



## MQTT PROTOCOL FOR FITRDIER IOT

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### Revised history

No.	Modifier	Time	Version	Remark
1	Mr.Yang	2020-05-05	V1.0	Initial protocol
2	David	2020-07-01	V2.0	Arange all command in the protocol
3	David	2020-08-29	V3.1.1	Add pause mode
4	David	2020-09-02	V3.1.2	Add control charging station command
5	David	2020-10-16	V3.13	Change mode of chain lock
6	David	2023-06-07	V3.15	Add some command...
7	David	2023-08-04	V3.4.0	Add some command...
8				
9				
10				



## MQTT PROTOCOL FOR FITRIDER IOT

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We need these parameters as follows to make a connection between mqtt server and iot. Please provide them before they are confirmed.

Mqtt server configuration as follows:

IP [domain name]: Example ->101.37.148.19 or fitcoo.scooter.com

Port: Example->1883 1884 etc.

Username: Example->fitrider

Password: Example->fitrider\_123

Network configuration as follows:

APN: Example->internet4gd.gdsp

UserName: Example->none

PassWord:Example->none

Encryption mode:Example->0 [0=NONE 1=PAP 2=CHAP 3=PAH\_OR\_CHAP]

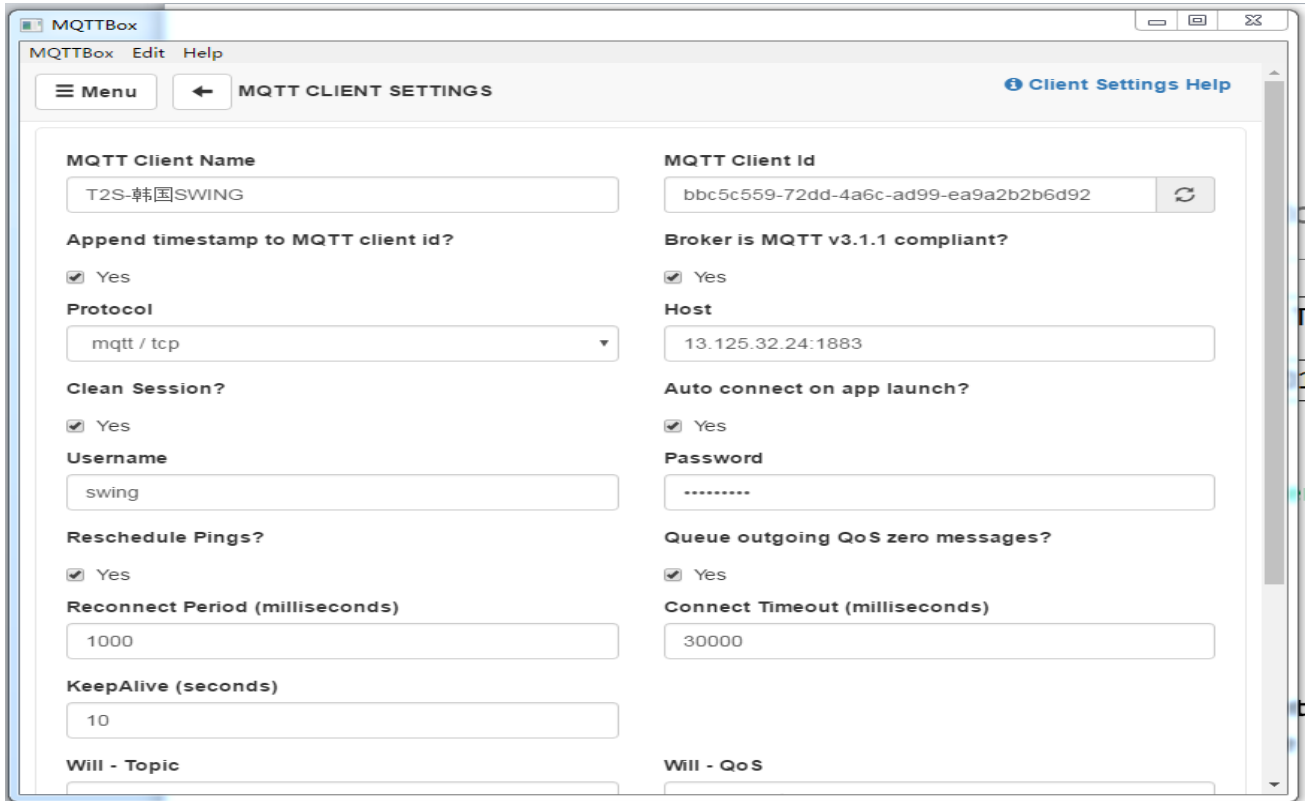
We need to intergrate all this parameters into iot. If there is no mistakes for them, The iot will be able to connect to the pointed mqtt server. You can start to test and verify some more details and commands in the protocol.

