

# Transportation & eMobility Solutions



# About CTS Transportation Solutions

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With our commitment to innovation, CTS excels in creating modular products that can be tailored to our customers' specific needs. We bring together proven and cutting-edge technologies to deliver reliable, timely, and cost-effective solutions. We develop sensor and actuator products that enable electrification, enhance interior safety, reduce emissions and also improve the comfort of the driver and their passengers. We design solutions that are used across all aspects of transportation from passenger cars to off-highway commercial vehicles. We take pride in our vast experience and expertise, ensuring that program requirements are met with trust and confidence.

## Interior Sensors

Vehicle cabin sensors designed to measure occupants parameters or conditions, enabling safety and comfort.

## Electrified systems and eMobility Sensors

Electric vehicle sensors that serve several important functions including traction motor controls and the charging and performance of the battery.

## Chassis and Brake sensors

Sensors that enhance vehicle safety, stability, and control.

## Foot Controls

Footwell controls that enable vehicle acceleration and braking. These modular products are available in standard and custom packages.

## Actuators

Smart Actuators that enable precise control in challenging vehicle environments. They enable the automation and manipulation of mechanical systems, contributing to enhanced functionality, efficiency, and performance.

## Engineering & Manufacturing Expertise

With our global manufacturing footprint and quality first philosophy, we have a track record of delivering products to the highest customer standards. We constantly adapt and innovate across all aspects of our products and their manufacturing environments, enabling our teams to partner with customers on the ideal solutions.

# Our Applications

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Electric Vehicles



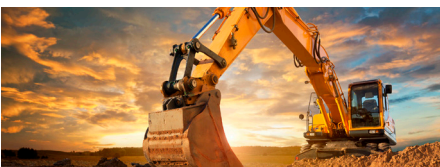
Commercial Vehicles



Passenger Vehicles



2-Wheel Vehicles



Construction & Agriculture Equipment



Custom Solutions

# Interior Sensors



## Seat Belt Tension Sensors

- Inboard and outboard options
- Hall-effect based sensing



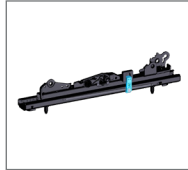
## Seat Belt Buckle Switches

- Custom Hall-effect based solutions
- Customized harness options



## Seat Position Sensors

- Integrated in seat rail
- Standard and custom designs



## Long Stroke Sensors

- Up to 300mm travel
- Integrates into seat rail

# Foot Controls



## eBrake™

- Enables 100% electric and hybrid braking systems
- Full redundancy options
- Customizable feel, mounting and pedal arms



## DrivePad™

- Accelerator or brake control
- Next-gen low travel 2-20mm



## Accelerator Pedals - Contacting

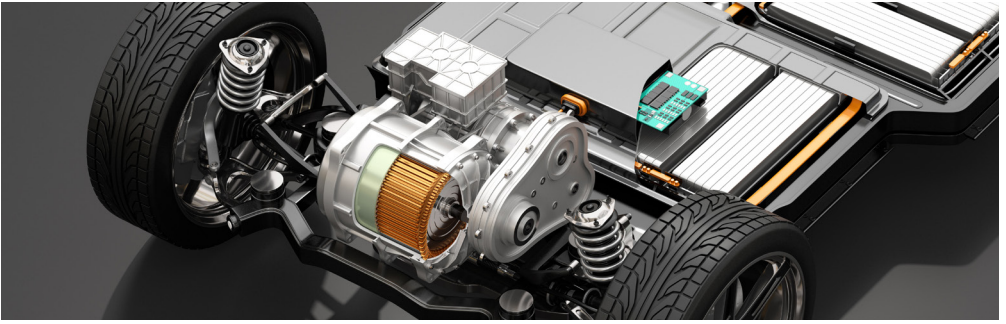
- CTS propriety sensing technology
- Standard or customized configurations



## Accelerator Pedals - Non-Contacting

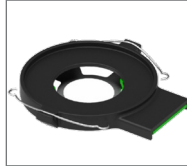
- Hall and Inductive technology options
- Standard or customized configurations

# eMobility and Electrified System Sensors



## AC Current Sensors

- Open loop, 200A to 1.5kA
- +/- 2.5% accuracy



## High Speed Position Sensors

- Side or end shaft
- +/- 2% accuracy
- Reliable and capable of 250,000 eRPM



## 3 Phase Current Sensor Modules

- Available with/without sensor electronics
- 900A to 1.5kA per phase



## Battery Management

- Multiple sensing technologies
- ASIL D Compatible

# Actuators



## Variable Geometry Turbochargers

- On or Off-highway
- 12V and 24V
- Brushless motor
- CAN controlled



## Exhaust Throttle Valves

- On or off-highway
- 12V and 24V
- Brushless motor
- CAN controlled



## Exhaust Gas Recirculation

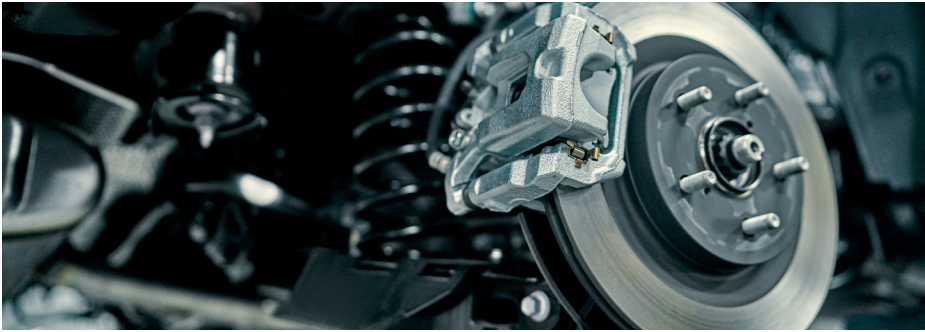
- On or off-highway
- 12V and 24V
- Brushless motor
- CAN controlled



## Industrial Applications

- Brushless motor
- CAN controlled
- Integrated harness

# Chassis and Brake Sensors



## Ride Height Sensors

- Return spring available
- Sent, PWM & analogue sensor output



## Linear Brake Sensors

- Measures linear displacement of brake pedal
- 15mm travel



## Rotary Brake Sensors

- Contacting and Hall based solutions
- Standard and custom designs
- PWM and analogue outputs

# Engineering & Manufacturing Expertise



## Magnetics Circuits

- Full design capabilities including simulation for sensing and actuation



## Inductive Sensing

- Custom sensing solution design
- Stray field immune



## Molding

- Two shot and over mold options
- Low pressure over mold
- Precision injection molder of highly engineered resins
- Horizontal and vertical injection molding including: Multi color, insert molding, encapsulation, low pressure



# About CTS Corporation

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CTS is a leading designer and manufacturer of products that Sense, Connect, and Move. We manufacture sensors, actuators, and electronic components in North America, Europe, and Asia, and provide solutions to OEMs in the aerospace & defense, medical, industrial, communications, information technology, and transportation industries.

## Contact

For more information visit:

[www.ctscorp.com](http://www.ctscorp.com)

[Sales@ctscorp.com](mailto:Sales@ctscorp.com)

