Getting Started with Neonode Workbench

Overview:

Prerequisites

Hardware requirements

CPU : 1 GHz

RAM: 512 MB

Disk space: 20 MB

Operating System requirements

Windows 8.1 or Windows 10.

Software requirements

.NET Framework 4.5 or higher is required and can be downloaded from Microsoft's official website. Windows 8 and higher has this installed by default.

Installing Neonode Workbench

1. Download the Workbench installation package from https://support.neonode.com/docs/pages/viewpage.action?pageId=2490816.
2. Unzip the installation package.
3. Open the unzipped installation package folder.
4. Run the Workbench installer (.msi file) and follow the instructions.
5. Open the installation package folder again.
6. Unzip the Workspace folder to a location where you have write permissions. Write permissions are required to save settings and user data.
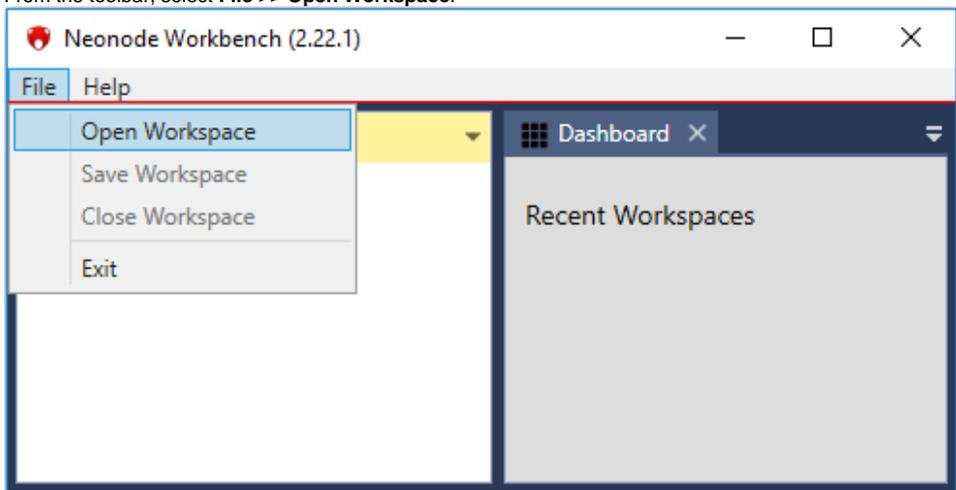
> ⓘ In order for the Workbench application to operate, the files in the Workspace folder must be kept together. Move the entire folder if you want to relocate the workspace file.

Opening a Workspace

1. Open the Workspace folder.
2. Open the Neonode Workbench application.

3. From the toolbar, select **File** >> **Open Workspace**.

4. Navigate to the Workspace folder and double-click the .nww file inside the folder. Items appear in the left panel, Workspace Explorer.

Navigating the Workspace

The main parts of the Workspace are

- The left panel Workspace Explorer, which contains all the items (information, configuration, and tools) in the currently loaded workspace. Double-click on an item to open it.