Normally, we use mqtt box to test the mqtt server and communication.

The website for download : <http://workswithweb.com/mqttbox.html>



# MQTT PROTOCOL FOR FITRDIER IOT



MQTTBox Edit Help

Menu MQTT CLIENT SETTINGS Client Settings Help

**MQTT Client Name**  
T2S-韩国SWING

**MQTT Client Id**  
bbc5c559-72dd-4a6c-ad99-ea9a2b2b6d92

**Append timestamp to MQTT client id?**  
 Yes

**Protocol**  
mqtt / tcp

**Broker is MQTT v3.1.1 compliant?**  
 Yes

**Clean Session?**  
 Yes

**Host**  
13.125.32.24:1883

**Auto connect on app launch?**  
 Yes

**Username**  
swing

**Password**  
.....

**Reschedule Pings?**  
 Yes

**Queue outgoing QoS zero messages?**  
 Yes

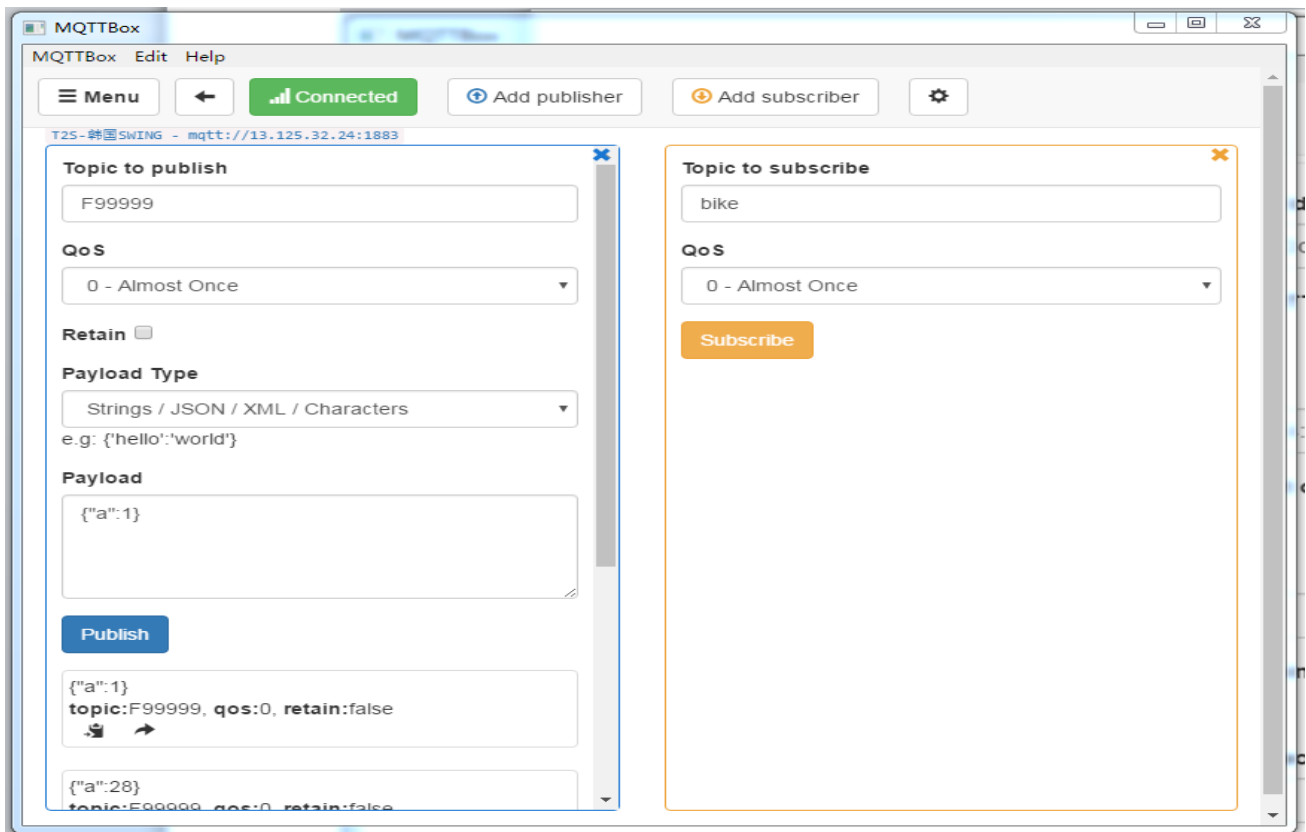
**Reconnect Period (milliseconds)**  
1000

