



AUTOMOTIVE SAFETY TESTING SENSORS

Accelerometers collect thousands of data points during a vehicle crash test in a fraction of a second. TE Connectivity (TE) offers one of the most comprehensive portfolios of test & measurement (T&M) sensors in the industry. During collision testing, our sensors see what it takes to keep drivers safe behind the wheel. Automotive design engineers use information gathered by accelerometers to develop vehicles that protect the drivers and passengers involved in accidents. We utilize advanced manufacturing processes and calibration equipment to provide customers with some of the most accurate sensors in the industry. The world's largest automakers trust our sensors to help ensure cars are ready to go-to-market.

- VIBRATION
- PRESSURE
- FORCE
- ANGULAR RATE
- POSITION


















QUALITY CERTIFICATIONS

- ATEX1
- ISO 6487
- SAE J211/J2570

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AUTOMOTIVE SAFETY TESTING SENSORS






| Vibration | | | | | | | |
|---|-----------------------------|---|--|-----------------|------------------------|--|--|
| Model | Package | Type | Full Scale Range | Accuracy | Temperature Range [°C] | Typical Applications | |
|  64X | Anodized Aluminum | Screw Mount | 50, 200, 500, 2000 | Linearity <0.7% | -40 to +121 | In-dummy crash and impact testing | |
|  64B | Anodized Aluminum | Screw Mount | 50, 100, 200, 500, 2000, 5000 | Linearity <1.0% | -40 to +121 | In-dummy crash and impact testing | |
|  120I 120IF | Anodized Aluminum | 128 | 50, 100, 200, 500, 1000 | Linearity <1.0% | -40 to +85 | On-vehicle crash and impact testing, vibration & shock monitoring | |
|  52M30 | Plastic / Anodized Aluminum | Screw Mount | 50, 200, 500, 2000 | Linearity <1.0% | -40 to +90 | Vibration & shock monitoring, shock testing, safety impact testing, side-impact testing | |
|  52F | Anodized Aluminum | Screw Mount | 50, 200, 500, 2000 | Linearity <1.0% | -40 to +90 | Vibration and shock monitoring, shock testing, safety impact testing, side-impact testing | |
|  40A 40B | Anodized Aluminum | Screw Mount | 25, 100, 250, 500, 1000, 2000 | Linearity <1.0% | -20 to +90 | In-dummy and pedestrian crash testing | |
|  41 | Anodized Aluminum | Screw Mount | 100, 250, 500, 1000, 2000 | Linearity <1.0% | -20 to +80 | Safety crash testing, shock testing | |
|  43 | Anodized Aluminum | Screw Mount | 25, 50, 100, 250, 500, 1000, 2500, 5000 | Linearity <1.0% | -20 to +80 | Automotive testing, crush zone, impact testing, pedestrian, transient drop testing, helmet testing | |
|  58 | Anodized Aluminum | Adhesive Mount | 50, 100, 200, 500, 1000 | Linearity <1.0% | -20 to +85 | Crash testing, impact testing, off road testing | |
|  53A | Anodized Aluminum | Adhesive Mount | 50, 200, 500, 2000 | Linearity <1.0% | -20 to +85 | Auto safety, passenger comfort, transportation, NVH analysis | |
|  53AF | Anodized Aluminum | Screw Mount | 50, 200, 500, 2000 | Linearity <1.0% | -20 to +85 | Crash testing, impact testing, off road testing, road testing | |
|  68CM1 | Stainless Steel | Screw Mount | 500, 1000, 2000 | Linearity <1.0% | -20 to +85 | Auto safety, in-dummy crash, on-vehicle crash testing | |
|  EGAS-S398C | Stainless Steel | Screw Mount for EGAS-F, Adhesive Mount for EGAS | 5, 10, 25, 50, 100, 250, 500, 1000, 2500 | Linearity <1.0% | -40 to +120 | Sports and recreation, modeling, biodynamics, automotive and lab testing | |
|  4604 | Anodized Aluminum | Screw Mount | 2, 5, 10, 30, 50, 100, 200 | Linearity <0.5% | -55 to +125 | Road load, structural testing, test and instrumentation, transportation | |
|  4630M12 4630M14 | Titanium | Adhesive Mount | 2, 5, 10, 30, 50, 100, 200 | Linearity <0.1% | -55 to +125 | Road load, structural testing, test and instrumentation, performance | |
|  4810A | Stainless Steel | Screw Mount | 2, 5, 10, 20, 50, 100, 200 | Linearity <1.0% | -55 to +125 | Road vehicle testing, transportation, low frequency monitoring | |
|  4835A | Titanium | Screw Mount | 2, 5, 10, 30, 50, 100, 200 | Linearity <0.1% | -55 to +125 | Road load, structural testing, test and instrumentation, performance | |

