

ThermTROLTM

CORPORATION



Your Wire Harness and Electro-Mechanical Assembly Partner
www.thermtrol.com • www.thermtrolmgiglobal.com

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Founded in 1985 in North Canton, Ohio by Mark and Wendy Jeffries, Thermtrol has grown from a small home-based business into a progressive, efficient global entity with customers around the globe. Today, we offer a variety of products for a multitude of industrial applications including industrial equipment, automotive, agriculture, HVAC, communications, and more.

With humble beginnings as Light Time Delay Sales, we offered a single product – the TD-7, a garage door light time delay relay. In just few short years, the company reorganized as Thermtrol after engineering a successful line of probe thermostat switches for pressure washer and related industrial equipment manufacturers. In 1990, Thermtrol was recognized as a key value-added partner to Texas Instruments Sensors & Controls Division (now Sensata Technologies)

for our demonstrated pattern of superior customer service, product quality, and pragmatic “can do” attitude.

Following continued alliances and value-added partnerships with many firms in the thermal overload industry, Thermtrol made its first major acquisition in 1996 with the purchase of Mighty Mite Controls of Akron, Ohio. Mighty Mite Controls, a vanguard in the development of bimetal thermostats for the appliance market with origins dating back to the 1950s, helped propel Thermtrol into an innovative products company. In 1997, we successfully released the SH7AM series self-hold protector, a device that has become the standard in many motor and appliance protective applications.

In 2002, Thermtrol pioneered into the global market by opening its first international sales branch office in Hong Kong. This move followed the increase in demand for Thermtrol products, most notably in Asia. At the same time, Thermtrol launched its first wholly owned manufacturing subsidiary, Thermtrol VSIP Co. Ltd., on the outskirts of Ho Chi Minh City, Vietnam, to take advantage of the solid Asian manufacturing environment and established local sourcing with related electrical component assembly including wiring harness assembly.



Most recently, Thermtrol continued to its successful plan of adding businesses and product lines with the acquisition of MGI Manufacturing in Cary, Illinois, renamed as Thermtrol MGI Global to reflect the global capabilities of the entire Thermtrol family. This acquisition brings specialty engineering and plastic molding expertise in manufacturing wire harnesses for the automotive and related industries.

In the future, Thermtrol will continue to grow at a pace that ensures our commitment to success by filling our customers' unique needs while reducing their total cost. Thermtrol strives to be not only your partner in Thermtrol Protection and Wire Assembly, but also Your Partner for the Future.

Terms and Conditions

Samples:

Samples for engineering purposes may be ordered from our sales department or by placing a sample order via Thermtrol's web site at www.thermtrol.com. Samples generally ship within 24 hours; however, some custom products may require more time.

Pricing:

Written quotations outlining release quantities, terms, and pricing are issued upon request and are valid for 30 Days. Thermtrol reserves the right to revise pricing at any time prior to accepting an order.

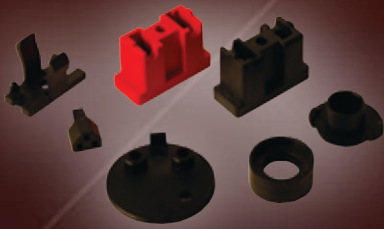
Ordering:

Thermtrol requires written confirmation of purchase orders via fax, mail, or e-mail.

Disclaimer:

Since Thermtrol does not possess full access to data concerning customers' products and uses, Thermtrol assumes responsibility neither for customer product design nor for any patent or rights infringement resulting from Thermtrol assistance.

