SolisCloud Monitoring API

Content

1. Introduction

This document describes the interface definitions for third-party access to SolisCloud. Third parties can obtain relevant information of photovoltaic power plants through the following interfaces provided.

1.1. Interface Access Method

All interfaces involved in this document use HTTP POST method, and message transmission is in JSON format. Different capabilities support different access protocols and message formats. External systems need to select the corresponding access protocols and message formats when accessing the SolisCloud platform. If you use JAVA language, please try to run Authorization.java. It is a complete demo.

You need to do the following steps to call the API:

- Contact us to obtain the calling address and user authentication information as shown in Section 1.2-1.3.

- Read through Section 1.4-2.2 to realize the calculation of the common request header as showing in Section 1.4.1. The four parameters need to be carried in the request header of each request. Otherwise, it cannot be connected.

- Read through Section 3 to get the specific interface information you need.

1.2. Request URL

Please log in to your SolisCloud account and go to **Basic Setting-API Management** to gain the URL
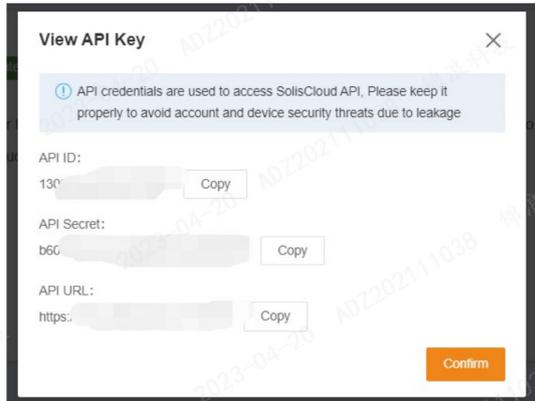
1.3. User authorization information

Please provide your account registered on SolisCloud platform to Solis Service Team to

obtain the following key information

KeyID: Visitor ID .

KeySecret: Represents the key required for signature, which must be kept strictly

confidential to prevent leakage.

1.4 Public HTTP Header Definition

1.4.1 Public Request Header

Some public request headers are used in the interface. These request headers can be used

by all requests and are defined in detail as follows

Name	Type	Default	Note
Authorization	String	-	Authentication information used to verify the validity of the request.
Content-MD5	String	-	Represents the MD5 value of the requested content data, calculates the MD5 value of the message content (excluding the header) to obtain a 128-bit number, and then base64

				encodes the number.
Content-Type	String	application/json;charset=UTF-8		HTTP request content type. Only support application/json
Date	String	-		The GMT time specified in the HTTP 1.1 protocol, for example: Wed, 05 Sep. 2019 23:00:00 GMT

1.4.2 Public Response Header

Some public request headers are used in the interface. These request headers can be used

by all requests and are defined in detail as follows

Name	Type	Default	Note
Content-Type	String	application/json	HTTP request content type. Only support application/json
Date	String	-	The GMT time specified in the HTTP 1.1 protocol, for example: Wed, 05 Sep. 2019 23:00:00 GMT

1.5. Return Data

If the code in the return parameter is 0, the call is successful. If the call is successful, the

result content of the business side is returned in the data.

Return parameter format:

```
{
  "success": true,
  "code": "0",
  "msg": "Successful",
  "data": { },
}
```

Name	Type	Length	Note	Description
success	Boolean		Success	
code	String		Response code	0 is success
msg	String		Description	code 0 is success, Others are error messages
data	Group		Return Data	See the API interface for details

2. User Signature Authentication

2.1. Authorization Field calculation method

```
Authorization = "API " + KeyId + ":" + Sign
  Sign  = base64(HmacSHA1(KeySecret,
          VERB + "\n"
          + Content-MD5 + "\n"
          + Content-Type + "\n"
          + Date + "\n"
          + CanonicalizedResource))
```

KeyID Visitor ID. (Contact technical support to obtain)

KeySecret It means that the key required for signature must be kept strictly confidential

to prevent leakage. (Contact technical support to obtain)

VERBRepresents the method of the HTTP request, this protocol is POST.

\n Represents a line break

Content-MD5 Represents the MD5 value of the requested content data, calculates the

MD5 value of the message content (excluding the header) to obtain a 128-bit number,

and then base64 encodes the number. When the message content is empty, the string is

empty.

Content-Type Indicates the type of request content, here is "application/json"

Date Indicates the time of this operation, and must be in GMT format, such as "Wed, 10

Jul 2019 13:16:22 GMT"

CanonicalizedResource Indicates the API interface you want to access, such as

"/v1/api/userStationList"

sign Represents digital signature, HmacSHA1 key encryption and base64 encoding

2.2. Authorization Field calculation example

If the KeyId is: 2424 and the KeySecret is: 6680182547, the following method can be used

to calculate the signature sign

2.2.1 Request:

```
POST /v1/api/userStationList
Content-MD5: kxdxk7rbAsrzSIWgEwhH4w==
Content-Type: application/json
Date: Fri, 26 Jul 2019 06:00:46 GMT
Authorization: API_2424:nBYQWeuzy3Y+gp67BN8zXTmvSDk=
Body: {"pageNo":1,"pageSize":10}
```

Note: There is no "Body:" in the post content sent

2.2.2 Date Time

Date time is the GMT time specified in the HTTP 1.1 protocol, you can refer to the

following JAVA code to obtain:

Note: Date time cannot exceed plus or minus 15 minutes of current time

```
/**
    * Description: 获取 GMT 时间
    * @return 将当前时间转换为 GMT 时区后的 String
    */
 public static String  getGMTTime(){

    Calendar cd = Calendar.getInstance();
    SimpleDateFormat sdf = new SimpleDateFormat("EEE, d MMM yyyy
HH:mm:ss 'GMT'", Locale.US);
    sdf.setTimeZone(TimeZone.getTimeZone("GMT")); // 设置时区为 GMT
    String str = sdf.format(cd.getTime());
  return  str;
  }
```

2.2.3 Content-MD5 Encryption

The JAVA sample code for Content-MD5 encryption of Post content is as follows：

```
/**
 * 1.先计算 MD5 加密的二进制数组（128 位）。
 * 2．再对这个二进制进行 base64 编码（而不是对 32 位字符串编码）
```

```
 * @param plainText 加密明文
 * @return 加密密文
 */
public static String getDigest(String test) {
     String result = "";
  try {
    MessageDigest md = MessageDigest.getInstance("MD5");
    md.update(test.getBytes());
    byte[] b = md.digest();
    result = Base64.encodeBytes(b);
  } catch (NoSuchAlgorithmException e) {
    e.printStackTrace();
  }
  return result;
}
```

The calculation result of Content-MD5 of "`{"pageNo":1,"pageSize":10}`"in the

example is: kxdxk7rbAsrzSIWgEwhH4w==

2.2.4. The signature string is:

```
   "POST\nkxdxk7rbAsrzSIWgEwhH4w==\napplication/json\nFri, 26 Jul 2019
06:00:46 GMT\n/v1/api/userStationList"
```

The JAVA sample code for signature sign is as follows：

```
   public static String HmacSHA1Encrypt(String encryptText, String
keySecret) throws Exception
  {
     byte[] data= keySecret.getBytes("UTF-8");
     //根据给定的字节数组构造一个密钥,第二参数指定一个密钥算法的名称
     SecretKey secretKey = new SecretKeySpec(data, "HmacSHA1");
     //生成一个指定 Mac 算法 的 Mac 对象
     Mac mac = Mac.getInstance("HmacSHA1");
     //用给定密钥初始化 Mac 对象
     mac.init(secretKey);
     byte[] text = encryptText.getBytes("UTF-8");
     //完成 Mac 操作
     byte[] result = mac.doFinal(text);
     return Base64.encodeBase64String(result);
  }
```

The signature (Sign) calculation result should be   nBYQWeuzy3Y+gp67BN8zXTmvSDk=

2.2.5. Authorization Calculation

Because Authorization = "API "+ KeyId + ":" + Signa, the final Authorization is "API 2424:

nBYQWeuzy3Y+gp67BN8zXTmvSDk="

