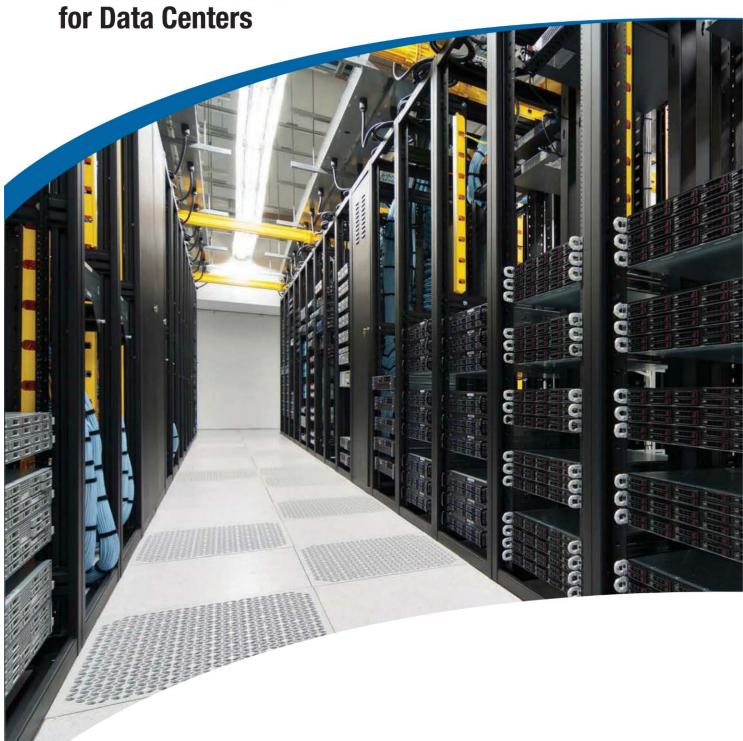
## Electrical Solutions for Data Centers







## Challenge and commitment

Data centers are becoming larger and more vital to everyday life with each smart phone, internet-connected computer or Wi-Fi® device sold. The recent emergence of cloud computing is spurring a boom in real-world construction. Data center operators need to manage a complex infrastructure of power and cooling equipment while providing 24x7 availability of data for commerce, financial transactions, enterprise resources or even streaming video for a night's entertainment. All of this has made the data center industry one of the fastest growing consumers of electrical power, using up to 2% of the U.S. electrical supply and resulting in a global carbonequivalent footprint greater than the entire airline industry.

As a result, greater emphasis has been placed on using all of this power efficiently. One power metric, as defined by The Green Grid®, is Power Usage Effectiveness, or PUE, which is a value to compare total power used divided by the amount of power used for critical loads. The lower the PUE value, the more efficiently power is being used. Some state-of-the-art data centers are reporting PUE levels of 1.2, where only a few years ago, an average PUE value might have been at 2.0 or higher. A PUE value of 2.0 means that for every watt used for critical load, another watt is being used for support systems such as HVAC equipment.

With downtime costs reported as approaching \$350,000 per hour, the need for continuous, quality power is paramount. Given this, how can an owner improve the efficiency of an existing data center? There are several ways to do this. The IT portion of the data center is typically refreshed, or upgraded, every three to five years,

but power systems are part of capital equipment and are on a longer refresh cycle, which makes efficiency gains on the power side more difficult to come by. Some gains can be achieved by converting from perimeter cooling to segregating hot air from cold air (hot aisle/cold aisle containment) with simple mechanical barriers. Some companies make ducting to focus the cold air into the IT rack itself. Immediately, and perhaps easiest of all, you can follow the ASHRAE recommendations and increase the overall temperature in the white space, requiring less cooling regardless of scheme.

For the designer, electrical contractor or owner of a new data center, the issues can be compounded by the urgency of the construction process. A day that the project is delayed is a day of irrecoverable revenue loss. A data center has 15–30 times the electrical density of a commercial building, and the costs of the electrical system may approach 70% of overall project costs. Coupled with the complexity of a dual-source, concurrently redundant power system, this requires project management skills of the highest caliber.

Thomas & Betts understands the drive for efficiency at the data center and can provide products that enable you to build or improve your critical electrical systems while maintaining safety and power quality in a 24x7 environment. Today's data center has evolved into a complex data factory, and it needs a quality, reliable and easily maintained electrical system.

Wi-Fi is a registered trademark of the Wi-Fi Alliance. The Green Grid is a registered trademark of The Green Grid Association.

#### **Data Center Users**









# Valuable solutions for the construction and operation of a data center.

#### **Our Value Commitment**

Electrical installers for data centers must meet demanding project schedules while maintaining quality and safety and improving their profitability.

