



MeasureX User Manual

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*This user manual
will guide you
through installing
MeasureX and your
SensorEdge sensors
and using the many
features of
MeasureX.*

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Installing MeasureX and Devices

Installing the Software

1. Plug your SensorEdge flash drive into your computer, and open it in Windows Explorer.
2. Open the Software folder and then the MeasureX folder.
3. Double click the file “setup.exe” and follow the instructions from the installation wizard window.
4. When installing, a second window appears for the installation of the video driver. This window sometimes appears behind the installation wizard. Install this driver for the video and click complete.
5. MeasureX will automatically complete the install. Click finish. When through, you may launch MeasureX and begin using the software.

Installing the Device Driver

1. On the SensorEdge flash drive, open the Software folder and then open the Devices folder.
2. Right click the mxd file and click copy.
3. Double click the shortcut that corresponds with your version of Windows. This brings you to the devices folder of the software.
4. Right click within the window and click paste. The .mxd file should have been pasted into this folder. If not, return to step 1 and try again. Do not delete the V Seat, V Man, or V Feet devices.

Before you can use your device, ensure that you have copied the device driver (sample.mxd) to the devices folder of MeasureX (C:\ProgramData\SensorEdge\MeasureX\Devices). View instructions on how to do this in the [“Installing the Software”](#) section.

Wired Sensors

Wired Option 1: Direct Connection from Computer to Sensor via USB

1. Plug the USB cable into the USB port on the device. This may be embedded as with the Balance Plate or in an external box as with the Seat Sensor.
2. Plug the other end of the cable into your computer.
3. Go to MeasureX and click **record**. The software will ask you to set up the initialize the device. Continue through the options as the software recognizes your sensor.
4. If no device is found, unplug the cable from your computer and use a different USB port. Also, ensure the USB is plugged in properly to the device.

Wireless Sensors

Before using your wireless sensor, charge the device for approximately 3 hours using the included USB cord and wall adapter. Make sure the device is off when charging. [Option 1](#) is the simplest option. To connect over an existing wireless network, see [Options 2](#) or [Option 3](#).

Option 1: Direct Connection between Computer and Sensor through Wi-Fi.

This is the simplest method for wireless communication, but this method will prevent you from accessing the internet unless you are able to use a second wireless networking card or LAN connection.

1. Turn on the sensor. Wait 30 seconds.
2. On your computer, open the list of available wireless networks. This is usually in the bottom right of your computer screen, near the time and date.
3. Find for your device in the list of networks. The name will be **SensorEdge_Wireless_xxx**.
4. Connect to this network using the password “**sensoredge**”. Notice the password is in **lowercase**.

5. Once connected, launch MeasureX.
6. Locate your device in **Device Dropdown** in the [Device toolbar](#).
7. Click the **record** button. You should see the session begin.
8. If not, click the [Device Settings](#) button on the [Device toolbar](#).
9. Click the radio button next to **IP Address**.
10. Enter the following IP Address in the field to the right: [192.168.100.1](#)
11. Click **OK**. You may now begin recording sessions.

Option 2: Connection through Wireless Network (Initial Setup via Wi-Fi)

1. Turn on the Sensor. Wait 30 Seconds.
2. On your computer, open the list of available wireless networks. This is usually in the bottom right of your computer screen, near the time and date.
3. Open a browser. We recommend using Google Chrome or Firefox. **We do not recommend using Internet Explorer.**
4. Find for your device in the list of networks. The name will be SensorEdge_Wireless_xxx, where xxx is the serial number.
5. Enter the IP address [192.168.100.1](#) into the address bar and hit enter.
6. Click **Join Network**
7. Find the network through which you will be connecting to the sensor on the list.
8. If joining a hidden network, scroll down and click "Other Networks".
9. Fill in the information about your network.
 - a. The **"SSID"** is the name of the network to which you are connecting.
 - b. The **"Password"** is the password or key for the network. Only the SSID and Password are required to connect through DHCP.
 - c. Enter the **IP address** to produce a static IP connection.
 - d. Entering the remaining four fields will ensure the connection is correct. If you do not enter information for these fields, the device will attempt to obtain the information automatically.
10. Click **Apply**. Wait 30 seconds.
11. Launch **MeasureX**
12. Locate your device in **Device Dropdown** in the [Device toolbar](#).
13. Select the Device **"SensorEdge_Wireless_xxx"**
14. Click the [Device Settings](#) button (also available in the menu [Device > Device Settings](#)).
15. Click the radio button next to **IP Address**.
16. Click **Scan Network**. MeasureX will attempt to find the IP address of the sensor and fills in the form with the address. If you gave the device a fixed IP address, you may enter it manually.
 - a. If a message saying, "No MeasureX wireless devices found" appears, repeat Steps 2-16.
17. Click **OK**. You may now begin recording sessions.
18. If MeasureX fails to find the IP address, restart the device and either restart the steps in [Option 2](#), or try using the method in [Option 3](#).
19. Once these steps are completed, you will be able to connect to the sensor whenever you launch MeasureX.