Note: There is a space char after "API"

Then add the Authorization header to form the final message that needs to be sent:

```
POST
kxdxk7rbAsrzSIWgEwhH4w==
application/json
Fri, 26 Jul 2019 06:00:46 GMT
  /v1/api/userStationList
```

Encryption Example

Refer to https://dinochiesa.github.io/hmachash/index.html

①   Content-MD5 Calculation Example `{"pageNo":1,"pageSize":10}`

Calculate a SHA or MD5

function: md-5
hmac?: ☐
message: {"pageNo":1,"pageSize":10}

Encoded result: (Computation is automatic)

Base16:
93177193badb02caf34885a0130847e3

Base64:
kxdxk7rbAsrzSIWgEwhH4w==

Base64Url:
kxdxk7rbAsrzSIWgEwhH4w

② Authorization Calculation Example
POST
kxdxk7rbAsrzSIWgEwhH4w==
application/json
Fri, 26 Jul 2019 06:00:46 GMT
/v1/api/userStationList

Calculate an HMAC with SHA or MD5

function: sha-1

hmac?: ✔

secret key: 6680182547

key coding: UTF-8

message:
POST
kxdxk7rbAsrzSIWgEwhH4w==
application/json
Fri, 26 Jul 2019 06:00:46 GMT
/v1/api/userStationList

Encoded result: (Computation is automatic)

Base16:
9c161059ebb3cb763e829ebb04df335d39af4839

Base64:
nBYQWeuzy3Y+gp67BN8zXTmvSDk=

Base64Url:
nBYQWeuzy3Y-gp67BN8zXTmvSDk

2.3 Authorization Example (For Java) Download Link

https://oss.ginlong.com/templet/Authorization.java

3. API Interface

Note: The calling frequency of all interfaces is limited to three times every five seconds for the same IP

3.1.   /v1/api/userStationList   (Power Station List)

3.1.1.   Input parameters

Name	Type	Description	Note	Compulsory
pageNo	Int	Current page number	Specify the number of response pages to be returned. The value defaults to 1	Y
pageSize	Int	Number per page	Specify the number of records returned in each response page. The default value is 20, max 100	Y
NmiCode	String	NMI Code(AU Only)		N

3.1.2.   Output parameters

Name	Type	Description	Note
page	-	Result list	
stationStatusVo	-	Number of results	
total	Long	Total list	
records	List<>	List	
all	Int	Total number of power stations	
normal	Int	Number of normal power stations	
offline	Int	Number of offline stations	
fault	Int	Number of failed power stations	
id	Long	Power station id	
userId	Long	Owner Id	
capacity	String	Installed capacity	
capacityStr	String	Installed capacity unit	
capacity1	Double	Installed capacity (not-carry)	
fullHour	Double	Full hours	
picName	String	Picture	
installerId	Long	Installer Organization	

		id	
installer	String	Installer Organization	
dataTimestamp	Long	Update time	
installerMobile	String	Installer	
sno	String	Plant short ID	
country	Integer	Country id	
countryStr	String	Country Name	
region	Integer	Region id	
regionStr	String	Region Name	
city	Integer	City id	
cityStr	String	City Name	
county	Integer	District id	
countyStr	String	District name	
dip	Double	Tilt angle	
azimuth	Double	Azimuth angle	
timeZone	Double	Time zone	
timeZoneName	String	Time zone name	
timeZoneStr	String	Time zone format string	
timeZoneId	Long	Time zone id	
daylight	Double	Daylight saving	
createDate	Long	Create Time	
price	Double	Pirce per kwh	
module	Long	Module number	
pic1Url	String	Plant Picture 1 url	
power	Double	Power	
powerStr	String	Power unit	
dayEnergy	Double	Daily Energy	
dayEnergyStr	String	Daily Energy unit	
dayIncome	Double	Daily income	
dayIncomeUnit	String	Daily income unit	
monthEnergy	Double	Monthly Energy	
monthEnergyStr	String	Monthly Energy unit	
yearEnergy	Double	Yearly Energy	
yearEnergyStr	String	Yearly Energy unit	
allEnergy	Double	Total Energy	
allEnergyStr	String	Total Energy unit	
allEnergy1	Double	Total Energy Original	
allIncome	Double	Total Income	
allIncomeUnit	String	Total Income Unit	
synchronizationType	Integer	Grid type	0Full Grid Tied 1Self-consumption 2Off-grid
stationTypeNew	Integer	Type: Default 0	1 – Grid tied;2 – Grid-tied+Meter at

			load side;3 - Grid-tied+Meter at grid side;4 – Hybrid+ Meter at load side;5 - Hybrid+ Meter at grid side ;
batteryTotalDischargeEnergy	Double	Battery total discharge energy	
batteryTotalChargeEnergy	Double	Battery total charge energy	
gridPurchasedTotalEnergy	Double	Meter total import energy	
gridSellTotalEnergy	Double	Meter total export energy	
homeLoadTotalEnergy	Double	Load total consumption energy	
oneSelf	Double	Self-consumption	
batteryTodayDischargeEnergy	Double	Battery daily discharge energy	
batteryTodayChargeEnergy	Double	Battery daily charge energy	
gridPurchasedTodayEnergy	Double	Meter daily import energy	
gridSellTodayEnergy	Double	Meter daily export energy	
homeLoadTodayEnergy	Double	Load daily consumption energy	
money	String	Currency unit	
fisPowerTime	Long	First power on time	
fisGenerateTime	Long	First generate time	
remark1	String	remark1	
remark2	String	remark 2	
remark3	String	remark 3	
state	Int	Plant status	1：Online 2：Offline 3：Alarm
dataTimestamp	Long	Plant Update time	Timestamp
inverterPower	String	Sum of Inverter rated AC power	
nmiCode	String	Nmi code	For AU only

3.2. /v1/api/stationDetail (Power Station Details)

3.2.1. Input parameters

Name	Type	Description	Note	Compulsory
id	Long	Power Station id		Y
nmiCode	String	nmi Code		N

3.2.2. Output parameters

Name	Type	Description	Note
id	Long	Power Station id	
userId	Long	Owner ID	
capacity	String	Installed Capacity	
capacityStr	String	Installed Capacity Unit	
dayEnergy	Double	Today Generation	
dayEnergyStr	String	Today Generation Unit	
monthEnergy	Double	Month Generation	
monthEnergyStr	String	Month Generation Unit	
yearEnergy	Double	Year Generation	
yearEnergyStr	String	Year Generation Unit	
allEnergy	Double	Total Generation	
allEnergyStr	String	Total Generation Unit	
dayInCome	Double	Today Revenue	
dayInComeUnit	String	Today Revenue Unit	
monthInCome	Double	Month Revenue	
monthInComeUnit	String	Month Revenue Unit	
yearInCome	Double	Year Revenue	
yearInComeUnit	String	Year Revenue Unit	
allInCome	Double	Total Revenue	
allInComeUnit	String	Total Revenue Unit	
fullHour	Double	Peak Hours	
picName	String	Pictures	
power	Double	Power	
powerStr	String	Power Unit	
dip	Double	Tilt Angle	
azimuth	Double	Azimuth Angle	
price	String	Revenue per kilowatt hour	
state	Int	Power station status	1：Online 2：Offline 3：Alarm
dataTimestamp	Long	Power station update time	Timestamp
money	String	Currency	
brand	String	Brand	
condTxtN	String	Night Weather	
condTxtD	String	Daytime Weather	
tmpMax	String	Max Temperature	
tmpMin	String	Lowest Temperature	
tmpUnit	String	Temperature Unit	
sr	String	Sunris Time	
ss	String	Sundown Time	
windSpd	String	Wind speed, km/hr	