Thomas & Betts is committed to helping you meet these challenges with electrical solutions, services and systems that deliver value. These include:

**T&B Engineered solutions** — Our products are designed to perform dependably under conditions such as constant moisture, harsh chemicals, extreme temperatures, high-pressure washdown, ultraviolet exposure, hazardous areas, high-vibration equipment and continuous operation.

**Tested reliability** — Our products are rigorously tested for use in harsh 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. Contact us for details.

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**

For more than a century, Thomas & Betts has provided system solutions to help customers design and build safe, reliable, high-quality electrical systems while increasing operational efficiencies and profitability.

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

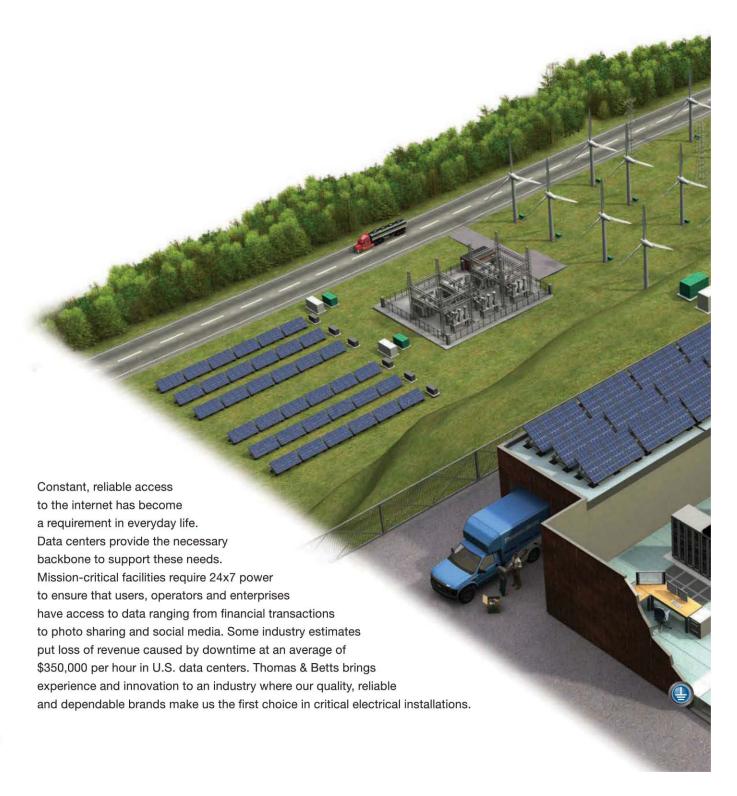
Cable Protection Systems — T&B Cable Protection Systems provide unsurpassed protection for wire and cables in the most demanding applications. They encompass industry-leading flexible conduit systems, PVC-coated conduit and fittings recognized as the standard in oil and gas applications and explosion-proof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

Power Connection and Control — For reliable connection and intelligent control of electrical power, T&B 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. T&B is a worldwide leader in emergency lighting and supporting central battery systems, lighting for hazardous locations, and surge protection. T&B Safety Technology extends the life of your electrical system and protects your employees and assets.



# **T&B Engineered solutions for data centers**





## **Electrical System Issues for Data Centers**

- Continuous Operation & Sustainability
- Power Quality, Efficiency & Reliability
- Safety & Contamination
- Space Savings
- Total Project Cost Reduction
- Grounding & Bonding
- **Services & Training**



## **Continuous Operation & Sustainability**

A data center operator needs to anticipate future requirements. The power system must be flexible enough for future IT loads but robust enough to meet the 24x7 "always-on" demands of today. Thomas & Betts offers electrical solutions to meet today's needs coupled with the durability and energy efficiency required for a sustainable future.



## Steel City

#### **Access Floor Modules**

- Highest-quality BIM models for all in-floor electrical and low-voltage needs
- · Hide wire clutter in a convenient, accessible location
- · Easy to install and move
- Nylon covers reinforced with steel plate prevent buckling under heavy weights
- Five sizes range from extremely shallow to industry's largest

#### Russellstoll<sup>\*</sup>

#### **DuraGard® Pin-and-Sleeve Connectors**

- Complete line of 20–60A (600VAC/250VDC max.) connectors, plugs and receptacles
- UL94V-0 flammability-rated, corrosion-resistant non-metallic housings
- · Waterproof whether mated or unmated

## Blackburn Compression

#### **Connectors for Finely Stranded Cable**

- Connectors and terminals for conductors more finely stranded than Class B and Class C
- Per revised NEC® Section 110.14(1)

#### Sta-Kon<sup>\*</sup>

#### **Crimped Wire Termination Systems**

- Complete line of rings, forks, splices, disconnects, pin terminals and wire ferrules, built with materials for high-performance applications
- Longer, selectively annealed barrel for increased pullout strength and lowered crimping force, with funneled terminal barrel entry for faster installation
- Nylon terminals feature metal insulation grip sleeve for strain relief
- UL® Listed and CSA Certified