- The right panel, which shows the content of each opened item on a separate tab. You can collapse and expand content by clicking the icons and . The Dashboard tab is the default tab.
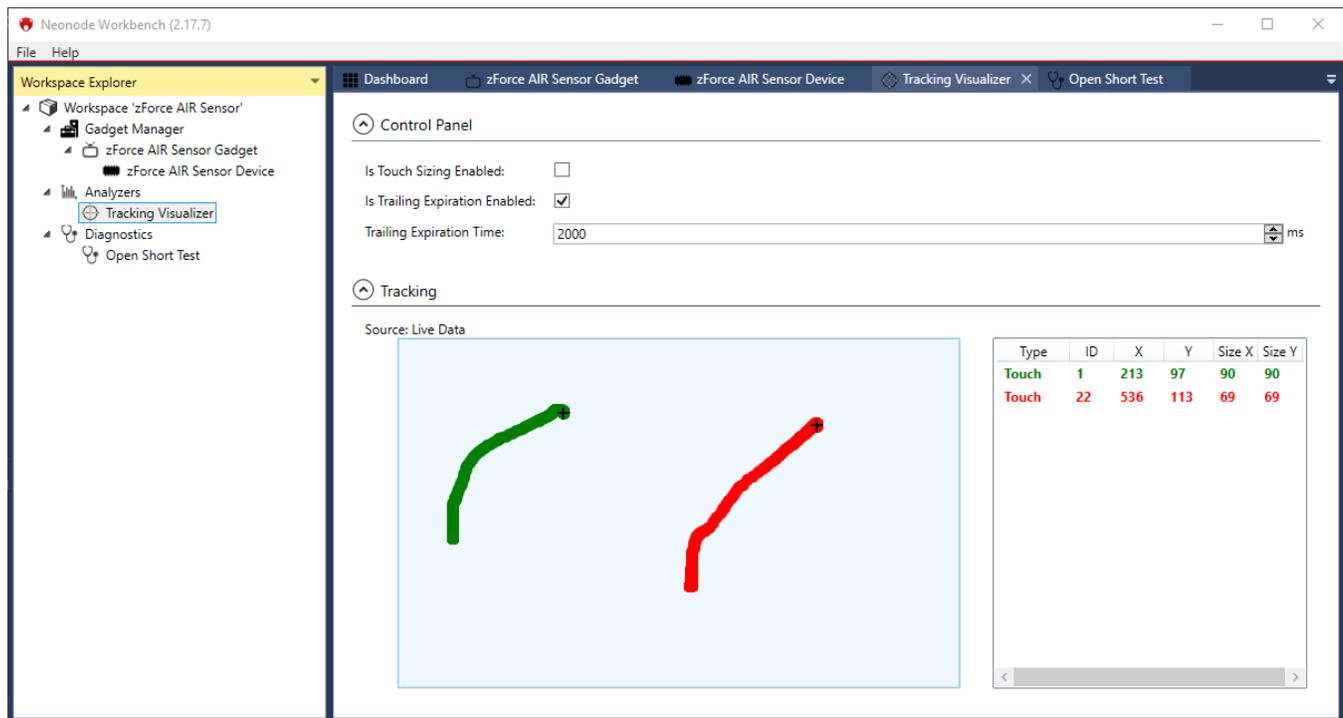
Status or error information appear on occasion in the top center of the Workbench application. For example, a status notification appears when a sensor is connected or disconnected.

Accessing Sensor Information

In the left panel, double-click the item **zForce AIR Sensor Gadget.** Sensor information such as firmware version, protocol version, etc shows in the right panel.In the left panel, double-click the item **zForce AIR Sensor Device.** Two sections, **Control Panel** and **Device Configuration,** show in the right panel**.**

1. In the right panel, click the **Is Enabled** checkbox to enable or disable the sensor.
2. Select communication mode in the **Mode** dropdown list:
   - Select **Detection** to send touches to Workbench.
   - Select **DetectionHID** to send touches to the operating system. The sensor acts as a USB HID Touch Digitizer unit.

Configuring the Sensor

1. In the left panel, double-click the item **zForce AIR Sensor Device.** Two sections, **Control Panel** and **Device Configuration,** show in the right panel**.**
2. In the right panel, click the **Is Enabled** checkbox to enable or disable the sensor.
3. Select communication mode in the **Mode** dropdown list:
   - Select **Detection** to send touches to Workbench.
   - Select **DetectionHID** to send touches to the operating system. The sensor acts as a USB HID Touch Digitizer unit.
4. Configure the available sensor parameters.
5. Click **Send Configuration** to activate the selected configuration. The activated configuration is stored temporarily in the workspace.
6. Optional: to save the configuration for future sessions, select **File >> Save Workspace.**

Automatically Send the Saved Configuration to Sensor upon Connection
Check the box **Send Saved Configuration On Connect**. The next time a sensor connects, Workbench sends the currently saved configuration directly to the sensor. This can be useful since the configuration is stored in RAM on the sensor, which means that the sensor will go back to default configuration after a power reset.

