

EasyOne Air with Bluetooth

Y. Baud, January 2024

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1. Scope

This document describes how to connect the spirometer EasyOne Air to the PC software EasyOne Connect via Bluetooth. It also provides basic information about Bluetooth and contains a troubleshooting guide.

The procedures described in this document apply to EasyOne Air firmware versions V1.14.0 and higher. You can download the latest firmware by going to our website at www.nddmed.com and navigating to Support / Software Downloads.

2. Basic Information

- **Bluetooth** is a wireless technology that allows the exchange of data over short distances.
- **Discovery** is the process through which a PC scans for Bluetooth devices available for communication. The next step is pairing a device with the PC.
- **Pairing** is the process through which two devices establish trust in each other in order to enable secure communication later. In this context, pairing is initiated from the PC and involves entering a PIN code that is configurable in the EasyOne Air. Once paired, EasyOne Connect can connect to the EasyOne Air.
- **Connecting** is the process through which a secure communication link is established between two paired devices. Once connected, EasyOne Connect can synchronize data with the EasyOne Air, and online tests can be performed.
- **Bluetooth Power Save Mode** is a Windows driver option sometimes provided by notebooks with a built-in Bluetooth interface that allows the computer to turn off the driver to save power. When this mode is active ("power save" on), the EasyOne Air loses its connection to EasyOne Connect if the user performs no action within 30-40 seconds.

3. Indicators


On the upper status-bar, the EasyOne Air indicates:

✱ when Bluetooth is enabled.

✱ when connected to EasyOne Connect (not to be confused with "paired").

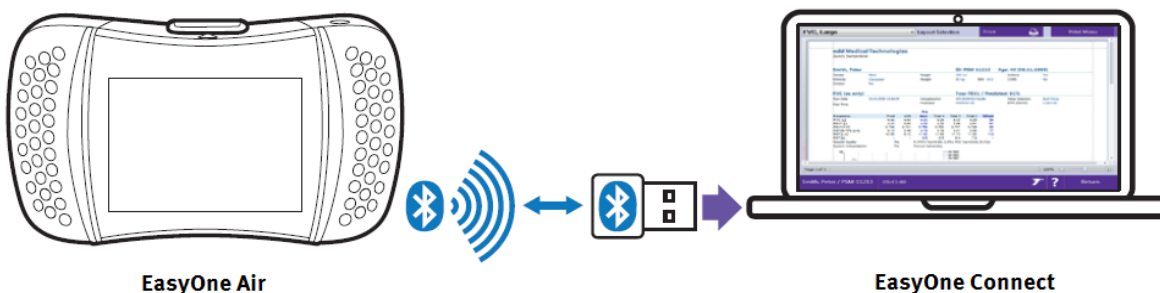
No Bluetooth indicator when Bluetooth has been disabled.

4. Setup

Before you can establish a Bluetooth connection, you need to install the EasyOne Connect PC software. To check whether you already have installed the EasyOne Connect software on your PC, connect the USB cradle with the PC, start EasyOne Connect, power up your EasyOne Air and synchronize it with the PC by placing it on its cradle. You should now be able to see the EasyOne Air icon in the lower right-hand corner of EasyOne Connect with the USB icon inside it: 

4.1 Single PC Operation

This is the basic and most commonly used setup. The EasyOne Air spirometer is paired to a PC which uses either a built-in Bluetooth interface or the Bluetooth dongle delivered with the spirometer.



To connect the EasyOne Air to EasyOne Connect via Bluetooth, follow these steps:

1. Close EasyOne Connect.
2. Use the PC's internal Bluetooth if available. Otherwise, connect the dongle provided with the EasyOne Air to a USB port on your PC.
3. Enable Bluetooth on the EasyOne Air (*Tools* → *Settings* → *Bluetooth* → *Bluetooth checkbox*).
4. Define a secret pairing key. The number must contain at least 4 digits (*Tools* → *Settings* → *Bluetooth* → *Bluetooth key*). Note: make sure to remember this key as a password.
5. On Windows 8, under *Device and Printers*, click *Add a device*. On Windows 10, under *Windows* → *Settings* → *Device* → *Bluetooth and other devices*, click *Add Bluetooth or*