## **ABB**

#### **AF Series Contactors**

- Provides continuous reliable operation, even with voltage fluctuation
- · Modular accessories for reduced downtime
- Full range up to 2,050A; NEMA, IEC and horsepower rated









Steel City® Access Floor Modules

Russellstoil® DuraGard® Pin-and-Sleeve Connectors

Blackburn® Compression Connectors for Finely Stranded Cable

Sta-Kon® Crimped Wire Termination Systems

ABB AF Series Contactors





## Power Quality, Efficiency & Reliability

From substation to remote power panels, Thomas & Betts products and solutions enable maximum uptime and control by:

- Detecting faults and protecting against overcurrent and voltage drops
- · Preventing damage due to power quality disturbances
- Eliminating under performance, minimizing system losses and increasing availability

Electrical solutions from Thomas & Betts ensure uptime, improve customer satisfaction and protect stakeholder ROI.



#### Digital Static Transfer Switches - 200-4,000A

- Improves system reliability with 25-cycle transfer between sources
- Improves system serviceability by allowing concurrent maintenance

#### **Power Distribution Systems**

- Systems ranging from 50-500kVA
- · Distributes and protects power to critical loads
- · Energy monitoring

#### **Remote Power Panels**

- · Distributes and protects power to single-phase circuits
- · Monitors power and individual circuits

#### **IR Port Option**

- · Identifies emerging problems to allow scheduled preventive action
- · Improves safety by decreasing possible arc flash occurrences
- Available on all Cyberex® mission-critical products

## Current Technology

#### **Surge Protective Devices**

· Facility-wide installation and equipment level protection



## elastimold

## Distribution Switchgear and Molded Vacuum Interrupters

- Solid EPDM insulating media makes them maintenancefree and environmentally friendly — no oil, no gas
- Compact modular switchgear designs allow for smaller footprint and field assembly inside tight vaults
- Molded vacuum interrupters provide compact, lightweight, submersible protection with predictable tripping for ease of upstream/downstream coordination

#### ABB

#### **ProLine Touch-Safe Panel Boards**

- · Fully coordinated circuit protection with ABB breakers
- · IP20 touch-safe rating

#### **Tmax and Emax Circuit Breakers**

- True RMS-sensing electronic trip units
- 200kAIC fuseless versions available
- · Easily coordinated with Pro M Miniature Circuit Breakers

## Pro M Miniature Circuit Breakers and Surge Protection Devices

- · Current-limiting for optimal protection
- The only branch breaker to fit in the ProLine Panel Board



Cyberex®
Power Distribution
Systems



Current Technology® Surge Protective Devices



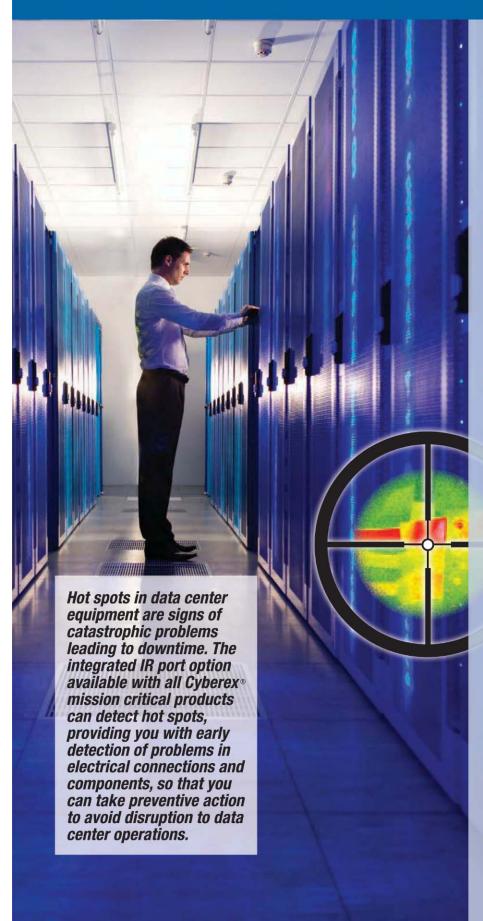
Elastimold® Distribution Switchgear



ABB
ProLine Touch-Safe
Panel Boards



ABB
TMax and EMax
Circuit Breakers



## Thomas & Betts products for power quality, efficiency & reliability

#### ABB

- AF Series Contactors
- ProLine Touch-Safe Panel Boards
- Tmax and Emax Circuit Breakers
- Pro M Miniature Circuit Breakers and Surge Protection Devices
- Terminal Blocks

#### Current Technology®

Surge Protection Devices

#### Cyberex®

- Digital Static Transfer Switches
- Integrated Systems
- Power Distribution Systems
- Remote Power Distribution
- Energy Management

#### Elastimold®

- Solid-Dielectric Switchgear
- Switchgear Automation Packages
- Molded Vacuum Interrupters and Arresters

#### Fisher Pierce®

- Faulted Circuit Indicators
- Voltage and Current Sensors

#### Joslyn Hi-Voltage®

Capacitor Switches



## Safety & Contamination

As with any electrical system, data centers must be equipped to ensure safe operation. You'll find a complete assortment of safety products from Thomas & Betts, including labels and warning signs.

