



SENSOR SOLUTIONS FOR INDUSTRIAL & COMMERCIAL TRANSPORTATION FROM TE CONNECTIVITY

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TE Connectivity (TE) is a global technology leader, providing connectivity and sensor solutions essential in today's increasingly connected world. TE is one of the largest sensor companies in the world. Our sensors are vital to the next generation of data-driven technology.

When performance and reliability count, engineers rely on us to help solve tough industry challenges such as emissions reduction, power train improvement and added comfort. We're a leader in providing sensor technologies and associated software/diagnostic capabilities built on market experience and technical expertise. We work closely with customers to design and provide solutions critical for a wide range of harsh and demanding applications, including exhaust, engines, transmissions, braking, suspension and cabins.

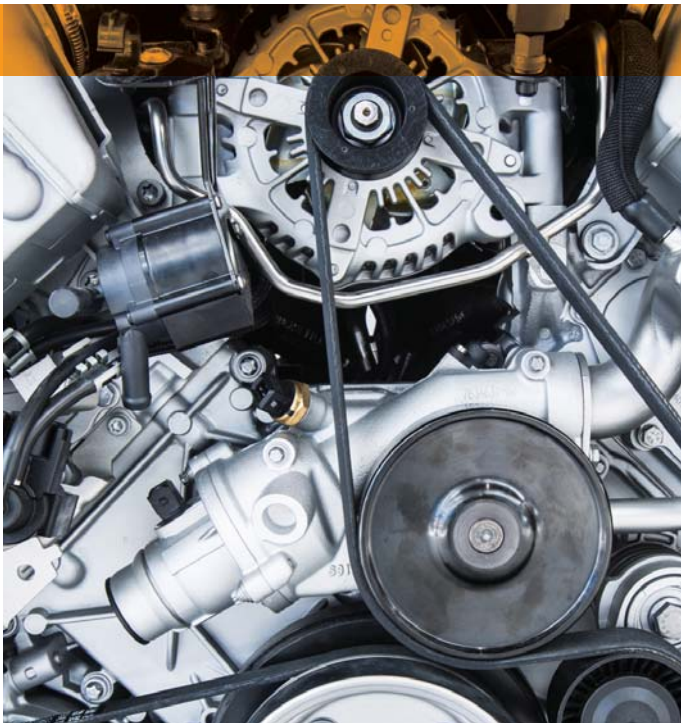


SENSOR SOLUTIONS

- FLOW
- FLUID PROPERTY
- FORCE
- HUMIDITY
- LIQUID LEVEL
- PIEZO FILM
- POSITION
- PRESSURE
- TEMPERATURE

QUALITY STATEMENTS

- AS/EN 9100
- AS/EN 9100
- EN 13980
- ESA 266
- ISO 14001
- ISO 9001
- Measuring Instruments Directive 2004/22/EC Annex D
- TS 16949



ENGINE MANAGEMENT SENSOR SOLUTIONS

TE Connectivity offers a broad portfolio of sensors to help Original Equipment Manufacturers (OEM) meet the demands placed on modern engines to provide maximum performance and fuel economy while reducing emissions. TE's sensors perform under the extreme temperature, vibration, shock and durability requirements of medium duty and heavy duty on road and off road vehicles.



High Pressure Common Rail Exhaust Manifold Pressure Fuel Pressure, Oil Pressure
• Microfused Pressure Sensor



Humidity Air Intake Monitoring Nitrogen Oxide (NOx) Emissions Management
• Combination—Humidity, Temperature and Pressure Sensor



Engine Oil Fluid Level
• Self Calibrating Capacitive High Resolution Fluid Level Sensor



Coolant Fluid Level
• Solid State Switch and Level Sensors



Low Oil Level Switch
• Magnetic Reed Switch



Engine Oil Condition Fuel Identification and Quality
• Fluid Property Sensor



Cam/Crank Shaft Speed
• Hall Sensor



Engine Oil Temperature
• Nickel Resistance Temperature Detector (RTD) Sensor



Air Intake Flow
• Mass Air Flow (MAF) Sensor



AFTERTREATMENT SYSTEM SENSOR SOLUTIONS

TE Connectivity offers a broad portfolio of sensors that help OEMs develop environmentally friendly products that comply with global emission regulations. TE's sensors effectively monitor critical components in exhaust gas aftertreatment systems to support their management and reduction of engine emissions.



