Auto Safety
Interesting Accelerometer
Adaptations for Crash Testing

Leo Nieminen—Regional Sales Manager
Germany

Welcome
Sensors for

- Pressure
- Force
- Vibration
  - Position
  - Humidity
  - Temperature
  - Photo Optics
  - Piezo Film
Types and Popularity Level

- Packaged Piezoresistive (High)
- Packaged Amplified (Medium)
- Board Level (Low)
- Board Level Amplified (Very Low)
Crash Application: In-Dummy

- 61A/B
- 68C/68CM1
- 62
- 64
- 64B
- 64C
Crash Application: On-Vehicle

Auto Safety – MEMS Products
Auto Safety – MEMS Products

Ride Application: Road Test

4610

4621

4630
Model 61A/B
- In-dummy accelerometer
- Head, Chest and Pelvis Areas
- Stud Mounted

Adaptation
Closed cover to provide Ingress Protection against dust and moisture.
Model 52

- On-Vehicle Instrumentation
- Low Cost
- Adhesive Mounting
- Sub-miniature Design

Adaptation

Plastic cover and inexpensive cable for side-impact.
Model 53
- On-Vehicle Instrumentation
- Shock resistance to 5000 g
- Triaxial
- Low cost, low profile

Adaptation
No cover, low profile, inexpensive cable for high damage areas.

Impact Testing
Model 62
- In-dummy Instrumentation
- SAE J211 Footprint Compliant
- Screw Mounted

Adaptation
Large lettering for ease of sensor recognition by aging work-force.

Auto Safety Crash Testing
Model 64B/64C
- In-dummy Instrumentation
- SAE J211 Footprint Compliant
- Fits all mounting blocks

Adaptation
Extension of shock range from 2000 to 6000 g.

64C vs 64B - Identical performance but different footprint. Shorter than 64 or 62
Model 68C

- World SID, Side Impact
- Shock resistance to 5000 g
- Miniature Triax

Adaptation

Replaceable sensor modules and customer installable protective covering.
Model 1201
- On-Vehicle Instrumentation
- Shock resistance to 5000 g
- Gas Damping
- Low cost

Adaptation
Water-resistant construction can be submersed in water for >15 minutes at a time.

Impact Testing
Model 1202
- On-Vehicle Instrumentation
- Adhesive Mounting
- Low cost

Adaptation
Sensor design uses extra wire for self-test function.

Impact Testing
Auto Safety Products

All Models

Adaptation

Inexpensive connector and mating cable to increase life of sensor due to cable damage.
Model 1200’s

Adaptation

Customer-supplied cable rather than manufacturer’s cable.
Model 52

Adaptation

Miniature mounting block for high g, Model 52 makes uniaxial installation easy while converting an adhesive mount device to a screw mountable unit. Also available is block for triaxial mounting.
Models
62/64/64B/64C

Adaptation
Research on cable-jacket material composition provides solution to “gummy and tangled” silicon jacket
Model 1207

Adaptation
Custom design requiring cable strain relief, water-resistance, rugged yet attractive housing.
Auto Safety Products

All Models

Adaptation
Attachement of connectors with special wiring specifications and identification chips.
Adaptation

Some installations call for accelerometers to be mounting in mounting blocks with the bottom of the accelerometer facing the installer. In these instances, it is important to mark the accelerometer so that it can easily be recognized.
All Models

Adaptation

Special calibrations are often required to ensure ease of system integration with data acquisition equipment and power supplies.
Auto Safety Products

All Triaxial Models

Adaptation
Special cable configurations facilitate installation of triaxial accelerometers
Model 4621

Adaptation

Many test setups are designed for shunt-cal of unamplified units. A special adaptation of accelerometer circuitry allows amplified units to be shunt calibrated.
Auto Safety

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Thank You