Commercial & Specialty Vehicle Connection Systems
### Connector Family

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<th>Connector Type</th>
<th>Features/Benefits</th>
<th>Typical Markets</th>
<th>Typical Applications</th>
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| **Metri-Pack** | - 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 | Commercial vehicles  
Marine | Flat blade connections for electronic through high current applications |
| **GT** | - 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 broad application flexibility  
- Cam lever/mechanical assist for hand engage/disengage  
- Optimized content packaging for electrical performance equal to less space efficient terminations  
- Pre-staged male blade stabilizer for superior male blade protection  
- Mixed terminal capability for design flexibility  
- Protected seal interface for superior connection reliability | Commercial vehicles  
Marine | Ergonomic connections for in-line, device, header, and bulkhead applications |
| **RF Coax Cable Assemblies** | - 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 | Agriculture  
Commercial vehicles  
Construction  
Marine  
Motorcycles | Ground position sensors and antenna applications |
| **Weather Pack** | - 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 | Commercial vehicles  
Marine | Proven harsh environmentally sealed connections |
### Commercial & Specialty Vehicle

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**064**
- Unlimited number of rows and columns with 2.54 mm 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

**Micro-Pack**
- Low energy (<5A), high density capabilities allow many electronic signals to be accommodated in one space saving connector
- Filtered or shielded systems protect against Electromagnetic Interference (EMI)
- 3.0 mm to 3.5 mm 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, chemicals, and abrasion (100W)
- Connector Position Assurance (CPA) and Terminal Position Assurance (TPA) for superior connection reliability

**Heavy Duty 1.0 mm Vane**
- Four contact points supported and protected by an external shield can
- Tin-plated terminal with selective gold plating at the contact interface
- Capable of 7.5A at 125°C
- Able to withstand vibration requirements of 29.5 g RMS
- Unique pre-stage feature aids in ensuring terminals are fully seated

**2000 Series (sealed)**
- Current carrying capability up to 200A 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 connections
- Individually sealed terminal cavities for environmental protection to the terminal contact areas and arcing protection
- Silver plating to withstand 155ºC
- Connector Position Assurance (CPA) and Terminal Position Assurance (TPA) for superior connection reliability
- Conforms to USCAR design footprint for broad application flexibility

### Applications

#### Commercial vehicles
- Marine
- Motorcycles

#### Marine
- High density connections for commercial vehicle and transportation electronics
- 1 mm pin connections for low power and electronic devices

#### Engine controllers, ABS modules, transmission controllers, and other devices requiring large I/O
- High power connections for 0V-600V AC/DC power systems for commercial on-road and off-road vehicles, hybrid vehicles, and industrial applications
Additional Components

- Assembly coverings and channels
  - Brackets, clamps, and clips
  - Cable seals
  - Fuse holders and lamp sockets
  - Ring and battery terminals
  - Splice savers
  - Tie strap/clip assemblies

Modular Electrical Center

- Mini-relay
- Micro-relay
- Maxi-fuse
- Mini-fuse

- Offered for automotive and transportation products
- Ergonomic and assembly efficient designs, including orientation features
- Custom designed solutions for customer specific applications

Data Series Connectivity

- Ports
- Hubs
  - USB
  - SD card
  - Auxiliary jacks
- Cables and connections
  - USCAR Mini-B headers

- 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

High-voltage Connections/Hybrid Connections

- Connections designed for 42V-600V DC and AC
- Minimum shielding effectiveness of 40 dB (150 KHz to 200 MHz) – ensures EMI protection
- Connection systems to handle wide current ranges:
  - 120A-200A (13 mm²-62 mm² conductor)
  - 80A-120A 9.5 mm terminal system (8 mm²-13 mm² conductor)
  - <40A 4.8 mm and 6.3 mm system (2 mm²-5 mm² conductor)

- 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

Agriculture
- Commercial vehicles
- Construction
- Marine
- Motorcycles

Applications requiring interface with an array of onboard information and entertainment systems

Commercial vehicles
- Buses
- Commercial vehicles
- Lawn and garden
- Marine
- RVs

Full range of power distribution applications, including stringent underhood environments

High 300V battery pack
- Inverter modules
- Control modules
- Belt driven accessories
- Power distribution center
- BEC
- Transmission
- Power steering

General commercial vehicle and transportation electrical distribution attachment needs

www.delphi.com/connect
Delphi offers an extensive portfolio of product solutions for our global customers. Our comprehensive product line ranges from signal-level through high-power connection systems. These include both unsealed and sealed, ergonomically designed connections for in-line, device, and header applications. This varied product portfolio positions us to be a single-source provider.

**Typical Applications:**

Delphi Connection Systems’ commercial and specialty vehicle connectors are designed for a wide range of product applications including:

- Medium- and heavy-duty trucks
- Farm and agriculture
- Construction and industrial
- Marine
- Mass transit
- Recreation
- Motorcycles

**Delphi Advantages:**

- Extensive product portfolio
- Full service supplier
- 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
Delphi

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