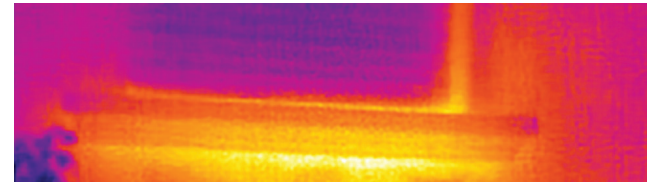


Techtric Engineering, a division of Mann Energy Solutions

Your connection to quality electrical and electronic services and solutions



INFRARED PREVENTATIVE MAINTENANCE

Techtric Engineering uses Infrared Thermography to perform preventative maintenance inspections on electrical equipment by using a heat signature to:

Identify faults

- Deterioration and degradation
- Loose connections
- Overloaded or imbalanced circuits
- Faulty breakers
- Damaged switches
- Faulty fuses

Check regularly types of electrical distribution equipment

- Utility substations, transformers and feed poles
- Main incoming services and capacitor banks
- Main switchboards and disconnects
- Main distribution panels and disconnects
- Uninterruptible power supplies
- Generator controls and transfer switches
- Lighting and power panels
- Machine control panels
- Isolating switches for motors

All of our customers who are on a regularly planned infrared inspection experience such benefits as:

- Reduced maintenance cost and increased revenue
- Reduced downtime
- More efficient inspections
- Lowered insurance rates

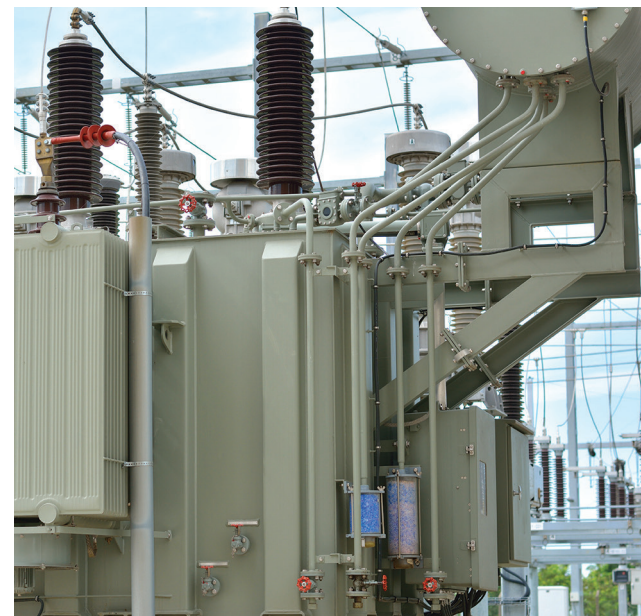
SUBSTATION MAINTENANCE

Regular substation maintenance can limit exposure to the risk of significant plant downtime by preventing or identifying potential issues before problems occur. Reliability can only be established by apparatus testing under actual or simulated operating conditions.

Our skilled and experienced high voltage electricians will carry out your substation maintenance with the minimum disruption to your daily operations. We will perform the work during weekends holiday shutdowns or "off shifts."