Urea Temperature Urea Tank or Urea Pump

- Negative Temperature Coefficient (NTC) Sensor



Urea Pressure, Urea Tank or Urea Pump

- Media Isolated Pressure Sensor



In-Tank Urea Quality, Level, Heating and Temperature Assembly

- Urea Level (Reed Switches or High Resolution Magneto-Resistive Chips)
- Urea Quality Sensor (Near-Infrared or Ultrasonic Sensing Principle)



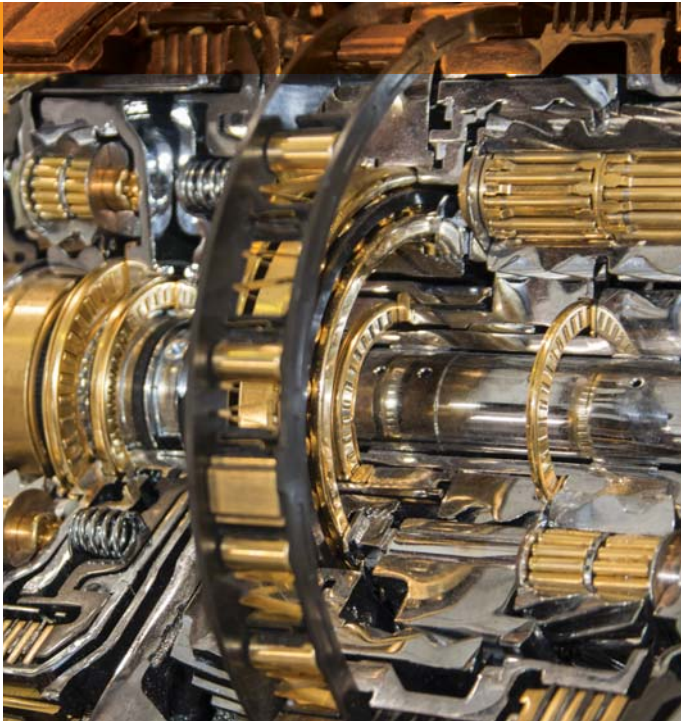
High Temperature Exhaust Gas

- Thermocouple and RTD Sensor



Valve Position (EGR, SCR)

- Magnetic Travel Sensor



TRANSMISSION SENSOR SOLUTIONS

TE Connectivity offers a broad portfolio of transmission sensors that enables OEMs to design and commercialize advanced transmissions that meet the modern demands of vehicle OEMs. TE's sensors perform under the extreme temperature, vibration, shock and durability requirements of medium duty and heavy duty on road and off road vehicles.



Transmission Oil Pressure
• Microfused Pressure Sensor



Transmission Oil Level
• Hall Effect Sensor



Clutch Position
• Magnetic Travel Sensor



Dual Clutch Transmission Module
• Multiple Sensors Packaged in a Single Module (Shown: 2 Travel and 2 Pressure Sensors)



Transmission Oil Quality
• Fluid Property Sensor



Transmission Input and Output Speed
• Hall Sensor



Transmission Oil Temperature
• Nickel RTD Sensor



VEHICLE CONTROL AND MANAGEMENT SENSOR SOLUTIONS

TE Connectivity offers a broad portfolio of sensors that helps vehicles operate safely, increase productivity and maximize vehicle uptime.



Anti-Tilt and Ride Stability
• Single and Dual Axis Tilt Sensor



Hydraulic Fluid Condition
• Fluid Property Sensor



Hydraulic Fluid Pressure
• Microfused Pressure Sensor



Fuel Level
• Magnetic Reed Switch Sensor
• Reed Switch Based Level Sensor



Short to Long Stroke Boom Position
• String Pot Sensor



Hydraulic Oil Level
• Hall Effect Sensor



Load Pin
• Multi-channel Force Sensor



**Power Steering Fluid Level
Single or Multi-Point**
• Magnetic Reed Sensor



**Steering Control
Hydraulic Spool Valve**
• Linear Variable Differential
Transformer Position Sensor



Air Brakes
• Media Isolated Pressure Sensor



CABIN AND OCCUPANT SAFETY SENSOR SOLUTIONS

On and Off road vehicle operators encounter extreme weather and terrain, intense duty cycles and complex vehicle operation. Whether the vehicle application is short haul, long haul, construction, agriculture, forestry or mining, TE Connectivity sensors enable OEMs to build safer and more efficient vehicles that operators demand.



Anti-Fogging and HVAC
• Humidity and Dewpoint Sensor



Moving Parts Rotary Position
• Rotary Encoder



Seat Occupancy
• Load Cell
• Piezo Film Sensor



Cab and Seat Level
• Tilt Sensor or Switch



Seat, Handbrake and Footbrake Position Safety Interlock Switches
• Proximity, Hall and Vane Sensor



HVAC System Control
• Pressure Sensor



Ambient Air Temperature
• Temperature Sensor



Brake Light Switch
• Hall Sensor

ICT PRODUCT AND APPLICATION MATRIX	Flow	Fluid Property	Force	Humidity	Liquid Level	Piezo Film	Position	Pressure	Temperature
Engine Management	●	●		●	●		●	●	●
Aftertreatment System		●		●	●		●	●	●
Transmission		●			●		●	●	●
Vehicle Control and Management		●	●		●		●	●	●
Cabin and Occupant Safety			●	●		●	●	●	●

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