

These release notes explain how to install the Waters® Instrument Control Software (ICS), version 2.1, for the ESA/Dionex Corona® Charged Aerosol Detection (CAD®) Detectors in Empower™ 2 software (build 2154).

The functionality in this ICS release supports these capabilities:

- Establishing an instrument method using the instrument method editor.
- Viewing the current status of the Corona device using the Control Panel in Empower's Run Samples utility.
- Online Help

Installation notes

Recommendation: Back up all Empower projects, library information, and databases before installing this option.

Requirement: Ensure that the Corona detector is connected, powered-on, and the words MAIN CORONA MENU appear on the detector's display screen before you start to install the Corona detector instrument control software. This is necessary so that the installation utility can detect the presence of the Corona on the USB bus and install the correct files. If you do not see "MAIN CORONA MENU" on the detector's display screen, contact your local Dionex service engineer.

Tested software and firmware

The Waters ICS version 2.1 for Corona detectors was tested with and is supported with base Empower 2 software (build 2154), which constitutes the minimum required version.

The versions of Corona detector firmware tested in this release are:

- Corona CAD version 1.23
- Corona ultra™ version 1.05
- Corona ultra™ version 1.07 - Preliminary

Supported operating systems

This release was tested with these configurations, which it supports:

- Microsoft® Windows XP Professional, with latest system patches
- Microsoft Windows Vista Business, with latest system patches
- Empower 2 (build 2154) base through FR5 (English only)
- Empower 2 (build 2154) FR3 through FR5 (localized Asian languages: Chinese, Japanese, Korean)

The computer configurations, operating systems, and hotfixes that the ICS supports for the Corona detector are the same as those for base Empower 2 Software, build 2154. For details on supported service packs and incremental operating system and hotfix support, see the Empower 2 installation and configuration guide, Empower release notes, and the Waters Web site (visit www.waters.com and click Services & Support). For downloadable ESA CCAD ICS drivers and the most current Corona release notes, visit www.Dionex.com.

Installing the ICS

The ICS v2.1 consists of these components:

- Driver – Needed for Empower software to communicate with the module.
- User interface – Includes the instrument method editor and control panel in Empower's Quick Start and Run Samples utilities.
- Online Help for the ESA Corona detector – Access Help when working with an instrument method by pressing the F1 key while using the instrument method editor or the Corona CAD control panel.

To use the ICS on an Empower Enterprise (client/server) system, you must install the software on every computer, LAC/E₃₂[™] module, client, and Citrix application server that interacts with the Corona detector, its methods, or results. For consistency, install the ICS on all clients, LAC/E₃₂ modules, and Citrix application servers. You need not install the ICS software on a database server unless the server hosts client software and interacts with the instrument, its methods, or results.

General installation instructions for using ICS media (not for a Citrix application server):

1. Connect the Corona detector to the Empower computer via the USB port.
2. Power-on the detector and reboot the Empower computer.
3. Log in using an account with local administrator privilege.
4. Insert the Corona detector control option disk in the media drive.

Tip: If the installation fails to start automatically, navigate to the root of the disk and double-click the setup.exe file.

5. If the installer detects a previous version of the Corona CAD instrument control option, a prompt appears directing you to remove the option. To do so, use the Add/Remove program. After the removal, return to step 4, and continue with the installation.
6. Follow all prompts to finish the installation, and then reboot the computer.

General installation instructions for using a downloaded executable file:

1. Connect the Corona detector to the Empower computer via the USB port.
2. Power on the detector and reboot the Empower computer.
3. Log in using an account with local administrator privileges.
4. Browse to the location of the Corona detector ICS "Setup.exe" file (downloadable from esainc.com) on your local hard drive, and then double-click it.
5. Follow all prompts, and then reboot the computer.

To install the Corona detector ICS on a Citrix server:

1. Insert the ICS CD-ROM in the CD-ROM drive.
2. Open the control panel, and double-click Add/Remove Programs.
3. Click Add New Programs.
4. Click the CD or Floppy button.
5. In the Install Program from Floppy Disk or CD-ROM dialog box, click Next.
6. In the Run Installation Program dialog box, click Browse.
7. At the Browse screen, browse to the root of the disk.
8. Select the setup.exe file, and then click Open.

Tip: If the file fails to appear in the list, select "All Files" from the "Files of type" list.

9. Follow all prompts to finish the installation.

Verifying the installation

To verify the installation, select one of these paths:

- Start > All Programs > Empower > Installation Log (Windows XP)
- Start > Empower > Empower Installation Log (Windows VISTA)

Search for lines similar to this:

```
*****  
Waters CCAD Installation finished successfully 8-20-2009 14:01:37  
*****
```

The checksum.txt file on the Empower computer records the installation of any option or service pack. It also verifies the integrity of disk files, comparing their current CRCs and sizes with original values recorded during installation of the base software and any installed option or service pack. Empower creates this file when you run the Verify Files utility (by selecting Start > All Programs > Empower > Verify Files or Start > Empower > Verify Files).