#### EZCODE"

#### Safety Labels, Tags, Signs and Barricade Tapes

- Help to ensure personnel and workplace safety, as well as regulatory compliance
- · Highly visible and long-lasting materials
- · Custom labels, tags and signs available

## Ty-Rap<sup>\*</sup>

#### **High-Performance Cable Ties**

- Hook-and-loop fasteners for bundling low-voltage and fiber optic cabling
- Plenum-rated for use in air-handling spaces above ceilings and under floors
- Weather-resistant for rooftops and other outdoor applications
- UL® Listed for metal-clad cable support in walls
- · Stainless steel for corrosive environments

## Blackburn Compression Sta-Kon Ty-Rap

#### **Ergonomic Application Tooling**

- Consistent installation of lugs, terminals and cable ties
- Save time and increase reliability and profitability with hydraulic and pneumatic tooling
- Reduced handle force and ergonomic design lowers the risk of repetitive motion injuries
- Promotes safety by properly matching the correct tool with the electrical component it's designed to install



## **EMERGI-LITE** / Lightalarms

#### **Emergency Lighting Systems**

- · Energy-efficient, modern-design exit signage
- Nexus® Real-Time Emergency Lighting Monitoring & Control System lowers workload by providing testing and monitoring from any location in the world to meet code requirements
- LEED support

#### **ABB**

#### **ProLine Touch-Safe Panel Boards**

- IP20 touch-safe rating
- · Fully coordinated circuit protection with ABB breakers
- · 400A MLO or Tmax main circuit breaker
- · Integrated neutral and grounding bus



EZCODE® Safety Labels, Tags, Signs and Barricade Tapes



Ty-Rap®
High-Performance
Cable Ties



Blackburn® Compression Sta-Kon® | Ty-Rap® Ergonomic Application Tooling



Emergi-Lite®/ Lightalarms® Exit Signs



ABB
ProLine Touch-Safe
Panel Boards





When it comes to a data center, space is money. The switch from analog to digital components has resulted in more complexity and density in control systems. Thomas & Betts offers products designed to maximize panel real estate, enhance wire and fiber optic cable management and help keep personnel safe.

Our space-saving panel solutions are designed to:

- · Offer space savings of up to 300%
- · Make your panels easier to build and maintain
- · Keep your technicians and operators safer
- Reduce the size and cost of your panel enclosure and wiring

## Blackburn Compression

#### Narrow-Tongue Lugs

- Consistent narrow width from barrel to tongue to fit into tight spaces
- Featuring the Color-Keyed® Installation Tooling System that ensures proper connections

#### KUBE® Flag, Tee and Cross Connectors

- · Space-saving 90°, tee and cross connections
- Use with standard compression lugs and splices and install with standard compression tools

## T&B Fittings

#### **CHASE®** Fittings

- · Compact, low-profile fittings ideal for limited space
- Line encompasses nipples and hubs for rigid conduit, as well as liquidtight conduit fittings and cord connectors

#### Multi-Hole Cord Grips

- Space- and labor-saving metallic or non-metallic cord fittings for panels
- Up to 4-to-1 SKU reduction purchase, stock and install one fitting versus four



#### Pos-E-Kon

#### Rectangular Pin-and-Sleeve Connectors

- Best use of space for multiple contacts in heavy-duty housings
- Rugged, industrial-grade connectors provide universal raceway flexibility
- Easy-lock, cam-action latch eliminates guesswork and speeds installation

## Ty-Rap

#### Cable Ties, Mounting Accessories and Tools

- · Rounded, low-profile head and smooth, molded body
- Available in a variety of high-performance materials to handle harsh and plenum environments
- Complete line of mounting bases, spiral wrap harnessing, abrasion-protection sleeving and installation tools

#### **ABB**

#### SMISSLINE Modular Power Distribution System

- Allows installation of many modular devices in a small footprint
- · Wiring located under devices to save space
- · Universal bus system for DIN-mounted power products



