INSTRUCTIONS

OJ Air PC Tool for AHC-3000

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AHC-3000
CONTROL SYSTEM FOR COMPACT AIR HANDLING UNITS

OJ ELECTRONICS

Contents

1.   General

These instructions are designed to present the features and use of the OJ Air PC Tool.
The OJ Air PC Tool is a PC-based tool for the AHC-3000 product series.

1.1   Product range

PRODUCT NAME	Comments
OJ-Air-PC-Tool	OJ-Air-PC-Tool for OJ-AHC-3000 AHU controller SW vers. 1.0 and newer
OJ-USB2RS485-CONV	USB to RS485 converter for OJ-Air-PC-Tool, galvanically separated

1.2   Features

The OJ-AHC-3000 product range can be SW-updated by means of the OJ Air PC Tool via Bluetooth or via the RJ12 Modbus connector marked "HMI" on the OJ-AHC-3000 controller.

Note! Only the AHC-3000-B can be updated via Bluetooth.

OJ Air PC Tool enables you to:
• Update the SW in the AHC-3000
• Read and write configuration data to and from the AHC-3000
• Read out log data from the AHC-3000.

2.   Installing the OJ Air PC Tool

2.1   System requirements

To use the OJ Air PC Tool, you must have an IBM-compatible personal computer that meets the following minimum system requirements:
• Pentium PIII 1 GHz or compatible micro processor
• 512 MB RAM
• Internet connection for downloading the installation files or a USB memory stick containing the installation files
• 1 available USB port
• Microsoft .NET Framework 4 Client Profile
• 5 KB of available space on the hard drive

Note

The OJ-Air-PC-Tool supports only the Microsoft Windows platform and cannot be used on smartphones or tablets.

The OJ Air PC Tool software is compatible with the following MS Windows versions:
• Windows 10 Pro
• Version 1803

Note! Bluetooth is only possible with Windows 10 and a computer which supports Low Energy Bluetooth (BLE)

2.2   Installing the OJ Air PC Tool

• Download the OJ Air PC Tool from http://www.ojelectronics.com, to your local hard drive.
• Run the OJ Air PC Tool Vx.x Installer.exe file.
• An installation wizard will guide you through the installation process.
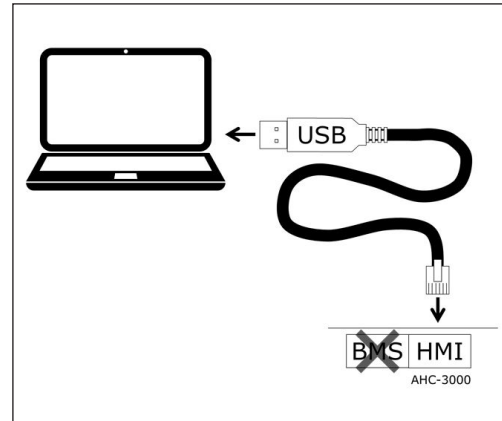• A program icon will appear on your desktop once the installation process has been completed.

3. Electrical connection from laptop to AHC-3000

- The AHC-3000 communicates via RS485 communication.
- If your laptop does not have an RS485 communication, you must use an USB to RS485 converter

3.1 Using a USB-to-RS485 converter

- A USB-to-RS485 converter can be ordered from OJ Electronics. Part number OJ-USB2RS485-CONV. This "USB485-MB45" converter is insulated and very robust. It is recommended for production line and service use.
- If a "USB-RS485-WE" converter is used, it must be handled carefully. Do not "hot plug" the RJ12 connector and always insert the RJ12 plug before the USB plug. Otherwise the "USB-RS485-WE" device might be damaged.

Fig. 3.1

Note

1. Power off the AHC-3000 controller and all connected components.
2. Connect the RJ12 plug on the converter cable end to the AHC-3000 RJ12 port marked "HMI" (see fig. 3.1)
3. Connect the USB converter to a free USB port on your laptop.
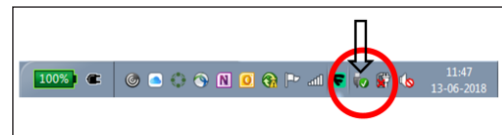4. Power on the AHC-3000 controller.

3.2 Installing the USB converter driver SW

- After connecting both ends on the USB to the RS485 converter, start up your laptop and power up the AHC controller.
- After power up, the driver SW for the USB to RS485 converter "USB-RS485-WE" will automatically be downloaded to your laptop from the manufacturer's website.