Option 3: Connection through Wireless Network (Setup via Ethernet)

For devices equipped with an Ethernet port. Though you are setting up the wireless connection with an Ethernet cable, you will be able to access the device wirelessly after the initial setup

1. Turn on the sensor.
2. Connect the sensor to your computer using the included Ethernet cable.

3. Wait 30 seconds.
4. Open a browser. We recommend using Google Chrome or Firefox. We do not recommend using Internet Explorer.
5. Enter the IP address [192.168.99.1](#) into the address bar and hit enter.
6. Click **“Join Network”**
7. Find the network through which you will be connecting to the sensor on the list.
8. If joining a hidden network, scroll down and click **“Other Networks”**.
9. Fill in the information about your network.
 - a. The **“SSID”** is the name of the network to which you are connecting.
 - b. The **“Password”** is the password or key for the network. Only the SSID and Password are required to connect through DHCP.
 - c. Enter the **IP address** to produce a static IP connection.
 - d. Entering the remaining four fields will ensure the connection is correct. If you do not enter information for these fields, the device will attempt to obtain the information automatically.
10. Click **“Apply”**. Wait 30 seconds.
11. Refresh the page. If the status shows you are connected to your institution’s network, proceed to step 12. If the status shows you are still connected to **“SensorEdge_Wireless_xxx”**, check your network password and repeat Steps 4-11.
12. Launch **MeasureX**
13. Locate your device in **Device Dropdown** in the [Device toolbar](#).
14. Select the Device **“SensorEdge_Wireless_xxx”**
15. Click the [Device Settings](#) button (also available in the menu [Device > Device Settings](#)).
16. Click the radio button next to **IP Address**.
17. Click **Scan Network**. MeasureX will attempt to find the IP address of the sensor and fills in the form with the address. If you gave the device a fixed IP address, you may enter it manually.
 - a. If a message saying, **“No MeasureX wireless devices found”** appears, repeat Steps 2-16.
18. Click **OK**. You may now begin recording sessions.
19. If MeasureX fails to find the IP address, restart the device and either restart the steps in [Option 2](#), or try using the method in [Option 3](#).
20. Once these steps are completed, you will be able to connect to the sensor whenever you launch MeasureX.

Option 4: Direct Connection from Computer to Sensor via Ethernet

For devices equipped with an Ethernet port.

1. Turn on the sensor.
2. Connect one side of the included Ethernet cable to the sensor and the other side to your computer.
3. Launch MeasureX
4. In the [Dropdown Device Menu](#), select the device **“SensorEdge_Wireless_xxx”**
5. Click the [Device Settings](#) button (also available in the menu [Device > Device Settings](#)).
6. Select the **IP Address** box and enter the IP address [192.168.99.1](#) manually in the box above the **Scan Network** button.
7. Click **OK**. You may now begin recording sessions.

Troubleshooting

Before contacting SensorEdge with support questions, ensure you have the proper network names and passwords, have entered them correctly, and that your device is fully charged. If one method fails, we encourage you to try another. If you are still experiencing problems, call SensorEdge at (973) 975-4163 for

support. You may need to have your computer connected to the internet and the device simultaneously for screen sharing and remote control.

Notes: Installing MeasureX and Devices

This area is intentionally left blank for you to record notes about your installation of the software and hardware.