windDir	String	Wind direction	
powerStationNumTree	String	植树	
powerStationNumTreeUnit	String	Tree Unit	
powerStationAvoidedCo2	String	CO2 reduction	
powerStationAvoidedCo2Unit	String	CO2 reduction unit	
module	Long	Module Number	
batteryPower	Double	Battery Power	
batteryPowerStr	String	Battery Power unit	
batteryPowerPec	Double	Battery Power percentage	
batteryPercent	Double	Battery SOC	
batteryDischargeEnergy	Double	Battery this day discharge energy	
batteryDischargeEnergyStr	String	Battery this day discharge unit	
batteryDischargeMonthEnergy	Double	Battery this month discharge energy	
batteryDischargeMonthEnergyStr	String	Battery this month discharge unit	
batteryDischargeYearEnergy	Double	Battery this year discharge energy	
batteryDischargeYearEnergyStr	String	Battery this year discharge unit	
batteryDischargeTotalEnergy	Double	Battery disChargeTotalEnergy	
batteryDischargeTotalEnergyStr	String	Battery disChargeTotalEnergy unit	
batteryChargeEnergy	Double	Battery this day charge energy	
batteryChargeEnergyStr	String	Battery this day charge unit	
batteryChargeMonthEnergy	Double	Battery this month charge energy	
batteryChargeMonthEnergyStr	String	Battery this month charge unit	
batteryChargeYearEnergy	Double	Battery this year charge energy	
batteryChargeYearEnergyStr	String	Battery this year charge unit	
batteryChargeTotalEnergy	Double	batteryChargeTotalEnergy	
batteryChargeTotalEnergyStr	String	batteryChargeTotalEnergy unit	
psum	Double	Meter power	
psumStr	String	Meter power unit	
psumPec	Double	Meter powerPercentage	

gridPurchasedDayEnergy	Double	Meter today purchase energy	
gridPurchasedDayEnergyStr	String	Meter today purchase energy unit	
gridPurchasedMonthEnergy	Double	Meter this month purchase energy	
gridPurchasedMonthEnergyStr	String	Meter this month purchase energy unit	
gridPurchasedYearEnergy	Double	Meter this year purchase energy	
gridPurchasedYearEnergyStr	String	Meter this year purchase energy unit	
gridPurchasedTotalEnergy	Double	Meter total purchase energy	
gridPurchasedTotalEnergyStr	String	Meter total purchase energy unit	
gridSellDayEnergy	Double	Meter today sell energy	
gridSellDayEnergyStr	String	Meter today sell energy unit	
gridSellMonthEnergy	Double	Meter this month sell energy	
gridSellMonthEnergyStr	String	Meter this month sell energy unit	
gridSellYearEnergy	Double	Meter this year sell energy	
gridSellYearEnergyStr	String	Meter this year sell energy unit	
gridSellTotalEnergy	Double	Meter total sell energy	
gridSellTotalEnergyStr	String	Meter total sell energy unit	
familyLoadPower	Double	Load power	
familyLoadPowerStr	String	Load power unit	
familyLoadPowerPec	Double	Load powerPercentage	
homeLoadEnergy	Double	Today load energy	
homeLoadEnergyStr	String	Today load energy unit	
homeLoadMonthEnergy	Double	Monthly load energy	
homeLoadMonthEnergyStr	String	Monthly load energy unit	
homeLoadYearEnergy	Double	Yearly load energy	
homeLoadYearEnergyStr	String	Yearly load energy unit	
homeLoadTotalEnergy	Double	Total load energy	
homeLoadTotalEnergyStr	String	Total load energy unit	
inverterPower	String	Sum of inverter AC power	
nmiCode	String	Nmi code	
country	Integer	Country id	
countryStr	String	Country name	

region	Integer	Region id	
regionStr	String	Region name	
city	Integer	City id	
cityStr	String	City Name	
county	Integer	District id	
countyStr	String	District Name	
dip	Double	Tilt angle	
azimuth	Double	Azimuth angle	
timeZone	Double	Timezone	
timeZoneName	String	Timezone name	
timeZoneStr	String	Time zone format string	
timeZoneId	Long	Timezone id	
daylight	Double	Daylight saving	
createDate	Long	Create time	
stationTypeNew	Integer	Type :Default 0	1 – Grid tied;2 – Grid-tied+Meter at load side;3 - Grid-tied+Meter at grid side;4 – Hybrid+ Meter at load side;5 - Hybrid+ Meter at grid side ;
fisPowerTime	Long	First power-on time	
fisGenerateTime	Long	First generation time	

3.3. /v1/api/collectorList (Datalogger List)

3.3.1. Input parameters

Name	Type	Description	Note	Compulsory
pageNo	String	Current page number	Specify the number of response pages to be returned. The value defaults to 1	Y
pageSize	String	Number per page	Specify the number of records returned in each response page. The default value is 20, max 100	Y
stationId	Long	Plant id	Without: Check all under the installer. With: Check the indicated plant	N
nmiCode	String	Nmi Code		N

3.3.2. Output parameters

Name	Type	Description	Note
page	-	Result list	
collectionStatusVo	-	Number of results	
total	Long	Total list	

records	List<>	List	
all	Int	Total Number	
normal	Int	Normal number	
offline	Int	Offline number	
fault	Int	Number of failures	
id	Long	Collector id	
stationId	Long	Power Station Id	
userId	Long	Owner Id	
sn	String	Collector SN	
model	String	Model	GPRS,WiFi
name	String	Collector name	
rssiLevel	String	Collector signal strength	
state		Collector status	1：Online 2：Offline 3：Alarm
dataTimestamp		Collector update time	Timestamp

3.4. /v1/api/collectorDetail (Datalogger Details)

3.4.1. Input parameters

Name	Type	Description	Note	Compulsory
id	Long	Collector id	id and sn must send one	N
sn	String	Collector sn	id and sn must send one	N

3.4.2. Output parameters

Name	Type	Description	Note
id	Long	Collector id	
stationId	Long	Power Station Id	
userId	Long	Owner Id	
state	Long	Power station status	1：Online 2：Offline 3：Alarm
dataTimestamp	Int	Power station update time	Timestamp
totalWorkingTime	Long	Cumulative working time	
sn	Long	Collector SN	
model	String	model	GPRS,WiFi
name	String	Collector name	
rssiLevel	String	Collector signal strength	
lanIp	String	LAN ip	
maximumNumber	Int	Maximum number of connected units	
actualNumber	Int	Actual number of connected units	
connectionOperator	String	Operator	

currentWorkingTime	Long	Working time of this power-on	
totalWorkingTime	Long	Cumulative working time	
dataUpload Cycle	Int	Data Upload interval	
factoryTime	Long	Factory time	

3.5. /v1/api/inverterList (Inverter List)

3.5.1. Input parameters

Name	Type	Description	Note	Compulsory
pageNo	String	Current page number	Specify the number of response pages to be returned. The value defaults to 1	Y
pageSize	String	Number per page	Specify the number of records returned in each response page. The default value is 20, max 100	Y
stationId	Long	Power station id	Without: Check all under the installer. With: Check the indicated plant	N
nmiCode	String	Nmi Code		N

3.5.2. Output parameters

Name	Type	Description	Note
page	-	Result list	
inverterStatusVo	-	Number of results	
total	Long	Total list	
records	List<>	List	
all	Int	Total number of inverter in this plant	
normal	Int	Number of normal inverter in this plant	
offline	Int	Number of offline inverter in this plant	
fault	Int	Number of faulty inverters in this plant	
id	Long	Inverter id	
sn	String	Inverter SN	
stationId	Long	Power station id	
userId	Long	Owner Id	
power	String	Installed capacity	
powerStr	String	Installed capacity unit	

etoday	Double	Energy of the day	
etodayStr	Double	Energy unit of the day	
etotal	Double	Total energy	
etotalStr	Double	Total energy unit	
fullHour	Double	Peak Hours	
pac	Double	power	
pacStr	Double	Power unit	
state	Int	Power station status	1：Online 2：Offline 3：Alarm
dataTimestamp	Long	Power station update time	Timestamp
collectorSn	String	Datalogger sn	
productModel	String	Inverter model	
dcInputType	Integer	dcInputType	0 – 1 input;1 - 2 input;2 - 3 input;3 - 4 input
acOutputType	Integer	acOutputType	0-1ph; others – 3ph
series	String	Inverter series	
name	String	Inverter name	
collectorState	Integer	Datalogger status	
stateExceptionFlag	Integer	0 normal offline 1abnormal offline	
eToday	Double	Daily generation kwh	
eToday1	Double	Daily generation kwh original	
eTodayStr	String	Daily generation unit	
eTotal	Double	Total generation	
eTotal1	Double	Total generation original	
eTotalStr	String	Total generation unit	
totalFullHour	Double	Total peak hours	
inverterMeterModel	Integer	Inverter Type	1 – Grid tied;2 – Grid-tied+Meter at load side;3 - Grid-tied+Meter at grid side;4 – Hybrid+ Meter at load side;5 - Hybrid+ Meter at grid side ;
createDate	Long	Create time	