Note! The laptop must be connected to the Internet

- After successful installation of the driver SW, the USB icon will appear on your laptop toolbar. (see fig. 3.2)
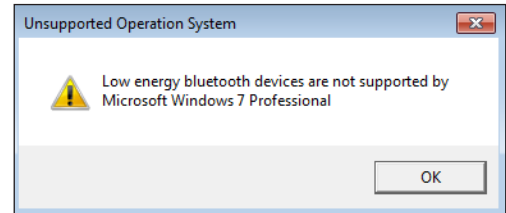
Fig. 3.2

4. Get connected

Start the OJ Air PC Tool via the link on your desktop ⇨
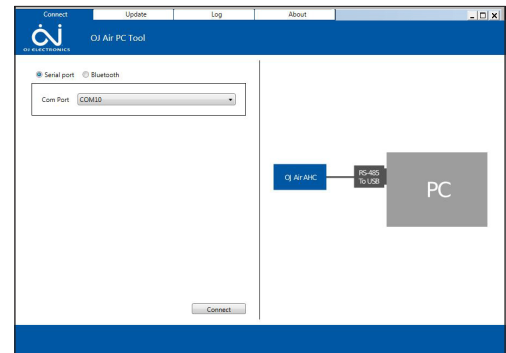
- If you do not use a Bluetooth compatible Windows, the following message will appear. ⇨
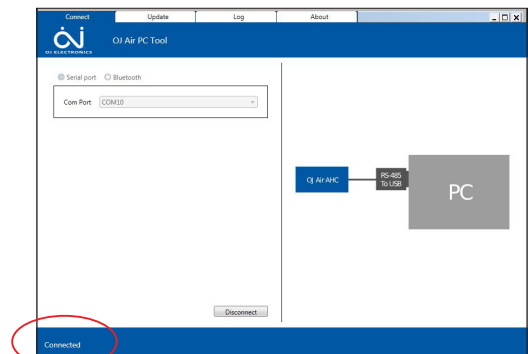
- Press "OK" and your OJ Air PC Tool will start.

4.1 Select COM port

- Select the radio button on **"Serial port"**

- The **COM port** used is now pre-selected in the OJ Air PC Tool

- If the selected COM do not work, find the correct the COM port being used for this tool under your Windows Device Manager.

- Only use Bluetooth with AHC-3000-B

- Press "Connect"

- Successful connection will be acknowledged with ⇨

Connected

- If the connection fails, the message "Error connecting to the device" will appear.
  1. Check the converter cable connection and that the RJ12 plug is inserted in the AHC-3000 controller HMI port.
  2. Check that the AHC-3000 controller is powered on and that the LED behind power supply terminals (Pin 45-46) are flashing green.
  3. Press "Connect" again.
  4. If the connection still fails, replace the USB-to-RS485 converter with a new one.
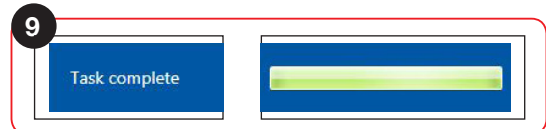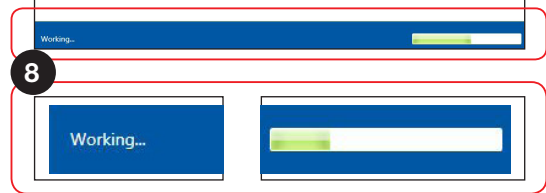
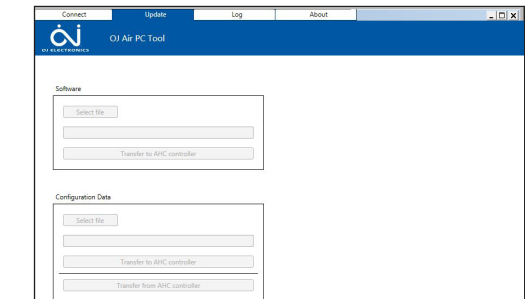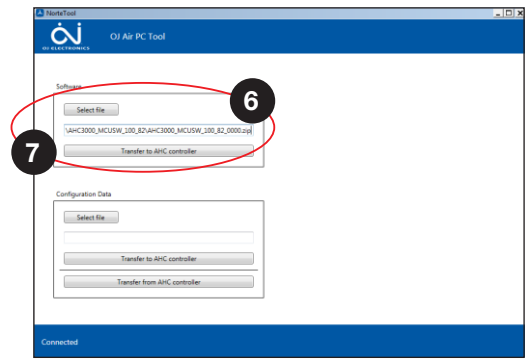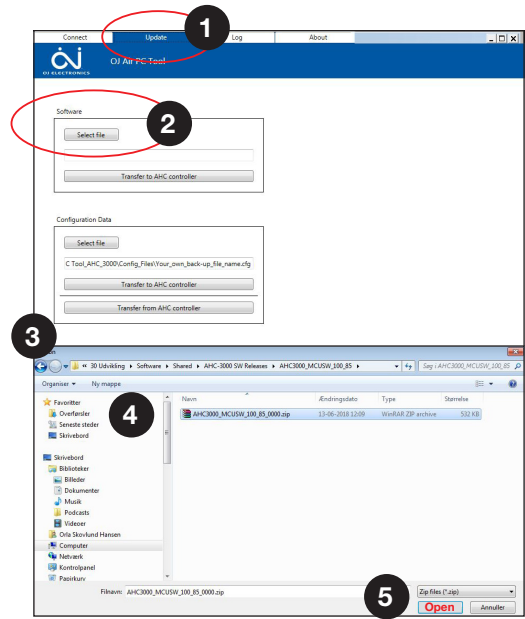**5.** **Download update SW to the AHC-3000.**