Menus

File

1. **Open:** Open a previously recorded session
2. **Save:** Save the current session as a .mxs (MeasureX), CSV, or XML file.
3. **Export as AVI:** Export the current session as a video file (.AVI)
4. **Print:** Print the current session frame with key data points to a paper or electronic record. You can email or upload the electronic record as well. View more information about printing in the [Toolbars Section](#) under the Headings [View>Print](#).
5. **Exit:** Closes MeasureX. You will be prompted to save any unsaved, open sessions.

Edit

1. **Copy Frame with Header:** Copies all data from the current frame with header labels. You can paste the data into Microsoft Excel or similar software.
2. **Copy Frame without Header:** Copies all data from the current frame without header labels.
3. **Copy Active Selection with Header:** Using the Mask Manager tool, it copies all numerical data from the current selection with header labels.
4. **Copy Active Selection without2 Header:** Using the Mask Manager tool, it copies all numerical data from the current selection without header labels.

View

1. **2D Window:** Displays the 2D pressure map window
2. **3D Window:** Displays the 3D pressure map window
3. **Pressure Distribution Chart:** Displays the Histogram/Color Legend Window
4. **Average Pressure Chart:** Displays the Average Pressure Chart
5. **Video Window:** Displays the video window for video playback
6. **Mask Manager:** Displays the Mask Manager in the 2D window
7. **Interpolation:** Samples data and shows draws the result on the 2D and 3D maps
8. **Cell Values:** Displays the value of each cell on the 2D pressure map
9. **2D Grid:** Displays a grid over the 2D pressure map
10. **Center of Gravity:** Displays the center of pressure on the sensor
11. **Color Adjustment**
 - a. **Auto Color:** Colors the map based on data points
 - b. **Active Mask Auto Color:** Colors the map based on data points in an active mask
 - c. **Reset Color:** Resets the color
12. **Navigation Bar:** Displays the Navigation toolbar
13. **Comments:** Displays the comments field

Device

1. **Record Session:** Starts recording a pressure mapping session
2. **Stop Recording:** Stops the recording of the current session
3. **Device Settings:** Opens the [Device Settings](#) window
4. **Video Source:** Allows you to set up your camera to record video during a pressure mapping session. To set up your camera to work with MeasureX, hover over Video Source > USB Camera > Configure Frame Rate, and click the default value presented.

Session

1. **Play:** Playback the session in real time
2. **Rewind:** Replays the session in reverse
3. **Stop Replay:** Stops the playback
4. **Show Next Frame:** Displays the next frame in the session
5. **Show Previous Frame:** Displays the previous frame in the session

6. **Session Info:** Displays information about the current session
7. **Close Session:** Closes the current session. A prompt asks to save unsaved sessions.
8. **Session Settings:** Displays the [Session Settings](#) window.

Help

1. **About:** Displays the splash screen with version number

Toolbars

Device Toolbar

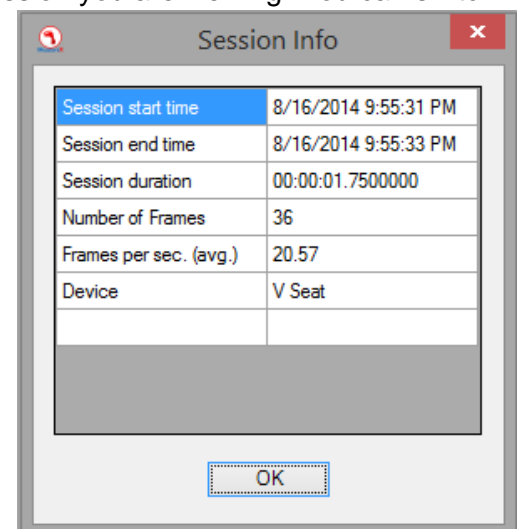


1. **Device:** Choose which device you are using from this drop down menu. The software comes equipped with three virtual devices: V Feet, V Man, and V Seat. Use these for practice, demonstrations, and training when a sensor is unavailable.
2. **Record:** Click this icon to begin recording a session. Note: If the device you selected has not been used by the software before, you will be prompted to scan and set-up the device.
3. **Stop:** This button will stop the recording of the current session.
4. **Session Settings:** This button will bring you to the [Session Settings window](#) where you can control different aspects of how the sessions are recorded and displayed.
5. **Video:** This button allows you to turn on or turn off video recording for the session. The video will record if this button is selected, regardless of whether or not the video window is selected in the [View](#) toolbar. If you have not set up your webcam or other video capturing device to work with MeasureX, refer to [Menus > Devices > Video Source](#).