3.6.   /v1/api/inverterDetail   (Inverter Details)

3.6.1.   Input parameters

Name	Type	Description	Note	Compulsory
id	Long	Inverter id	d and sn must send one	N
sn	String	Inverter sn	id and sn must send one	N

3.6.2.   Output parameters

Name	Type	Description	Note
id	Long	Inverter id	
sn	String	Inverter SN	
stationId	Long	Power station id	
userId	Long	Owner Id	
collectorId	Long	Collector id	
collectorName	String	Collector name	
collectorsn	String	Collector SN	
currentState		Current state	
eToday		Energy of the day	
eTodayStr		Energy unit of the day	
eMonth		Energy of the month	
eMonthStr		Energy unit of the month	
eYear		Energy of the year	
eYearStr		Energy unit of the year	
eTotal		Total energy	
eTotalStr		Total energy unit	
fac		Grid frequency	
facStr		Grid frequency unit	
pac		Real-time power	
pacStr		Real-time power unit	
pacPec		Power percentage	
fullHour		Peak hours	
picName		image	
power		Installed capacity	
powerStr		Installed capacity unit	
iAc1		AC current R	
iAc2		AC current S	
iAc3		AC current T	
uAc1		AC voltage R	
uAc2		AC voltage S	
uAc3		AC voltage T	

iPv1		DC current 1	
iPv2		DC current 2	
iPv3		DC current 3	
iPv4		DC current 4	
uPv1		DC voltage 1	
uPv2		DC voltage 2	
uPv3		DC voltage 3	
uPv4		DC voltage 4	
....		......	
iPv32		DC current 32	
uPv32		DC voltage 32	
state		Power station status	1：Online 2：Offline 3：Alarm
dataTimestamp		Power station update time	Timestamp
inverterTemperature		Inverter temperature	
nationalStandardstr		National standard	
acOutputType		AC output type	0: 1 phase Rest are 3 phase
dcInputtype		Dc input type	Num+1
powerFactor		Power factor	
batteryPower		Battery power	
batteryPowerStr		Battery power unit	
batteryPowerPec		Battery powerPercentage	
batteryCapacitySoc		Battery SOC	
batteryHealthSoh		Battery SOH	
socDischargeSet		Overdischarge SOC	
socChargingSet		Forcecharge SOC	
batteryType		Current operating battery model	
batteryVoltage		Battery voltage	
batteryVoltageStr		Battery voltage unit	
bstteryCurrent		Battery current	
bstteryCurrentStr		Battery current unit	
batteryPower		Battery power	

batteryPowerStr		Battery power unit	
batteryPowerPec		Battery powerPercentage	
batteryFailureInformation01		Battery alarm01	
batteryFailureInformation02		Battery alarm02	
batteryTodayChargeEnergy		Today battery charge energy	
batteryTodayChargeEnergyStr		Today battery charge energy unit	
batteryMonthChargeEnergy		This month battery charge energy	
batteryMonthChargeEnergyStr		This month battery charge energy unit	
batteryYearChargeEnergy		This year battery charge energy	
batteryYearChargeEnergyStr		This year battery charge energy unit	
batteryTotalChargeEnergy		Total battery charge energy	
batteryTotalChargeEnergyStr		Total battery charge energy unit	
batteryTodayDischargeEnergy		Today battery discharge energy	
batteryTodayDischargeEnergyStr		Today battery discharge energy unit	
batteryMonthDischargeEnergy		This month battery discharge energy	
batteryMonthDischargeEnergyStr		This month	

		battery discharge energy unit	
batteryYearDischargeEnergy		This year battery discharge energy	
batteryYearDischargeEnergyStr		This year battery discharge energy unit	
batteryTotalDischargeEnergy		Total battery discharge energy	
batteryTotalDischargeEnergyStr		Total battery discharge energy unit	
gridPurchasedTodayEnergy		Today meter purchase energy	
gridPurchasedTodayEnergyStr		Today meter purchase energy unit	
gridPurchasedMonthEnergy		This month meter purchase energy	
gridPurchasedMonthEnergyStr		This month meter purchase energy unit	
gridPurchasedYearEnergy		This year meter purchase energy	
gridPurchasedYearEnergyStr		This year meter purchase energy unit	
gridPurchasedTotalEnergy		Total meter purchase energy	
gridPurchasedTotalEnergyStr		Total meter purchase energy unit	
gridSellTodayEnergy		Today meter sell energy	
gridSellTodayEnergyStr		Today meter sell energy unit	
gridSellMonthEnergy		This month meter sell energy	
gridSellMonthEnergyStr		This month meter sell energy	

		unit	
gridSellYearEnergy		This year meter sell energy	
gridSellYearEnergyStr		This year meter sell energy unit	
gridSellTotalEnergy		Total meter sell energy	
gridSellTotalEnergyStr		Total meter sell energy unit	
familyLoadPower		HouseLoad power	
familyLoadPowerStr		HouseLoad power unit	
bypassLoadPower		BackUpload power	
bypassLoadPowerStr		BackUpload power unit	
pSum		Grid total active power	
pSumStr		Grid total active power unit	
psumPec		Grid total active powerPercentage	
homeLoadTodayEnergy		Today load energy	
homeLoadTodayEnergyStr		Today load energy unit	
homeLoadTotalEnergy		Total load energy	
homeLoadTotalEnergyStr		Total load energy unit	
model	string	model	Note: 5100,5101,5102,5103 is off grid hybrid inverter
type	integer	1.PV inverter .2Energy Storage Inverter	
name	String	Inverter name	
inverterMeterModel	Integer	Inverter Type	1 – Grid tied;2 – Grid-tied+Meter at load side;3 - Grid-tied+Meter at

			grid side;4 – Hybrid+ Meter at load side;5 - Hybrid+ Meter at grid side ;
stateExceptionFlag	Integer	0 Normal Offline 1 Abnormal Offline	
collectorState	Integer	Data logger status	1 Online 2 Offline
collectorModel	String	Data logger model	
warningInfoData	Integer	Warning Message	
productModel	String	Inverter Model	
nationalStandards	String	Effective Grid Code	
version	String	Inverter firmware version	

3.10. /v1/api/stationDay　(Plant Daily Graph)

3.10.1. Input parameters

Name	Type	Description	Note	Compulsory
id	Long	Power station id	Either "id" or "nmicode"	N
money	String	Power plant currency unit		Y
time	String	time	time: "2019-07-26"	Y
timeZone	Integer	Power plant time zone		Y
nmiCode	String	nmicode	Either "id" or "nmicode"	N

3.10.2. Output parameters

Name	Type	Description	Note
power	Long	power	
powerStr	String	Power unit	
time	Long	Timestamp	1564088700000
money	Long	income	
moneyStr	String	Income unit	

3.11. /v1/api/stationMonth　(Plant Monthly Graph)

3.11.1. Input parameters

Name	Type	Description	Note	Compulsory

id	Long	Power station id	Either "id" or "nmicode"	N
money	String	Power plant currency unit		Y
month	String	time	month: "2019-07"	Y
nmiCode	String	nmicode	Either "id" or "nmicode"	N

