Apitv is moving mobility forward with safer, greener and more connected solutions.

Satisfying various industry demands and moving commercial & specialty vehicle architecture to the next generation.
At Aptiv, we are born to move

Aptiv is a global technology company that develops safer, greener and more connected solutions enabling the future of mobility.

Headquartered in Dublin, Aptiv has approximately 150,000 employees and operates 14 technical centers, as well as manufacturing sites and customer support centers in 45 countries.

Major Design Centers Worldwide

- Allen Park, MI, United States
- Warren, OH, United States
- Kokomo, IN, United States
- Krakow, Poland
- Wuppertal, Germany
- Shanghai, China
- Anting, China
- Mountain View, CA, United States
- Juarez, Mexico
- Pittsburgh, PA, United States
- Bengaluru, India
- Singapore
The world of transportation

Aptiv has been a trusted automotive supplier for decades, introducing practical innovations in the areas of safety, efficiency, and connectivity. The transportation market has been advancing in these areas and Aptiv can offer product solutions designed for the tougher operational and environmental requirements.

Commercial and recreation vehicles are often exposed to higher levels of environmental forces, including vibration, dust, water, debris, and temperature. To protect the integrity of the electrical system, high performance connection systems are required.

To deliver superior performance, a number of complex factors in the electrical system must be addressed in the component design, including sealing, locking features, and materials.
CTCS

CONNECTOR TYPE
A complete portfolio of connectors, accessories, covers, terminals, seals, and hand crimp tools
• Inline and device applications
• 2 through 62 way configurations
• Sealed and unsealed applications
• Slider lock and Lever lock assist mechanisms
• Housings using CTS 1.5, 2.8, 6.3 mm terminals

TYPICAL MARKETS
Commercial, construction, agricultural, and marine vehicles

TYPICAL APPLICATIONS
• Suitable for harsh environments
• Cab, chassis, engine compartment, and on-engine applications
• Ideally for connections in a vehicle sheet metal firewall pass-through location

FEATURE & BENEFITS
• Interchangeable with other industry terminals and housing
• Mounting flexibility: panel, strap/clip, and bracket
• Improved vibration resistance: up to 30G sine, 20Grms random 330 hrs./axis and robust back shells
• High temperature ratings: up to -40 to +140°C
• Additional connector shielding for protection against debris ingress
• Tin, silver, and gold plating options for terminals
• Offered in both non-V0 and V0 materials

APEX

CONNECTOR TYPE
• Circular connector size 24 shell
• Terminal patterns
• 19, 21, 23, 29, 31, 47, 50 and 60 way Headers
• Terminals: 1.0, 1.6, 2.4 mm

TYPICAL MARKETS
Commercial, construction, military, marine, and agriculture vehicles

TYPICAL APPLICATIONS
• Suitable for harsh environments

FEATURE & BENEFITS
• Terminal designed for lower insertion forces
• 3-rib design provides better sealing capability up to 50% compared to existing designs
• Environmentally sealed to IP68
• Robust, specialized finger design virtually eliminates terminal unseats
• Fully interchangeable with industry standards terminals and connections
• Frontward/backward compatibility
• Rugged construction to withstand harsh environments
• Sonic welded design provides 360 degrees of contact to withstand high vibration
• Terminal position assurance (CPA - 2 ways)
• Connector position assurance (CTA - 2 ways)

HES

CONNECTOR TYPE
• Circular connector size 24 shell
• Terminal patterns
• 19, 21, 23, 29, 31, 47, 50 and 60 way Headers
• Terminals: 1.0, 1.6, 2.4 mm

TYPICAL MARKETS
Commercial, construction, military, marine, and agriculture vehicles

TYPICAL APPLICATIONS
• Ideally for connections in a vehicle sheet metal firewall pass-through location
• Intended for use in any high density, in-line application

FEATURE & BENEFITS
• Terminal designed for lower insertion forces
• 3-rib design provides better sealing capability up to 50% compared to existing designs
• Environmentally sealed to IP68
• Robust, specialized finger design virtually eliminates terminal unseats
• Fully interchangeable with industry standards terminals and connections
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• Rugged construction to withstand harsh environments
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• Terminal position assurance (CPA - 2 ways)
• Connector position assurance (CTA - 2 ways)

DCS Power Sealed

CONNECTOR TYPE
Solutions for power interconnection using 2.8mm, 4.8/5.6mm and 9.5mm DCS Power terminals with 2, 3, 4 ways

TYPICAL MARKETS
Commercial, construction, agricultural, and marine vehicles

TYPICAL APPLICATIONS
Cooling fans, air conditioning, electrical power feeding

FEATURE & BENEFITS
• Connector position assurance (CPA - 2 ways)
• Terminal position assurance (TPA)
• User friendly with integrated secondary lock device allowing for detection of unseated terminals
• Easy and quick connection system with terminal guiding system
• Circumferential interface sealing and single wire sealing
• Mechanical coding
**OCS**

