TECHNISCHE ALTERNATIVE | GEBÄUDETECHNIK INTELLIGENT GEREGELT

CMI-JSON-API

Version 8

1. Contents

1. Contents 2
3. Introduction 3
4. Version 3
5. Requests 3
5.1. Authentication 3
5.2. Request URL 3
5.3. Parameters 3
5.3.1. jsonnode 3
5.3.2. jsonparam 3
5.3.3. jsondesignation 4
6. Response 5
6.1. Header 5
6.1.1. Version 5
6.1.2. Device 5
6.1.3. Timestamp 5
6.2. Data 6
6.2.1. Data objects 6
6.2.2. Number 6
6.2.3. AD 6
6.2.4. Value 7
6.2.4.1. Value 7
6.2.4.2. Unit 7
6.2.4.3. RAS 8
6.2.4.4. State 8
6.3. Status / Status code 9
7. Example 9
7.1. Example 1 9
7.1.1. Request 9
7.1.2. Response 9
7.2. Example 2 - Designation 10
7.2.1. Request 10
7.2.2. Response 10

3. Introduction

The C.M.I.-JSON-API is made for third parties to obtain values from all connected CAN-nodes.

The way to interact with this API is by making a HTTP request to a specific CGI-file, which will always return a valid JSON-String.

4. Version

API-Version: 8

5. Requests

5.1. Authentication

It's required to authenticate as "expert" via http-Auth.

5.2. Request URL

/INCLUDE/api.cgi

5.3. Parameters

The described parameters are passed to the request as GET-parameters. Optional parameters may be omitted.

Parameter	Description	Optional
jsonnode	Node number	no
jsonparam	Request parameters	no
jsondesignation	Designation load trigger	yes

5.3.1. jsonnode

Node number as decimal value.

Example: jsonnode=51

5.3.2. jsonparam

The jsonparam parameters are separated through a comma (",").

Parameter	Description	Supported devices
I	Inputs	1611, x2-tech
O	Outputs	1611, x2-tech
D	DL-inputs	x2-tech
Sg	System-values: General	x2-tech
Sd	System-values: Date	x2-tech
St	System-values: Time	x2-tech
Ss	System-values: Sun	x2-tech
Sp	System-values: Electrical power	CAN-EZ2, CAN-EZ3
Na	Analog network inputs	1611

Nd	Digital network inputs	1611
M	M-Bus	CAN-BC2, RSM610-M, UVR610
AM	Modbus	CAN-BC2, UVR610S-MODB, CAN-EZ3
AK	KNX	CAN-BC2
La	Analog logging	x2-tech
Ld	Digital logging	x2-tech

Information can be limited by adding the number of the value. Otherwise, all available values will be received. max. 16 values/parameter

Example:

jsonparam=I,O,D,Sg,Sd

jsonparam=I1,I2,O3,Sg1

jsonparam=I,O1,O2,O3

SpX	Description
Sp1	Total apparent power
Sp2	Apparent power L1
Sp3	Apparent power L2
Sp4	Apparent power L3
Sp5	Total real power
Sp6	Real power L1
Sp7	Real power L2
Sp8	Real power L3
Sp9	Total reactive power
Sp10	Reactive power L1
Sp11	Reactive power L2
Sp12	Reactive power L3
Sp13	Voltage L1
Sp14	Voltage L2
Sp15	Voltage L3
Sp16	Total amperage
Sp17	Amperage L1
Sp18	Amperage L2
Sp19	Amperage L3
Sp20	Total cos φ power factor
Sp21	Cos φ power factor L1
Sp22	Cos φ power factor L2
Sp23	Cos φ power factor L3
Sp24	Total phase shift
Sp25	φ phase shift L1
Sp26	φ phase shift L2
Sp27	φ phase shift L3
Sp28	Positive phase sequence (Yes/No)

5.3.3. jsondesignation

The ”jsondesignation” is an optional parameter introduced in version 8 of the API. If set it includes the designation of all the values in the json. Works only with x2 devices.
Example: jsondesignation=1

6. Response

The response data is formatted as UTF8

6.1. Header

```
"Header":{
      "Version":8,
      "Device":8B,
      "Timestamp":1481538940
}
```

6.1.1. Version

Version of the API.

1	1.25.2	2016-12-12
2	1.26.1	2017-02-24
3	1.28.0	2017-11-09
4	1.34.2	2019-04-04
5	1.35.1	2019-07-02
6	1.38.1	2021-02-04
7	1.42.1	2023-12-05
8	1.46.1	2025-10-08

6.1.2. Device

Device	ID (HEX)	Supported
CoE	7F	No
UVR1611	80	Yes
CAN-MT	81	No
CAN-I/O44	82	No
CAN-I/O35	83	No
CAN-BC	84	No
CAN-EZ	85	No
CAN-TOUCH	86	No
UVR16x2	87	Yes
RSM610	88	Yes
CAN-I/O45	89	Yes
CMI	8A	No
CAN-EZ2	8B	Yes
CAN-MTx2	8C	Yes
CAN-BC2	8D	Yes
UVR65	8E	Yes
CAN-EZ3	8F	Yes
UVR610	91	Yes
UVR67	92	Yes
BL-NET	A3	No

6.1.3. Timestamp

Actual UNIX-Timestamp, including time zone.