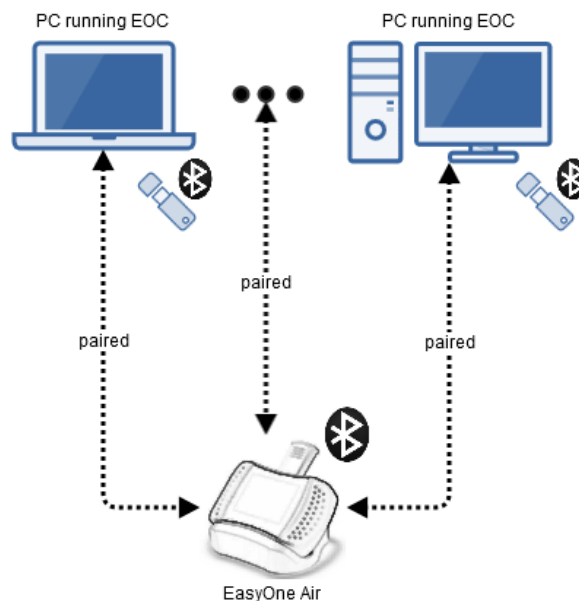
other device, then click *Bluetooth*. On Windows 11, under *Windows* → *Settings* → *Bluetooth & devices*, click *View more devices* → *Device settings* → *Bluetooth devices discovery* → click *Advanced*.

6. Select your device from the list. It presents itself as "EasyOne Air" followed by the device's serial number, as displayed under *Tools* → *Settings* → *Bluetooth* → *Bluetooth Name*.
7. During pairing, **enter the secret pairing key** defined in step 4.
8. Windows will proceed to set up the device and report "the device is ready to use". This may take up to 30 seconds.
9. Start the EasyOne Connect software. A Bluetooth icon is shown on the right side of the status bar, indicating that the EasyOne Air is connected to your PC via Bluetooth.

Please also refer to the section "Connecting EasyOne Air to EasyOne Connect" in the Operator's Manual [1].

4.2 Multiple PCs Operation

It is possible to pair the device to multiple PCs.



If several PCs are within the range of the spirometer and running EasyOne Connect, the connection will be established on a "first come first served" basis.

The spirometer supports only **one active Bluetooth connection** at a time.

5. Troubleshooting Guide

Issues may arise at various points while setting up or operating Bluetooth. This section provides a list of common issues and potential solutions.

5.1 PC Does Not Recognize Bluetooth Dongle

Term	Details
Cause	The PC already has a built-in Bluetooth adapter which may conflict with the dongle provided with the EasyOne Air.
Solution	Remove the Bluetooth dongle and check if this resolves the recognition problem. If not, re-start your PC and the EasyOne Air.

Term	Details
Cause	No Bluetooth is available in Windows: There is no Bluetooth icon or section in the Windows <i>Settings</i> menu.
Solution	Plug in the Bluetooth dongle provided with the EasyOne Air. After the installation (see section 4), check that a Bluetooth icon or section is available in the Windows <i>Settings</i> menu.

5.2 EasyOne Connect Does Not Connect


Term	Details
Cause	There is an issue related to the Bluetooth dongle.
Solution	<ul style="list-style-type: none"> – Disconnect and reconnect the dongle. Try to connect again. – Unpair the spirometer and pair it again (<i>Windows</i> → <i>Settings</i> → <i>Bluetooth</i> → <i>Remove Device/Add a Device</i>). Enter your secret pairing key (see section 4.1). Try to connect again.

Term	Details
Cause	The pairing information is not valid anymore because: <ol style="list-style-type: none"> a) it has been deleted on your EasyOne Air (e.g., by restoring the factory default settings or deleting the database). b) the Bluetooth device has been removed in Windows. c) a Windows update has invalidated the information.
Solution	<p>On PC: Remove the Bluetooth device (<i>Settings</i> → <i>Bluetooth</i> → <i>Remove Device</i>).</p> <p>On EasyOne Air: Remove the PC connection (<i>Tools</i> → <i>Settings</i> → <i>Bluetooth</i>, long-click on <i>BT Connections</i> at the bottom of the list).</p> <p>On PC: Pair EasyOne Air again (<i>Windows</i> → <i>Settings</i> → <i>Bluetooth</i> → <i>Add a Device</i>).</p>


Term	Details
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Cause	EasyOne Air is outside of range.
Solution	<ul style="list-style-type: none"> – Make sure the device is within about 10 meters, or 33 feet, of the PC. – Reduce the number of obstacles between the two devices (thick walls, metal planes, grids, etc.). Also ensure that the Bluetooth dongle is mounted in a way that it can transmit and receive easily.

