

Application Programming Interface (API) BeeClear energy manager

Version 0.0.4 (v49.3.x)

Changes: 16/4/2018, added array support for multiple gas meters.

* bc_current
* bc_softwareVersion

Layout :
Explanation : This is the text explaining the function of this API command.
Command : **bc_command**
Options : Option1 | Option2 | Option3
Options Explained :
Option1 This is the first option it is a decimal number that represents first option
Option2 This is the second option it is a decimal number that represents second option
Option3 This is the third option it is a decimal number that represents third option
Example : http://BeeClear/bc_command&{Option1}=1&{Option2}=2&{Option3}=3
Returns : Shows examples of returned values with explanation if applicable

1. Retrieve meter values Electricity low/high and Gas.

Explanation : This command retrieves the primary “smart meter” current/momentary values (in Dutch: “meterstanden”).
Command : **bc_getVal**
Options : type | date | duration | period
Options explained:
elekw (per 10 seconds update of “actual” database)
elekw60 (per 60 seconds update of “actual” averaged 10 sec value database).
elek (per 1 hour update of electricity meter value database).
gas (per 1 hour update of gas meter value database).
Example : Get all the stored/recorded meter values from database “elek” with a period interval of 1 hour going back 1 day from starting date/time: “Mon, 16 Jan 2017 23:00:00”.
The query would be assembled as follows:
http://beeclear.local/bc_getVal?type=elek&date=1484607600&duration=day&period=hour

Every database returns its own unique formatted JSON data.

```
date = <unix date>
// start date to return values.
duration = <number in seconds> or: hour, 2hour, day, week, month, year, 10year
// total measuring value
period = <number in seconds> or: 10sec, min, 3min, 5min, hour, day, week, month, year, 10year
// time between measurements
```

Returns :

```
{
  "version": "49.3.3",
  "type": "elek",
  "serial": [{"serial": "E0009100008069714"},
  "start": 1420416000,
  "end": 1484686801},
  "meetwaarden": [{"serial": "E0009100008069714",
  "val": [{"time": 1484607600, "verb": 3179631, "verbl": 4432536, "lev": 2849834, "levl": 1165708, "v": 0, "vl": 0, "l": 0, "ll": 0},
  {"time": 1484611200, "verb": 3179631, "verbl": 4433049, "lev": 2849834, "levl": 1165708, "v": 0, "vl": 513, "l": 0, "ll": 0},
  {"time": 1484614800, "verb": 3179631, "verbl": 4433948, "lev": 2849834, "levl": 1165708, "v": 0, "vl": 899, "l": 0, "ll": 0},
  {"time": 1484618400, "verb": 3179631, "verbl": 4434838, "lev": 2849834, "levl": 1165708, "v": 0, "vl": 890, "l": 0, "ll": 0},
  {"time": 1484622000, "verb": 3179631, "verbl": 4435167, "lev": 2849834, "levl": 1165708, "v": 0, "vl": 329, "l": 0, "ll": 0},
  {"time": 1484694000, "verb": 0, "verbl": 0, "lev": 0, "levl": 0, "v": 0, "vl": 0, "l": 0, "ll": 0}]}]}
```

Properties :

- version : Firmware version BeeClear (string)
- type : Database type, only "elek" for now (string)
- serial : E-meter serial number (string)
- start : Epoch Unix time first seen (int)
- end : Epoch Unix time last seen (int)
- val : An array with following meterdata points:
 - time: Epoch Unix time (int)
 - verb: Usage metervalue normal kWh (int)
 - verbl: Usage metervalue low kWh (int)
 - lev: Deliverance metervalue normal kWh (int)
 - levl: Deliverance metervalue low kWh (int)
 - v: Momentary usage normal Watt (int)
 - vl: Momentary usage low Watt (int)
 - l: Momentary deliverance normal Watt (int)
 - ll: Momentary deliverance low Watt (int)

The values are stored in separate DB's per "type", now only elek type is supported
 The BeeClear stores all these values and syncs them every hour to SD-card.

2. Stored historic active values electricity used and -generated (low/high tariff)

Explanation : This command returns **recorded/stored** historic active values for electricity used and generated for tariffs high and low. The returned data has a per 10 sec interval resolution. The values are read from the locally stored databases.