3.11.2. Output parameters

Name	Type	Description	Note
energy	Long	Power generation	
energyStr	String	Power generation unit	
date	Long	Timestamp	1564088700000
money	Long	income	
moneyStr	String	Income unit	
batteryDischargeEnergy		Battery discharge energy	
batteryChargeEnergy		Battery charge energy	
gridPurchasedEnergy		Meter purchase energy	
gridSellEnergy		Meter sell energy	

3.12. /v1/api/stationYear (Plant Yearly Graph)

3.12.1. Input parameters

Name	Type	Description	Note	Compulsory
id	Long	Power station id	Either "id" or "nmicode"	N
money	String	Power plant currency unit		Y
year	String	time	year: "2019"	Y
nmiCode	String	nmicode	Either "id" or "nmicode"	N

3.12.2. Output parameters

Name	Type	Description	Note
energy	Long	Power generation	
energyStr	String	Power generation unit	
date	Long	Timestamp	1564088700000
money	Long	income	
moneyStr	String	Income unit	
batteryDischargeEnergy		Battery discharge energy	
batteryChargeEnergy		Battery	

		charge energy	
gridPurchasedEnergy		Meter purchase energy	
gridSellEnergy		Meter sell energy	

3.13. /v1/api/stationAll   (Plant cumulative graph)

3.13.1. Input parameters

Name	Type	Description	Note	Compulsory
id	Long	Power station id	Either "id" or "nmicode"	N
money	String	Power plant currency unit		Y
nmiCode	String	nmicode	Either "id" or "nmicode"	N

3.13.2. Output parameters

Name	Type	Description	Note
energy	Long	Power generation	
energyStr	String	Power generation unit	
date	Long	Timestamp	1564088700000
money	Long	income	
moneyStr	String	Income unit	
batteryDischargeEnergy		Battery discharge energy	
batteryChargeEnergy		Battery charge energy	
gridPurchasedEnergy		Meter purchase energy	
gridSellEnergy		Meter sell energy	

3.15. /v1/api/inverterDay   (Inverter Daily Graph)

3.15.1. Input parameters

Name	Type	Description	Note	Compulsory
id	Long	Inverter id	Id or sn	N
sn	String	Inverter sn	Id or sn	N
money	String	Power plant		Y

		currency unit		
time	String	time	time: "2019-07-26"	Y
timeZone	Integer	Power plant time zone		Y

3.15.2. Output parameters

Name	Type	Description	Note
dataTimestamp	Long	Timestamp	
timeStr	String	Update time conversion string based on plant time zone	
eToday		Energy of the day	
eTotal		Total energy	
fac		Grid frequency	
pac		Real-time power	
pacStr		Real-time power unit	
pacPec		Power percentage	
power		Installed capacity	
iAc1		AC current R	
iAc2		AC current S	
iAc3		AC current T	
uAc1		AC voltage R	
uAc2		AC voltage S	
uAc3		AC voltage T	
iPv1		DC current 1	
iPv2		DC current 2	
iPv3		DC current 3	
iPv4		DC current 4	
uPv1		DC voltage 1	
uPv2		DC voltage 2	
uPv3		DC voltage 3	
uPv4		DC voltage 4	
inverterTemperature		Inverter temperature	
acOutputType		AC output type	0:1 phase，rest are 3 phase
dcInputtype		Dc input type	NUM+1
powerFactor		PF	
batteryCapacitySoc		Battery SOC	
batteryHealthSoh		Battery SOH	
socDischargeSet		Overdischarge SOC	
socChargingSet		Forcecharge SOC	

batteryVoltage		Battery Voltage	
bstteryCurrent		Battery Current	
batteryPower		Battery Power	
batteryTodayChargeEnergy		Today Battery Charge Energy	
batteryTotalChargeEnergy		Total Battery Charge Energy	
batteryTodayDischargeEnergy		Today Battery Discharge Energy	
batteryTotalDischargeEnergy		Total Battery Discharge Energy	
gridPurchasedTodayEnergy		Today Meter Purchase Energy	
gridPurchasedTotalEnergy		Total Meter Purchase Energy	
gridSellTodayEnergy		Today Meter Sell Energy	
gridSellTotalEnergy		Total Meter Sell Energy	
familyLoadPower		Home Load Power	
bypassLoadPower		Backup Load Power	
pSum		Grid Total Active Power	
homeLoadTodayEnergy		Today Load consumption energy	
homeLoadTotalEnergy		Total Load consumption energy	

3.16. /v1/api/inverterMonth (Inverter Monthly Graph)

3.16.1. Input parameters

Name	Type	Description	Note	Compulsory
id	Long	Inverter id	Id or SN	N
sn	String	Inverter sn	Id or SN	N
money	String	Power plant currency unit		Y
month	String	time	time: "2019-07"	Y

3.16.2. Output parameters

Name	Type	Description	Note
energy	Long	Power generation	
energyStr	String	Power generation unit	
date	Long	Timestamp	1564088700000
money	Long	income	
moneyStr	String	Income unit	
batteryDischargeEnergy		Battery discharge energy	
batteryChargeEnergy		Battery charge energy	
gridPurchasedEnergy		Meter purchase energy	
gridSellEnergy		Meter sell energy	

3.17. /v1/api/inverterYear (Inverter yearly graph)

3.17.1. Input parameters

Name	Type	Description	Note	Compulsory
id	Long	Inverter id	Id or SN	N
sn	String	Inverter sn	Id or SN	N
money	String	Power plant currency unit		Y
year	String	time	time: "2019"	Y

3.17.2. Output parameters

Name	Type	Description	Note
energy	Long	Power generation	
energyStr	String	Power generation unit	
date	Long	Timestamp	1564088700000
money	Long	income	
moneyStr	String	Income unit	
batteryDischargeEnergy		Battery discharge energy	
batteryChargeEnergy		Battery charge energy	
gridPurchasedEnergy		Meter purchase energy	
gridSellEnergy		Meter sell	

		energy	

3.18. /v1/api/inverterAll （Inverter Cumulative Graph)

3.18.1. Input parameters

Name	Type	Description	Note	Compulsory
id	Long	Inverter id	Id or SN	N
sn	String	Inverter sn	Id or SN	N
money	String	Power plant currency unit		Y

3.18.2. Output parameters

Name	Type	Description	Note
year	Int	year	
energy	Long	Power generation	
energyStr	String	Power generation unit	
money	Long	income	
moneyStr	String	Income unit	
batteryDischargeEnergy		Battery discharge energy	
batteryChargeEnergy		Battery charge energy	
gridPurchasedEnergy		Meter purchase energy	
gridSellEnergy		Meter sell energy	

3.24. /v1/api/alarmList （Alarm info check)

3.24.1. Input parameters

Name	Type	Description	Note	Compulsory
pageNo	String	Current page number	Specify the number of response pages to be returned. The value defaults to 1	Y
pageSize	String	Number per page	Specify the number of records returned in each response page. The default value is 20, max 100	Y
stationId	Long	Plant ID	Without: Check all under the installer. With: Check the indicated plant	N
alarmDeviceSn	String	InverterSN	Without: Check all under the	N

			installer.	
			With: Check the indicated plant	
alarmBeginTime	String	Alarm startTime	yyyy-MM-dd, Without: check all	N
alarmEndTime	String	Alarm stopTime	yyyy-MM-dd, Without: check all	N
nmiCode	String	nmicode		N

3.24.2. Output parameters

Name	Type	Description	Note
stationId	Long	Plant ID	
alarmDeviceSn	String	InverterSN	
alarmCode	String	Alarm code	
alarmLevel	String	Alarm level	1Reminder 2ordinary 3Emergency
alarmBeginTime	Long	Alarm startTime	
alarmEndTime	Long	Alarm stopTime	
alarmMsg	String	Alarm content	
advice	String	Alarm suggestion	
state	String	Alarm status	0 Pending 1Solved 2Recover

