

QUICK START: CMC UNIQUE IDENTIFIERS (CMC PIDs)

Each CMC¹ is automatically attributed a unique CMC persistent identifier (PID) when declared in the database by the Institute via the KCDB web platform.

According to document CIPM MRA-G-13 the identifier is composed as follows:

RMO-Area-A2-ID-V

With

- RMO acronym of the Regional Metrology Organization through which the CMC has been submitted
- Area acronym of the metrology area
- A2 ISO 3166-1 Alpha-2 country code²
- ID CMC code, eight-digit alphanumeric code
- V alphanumerical version value from 1 to Z.

The CMC code (labelled ID above) is an eight-digit alphanumeric code, attributed automatically when the CMC is first declared. It remains identical for subsequent version(s) of the same CMC, for example when a CMC is updated. The full CMC PID is a unique identifier for a specific version of a CMC.

This Quick Start guide addresses:

- how to determine the CMC PID of a given CMC, and
- how to access a specific CMC for which the PID is known.

by means of the KCDB web platform and the Application Programming Interface (API) of the KCDB.

¹ CMCs - Calibration and Measurement Capabilities in the context of the CIPM MRA: Guidelines for their review, acceptance and maintenance (2022); CIPM MRA-G-13, <https://www.bipm.org/documents/20126/43742162/CIPM-MRA-G-13.pdf>

² If the CMC claim is submitted by an international organization, the country code is replaced by a code for the organization and can have up to four digits.

GETTING THE CMC PID USING THE "INSTITUTE CMCs" DASHBOARD

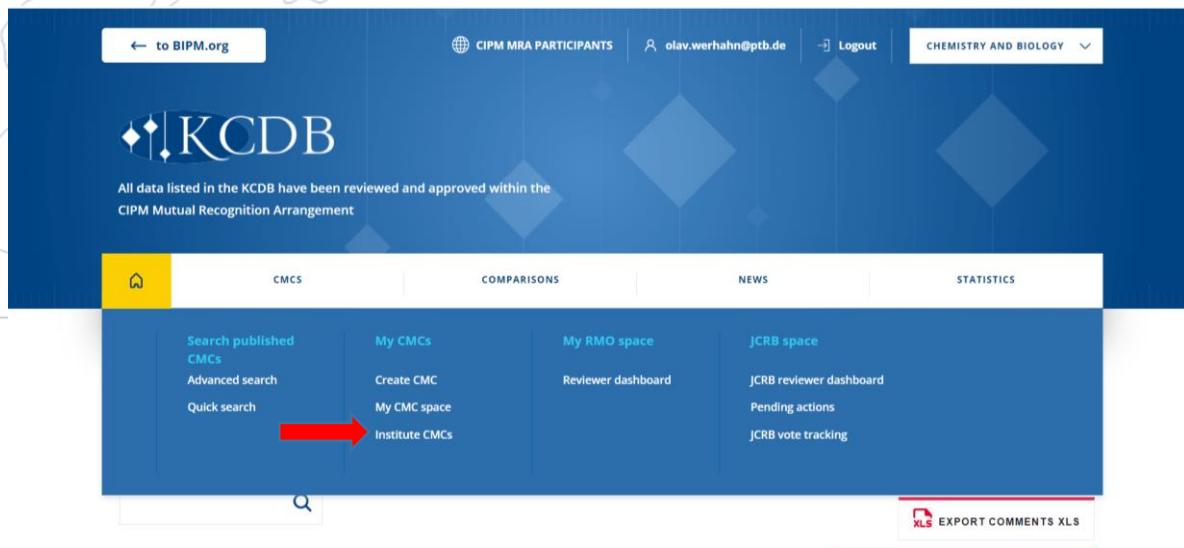


Figure 1: KCDB platform "Institute CMCs" dashboard

The KCDB³ platform enables members of the institutes holding CMCs to access their Institute's CMCs when logged in as a WRITER or NMI Secretary. It is easy to check whether you are logged into the KCDB by clicking on 'CMC' in the menu. This will give access to the submenu "**My CMCs**" and to the underlying menu structure "**Institute CMCs**" only when you are logged in as a WRITER or NMI Secretary.

