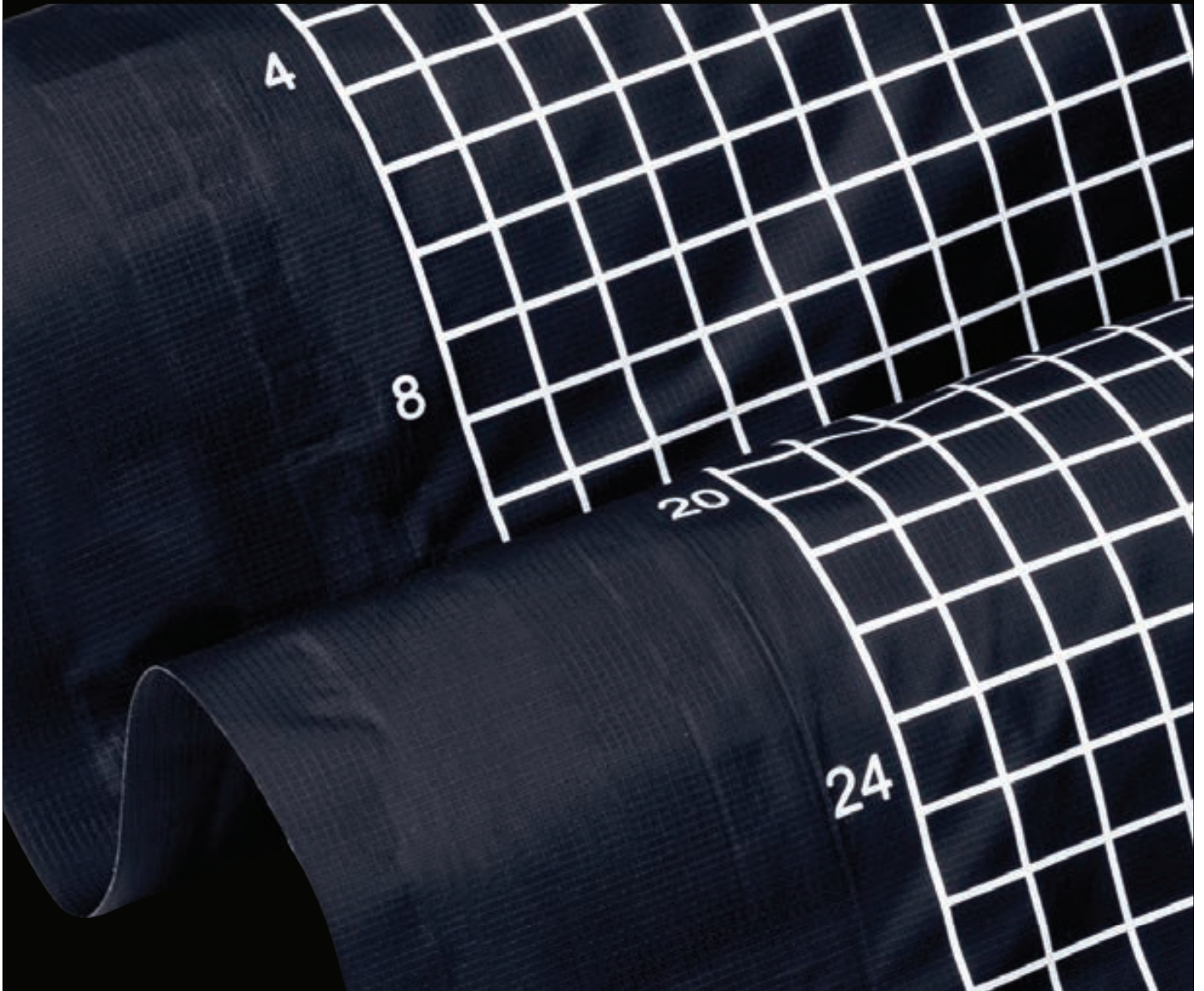


TEST & MEASUREMENT

PRODUCT CATALOGUE



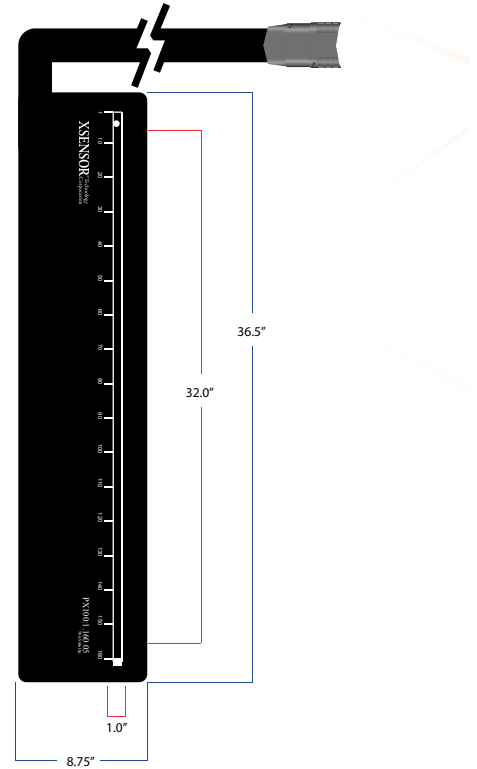
XSENSOR[®] Technology
Corporation

PRODUCT DESCRIPTION

The X3 PX100:10.160.10-05 is a high resolution wiper blade sensor which replaces the PX100:1.160.05. The sensing area has been made wider (2.54cm) and provides more sensing points. The new design is more sensitive to lower pressures and provides better line load estimates. The sensor has been specifically made to test the profiles of wiper blades and the wiper blade arms.

The sensor design is based on industry needs for assessing and comparing different wiper blade profiles and different wiper blade designs. The sensor can be mounted onto a test bench or taped onto a windshield. Wiper blades are then moved onto the sensor area and a repeatable and consistent pressure profile can be viewed and compared using the X3 PRO Software.

PX100:10.160.10-05



SENSING	
Sensor Technology	Capacitive Pressure Imaging
Pressure Range	0.1 – 3.87 psi
	0.07 – 2.7 N/cm ²
Spatial Resolution	0.1" x 0.2"