Session Toolbar



1. **Session:** The Session drop down displays the name of the session you are viewing. You can switch between the other sessions by clicking the arrow at the end of the box and choosing a session you have recorded or opened since starting the software. Each time you record, a new session is created. To rename the session, click the session, press the F2 key on your keyboard, and rename the session.
2. **Close Session:** The Close Session button will close the session and remove it from the drop down list. If you have not previously saved the session you are closing, you will be prompted with the option to save the session, or continue closing the session and permanently delete the session.
3. **Rewind:** Replays the session in reverse.
4. **Stop:** Stops the playback.
5. **Play:** Replays the session in real time.
6. **Previous Frame:** Displays the previous frame in the session.
7. **Next Frame:** Displays the next frame in the session.
8. **Session Info:** Displays information about the current session. See image to the right.
9. **Session Settings:** The Session Settings button displays the menu for the [Session Settings](#).
10. **Open:** Open a saved session.
11. **Save:** Save the current session
12. **Session Navigator:** View a frame-by-frame visual layout of the session to review and compare changes throughout the session. Use the bar to choose between viewing every 1, 2, 5, 10, 20, 50, 100, 200, 500, or 1000 frames.



- Printing:** The printing function enables you to create reports based on the current frame you are viewing in a session. You can print to any printer installed on your computer.

Email: You can also use this feature to save the report electronically and upload or send it to another system or user. To do so, select a printing option that allows you to print to a file such as a PDF, XPS document or Microsoft One Note.

View Toolbar



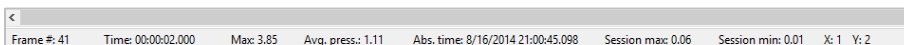
- 2D Window:** View or close the 2D pressure mapping window
- 3D Window:** View or close the 3D pressure mapping window
- Pressure Distribution Chart:** View or close the Histogram/Color Legend window
- Average Pressure Chart:** View or hide the Average Pressure Chart
- Video Window:** View or hide the webcam window
- Mask Manager:** View or hide the Mask Manager features in the 2D window. View more information about using the Mask Manager in the Settings Section under the headline [Mask Manager](#).
- Interpolation:** Use blend to smooth the 2D pressure map and see a clear picture of the pressure. You may also turn off blend to view the pressure-realed color of each individual cell, resulting in a cell-by-cell block display.
- Cell Values:** View or hide the pressure values for individual cells in the 2D pressure mapping window. Values are displayed in the individaul cells.
- Grid:** View or hide a grid overlay on the 2D pressure map
- Center of Gravity:** View or hide the center of gravity indicator on the 2D pressure map.
- Auto Color:**
 - Auto Color:** Assigns a color palette based on the highest pressures in the frame for 2D and 3D pressure maps.
 - Active Mask Autocolor:** Assigns a color palette based on the highest pressures in the current mask. This is only applicable when using Mask Manager
 - Reset Color:** Removes color from the 2D and 3D pressure maps.
- Navigation Bar:** View or hide the Navigation bar
- Comments:** View or hide the comments field at the bottom of the screen
- Stack Windows:** Automatically arranges open windows to fit neatly within the MeasureX screen.

Navigation Toolbar



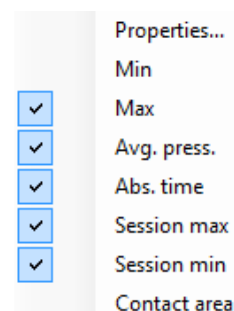
To display the Navigation Toolbar, click the Navigation Bar button on the [View toolbar](#). Use the tracker to quickly move between different parts of the session, or enter a specific frame number.

Status Toolbar



Right click the Status Toolbar to view the data you can display. Note that a check mark signals the data for that property is displayed.

