

Documentation Local Interface poweropti



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1. Introduction

This documentation describes the local REST API (“Local Interface”) of the poweropti modules PA201901, PA201902 and PB202001 (poweropti+). Using this interface, devices in the same Wi-Fi network can directly retrieve the measurement data collected by poweropti.

The local interface is only available in combination with the powerfox PRO Service. The PRO Service can be purchased in the powerfox Shop. **Please ensure that your device is activated accordingly.**

The local interface is available for **poweropti devices with firmware version v2.02.07 or higher.**

2. Target Group & Use Cases

The interface is aimed at integration partners (e.g. manufacturers and operators of storage systems, energy management systems, wallboxes) as well as technically experienced end customers. Typical use cases include load management, self-consumption optimization, visualization, and local fallback in case of cloud outage.

3. Overview & Architecture

- Protocol: HTTP/REST, read-only
- Transport: unencrypted in LAN (HTTP), accessible only in the local network
- Authentication: header-based key (X-API-KEY)
- Response format: JSON
- CORS: GET requests are enabled through Access-Control-Allow-Origin:* (see sample response header)

4. Network Access

The API is available via the local IP address of the poweropti. Alternatively, the device can be reached via its hostname in the format “poweropti”.

Examples:

- `http://192.168.1.50/value`
- `http://poweropti/value`

5. Authentication

Access requires the HTTP header X-API-KEY. Either a 12-character key or the literal value null (without quotes) is allowed, depending on your device configuration.

Null values are not intended. The initial value is the device ID of the poweropti, e.g. 1097bd725557.

6. Endpoint

There is only one endpoint:

Method: GET

Path: /value

Header: X-API-KEY: <apiKey>

Example (curl):

- Linux / macOS:
`curl --location 'http://{ip}/value' --header 'X-API-KEY: xyz'`
- Windows (CMD):
`curl --location "http://{ip}/value" --header "X-API-KEY: xyz"`

7. Response Format

Sample response:

```
{
  "timestamp": 1757053304,
  "values": [
    { "obis": "1.7.0", "value": 228 },
    { "obis": "1.8.0", "value": 17784955 },
    { "obis": "1.8.1", "value": 17784955 },
    { "obis": "1.8.2", "value": 0 },
    { "obis": "2.8.0", "value": 181 }
  ]
}
```

8. Fields & Units

- timestamp: measurement time as Unix Epoch (seconds, UTC).
- values[n].obis: OBIS identifier according to IEC 62056-61.
- values[n].value: numeric value for the corresponding OBIS identifier.

OBIS	Meaning	Unit
1.8.0	Meter reading – grid import (total)	Wh
1.8.1	Meter reading – grid import (tariff register)	Wh
1.8.2	Meter reading – grid import (tariff register)	Wh
2.8.0	Meter reading – grid export (total)	Wh
1.7.0	Instantaneous power (positive = import, negative = export)	W

9. Example HTTP Header

```
HTTP/1.1 200 OK
Content-Type: application/json; charset=utf-8
Cache-Control: no-cache, no-store, must-revalidate
Pragma: no-cache
Expires: 0
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET
Access-Control-Allow-Headers: Content-Type, X-API-KEY
Date: Mon, 01 Sep 2025 10:30:00 GMT
Connection: keep-alive
```

10. Errors & Status Codes

The following status codes may occur:

HTTP Code	Meaning	Notes / typical cause
200	OK	Response with JSON as described above.
401	Unauthorized	Wrong or missing API key, or interface not enabled.
404	Not Found	Path wrong (e.g. typo in /value).
500	Internal Server Error	Unexpected device error.

11. Polling & Time

Recommended polling interval: 1–2 s for live display, ≥ 5 s for energy control. Avoid shorter intervals to preserve resources.

Timestamp: The field “timestamp” is UTC seconds since 01.01.1970 (Unix Epoch).