Delphi Connection Systems

A World Leader in Automotive/Transportation Connector Systems is Available from the World’s Leading Connector Specialist.

TTI, Inc. has a strategic business unit that focuses on the global transportation market. Delphi Connection Systems has a reputation for producing high quality electrical and electronic connectors that meet and exceed customer requirements. Together, these industry leaders provide extensive product inventory and superior service from product-knowledgeable experts. TTI and Delphi – now you have a choice!

• Extensive Product Portfolio
• Full Service Provider
• Leading Edge Interconnect Technologies
• Expertise in Multi-industry Connector Applications
• Integrated Systems Approach
• Development of Customer-Focused Solutions
• Service that Exceeds Customers’ Expectations
• Strong Global Presence

• World Class Connector Line Card
• Product Knowledgeable Experts
• Local Sales and Product Support
• Broad and Deep Inventory Profile
• Leading Edge Technology Products & Supplies
• Value Added Solutions
• Full Customized Connector Capability
• Dedicated 200,000 square foot Connector Facility
• Full Suite of Supply Chain Services
• Quality and Reliability
• 98% On-Time Delivery

Delphi’s Headquarters in Troy, Michigan
TTI’s 200,000 square foot Connector Operations Center in Fort Worth, Texas
**Connection Systems**

- **Metri-Pack Family**
  - **Connector Type**
    - 150 Series
    - 280 Series
    - 480 Series
    - 630 Series
    - 800 Series
    - Headers
    - Junction
    - Mixed
  - **Features & Benefits**
    - Extended product range offers significant design and application versatility
    - Used in high current to low energy circuits for electrical versatility
    - Strength and stability of terminals help assure correct alignment
    - Utilizes internationally standard male blade sizes for design flexibility
    - Connector Position Assurance (CPA) and Terminal Position Assurance (TPA) for superior connection reliability
    - Sealed version for excellent resistance to temperatures, chemicals, and abrasion
    - Testing to SAEJ2030
  - **Typical Markets**
    - Commercial Vehicles
    - Marine
  - **Typical Applications**
    - Flat blade connections for electronic through high current applications

- **GT**
  - **Connector Type**
    - 150
    - 280
    - Headers
    - Lever Lock
    - Mixed
    - SlimLine
  - **Features & Benefits**
    - Tangless terminals for durable design
    - Low engage force for improved reliability and ergonomics
    - Pump-handle primary lock for lower engage and easy disassembly
    - Secondary lock, Connector Position Assurance (CPA) and Terminal Position Assurance (TPA) capabilities for improved system design
    - Mates to ISO, SAE blades for compatibility
    - Conforms to USCAR design footprint for superior connection reliability
    - Testing to SAEJ2030
  - **Typical Markets**
    - Commercial Vehicles
    - Marine
  - **Typical Applications**
    - Ergonomic connections for in-line, device, header, and bulkhead applications

- **RF Coax Cable Assemblies**
  - **Connector Type**
    - Coaxial Cables
    - Pin and Sleeve
  - **Features & Benefits**
    - Flexible manufacturing cells allow high volume/low mix and low volume/high mix
    - Extensive experience in transportation E/E Architecture design and manufacturing
    - Fully-certified testing/validation lab
    - Full participation in global standards activities
  - **Typical Markets**
    - Commercial Vehicles
    - Marine
  - **Typical Applications**
    - Ground position sensors and antenna applications

- **Weather Pack**
  - **Connector Type**
    - Pin and Sleeve
  - **Features & Benefits**
    - Sealed system specifically designed to withstand exposure to extreme temperatures, chemicals, and fluids
    - Pin and sleeve configuration to alleviate stress relaxation
    - Secondary lock and Connector Position Assurance (CPA) for improved system design
    - Dual-locking tangs on terminals help prevent backing out
    - Terminal plugging requires no orientation
    - Positive locking indexing prevents mismating of connectors
    - Low energy, low voltage capability for vehicle electronics
  - **Typical Markets**
    - Commercial Vehicles
    - Marine
  - **Typical Applications**
    - Proven harsh environmentally-sealed connections

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*Photo courtesy SeaRay*
## Automotive and Transportation

### Connector Family

<table>
<thead>
<tr>
<th>Connector Type</th>
<th>Micro-Pack</th>
<th>Heavy Duty 1.0mm Vane</th>
<th>Power Pack 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Micro64</td>
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<td></td>
<td></td>
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<tr>
<td>MicroHVT</td>
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<td></td>
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<tr>
<td>MTS</td>
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<tr>
<td>MTS-B</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100 Series (unsealed)</td>
<td></td>
<td>1.0mm Vane Terminals</td>
<td>Inline</td>
</tr>
<tr>
<td>100W Series (sealed)</td>
<td></td>
<td>50-way and 60-way Configurations</td>
<td>Right Angle</td>
</tr>
<tr>
<td>Headers</td>
<td></td>
<td>Female Harness Connector</td>
<td>Panel Mount Headers</td>
</tr>
</tbody>
</table>

### Typical Markets

<table>
<thead>
<tr>
<th>064</th>
<th>Micro-Pack</th>
<th>Heavy Duty 1.0mm Vane</th>
<th>Power Pack 2000</th>
</tr>
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<tbody>
<tr>
<td>Commercial Vehicles</td>
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</tr>
<tr>
<td>Marine</td>
<td>Marine</td>
<td></td>
<td>Hybrid Vehicles</td>
</tr>
<tr>
<td>Motorcycles</td>
<td></td>
<td></td>
<td>Industrial Applications</td>
</tr>
</tbody>
</table>

