Evaluate Passenger Safety With Detailed Impact Pressure Data

- High-speed system maximizes dynamic sensing accuracy, precision, reliability, and repeatability.
- High-quality visualizations provide real-time safety and design performance understanding.
- Advanced analysis and AI-powered algorithms provide actionable product performance insights.

Until now, the automotive industry has never had the ability to measure impact pressure at such high resolutions and speeds. Acquiring accurate data during impacts requires fast and responsive sensors and powerful software tools. HS Impact provides unprecedented analysis and detail on surface pressures during and after sudden impacts, allowing engineers to isolate issues and add effective solutions they can measure and repeat.

High-Speed Data Capture

HS Impact’s HX sensors contain thousands of sensing points, sampled at over 2,000 frames per second.* The data logger attaches to crash sleds and triggers remotely for repeated testing.

HX sensors are thin and conformable, with fast response rates and high-speed calibration that enables repeatable results on a cell by cell basis.

Impact Data Analysis

XSENSOR’s feature-rich HS Impact V8 software allows you to view live or post-process and analyze data. Recordings trigger remotely and synchronize with other high-speed data acquisition devices allowing you to:
- View pressure throughout the impact
- See product performance throughout the impact scenario
- Compare designs and modifications
HA Sensor Technology Corporation

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XSENSOR develops Intelligent Dynamic Sensing technology to improve safety, performance, and comfort.

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### XSENSOR Features

#### HX Sensors
- Thousands of sensing points
- Sample rate >2,000 fps
- Fast frequency response (3 dB point >100 Hz)
- Lightweight, highly flexible sensors are less than 1 mm thick
- Available in a range of sizes, pressure ranges, and resolutions

<table>
<thead>
<tr>
<th>Model</th>
<th>Sensing Area</th>
<th>Resolution</th>
<th>Pressure Range</th>
<th>Expected Frame Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>HX210:48.64.02</td>
<td>61 cm x 81 cm (24 in x 32 in)</td>
<td>12.7 mm (0.5 in)</td>
<td>0.007-2.25 kg/cm² (0.1-32 psi)</td>
<td>2,450 fps*</td>
</tr>
<tr>
<td>HX210:40.64.02</td>
<td>51 cm x 81 cm (20 in x 32 in)</td>
<td>12.7 mm (0.5 in)</td>
<td>0.007-2.25 kg/cm² (0.1-32 psi)</td>
<td>2,800 fps*</td>
</tr>
<tr>
<td>HX210:50.50.05</td>
<td>25.4 cm x 25.4 cm (10 in x 10 in)</td>
<td>5.08 mm (0.2 in)</td>
<td>0.07-7.03 kg/cm² (1-100 psi)</td>
<td>2,350 fps*</td>
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<td>HX210:25.50.05</td>
<td>12.7 cm x 25.4 cm (5 in x 10 in)</td>
<td>5.08 mm (0.2 in)</td>
<td>0.07-7.03 kg/cm² (1-100 psi)</td>
<td>2,900 fps*</td>
</tr>
<tr>
<td>HX210:15.15.05</td>
<td>7.6 cm x 7.6 cm (3 in x 3 in)</td>
<td>5.08 mm (0.2 in)</td>
<td>14.06 kg/cm² 200 psi</td>
<td>7000 fps</td>
</tr>
<tr>
<td>HX210:40.64.02</td>
<td>51 cm x 81 cm (20 in x 32 in)</td>
<td>12.7 mm (0.5 in)</td>
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#### HS Impact V8 Software
- Establishes recording rates and synchronization protocols to generate high-speed data acquisition
- Data files recorded to the data logger are downloaded and configured for viewing and analysis
- View data live at frame rates exceeding 1,000 fps (with an Ethernet connection from the data logger)

#### HS Data Logger
- Configures and controls the HS Sensor Pack
- Detects user defined trigger condition
- Records data from up to 4 sensor packs and up to a total 256 x 256 sensing array
- Operates in either streaming via Ethernet from high-speed recording internal RAM
- Programmable triggers and pre/post-trigger information (both external signal or pressure threshold triggers are supported)
- Supports autonomous operation
- Rugged electronics, tested at over 50G with no failure

#### HS Sensor Pack
- Scans sensor data at up to 8,000,000 sensels/second with 16-bit resolution
- Connects directly to the controller via LVDS signals

*Frames per second refers to the actual number of frames of data recorded and those can be viewed with the software. Frame rates estimated using the HS Data Logger in data logging mode.

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About XSENSOR

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