

Automotive Applications

Overview

Energy saving and carbon reduction have become the main issue when manufacturing electric vehicles; they have also become national policies in various countries. Many nations have set to implement new energy vehicle policies in 2030.

Automotive technology is developing towards the "New Four Modernizations" (**A.C.E.S.**) market trends:

- **Autonomous self-driving**
- **Connected networking**
- **Electric Electrification**
- **Share & Service**

ACES develops competitive new parts with innovative technology to provide further services, upgrade automotive connectors and components that meet the quality of automotive regulations, and provide reliability, compatibility, and durability. Our plants comply with IATF16949 certification and have passed numerous European customers' VDA 6.3 process audit customer certification. Years of experience have given us the confidence and ability to meet the requirements of global automotive ecosystems.

BCM Connectors



■ Design Features

- The connector is safe and reliable and meets the standards of QC-T1067 and USCAR-2.
- The product structure is optimized by mold flow and stress analysis during the design phase (DFM Report)
- Automated manufacturing

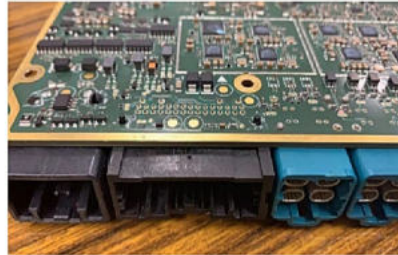
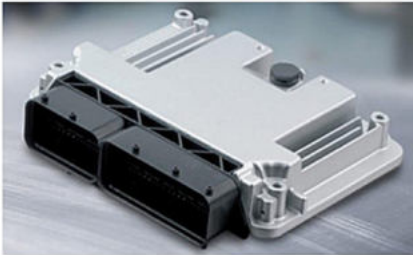
■ ACES Solution

- May be customized according to the customer's special requirements.
- Unique structures and added protective measures can be used depending on the environment in which they are used.
- Waterproof rating: IP67
- Covering automotive electronics and automotive high-power appliances
- 100% CCD visual inspection and O/S high voltage test

■ Application

- Tier2 qualified suppliers, these products have been used in some famous car factories: Toyota, Nissan, Ford, GM

ECU Connectors



■ Design Features

- Reliability meets QC-T1067 & USCAR-2 standards.
- Optimize product structure by DFM.
- Automated manufacturing requirement.

■ ACES Solution

- Design and customize processes for customers.

■ Application

- ECU



mmWave Radar Solution



Press-Fit Fin

■ Design Features

- High current
- High reliability
- By the IEC 60352-5 specification
- The fast and straightforward assembly process

■ ACES Solution

- Customized according to customer's unique requirements
- Press fit pin
- Using multiple insert molding process
- 100% CCD visual inspection and O/S high voltage test
- 100% air tightness detection test

■ Application

- Tier2 qualified suppliers have used these products in some famous car factories: SAIC Motors, GWM, Dongfeng Motor Corporation.

Camera Module Solution



Straight Type



Right Angle Type



Cable Assembly

■ Design Features

- Improves component reliability
- Improved strength & structure
- Reduces assembly and labor costs
- Reduces the size & weight of the part
- Enhanced design flexibility

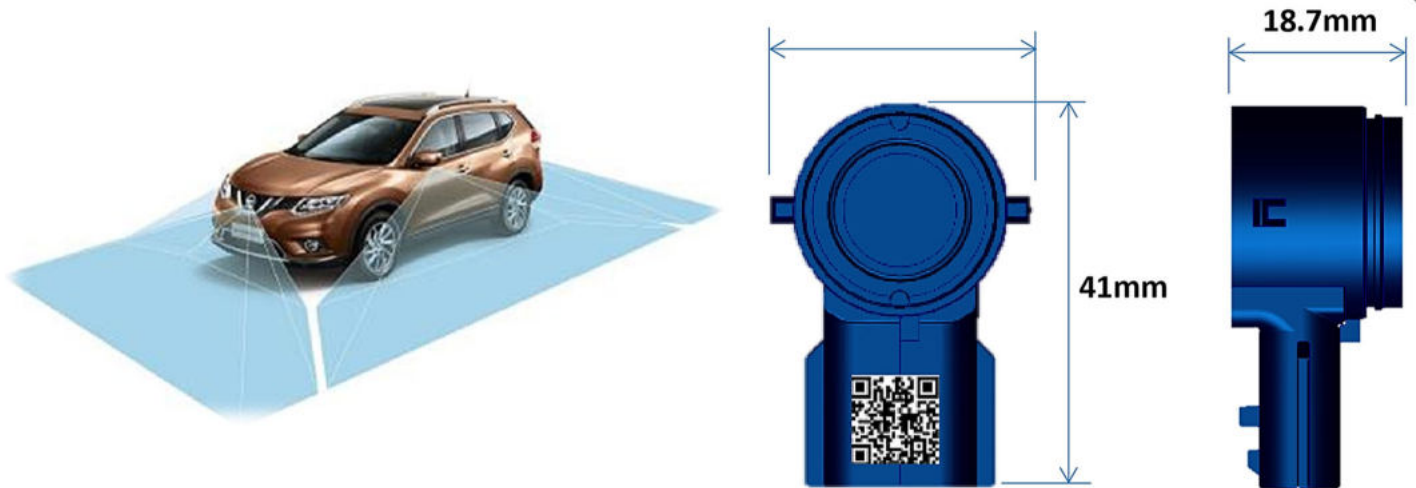
■ ACES Solution

- Using multiple insert-molding processes
- Customization according to customer's unique requirements
- Waterproof rating: IP69K
- Automated manufacturing using a robot arm as a specialized tool for molding processing
- 100% CCD visual inspection and O/S high voltage test
- 100% air tightness detection test