Command : `bc_current`
Options : `date|duration|nu`

Options Explained :

date : (unix epoch time), set the ending date/time of measurement.
duration : Interval presentation 15 min units. For example 4 units = 1 hour. Resolution is 10 sec.
nu : Show only one measured value on given timestamp

Example : http://{BeeClear}/bc_current?date=1435322813&duration=8

Returns:

```
{
  "time":1429039347,
  "items":[ { "d":1428995914,"u":0.164,"g":0.000},
             { "d":1428995924,"u":0.169,"g":0.000},
             ....
             { "d":1428997694,"u":0.233,"g":0.000},
             { "d":1428997704,"u":0.235,"g":0.000}]]
```

Example : `http://{BeeClear}/bc_current?nu=1451511279`

Returns:

```
{
  "d":1451511291,"time":20,"ul":2325500,"uh":1731113,"gl":597441,"gh":1545517,"u":0.495,"g":0.000,"gas":1589724}
  {"d":1523892842,
   "ed":1523892846,
   "tariefStatus":2,
   "ul":7040275,
   "uh":4945745,
   "gl":1813800,
   "gh":4303372,
   "u":0,
   "g":2046,
   "gas":[{"slot":0,"val":4225802,"time":1523890800}]}
```

3. Gas usage

- Deprecated

4. Smartmeter ID

Explanation : This commands returns the serial number of the gas and electricity meter. It also returns start and end date of registering.

Command : `bc_serials?`

Options : ---

Example : `http://{BeeClear}/bc_serials`

Returns :

```
{"serials": [  
  {"type": "g", "serial": "4730303233353631323137343339353134", "start": 1424014245, "end": 0},  
  {"type": "e", "serial": "4530303039313030303038303639373134", "start": 1424014245, "end": 0}]}
```

5a. Read meter properties and system health

Explanation : Read meter brand, serialnumber gas, serialnumber elektr, meter protocol version, uptime, BeeClear hardware version, BeeClear firmware version, bc_status update interval.

16.4.2018: Added array option in case of more than 1 gas meter.

Command : `bc_softwareVersion`

Options : ---

Example : `http://{BeeClear}/bc_softwareVersion`

Returns :

```
{"info": "ok",  
 "name": "KFM5KAIFA-METER",  
 "serialElec": "E0009100008069714",  
 "gas": [{"slot": 0, "serial": "G0023561217439514"}],  
 "protocolVersion": "42",  
 "uptime": 419038,  
 "hardware": "2",  
 "firmware": "49.3.202",  
 "timeSync": 2}
```

5b. Read BeeClear system health properties

Explanation : Read P1-data stream, SD-card installed, SD-card storage space.

Command : `bc_status`

Options : ---

Example : `http://{BeeClear}/bc_status`

Returns :

```
{"p1": 1,  
 "sdcard": 1,  
 "sdcardFree": "97.5%",  
 "sdcardTotal": "7.73 GB"}
```

6A. Check, Download & Update software on device.

Explanation : a. Check for available software updates on update server. b. Download updates from update server. and c. Update local device with downloaded software

Command : `bc_update`

Options : `status | check | download | update`

Example : http://{BeeClear}/bc_update?cmd=status

Returns : with option **check** followed by **status**:

```
{"from":"check","info":"start"}
{"from":"check","info":"ok","firmware":"1.1.2"}
{"from":"check","info":"nok"}
```

With option **download** followed by **status**:

```
{"from":"download","info":"start"}
{"from":"download","info":"ok"}
{"from":"download","info":"nok"}
{"from":"download","info":"corrupt"}
```

With option **update** followed by **status**:

```
{"from":"update","info":"ok"}
{"from":"update","info":"nok"}
```

6B. Check for update

Explanation : Check latest available BeeClear update from internet.

Option : **check** (followed by option **status**).

Example : http://{BeeClear}/bc_update?cmd=check

Returns:

```
{"info":"ok"} -> command executed
{"info":"nok"} -> command not executed
```

Explanation : Use option **status** to return information

Option : ---

Example : http://{BeeClear}/bc_update?cmd=status

Returns :

```
{"from":"check","info":"start"}
{"from":"check","info":"ok","firmware":"1.1.2"}
{"from":"check","info":"nok"}
```

6C. Download update

Explanation : Download latest available BeeClear update version from internet.

Option : **download** (followed by option **status**).