Wire Harness and Molding Capabilities



Miniature Injection
Molded Parts



Over Molding Tubing



Over Molding
Wire Harnesses



Custom Over Molding



Over Molding
Housings



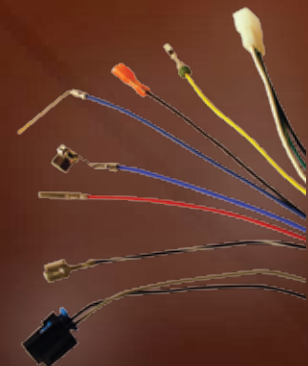
Over Molding
Strain Reliefs



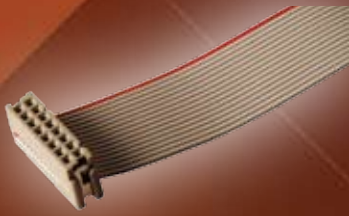
Insert and Injection
Molded Assemblies



Multi-conductor
Harness Assemblies



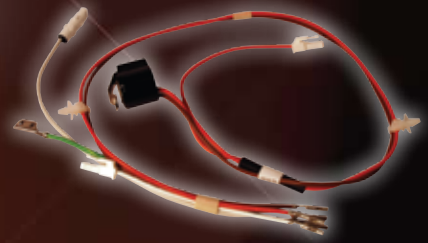
Simple Single Lead
Terminations



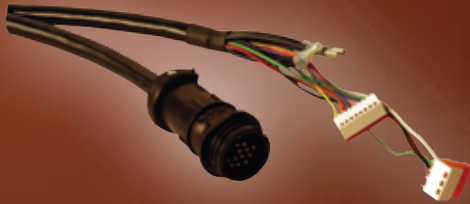
Ribbon Cable
Assemblies



MS/Water Proof
Terminations



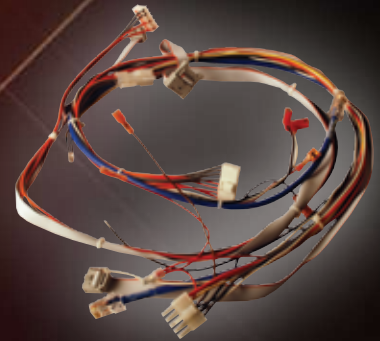
Sensor and
Control Harnesses



Combination Crimp and IDC
Connector Harnesses



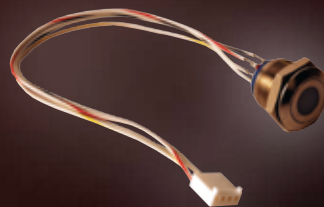
Complex Multi-connector
Large Equipment and
Vehicle Harnesses



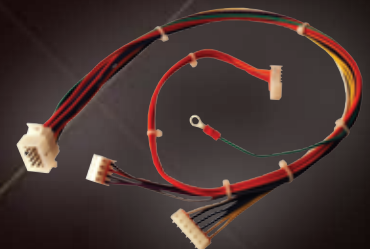
Data and Signal Harnesses



Ultrasonic
Welding Capabilities



Component
Integration Harnesses



Appliance Harness,
RAST and Crimp
Connections

CAPABILITIES

Order Size:

- Short run specialty production
- High volume commercial automotive

Complexity:

- Simple wire leads
- Multiple circuit harness

Range of Wiring:

- 30 gauge wiring
- Substantial load cables

Overmolding:

- Wires and simple grommets
- Complex large volume stampings

Control Panels:

- One or two circuits
- Dozens of relays, wires, controls

Customer size:

- Small firms that dominate their industrial niche
- Teir-1 auto manufacturers

INDUSTRIES SERVED

- Automotive (TS16949:2002)
- Agriculture
- Commercial vehicles
- Diesel engines
- Sensors
- Controls
- Specialty lighting
- Pumps
- Motors
- HVAC
- Food processing equipment
- Medical
- Industrial equipment
- Communications
- Defense
- Marine
- Appliance

Thermtrol MGI Global: Custom Wire Harness and Insert/Overmolding

Thermtrol MGI Global, a wholly owned subsidiary of Thermtrol, is the expert in custom wire harness and plastic injection insert/overmolding. With ISO TS16949 certification, which ensures unfailing accuracy and dependable performance, MGI ranks in the top 2% of USA manufacturers. With customers in commercial vehicle manufacturing, automotive supply, industrial equipment, agricultural equipment and sensors and controls, MGI can provide your company with:

- Flexible manufacturing facilities with the ability to handle both high production programs and short run orders
- Quick turn-around time on our USA-based short run lines to fulfill prototype, samples to support program development and production launches regardless of which facility full production will be manufactured
- Assistance in selecting the right Thermtrol facility – MGI, in Cary, IL or Thermtrol VSIP Co. Ltd. in HCMC, Vietnam – for the most economical price
- Engineering support through all phases of design and engineering

