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## 1 Local API Instructions

The web interface of Nanogrid Air can be reached by accessing its local IP while being on the same Wi-Fi. The local IP is shown when successfully connecting to the Wi-Fi for the first time. Here, you can find data about connected devices and the energy meter, which can be accessed through different endpoints shown below.

Go to `<local-ip>/<endpoint>/` in your web browser to access the data. For example, `192.168.70.134/evse/`.

Multicast DNS (mDNS) can also be used to get the IP address of the device. The mDNS hostname is **ctek-ng-air** and the IP address can be resolved using **ctek-ng-air.local** via a browser or using ping on the command line. Using mDNS can be especially useful when you don't know what address the DHCP-server assigned to the device.

Please note that you need to replace `<local-ip>` with the actual local IP address provided by Nanogrid Air, and `<endpoint>` with the specific endpoint you want to access.

The webinterface updates the endpoints every second except status which is updated every 10 seconds. But energy meters generally has a 10 second update interval.

The available endpoints are:

- `evse`
  - `meter`
  - `meterraw`
  - `status`
  - `upload`
  - `ssid`
-

## 1.1 Charger information and data

<local-ip>/evse/

HTTP GET

Information and status about your chargers.

Key	Data Type	Description
cb_id	String	Serial number of charger
connection_status	String	Status of connection
evse	Object	Charger

evse-keys	Data Type	Description
id	Number	Outlet ID (max 2)
state	Number	Charging state of the outlet
current	Array	Current of all three phases

Charging states	
0	Available
1	Preparing
2	Charging
3	Suspended by charger
4	Suspended by vehicle
5	Finishing
6	Reserved
7	Unavailable
8	Faulted

An example with two connected chargers, both with only outlet 1 being used:

```
[
  {
    "cb_id": "12353A22XX000324",
    "connection_status": "Connected",
    "evse": [
      {
        "id": 1,
        "state": 2,
        "current": [11, 11.1, 11.2]
      }
    ]
  },
  {
    "cb_id": "1233A22XX2347982",
    "connection_status": "Connected",
    "evse": [
      {
        "id": 1,
        "state": 0,
        "current": [0, 0, 0]
      }
    ]
  }
]
```

## 1.2 Meter data

<local-ip>/meter/

HTTP GET

Data from the energy meter. Monitors active power, current, voltage and total active energy.

Key	Data Type	Description	Unit
activePowerIn	Number	Active power import	[W]
activePowerOut	Number	Active power export	[W]
current	Array	Current on all three phases	[A]
voltage	Array	Voltage on all three phases	[V]
totalEnergyActiveImport	Number	Total active energy import	[kWh]
totalEnergyActiveExport	Number	Total active energy export	[kWh]

Example:

```
{  
  "activePowerIn": 2,  
  "activePowerOut": 1.9,  
  "current": [11.1, 11.2, 11.3],  
  "voltage": [200, 210, 220],  
  "totalEnergyActiveImport": 987.654,  
  "totalEnergyActiveExport": 1.234  
}
```

## 1.3 Raw meter data

<local-ip>/meterraw/

Access the raw meter data.

Key	Data Type	Description
cpu_time_ms	Number	Cpu time [ms]
len	Number	Length
data	String	Data

Example without data:

```
{  
  "cpu_time_ms": 0,  
  "len": 0,  
  "data": ""  
}
```

## 1.4 Information and status

<local-ip>/status/

HTTP GET

Information about Nanogrid Air, chargers and energy meter

Key	Data Type	Description
deviceInfo	Object	Nanogrid Air info
chargeboxInfo	Object	Charger info
meterInfo	Object	Meter info

deviceInfo-keys	Data Type	Description
serial	String	Serial number
firmware	String	Firmware
mac	String	MAC-address

chargeboxInfo-keys	Data Type	Description
identity	String	MQTT-identity
serial	String	Serial number
firmware	String	Firmware
endpoint	String	MQTT endpoint
port	Number	Network port
state	String	Connection status

meterInfo-keys	Data Type	Description
vendor	String	Make of meter
type	String	Type of meter
id	String	ID of meter

Example:

```
{
  "deviceInfo": {
    "serial": "12353A22XX123455",
    "firmware": "ngair.1.0.1-0-g792c17f_secure",
    "mac": "7cdfa1111234"
  },
  "chargeboxInfo": {
    "identity": "12353A22XX000324",
    "serial": "12353A22XX000324",
    "firmware": "r2.1.4-0-g53b1fc18_mmiR1",
    "endpoint": "mqtt://192.168.01.01",
    "port": 1111,
    "state": "connected"
  },
  "meterInfo": {
    "vendor": "Brandname",
    "type": "P1",
    "id": "123456789"
  }
}
```



## 1.5 Upload firmware to Nanogrid Air

<local-ip>/upload/<filepath>

HTTP POST

This endpoint is used to upload new firmware to the Nanogrid Air.

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## 1.6 SSID List

While in setup mode, you can access the list of SSIDs for the available WiFi networks.

192.168.4.1/ssid/ (NOTE that this is not using the same <local-ip> as before.)

HTTP GET

On the web interface, the data is updated when the user manually refreshes the list.

```
{  
  "ssid_string": "example_wifi", "example2_companyname",  
  "example3_neighbour"  
}
```

## 2 Document Release Notes

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