- Properties:** Change which data is displayed
- Min:** The minimum pressure recorded in the current frame
- Max:** The maximum pressure recorded in the current frame
- Avg. Pressure:** The average pressure in the current frame
- Abs. Time:** The timestamp of the current frame in relation to the length of the session
- Session Max:** The highest recorded pressure value for the entire session
- Session Min:** The lowest recorded pressure value for the entire session



8. **Frame #:** The frame number you are currently viewing
9. **Contact Area:** The square inches actively reading pressure in the current frame, followed by the percentage of sensors covered in the parentheses.

Settings

To access the settings menus for Device and Session, click their respective buttons on the toolbar. To access settings menus for the other windows, right click the window and click “Properties.”

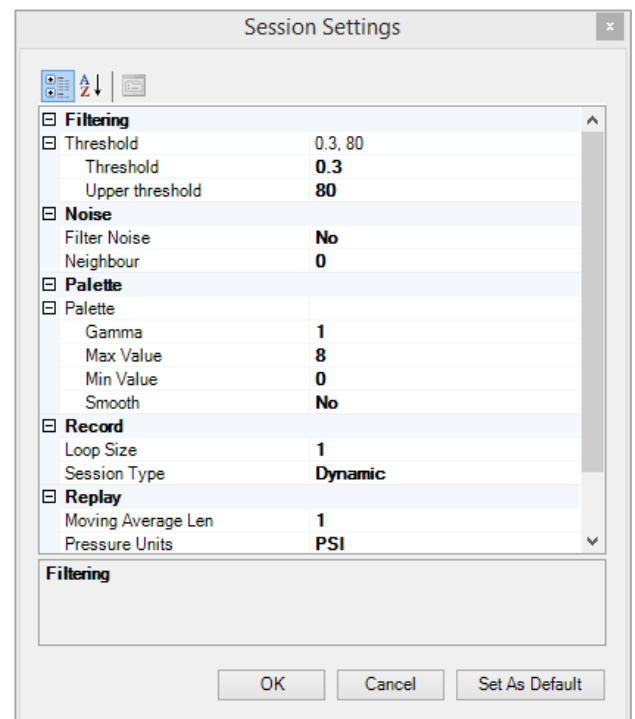
Device Settings

1. **Serial Port:** This displays which USB port your device is using. If you use a different USB port, MeasureX will automatically scan the USB ports in your computer for the device when you click Record.
2. **IP Address:** For wireless sensors only. Click the IP Address radio button and enter the IP address 192.168.100.1
3. **Frames per second:** This control displays the number of frames MeasureX will capture every second.



Session Settings

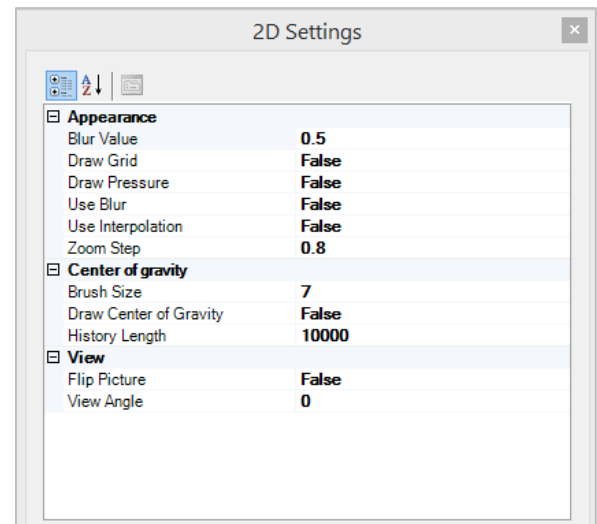
1. **Filtering > Threshold:**
 - a. **Threshold:** This value controls the lower threshold. Any values on the pressure map below the value here will be counted as “0”.
 - b. **Upper Threshold:** Any values on the pressure map above the value entered here will be assigned the same value as the Upper Threshold (e.g. if you set the value to 15 PSI, all values greater will display as 15 PSI).
2. **Noise:**
 - a. **Filter Noise:** Filters out extraneous points of small pressure to prevent inaccurate readings during your session.
 - b. **Neighbor:** The value by which a pressure point will be compared for noise
3. **Palette:**
 - a. **Gamma:** Adjusts the palette to
 - b. **Max value:** Manually adjusting this value will assign all points near and above your value the color of red.
 - c. **Min Value:** Manually adjusting this value will assign all points near and below your value the color of white.
 - d. **Smooth:** Removes boundaries between colors, adding heavy blur to the 2D and 3D pressure maps
4. **Record:**
 - a. **Loop Size:** The number of frames recorded before looping back to the beginning and overwriting the data in a Loop session
 - b. **Session Type:** Choose between Dynamic (continuous recording) or Loop (overwrites after the number of frames set in the Loop Size field).
5. **Replay:**