1. Select the "Update" tab.

2. Press "Select file" in the "Software" section.

3. The file explorer will open.

4. Select a software file previously downloaded from www.ojelectronics.com. The software file is named AHC-3000_MCUSW_xxx_xx_xxxx.zip.
The xxx_xx_xxxx indicates the actual software version.

Note! Software files can be downloaded via your customer login:
https://www.ojelectronics.com/support/customer-login.

5. Press "Open".

6. The software file is now added into the OJ Air PC Tool.

7. Press "Transfer to AHC controller".

8. The OJ Air PC Tool will now begin transferring the software file to the OJ-AHC-3000 controller and "Working" as well as a progress bar will appear on the status bar.
The update process will automatically transfer four (4) files and the total duration is approximately five (5) minutes.

9. When completed, the OJ Air PC Tool will display "Task complete" and a filled green progress bar.
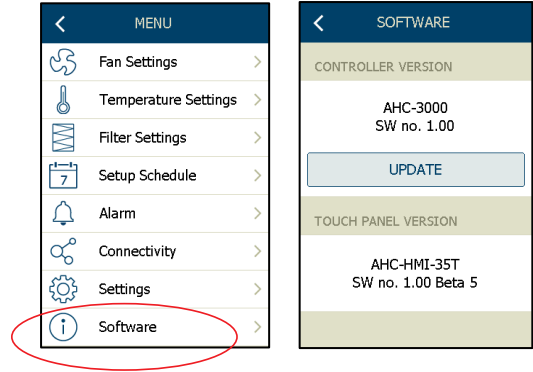
Note

The SW in the AHC-3000 controller is not active after download to the controller.
Use the OJ-AHC-3000-HMI-35, to finish the update process (see next page).

6. Update SW in the AHC-3000 controller

The currently used software version for AHC-3000 and the connected HMI-35T can be read out in the HMI.
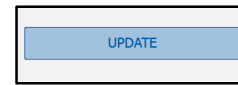
Updating the SW

- To update the software in the AHC-3000 and in the HMI-35T hand terminal, the new software must be downloaded to the AHC-3000 controller as described on the previous pages.

- After the new software has been downloaded to the AHC-3000, the AHC-3000 will check if the downloaded SW is valid for updating.

If so, the "Update" button will be visible.

To update the SW in the AHC-3000 controller, either Power off the controller for at least 10 seconds or press: ⇨

The update progress can be followed on the HMI-35T.

This completes the installation of the new software version and it will be used as soon as the operation mode is set to "Service stop".
The "Update" button is visible until "Service stop" has been active or the controller has been powered off/on.

If the software update includes a new HMI software version, then the HMI display will flash for approximately 30 seconds while the update is in progress.

Note

The AHU must be set to operation mode: "Service stop"... from main screen menu, to activate the new updated software.

Note! When the new software is active in the AHC-3000, the "Update" button disappears, and the new software versions appears.

7.   Transfer configuration data to OJ-AHC-3000

Use this function if you have a back-up copy from a configuration which you want to use in another AHC-3000 controller.

• How to make a copy: see index 8 in this manual.

To download a back-up file to a AHC-3000 controller.

