Senticon
SENTIENT CONTROL SOLUTIONS

Technical Data Sheet PS8.10
BLE-TOOLSET

BLE TOOLSET for Smart Sensor and Room Controller Configuration

The BLE-TOOLSET is the Bluetooth Dongle pair that used used with the PC Device Configuration Tool software to connect it to the Senticon devices, or with the iOS Smart Configuration App to connect the App (mobile phone) to the Device using the built-in Bluetooth connection of the phone.

When used with the PC Configuration Tool software, the *'USB BLE Dongle'* is connected to the USB port of the PC. The *'Device BLE Dongle'* is connected to the device to it's tool socket. The BLE dongle pair will automatically establish the connection between them making the configuration easy.

Features

- *'USB BLE Dongle'* for connection on the PC (creates serial port on the PC)
- *'Device BLE Dongle'* for the QER/MER/TER/VER sensors and QCR/TCR controllers, or for other compatible devices
- Automatic 'pairing' between the BLE dongles
- *'Device BLE Dongle'* can also be used with the iOS Smart Configuration Tool app to establish the connection between the device and and the SmartPhone
- A LED indicating the connection status
- Push button for setting the device for advertising mode (ready-for-connection), or re-establishing the connection manually

Product Part Number

Part Number	Description	Article Number (SKU)
BLE-TOOLSET	Bluetooth Dongle Pair for PC and Senticon Devices	9900 0 00 00 00 01

Dongle LED and Button

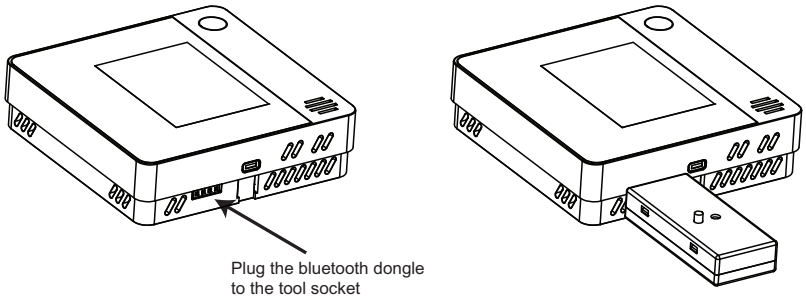
The BLE dongles have a LED and a button for operation. The tables below describe their operation:-

LED	Description of Operation
Off	The device is not connected or advertising.
Flashing	The device is advertising. During this time it is ready to accept Bluetooth connection from an other BLE Dongle.
On	If the LED is permanently ON it indicates that it has connection to the other BLE Dongle.

Button Function	Description
Short Press	Short Press sets the dongle in the advertising mode (for 180 seconds). This is indicated by the flashing LED.
Long Press (>2s)	Long Press makes a connection request to an other advertising BLE Dongle. This can be used to establish the connection when the other dongle is in the advertising mode.

Installation of Device BLE Dongle

The *'Device BLE Dongle'* does not need any configuration and is ready for the connection. Connect the dongle to the device's configuration tool socket as illustrated in the below diagram.



Installation of the USB BLE Dongle

The *'USB BLE Dongle'* requires the CP210x driver USB-to-Serial driver to operate. In some cases the driver may already be installed on the PC, but typically the driver is required to be downloaded and installed on the PC.

The driver is available from the Silicon Labs from the below link:-

https://www.silabs.com/developers/usb-to-uart-bridge-vcp-drivers

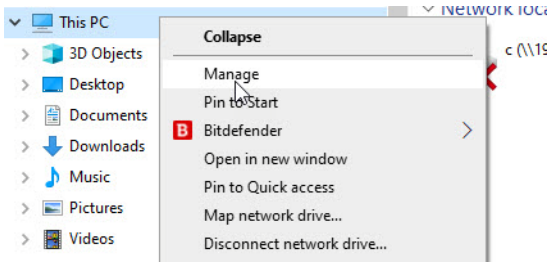
The process to install the driver is as follows:-