Term	Details
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Cause	The spirometer is already connected to another PC (Bluetooth icon  visible on spirometer, EasyOne Connect displays no Bluetooth connection).
Solution	<ul style="list-style-type: none"> – Close EasyOne Connect on the other PC(s). – On the other PC(s), unpair the spirometer (<i>Windows</i> → <i>Settings</i> → <i>Bluetooth</i> → <i>Remove Device</i>).

Term	Details
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Cause	Bluetooth has been disabled on spirometer (no  icon visible in status bar).
Solution	Under <i>Tools</i> → <i>Settings</i> → <i>Bluetooth</i> , activate Bluetooth.






Term	Details
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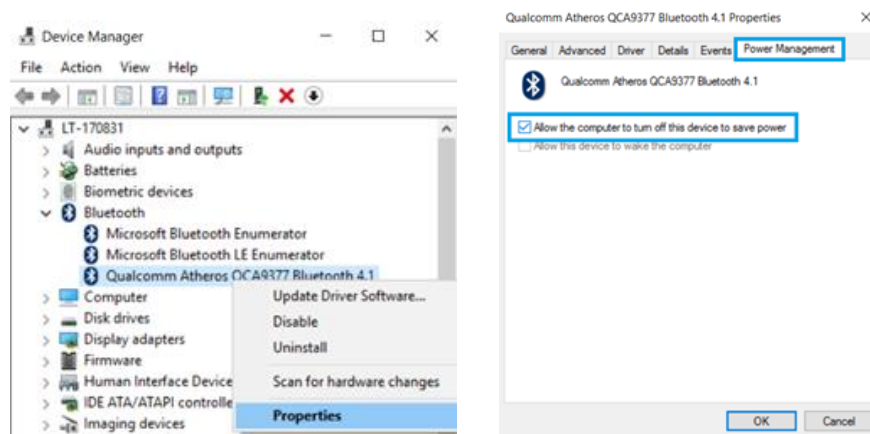
Cause	There is an unrecognized device in the Windows device manager. Example: a missing "ASMedia XHCI" controller (in fact a USB3 driver) can prevent PC from connecting via Bluetooth.
Solution	Install the device driver from the mainboard manufacturer's website.

Term	Details
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Cause	After a spirometer firmware update or an EasyOne Connect software update, there is no connection or only a faulty connection between EasyOne Connect and the spirometer.
Solution	<p>On PC: Remove the Bluetooth device (<i>Settings</i> → <i>Bluetooth</i> → <i>Remove Device</i>).</p> <p>On PC: Pair EasyOne Air again (<i>Windows</i> → <i>Settings</i> → <i>Bluetooth</i> → <i>Add a Device</i>).</p>

5.3 Connection between EasyOne Air and EasyOne Connect Intermittently Drops

Term	Details
Cause	<p>The spirometer is already connected to a notebook (Bluetooth icon  visible on spirometer, EasyOne Connect displays EasyOne Air icon with Bluetooth icon inside it ).</p> <p>30-40 seconds after establishing a connection, the Bluetooth icon on EasyOne Air changes from  to  and, 10 seconds later, the EasyOne Air icon on EasyOne Connect disappears. After a few seconds, the EasyOne Air and EasyOne Connect automatically connect again and EasyOne Air shows  (connected).</p>
Solution	<p>Log in to your computer as administrator. Disable "power save" mode on Bluetooth driver (<i>Windows</i> → <i>Device Manager</i>). Select Bluetooth and then either go to properties of Generic Bluetooth Radio (USB dongle) or to the built-in Bluetooth interface (e.g., Qualcomm Atheros QCA61x4 Bluetooth 4.1). Go to <i>Power Management</i> and disable "Allow the computer to turn off this device to save power".</p>



6. References

- [1] EasyOne Air Operator's Manual. ndd Medizintechnik AG. Zürich. www.nddmed.com.