# Dionex ICS-6000 Consumables Tracking Quick Start Guide

Many of the non-powered consumables (including analytical columns and chemically-regenerated suppressors) used with the Thermo Scientific™ Dionex™ ICS-6000 Ion Chromatography System are capable of RFID (radio-frequency identification) communication.

The Consumable Device Monitor (CDM), a smart RFID controller, provides the necessary interface to these consumables. When installed in the Thermo Scientific™ Dionex™ ICS-6000 Detector/Chromatography Compartment (DC) and configured in the Thermo Scientific™ Dionex™ Chromeleon™ 7 Chromatography Data System, the CDM can automatically identify RFID-enabled consumables and track various usage parameters.

Setting Up Consumable Tracking

❖ **To configure the CDM**

1. Check the DC rear panel to verify that the CDM is connected to a USB port on the CPU board (see Figure 1). The USB cable (P/N 00302-99-00132) required for the connection is provided in the Consumable Device Monitor Kit (P/N 22181-60031).

Figure 1. DC rear panel: Consumable Device Monitor connection to DC CPU
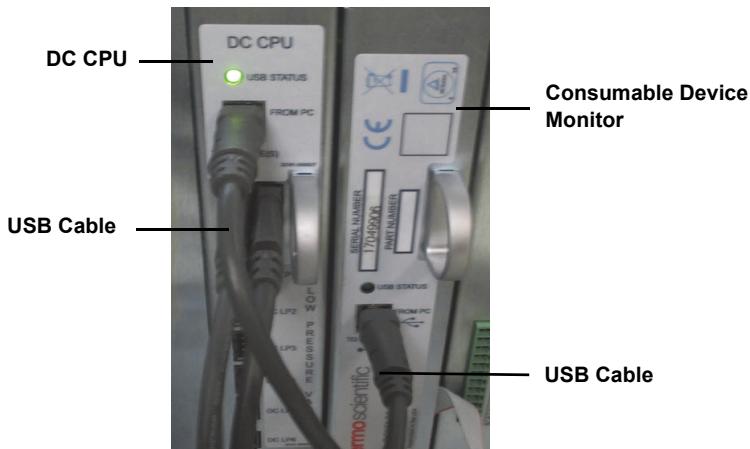
2. In the Chromeleon Instrument Configuration Manager, right-click the Dionex ICS-6000 instrument to which you want to assign the CDM and click **Properties**. The Add module to instrument dialog box appears (see Figure 2).

   a. Under **Manufacturers**, select the Dionex ICS-6000 instrument to which you want to assign the CDM.

   b. Under **Modules**, select **Consumable Device Monitor (ICS-6000)**.

   c. Click **OK**.

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Figure 2. Add module to instrument dialog box
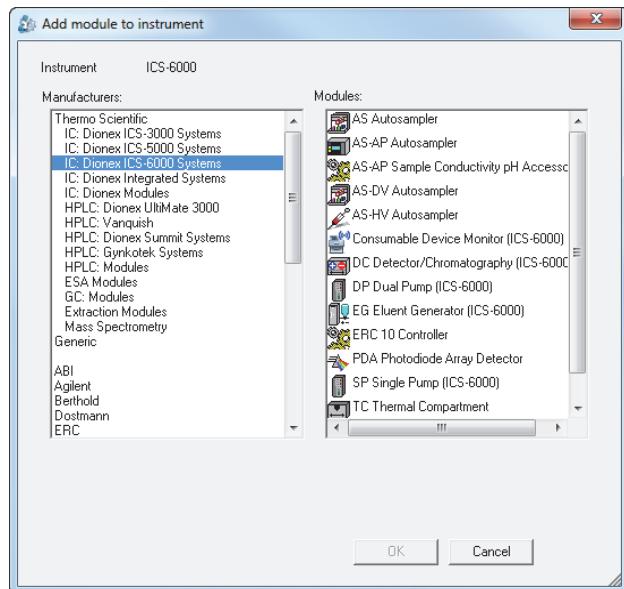
3. Right-click the CDM in the instrument tree. The Properties dialog box for the CDM appears.