1481532907 → 2016-12-12T08:55:07+01:00 (+1:00 = set time zone)
0 → 1970-01-01T00:00:00+05:00 (+5:00 = set time zone)

6.2. Data

```
"Data":{
     "Inputs":[{
          "Number":1,
          "AD":"A",
          "Value":{
               "Value":22.7,
               "Unit":"1"
          }
     }],
     "Outputs":[{
          "Number":1,
          "AD":"A",
          "Value":{
               "State":0,
               "Value":0,
               "Unit":"0"
          }
     }]
}
```

6.2.1. Data objects

Request	Result
I	Inputs
O	Outputs
D	DL-Bus
Sg	General
Sd	Date
St	Time
Ss	Sun
Sp	Electrical power
Na	Network Analog
Nd	Network Digital
M	MBus
AM	Modbus
AK	KNX
La	Logging Analog
Ld	Logging Digital

6.2.2. Number

Number of the object. Start counting at 1.

6.2.3. AD

Indicates whether the value is analog or digital.

Result	Description
A	analog

D	digital

6.2.4. Value

According to AD, the value is analog or digital.

6.2.4.1. Value

Analog / digital (0/1) Value.

6.2.4.2. Unit

Indicates, which unit has to be used for the value.

Unit-ID	German	English
0		
1	°C	°C
2	W/m²	W/m²
3	l/h	l/h
4	Sek	sec
5	Min	min
6	l/Imp	l/Imp
7	K	K
8	%	%
10	kW	kW
11	kWh	kWh
12	MWh	MWh
13	V	V
14	mA	mA
15	Std	hr
16	Tage	Days
17	Imp	Imp
18	kΩ	kΩ
19	l	l
20	km/h	km/h
21	Hz	Hz
22	l/min	l/min
23	bar	bar
24		
25	km	km
26	m	m
27	mm	mm
28	m³	m³
35	l/d	l/d
36	m/s	m/s
37	m³/min	m³/min
38	m³/h	m³/h
39	m³/d	m³/d

40	mm/min	mm/min
41	mm/h	mm/h
42	mm/d	mm/d
43	Aus/EIN	ON/OFF
44	NEIN/JA	NO/YES
46	°C	°C
50	€	€
51	$	$
52	g/m³	g/m³
53		
54	°	°
56	°	°
57	Sek	sec
58		
59	%	%
60	Uhr	h
63	A	A
65	mbar	mbar
66	Pa	Pa
67	ppm	ppm
68		
69	W	W
70	t	t
71	kg	kg
72	g	g
73	cm	cm
74	K	K
75	lx	lx
76	Bq/m³	Bq/m³
77	ct/kWh	ct/kWh
78	OFFEN / GESCHLOSSEN	OPEN/ CLOSED

6.2.4.3. RAS

RAS-State (Only if the Unit is 46 (RAS))

Result	Description
0	Time/auto
1	Standard
2	Setback
3	Standby/frost pr.

6.2.4.4. State

Digital state (0/1) of an analog output. (Only for analog outputs)

6.3. Status / Status code

Status code	Status	Description
0	OK	
1	NODE ERROR	Node not available
2	FAIL	Failure during the CAN-request/parameter not available for this device
3	SYNTAX ERROR	Error in the request String
4	TOO MANY REQUESTS	Only one request per minute is permitted
5	DEVICE NOT SUPPORTED	Device not supported
6	TOO FEW ARGUMENTS	jsonnode or jsonparam not set
7	CAN BUSY	CAN Bus is busy
>7	ERROR	Any other error

7. Example

7.1. Example 1

7.1.1. Request

```
http://cmi/INCLUDE/api.cgi?jsonnode=1&jsonparam=I,O
```

7.1.2. Response

```
{
 "Header":{
 "Version":8,
 "Device":"87",
 "Timestamp":1481546305
 },
 "Data":{
 "Inputs":[
  {
   "Number":1,
   "AD":"A",
   "Value":{
    "Value":92.0,
    "Unit":"1"
   }
  },
  {
   "Number":2,
   "AD":"A",
   "Value":{
    "Value":71.2,
    "Unit":"1"
   }
  },
  ...
```

```
  {
   "Number":14,
   "AD":"A",
   "Value":{
    "Value":45.8,
    "Unit":"46",
    "RAS":"0"
   }
  }],
  "Outputs":[
  {
   "Number":1,
   "AD":"D",
   "Value":{
    "Value":1,
    "Unit":"43"
   }
  },
  {
   "Number":2,
   "AD":"D",
   "Value":{
    "Value":0,
    "Unit":"43"
   }
  },
  ...
  {
   "Number":7,
   "AD":"D",
   "Value":{
    "Value":0,
    "Unit":"43"
   }
  }]
 },
 "Status":"OK",
 "Status code":0
}
```


7.2. Example 2 - Designation

7.2.1. Request

```
http://cmi/INCLUDE/api.cgi?jsonnode=1&jsonparam=I&jsondesignation=1
```

7.2.2. Response


```
{
  "Header":{
    "Version":8,
```

```
    "Device":"87",
    "Timestamp":1481546305
  },
  "Data":{
    "Inputs":[
      {
        "Designation":"T.Raum",
        "Number":1,
        "AD":"A",
        "Value":{
          "Value":23.5,
          "Unit":"1"
        }
      },
      {
        "Designation":"T.Außen",
        "Number":2,
        "AD":"A",
        "Value":{
          "Value":10.2,
          "Unit":"1"
        }
      }
    ]
  },
  "Status":"OK",
  "Status code":0
}
```