- a. **Moving Average Len:** Adjusts smoothness of data by averaging x number of frames before the current frame.
- b. **Pressure Units:** Chose the displayed units to fit your need. Available units include PSI, mmHg, mmH2O, kPa, and atm.
- c. **Real Time Replay:** Chose whether to view the playback in real-time.
- d. **Replay Delay:** Adjusts the length of the pause between consecutive frames. Higher values slow the replay.

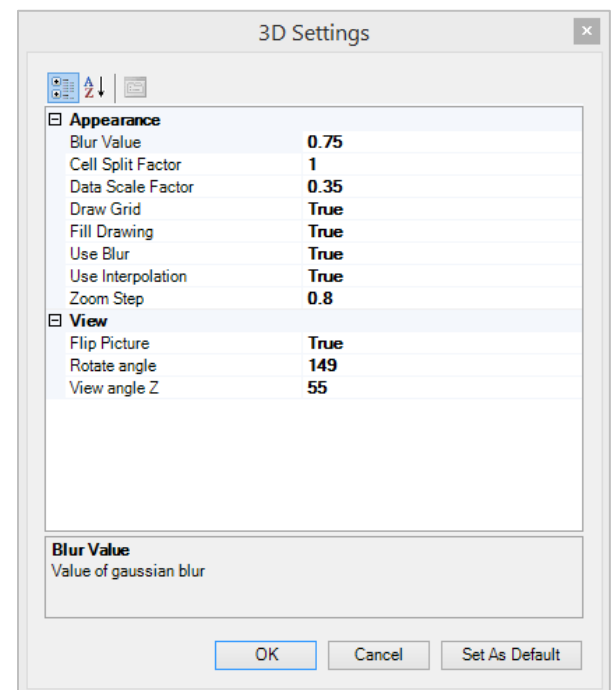
2D Settings

1. **Appearance:**
 - a. **Blur Value:** Increases and decreases the blurring of colors on the 2D pressure map
 - b. **Draw Grid:** View or hide the grid overlay
 - c. **Draw Pressure:** View or hide the pressure values for each cell
 - d. **Use Blur:** Select whether or not to use the blur feature
 - e. **Use Interpolation:** Select whether or not to use interpolation (smoothing of the cells)
 - f. **Zoom Step:** Increase or decrease the impact of the zoom feature. Use values greater than 1.
2. **Center of Gravity:**
 - a. **Brush Size:** Change the size of the center of gravity target
 - b. **Draw Center of Gravity:** View or hide the center of gravity
 - c. **History Length:** Number of frames the center of gravity trail is shown
3. **View:**
 - a. **Flip picture:** Reflects the picture
 - b. **View Angle:** Rotates the 2D pressure map 90, 280, or 270 degrees



3D Settings

1. **Appearance**
 - a. **Blur Value:** Increases and decreases the blurring of colors on the 3D pressure map
 - b. **Cell Split Factor** - Number of cells to which each cell should be split
 - c. **Data Scale Factor:** Increase or decrease the height of different colors
 - d. **Draw Grid:** View or hide the grid overlay
 - e. **Fill Drawing:** Creates a colored wire frame
 - c. **Use Blur:** Select whether or not to blur the colors into each other
 - d. **Use Interpolation:** Select whether or not to use Interpolation (smoothing of the cells)
 - f. **Zoom Step:** Increase or decrease the impact of the zoom feature. Use values greater than 1.
2. **View**
 - a. **Flip picture:** – whether the picture should be flipped
 - b. **Rotate angle:** The angle user desires to rotate 3D view
 - c. **View Angle:** – Angle of viewing (in degrees) from the initial position