Blackburn® Compression Narrow-Tongue Lugs and KUBE® Flag Connectors



T&B® Fittings CHASE® Fittings and Multi-Hole Cord Grips



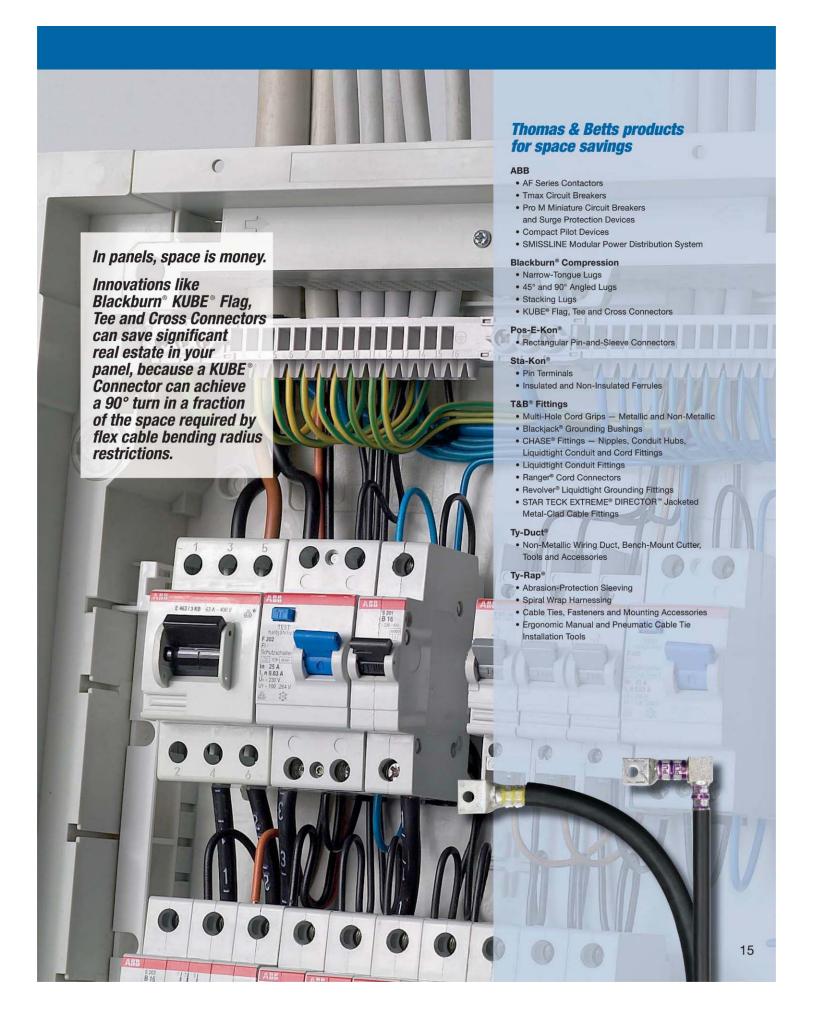
Pos-E-Kon® Rectangular Pin-and-Sleeve Connectors



Ty-Rap®
Cable Ties, Mounting
Accessories and Tools



ABB SMISSLINE Modular Power Distribution System





## Total Project Cost Reduction

Thomas & Bets offers a wide array of electrical products designed to provide data center installers and operators with significant and measurable project cost savings. These include solutions for labor, material and logistics savings, as well as process improvements.



#### Kindorf\*

#### Modular Metal Framing System and Accessories

- Labor Savings Unique punched framing channels and innovative hardware products cut installation time by over 40% over typical mechanical framing systems
- Material and Inventory Savings Unique 1½" design requires fewer fittings, lowering jobsite inventory
- Reduced Waste Integral and easy-to-use measuring system means exact cuts and less scrap
- Sustainable Finish Galv-Krom® trivalent finish offers more than double the corrosion resistance of pre-galvanized product and won't form white rust when stored outdoors

## T&B Cable Tray

#### Cable Support Systems

- Available in steel, stainless steel, aluminum and non-metallic materials
- · Alternating "strut" rungs allow for supported mounting

#### Carlon

#### **ENT (Electrical Non-Metallic Tubing) System**

- To be used within the air-handling spaces beneath raised floors for informational technology equipment as per NEC<sup>®</sup> Sections 300.22(D) and 645.5(E)
- · Material-handling savings with lightweight, flexible coils
- · Installs in half the time of comparable EMT conduit

#### **ABB**

#### **Compact Pilot Devices**

- · Integrated design speeds installation
- · Universal mounting for 22mm and 30mm entrances
- NEMA 4X rated

#### **Terminal Blocks**

- · DIN-rail modular mounting
- · Layered for higher density capacity
- Vibration-resistant IDC technology 80% faster than screw connections

NEC and National Electrical Code are registered trademarks of the National Fire Protection Association, Inc.