SENSOR SOLUTIONS FOR AUTOMOTIVE SAFETY TESTING

Pressure





| Model | Package | Type | Full Scale Range | Accuracy | Temperature Range [°C] | Typical Applications |
|---|-----------------|------------------------|------------------|-------------------------------------|------------------------|---|
|  XP | Titanium | Threaded Pressure Port | 7 to 5K PSI | Linearity $\pm 0.25\%$ | -40 to +120 | Corrosive liquids and gases, braking systems, onboard equipment, R&D applications, extreme miniature devices |
|  EPRB | Stainless Steel | Threaded Pressure Port | 50 to 10K PSI | Linearity $\pm 0.25\%$ | -40 to +125 | Motor sport, hydraulic, pneumatic systems, automotive test stands |
|  EPB EPB-PW EPL | Titanium | Flush Diaphragm | 0.5 to 5K PSI | Linearity ± 0.5 to $\pm 1\%$ FS | -40 to +120 | Air flow testing, hydraulic pressure systems, bearing studies, miniature scale models, labs, pore water measurement |

Force



| Model | Package | Type | Full Scale Range | Accuracy | Temperature Range [°C] | Typical Applications |
|--|----------------------------|-------------------|--------------------|--|------------------------|--|
|  EL20-S458 | Titanium | Seat Belt Tension | 5K and 15K | 1.0% to 3.0% FS | -40 to +120 | Seat belt testing, safety and restraint systems, parachute tether and riser forces |
|  EL20-S688 | Titanium | Seat Belt Tension | 5K and 16k | 1.0% to 3.0% FS | -40 to +120 | Seat belt testing, safety and restraint systems, parachute tether and riser forces |
|  FN4055 | Aluminum Alloy (Package) | Tension | 100 to 300N | $\pm 0.25\%$ FS | -40 to +120 | Auto crash testing, tension at seat belt load |
|  FN2114 FN2570 | Aluminum Alloy (Package) | Compressive | 200 to 3K | $\pm 1\%$ (FN2114) $\pm 2.5\%$ (FN2570) | -20 to +80 | Brake pedal, clutch pedal, test bed |
|  FN4070 FN4080 | Aluminum / Stainless Steel | Screw Mount | 50, 200, 500, 2000 | $\pm 0.5\%$ FS | -20 to +80 | Auto crash testing, tension at the belt receptacle |

SENSOR SOLUTIONS FOR AUTOMOTIVE SAFETY TESTING

Angular Rate

| Model | Package | Type | Full Scale Range | Accuracy | Temperature Range [°C] | Typical Applications |
|---|-------------------|------------------------------|-------------------------------|---------------------|------------------------|--|
|  609 610 | Anodized Aluminum | Angular Rate Sensors | 50, 200, 500, 2000 | ±0.5% non-linearity | -40 to +105 | Auto safety crash testing, dummy instrumentation, pedestrian impact, rollover testing, motorsports |
|  603 | Anodized Aluminum | Angular Rate Sensors | 50, 100, 200, 500, 2000, 5000 | ±0.5% non-linearity | -40 to +105 | Auto safety crash testing, dummy instrumentation, pedestrian impact, rollover testing, motorsports |
|  633 | Stainless Steel | Six-Degree of Freedom Sensor | 50, 100, 200, 500, 1000 | ±0.5% non-linearity | -40 to +105 | Auto safety crash testing, dummy instrumentation, pedestrian impact, rollover testing, motorsports |
|  634 | Anodized Aluminum | Six-Degree of Freedom Sensor | 50, 200, 500, 2000 | ±0.5% non-linearity | -40 to +105 | Auto safety crash testing, dummy instrumentation, pedestrian impact, rollover testing, motorsports |

Position

| Model | Package | Type | Full Scale Range | Accuracy | Temperature Range [°C] | Typical Applications |
|---|----------------------------|--------------------------------------|---------------------|----------|---|---|
|  MT2A M150 | Aluminum | Voltage Divider | 0-1.5 to 0-5 inches | ±1.1% FS | -40 to +85 (MT2A) -55 to +100 (M150) | Automotive instrumentation, crash testing, auto & motorcycle racing |
|  MT2 MT3 | Aluminum and Polycarbonate | Voltage Divider, incremental encoder | 0-3 to 0-30 inches | ±1.1% FS | -55 to +125 | Automotive instrumentation, crash testing, auto & motorcycle racing |