



Automotive Applications



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Wind tunnels
Crash testing
Motor sport
On-board & comfort testing equipment
On-board mobile OEM equipment

Sensors for Wind Tunnels

Sub-miniature flat pressure

Aero dynamism testing

[EPL-S625](#)



Position sensors LVDT

Tunnel actuator &
fan instrumentation

[MHR-050](#)



2-axis MEMs tilts

Inclination

[DQG](#), [DPG](#)



Pressure transducer

Pressure tunnel regulation

[EPIH](#)

[XPM10](#)



Pressure Scanner

Aerodynamic testing

[Initium](#)



Angular rate sensors

[620](#)



High frequency vibration sensors

Modal analysis

[7120A](#)



Temperature sensors for

heat flux measurement

[4610](#)



DC Accelerometer
Road simulation



IEPE Accelerometer
Under-hood vibration



Single axis load cell
Fatigue testing
[FN3042](#)
[FN3383](#)



Miniature Pressure
Fuel Line
XPR30
XPR36



High Temp Pressure
Transducer for Intake
& Exhaust
EPRB
XPC10



Braking system with
purge screw
FP1124-HT



Fluid properties combined sensor
Viscosity, density, temperature &
dielectric constant measurements
[FPS2800B12C4](#)



Multi-axis load cell
Dual axis production
tests
FN7405

Shock absorber
loadcells
[FN3229](#)
FN7178-2
FN7200



Wheel junction fatigue
testing
FN7325

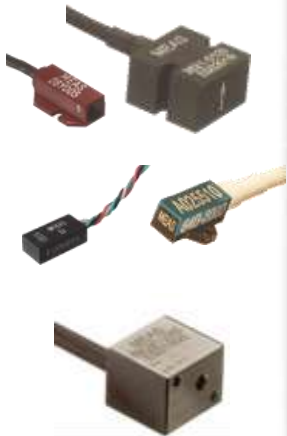


Crash Testing 1 - vehicle & wall

CAR Accelerometers
Frontal impact
1207A, 64C, EGAS

Side impact & tight space
1201, 1201F, 52

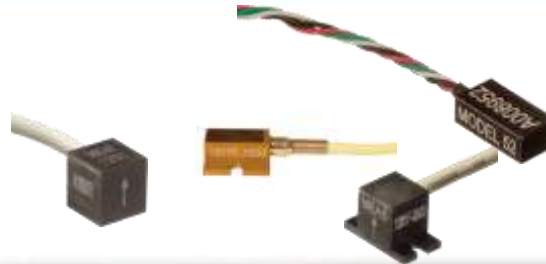
Sled testing
3621



Miniature pressure
Airbag deployment
XPM6 with MH option



Inclinometer
600



Load cell
High stiffness crash plate element
Table with 3x [FN3042](#)



Load cell
High stiffness crash wall element
Single axis,
[FN3000](#), [FN3042](#)



Multi-component up to 6 axis Force & Torque
[FN7325](#)



In-line seatbelt
[EL20](#), [FN4055](#)



Seatbelt pre-load rod
FN7460



Seat belt buckle
FN4070



Road testing and on-board sensors

Humidity sensors

Windshield fogging prevention



Engine Air Intake

- Optimize power
- Reduce NOx emissions



Fuel Cell Dew Point

- Optimize cell efficiency



Fluid properties

Engine air intake
(Pressure, temperature,
viscosity, density)

TRICAN



Multi-axis torquemeter

Steering wheel with
angle and velocity
FCA7300



Multi-axis load cell

Gear stick
FN7080



Load cell

Pedal
FN2114
FN2570



Hand brake command

FN2317
FNA7358



Pressure OEM

Refrigerant pressure for
air condition
Holding tank with fluid
level
Liquid sprayer control &
clog detection



Piezo-electric accelerometer

Triaxial seat comfort
606M2



Powertrain Sensors

Engine - Fuel System-Transmission



Fluid Properties

- Engine Oil - Quality & Contaminant Detection
- Transmission Oil - Quality & Contaminant Detection
- Fuel - Type & Biofuel Concentrations
- Urea SCR - Concentration & Quality



Air Humidity

- Engine Air Intake – Optimize Power
- Engine Air Intake – Reduce NOx Emissions
- Fuel Cell Dew Point – Optimize Cell Efficiency



Fluid Level

- Transmission Fluid
- Engine Oil
- Fuel Level
- Urea Level



Pressure

- Fuel Control
- Engine Oil and Dry Sump Oil Pump
- Differential Pressure – DPF Exhaust
- Differential Pressure – Standard Filter Media
- Transmission Fluid Pressures
- Fuel Pressure (Non-HPC)

Temperature

- Exhaust Gas Applications
DPF, Cat Injection
- Variable Valve Actuator (VVT) System
- Diverse Fluids and Materials Temperature Sensing



Position

- Throttle Position – MR
- Spool Valve Position – LVDT & MR



EGR,

Chassis - Steering and Articulated Hydraulics



Fluid Properties

- Brake Oil - Quality & Water Contaminant Detection
- Hydraulic Fluid – Quality & Contaminant Detection

Temperature

- Automatic Braking System Fluid
- Diverse Fluids
and Materials Temperature Sensing



Pressure

- Automatic Braking System (ABS) – Stability Control
- Air Brake – Main Line Management
- Hydraulic Ram Force – Articulated Hydraulic Systems
- Liquid Tank Level – Differential Pressure
- Safety Overload – Articulated Hydraulic Systems

Position

- Vehicle Level - Tilt
- Articulated Arm (boom) and Position
- Hydraulic Valve Position Inductive and MR
- Spool Valve Position – LVDT & MR
- Drive by Wire – MR
- Brake by Wire - MR



Force

- Electronic Brake System – Brake by Wire – Caliper Force
- Electronic Parking Brake - Caliper Force
- Payload Weight – Cargo Weight Management



Fluid Level

- Hydraulic Fluid
- Brake Fluid



MV Emphasis - Heavy Truck

Sensor Applications for Heavy Truck Over Road & Construction/Ag Vehicles

Engine Oil Level
(electronic "dipstick")



Engine Cylinder Temp
Exhaust Gas Temp



TRICAN
P+T+Rh Engine Air Intake



Urea/SCR Tank
Level & Quality



Urea Dosing Pressure & Temp



Hydraulic Pressure



Hydraulic Steering
Spool Valve Control



Platform Tilt / Level



Outrigger/Boom Extension



Transmission Fluid Level



Urea Quality (In Line)
Hydraulic / Engine Oil Properties
Fuel Discrimination / Quality