Example : http://{BeeClear}/bc_update?cmd=download

Returns :

```
{"info":"ok"} -> command executed
{"info":"nok"} -> command not executed
```

Explanation : Use option **status** to return information

Example : http://{BeeClear}/bc_update?cmd=status

Returns :

```
{"from":"update","info":"ok"}
{"from":"update","info":"nok"}
```

6D. Update device & keep settings

Explanation : Update device with downloaded software version.

Option : **update** (followed by option **status**).

Example : http://{BeeClear}/bc_update?cmd=update

Returns :

```
{"info":"ok"} -> command executed
```

`{"info":"nok"}` -> command not executed

Explanation : Use option **status** to return information

Example : `http://{BeeClear}/bc_update?cmd=status`

Returns :

`{"from":"update","info":"ok"}`

`{"from":"update","info":"nok"}`

6E. Update device & erase settings

Explanation : Update device with downloaded software version and go to factory default.

Option : **update** option **erase**(followed by option **status**).

Example : `http://{BeeClear}/bc_update?cmd=update&opts=erase`

Returns :

`{"info":"ok"}` -> command executed

`{"info":"nok"}` -> command not executed

Explanation : Use option **status** to return information

Example : `http://{BeeClear}/bc_update?cmd=status`

Returns :

`{"from":"update","info":"ok"}`

`{"from":"update","info":"nok"}`

Location and content of files:

info update file:

<http://beeclear.nl/updates/update.info>

FIRMWARE=1.45

MD5SUM=019caf2d80d5523c9cddb99f59c416f7

WEB_MD5SUM=019caf2d80d5523c9cddb99f59c416f7

Binary firmware file:

[http://beeclear.nl/updates/firmware.\\${FIRMWARE}.bin](http://beeclear.nl/updates/firmware.${FIRMWARE}.bin)

Website file:

[http://beeclear.nl/updates/www.\\${FIRMWARE}.tar.gz](http://beeclear.nl/updates/www.${FIRMWARE}.tar.gz)

Needs to be a compressed tar in a directory. Filename should look like:

www.123.tar.gz

www.123/index.html

www.123/favicon.ico

7A. Setup / Tariffs / getEnergieSettings

Explanation : This command shows the content of data energy containers. The “tarief” container is a list of detailed electricity costs. The “wie” container is a list of energy companies. Per list/entry in the “wie” container, there are two items/elements that reference the “tarief” container for energy costs. The two elements are **gas** and **electricity**.
"wie":[{"naam":"nuon","elec":0,"gas":3,...}]. Of the “wie” container element 0 is the company name. **Element 1** references **electricity** and **element 2** references **gas**. The referenced tables for gas and electricity are separate mostly. The “wie” container is filled by the user via the setup interface (tarieven) in the GUI. Prerequisite: There needs to be at least one dataset/table in both containers: “tarief” and “who”. You need to first run **putEnergieSettings** to fill at least one dataset in dataset table: “tarief” and one dataset in dataset table: “wie”.

In short: Returns two tables: tarief and wie (tarief= lists of detailed energy costs. Wie= List of Energycompanies with gas and electricity references to tarief).