Kindorf® Modular Metal Framing System and Accessories



T&B® Cable Tray
Cable Support Systems



Carlon® ENT System Boxes and Tubing



ABB Compact Pilot Devices



ABB
Terminal Blocks





## **Grounding & Bonding**

Grounding and bonding are critical for the safety and operation of any commercial facility, with particular importance in data centers due to the possibility of data corruption. Thomas & Betts provides an extensive range of solutions to fit all grounding and bonding needs, including compression and mechanical products for grounding systems. We also deliver onsite grounding and bonding training along with services to ensure that a data center continues to operate smoothly and safely during installation.

## Blackburn Grounding

#### **Grounding Systems**

- Superior grounding and bonding of electrical systems and equipment
- Compression EZGround™ connectors provide a consistent, irreversible bond
- Mechanical Connectors require no special tools to install

#### Flexible Braids

- · Variety of flexible straps and accessories for grounding
- Extra-flexible links for heavy-duty applications to 3,600A
- · Standard links for medium-duty applications to 2,350A

#### Signal Reference Grid Connectors and Clamps

- · Secures grid grounding to raised floor posts
- · No kinks or bends with lay-in feature
- Range-taking design
- · Quick and easy installation



### T&B Fittings

#### Blackjack® Grounding Bushings

- Dual rated for grounding and bonding of threaded and unthreaded conduit, aluminum and copper wire
- · Speeds installation and improves aesthetics
- UL® Listed and CSA Certified

#### **Bonding Locknuts**

- · Ensure positive bonding of conduit to enclosure
- · Available in steel or aluminum

## Sta-Kon<sup>\*</sup>

#### Shield-Kon® Coaxial Grounding Connectors

- · One- and two-piece coaxial connectors for grounding
- Save time and reduce assembly costs
- Safe monitoring and simple operation
- · Low profile and compact size

#### **ABB**

#### Pro M Residual-Current Circuit Breakers

- UL® 1053 equipment ground fault protection
- Broad trip-current range of 10–500mA for equipment protection flexibility



Blackburn® Grounding Grounding Systems and Flexible Braids



Blackburn® Signal Reference Grid Connector



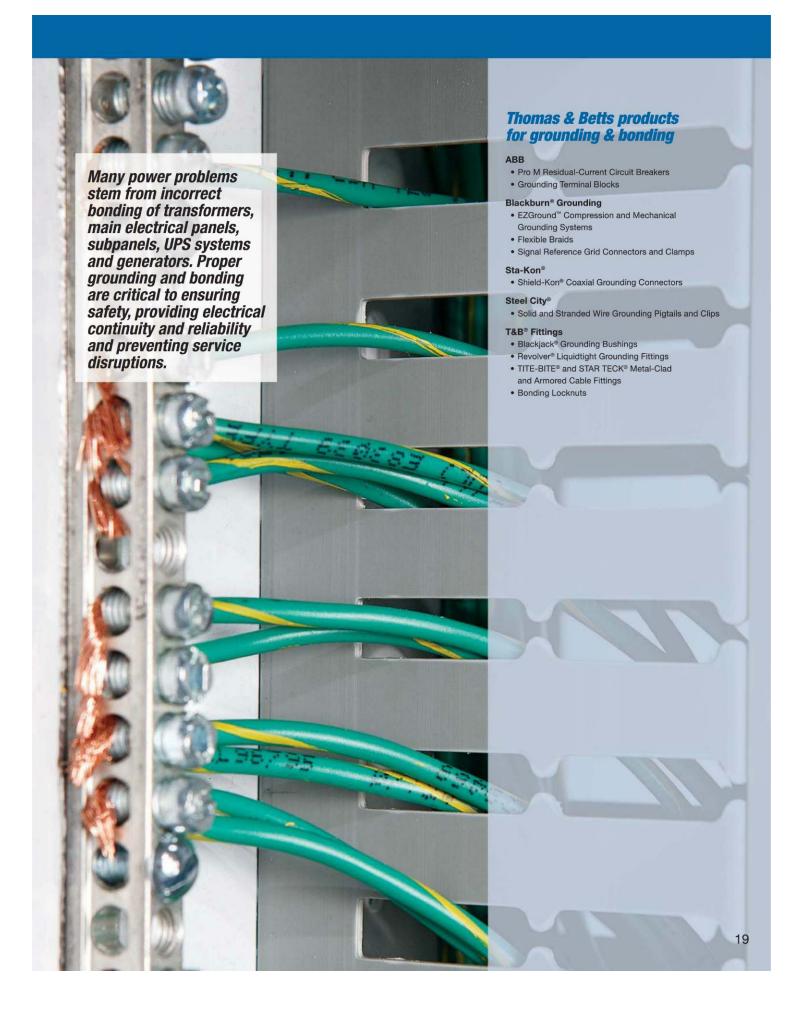
T&B® Fittings Blackjack® Grounding Bushings



Sta-Kon® Shield-Kon® Coaxial Grounding Connectors



ABB
Pro M Residual-Current
Circuit Breakers





## **Services & Training**

Thomas & Betts provides services and training in the field or classroom to help you maximize efficiency and eliminate wasted time and materials.