### Typical Applications

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<thead>
<tr>
<th>064</th>
<th>Micro-Pack</th>
<th>Heavy Duty 1.0mm Vane</th>
<th>Power Pack 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>High density connections for commercial vehicle and transportation electronics</td>
<td>1mm pin connections for low power and electronic devices</td>
<td>Engine controllers, ABS modules, transmission controllers, and other devices requiring large I/O</td>
<td>High power connection for 0V-600V AC/DC power systems for commercial on-road and off-road vehicles, hybrid vehicles, and industrial applications</td>
</tr>
</tbody>
</table>

### Features & Benefits

- Unlimited number of rows and columns with 2.54mm centerline spacing to accommodate more terminals in less space
- Pin and box tangless female terminal for reliable sealing and easy repair
- Robust terminal interface design for continuous 7A current capability with either a square or round pin
- Non-oriented female terminal to simplify insertion
- Sealed and unsealed versions
- Industry standard design for flexibility
- Validated for high density commercial vehicle electronics
- Cam lever/mechanical assist, Connector Position Assurance (CPA), secondary lock, and wire dress available for improved system design
- 360° orientation available
- Conforms to USCAR design footprint for broad application flexibility

- Low energy (<5 amps), high density capabilities allow many electronic signals to be accommodated in one space-saving connector
- Filtered or shielded systems protect against electromagnetic interference (EMI)
- 3.0mm to 3.5mm centerlines accommodate applications where space is limited
- Mechanical assist and bolt-together designs enable ergonomic assembly/disassembly
- Improved one-piece (vs. two-piece) female terminal for sealed applications
- Sealed version for excellent resistance to temperatures, chemical, and abrasion (100W)
- Connector Position Assurance (CPA) and Terminal Position Assurance (TPA) for superior connection reliability

- Four contact points supported and protected by an external shield can
- Tin-plated terminal with selective gold plating at the contact interface
- Capable of 7.5 amps at 125°C
- Able to withstand vibration requirements of 29.5g RMS
- Unique pre-stage feature aids in ensuring terminals are fully sealed

- Current carrying capability up to 200 amps at 105°C
- Hand engage/disengage for one-way connectors to eliminate tools and save space and cost
- Mates with both a single blade style terminal and itself for easy application to device connectors
- Individually-sealed terminal cavities for environmental protection to the terminal contact areas and arcing protection
- Silver plating to withstand 155°C
- Connector Position Assurance (CPA) and Terminal Position Assurance (TPA) for superior connection reliability
- Conforms to USCAR design footprint for broad application flexibility
### Connector Family

#### Data Connectivity

**Connector Type**
- Ports
- Hubs
  - Auxiliary Jacks
  - SD Cards
  - USB
  - Cables and Connections
- USCAR Mini-B Headers

**Features & Benefits**
- Offers the versatility of custom designs, with the economics of off-the-shelf modules
- All mini- and maxi-fuse centers have bussing capability to reduce the number of leads required
- All mini- and micro-relays are designed for motor and resistive load applications and are a “plug-in” type of relay designed for use in electrical centers
- All modular electrical centers utilize secondary lock combs that are custom designed to match the module

#### Modular Electrical Center

**Connector Type**
- Micro-relay
- Mini-relay
- Maxi-fuse
- Mini-fuse

**Features & Benefits**
- Shielding connection to control radiated emissions and EMI
- Terminal cavities isolated to protect against short circuit between high voltage terminals
- HVIL (Hazardous Voltage Interlock) available to protect during service operation
- Systems offering internal and external shielding
- Panel mount header with mating harness connector
- Custom designed connection systems to meet customer specifications
- Shield interface sealed from environment (no galvanic degradation)
- Leverage product development expertise to address all on- and off-road requirements

#### High-Voltage/Hybrid Connections

**Connector Type**
- Connections designed for 42V-600V DC and AC
- Minimum shielding effectiveness of 40dB (150kHz to 200MHz) ensures EMI protection
- Connection Systems to Handle Wide Current Ranges

**Features & Benefits**
- Durable and proven designs
- Harness attachment devices designed for automotive and transportation products
- Ergonomic and assembly efficient designs including orientation features
- Custom designed solutions for customer specific applications

#### Additional Components

- Assembly Coverings and Channels
- Brackets, Clamps and Clips
- Cable Seals
- Fuse Holders and Lamp Sockets
- Ring and Battery Terminals
- Splice Savers
- 56, 58, and 59 Series Connectors

### Typical Markets

- Agriculture
- Commercial Vehicles
- Construction
- Marine
- Motorcycles
- Agricultural
- Buses
- Commercial Vehicles
- Lawn and Garden
- Marine
- RVs
- Commercial Vehicles
- Marine

### Typical Applications

- Applications requiring interface with an array of onboard information and entertainment systems
- Full range of power distribution applications, including stringent underhood environments
- High 300V battery pack, inverter modules, control modules, belt-driven accessories, power distribution center, BIC, transmission, power steering
- General automotive and transportation electrical distribution attachment needs
**1-800-CALL-TTI** There’s a TTI location near you.

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