Command : **bc_getEnergieSettings**

Options : ---

Example : `http://{BeeClear}/bc_getEnergieSettings`

Returns :

```
{ "tarief": [{"tarief":0.010000,"DalTarief":0.020000,"AansluitingNetbeheerder":0.010000,"PeriodiekNetbeheerder":0.020000,"VastrechtAansluiting":0.010000,"VastrechtTransport":0.020000,"Systeemdiensten":0.010000,"Meetdiensten":0.020000,"energieBelasting":0.010000,"duurzameOpslag":0.020000}, {"tarief":0.010000,"DalTarief":0.020000,"AansluitingNetbeheerder":0.010000,"PeriodiekNetbeheerder":0.020000,"VastrechtAansluiting":0.010000,"VastrechtTransport":0.020000,"Systeemdiensten":0.010000,"Meetdiensten":0.020000,"energieBelasting":0.010000,"duurzameOpslag":0.020000}, {"tarief":0.010000,"DalTarief":0.020000,"AansluitingNetbeheerder":0.010000,"PeriodiekNetbeheerder":0.020000,"VastrechtAansluiting":0.010000,"VastrechtTransport":0.020000,"Systeemdiensten":0.010000,"Meetdiensten":0.020000,"energieBelasting":0.010000,"duurzameOpslag":0.020000}, {"tarief":0.010000,"DalTarief":0.020000,"AansluitingNetbeheerder":0.010000,"PeriodiekNetbeheerder":0.020000,"VastrechtAansluiting":0.010000,"VastrechtTransport":0.020000,"Systeemdiensten":0.010000,"Meetdiensten":0.020000,"energieBelasting":0.010000,"duurzameOpslag":0.020000}, {"tarief":0.900000,"DalTarief":0.800000,"AansluitingNetbeheerder":0.700000,"PeriodiekNetbeheerder":0.600000,"VastrechtAansluiting":0.500000,"VastrechtTransport":0.400000,"Systeemdiensten":0.300000,"Meetdiensten":0.200000,"energieBelasting":0.100000,"duurzameOpslag":0.123000}, {"tarief":0.900000,"DalTarief":0.800000,"AansluitingNetbeheerder":0.700000,"PeriodiekNetbeheerder":0.600000,"VastrechtAansluiting":0.500000,"VastrechtTransport":0.400000,"Systeemdiensten":0.300000,"Meetdiensten":0.200000,"energieBelasting":0.100000,"duurzameOpslag":0.123000}], "wie": [{"naam":"nuon","elec":0,"gas":3,"btw":0.010000,"terug":0.020000,"toeslag":0.010000,"diverse":0.020000}, {"naam":"neco","elec":2,"gas":1,"btw":0.010000,"terug":0.020000,"toeslag":0.010000,"diverse":0.020000}, {"naam":"jojo","elec":4,"gas":5,"btw":0.300000,"terug":0.400000,"toeslag":0.500000,"diverse":0.600000}]
```

Explanation:

There are two tables: "tarief" and "wie" ("energy rates" and "Who"). The tables "tarief" and "who" are filled with setEnergieSettings. Caution: Per energy unit Gas or Electricity two different tables should be referenced.

Example company nuon:

"nuon" from table "wie" (first entry in table):

```
naam:"nuon","elec":0,"gas":3,"btw":0.010000,"terug":0.020000,"toeslag":0.010000,"diverse":0.020000
```

The "tarief" data for **electricity** will consist of (referenced by 2nd element "elec":0):

```
{ "tarief": [{"tarief":0.010000,"DalTarief":0.020000,"AansluitingNetbeheerder":0.010000,"PeriodiekNetbeheerder":0.020000,"VastrechtAansluiting":0.010000,"VastrechtTransport":0.020000,"Systeemdiensten":0.010000,"Meetdiensten":0.020000,"energieBelasting":0.010000,"duurzameOpslag":0.020000}
```

The "tarief" data for **gas** will consist of (referenced by 3rd element "gas":3):

```
{ "tarief": [{"tarief":0.010000,"DalTarief":0.020000,"AansluitingNetbeheerder":0.010000,"PeriodiekNetbeheerder":0.020000,"VastrechtAansluiting":0.010000,"VastrechtTransport":0.020000,"Systeemdiensten":0.010000,"Meetdiensten":0.020000,"energieBelasting":0.010000,"duurzameOpslag":0.020000}
```

Value	(Electricity)	GUI (SETUP – Tarieven)
-------	---------------	------------------------

Verbruik piektarief	<input type="text" value="0,00000"/> €/kWh	Tarief = "Verbruik piektarief" (tarief)
Verbruik daltarief	<input type="text" value="0,00000"/> €/kWh	DalTarief = "Verbruik daltarief" (DalTarief)
Capaciteitstarief aansluiting	<input type="text" value="0,00000"/> €/dag	AansluitingNetbeheerder= "Capaciteitstarief aansluiting"
Capaciteitstarief netbeheerder	<input type="text" value="0,00000"/> €/dag	PeriodiekNetbeheerder= "Capaciteitstarief netbeheerder"
Vastrecht aansluiting	<input type="text" value="0,00000"/> €/dag	VastrechtAansluiting = "Vastrecht aansluiting"
Vastrecht transport	<input type="text" value="0,00000"/> €/dag	VastrechtTransport = "Vastrecht transport"
Systeemdiensten	<input type="text" value="0,00000"/> €/dag	Systeemdiensten= "Systeemdiensten"
Meetdiensten	<input type="text" value="0,00000"/> €/dag	Meetdiensten= "Meetdiensten"