	2.54cm x 5.08mm
Accuracy	± 10% full scale*
Sampling Frame Rate	20 frames/s**

PHYSICAL CHARACTERISTICS		
Total Area	8.75" x 36.5"	22.2cm x 92.7cm
Sensing Area	1.0" x 32"	2.54cm x 81.3cm
Thickness (Sensing Area, uncompressed)	0.03"	0.08cm
Thickness (Border – cabling side)	0.08"	0.2cm
Border Width (cabling side)	3", 6.25"	7.6cm, 15.9cm
Border Width (non-cabling side)	1.5"	3.8cm
Cable	43.5" x 2" x 0.5"	110.5cm x 5.08cm x 1.2cm
Connector	4.76" x 2.76" x 0.9"	12.1cm x 7.0cm x 2.3cm

SENSING	
Ambient Temperature	10°C–40°C
Ambient Humidity	5% to 90% RH

KEY FEATURES

- High-resolution sensors has a 2.54mm row resolution x 5.08mm column resolution with 1,600 sensing points
- Designed for viewing the pressure profile of a wiper blade on a windshield or test bench
- Provides consistent and repeatable profiles
- Very stable images with little variance
- Maintains calibration, limited recalibration required

REQUIREMENTS FOR OPERATION

- X3 Pro Sensor Pack
- X3 Pro Platform
- X3 Pro Power Supply
- X3 Pro Software

* When verified using the standard XSENSOR verification process.