To display the checksum.txt file, navigate to the \Empower\Script directory, and then double click checksum.txt.

Uninstalling the ICS

To assure a successful verification after removing the ICS, you must reboot the computer before you uninstall the option.

To remove the ICS from the system:

1. Reboot the computer.
2. Log in using an account with local administrator privilege.
3. Open the control panel, and double-click Add/Remove Programs.
4. In the Add/Remove Programs dialog box, click the Change or Remove Programs icon.
5. Click the version of the Corona detector ICS on your system, and then click the Change/Remove button.
6. Follow the prompts.

The registry and new CRC checksums are updated for the Empower installation. No Oracle or system files are affected.

Validation information

After you install or uninstall the ICS on a qualified system, determine whether your laboratory's standard operating procedures require you to requalify the system.

If installation is the initial one in a GxP-regulated environment, perform a full qualification of Empower software.

Waters recommends that you run the Verify Files utility or the ConnectionsAQT for Empower IQ and review the resulting file for an entry that states "No installation changes were detected".

Tip: The date displayed when running Verify Files (IQ) always reflects the previous installation. See the install.log file for the complete history.

Operational guidelines for the ICS

You must observe the following guidelines to ensure that the system's operation complies with your laboratory's standard operating procedures. If you do not follow these guidelines, problems ranging from instrument failures to storing inaccurate sample parameter information can arise.

Requirement: Ensure that the Corona detector is connected, powered-on, and the words MAIN CORONA MENU appear on the detector's display screen before opening Empower Run Samples or Empower Quick Start. If you do not see "MAIN CORONA MENU" on the detector's display screen, contact your local ESA service engineer.

- Ensure the start-inject cable connects the HPLC and Corona detector STRT input. The cable enables the start of data acquisition following an injection.
- Ensure the pump-off output signal connects the detector and the stop flow input on the HPLC system or pump. The cable enables triggering of the pump-off signal when the detector encounters an error.
- While executing a run, ensure the detector receives an adequate gas supply and that the gas remains flowing. If you fail to maintain a sufficient gas supply, starting the pump flow can flood the detector.
- When an additional Corona detector is connected to an Empower node, and the Add New Hardware Wizard appears, select the default options to install the Motorola USB driver for the device. Then select the Scan Instruments option in the Configuration Manager to automatically add the additional instrument to the instrument list.

Tip: If none of the Corona detectors appear in the instrument list, then using the Scan Instruments option will not add one to the list, even when it is connected.

- To remove a Corona detector from an Empower node, first remove all the chromatographic systems that include the instrument. Then remove it from the Waters DHCP configuration. Lastly, remove it from the Empower node properties.
- The Nebulizer Temperature option applies to the Corona Plus and Corona ultra only. It does not apply to the Corona.
- To specify the nebulizer setpoint temperature using the Corona control panel, press the Enter key after you input the required temperature in the edit control. This applies only to the Corona ultra.
- For the Corona detector, the Gas On and Gas Off options start and stop the gas flow. When the gas flow is turned off, the Stop Pump command is sent to the HPLC, preventing the Corona detector from being flooded.

Defect fixed in this release

- Run mode switching during method update. When a method is loaded the Corona switches in and out of run mode.
- Driver does not report itself as an active data channel in the instrument method by default
- Nebulizer temperature cannot be set in a method
- Name of channel includes serial number of detector
- Reported detector serial number does not match actual detector serial number
- When USB cable plugged into the detector, the detector is automatically switched to remote mode even if Empower is not running
- Driver installation fails when more than one device is installed and occasionally does not identify the correct Corona instrument type
- Occasionally the installed Corona Ultra is identified in the method as a Corona

Known issues

- During installation of the Motorola USB driver, a Windows logo test warning appears. Select "Continue Anyway" to allow the driver's installation.
- When the Corona detector is connected to an Empower computer, do not use the "Self test" command from the Corona detector's front panel. Doing so can cause communication between the detector and Empower software to fail.
- In Empower Node properties, the Scan Instruments option does not display the USB bus address of the connected Corona detector.
- In the Corona detector control panel, diagnostic parameters other than Gas Pressure are updated only when the detector is running.
- On a Korean operating system, when you create a new instrument method in Empower, do not use the Save option to save the method. If you use Save, an error can occur in the method name. Instead, use the "Save As..." option to save the method with a name that you supply. This applies only to new methods.
- When uninstalling the ICS, if you receive a message telling you to reboot the Empower computer, you may encounter an error after you reboot. Click OK in the error message box to continue.