



LOW AND MEDIUM VOLTAGE

ABB Ability™ Energy and Asset Manager

Export data to custom destination

ABB Ltd.
Affolternstrasse 41
CH-8050 Zurich
Switzerland

solutions.abb/abb-ability-electrification



Table of contents

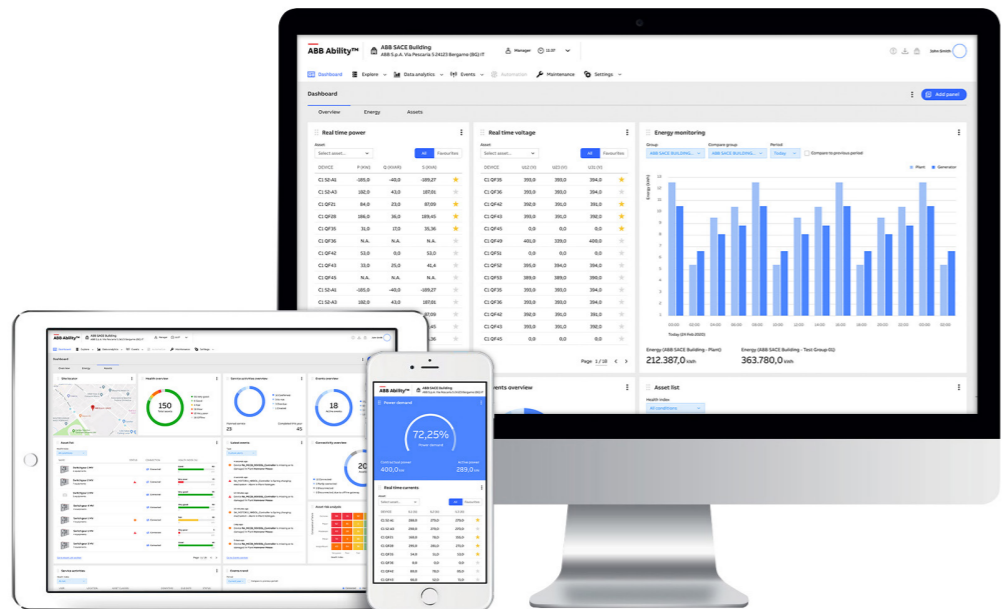
02-02	Download CSV reports on custom destination from the ABB Ability™ Energy and Asset Manager via API
03-03	How to generate the security authentication key
04-04	How to create the report generation query
04-04	Example
05-05	How to verify the report generation status
06-06	Example
07-07	How to download a report
07-07	Example

Download CSV reports on custom destination from the ABB Ability™ Energy and Asset Manager via API

Thanks to this API, it is possible to interact with the ABB Ability™ Energy and Asset Manager from a custom database, server or software program that can carry out http POST and GET queries to the URLs specified in this guide and download a CSV file.



This functionality enable users to request and download reports in CSV format with either raw or aggregated data directly from the ABB Ability™ Energy and Asset Manager cloud platform to the custom system destination.

Among the available electrical parameters and data, users can download Total Active Power, Power Factor, Total Active Energy related to the selected devices, which are connected to an ABB Ability™ Energy and Asset Manager plant/site. Each query is specific for a set of devices of a single ABB Ability™ Energy and Asset Manager plant/site by specifying the equipment (device) IDs and the dedicated ABB Ability™ Energy and Asset Manager plant/site authentication key.



How to generate the security authentication key

In order to guarantee the security of the application it is necessary to generate an authentication key for each system, i.e. plant connected to ABB Ability™ Energy and Asset Manager. This authentication key is intended to be used also for further queries.

In order to generate the authentication key, the user needs to browse to **Settings>Site** in the selected site, then to **Connect** and click on the button : the authentication key will be generated and it can be copied by clicking on the button .

The procedure above mentioned shall be followed for the first time only, on each site. It generates a secure authentication key which can be shared with the interested clients needing access to the report generation via API.

In case a user generates an authentication key, by following the above mentioned procedure, for an site where the key had been already generated, the latter will overwrite the previous key hence the user shall redistribute the key to the other stakeholders.

The key shall be used in all the further queries and input in the header http: X-ApiKey.