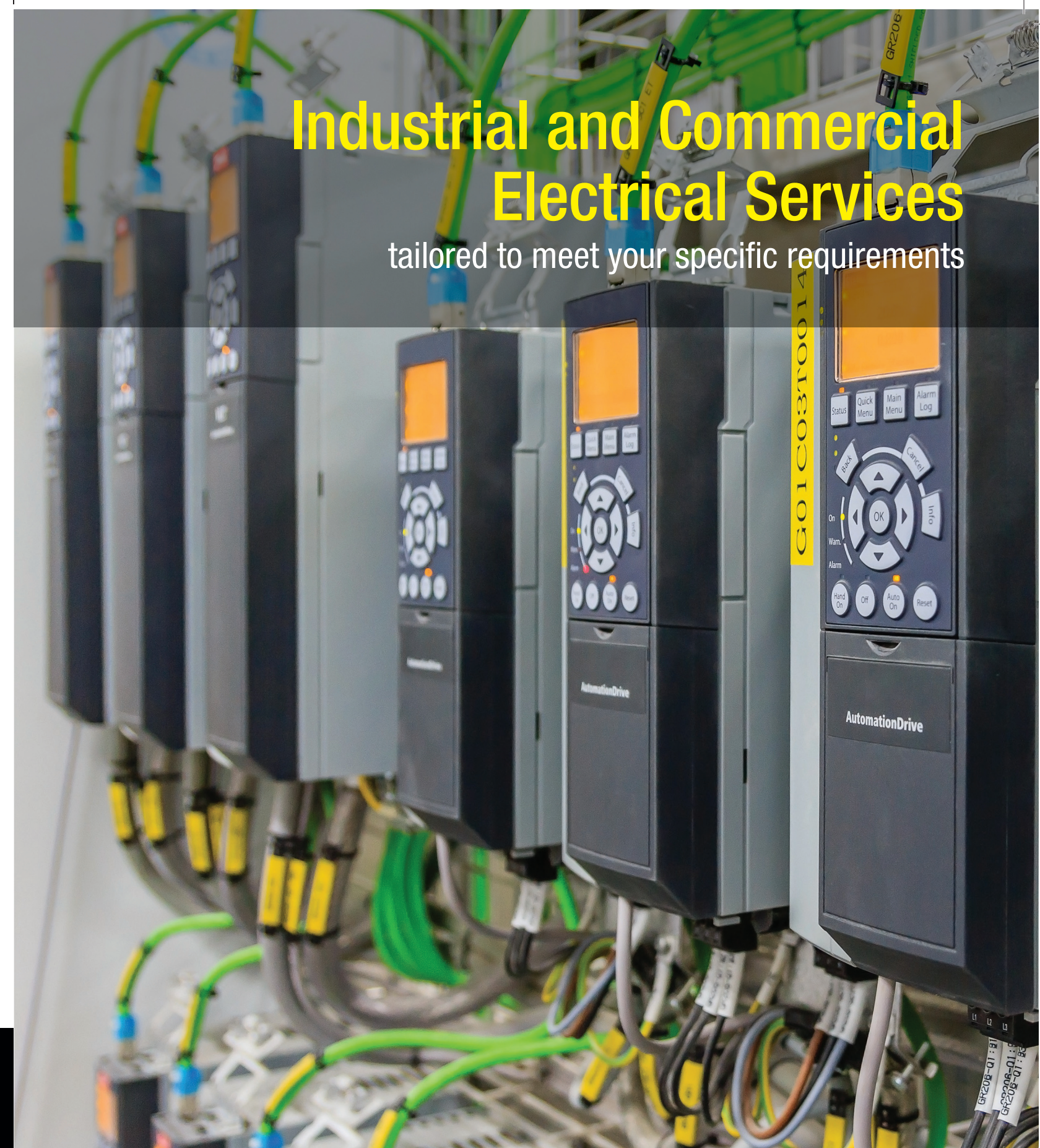
We will provide you with written reports outlining the current condition and performance of your equipment. We will also recommend areas where improvements or additional repairs/maintenance should be carried out.

For more information, or to obtain a free no obligation quote, fill out the online form at techtric.ca/contactus or contact our office at 905-597-5855.



Industrial and Commercial Electrical Services

tailored to meet your specific requirements



For more information or a complimentary assessment contact us.

150 Bridgeland Avenue
Suite 101
Toronto, Ontario, Canada, M6A 1Z5
Phone 905-597-5855
Fax 416-201-8050

Email service@techtric.ca
Web techtric.ca

ECRA/ESA License # 7011830

techtric.ca



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YOUR CONNECTION TO QUALITY SERVICE AND SOLUTIONS AT COST EFFECTIVE PRICING

Techtric Engineering was formed in 1983 and has developed a reputation for providing quality engineering consulting service and solutions at cost effective pricing.

Throughout our 35 year history, we have established ourselves as one of southern Ontario's premier electrical engineering firm with in-house construction and maintenance service in the industrial and commercial sectors.

We are focused on matching or exceeding our new and existing customers' health and safety expectations while ensuring that Techtric Engineering set the standard for use of personal protective equipment and safe working practices.

Whatever the size of the job, our qualified, experienced and professional team are here to provide the solutions and the support that you need 24 hours a day, 7 days a week, 365 days a year.