Engineering Assistance

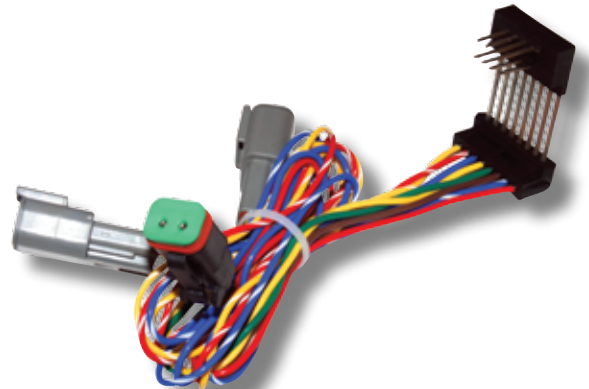
MGI supports all phases of design and engineering of new wire harnesses and over molded products. This includes the three major steps in development:

Step 1: Conceptual configuration to determine the relative dimensions needed.

Step 2: Pre-production design proof of the proper form to be used in manufacturing.

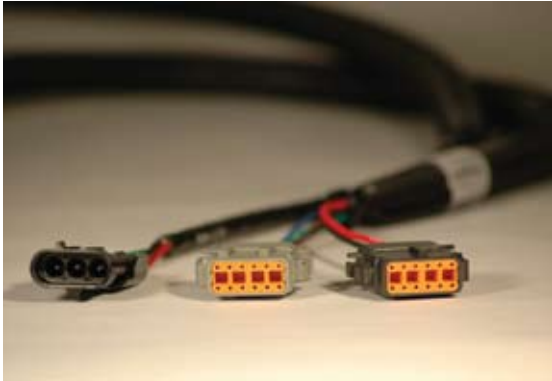
Step 3: Manufacturing and pre-production test-runs to support testing and prove manufacturing process prior to full-scale production.

In addition, we offer timely and cost-effective evaluation of your existing or planned custom wire harness assembly and overmolding needs. MGI customers rely on our engineering assistance to redesign components and help them maximize product reliability, simplify installation and streamline their supply chain.



Specialties

Insert & Overmolding



Thermtrol MGI Global, a leading producer of wire harness and over molded products, has the broad capabilities to mold virtually anything our customers' require:

- Wire & terminal overmolding
- Insert & stamping overmolding
- Connectors over terminals
- Grommets
- General plastic injection molding

Thermtrol MGI Global's ability to meet precise thickness and tolerance standards required of the automotive, sensor, agriculture, defense and other industries, coupled with our exacting quality and superior delivery, ensures our customers the peace of mind to meet their production schedules on time.

Electromechanical & General Assembly

Thermtrol MGI Global is a premier provider of electro-mechanical assembly services. Our highly skilled work force is responsible for our reputation of meeting or exceeding precise customer specifications. Plus, Thermtrol MGI Global is a specialist in value-added test procedures to guarantee that every component you receive has already demonstrated its 100% conformance to your standards.

Simplify your supply chain – allow Thermtrol MGI Global and Thermtrol VSIP Co. Ltd. to assemble multiple parts and supply you with components ready for your own manufacturing process. With fewer parts to inventory and our just-in-time delivery methods serviced from our centrally located USA warehouse, your efforts can be directed to your core competency, saving you time and expense.



- Wholly-owned facility

- ISO 9001 approved facility

- Low-cost, highly skilled labor

- Work with US facilities

- Process coordination

- Logistics expertise



Leverage our location, expertise and purchasing economies

Location

Located on the outskirts of Ho Chi Minh City, Vietnam, Thermtrol's wholly-owned Asian Manufacturing center, Thermtrol VSIP Company, LTD. is the perfect location to leverage purchasing economies and manufacturing efficiencies. Located in a modern, state-of-the-art industrial park with convenient access to both air and sea ports, Thermtrol VSIP is proven to be a dependable and centrally located facility, not only for Asia, but the world.

Expertise

Our unique approach with this ISO 9001 approved facility is our "treat-it-as-your-facility" proposition. Let us evaluate your needs to determine if leveraging Thermtrol VSIP's competencies can best meet them.