Select the tab: "Update"

1. Under "**Configuration data**": Press the button "Select file"

2. Windows Explorer will automatically open.

3. Select the file saved on your laptop or local network.

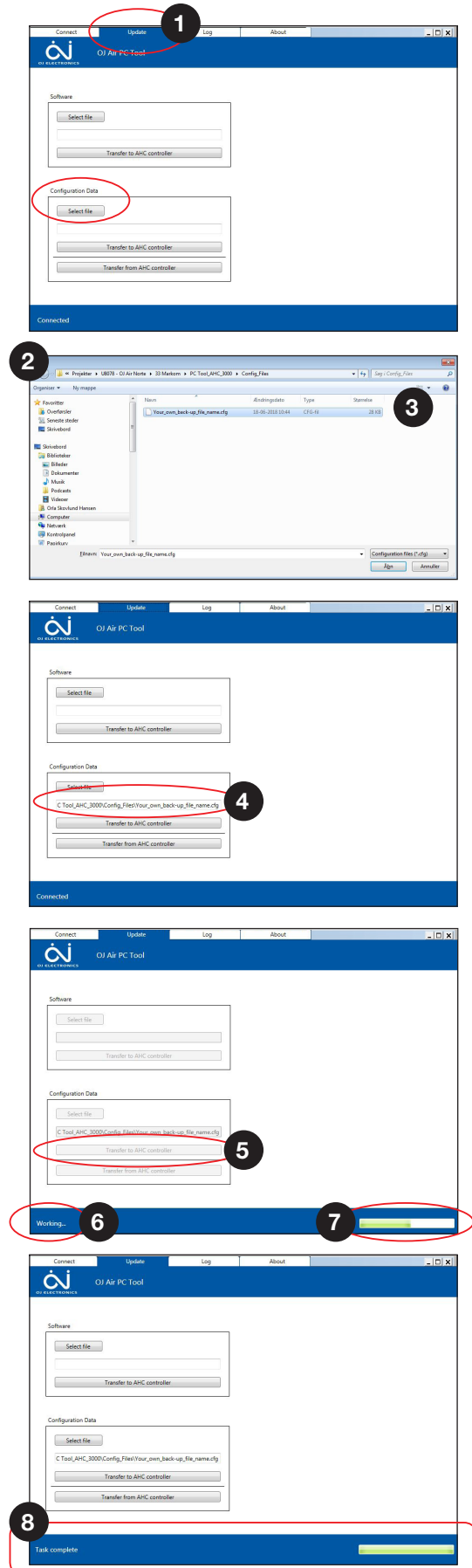4. The back-up file will be copied into the OJ Air PC Tool OJ Air PC tool.

5. Press the button **"Transfer to AHC controller"**

6. "Working" will now appear on the status line in the OJ Air PC Tool.

7. A progress bar indicates the progression of the download process.
   This will last approximately 15 seconds.

8. When completed, the status will display: "Task complete" and the progression bar will be filled green.

The new configuration file is now downloaded into the AHC-3000 8. Transfer configuration data from OJ-AHC-3000
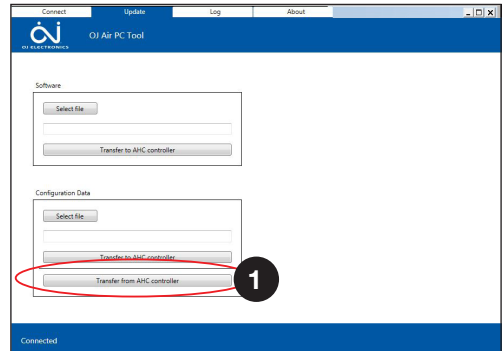
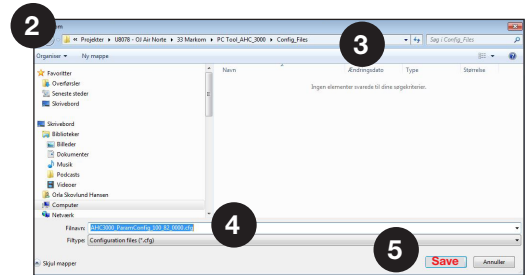## 8. Transfer configuration data from OJ-AHC-3000

- After making your application with the OJ-AHC-3000-HMI-35 hand terminal, you can make a back-up copy using the OJ Air PC Tool.
- This back-up copy can be used for your documentation folder and for downloading to future AHU applications in OJ-AHC-3000 controllers.

Select the tab: "**Update**"

1. Under "**Configuration data**": Press the button "**Transfer from AHC controller**"
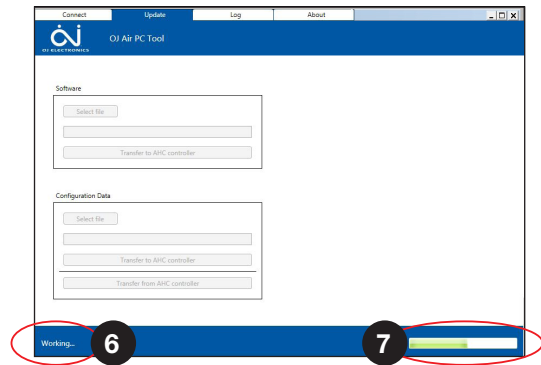
2. Windows Explorer will automatically open.