Duurzame opslag Electriciteit
 €/KWh duurzameOpslag = "Duurzame opslag Elektriciteit"
 Energiebelasting electriciteit
 €/KWh energieBelasting = "Energiebelasting Elektriciteit"
 BTW
 % btw

Contractdays = (contractday now) – (contractday start)

BtwElectricityHigh = (Tarief+ AansluitingNetbeheerder*contractdays + PeriodiekNetbeheerder*contractdays + VastrechtAansluiting*contractdays + VastrechtTransport*contractdays + Systeemdiensten*contractdays + Meetdiensten*contractdays + energieBelasting + duurzameOpslag + diverse) /100* btw

ElectrPriceUnitUsageHigh(uh)= (Tarief+ AansluitingNetbeheerder + PeriodiekNetbeheerder + VastrechtAansluiting + VastrechtTransport + Systeemdiensten + Meetdiensten + energieBelasting + duurzameOpslag+ diverse) + **BtwElectricityHigh**

To calculate Electricity price in presentation UI's:

BtwElectricityLow = (DalTarief+ AansluitingNetbeheerder + PeriodiekNetbeheerder + VastrechtAansluiting + VastrechtTransport + Systeemdiensten + Meetdiensten + energieBelasting + duurzameOpslag + diverse)/100*Btw

ElectrPriceUnitUsageLow(ul)= (DalTarief+ AansluitingNetbeheerder + PeriodiekNetbeheerder + VastrechtAansluiting + VastrechtTransport + Systeemdiensten + Meetdiensten + energieBelasting + duurzameOpslag + diverse) + **BtwElectricityLow**

Value	(Gas)	GUI (SETUP – Tarieven)
<input type="text" value="0,00000"/>	€/m ³	Tarief = "Verbruik Gas" (normal tariff)
<input type="text" value="0,00000"/>	€/dag	AansluitingNetbeheerder= "Capaciteitstarief aansluiting"
<input type="text" value="0,00000"/>	€/dag	PeriodiekNetbeheerder= "Capaciteitstarief netbeheerder"
<input type="text" value="0,00000"/>	€/dag	Vastrecht aansluiting = "Vastrecht aansluiting"
<input type="text" value="0,00000"/>	€/dag	Vastrecht transport = "Vastrecht transport"
<input type="text" value="0,00000"/>	€/dag	Systeemdiensten= "Systeemdiensten"
<input type="text" value="0,00000"/>	€/dag	Meetdiensten= "Meetdiensten"
<input type="text" value="0,00000"/>	€/KWh	duurzameOpslag = "Duurzame opslag Elektriciteit"
<input type="text" value="0,00000"/>	€/KWh	energieBelasting = "Energiebelasting Elektriciteit"
<input type="text" value="21"/>	%	btw

GasBTW= (DalTarief+ AansluitingNetbeheerder + PeriodiekNetbeheerder + VastrechtAansluiting + VastrechtTransport + Systeemdiensten + Meetdiensten + energieBelasting + duurzameOpslag + toeslag + diverse)/100*btw

GasPriceUnit(gp)= (DalTarief+ AansluitingNetbeheerder + PeriodiekNetbeheerder + VastrechtAansluiting + VastrechtTransport + Systeemdiensten + Meetdiensten + energieBelasting + duurzameOpslag + toeslag + diverse) + GasBTW

Value Global (all tables the same value) GUI

btw BTW
 %

terug	Belasting teruggave (heffings korting)	<input type="text" value="0,00000"/>	€/dag
toeslag	Regio toeslag Gas	<input type="text" value="0,00000"/>	€/M3
diverse	Diverse	<input type="text" value="0,00000"/>	€

- name = name of energy company
- elec = Electricity index refers to element number of dataset in tarief array.
- gas= Gas index refers to element number of dataset in tarief array.
- btw= tax in percentage
- terug= "Belasting teruggave / heffings korting" (tax return)
- toeslag= "regio toeslag gas" (region based costs)
- diverse= "Diverse" (variable extra costs)