**Connect Timeout (milliseconds)**  
30000

**KeepAlive (seconds)**  
10

**Will - Topic**

**Will - QoS**



MQTTBox Edit Help

Menu Connected Add publisher Add subscriber

T2S-韩国SWING - mqtt://13.125.32.24:1883

**Topic to publish**  
F99999

**QoS**  
0 - Almost Once

**Retain**

**Payload Type**  
Strings / JSON / XML / Characters  
e.g: {'hello':'world'}

**Payload**  
{"a":1}

**Publish**

["a":1]  
topic:F99999, qos:0, retain:false

["a":28]  
topic:F99999, qos:0, retain:false

**Topic to subscribe**  
bike

**QoS**  
0 - Almost Once

**Subscribe**



## MQTT PROTOCOL FOR FITRIDER IOT

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If your mqtt server is valid and your iot has connected with your server. When you configure mqttbox with your mqtt parameters successfully. The connection will be established. Then you can send command and subscribe the message from iot. Normally the topic is "bike" for iot.

### Command list

No.	Command	Direction	Remarks
1	Power on	WR	



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2	Power on ack	RD	
3	Power off	WR	
4	Power off ack	RD	
5	Clear single riding mileage	WR	
6	Clear single riding mileage ack	RD	
7	Clear single riding time	WR	
8	Clear single riding time ack	RD	
9	Clear total mileage	WR	
10	Clear total mileage ack	RD	
11	Clear the total riding time	WR	
12	Clear the total riding time ack	RD	
13	Set the speed limit data	WR	
14	Set the speed limit data ack	RD	
15	Query vehicle parameters	WR	
16	Query Vehicle parameters ack	RD	
17	Vehicle failure report	RD	
18	Query GPS location data	WR	
19	Query GPS location data ack	RD	
20	Reboot IOT	WR	
93	Reboot IOT if Updated	WR	
21	Qurey hardware and firmware version	WR	
22	Qurey hardware and firmware version ack	RD	
23	Start Upgrade firmware	WR	
66	Start Upgrade firmware ack	RD	
67	Send updating data	WR	
68	Send updating data ack	RD	
69	Updating success report	RD	
24	Query IEMI number	WR	
25	Qurey IEMI number ack	RD	
26	Query Vehicle status report	WR	
27	Vehicle status report	RD	
28	Alarm buzzer	WR	
29	Alarm Long buzzer		
58	Special alarm buzzer	WR	
33	Set server parameters	WR	
34	Set server parameters ack	RD	
35	Query server parameters	WR	
36	Query server parameters ack	RD	
37	Lamp switch setting	WR	
38	Lamp switch setting ack	RD	
39	Vibration sensitivty setting	WR	
40	Vibration sensitivty setting ack	RD	
41	Kilometer or mile switch setting	WR	



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42	Kilometer or mile switch setting ack	RD	
43	Lamp mode setting	WR	
44	Lamp mode setting ack	RD	
45	Set protection of motor controller's temperature	WR	Reserved
47	Get QCELLLOC	WR	Reserved
48	Get QCELLLOC ack	RD	Reserved
49	Set Assist Level	WR	
50	Set Assist Level ack	RD	
53	APN setting	WR	
54	APN setting ack	RD	
55	Scooter status parameter Report	RD	
57	Vibration dection report	RD	
60	Battery unlock	WR	
61	Battery unlock ack	RD	
62	Battery lock	WR	
63	Battery lock ack	RD	
71	Chainlock unlock	WR	
72	Chainlock unlock ack	RD	
73	Enter to pause mode	WR	
74	Enter to pause mode ack	RD	
75	Exit pause mode	WR	
76	Exit pause mode ack	RD	
77	Query IOT Log	WR	
78	Query IOT Log ack	RD	
79	Open the station lock	WR	
80	Open the station lock ack	RD	
81			
82			
83	Query status of chain lock	WR	
84	Query status of chain lock ack	RD	
88	Vibrating alarm	RD	
97	Query 4G signal intensity	WR	
98	Query 4G signal intensity ack	RD	
101	Set lot Parameters	WR	
102	Set lot Parameters ack	RD	
103	Modify IOT SN	WR	
104	Modify IOT SN ack	RD	
105	unlock the motor lock	WR	