Average Pressure Graph Settings

1. Fixed Chart Bounds

- a. **Fixed Max:** Assigns the maximum Y axis value
- b. **Fixed Min** - Assigns the minimum Y axis value
- c. **Use Fixed Max:** Enables or disables the Fixed Max
- d. **Use Fixed Min:** Enables or disables the Fixed Min

2. Misc.

- a. **Default Period Sec:**
- b. **Zoom Coef:** Increase or decrease the zoom on the X axis (time)

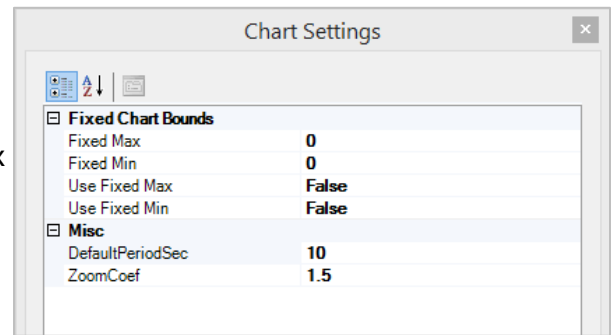


Chart Settings

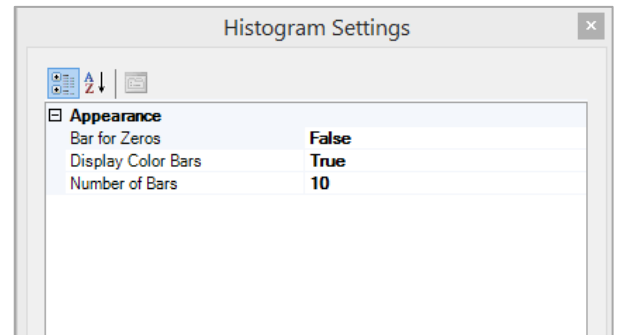
Fixed Chart Bounds	
Fixed Max	0
Fixed Min	0
Use Fixed Max	False
Use Fixed Min	False

Misc	
DefaultPeriodSec	10
ZoomCoef	1.5

Histogram Settings

1. Appearance:

- a. **Bar for Zeros:** defines whether to show bars for zeros
- b. **Display Color Bars:** Changes the view from a Histogram to a Legend relating the pressure values to the colors displayed
- c. **Number of bars:** Defines numbers of bars presented on the histogram



Histogram Settings

Appearance	
Bar for Zeros	False
Display Color Bars	True
Number of Bars	10

Comments



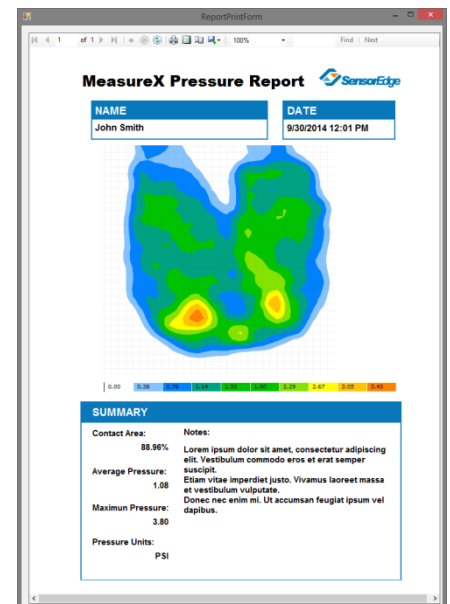
Comments: 3 lines

Enter Comments Here
You can enter many lines of text.

When you begin recording a session or open a previously recorded session, you will be able to enter comments into the comment field. You are able to cut, copy and paste into and from the textbox. When entering more than three lines, a scroll bar appears by the close button, and the text to the left of the text area indicates the number of lines of text that exist. When exiting, you will be prompted to save any unsaved comments.

Printing

Print your results to a networked or local printer, so save the document as a PDF for electronic uploads. Click the print Icon on the Session toolbar or go to File > Print and select your printer from the list.