**CONNECTOR TYPE**
- In-line sealed and unsealed connectors
- Terminals: 0.64, 1.2, 1.5 and 2.8 mm

**TYPICAL MARKETS**
Commercial, agricultural, and marine vehicles

**TYPICAL APPLICATIONS**
Suitable for body & engine & cockpit compartment applications

**FEATURE & BENEFITS**
- Robust design features for enhanced warranty performance and designed-in durability
- Clear and consistent audible click
- Enhanced strain relief for blocked cavity configurations
- Thumb grip incorporated to aid connector unmating
- USCAR indexing
- Cavity compatible with industry standard terminals
- Validated to USCAR-2 Class III and other OEMs’ specifications
- Small package size
- Optional CPA
- Standard mating interfaces
- Interchangeability with other compatible systems in the market

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**SICMA Mini-Sealed**

**CONNECTOR TYPE**
- High sealing performance in-line connectors using SICMA/GTS 1.5 mm terminals
- 2, 3, 4, 5, 6 ways
- 6 way hybrid SICMA 1.5 & 2.8 mm

**TYPICAL MARKETS**
Commercial, construction, agricultural, and marine vehicles

**TYPICAL APPLICATIONS**
Suitable for body, engine compartment and harsh environment applications

**FEATURE & BENEFITS**
- High sealing performance ensured by rear block/mat seal and circumferential interface seal
- Optimized size with 3.33 mm pitch for 1.5 mm terminals
- Reduced size sealed housing
- Easy and quick connection system with locking principle
- Integrated secondary lock feature (TPA) allowing detection of unlocked terminals
- Terminal Position Assurance (TPA)
- Optional Connector Position Assurance for 2 and 6 ways (CPA)
- Optional wire back covers

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**SICMA Inline Unsealed Connector**

**CONNECTOR TYPE**
- 2 & 6 way connectors using SICMA 1.5 mm terminals
- 24 & 36 way connectors using 1.5 & 2.8 mm terminals

**TYPICAL MARKETS**
Transportation vehicles

**TYPICAL APPLICATIONS**
Harness Sectioning in Cockpit, Dashboard and interior connections

**FEATURE & BENEFITS**
- Reliable harness sectioning, inline connection solution
- Compact male and female housings which provide a convenient inline wire to wire solution
- Mixed sizes of 1.5 & 2.8 mm terminals populating 24 and 36 way connectors

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**SICMA Sealed Full Interconnect**

**CONNECTOR TYPE**
- 6 & 24 way – mixed size of 1.5 & 2.8 mm Sicom terminals
- 56 way – 1.5 Sicom terminals
- Sicma Terminals: 0.64, 1.5, 2.8mm

**TYPICAL MARKETS**
Commercial, construction, agricultural, and marine vehicles

**TYPICAL APPLICATIONS**
Engine management with gas converter, automatic gear box management, body control modules

**FEATURE & BENEFITS**
- Market standard, footprint interface to device headers
- Sealed interconnection from harness wiring to an electronic equipment
- Wire to Electronic Printed Circuit Board (PCB) in order to build electronic control units

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CMC

CONNECTOR TYPE
- Full interconnect sealed solutions for engine management solutions using 0.64 and 1.5 GTS terminals
- CMC (Computer Modular Connector) is one of the most popular interfaces for Engine Management Electronic Control Units:
  - 32, 48, 64 & 112 ways

FEATURE & BENEFITS
- Accepts reversible wire dress cover
- Right or left mountable rotating lever for male assistance
- 15 g sinus vibration resistant with Tin terminals
- 1.5 Bar pressure proof sealing
- 45° & 90° wire bundle exit through back shell covers

TYPICAL MARKETS
Commercial vehicles, construction, agricultural, marine vehicles

TYPICAL APPLICATIONS
- Suitable for harsh environments
- Powertrain Electronic Control Units

SICMA Panel Through

CONNECTOR TYPE
- Connector solutions for Door to Body connections using SICMA 1.5 and 2.8 mm terminals connector solutions
- 14, 16, 24, 33, 34, 42 and 50 ways

FEATURE & BENEFITS
- Suitable for a combination of low and medium current applications
- Mating assistance system with slider to minimize mating force and allowing blind mating
- Male terminals can be protected from hazardous damage of male blades thanks to a front grid protection
- Optional back shell cover

TYPICAL MARKETS
Commercial, construction, agricultural, and marine vehicles

TYPICAL APPLICATIONS
Particularly suitable for door to body or engine to cockpit pass-through applications

Lamp Connector

CONNECTOR TYPE
- HIR2/HB3/HB4 sealed
- PG18.5 & PG20 sealed version
- PGJ19 sealed version (H8, H9 and H11)

FEATURE & BENEFITS
- PG18.5 & PG20
  - Easy unmating thanks to robust rear latch
  - Housing locking principle
  - Front Terminal Position Assurance (TPA)

- PGJ19
  - Safe mating and unmating thanks to robust and protected front and rear latch
  - Housing locking principle