4. On the **General** tab page, select **Live** mode (see Figure 3).

Figure 3. CDM Properties dialog box: General tab page
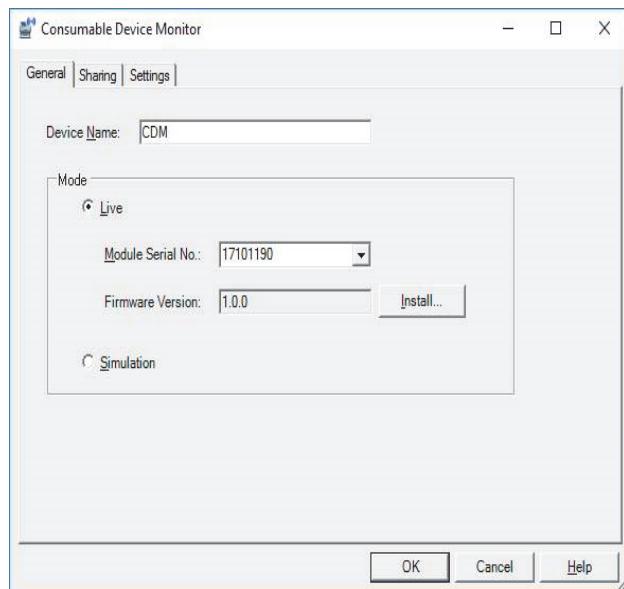
5. On the **Sharing** tab page, select the check box for each instrument that will share the CDM (see Figure 4).

Figure 4. CDM Properties dialog box: Sharing tab page
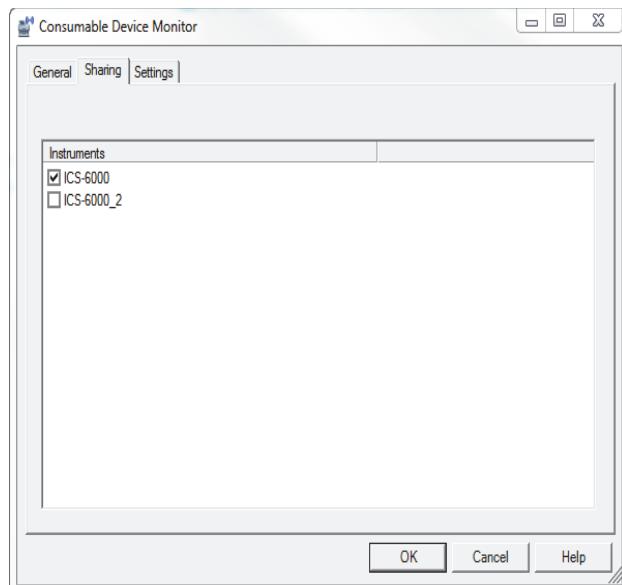
6. Click **OK**.

❖ **To inspect RFID tag location and orientation**

1. Install and plumb the consumables as required for your application.

2. To optimize RFID connectivity, check the RFID tag attached to each consumable to verify that these criteria are met:

- Columns should be installed in column clips. RFID tags should not touch the clips.

- RFID tags should be free in the air (for example, a tag must not be wrapped around a separator or guard column).

- RFID tags should be spaced far enough apart that the tags do not overlap.

- RFID tags should not touch bare metal.

- RFID tags should not be in direct contact with the floor, ceiling, sides, or front door of the DC.

- RFID tags should be parallel to the floor of the DC.

- RFID tags can extend toward the front or rear of the DC.

The following illustrations depict the correct installation of RFID tags:

- Figure 5 shows the ideal orientation: RFID tags are parallel to the floor of the DC, and point to both the front and rear of the module.

- Figure 6 is a close-up view of RFID tags attached to columns. Note that tags can be rotated underneath columns (to ensure that the tags do not touch the ceiling of the DC) and extend toward the valve panel at the rear of the module.

Figure 5. RFID tags parallel to the DC floor
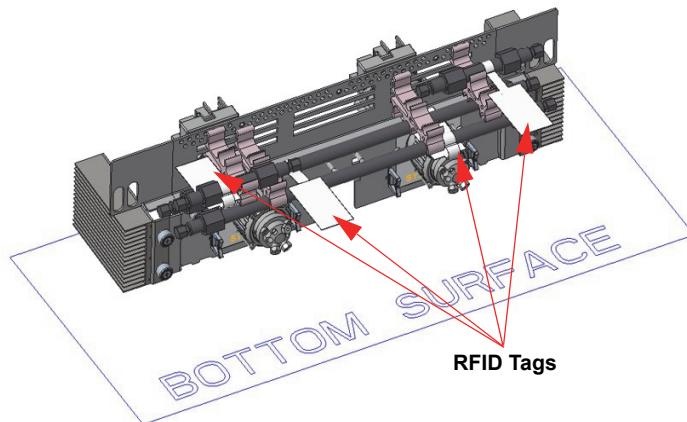

