, Reclosers, Air Disconnect Switches and Interrupter Attachments	
Kopex-Ex™	Stainless Steel Flexible Conduit and Fittings for Hazardous Locations	
Lumacell®	Emergency Exit Lighting and Central Battery Systems	•
	Nexus® Real-Time Emergency Lighting Monitoring & Control System	•
Ocal™	PVC-Coated Conduit Systems and OCAL-BLUE™ NEMA Type 4X Form 8 Conduit Bodies	
	Installation Certification Training	
Ready-Lite®	Emergency Exit Lighting and Central Battery Systems	•
	Nexus® Real-Time Emergency Lighting Monitoring & Control System	•
Red•Dot®	Code Keeper™ Weatherproof While-in-Use Covers	•
Russellstoll®	Max-Gard® Pin-and-Sleeve Connectors and Explosion-Proof Interlocked Receptacles	•
	GSUL Ground Indicator System	•
	Max-Gard® Interconnection System	
	DuraGard® Pin-and-Sleeve Connectors	
Shrink-Kon™	Heat-Shrinkable Insulation for Harnesses, Wires or Cables	
	Self-Fusing Insulation Tape	
Sta-Kon®	Nylon-, Vinyl- and Non-Insulated Wire Terminals	
	High-Temperature Wire Joints and Terminals	
	Corrosion-Resistant, Nickel-Plated Wire Terminals	
	Heat-Shrinkable Terminals, Ergonomic Comfort Crimp™ Tools and Disconnect Installation Tools	
Superstrut®	Shield-Kon® Coaxial Grounding Connectors	
	Framing Channel and Accessories	
	Surface Raceway, Lighting Support and Cable Mounting Systems, Trapnut™ Strut Fastener and Cobra® Cable and Pipe Clamp	
T&B Cable Tray Systems	316 Stainless Steel, Aluminum, PVC-Coated, Nonmetallic Channel, Hangers and Clamps, Seismic Bracing System	•
	Aluminum, Stainless Steel and Fiberglass Support and Wire Management Systems	
	Liquatite™ Flexible Conduit	
	Stainless Steel Form 8 and BlueKote™ Conduit Bodies	
	Liquidtight Metallic and Nonmetallic Fittings	
	Ranger™ Series Liquidtight Cord Fittings	
T&B® Fittings	Blackjack® Grounding Bushings	
	Wire-Mesh Strain-Relief Cord and Conduit Grips	
	Series 35 Conduit Bodies	
Ty-Rap®	Coated and Uncoated Stainless Steel, Extra High-Temperature and Flame-Retardant UL94V-0 Nylon Cable Ties	•
	Ty-Rap Tote™ Cable Tie Dispensers and Ergonomic Installation Tools	•

power generation

Continuous Operation & Sustainability	Grounding & Bonding	Power Quality, Efficiency & Reliability	Corrosion & Harsh Environment Protection	Extreme Temperature Protection	Total Project Cost Reduction	Liquid Ingress Protection
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Thomas & Betts Specification Guide

Thomas & Betts product guide specifications are available as Microsoft Word document at www.tnb.com. They follow the CSI three-part format, using section numbers from Master Format® 2010 Update. This enables their simple and seamless incorporation into any CSI compliant electrical specification. Following are products referenced in this brochure:

- 26 05 19.01** Cord and Cable Fittings
- 26 05 26.01** Compression and Mechanical Grounding Connectors
- 26 05 26.03** Exothermic Welding System
- 26 05 29.11** Modular Metal Framing System – Kindorf®
- 26 05 33.14** Corrosion-Resistant Conduit Systems
- 26 05 33.18** Weatherproof Boxes and Covers
- 26 05 33.24** Liquidtight Conduit Fittings
- 26 05 36** Cable Trays for Electrical Systems
- 26 05 83.12** Wiring Connections: Compression Lugs, Splices and Connectors
- 26 05 84** Wire and Cable Fastening
- 26 27 26.11** Wiring Devices: Metallic Pin-and-Sleeve
- 26 27 26.12** Wiring Devices: Nonmetallic Pin-and-Sleeve
- 26 52 00** Emergency Lighting
- 33 72 11** Utility Substation Capacitor Switches and Controls

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Visit the Thomas & Betts world of electrical product solutions

Visit our web site for more information about Thomas & Betts solutions and our newest products. For a user-friendly catalogue and competitive part number search, application and technical support and other useful information, go to: www.tnb.ca

Industry codes and specifications

All Thomas & Betts products for use in power generation meet or exceed applicable industry specifications or codes detailed in the appropriate Thomas & Betts product literature.



Online CAD library

Thomas & Betts offers free download of two- and three-dimensional CAD models of many of its products in more than 90 native CAD formats at: www.tnb.com/cadlibrary



All information and specifications contained in this catalogue are subject to change due to engineer design, errors and omissions. Illustrations and diagrams within this catalogue may vary from actual products.

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Wire & Cable Management • Cable Protection Systems • Power Connection & Control • Safety Technology

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