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106	unlock the motor lock ack	RD	
107	Lock the motor lock	WR	
108	Lock the motor lock ack	RD	



## MQTT PROTOCOL FOR FITRDIER IOT

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### Power on (WR)

Topic: Vehicle number

QoS : 0

Payload:

```
{  
"a": 1 // integer , unlock  
}
```

Example: If you want to turn on the scooter, send {"a":1}

### Power on ack (RD)

Topic : bike

QoS : 0

Payload:

```
{  
"a": 2, // integer , Confirm power on  
"i": "12AB", // string , Vehicle number  
"t": 1503046415, // long,random number  
"s": <status>, // integer ,status: 0 :success; 1 :hardware fault; 2 : Firmware upgrading  
"n": 0 // integer , power on serial number  
}
```

---

### Power off (WR)

Topic: Vehicle number

QoS : 1 or 2

Payload:

```
{  
"a": 3// integer , Shutdown  
}
```

Example: if you want to turn off the scooter, send {"a":3}

### Power off ack(RD)

Topic : bike

QoS : 0

Payload:

```
{  
"a": 4, // integer , Confirm shutdown  
"i": "12AB", // string , Vehicle number  
"t": 1503046415, // long,random number  
"s": <status>, // integer ,Status: 0 :success; 1 :hardware fault; 2 : Firmware upgrading  
"n": 0 // integer, Shutdown serial number  
}
```

---





## MQTT PROTOCOL FOR FITRDIER IOT

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### Clear single riding mileage (WR)

• Instruction format:

Topic: Vehicle number

QoS : 0

Payload:

```
{  
"a": 5 // integer  
}
```

Example: If you want to clear single riding mileage, send {"a":5}

### Clear single riding mileage ack(RD)

Topic: bike

QoS : 0

Payload:

```
{  
"a": 6, // integer  
"i": "12AB", // string , Vehicle number  
"t": 1503046415, // long ,random number  
"s": <status>, // integer ,Status: 0 :success; 1 :hardware fault; 2 :Firmware upgrading ;3: It is already  
later than the latest shutdown time  
"n": 0 // integer  serial number  
}
```

---

### Clear single riding time (WR)

•Instruction format:

Topic: Vehicle number

QoS : 0

Payload:

```
{  
"a": 7 // integer  
}
```

Example: if you want to clear single riding time, send {"a":7}

### Clear single riding time ack (RD)

Topic: bike

QoS : 0

Payload:

```
{  
"a": 8, // integer  
"i": "12AB", // string , vehicle number  
"t": 1503046415, // long,random number  
"s": <status>, // integer , Status: 0 :success; 1 :hardware fault; 2 :Firmware upgrading ;3: It is already  
later than the latest shutdown time  
"n": 0 // integer  serial number
```



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```
}
```

### Clear total mileage (WR)

• Instruction format:

Topic: vehicle number

QoS: 0

Payload:

```
{  
"a": 9 // integer  
}
```

Example: if you want to clear total mileage, send {"a":9}

### Clear total mileage ack (RD)

Topic: bike

QoS : 0

Payload:

```
{  
"a": 10, // integer  
"i": "12AB", // string , vehicle number  
"t": 1503046415, // long, random number  
"s": <status>, // integer , Status: 0 :success; 1 :hardware fault; 2 :Firmware upgrading ;3: It is already  
later than the latest shutdown time  
"n": 0 // integer serial number  
}
```

### Clear the total riding time (WR)

• Instruction format:

Topic: vehicle number

QoS : 0

Payload:

```
{  
"a": 11 // integer  
}
```

Example: if you want to clear the total riding time, send {"a":11}

### Clear the total riding time ack(RD)

Topic: bike

QoS : 0

Payload:

```
{  
"a": 12, // integer
```



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```
"i": "12AB", // string , vehicle number
"t": 1503046415, // long,random number
"s": <status>, // integer , Status: 0 :success; 1 :hardware fault; 2 :Firmware upgrading ;3: It is already
later than the latest shutdown time
"n": 0 // integer serial number
}
```

---

### Set the speed limit data (WR)

•Instruction format:

Topic: vehicle number

QoS : 1

Payload:

```
{
"a": 13, // integer
"k": 2025 // integer 2000---2030
}
```

Example: if you want to set the speed to 20km/h, send {"a":13,"k":2020}  
The numerical value after K is 2000+ X km/h