7B. Setup / Tariffs / putEnergieSettings

Explanation : This command fills the information containers: "wie" and "tarief". The "wie" container holds lists of the energy company information. The tarief container holds lists of the corresponding gas and electricity data. The containers are filled by entering data for: "wie", followed by the corresponding **electricity** and **gas** data.

```

Command      : bc_putEnergieSettings
Options      :
              wie=[ Name-Company_
                    btw_
                    energieTeruggave _
                    regioToeslag _
                    diverse]
              elec=[ tarief _
                    DalTarief _
                    AansluitingNetbeheerder _
                    PeriodiekNetbeheerder _
                    VastrechtAansluiting _
                    VastrechtTransport _
                    Systemdiensten _
                    Meetdiensten _
                    energieBelasting _
                    duurzameOpslag]

```

Example : `http://{BeeClear}/bc_putEnergieSettings&wie=Energiebedrijf 0.1 0.2 0.3 04&elec=0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0&gas=1.0 0.9 0.8 0.7 0.6 0.5 0.4 0.3 0.2 0.1`

8A. Setup WiFi & Ethernet with bc_putNetwork

Explanation : This command will set network settings for the WIFI or Ethernet (Lan) device. With the **dev** option you choose which networking device needs configuring. The option **mode** will give you the choice of operating mode. Operating modes are "off" (turn device off), "static" (configure a static IP) and "dhcp" (configure automatic IP-address acquirement). With the extra options:

- Hostname you will be configuring the name of the host.
- IP you need to give the IPv4 bytes

```

Command      : bc_putNetwork
Options      :
              dev =ethernet | wifi
              proto =off | static | dhcp
Example     : http://{BeeClear}/ bc_putNetwork&dev=wifi&mode=dhcp&hostname=beeclear
              &mode=ap&ssid=TEST&key=key1234

```


Returns :

Options: dev =Ethernet | wifi
proto =off | static | dhcp
hostname= \$string hostname
ip= \$ip version 4
netmask= \$netmask
router= \$route / default gw
dns= \$dns

mode=ap | client
ssid= \$Secure SID
passwd= \$Wifi key

option dev=Ethernet.

mode=off,static,dhcp is only for ip interface
mode=off,ap,client is only for wifi antennae.

returns: {status:"ok"} or {status:"fail"}

Examples:

<http://beeclear/get-data?type=putNetwork&dev=ethernet&mode=off&hostname=beeclear>

<http://beeclear/get-data?type=putNetwork&dev=ethernet&mode=dhcp&hostname=beeclear>

<http://beeclear/get->

<data?type=putNetwork&dev=ethernet&mode=static&hostname=beeclear&ip=192.168.11.39&netmask=255.255.255.0>

<http://beeclear/get-data?type=putNetwork&dev=wifi&mode=off&hostname=beeclear&mode=off&ssid=WifiCafe&key=passwd>

<http://beeclear/get-data?type=putNetwork&dev=wifi&mode=dhcp&hostname=beeclear&mode=client&ssid=WifiCafe&key=passwd>

<http://beeclear/get->

<data?type=putNetwork&dev=wifi&mode=static&ip=10.0.0.1&netmask=255.255.0.0&hostname=beeclear&mode=ap&ssid=jojo44&key=12345678>

<http://beeclear/get->

Requirement to make it work in the GUI, you need two files:

/etc/config/network.eth

/etc/config/network.wifi with the correct settings.

8B. Read WIFI & Ethernet with bc_getNetwork

Explanation : This command retrieves the relevant networking settings for Ethernet and wifi. Settings like dns, default rout, Wifi encryption mode etc.summary

Command : **bc_getNetwork**

Example : http://{BeeClear}/bc_getNetwork

Returns :

```
{"status":"start"}
```

Run second time (poll):

```
{"status":"ok","scan":{"dev":"wifi","ip":"192.168.111.1","netmask":"255.255.255.0","router":"","dns":"192.168.11.1"}, {"dev":"ethernet","ip":"192.168.11.218","netmask":"255.255.255.0","router":"192.168.11.1","dns":"192.168.11.1"}, {"dev":"config_wifi","ip":"192.168.111.1","netmask":"255.255.255.0","proto":"static","hostname":"beeclear","mode":"ap","ssid":"BeeClear","key":"xmeter00","router":"","dns":""}, {"dev":"config_ethernet","proto":"dhcp","hostname":"beeclear","router":"","dns":""}}
```

9. Setup / WIFI / wifiScan

Explanation : Scans the WIFI-network for WIFI access points. The function returns a list of WIFI AP's and returns a list with corresponding signal strengths. The higher the dBm number indicates a stronger SSID signal. If the SSID is empty it is a "hidden" access point.