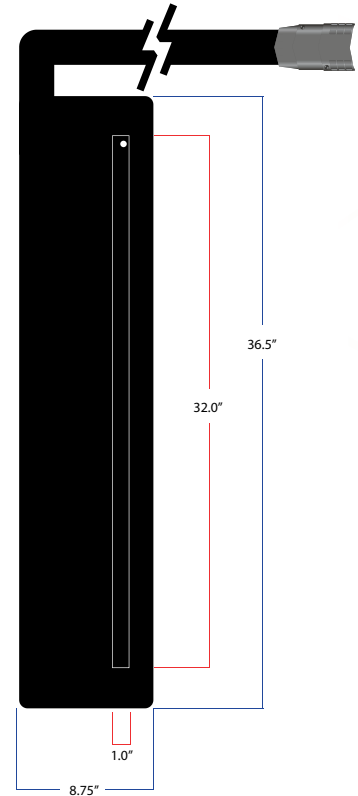
**Sampling rate based on using X3 PRO Electronics. Frame rate may vary based on computer configuration.

PRODUCT DESCRIPTION

The X3 PX100:10.64.10-02 is a high resolution wiper blade sensor which replaces the PX100:1.64.02. The sensing area has been made wider (2.54cm) and provides more sensing points. The new design is more sensitive to lower pressures and provides better line load estimates. The sensor has been specifically made to test the profiles of wiper blades and the wiper blade arms.

The sensor design is based on industry needs for assessing and comparing different wiper blade profiles and different wiper blade designs. The sensor can be mounted onto a test bench or taped onto a windshield. Wiper blades are then moved onto the sensor area and a repeatable and consistent pressure profile can be viewed and compared using the X3 PRO Software.

PX100:10.64.10-02



SENSING	
Sensor Technology	Capacitive Pressure Imaging
Pressure Range	0.1 – 3.87 psi
	0.07 – 2.7 N/cm ²
Spatial Resolution	0.1" x 0.5"
	2.54cm x 12.7mm
Accuracy	± 10% full scale*
Sampling Frame Rate	40 frames/s**

PHYSICAL CHARACTERISTICS		
Total Area	8.75" x 36.5"	22.2cm x 92.7cm
Sensing Area	1.0" x 32"	2.54cm x 81.3cm
Thickness <small>(Sensing Area, uncompressed)</small>	0.03"	0.08cm
Thickness <small>(Border – cabling side)</small>	0.05"	0.13cm
Border Width <small>(cabling side)</small>	3" 6.25"	7.6cm, 15.9cm
Border Width <small>(non-cabling side)</small>		3.8cm
Cable	43.5" x 2" x 0.16"	110cm x 5.1cm x 0.4cm
Connector	4.76" x 2.76" x 0.9"	12.1cm x 7.0cm x 2.3cm

SENSING	
Ambient Temperature	10°C–40°C
Ambient Humidity	5% to 90% RH

KEY FEATURES

- High-resolution sensors has a 2.54mm row resolution x 12.7mm column resolution with 640 sensing points
- Designed for viewing the pressure profile of a wiper blade on a windshield or test bench
- Provides consistent and repeatable profiles
- Very stable images with little variance
- Maintains calibration, limited recalibration required

REQUIREMENTS FOR OPERATION

- X3 Pro Sensor Pack
- X3 Pro Platform
- X3 Pro Power Supply
- X3 Pro Software

* When verified using the standard XSENSOR verification process.

**Sampling rate based on using X3 PRO Electronics. Frame rate may vary based on computer configuration.

SOFTWARE PRO V8

PRODUCT DESCRIPTION

The PRO V8 Software is an essential part of the PRO V8 product series. Developed with the power user in mind, the PRO V8 Software features a faster, more powerful engine with enhanced analytical tools. The software package offers 2D, 3D, and graphing view options. The data is viewed dynamically and recorded as a XSENSOR file format. Recorded data can be exported for further analysis or imported into other applications such as Matlab.

The PRO V8 software has many analytical tools for general research purposes as well as specific functions and tools for automotive and tire designers. Easily stream video along pressure images, create sensor groupings, make measurements, and compare multiple files.

