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# External API specification

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**CONFIDENTIAL**

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# 1 Introduction

External API is an application without user interface.

This application allows client to get data of GridEye platform from an external server.

Any authorized user can make REST API request and get JSON result.

## 2 REST API request

### 2.1 Syntax with username and password

Request with “curl” :

```
curl [--insecure]
"[http/https]://[host]:[port]/Thingworx/Things/Helper.DEPsys.External.API/Services/[service
name]" -u '[username]':[password] -H "Accept:application/json" -H "Content-
Type:application/json" -X POST -d '{[parameter name]:[value]}'
```

If using “http” with port 8080 :

```
curl "http://[host]:8080/Thingworx/Things/Helper.DEPsys.External.API/Services/[service
name]" -u '[username]':[password] -H "Accept:application/json" -H "Content-
Type:application/json" -X POST -d '{[parameter name]:[value]}'
```

If using “https” with port 8443 :

```
curl --insecure
"https://[host]:8443/Thingworx/Things/Helper.DEPsys.External.API/Services/[service name]"
-u '[username]':[password] -H "Accept:application/json" -H "Content-Type:application/json" -
X POST -d '{[parameter name]:[value]}'
```

### 2.2 Syntax with appKey and keyId

Request with “curl” :

```
curl [--insecure]
"[http/https]://[host]:[port]/Thingworx/Things/Helper.DEPsys.External.API/Services/[service
name]" -H appKey:[keyId] -H "Accept:application/json" -H "Content-Type:application/json" -X
POST -d '{[parameter name]:[value]}'
```

If using “http” with port 8080 :

```
curl "http://[host]:8080/Thingworx/Things/Helper.DEPsys.External.API/Services/[service
name]" -H appKey:[keyId] -H "Accept:application/json" -H "Content-Type:application/json" -X
POST -d '{[parameter name]:[value]}'
```

If using “https” with port 8443 :

```
curl --insecure
"https://[host]:8443/Thingworx/Things/Helper.DEPSys.External.API/Services/[service name]"
-H appKey:[keyId] -H "Accept:application/json" -H "Content-Type:application/json" -X POST -
d '{[parameter name]:[value]}'
```

## 2.3 Authentication

Username and first random password can be created by the platform admin.

Then the appKey is also created by the platform admin.

To test if the user exists :

```
curl --insecure "https://
[host]:8443/Thingworx/Things/Helper.DEPSys.External.API/Services/getCurrentValues" -u
'[username]:'[password]' -H "Accept:application/json" -H "Content-Type:application/json" -d
'{'
```

Or with appKey and keyId :

```
curl --insecure "https://
[host]:8443/Thingworx/Things/Helper.DEPSys.External.API/Services/getCurrentValues" -H
appKey:[keyId] -H "Accept:application/json" -H "Content-Type:application/json" -d '{'
```

## 3 Get Data

### 3.1 GetCurrentValue()

Request :

.../Services/getCurrentValues" ...

Result :

Device ID(MCU):

voltage : L1, L2, L3

Ts : timestamps

Branches(SUR) :

Id (SUR)

current : L1, L2, L3, Ln

```
{
  "result":[
    { "id": "...",
```

```

    "ts":"...",
    "V":{ <value L1>,<value L2>, <value L3> }},
    "branches":[
        {"id":1,
        "I":[<value L1>,<value L2>, <value L3>]},
        {...}},
    {...}}
}

```

#### Example :

```

curl -H "Accept:application/json" -H "Content-Type:application/json" -H appKey:c71e04d5-7dcf-4f97-8216-c6918db05bef" https://195.70.1.211:8443/Thingworx/Things/Helper.DEPSys.External.API/Services/getCurrentValues" -X Post --insecure

```

#### Result :

```

{"result":[
    {"V":[241.6876678466797,241.90953063964844,241.88023376464844],
    "id":"000GB",
    "branches":[
        {"I":[51.68975067138672,50.28399658203125,5.483697891235352],
        "id":1}},
    "ts":1530861791000},
    {"V":[241.8970184326172,242.0076141357422,241.81935119628906],
    "id":"000GF",
    "branches":[
        {"I":[3.1501338481903076,1.7281153202056885,4.207683563232422],
        "id":1}},
    "ts":1530861791000},
    {"V":[240.6485595703125,240.8893280029297,240.94886779785156],
    "id":"000GI",
    "branches":[
        {"I":[32.443763732910156,26.007474899291992,24.34989356994629],
        "id":1}},
    "ts":1530861791000}
]
}

```

```
"ts":1530861791000},
{"V":[240.85939025878906,240.9835968017578,240.9183349609375],
"id":"000GK",
"branches":[
  {"I":[8.259053230285645,9.8169584274292,10.840535163879395],
   "id":1}},
"ts":1530861791000}]
}
```