Command : bc_wifiScan

Example : http://{BeeClear}/bc_wifiScan

Returns :

```
{ "status": "ok", "scan": [ { "ssid": "Cafe Duckstad", "signal": "-76 dBm Quality", "encryption": "WPA2 PSK (TKIP, CCMP)" }, { "ssid": "KaRiN-DrAAdloos", "signal": "-80 dBm Quality", "encryption": "mixed WPA/WPA2 PSK (TKIP, CCMP)" }, { "ssid": "Dennis Prive Wifi", "signal": "-82 dBm Quality", "encryption": "WPA2 PSK (TKIP)" }, { "ssid": "arsj", "signal": "-82 dBm Quality", "encryption": "mixed WPA/WPA2 PSK (TKIP, CCMP)" }, { "ssid": "Honselersdijk", "signal": "-88 dBm Quality", "encryption": "WPA PSK (TKIP)" }, { "ssid": "SEC_LinkShare_04ed87", "signal": "-92 dBm Quality", "encryption": "WPA2 PSK (CCMP)" }, { "ssid": "Kraaijenest", "signal": "-92 dBm Quality", "encryption": "WPA2 PSK (CCMP)" }, { "ssid": "F.B.I.", "signal": "-94 dBm Quality", "encryption": "WPA PSK (TKIP)" }, { "ssid": "link", "signal": "-88 dBm Quality", "encryption": "WEP Open/Shared (NONE)" } ] }
```

10. Set MeterType detection

Explanation : Sets behaviour of autodetection of metertype.

Command : bc_metertype

Example : http://{BeeClear}/bc_metertype?type=1

Properties :

metertype=1 // Detect only once

metertype=2 // autodetect always

metertype=3 // Type=3

metertype=4 // Type=4

Default=1

Returns :

{ "info": "ok" } of { "info": "nok" }

Setup & Misc

11. Poweroff

Explanation : Shutdown BeeClear and flush cash to disk.

Command : http://{BeeClear}/bc_poweroff (two times in one second)

Returns :

12. SaveConfig

Explanation : write configuration

Command : http://{BeeClear}/bc_saveconfig

Returns :

13A. Security logout

Explanation : Clears the session ID.

Command : http://{BeeClear}/bc_logout

Returns :

{ "info": "ok" }

13B. Enable/disable Security

Explanation: Sets / Disables session token security cookie.

Command : http://{BeeClear}/bc_security?set=off
http://{BeeClear}/bc_security?set=on

Returns :

{"info":"nok"} or
{"info":"ok"}

14. MeterType

Explanation : Sets the DSMR meter type. Type three (3) or four (4). Sets metertype 4 and NTP to off. Sets metertype 3 with ntpd.

Command : http://{beeclear}/bc_meter3?set=off
http://{beeclear}/bc_meter3?set=on

Returns :

{"info":"nok"} or
{"info":"ok"}

15. Loglevel

Explanation : Sets the loglevel for httpd and serial requests.

Command : http://{beeclear}/bc_log?loglevel=0&logtype=512

Returns :

{"info":"nok"} or
{"info":"ok"}

16. RawLog

Explanation : Sets the rawlogging telegrams

Command : http://beeclear/bc_setting?type=rawlogging&set=off
http://beeclear/bc_setting?type=rawlogging&set=on

Returns :

{"info":"nok"} or
{"info":"ok"}

17. Debug

18. Log

19. Reset

20. Password

21. ServerTime

22. Backup

/bc_serials

/bc_backup

cmd= list backup restore remove get getcsv

cmd=list

- list bestaande backup files

cmd=backup

file=

van=

tot=

backup=

- Maak een backup over tijdvlak van tot naar bestand file, als van en of tot 0 is of niet opgegeven wordt alles geback-upt.

cmd=restore

file=

- Restore backup met naam file

cmd=remove

file=

- Verwijder backup bestand file

cmd=get

file=

- Download backup bestand file

cmd=getcsv

file=

type=

serial=

- Download csv waarden van db type met serial uit het bestand file

file= <Naam backup bestand>

serial= <Serial number>

backup= actueel meter elek elekw gas

van= <unixtime> periode om te backuppen.

tot= <unixtime>

type= elek elekw gas