PRO – SOFTWARE FEATURES

Engine Performance Improvements

- Collected data is saved immediately to the disk, thereby reducing the risk of data loss
- Over 100% faster frame rate for a 4 sensor pack system with 65,536 sensing points
- Load or save up to 500GB files in under 1 second
- Allows for sessions with up to 100 million frames or 500GB of data

File Comparison Tools

- Simultaneous playback of up to 4 files
- Multiple frame and file comparisons
- Windshield wiper sensor users can graph multiple files for product and data comparisons

Measurement Tools

- Line measurement allows users to measure pressure image dimensions
- Area measurement allows users to calculate areas within a pressure image

Imaging Tools

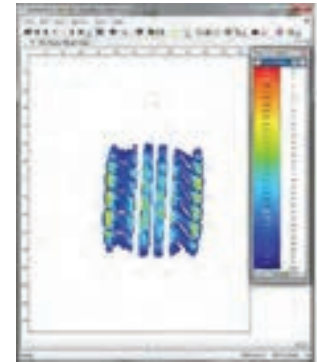
- Thumbnail preview strip displays each frame in filmstrip format
- Thumbnail view includes preview of attached videos, photos, and notes
- Improved overall frame navigation
- Improved 2D zoom functionality

Export/Analysis Tools

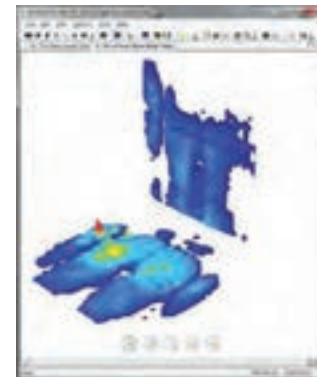
- Copy, paste and select pressure values from 2D image directly into spreadsheet
- Export a sensor group in its original shape directly into a spreadsheet
- Copy and paste cross-section values into spreadsheets (cross-hair or average)
- Export files into html-viewable format

* Dual core processor computer required. Also dependent on sensor configuration.

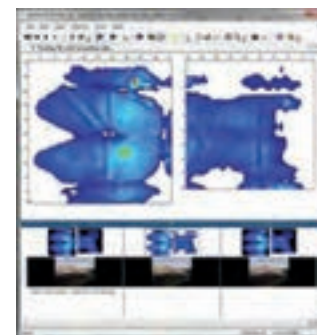
PRO V8 Software



2D Car Tire
(IX500:256.256.22)

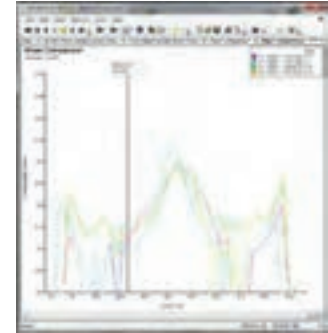


3D Car Seat
(LX100:48.48.02)

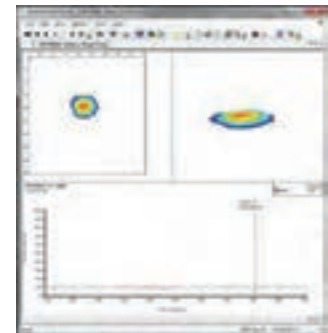


Video Streaming Car Seat
(PX100:40.40.02 & PX100:36.36.02)

FEATURES	
X3 Connection Status	View the connection status of all sensors, sensor packs, and electronics* connected to your computer. Toggle the view mode to see sensor usage statistics, such as when the sensor was last calibrated and the length of time the sensor has recorded data.
Dynamic Preview Mode	View live, dynamic data before recording to ensure relevant information is captured.
Record Live Pressure Imaging Sessions	Capture and record pressure imaging data for analysis and review.
Time and Recording Triggers	Set recording session delays and triggers to capture specific data.
Pressure Movie Creation	Generate movie files in XSENSOR software to share dynamic sessions with those who do not have XSENSOR software.
Video Sync	Record and synchronize digital video (DV) cameras, using IEEE 1394 FireWire or USB webcams to XSENSOR pressure imaging files.