- Data center services, including professional and standardized service options, preventive maintenance, break/fix and emergency response programs
- Annual preventive maintenance plans provide comprehensive inspection to ensure equipment is operating at maximum performance
- Start-up support provides basic system evaluation, operational testing and user orientation
- · Repair and emergency service visits
- · Spare parts kits
- · 24/7 telephone support
- 24-, 8- or 4-hour onsite response times
- Factory-trained representative available 24 hours per day, 365 days per year



- Thermographic sensing
- · Power quality survey
- Site coordination
- · Pre-installation consultation
- Commission support
- · Battery analysis and refresh
- · BCM retrofit services
- Load bank test
- · Breaker coordination studies
- · Arc flash studies
- · Multi-vendor UPS services
- · Multi-vendor emergency lighting service
- Multi-vendor HVAC/CRAC service



Cyberex® Global Data Center Services



Thomas & Betts
Tool Rental Programs



Thomas & Betts Mobile Solutions Team



## Blackburn Compression Blackburn Mechanical Blackburn Grounding

- The QTP program provides a guaranteed two-week shipment of select products
- Product Configurator enables online design of custom connectors
- Product specification specialists are available nationwide to train in the proper use and installation of Blackburn products
- Inside Tech Support group provides 24/7/365 expertise for Blackburn products
- · Full tool service as well as loaner and tool rental programs

#### ABB

- · Warranty extension for breakers and switches
- · Preventive, predictive and corrective maintenance
- · Field retrofit services

## Additional Services & Training

- Free online CAD Library for downloadable 2D and 3D models in more than 90 native CAD file formats
- NEC® Update Training provides an overview of the latest changes to the National Electrical Code®
- Grounding & Bonding Training covers design, layout and connections



Thomas & Betts Onsite NEC® Update Training



ABB Site Services



## High-quality products to address key issues in

Thomas & Betts Brands	Products	Continuous Operation & Sustainability		
ABB	ProLine Touch-Safe Panel Boards			
	AF Series Contactors and Tmax and Emax Circuit Breakers	•		
	Pro M Miniature Circuit Breakers and Surge Protection Devices			
	Arc Guard Arc Flash Mitigation System, Arc-Resistant Low Voltage Switchgear and Motor Control Centers			
	Jokab Safety Relays, PLCs, Sensors, Switches, Rope Pulls and E-Stops			
	Jokab Safety Light Curtains and Quick Guard Safety Fencing			
	SMISSLINE Modular Power Distribution System and Compact Pilot Devices			
	Terminal Blocks			
Blackburn® Compression/ Blackburn® Grounding/ Blackburn® Mechanical	EZGround™ Compression and Mechanical Grounding Systems, Compression Connectors and Tools			
	Flexible Braids and Signal Reference Grid Connectors and Clamps			
	Connectors for Finely Stranded Cable			
	Narrow-Tongue Lugs, 45° and 90° Angled Lugs, Stacking Lugs and KUBE® Flag Tee and Cross Connectors			
Carlon®	ENT System	•		
	Non-Metallic Enclosures			
Current Technology®	Surge Protection Devices			
Cyberex®	Digital Static Transfer Switches, integrated, Power Distribution and Remote Power Distribution Systems	The same		
Elastimold®	Solid-Dielectric Switchgear, Switchgear Automation Fackages, Volded Vacuum Interrupters and Arresters			
Emergi-Lite®/ Lightalarms®	Emergency Lighting and Central Battery Systems			
	Nexus® Real-Time Emergency Lighting Monitoring and Control System			
EZCODE®	Safety Labels, Tags, Signs and Barricade Tapes			
Fisher Pierce®	Faulted Circuit Indicators and Voltage and Current Sensors			
JT Packard®	Electrica Power and Data System installation, inspection and Maintenance			
Joslyn Hi-Voltage®	Capacitor Sw tches			
Kindorf®	Modular Metal Framing System and Accessories			
Pos-E-Kon®	Rectangular Pin-and-Sleeve Connectors			
Red•Dot®	Code Keeper® Weatherproof While-:r-Jse Covers			
Russellstoll®	DuraGard® Pin-and-Sleeve Connectors			
Sta-Kon®	Crimped Wire Termination Systems	•		
	Shield-Kon® Coaxial Grounding Conrectors			
	Automated, Hydraulic, Battery-Powered and Manual Application Tools			
	Pin Terminals and Insulated and Non-Insulated Ferrules			
Steel City®	Access Floor Modules			
	Solid and Stranded Wire Grounding Pigtails and Clips			
T&B® Cable Tray	Cable Support Systems			
T&B® Fittings	Blackjack® Grounding Bushings			
	Revolver® Liquidtight Grounding Fittings and Bonding Locknuts			
	TITE-BITE® and STAR TECK® Metal-Clad and Armored Cable Fittings			
	Multi-Hole Cord Grips, CHASE® Fittings, Liquidtight Conduit Fittings and Ranger® Cord Connectors			
Tv-Duct®	30 Majori sp. company (res. 2) 37 No. 30 No.			
Ty-Duct	Ty-Duct® Non-Metallic Wiring Duct, Bench-Mount Cutter, Tools and Accessories  High Performance Cable Ties and Accessories Ty Pan Tota® Cable Tie Dispenser and Installation Tools			
Ty-Rap®	High-Performance Cable Ties and Accessories, Ty-Rap Tote® Cable Tie Dispenser and Installation Tools  Abrasion-Protection Sleeving and Spiral Wrap Harnessing			