3.25. /v1/api/stationDetailList   (Batch acquire plant details)

3.25.1. Input parameters

Name	Type	Description	Note	Compulsory
pageNo	Integer	Current page number	Specify the number of response pages to be returned. The value defaults to 1	Y
pageSize	Integer	Number per page	Specify the number of records returned in each response page. The default value is 20, max 100	Y

3.25.2. Output parameters

Name	Type	Description	Note
id	Long	Plant ID	
userId	Long	User ID	
capacity	String	Installed capacity	
capacityStr	String	Installed capacity unit	
dayEnergy	Double	Today energy	
dayEnergyStr	String	Today energy unit	
monthEnergy	Double	This month energy	
monthEnergyStr	String	This month energy unit	
yearEnergy	Double	This year energy	
yearEnergyStr	String	This year energy unit	

allEnergy	Double	Total energy	
allEnergyStr	String	Total energy unit	
dayInCome	Double	Today income	
dayInComeUnit	String	Today income unit	
monthInCome	Double	This month income	
monthInComeUnit	String	This month income unit	
yearInCome	Double	This year income	
yearInComeUnit	String	This year income unit	
allInCome	Double	Total income	
allInComeUnit	String	Total income unit	
fullHour	Double	Peak hours	
picName	String	Picture	
power	Double	Poower	
powerStr	String	Poower unit	
dip	Double	Tilte angle	
azimuth	Double	Azimuth angle	
price	String	Earning per kwh	
state	Int	Plant status	1：Online 2：Offline 3：Alarm
dataTimestamp	Long	Plant update time	Time Stamp
money	String	Currency	
brand	String	Brand	
condTxtN	String	Night weather	
condTxtD	String	Day time weather	
tmpMax	String	Highest Temperature	
tmpMin	String	Lowest Temperature	
tmpUnit	String	Temperature unit	
sr	String	Sunrise time	
ss	String	Sundown time	
windSpd	String	Wind speed km/hr	
windDir	String	Wind direction	
powerStationNumTree	String	Plant tree	
powerStationNumTreeUnit	String	Plant tree unit	
powerStationAvoidedCo2	String	CO2 reduction	
powerStationAvoidedCo2Unit	String	CO2 reduction unit	
module	Long	Module Number	
batteryPower	Double	Battery Power	
batteryPowerStr	String	Battery Power unit	
batteryPowerPec	Double	Battery PowerPercentage	
batteryPercent	Double	Battery SOC	
batteryDischargeEnergy	Double	Battery this day discharge energy	
batteryDischargeEnergyStr	String	Battery this day discharge	

		unit	
batteryDischargeMonthEnergy	Double	Battery this month discharge energy	
batteryDischargeMonthEnergyStr	String	Battery this month discharge unit	
batteryDischargeYearEnergy	Double	Battery this year discharge energy	
batteryDischargeYearEnergyStr	String	Battery this year discharge unit	
batteryDischargeTotalEnergy	Double	Battery disChargeTotalEnergy	
batteryDischargeTotalEnergyStr	String	Battery disChargeTotalEnergy unit	
batteryChargeEnergy	Double	Battery this day charge energy	
batteryChargeEnergyStr	String	Battery this day charge unit	
batteryChargeMonthEnergy	Double	Battery this month charge energy	
batteryChargeMonthEnergyStr	String	Battery this month charge unit	
batteryChargeYearEnergy	Double	Battery this year charge energy	
batteryChargeYearEnergyStr	String	Battery this year charge unit	
batteryChargeTotalEnergy	Double	batteryChargeTotalEnergy	
batteryChargeTotalEnergyStr	String	batteryChargeTotalEnergy unit	
psum		Meter power	
psumStr		Meter power unit	
psumPec		Meter powerPercentage	
gridPurchasedDayEnergy		Meter today purchase energy	
gridPurchasedDayEnergyStr		Meter today purchase energy unit	
gridPurchasedMonthEnergy		Meter this month purchase energy	
gridPurchasedMonthEnergyStr		Meter this month purchase energy unit	
gridPurchasedYearEnergy		Meter this year purchase energy	
gridPurchasedYearEnergyStr		Meter this year purchase energy unit	
gridPurchasedTotalEnergy		Meter total purchase	

		energy	
gridPurchasedTotalEnergyStr		Meter total purchase energy unit	
gridSellDayEnergy		Meter today sell energy	
gridSellDayEnergyStr		Meter today sell energy unit	
gridSellMonthEnergy		Meter this month sell energy	
gridSellMonthEnergyStr		Meter this month sell energy unit	
gridSellYearEnergy		Meter this year sell energy	
gridSellYearEnergyStr		Meter this year sell energy unit	
gridSellTotalEnergy		Meter total sell energy	
gridSellTotalEnergyStr		Meter total sell energy unit	
familyLoadPower		Load power	
familyLoadPowerStr		Load power unit	
familyLoadPowerPec		Load powerPercentage	
homeLoadEnergy		Today load energy	
homeLoadEnergyStr		Today load energy unit	
homeLoadMonthEnergy	Double	Monthly load energy	
homeLoadMonthEnergyStr	String	Monthly load energy unit	
homeLoadYearEnergy	Double	Yearly load energy	
homeLoadYearEnergyStr	String	Yearly load energy unit	
homeLoadTotalEnergy	Double	Total load energy	
homeLoadTotalEnergyStr	String	Total load energy unit	
inverterPower	String	Sum of inverter AC power	
nmiCode	String	Nmi code	
country	Integer	Country id	
countryStr	String	Country name	
region	Integer	Region id	
regionStr	String	Region name	
city	Integer	City id	
cityStr	String	City Name	
county	Integer	District id	
countyStr	String	District Name	
dip	Double	Tilt angle	
azimuth	Double	Azimuth angle	
timeZone	Double	Timezone	
timeZoneName	String	Timezone name	
timeZoneStr	String	Time zone format string	
timeZoneId	Long	Timezone id	
daylight	Double	Daylight saving	

createDate	Long	Create time	
stationTypeNew	Integer	Type :Default 0	0 Grid tied, 1 Hybrid，2 AC without inverter，3 EPM，4 Internal meter，5 External meter
fisPowerTime	Long	First power-on time	
fisGenerateTime	Long	First generation time	

3.26. /v1/api/inverterDetailList （Batch acquire Inverter details）

3.26.1. Input parameters

Name	Type	Description	Note	Compulsory
pageNo	Integer	Current page number	Specify the number of response pages to be returned. The value defaults to 1	Y
pageSize	Integer	Number per page	Specify the number of records returned in each response page. The default value is 20, max 100	Y

3.26.2. Output parameters

Name	Type	Description	Note
id	Long	Inverterid	
sn	String	InverterSN	
stationId	Long	Plant ID	
userId	Long	User ID	
collectorId	Long	Dataloggerid	
collectorName	String	DataloggerName	
collectorsn	String	Datalogger SN	
currentState	String	Current status	
eToday	Double	Today energy	
eTodayStr	String	Today energy unit	
eMonth	Double	This month energy	
eMonthStr	String	This month energy unit	
eYear	Double	This year energy	
eYearStr	String	This year energy unit	
eTotal	Double	Total energy	
eTotalStr	String	Total energy unit	
fac	Double	Grid frequency	
facStr	String	Grid frequency unit	