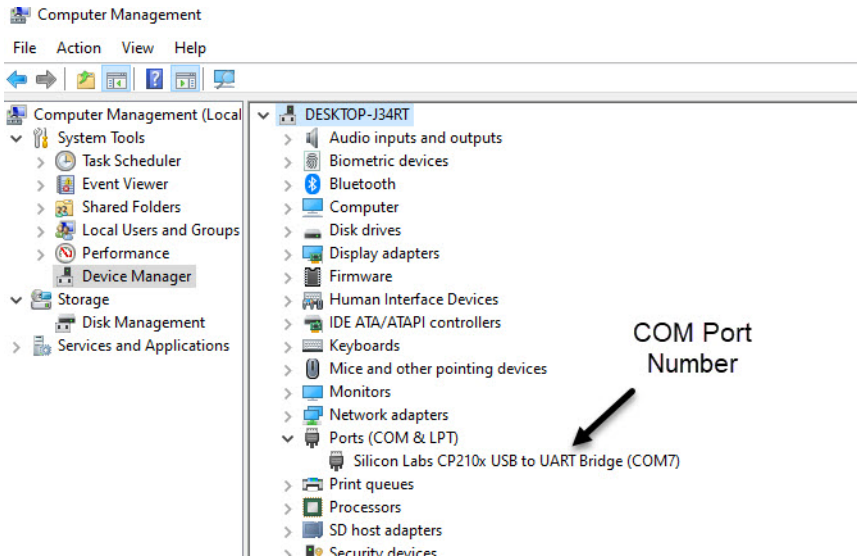
- Download the CP210x Universal Windows Driver from the above link
- Install the driver to the computer.
- Plug in the *'USB BLE Dongle*' to the PC
- The PC should now automatically create '*COM Port'* for the BLE dongle
- Find out the installed COM Port from the PC's Device Manager (see below instructions)
- Set the 'COM Port on the Device Configuration Tool to match the '*USB BLE Dongle COM port'* identified through the Computer's Device Manager

Finding Out the Com Port

To find out to which COM port the *'USB BLE Dongle'* is connected go to the *Device Manager* and check *Ports (COM&LPT)* menu. If the *'USB BLE Dongle'* driver has been correctly installed you should see it's COM port number.

TIP: If multiple COM ports are displayed, just unplug the '*USB BLE Dongle'* and plug it in again to see which COM port number is related to it.





Manually Installing the 'USB BLE Driver'

Sometimes Windows does not automatically install the CP210x serial COM port driver. In this case the *'USB BLE Dongle'* CP210x driver can be manually installed from the Computer's Device Manager.

To manually install the CP210x Driver for the *'USB BLE Dongle',* use the following steps:-