Restore the original configuration
Click **Set Original Configuration** to change the configuration of the sensor back to the configuration that the sensor had when it first was connected to Workbench.

Available parameters
You can configure the following sensor parameters:

| Parameter	Description	Unit
Sub Area Low Bound X	Start of the Touch Active Area (TAA) in X-direction	0.1 mm
Sub Area Low Bound Y	Start of the TAA in Y-direction	0.1 mm
Sub Area High Bound X	End of the TAA in X-direction	0.1 mm
Sub Area High Bound Y	End of the TAA in Y-direction	0.1 mm
Sub Area Reverse X	Inverts the X axis	N/A
Sub Area Reverse Y	Inverts the Y axis	N/A
Sub Area Flip XY	Swaps the X and Y axis. Other sub area configurations are applied after the swap.	N/A
Sub Area Offset X	Adds a static offset of the TAA in X-direction	0.1 mm
Sub Area Offset Y	Adds a static offset of the TAA in Y-direction	0.1 mm
Number Of Reported Touches	How many objects the sensor detects	Number of objects
Hid Display Size X	Display size in X and Y-direction. Can for example be used when the screen size is larger than the TAA and the touches should be reported only inside the TAA (not scaled up to the entire screen). Only applicable in DetectionHid mode (HID Digitizer mode of the sensor).	0.1 mm
Hid Display Size Y		
Finger Frequency	Scanning frequency when one or more fingers are detected	Hz
Idle Frequency	Scanning frequency when no finger is active	Hz

Testing the Sensor Diodes with an Open/Short-Circuit Test

1. In the left panel, double-click the item **Open Short Test.**
2. In the right panel, select the **zForce AIR Sensor Gadget** to test:
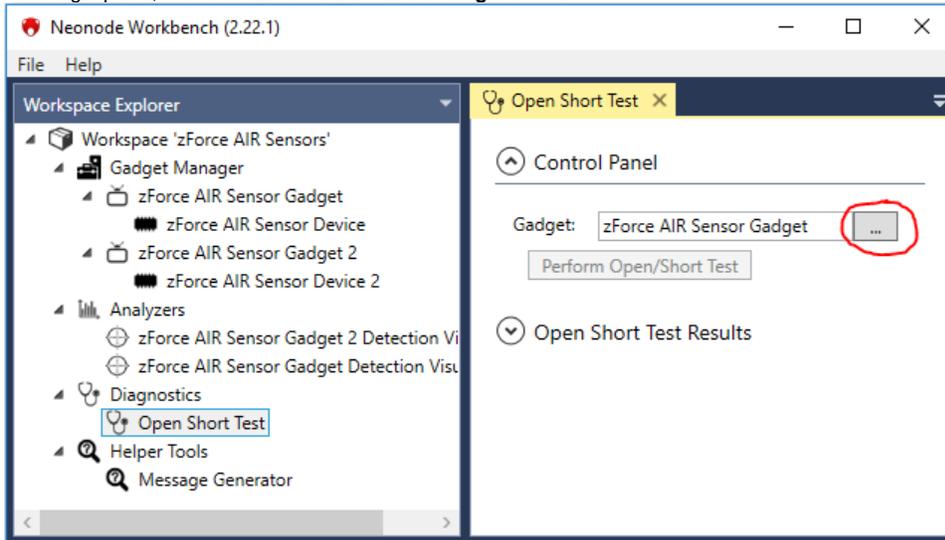
3. Click the button to perform an open short test on all photo diodes and laser diodes.

