QUICK-START GUIDE

Instructions for the installation of a Antec DECADE Elite electrochemical detector (ECD) to an Agilent LC system for reversed phase separation followed by ECD.

Introduction

This guide is written for use by qualified **Agilent service engineers** who have to connect a DECADE Elite to an Agilent LC system (that contains stainless steel parts) with OpenLab/Chemstation software control.

Here we give a summary of all the important steps and recommendations that are specific for connecting to Agilent LC's. Please note that this document is not intended as a replacement of the user manuals, which contain the more detailed instructions.

Reference list of parts, manuals and software

Make sure to have the following parts available during the installation:

Part	Remark
from **Antec Scientific**:	
176.0035(D)B - DECADE Elite (DCC) SCC	The detector + accessory kit
176.0100 - ECD driver license for OpenLAB CDS & Chemstation	The driver license was already uploaded in the detector at factory if ordered together.
xxx.xxxx - SenCell or FlexCell	The flow cell + accessory kit
190.0150D - Detector installation kit	This kit contains LC connection tubing for the analytical flow path, a tubing cutter, connectors, unions, and a regular LAN cable
171.9015 - Dialogue Elite OQ ROXY (standard)	Software license dongle (USB key) for Dialogue Elite standard to run the OQ test. The part that covers this item on the order is 901.1035R (Remote assisted ECD Installation inc. IQ-OQ and training)

The user manuals (and drivers) can be found on the USB stick that is standard provided with each new ECD. Here is a list with the relevant manuals and their part numbers related to this specific installation (clickable links that open specific pages of the Antec Scientific website):

User manuals related to the hardware:

175_0010 - DECADE Elite Lite
116_0010 - SenCell flow cell
102_0010A - FlexCell flow cell

Installation instructions for the software:

176_0102C - DECADE Elite driver for OpenLab Chemstation
176_0102 - DECADE Elite driver for OpenLab CDS
175_0015 - Dialogue Elite

Software and drivers (website login credential required for downloading):

176.0100OL - DECADE Elite driver for OpenLab
176.0100CS - DECADE Elite driver for ChemStation CDS
SetupDialogueElite

We recommend checking our website www.AntecScientific.com for the latest versions of the drivers and manuals.

Step 1 - Connecting the ECD to the software & preparations for OQ testing

Service time required: **about ½ hour**

Place the ECD next to the HPLC

1. Depending on the way the instruments are stacked, place the detector to the right or left of the system so that the column outlet is closest to the detector.

Connect the ECD to the computer

2. Connect the ECD over LAN through an ethernet switch or a free LAN port on the computer. The detector is standard delivered with a cross-over cable (black with red ends) for connection to a LAN port on the computer (find it in the detector accessory kit); a standard LAN cable for connection to a switch is part of the detector installation kit. Use the correct cable.

Change the IP address of the ECD

3. The detector default IP address is 192.168.5.1.
4. First set the computer IP to 192.168.5.x. “x” being e.g. 10.
5. Go to the IP settings page of the device using an Internet Browser (enter the IP address in URL without adding \ or /). In case http access is denied, call Antec for support.
   i. Log in (user: *empty*, password 3171).
   ii. Click top left "Network", enter the new IP, and the subnet mask. Leave gateway and DNS open (will be 0.0.0.0).
   iii. For IP numbers with the first octet in the range 128-191: subnet mask 255.255.0.0
   iv. For IP numbers with the first octet in the range 192 or higher: subnet mask 255.255.255.0
   v. Click OK, and then click "Apply Settings".
6. Change the computer’s IP settings back to the original IP address & subnet mask.

Install and test the driver for the ECD

7. Install the OpenLab software driver for control over the DECADE Elite: it is delivered on a USB stick. Note that there are two versions, one for OpenLab CDS and one for OpenLab Chemstation, respectively. In case of a client/server installation, make sure to install the driver on the AIC as well as the Agilent application server/Terminal Server.
8. Perform the Agilent Software verification, which now also includes the DECADE driver.

Details

ID	Description
55	Agilent OpenLAB Data Analysis 2.204.0.661
69	Agilent OpenLAB DataStore Sequence Writer for ChemStation A.1.013 [0]
71	Agilent OpenLAB CDS - Agilent 35900 AtoD 2.3 [53]
72	Agilent OpenLab CDS - Agilent GC 3.0 [532]
73	Agilent OpenLAB CDS - Agilent LC 2.19.19
10010	Agilent OpenLAB CDS - Agilent Data Player 2.2.6
10016	Agilent OpenLAB CDS - Agilent SS420x A.01.01 [65]
10018	Agilent OpenLAB CDS - Agilent LCMS A.01.02
10019	Agilent OpenLab CDS - Agilent GC/MS 1.3.54
10300	Agilent OpenLab CDS Plugin 2.4.0.628
10501	ANTEC SCIENTIFIC Electrochemical Detector driver 1.2.0.0

9. Configure the driver according to the manual DECADE Elite driver for:
   i. OpenLab CDS: manual 176_0102
   ii. OpenLab Chemstation: manual 176_0102C
10. Connect the External Dummy Cell (Antec pn. 250.0040) with cell cable (Antec pn. 250.0126A) and test communication with the detector. For example, set the Ecell to 800 mV and change the range. Leave the dummy cell in the oven when done (will be used for OQ test).

Prepare for the OQ test

11. Install the software Dialogue Elite delivered on the USB stick (Admin rights required). This software is used for detector Operation Qualification (OQ) - for details see doc. 171_0023O (a hard-copy is provided with each new detector). Make sure that Agilent OpenLab is shut down when using Dialogue Elite. The detector can be controlled by only one software at a time.
12. Insert the Dialogue Elite Software Dongle in a USB port to unlock the extended software functionality.

Step 2: preparation of the LC system

Service time required: **about 1 hour**

Passivation of the LC flow path

1. Fill the bottles for the pump piston wash and autosampler needle wash with the appropriate solutions.
2. Prepare the complete analytical flow path with capillaries, but temporarily use unions instead of the column and flow cell (because of initial system flush). Use PEEK capillaries between column and detector.
   i. For use with 2 or 3 mm ID HPLC columns:
   Use 0.13 mm ID between injector - column – detector
   ii. For use with 4 or 4.6 mm ID HPLC columns:
   Use 0.25 mm ID between injector - column - detector
   iii. Always use the larger 0.5 mm ID PEEK between detector - waste.
3. All metal parts should preferably be passivated with 15% nitric acid for 20 min. The acid is flushed through the pump, the pump tubing, the dampener, the injector (in load and inject position) and to waste.
4. Make sure that all parts that are not acid-resistant such as nylon inlet filters, column and flow cell are not connected during this step.
5. After flushing with nitric acid, the system must be thoroughly flushed with demineralized water.
6. It is now ready to be set-up for the intended application.

This photos shows the location of the union (instead of flow cell during flush) in the detector oven.

General advises:

i. After installing a new column, let it equilibrate with running mobile phase for at least 1 hour before connecting the cell. In case of ion-pairing separation, a new column needs to be flushed the first time for 16 hours before connecting the flow cell.
ii. After 30 min of stabilization of the signal, the system should be ready for test injections.

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