RFID Tags

Figure 6. RFID tags on underside of columns

RFID Tags
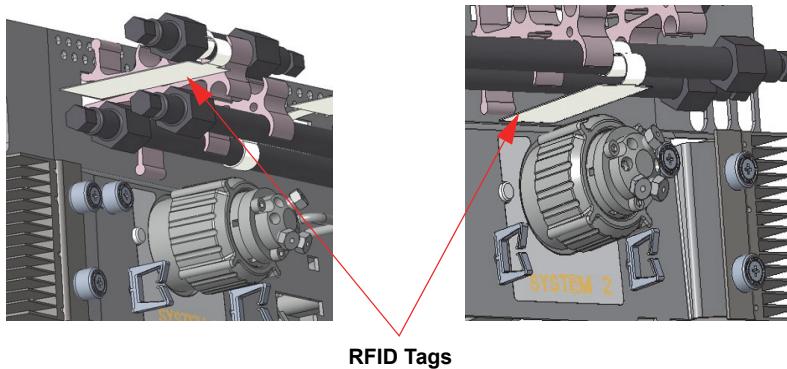
❖ **To scan consumables**

1. In Chromeleon, click the **Rescan** button in the Consumables Inventory window. It may take up to 3 minutes for all consumables to be scanned; during this time, you may close the inventory window and perform other tasks in Chromeleon.

   > **Note** The names of any previously detected consumables may temporarily turn red while scanning is in progress. This does not indicate a problem.

2. When all trackable consumables have been scanned, check the results in the Consumables Inventory window. If a newly installed consumable is not listed, refer to "RFID Communication Error" (see Chapter 9 of the Dionex ICS-6000 operator's manual) for help. Adjust RFID tags as needed, and then click **Rescan** again.

❖ **To select consumables to be tracked**

For each consumable to be tracked, click the corresponding **Tracked** check box in the Consumables Inventory window (see Figure 7).

Figure 7. Consumables Inventory window
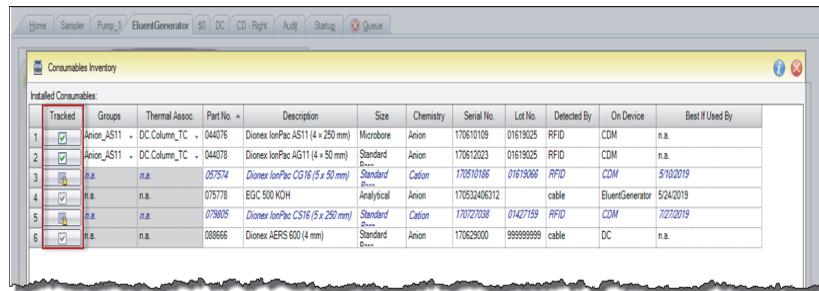
- If this is a standard single system (one flow path) or standard dual system, accept the default information in the Groups column.

> **Note** If more than one flow path or channel is configured in the same Chromeleon instrument (as with simultaneous and column switching applications), two consumable groups must be created. For instructions, refer to the Dionex ICS-6000 operator's manual or the Chromeleon Help.

- A lock icon in a **Tracked** check box indicates that the consumable is currently assigned to another instrument (second flow path) and cannot be selected.

- Do not click the corresponding **Tracked** check box for any consumable that will be used in another instrument or channel. These consumables should be selected from the Consumables Inventory window of the other instrument.

- Consumables that use wired communication (including eluent generator cartridges and suppressors) are automatically connected and do not need to be selected.

❖ **To assign the temperature zone for a consumable**

1. Click **Thermal Assoc**. The Consumable Properties dialog box appears (see Figure 8).

Figure 8. Consumable Properties dialog box
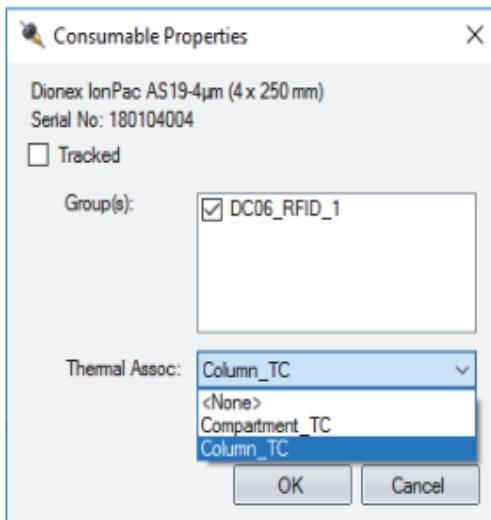
2. Select the compartment in which the consumable is installed:

   - **Compartment_TC** is the DC upper zone (with the detectors)

   - **Column_TC** is the DC lower zone (with the injection valves)

3. Click **OK**.

❖ To confirm all installed consumables

Click the **Approve** button in the Consumables Inventory window.

> **Note** For a dual system, repeat the above procedures for the second instrument/channel.

Removal and Storage of Consumables

❖ To remove and store a consumable

Before removing a trackable consumable from the system, click the **Store** button in the Consumables Inventory window. This writes the latest system data to the RFID tag attached to the consumable.

Contacting Us

❖ To contact Technical Support for Dionex products

- In the U.S. and Canada, call 1-800-532-4752.

- Outside the U.S. and Canada, call the nearest Thermo Fisher Scientific office.

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