When the test is completed, the result appears in the right panel. Each component that was tested is represented by a box with a number inside it. The box will either be green which indicates that the test has passed, or red for fail.
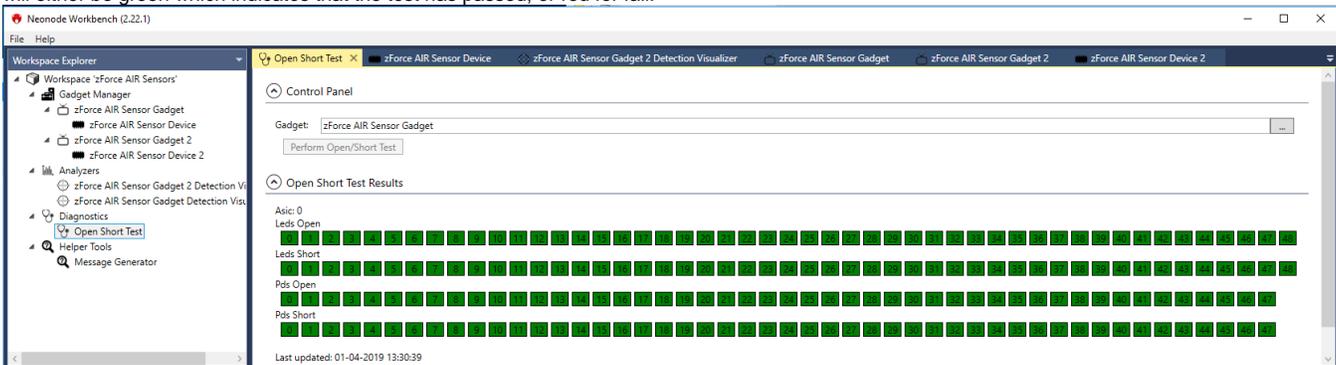

Message Generator

The sensor exchanges information in messages that are structured and encoded according to the ASN.1 standard. The **Message Generator** tool helps you to generate ASN.1-messages in hexadecimal format. This can for example be useful when you use a microcontroller unit as host for the sensor, and you need to send a specific message.

1. In the left panel, double-click the item **Message Generator Tool.**
2. In the right panel, select **Message Type** in the dropdown list.

3. Select and set the parameters to include in the message. Click the expand icon(s) ⌄ to see all the parameters that are available for the selected message type. The generated message shows to the right of the settings and is updated instantly when a setting changes.
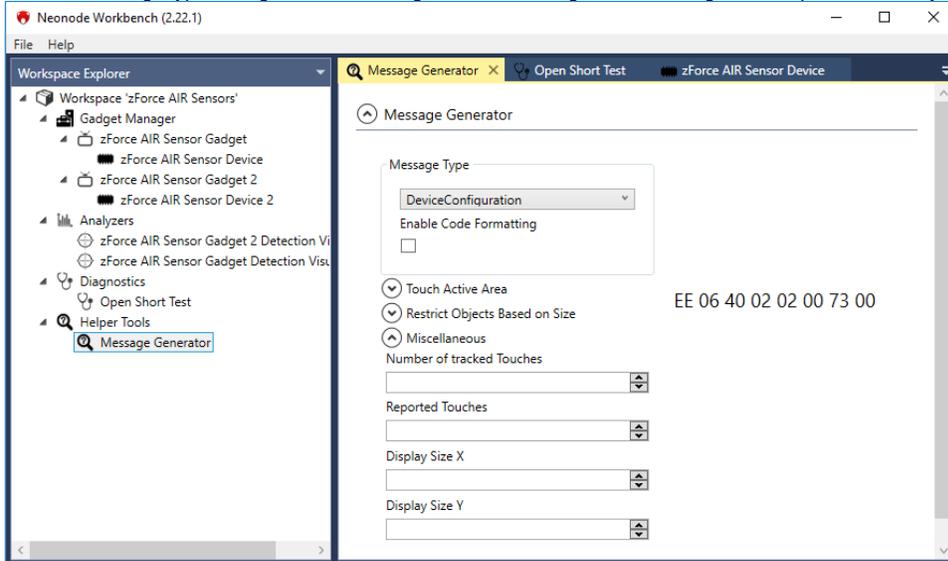
Read More

- Introduction to Neonode Workbench
- Getting Started with Neonode Workbench
- Release Notes
- Legal Notice