1. To access the KCDB 2.0 web platform, use your credentials to log on to <https://www.bipm.org/kcdb/> via your user account. Check that you are able to see the menu shown above (Fig. 1) and that you can access your "**Institute CMCs**" dashboard.
2. From the "**Institute CMCs**" dashboard check the table to find the CMC you are searching for. **Remember, only those CMCs** that are of the metrology area and the field of expertise attributed to your KCDB user account can be accessed from this dashboard. On the various user profiles available for KCDB user accounts, consult section 4 of the "Getting started" document⁴.
3. The **CMC PID** is obtained from the first column of the table indicated by "identifier" and read the CMC specification by clicking the CMC PID .

Before starting, it is a good idea to familiarize yourself with the CIPM MRA-G-13 guidelines on the various processes on CMCs within the context of the CIPM MRA. Please acquaint yourself with any specific RMO and/or CC procedure that may have been put in place for CMCs. A comprehensive collection of training and assistance

³ Accessible via <https://www.bipm.org/kcdb/>

⁴ Accessible via <https://www.bipm.org/en/cipm-mra/kcdb-help>

materials on the use of the KCDB web platform are available online from the KCDB help page.

GETTING THE CMC PID USING THE KCDB API

The method described above only allows retrieval of the PID of your institute's CMCs and your field of expertise. To access the PID of other CMCs you will need to make POST requests to the API and identify the relevant data field in the response. The easiest way to execute a POST request is to use 'Swagger' provided by the KCDB API. The same request can also be submitted programmatically or from a command line (CLI). The instructions below assume the use of Swagger. The steps must be adapted accordingly if another method is chosen.

1. Go to the API KCDB web page <https://www.bipm.org/api/kcdb/swagger-ui.html#/>. This page is publicly available and no login is needed.
2. There are three advanced searches (for CHEM-BIO domain, for PHYSICS domain, for RADIATION domain) and one quick search covering all three domains. Advanced search allows more precise queries, resulting in a response containing fewer CMCs (ideally just one). Quick search on the other hand is more flexible at the price of responding with a larger set of CMCs among which you will have to identify the one of interest. Choose the corresponding POST method by clicking on the button POST.
3. Click the 'Try it out' button
4. Enter the search criteria in the field of the Request body. You can select either XML or JSON as entry format by the corresponding selector. For more information on the search criteria please consult the API KCDB Guide.
5. Click the Execute button, located below the criteria field.
6. If the criteria are properly formulated, the result will appear in the Response field. The result is formatted either in XML or in JSON according to the selector. Code 200 will show that the query was executed successfully and the Response body will display all CMCs that meet the criteria.
7. Scroll through the results to identify the CMC of interest. You will find the CMC PID under the label 'kcdbCode'. Be aware that the response is given in 'pages', the size of which is defined by a mandatory parameter of the query (pageSize); depending on the number of results, the CMC of interest might not be on the first page shown by default.

USING THE CMC PID IN THE KCDB'S QUICK SEARCH FACILITY

The CMC PID can be used to retrieve CMC information directly from the Quick Search facility on the public website www.bipm.org/kcdb/cmc/quick-search (no login required).

Profit from your institute's CMC identifiers when issuing calibration certificates to customers and other communications.



USE OF THE CIPM MRA LOGO AND STATEMENT ON CALIBRATION CERTIFICATES INCLUDING DIGITAL CALIBRATION CERTIFICATES (DCCs)

1. Recommendation JCRB/46-1⁵ of the Joint Committee of Regional Metrology Organizations and the BIPM (JCRB) recommends the use of CMC identifiers by NMIs/DIs. The JCRB mentioned the use of CMC identifiers in the quality management documentation of NMIs/DIs and discussed the use of CMC PIDs for calibration certificates.
2. NMIs/DIs with their own CMCs published in the KCDB can obtain authorization from the BIPM to use the CIPM MRA logo when issuing certificates to customers. The policy document [CIPM MRA-P-11](https://www.bipm.org/documents/20126/43742162/CIPM-MRA-P-11.pdf)⁶ specifies the authorization process and the use of the CIPM MRA logo together with a statement.
3. For calibration certificates, and in particular digital calibration certificates (DCCs), the CMC PIDs provide a machine-readable means to link a specific CMC to the calibration for which the certificate or the DCC was issued.

⁵ <https://www.bipm.org/committees/jc/jcrb/meeting-outcomes>

⁶ <https://www.bipm.org/documents/20126/43742162/CIPM-MRA-P-11.pdf>