Competencies include:

- Low-cost, highly skilled electrical component assembly
- Welding, crimping, soldering, and processing of electrical components
- Plastic injection and insert molding
- Custom wire harness assemblies

Purchasing Economies

Southern Vietnam is a rapidly growing industrial area with world class manufacturing of many electric components. Thermtrol VSIP's location to local and regional suppliers and factories producing complementary products, teamed with our established in-house expertise, allows us to offer an attractive value proposition for all types of assembly. Our customers in the appliance, commercial vehicle, industrial and agricultural equipment industries rely on Thermtrol VSIP for their needs.

Modern facility, experienced staff



Crimp cross sectioning analysis equipment



Utilize Thermtrol's North American Offices

Our customer service operation for Thermtrol VSIP is at either of our North American locations – Thermtrol Corporation, North Canton, Ohio, USA or Thermtrol MGI Global, Cary, IL, USA. These sales offices coordinate with our Vietnam facility on your behalf to serve all your needs. Submit purchase orders and expedite requests to the assigned sales office and we'll take care of the rest.

Special Requests

Whether you need sample parts quickly or warehousing, Thermtrol's North American sales offices can assist you.

ThermTROL
CORPORATION

North Canton, Ohio 44720

ThermTROL
MGI GLOBAL LLC

Cary, Illinois, 60013

Concept photo of our New 90,000 square ft. production facility to open in 2009.



To ensure that we continue to provide our customers with the best possible products, services, and solutions, we are expanding our capacity and enhancing our facility. Our new 90,000 square foot State-of-the-Art facility will enable us to continue to meet and exceed our customers current and future requirements, while providing our experienced staff with an environment that promotes excellence and accommodates the necessary tools to achieve it.

Additional Products

Thermtrol has been a leading innovator in the field of Thermal protection for over 20 years. Our business was founded on the desire to supply the industry with custom thermal protection and thermal regulation solutions. We offer a variety of custom and standard thermal protection products for a multitude of industrial applications including motor, transformer, and appliance protection. Industrial equipment, automotive, agricultural, HVAC, communications, and many more. This section is not a comprehensive listing of all of Thermtrol's capabilities, rather, it illustrates some of our most popular thermal protection products.



7AM
MOTOR, LIGHTING, TRANSFORMER,
APPLIANCE PROTECTION



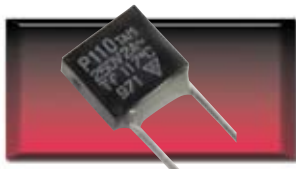
SELF HOLD 7AM
MOTOR, TRANSFORMER, APPLIANCE PROTECTION



SX8AM
HIGH LOCKED ROTOR CURRENT SELF HOLD MOTOR
PROTECTOR



8AM
HIGH CURRENT MOTOR PROTECTION



1/2 - 7AMP THERMAL CUT OFFS
APPLIANCE, MOTOR, ELECTRONICS PROTECTION
AXIAL & RADIAL



15AMP THERMAL CUT OFFS
APPLIANCE, MOTOR, ELECTRONICS PROTECTION



1NT DISC THERMOSTATS
MULTI PURPOSE 1/2" DISC THERMOSTAT



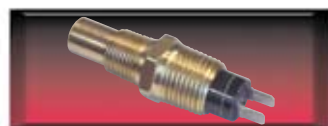
GT52 GT15 1/2" DISC THERMOSTATS
HIGH TEMP. CERAMIC BODY MULTI PURPOSE
1/2" DISC THERMOSTAT



GT20 1/2" DISC THERMOSTATS
MOISTURE RESISTANT, PIPE MOUNTABLE 1/2"
DISC THERMOSTAT



3/4" DISC THERMOSTAT
INCREASED CONTACT CAPACITY



IMMERSION THERMOSTATS
SEALED BRASS OR STAINLESS STEEL PROBE
THERMOSTATS



TS SERIES THERMOSTATS
DIAL ADJUSTABLE, FIXED, OR MANUAL
RESET, BULB AND CAPILLARY THERMOSTAT



M SERIES TEMPERATURE POWER SENSORS
HIGH PRECISION, NARROW DIFFERENTIAL,
LONG LIFE THERMAL CONTROL.



**THERMISTOR SENSOR AND PROBE
ASSEMBLIES**

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WIRE HARNESS
MANUFACTURING**

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