How to create the report generation query

In order to create the report generation, an http - **POST** - query shall be carried out toward the following URL:
https://prodbiotwebapi.azurewebsites.net/api/connect/{plantid}/analytics/report/request
The field **{plantid}** shall be substituted by the plant ID of the site where the report is desired. The user can retrieve the plant ID from the ABB Ability™ Energy and Asset Manager webapp, browsing to the desired site, then clicking on **Settings>Site>Site Identifier** under the field **PlantID**. In the body of the query, a JSON object shall be inserted with the following fields:

- **“QueryType”**: report type to be generated, it shall be among the following: Currents, TotalActivePower, TotalReactivePower, TotalApparentPower, TotalPowerFactor, TotalActiveEnergy, TotalReactiveEnergy, TotalApparentEnergy, THD, All, SensorDataPulses, DianaAudit, DianaSummary
- **“EquipmentIds”**: array with the connected devices in the site, on which devices the report must be generated (i.e. each device ID). In order to obtain the device ID, browse to Energy and Asset Manager web app, select the desired Energy and Asset Manager site and click on **Explore>All Equipment**, then select the desired device and open the **Information** tab, copy the

- Asset ID.
- **“IsRawData”**: boolean to indicate whether the report shall include Raw data (true), i.e. data collected every 30-120 seconds, or aggregated data (false)
 - **“IsIncludeSummary”**: boolean to indicate whether site data summary shall be included (true) or not (false). Note: it can be true only if IsRawData = false)
 - **“DateStart”**: date, time and time zone for the start of the data report generation, i.e. time window of data to be reported, according to the following format: YYYY-MM-DDThh:mm:SSTZD
 - **“DateEnd”**: date, time and time zone for the end of the data report generation, i.e. time window of data to be reported, according to the following format: YYYY-MM-DDThh:mm:SSTZD
 - **“AggregationRange”**: level of data aggregation that is requested (ignored in case IsRawData = true). It can take the following values: FifteenMinutes, Hour, Day, Month, Year.

Note: In case the field IsRawData = true, the time window for the data reported in the CSV file cannot exceed 24 hours.
The query gives back the ID for the report, to be used for further queries.

Example

URL:
https://prodbiotwebapi.azurewebsites.net/api/connect/77903d8a-ba6e-4510-b1bb-d96f415f2120/analytics/report/request

HEADERS:
X-ApiKey*: {Authentication Key}
Content-Type: application/json

BODY:

```
{
  "QueryType": "Currents",
  "EquipmentIds": [
    "289692a5-bdb4-4aaa-94d7-aad1483b405f",
    "67e96182-ba79-4133-8a72-62aa31d63e95"],
  "IsRawData": false,
  "IsIncludeSummary": true,
  "DateStart": "2018-05-20T11:45:47+02:00",
  "DateEnd": "2018-07-20T11:45:47+02:00",
  "AggregationRange": "Day"
}
```

RESPONSE:
"bc7856cb-5ef7-4b76-b753-4ec6271a46e9"

How to verify the report generation status

Following the query depicted above, the ABB Ability™ Energy and Asset Manager system prepares the report, and its status can be supervised by carrying out a **GET** query to the following URL: `https://prodbiotwebapi.azurewebsites.net/api/connect/{Plantid}/analytics/report/{id}/status` where the field **{Plantid}** related the plant ID of the site where the report is desired, and the field **{id}** is the report ID received from the report generation query previously described

As an answer, the query gives back a JSON object with the field “status” that can take the following values: Pending, Processing, Completed, Expired, Error.

Example

URL:
`https://prodbiotwebapi.azurewebsites.net/api/connect/77903d8a-ba6e-4510-b1bb-d96f415f2120/analytics/report/bc7856cb-5ef7-4b76-b753-4ec6271a46e9/status`

HEADERS:
X-ApiKey*: {Authentication Key}

RESPONSE:
{
 "status": "Completed"
}

How to download a report

In case the query for the report generation status gives back as status = **Completed** , the user can use the following API, with a GET query which provides the report in CSV format: `https://prodbiotwebapi.azurewebsites.net/api/connect/{Plantid}/analytics/report/{id}/file` where the field **{Plantid}** related the plant ID of the site where the report is desired, and the field **{id}** is the report ID received from the report generation query previously described

Example

URL:
`https://prodbiotwebapi.azurewebsites.net/api/connect/77903d8a-ba6e-4510-b1bb-d96f415f2120/analytics/report/bc7856cb-5ef7-4b76-b753-4ec6271a46e9/file`

HEADERS:
X-ApiKey*: {Authentication Key}

RESPONSE:
CSV FILE

*The X-ApiKey can be found under **Site>Settings**