3. Select the folder on your laptop or local network.

4. Enter a file name under which you want to save the configuration.
   The default name:
   AHC_3000_ParameterConfig_xxx_xx_xxxx.cfg.
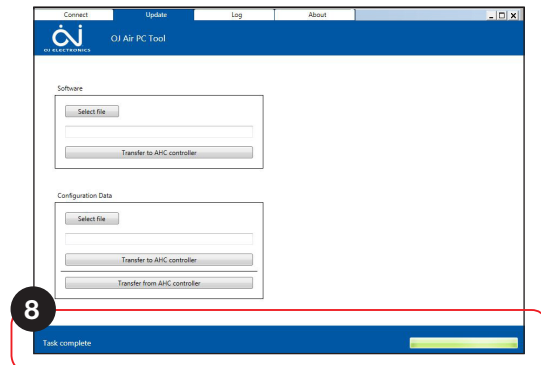   The xxx_xx_xxxx indicates the actual software version.

5. Press "Save" in Explorer.

6. "Working" will now appear on the status line of the OJ Air PC tool.

7. A progress bar indicates the progression of the back-up process.
   This will last approximately 15 seconds.

8. When completed, the status line will display: "Task complete" and the progression bar will be filled green.

9. Log data

The OJ-AHC-3000 will automatically start logging data every 10 minutes when powered on and save the latest data for 31 days. Log data can be opened in an Excel spreadsheet and used for service and support, diagnostic tasks and documentation purposes.

9.1 Read out log data and save to your local folder:

Select the tab: "**Log**"

1. Under "**Data log**": Press the button "**Transfer from AHC controller**"

2. Windows Explorer will automatically open.

3. Select or create a folder on your laptop or local network.

4. Enter a file name under which you want to save the log file.
   The saved file type is: *.csv
   The default name: AHC_3000_DataLog_xxx_xx_xxxx.csv.
   The xxx_xx_xxxx indicates the actual software version.
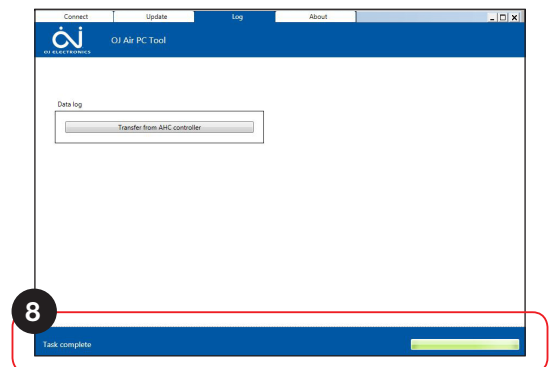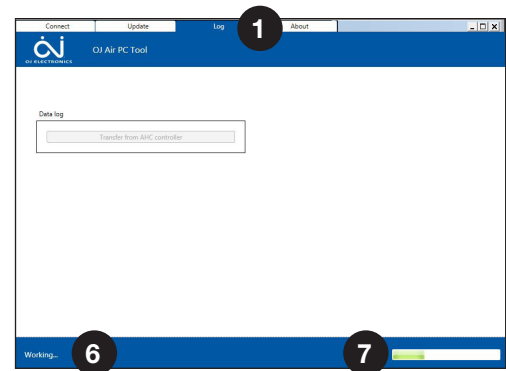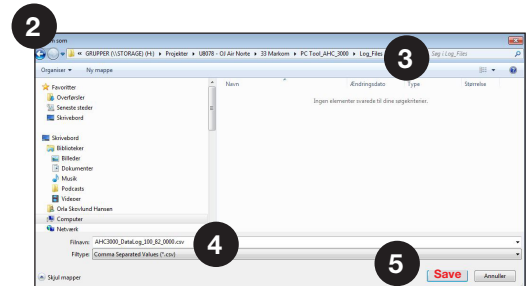
5. Press "Save" in Explorer

6. "Working" will now appear on the status line in OJ Air PC Tool

7. A progress bar indicates the progression of the back-up process.
   The duration will depend on the log file size and the process will take about one minute for a one-week log. A full log will take less than 5 minutes.

8. When completed, the status will display: "Task complete" and the progression bar will be filled green.

To open the log file: Use "MS Excel".

10. About OJ Air PC Tool

Under the tab "About", you find will information about:

• OJ Air PC Tool SW version

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