Temp&RH-data transmit

——protocols instruction

一、 HTTP method

Name	Type	Description
Method	string	request mode ，such as POST、GET
Timestamp	Long	Time of data sending
Version	Int	Version of protocols
PID	Int	IMEI of device
Temperature	double	temperature（-1000=none）
Humidity	double	humidity（-1000=none）
Voltage	double	voltage（-1000=none）
L_wgs84	string	longitude and latitude（WGS-84 coordinate）
Datas>Timestamp	Long	The device time

1. JSON

For example：

{"Method":"POST","Timestamp":1501224426512,"Version":1,"Datas":[{"PID":7,"Temper
ature":29.50,"Humidity":-1000.0,"Voltage":3.58,"L_wgs84":"","Timestamp":1501195550
000},{"PID":5,"Temperature":29.90,"Humidity":0.65,"Voltage":3.64,"L_wgs84":"","Timest
amp":1501195229000},{"PID":3,"Temperature":25.80,"Humidity":-1000.0,"Voltage":3.63,
"L_wgs84":"","Timestamp":1501195508000},{"PID":2,"Temperature":26.50,"Humidity":0.
59,"Voltage":3.61,"L_wgs84":"","Timestamp":1501195378000},{"PID":4,"Temperature":2
9.70,"Humidity":0.66,"Voltage":3.61,"L_wgs84":"","Timestamp":1501195436000}]}

2. XML

For example：

<?xml version="1.0"?><Command xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"><Timestamp>1501225406521</Timestamp><Version>1</Version><Datas><CommandBody><PID>7</PID><Temperature>29.50</Temperature><Humidity>-1000</Humidity><Voltage>3.58</Voltage><L_wgs84 /><Timestamp>1501196493000</Timestamp></CommandBody></Datas><Method>POST</Method></Command>

二、TCP method

1. Command Line protocols

Instruction： command line protocols encoding as Ascii. Every one commad is end with "\r\n"。

Formate specification： each parameter separate with "space symbol"

Type		Protocol version		time		details(N)		CRC	end\r\n
AA	:	1		1501225869421		······		254F	

Contents note： each parameter separate with "|"

time		Device IMEI		temperature		humidity		voltage	longitude and latitude	
	|	7	|	29.60	|	-1000	|	3.58		|

For example： AA:1 1501225869421 1501197059000|7|29.60|-1000|3.58|| 254F
note： -1000=none

2. FixedHeader

Instruction: the fixed header protocols encoding as Hex。 The protocols define the request mode as two parts, the first part define the basic information.Usually we call the first part information as header data "request header(request name + len) + request body"。

format specification：

	type	length	version	time	details(N)	CRC
bytes	1bytes	2bytes	1bytes	6bytes		2bytes
Original data	AA	0035	01	11071C100515	······	28CF
value	AA	53	1	17-7-28 16:05:21		

Contents instruction:

	time	IMEI	temperature	humidity	voltage	longitude and latitude
bytes	6bytes	2bytes	3bytes	2bytes	2bytes	6bytes
original data	11071C08042E	0008	000A7A	0030	0EE2	0000000000000000
value	17-07-28 16:04:46	8	26.82	0.48	3.81	

For example:
AA00350111071C10051511071C08042E0008000A7A00300EE2000000000000000
00011071C0802100007000B9000000DFC0000000000000000028CF

Note:

1、temperature: 3byte, for the first byte, 0 means positive , 1 means
negative。 The second and third byte change to decimalism, then
divide by 100.

2、Humidity: 2byte, change to decimalism, then divide by 100.

3、Voltage:2byte, change to decimalism, then divide by 1000.

4 、If it shows 0xffff, means no data

三、MQTT method

Name	Type	description
Timestamp	Long	Data sending time
Version	Int	Protocols version
PID	Int	Device IMEI
Temperature	double	temperature（-1000=none）

Name	Type	description
Humidity	double	humidity (-1000=none)
Voltage	double	voltage (-1000=none)
L_wgs84	string	longitude and latitude (WGS-84 coordinate)
Datas>Timestamp	Long	Device time

1. Data formate

For example：

{"Timestamp":1501224426512,"Version":1,"Datas":[{"PID":7,"Temperature":29.50,"Humidity":-1000.0,"Voltage":3.58,"L_wgs84":"","Timestamp":1501195550000},{"PID":5,"Temperature":29.90,"Humidity":0.65,"Voltage":3.64,"L_wgs84":"","Timestamp":1501195229000},{"PID":3,"Temperature":25.80,"Humidity":-1000.0,"Voltage":3.63,"L_wgs84":"","Timestamp":1501195508000},{"PID":2,"Temperature":26.50,"Humidity":0.59,"Voltage":3.61,"L_wgs84":"","Timestamp":1501195378000},{"PID":4,"Temperature":29.70,"Humidity":0.66,"Voltage":3.61,"L_wgs84":"","Timestamp":1501195436000}]}