- APEX HIR2
  - Built around High-Performance APEX 2.8 Terminal System HIR2 mates to standard industry bulbs of the increasingly popular halogen infrared variety

TYPICAL MARKETS
Vehicles lighting, Indicator lamp

TYPICAL APPLICATIONS
Fog Lamps, Daytime running lights

Sensor Connector

CONNECTOR TYPE
- DCS SensoMate 2.8 mm sealed 2 and 3 way
- HDK 1.2 2 way
- ATS (DSQ) 4 and 5 way
- APEX SensoMate 1.2 mm sealed 2, 3, 4 and 5 way
- APEX SensoMate 2.8 mm sealed 2 and 3 way
- GTS SensoMate 2 and 3 way

FEATURE & BENEFITS
- High vibration resistance
- Single wire sealing
- For heavy duty diesel engine applications
- Terminal position assurance (TPA)
- APEX SensoMate compliant to USCAR guidelines
- HDK and APEX 1.2 complies with AK 1.2 / USCAR 120
- High temperature: T3=125°C (HDK and GTS up to T4=150°C)

TYPICAL MARKETS
Commercial, construction, agricultural, marine, and transportation vehicles

TYPICAL APPLICATIONS
Fuel injector, actuator, pressure sensor applications, distance and radar sensor
High Voltage – Auxiliary Device Solutions (up to 1000V)

**CONNECTOR TYPE**
- On-Board Charger: Header and inline unshielded connectors
- PTC heaters, AC compressors and inverters: Shield-Pack HV280 & Apex HV280 2 way; AK class 2 & 3 way

**TYPICAL MARKETS**
Commercial, construction/agriculture, recreational, and marine vehicles

**TYPICAL APPLICATIONS**
A/C compressor, heater, coolant control module, on board charger, DC converter, battery accessory output

**FEATURE & BENEFITS**
- Multiple currents depending on customer applications
  - On-board charger – 32A at 85°C
  - Shield-Pack HV280 – 40A at 85°C
- Multiple shielding principles:
  - Bundle shielding, Individual shielded cables, Multi-core shielded cables
  - Connector Position Assurance (CPA) and Terminal Position Assurance (TPA) for superior connection reliability
- Integrated interlock for safe disconnection
- Robust vibration performance in harsh environments

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High Voltage – Power Conversion Solutions (up to 1000V)

**CONNECTOR TYPE**
- Batteries, eMotors & inverters: RCS 800/890 2 way connectors; Metal and AK Plastic pass-through 1 to 3 way; HV890 AK Class 2 way

**TYPICAL MARKETS**
Commercial, construction/agriculture, recreational, and marine vehicles

**TYPICAL APPLICATIONS**
Inverters, drive motors/generators, and high current/high voltage battery outputs

**FEATURE & BENEFITS**
- Multiple currents depending on customer applications
  - RCS800/890 – 210A at 85°C
- Multiple shielding principles:
  - Bundle shielding, Individual shielded cables, Multi-core shielded cables
  - Connector Position Assurance (CPA) and Terminal Position Assurance (TPA) for superior connection reliability
- Integrated interlock for safe disconnection
- Robust vibration performance in harsh environments

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Low Voltage Solutions (12-48V)

**CONNECTOR TYPE**
Power Pack 1000
- High current sealed connectors
  - 1 and 2 ways
  - Inline and device (right and straight angle)

**TYPICAL MARKETS**
Commercial, construction/agriculture, and recreational

**TYPICAL APPLICATIONS**
- High current wiring harness inline
- High current device application and sealed pass-through panel mount system

**FEATURE & BENEFITS**
- Current carrying capability:
  - 145A at 85°C
  - Silver-plated Power Pack 1000 multi-contact terminal system
- Secured connection features
  - Connector Position Assurance (CPA) and Terminal Position Assurance (TPA) for superior connection reliability
- Integrated interlock for safe disconnection
- High sealing protection:
  - IP67 rated

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Charging Solutions

**CONNECTOR TYPE**
Vehicle Charging Inlets
- AC inlets: SAE J1772/Type I, Type II, GBT
- DC inlets: Combo 1, Combo 2, GBT

**AC Charge Connectors** (Type I, Type II and GBT)
- Mode 3 cable assemblies
- Mode 2 charge couplers

**TYPICAL MARKETS**
Commercial vehicles such as trucks and buses, recreational vehicles

**TYPICAL APPLICATIONS**
- AC & DC Vehicle charging interface according to regional standards (SAE J1772/Type I, Type II, GBT)
- Charging cable assemblies to connect charging stations to vehicles
- Portable Electric Vehicle Supply Equipment (EVSE) for grid-to-vehicle charging

**FEATURE & BENEFITS**
- High reliability field proven solutions
  - In serial production at multiple automotive OEMs
  - Time tested products performing in real life environments for example on roads
  - Products qualified against demanding automotive requirements
  - Certified according to multiple regional standards (CE conformity, UL certified, GBT certified)
  - Detailed automotive PPAPs based on comprehensive lab tests above industry standards
For more information:
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