ELECTRICAL SERVICES

Techtric Engineering offers a complete range of services relating to electrical and electronic equipment.

We provide permanent "in house" support along with "as required" assistance for a large number of "Blue Chip" companies within the Toronto and G.T.A. areas for:

- 24/7/365 emergency response
- Short term contracts to cover your temporary requirements for electrical support
- Annual planned maintenance contracts at preferred rates

By working closely with you, we custom design our services to suit your specific requirements covering areas such as:

Design and Manufacture

Working closely with your engineering team, Techtric Engineering can use our vast experience and resources to custom design and manufacture electrical distribution and electronic control systems for industrial applications.

Supply and Installation

Our team has a proven track record in the supply and installation of:

- Electrical distribution systems
- Motor control centers
- Switch gears
- Production and process equipment
- Packaging equipment
- Buss ducts
- Generators and U.P.S. Systems
- Panel boards
- Substations and transformers
- Heat tracing and insulation
- Lighting system retrofits and upgrades
- Carbon monoxide(CO) system
- Renewable energy projects including solar PV
- Controls including PLC
- Low voltage and high voltage wiring for various systems
- Maintenance and repair

With Techtric Engineering taking care of trouble shooting, maintenance and repair of your electrical and electronic equipment, you are free to focus on the core aspects of running your business.

ENGINEERING SERVICES

- Arc flash evaluation and power study
- Coordination study and short circuit analysis
- Grounding systems design and analysis
- Power distribution and substation system design
- Power quality monitoring and analysis
- Substation maintenance and infra-red inspection
- Automation control panels design and programming
- Electrical load analysis and test
- AC/DC drive systems design and development
- Ground fault safety and hazard monitoring
- Soil resistivity and ground resistance testing
- Industrial equipment safety and compliance certification



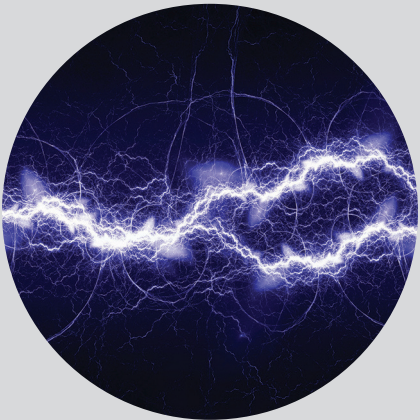
FOOD PROCESSING EQUIPMENT INSTALLATION AND ELECTRICAL MAINTENANCE

With over 30 years of experience, Techtric is a leader in the field of Food Processing Equipment Installation, P.L.C. applications and Preventative Maintenance covering:

- Bakery equipment • Canning equipment • Cartoners
- Case packers/sealers • Centrifuges • Check weighers
- Chillers/refrigeration • Coders • Compressors • Conveyors
- Cutters • Dough mixers • Dryers • Evaporators • Extruders
- Feeders • Fillers • Mixing systems • Oven lines
- Pumps • Sealers • Sterilizers • Wrappers

Our skilled and experienced electrical engineers can also provide assistance with plant layouts ensuring optimum functionality and efficiency.

CSA Z462 CSA Z462 – ARE YOU COMPLIANT?



The Issue around arc flash

- 30,000 electrical shock accidents occur each year.*
- More than 2,000 people per year are admitted to burn centers with severe arc flash burns.**
- 64 occupational related electrical deaths occurred in Ontario between 1999 and 2008.**
- In the same ten year period, 246 workers sustained critical injuries of an electrical nature.**

The Solution – CSA Z462

To address this issue, The Canadian Standards Association has introduced CSA Z462.

Canadian legislation has now made it mandatory for all facilities with three-phase electrical power to properly identify and protect workers against risks associated with shock hazard and arc flash.

Techtric Engineering specializes in helping you to comply with this new legislation by conducting arc flash hazard analysis along with arc flash mitigation. Visit our website techtric.ca/arcflash and follow the link to our PowerPoint presentation.

* Source – Electrical Safety Authority. ** Source – 2008 Ontario Electrical Safety Report.



TECHTRIC ENGINEERING
35TH YEAR • 1983-2018
TORONTO, ONTARIO