pac	Double	Real timePoower	
pacStr	String	Real timePoower unit	
pacPec	Double	PoowerPercentage	
fullHour	Double	Peak hours	
picName	String	Picture	
power	Double	Installed capacity	
powerStr	String	Installed capacity unit	
iAc1	Double	AC CurrentR	
iAc2	Double	AC CurrentS	
iAc3	Double	AC CurrentT	
uAc1	Double	AC VoltageR	
uAc2	Double	AC VoltageS	
uAc3	Double	AC VoltageT	
iPv1	Double	DC Current1	
iPv2	Double	DC Current2	
iPv3	Double	DC Current3	
iPv4	Double	DC Current4	
uPv1	Double	DC Voltage1	
uPv2	Double	DC Voltage2	
uPv3	Double	DC Voltage3	
uPv4	Double	DC Voltage4	
iPv32	Double	DC Current 32	
uPv32	Double	DC Voltage 32	
state	Int	Plant status	1：Online 2：Offline 3：Alarm
dataTimestamp	Long	Plant update time	Time Stamp
inverterTemperature	Double	InverterTemperature	
nationalStandardstr	String	CountryStandard	
acOutputType	Int	AC output type	0：1ph rest：3ph
dcInputtype	Int	DC input type	num+1
powerFactor	Double	Power factor	
batteryPower	Double	Battery power	
batteryPowerStr	String	Battery power unit	
batteryPowerPec	Double	Battery powerPercentage	
batteryCapacitySoc	Double	Battery SOC	
batteryHealthSoh	Double	Battery SOH	
socDischargeSet	Double	Overdischarge SOC	
socChargingSet	Double	Forcecharge SOC	
batteryType	String	Current operating battery model	

batteryVoltage	Double	Battery voltage	
batteryVoltageStr	String	Battery voltage unit	
bstteryCurrent	Double	Battery current	
bstteryCurrentStr	String	Battery current unit	
batteryPower	Double	Battery power	
batteryPowerStr	String	Battery power unit	
batteryPowerPec	Double	Battery powerPercentage	
batteryFailureInformation01	String	Battery alarm01	
batteryFailureInformation02	String	Battery alarm02	
batteryTodayChargeEnergy	Double	Today battery charge energy	
batteryTodayChargeEnergyStr	String	Today battery charge energy unit	
batteryMonthChargeEnergy	Double	This month battery charge energy	
batteryMonthChargeEnergyStr	String	This month battery charge energy unit	
batteryYearChargeEnergy	Double	This year battery charge energy	
batteryYearChargeEnergyStr	String	This year battery charge energy unit	
batteryTotalChargeEnergy	Double	Total battery charge energy	
batteryTotalChargeEnergyStr	String	Total battery charge energy unit	
batteryTodayDischargeEnergy	Double	Today battery discharge energy	
batteryTodayDischargeEnergyStr	String	Today battery discharge energy unit	
batteryMonthDischargeEnergy	Double	This month battery discharge energy	
batteryMonthDischargeEnergyStr	String	This month battery discharge energy unit	

batteryYearDischargeEnergy	Double	This year battery discharge energy	
batteryYearDischargeEnergyStr	String	This year battery discharge energy unit	
batteryTotalDischargeEnergy	Double	Total battery discharge energy	
batteryTotalDischargeEnergyStr	String	Total battery discharge energy unit	
gridPurchasedTodayEnergy	Double	Today meter purchase energy	
gridPurchasedTodayEnergyStr	String	Today meter purchase energy unit	
gridPurchasedMonthEnergy	Double	This month meter purchase energy	
gridPurchasedMonthEnergyStr	String	This month meter purchase energy unit	
gridPurchasedYearEnergy	Double	This year meter purchase energy	
gridPurchasedYearEnergyStr	String	This year meter purchase energy unit	
gridPurchasedTotalEnergy	Double	Total meter purchase energy	
gridPurchasedTotalEnergyStr	String	Total meter purchase energy unit	
gridSellTodayEnergy	Double	Today meter sell energy	
gridSellTodayEnergyStr	String	Today meter sell energy unit	
gridSellMonthEnergy	Double	This month meter sell energy	
gridSellMonthEnergyStr	String	This month meter sell energy unit	
gridSellYearEnergy	Double	This year meter sell energy	
gridSellYearEnergyStr	String	This year meter sell energy unit	

gridSellTotalEnergy	Double	Total meter sell energy	
gridSellTotalEnergyStr	String	Total meter sell energy unit	
familyLoadPower	Double	HouseLoad power	
familyLoadPowerStr	String	HouseLoad power unit	
bypassLoadPower	Double	BackUpload power	
bypassLoadPowerStr	String	BackUpload power unit	
pSum	Double	Grid total active power	
pSumStr	String	Grid total active power unit	
psumPec	Double	Grid total active powerPercentage	
homeLoadTodayEnergy	Double	Today load energy	
homeLoadTodayEnergyStr	String	Today load energy unit	
homeLoadTotalEnergy	Double	Total load energy	
homeLoadTotalEnergyStr	String	Total load energy unit	
model	String	model	Note: 5100,5101,5102,5103 is off-grid hybrid
type	Integer	1 Grid tied 2 Hybrid	
name	String	Inverter name	
inverterMeterModel	Integer	Inverter Type	1 – Grid tied;2 – Grid-tied+Meter at load side;3 - Grid-tied+Meter at grid side;4 – Hybrid+ Meter at load side;5 - Hybrid+ Meter at grid side ;
stateExceptionFlag	Integer	0 Normal Offline 1 Abnormal Offline	
collectorState	Integer	Data logger status	1 Online 2 Offline
collectorModel	String	Data logger model	
warningInfoData	Integer	Warning Message	
productModel	String	Inverter Model	
nationalStandards	String	Effective Grid Code	

		Inverter firmware	
version	String	version	

3.27. /v1/api/stationDayEnergyList (Batch acquire plant daily Generation)

3.27.1. Input parameters

Name	Type	Description	Note	Compulsory
pageNo	Integer	Current page number	Specify the number of response pages to be returned. The value defaults to 1	Y
pageSize	Integer	Number per page	Specify the number of records returned in each response page. The default value is 20, max 100	Y
time	String	Time	time: "2019-07-26"	Y

3.27.2. Output parameters

Name	Type	Description	Note
id	Long	Plant ID	
energy		Generation	
energyStr	String	Generation unit	
date	Long	Time Stamp	1564088700000
money		Income	
moneyStr	String	Income unit	
batteryDischargeEnergy		Battery discharge energy	
batteryChargeEnergy		Battery charge energy	
gridPurchasedEnergy		Meter purchase energy	
gridSellEnergy		Meter sell energy	

3.28. /v1/api/stationMonthEnergyList (Batch acquire plant monthly Generation)

3.28.1. Input parameters

Name	Type	Description	Note	Compulsory
pageNo	Integer	Current page number	Specify the number of response pages to be returned. The value defaults to 1	Y
pageSize	Integer	Number per page	Specify the number of records returned in each response page. The default value is 20, max 100	Y

time	String	Time	time: "2019-07"		Y
nmiCode	String	nmicode			N

3.28.2.   Output parameters

Name	Type	Description	Note
id	Long	Plant ID	
energy		Generation	
energyStr	String	Generation unit	
date	Long	Time Stamp	1564088700000
money		Income	
moneyStr	String	Income unit	
batteryDischargeEnergy		Battery discharge energy	
batteryChargeEnergy		Battery charge energy	
gridPurchasedEnergy		Meter purchase energy	
gridSellEnergy		Meter sell energy	

3.29.   /v1/api/stationYearEnergyList   (Batch acquire plant yearly Generation)

3.29.1.   Input parameters

Name	Type	Description	Note	Compulsory
pageNo	Integer	Current page number	Specify the number of response pages to be returned. The value defaults to 1	Y
pageSize	Integer	Number per page	Specify the number of records returned in each response page. The default value is 20, max 100	Y
time	String	Time	time: "2019"	Y

3.29.2.   Output parameters

Name	Type	Description	Note
id	Long	Plant ID	
energy		Generation	
energyStr	String	Generation unit	
date	Long	Time Stamp	1564088700000
money		Income	
moneyStr	String	Income unit	
batteryDischargeEnergy		Battery discharge energy	
batteryChargeEnergy		Battery charge energy	

gridPurchasedEnergy		Meter purchase energy	
gridSellEnergy		Meter sell energy	

3.30.   /v1/api/epmList   (EPM List)