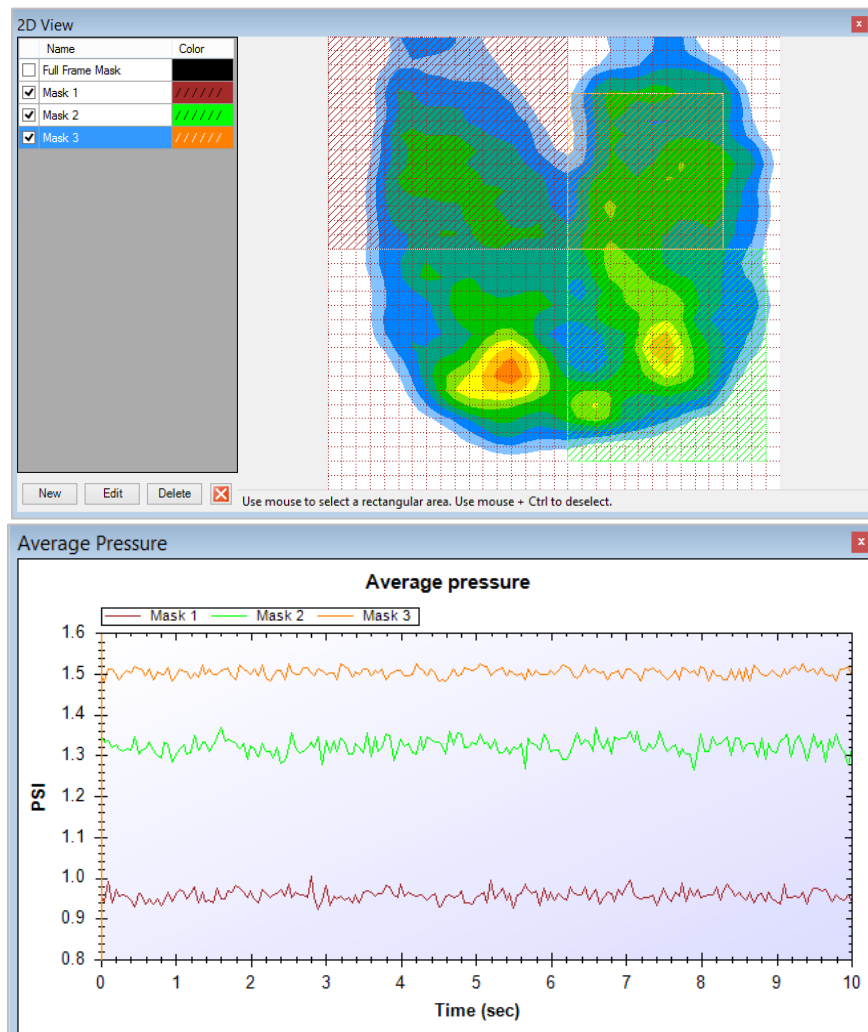


Mask Manager

The Mask Manager is a valuable tool that allows users to isolate selected areas of the 2D pressure map for view the data independently or against other data.

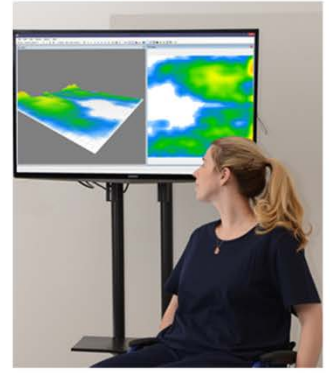
- Click the Mask Manager Icon and a window appears beside the 2D pressure map.
- Click New to add a new mask to the pressure map.
- Click from the top corner and drag the mask to the opposite corner of the area you would like to isolate.
- Add to the area of a mask by selecting it in the Mask Manager and drawing a new square.
- Click “New” again to create another area on a new or overlapping area of the pressure map.
- Creating multiple masks of varying colors allows you to monitor different areas of the pressure map and compare the average pressures on the Average Pressure Charts
- To delete a Mask, click the “Delete” button.

These diagrams show how three masks of different colors are displayed on the Average Pressure Chart.



Notes: MeasureX Tools and Features

This page is intentionally left blank for you to record notes about MeasureX tools and features



Thank you for choosing



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