2D Wiper Blade Comparison (PX100:1.64.02)



Air Pressure on Sensor (PX100:36.36.02)

VIEWS	
Each XSENSOR view mode has multiple settings and options to control sensor data viewing:	
2D	Top view of the sensor shows pressure levels in different colours defined by the pressure isobar legend; view can be rotated or flipped to match positioning.
3D	Perspective view of the sensor shows pressure levels in different colours and height contours; rotate view in any direction to maximize visual clarity.
Frame Compare	Show up to 4 snapshots side-by-side for easy comparison.
Pressure vs. Time	Graph pressure readings over time; pressure reading can be either peak or average for the sensor.
Numeric Mode	2D mode shows numerical pressure readings in each sensing cell and dynamic full-colour display.

The most powerful pressure imaging software just got better. Introducing ProV8.

XSENSOR's Pro software has been the industry leader for pressure testing and measurement for years. Pro software provides a dynamic way for design and test engineers to gather pressure data in high resolution and process the information for comparisons and calculations. It's ease-of-use, stability and data integrity makes it the go-to tool for automotive and performance engineers working in a wide range of applications.

Pro software features include:

- Record live, real-time interface pressures
- View pressure images in 2d and 3d
- Stream video
- Analyze, review, and export pressure data:
 - Select frames and sensor groups within recordings
 - Compare frames
 - Analyze peaks/averages
- Advanced toolsets for tire/seating/wiper design

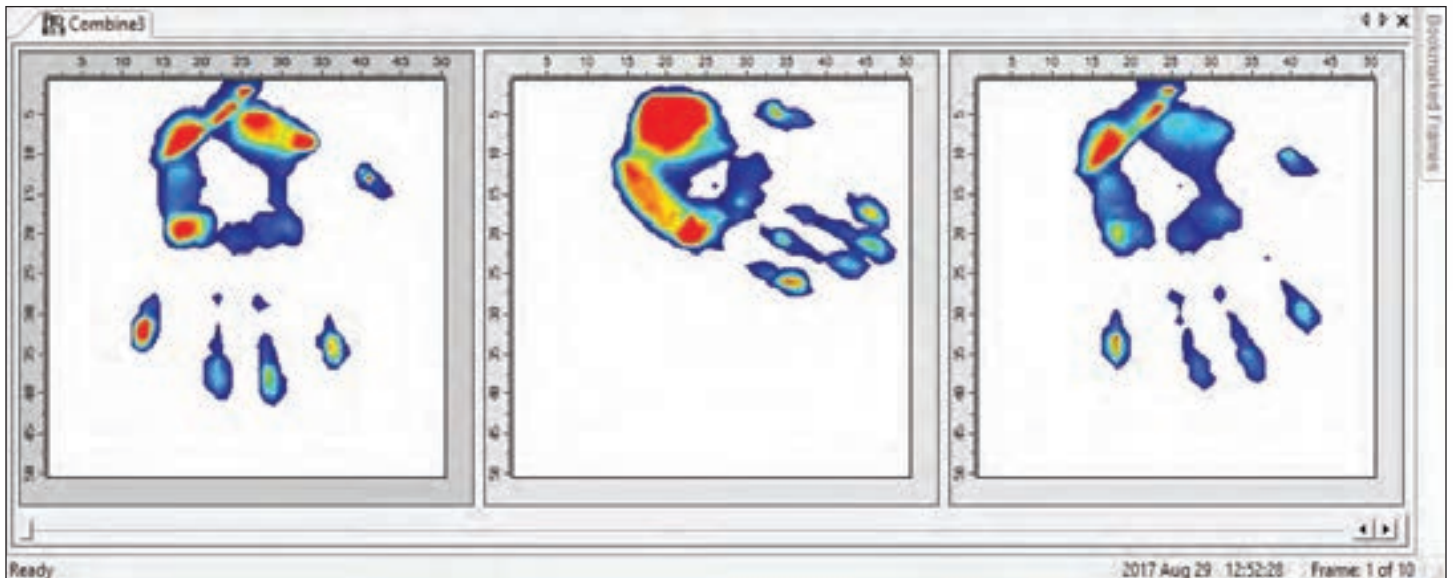
WHAT'S NEW IN VERSION 8?