■ Application

- Tier2 qualified suppliers, these products have been used in some famous car factories: Nissan, Toyota, Changan, Renault

Smart Sensor Solution



■ Design Features

- minimize design
- Adapt to harsh working conditions
- Traceability through laser marking QR codes

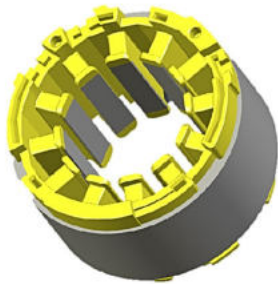
■ ACES Solution

- Customized design, manufacturing, and production.
Minimum size: L41xW28xH18.7mm.
- Waterproof rating: IP67
- Automated manufacturing using a robot arm as a specialized tool for molding processing
- 100% CCD visual inspection and O/S high voltage test

■ Application

- Tier2 qualified suppliers, these products have been used in the following brand car factories: GM, Tesla, Hyundai, Volkswagen, Nissan, Honda, Changan, Suzuki, Aisin

Electric Oil Pump Connectors



■ Design Features

- Reliability needs to meet QC-T1067\USCAR-2.
- Reliability needs to meet customer SOR.

■ ACES Solution

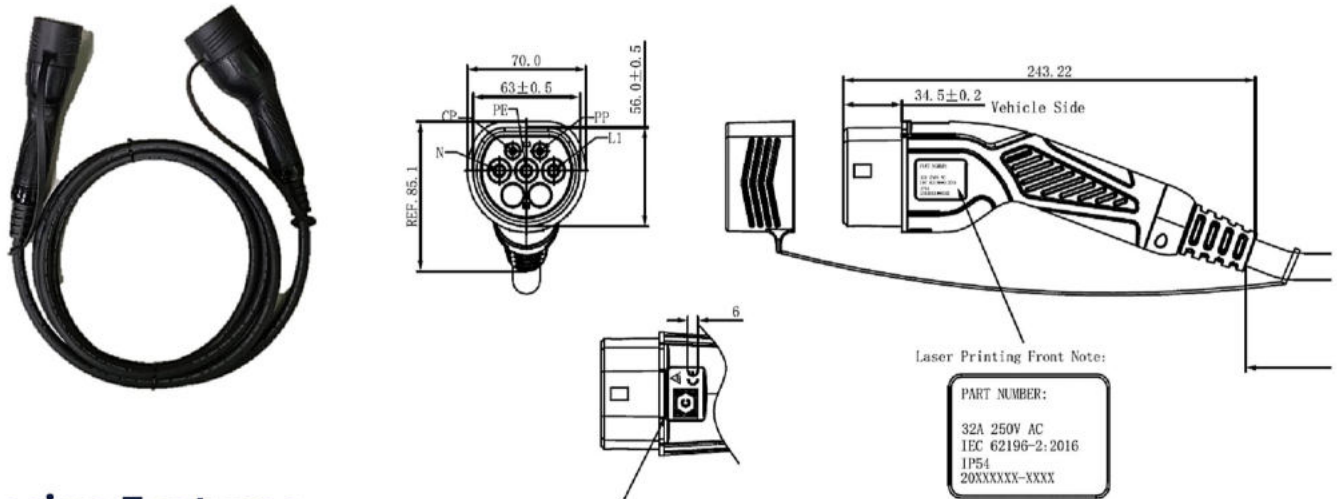
- Customize by a particular structure and add protective measures.
- Terminal twice insert-molding.
- Provide 100% CCD inspection and O/S high-pressure test.
- Optimize product structure by providing a DFM report.

■ Application

- Electric Oil Pump system.

IEC 62196-2 EV Charging Connector & Cable

Dimensions :



■ Design Features

- Life cycles $\geq 10,000$ times
- Insertion/withdraw force < 100N
- Voltage 250V or 480V
- Charging current 16A/32A
- Number of phases Single/Three

■ ACES Solution

- Custom cable lengths and colors are available
- Waterproof rating: IP54
- Better conductivity and higher energy transmission efficiency
- Safe and reliable

■ Application

- For charging electric vehicles with alternating current (AC) via type 2 vehicle charging inlets

J1772 EV Charging Connector & Cable



■ Benefits

- Complete product range
- Achieve the ease of use with an ergonomic, small handle
- Available with your logo on request – for consistent branding of your charging station
- Water tightness reliably prevents water ingress
- Developed and produced in accordance with the IATF 16949 automotive standard and ISO 9001
- Laser-marked in accordance with DIN EN 17186

■ Applications

- Electrical Vehicle Charging Stations
- Home EV charging
- Type 1 Electric Vehicle Charging Cable Assemblies

■ Standards

- SAE J1772 Compliant
- UL Recognized – UL2251
- Cable UL62 approved