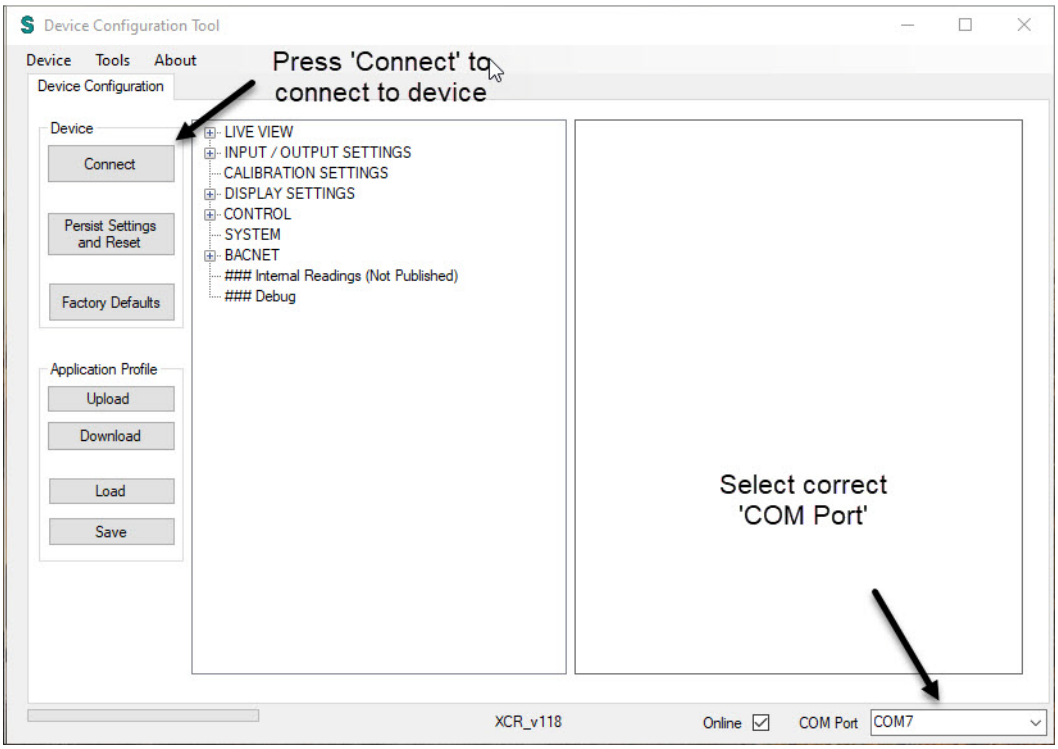
- Go the Computer's Device Manager (as described in the previous chapter)
- Find the error in the device installation. Typically it is indicated by 'Yellow Question Mark, on the Device Manager. You can identify it often better by unplugging and plugging the '*USB BLE Dongle'* to the PC
- Unzip the CP210x devices drivers to your hard drive
- Right-click the item marked with 'Yellow Question Mark' on the Device manager tree, and select 'Advanced' and 'Install Driver'. When asked point the windows dialogue to the hard drive folder where the CP201x Device Driver software was unzipped to. Now the driver should be installed creating the *COM Port* on the Device Manager. Repeat if necessary.

Selecting COM Port on the Device Configuration Tool'

Once the 'USB BLE Dongle' driver software and COM port has been correctly installed and identified, open the Device Configuration Tool software and select the identified COM port on the bottom right from the drop-down menu.

In order for the tool to communicate wirelessly to the devices, the *Serial Port Tunnel* has to be established between the *'USB BLE Dongle'* and *'Device BLE Dongle'*. After the *Serial Port Tunnel* has been established, press the Connect button on the Device Configuration tool to communicate to the device.

Refer to the next chapter how to establish the connection (Serial Port Tunnel) between the Bluetooth Dongles.



Establishing Wireless Serial Connection Between of BLE Dongles

To establish the connection between the BLE dongles,the typical sequence is as follows:-

- Plug-in the *'Device BLE Dongle'* to the device (the LED starts flashing)
- Plug in the *'USB BLE Dongle'* to the PC (the LED start flashing)
- After few seconds the connection should be established by indicated by the permanently lit LEDs

NOTE:Please make sure that the *'USB BLE Dongle'* serial COM port software has been installed as described in the previous chapters before establishing the wireless BLE connection.

Bluetooth Connection Sequence

The BLE Dongles when powered up (connected to device/PC) start advertising their presence. The advertising mode lasts 180 seconds (3 minutes). If during the advertising time, the second dongle is powered up, it will automatically find the first dongle and establish the connection.

If the advertising time has been completed, the dongle LED is switched off. In this case to establish connection between dongles there are the following methods:-

METHOD 1

Unplug and plug in the both dongles.

METHOD 2

Press the button shortly in one dongle to initiate the advertising mode. Then unplug and plug the second dongle to establish the connection.

METHOD 3

Press the button shortly in one dongle to initiate the advertising mode. On the second dongle long press (>2 seconds) the button to establish the connection.

Establishing Wireless Between of iOS Device and Device

To establish the connection between the iOS Smart Configuration Tool (iPhone/iPad) and the device, the typical sequence is as follows:-

- Plug-in the '*Device BLE Dongle'* to the device (the LED starts flashing)
- In the iOS Smart Configuration Tool *'Scan'* for the Bluetooth Devices
- Once the device is found, press *'Connect'* button on the application

If the BLE adversiting period (180 seconds) has been completed on the *'Device BLE Dongle'* (the LED is switched off), press the button shortly on the *'Device BLE Dongle'*. The dongle start advertising indicated by the flashing LED. When the LED is flashing go to the App and '*Scan'* for the device / connect to the device.