## data centers

Power Quality, Efficiency & Reliability	Safety & Contamination	Space Savings	Total Project Cost Reduction	Grounding & Bonding	Services & Training
•	•	1	XXX.		
• 4430		- V	11/000		
			PX.	•	
		J. 18	RESERVE		
			-800		
		110			
			NX.		
-		THE REAL PROPERTY.			•
			SY	•	
		Valenti I			
		•	Day Jan Barrier		
			• 200		
			16	1	34.
				- 1	
		2	120	( ) 可一面	DATE
N. No.	• \	~			
•		AL DE	- Not		1000
•					1
					of the same
	•				6 11
LAIR		100		100	
		A Decision		A Part	101
LIP.				1 .	0
		200			
	- 10	KX	- C-		0/10
- 1	2 1 41		100		196
	10.60		6 4 1 2		7/100
		•		L. U.	1000
			7 100		
	W/ 12/19/19	•			

#### Thomas & Betts Specification Guide

Thomas & Betts product guide specifications are available as Microsoft Word documents 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 26.01 Grounding Connectors

26 05 29.11 Modular Metal Framing System
— Kindorf®

26 05 33.03 Electrical Non-Metallic

Tubing (ENT)
26 05 33.18 Weatherproof Boxes

and Covers

26 05 33.55 Rigid Conduit Fittings

26 05 53 Identification Products

26 05 83.11 Solderless Crimp Connectors

26 05 83.14 Compression Connectors

26 27 26.12 Wiring Devices:

Non-Metallic Pin & Sleeve

26 27 26.14 Floor Boxes

26 52 00 Emergency Lighting

26 53 00 Exit Signs

26 05 84 Wire and Cable Fastening

MasterFormat is a registered trademark of The Construction Specifications Institute, Inc.





## Visit the T&B world of electrical product solutions

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

#### **Industry codes and specifications**

Thomas & Betts products for use in data centers meet or exceed applicable industry specifications or codes, which are detailed in the appropriate T&B product literature.









#### **Online CAD library**

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

#### American Recovery and Reinvestment Act (ARRA)



Get certification letters for compliant products online at:

www.tnb.com/ARRA

#### **Thomas & Betts Corporation**

8155 T&B Boulevard Memphis, TN 38125 901.252.8000

www.tnb.com

#### **United States**

Thomas & Betts Corporation Electrical Division Headquarters 8155 T&B Boulevard Memphis, TN 38125 Phone: 901.252.8000 Fax: 901.252.1354 Technical Services: 888.862.3289 Customer Service: 1.800.816.7809

Email: elec\_custserv@tnb.com

#### Canada

Thomas & Betts Ltd 700 Avenue Thomas St.-Jean-sur-Richelieu Quebec J2X 2M9 Phone: 450.347.5318

Fax: 450.347.1976

#### **Latin America**

Mexico: 01-800-TNB-HELP Central America & Caribbean: +52.81.8329.7707 South America: +52.81.8329.7643

Email: servicioalcliente@tnb.com

#### Europe/Africa

T&B European Centre 200 Chaussée de Waterloo B-1640 Rhode-St-Genèse Belgium

Phone: +32.235.98200

Email: europe\_inquiry@tnb.com

#### **Middle East**

Thomas & Betts Ltd PO Box 54567 Office 107 5EA East Wing Dubai Airport Free Zone

Dubai

United Arab Emirates Phone: +9714.609.1635 Fax: +9714.609.1636

Email: me\_ex\_enquiry@tnb.com

#### **Asia Pacific**

Thomas & Betts Asia Pte Ltd 10 Ang Mo Kio Street 65 #06-07 Techpoint Singapore 569059 Phone: +65.6720.8828 Fax: +65.6720.8780 Email: asia\_inquiry@tnb.com