BATCH EXPORT OF RAW OR CALIBRATED FILES

With the release of ProV8, engineers can now record sessions in RAW mode and then apply a calibration file to one, or more recorded files at the same time. So, no matter where the session is recorded, a single calibration file can be applied to all of the data.

MERGE RECORDINGS FROM DIFFERENT SENSORS

Sessions can now be merged using sensors of different shapes and sizes and data can be appended or combined into a single continuous file. You can now combine the data from up to eight sensors and have the ability to show them all running simultaneously, side-by-side, within one window.

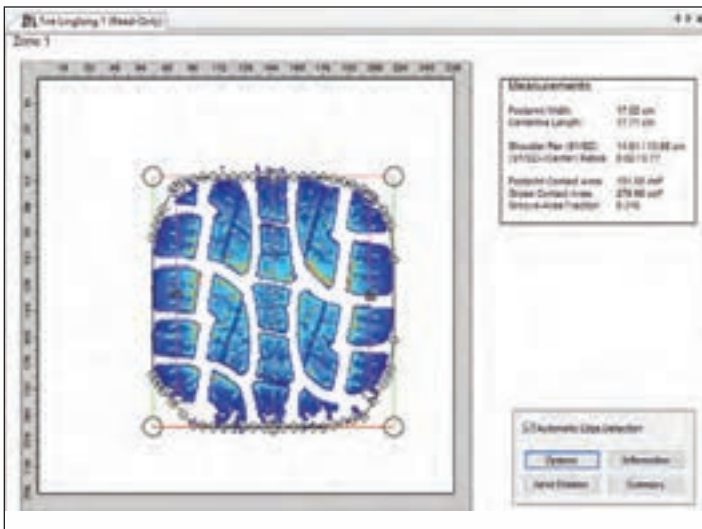


MORE CONTROL OF DATA EXPORTS

Powerful improvements in export controls make working with large data sets simple. Users can export only the data that is needed for analysis. And with ProV8, a frame, or series of frames can now be exported at intervals determined by the user, with a wider selection of export formats including .xsensor, .csv, and more.

NEW TIRE DESIGN FEATURES

A new feature of ProV8 is especially beneficial to tire designers who are now better able to measure contact areas and determine how edges of the tire contact patch will be rendered. And the ability to export an .svg file means that pressure images can be printed to scale.



IMPROVED GRAPHICS

Pro software provides a visually rich environment for viewing and assessing data. With ProV8, sensor margins are more clearly defined, making it easier to focus on areas of interest. Improvements to measurement tools, zoom functionality and sensor positioning makes it easier than ever to see what needs to be seen, and measure what needs to be measured.

New Features and Enhancements

Merge Sessions

- Allows the combining of separate session files. Useful for side-by-side data analysis

Export Sessions

- Scalable Vector Graphics (SVG) 2D export which allows full scale printing via third-party support
- New frame selection methods for exporting frames including regular intervals and frame averaging
- Sensors can be reordered during export
- Bookmarked Frames allows users to highlight frames of interest for quick navigation and export

User Interface Enhancements

- Sensor Group center of pressure indicators
- Size of "Center of Pressure Indicator" now adjustable
- 2D sensor margins with sensel counts or length units
- Optional manual placement of the sensors in 2D and 3D
- Improved sensel magnification in 2D
- 2D/3D contouring using b-cubic magnification for smoother rendering

Other

- Raw sessions can be converted to calibrated sessions
- Video capture from two web cameras
- Improved playback performance
- Improved time stamp accuracy
- Recording rate can be modified for existing sessions
- XSNReader DLL allows direct access to XSN files via a C programming interface

For more information, contact us at:

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