3.30.1.   Input parameters

Name	Type	Description	Note	Compulsory
pageNo	String	Current page number	Specify the number of response pages to be returned. The value defaults to 1	Y
pageSize	String	Number per page	Specify the number of records returned in each response page. The default value is 20, max 100	Y
stationId	Long	Plant ID	Without: Check all under the installer. With: Check the indicated plant	N

3.30.2.   Output parameters

Name	Type	Description	Note
sn	String	EPM-SN	
collectorId	Long	Datalogger id	
collectorSn	String	Datalogger id	
userId	Long	User id	
stationId	Long	Plant id	
state	Integer	Device Status	1 Online 2 Offline
dataTimestamp	Long	Plant Update Time	Time stamp
failSafe	String	FailSafe switch	0 OFF 1 ON
pEpmTotal	Double	EPM Total Power	
pEpmTotalStr	String	EPM Total Power Unit	
eTotalBuy	Double	Total Purchase Energy	
eTotalBuyStr	String	Total Purchase Energy Unit	
eTotalSell	Double	Total Sell Energy	
eTotalSellStr	String	Total Sell Energy Unit	

3.31.   /v1/api/epmDetail   (EPM Details)

3.31.1.   Input parameters

Name	Type	Description	Note	Compulsory
sn	String	EPM sn	Must send	Y

3.31.2.   Output parameters

Name	Type	Description	Note

sn	String	EPM-SN	
collectorId	Long	Datalogger id	
collectorSn	String	Datalogger id	
userId	Long	User id	
stationId	String	Plant id	
state	Integer	Device Status	1 Online 2 Offline
dataTimestamp	Long	Plant Update Time	Time stamp
failSafe	String	FailSafe switch	0 OFF 1 ON
empSoftwareVersion	String	EPM Software Version	
pLimit	Double	Power Limit Percentage	
ctRatio	Double	CT Ratio	
pSet	Double	Backflow Power Setting	
pSetStr	String	Backflow Power Setting Unit	
pInverterTotal	Double	Inverter total power	
pInverterTotalStr	String	Inverter total power unit	
eToaalInverter	Double	Inverter total generation	
eToaalInverterStr	String	Inverter total generation unit	
pLoad	Double	Total Consumption Power	
pLoadStr	String	Total Consumption Power Unit	
eTotalLoad	Double	Total Consumption Energy	
eTotalLoadStr	String	Total Consumption Energy Unit	
pEpmTotal	Double	EPM Total Power	
pEpmTotalStr	String	EPM Total Power Unit	
eTotalBuy	Double	Total Purchase Energy	
eTotalBuyStr	String	Total Purchase Energy Unit	
eTotalSell	Double	Total Sell Energy	
eTotalSellStr	String	Total Sell Energy Unit	
iAc1	Double	Current U	Unit A
iAc2	Double	Current V	Unit A
iAc3	Double	Current W	Unit A
uAc1	Double	Voltage U	Unit V
uAc2	Double	Voltage V	Unit V
uAc3	Double	Voltage W	Unit V
pAc1	Double	Power U	Unit W
pAc2	Double	Power V	Unit W
pAc3	Double	Power W	Unit W

powerFactor	Double	PF	
facMeter	Double	Grid Frequency	

3.32. /v1/api/epm/day   (EPM Daily Graph)

3.32.1.   Input parameters

Name	Type	Description	Note	Compulsory
searchinfo	String	Query field, multiple fields are separated by commas	u_ac1 -voltage U u_ac2 -voltage V u_ac3 -voltage W i_ac1 -current U i_ac2 -current V i_ac3 -current W p_ac1 -power U p_ac2 -power V p_ac3 -power W power_factor -grid power factor fac_meter -grid frequency (Meter) p_load -total load power e_toaal_inverter -Total inverter power generation e_total_load -load total electricity consumption e_total_buy e_total_sell	Y
sn	String	EPM SN	Must Send	Y
time	String	2020-09-24		Y
timeZone	Integer	Plant Time Zone		Y

3.32.2.   Output parameters

Name	Type	Description	Note
dataTimestamp	Long	Update time (8 time zone)	data_timestamp
timeStr	String	String with the update time converted according to the time zone of the plant	
pEpmTotal	Long	EPM total power (total grid power) Negative - buy electricity, positive - sell electricity	p_epm_total
pEpmTotalStr	String	EPM total power unit	When the unit is rounded, the power

			generation should be * percentage
pEpmTotalPec	String	EPM total power percentage	When the unit is rounded, the power generation should be * percentage
eTotalBuy	Long	Total active energy taken from the grid	Upload e_total_buy to get
eTotalSell	Long	Total active energy export to grid	Upload e_total_sell to get
uAc1	Long	EPM AC voltage U	Upload u_ac1 to get
iAc1	Long	EPM AC current U	Upload i_ac1 to get
pAc1	Long	EPM active power U	Upload p_ac1 to get
uAc2	Long	EPM AC voltage V	Upload u_ac2 to get
iAc2	Long	EPM AC current V	Upload i_ac2 to get
pAc2	Long	EPM active power V	Upload p_ac2 to get
uAc3	Long	EPM AC voltage W	Upload u_ac3 to get
iAc3	Long	EPM AC current W	Upload i_ac3 to get
pAc3	Long	EPM active power W	Upload p_ac3 to get
pInverterTotal	Long	Inverter total power	Upload p_inverter_total to get
pLimit	Long	Power Limit Percentage	Upload p_limit to get
ctRatio	Long	CT ratio	Upload ct_ratio to get
powerFactor	Long	Grid PF	Upload power_factor to get
facMeter	Long	Grid Frequency	Upload fac_meter to get
pLoad	Long	Load total consumption power	Upload p_load to get
eToaalInverter	Long	Inverter total generation	Upload e_toaal_inverter to get
eTotalLoad	Long	Load total consumption energy	Upload e_total_load to get

3.33.   /v1/api/epm/month   (EPM Monthly Graph)

3.33.1.   Input parameters

Name	Type	Description	Note	Compulsory
sn	String	EPM SN	Must Send	Y
month	String	Time	month: "2019-07"	Y

3.33.2.   Output parameters

Name	Type	Description	Note
date	Long	timestamp	millisecond
dateStr	String	time string	2019-07-01
energy	Double	power generation	
energyStr	String	power generation unit	
epmSellEnergy		buy electricity	Unit kWh
epmBuyEnergy		selling electricity	Unit kWh

3.34. /v1/api/epm/year (EPM Yearly Graph)

3.34.1. Input parameters

Name	Type	Description	Note	Compulsory
sn	String	EPM SN	Must Send	Y
year	String	Time	year: "2019"	Y

3.34.2. Output parameters

Name	Type	Description	Note
date	Long	timestamp	millisecond
dateStr	String	time string	2019-07
energy	Double	power generation	
energyStr	String	power generation unit	
epmSellEnergy		buy electricity	Unit kWh
epmBuyEnergy		selling electricity	Unit kWh

3.35. /v1/api/epm/all (EPM Cumulative Graph)

3.35.1. Input parameters

Name	Type	Description	Note	Compulsory
sn	String	EPM SN	必 Upload	Y

3.35.2. Output parameters

Name	Type	Description	Note
year	Integer	Year	2020
energy	Double	power generation	
energyStr	String	power generation unit	
epmSellEnergy		buy electricity	Unit kWh
epmBuyEnergy		selling electricity	Unit kWh

4. APPENDIX

Status Code	Chinese Explanation	English Explanation
R0000	无权限操作	No authority
B0001	已绑定其他用户	Has been bound to other users
I0003	请输入 SN 号	Please enter SN

Status Code	Chinese Explanation	English Explanation
B0049	该采集器已不存在或无权限，无法查看	The collector no longer exists or has no permissions and cannot be viewed
I0000	必要参数为空	The necessary parameters are empty
B0011	该用户不存在	The user does not exist
I0012	帐号或者密码错误，请重新输入	Incorrect account or password, please re-enter

5. ALARM CODE

https://oss.ginlong.com/templet/Alarm%20information%28%E6%8A%A5%E8%AD%A6%E4%BF%A1%E6%81%AF%29.xlsx