### Set the speed limit data ack (RD)

Topic: bike

QoS : 0

Payload:

```
{
"a": 14, // integer
"i": "12AB",// string , vehicle number
"t": 1503046415, // long,random number
"s": <status>, // integer , Status: 0 :success; 1 : fault
}
```

---

### Query vehicle parameters (WR)

•Instruction format:

Topic: vehicle number

QoS : 0

Payload:

```
{
"a": 15 // integer
}
```

Example: if you want to get the vehicle parameters, send {"a":15}



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### Query Vehicle parameter ack (RD)

Topic: bike

QoS : 0

Payload:

```
{
"a": 16 , // integer
"i": "12AB", // string , vehicle number
"s " : 8 , // integer  Status
"k " : 8 , // integer speed limit values  KM
"p " : 8 , // integer current speed KM
"e " : 8 , // integer Vehicle error code (0 :no fault; 1:motor hall fault; 2: speed throttle fault; 4 :motor stalling; 5:over-current; 6: motor over temperature; 7: controller over temperature; 8: battery undervoltage; 9:battery overvoltage; 10: communication failure)
"b " : 8 , // battery (battery percentage)
"y": 8 , // integer  total riding time  seconds
"q": 8 , // integer  total riding mileage  KM
"w": 8 , // integer  single riding time  seconds
"z": 8 , // integer  single riding mileage  KM
"c": <status> // integer , status:  0 : power on ;1 : shutdown
}
```

---

### Query GPS location data (WR)

Topic: vehicle number

QoS : 0

Payload:

```
{
"a": 18 // integer, issue the gps command
}
```

mark: if you want to get the longitude and latitude, send {"a":18}. But this command is not usually used. Because when the scooter is positioning successfully, it will actively report the position alternately. The default GPS reporting interval is about 30 seconds per time. It can be set through the command 33.

### Query GPS location data ack a (RD)

Topic: bike

QoS : 1

Payload:

```
{
"a": 19, // integer
"i": "12AB", //string, vehicle number
"g": "latitude, longitude, business_type, location_type",
// "3020.5887,12006.4229,1" business_type:0 Normal ,1  alarm , location_type : 0 GPS,1 LBS
"t": 1503046415 // long GPS  reporting time
}
```



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Mark: This command will send to mqtt automatically when the iot gets valid gps data.

---

### Reboot IOT (WR)

•Instruction format:

Topic: vehicle number

QoS : 0

Payload:

```
{  
"a": 20 // integer  
}
```

Example: if you want to reboot the IOT, send {"a":20}

---

### Qurey hardware and firmware version (WR)

•Instruction format:

Topic: vehicle number

QoS : 0

Payload:

```
{  
"a": 21 // integer  
}
```

Example: if you want to get the hardware info of network mudule, send {"a":21}

---

### Qurey hardware and firmware version ack (RD)

Topic: bike

QoS : 1

Payload:

```
{  
"a": 22, // integer  
"i": "12AB", //string, vehicle number  
"h": hardware version  
"f": software version  
"c":simcard number  
"m": IEMI number  
"s": vehicle status: 0 :Powered on, 1 : Powered off  
"t": 1503046415 // long, random number  
}
```

---

### Start Upgrade firmware (WR)



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The server inform scooter to upgrade firmware

•Instruction format:

Topic: vehicle number

QoS : 0

Payload:

```
{  
"a": 23 ,// integer,  
"l": 50 ,// integer, package number of updating file, 1024 bytes each package  
}
```

### Start Upgrade firmware (RD)

Topic : bike

QoS : 1

Payload:

```
{  
"a": 66, // integer ,  
"i": "12AB",// string , vehicle number  
"s": 0, // integer, 0 can be upgraded 1 prohibit to upgrade  
}
```

---

### Send updating data(WR)

•Instruction format:

Topic: vehicle number

QoS : 0

Payload:

```
{  
"a": 67, // integer,  
"x":55, // integer,firmware package serial number  
"l":55, // integer,data length  
"d":012z//firmware data binary type  
}
```

### Send updating data ack(RD)

Topic : bike

QoS : 1

Payload:

```
{  
"a": 68, // integer,  
"i": "12AB", // string ,vehicle number  
"x":55, // integer,firmware package serial number  
"s": 0, // integer, 0 receive the firmware package successfully(can issue send next data packet) 1  
failed to receive the firmware package (at this time the server need to resend this packet of data.
```



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When failed more than 5 times, the module will reboot for re-upgrading)

}

### Updating success report(RD)

Topic : bike

QoS : 1

Payload:

{

"a": 69, // integer ,

"i": "12AB", // string , vehicle number

"s": 0, // integer,0 upgrade successfully 1 upgrade failed

}

---

### Query IEMI number(WR)

•Instruction format:

Topic: vehicle number

QoS : 0

Payload:

{

"a": 24 // integer

}

Example: If you want to get IEMI number, send {"a":24}

### Query IEMI number ack(RD)

• Instruction format:

QoS : 0

Payload:

{

"a": 25, // integer

"i": "12AB", //string, vehicle number

"h":1234567898888888, // IMEI number

"t": 1503046415 // long random number

}

---

### Vehicle status report (RD)



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•Instruction format:

Topic : bike

QoS : 1

Payload:

```
{  
"a": 27, // heartbeat  
"i": "12AB", // string , vehicle number  
"b": <battery ratio >, // integer, percentage of charge, from 0-100  
"c": <status> // integer , status: 0 : power on; 1 : power off  
"s":1<vehicle posture> // integer , status: 0 : normal; 1 : fall down . Only valid power on status.  
"r":37.5<voltage of battery> // integer  
"v":25 <sensitivity of vibration> // integer  
"x":0> // 1= station attached; 3= no satation integer  
}
```

Mark: This command has been sent to server automatically.

---

### Alarm buzzer( WR)

Topic: vehicle number

QoS : 0

Payload:

```
{  
"a": 28 // integer , alarm  
}
```

Example: If you want the buzzer of iot to sound, send {"a":28}

Mark: No ack for this command

---

### Set server parameters (WR) 该指令被 101 号指令替代

•Instruction format:

Topic: vehicle number

QoS : 0

Payload:

```
{  
"a": 33, // integer  
"u":18.180.156.177,1844,00012,30,10,3  
}
```

// parameters as follows

IP+PORT+vehicle number+GPS reporting interval+ heartbeat packet interval+times(numbers) of  
resent after network heartbeat packet failure





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Example: if you want to set new IP as 123.456.789.123 , port as 1234, vehicle number as 000003, GPS reporting interval as 45 seconds, send {"a":33,"u":123.456.789.123,1234,000003,45}. When the command is executed successfully, the module will connect to the new IP, PORT. This process will take a while because IOT needs to reconnect to the network.

### Set server parameters ack (RD)

Topic : bike  
QoS : 0  
Payload:  
{  
"a": 34, // integer,  
"i": "12AB", // string , vehicle number  
"s":0, // integer 0: success ; 1: failure  
}

---

### Query server parameters (WR)

•Instruction format:

Topic: vehicle number

QoS : 0

Payload:

{  
"a": 35, // integer  
}

Example: if you want to get user parameters, send {"a":35}

### Query server parameters ack(WR)

Topic : bike

QoS : 0

Payload:

{  
"a": 36, // integer ,  
"i": "12AB", // string , vehicle number  
"u":"018.180.156.177,1883,username ,password, vehicle number,30"  
}

IP,IP\_PORT,username,password,vehiclenumer,gps interval-gps

---

### Lamp switch setting(WR)

Topic: vehicle number

QoS : 0

Payload:

{  
"a": 37, // integer , headlight control  
"d":0// integer 0: turn off the light 1: turn on the light  
}

Example: This command only works when Lamp mode setting in " command cntrol mode"  
after send commad `{"a":43,"j":0}`

### **Lamp switch setting ack(RD)**

Topic : bike  
QoS : 0  
Payload:  
{  
"a": 38, // integer ,  
"i": "12AB",// string , vehicle number  
"s":0, // integer 0: Success 1:failure  
}

---

### **Vibration sensitivity setting (WR)**

Topic: vehicle number  
QoS : 0  
Payload:  
{  
"a": 39, // integer , Vibration setting  
"v":0// integer 0: turn off vibration >0: vibration sensitivity  
}

Example: vibration here is vibration of scooter caused by outside detected when the scooter is off. When the number of successive vibrations reach a value, the bell sounds and alarms, at the meantime, the scooter motor will be locked. It means motor stalling to prevent somebody to slide the scooter. If the scooter do not detect vibration in 120 seconds, it will exit this status.

The value 0 behind this command is turn off vibration. If you send the command `{"a":39,"v":0}`, the scooter's buzzer will not make any sound when the user moves or vibrates the scooter.

When the value behind v is >0, it is used to adjust the vibration sensitivity. Bigger value, less sensitive. The biggest value is 99. The default value is 25. If you want to set the sensitivity as 10, send `{"a":39,"v":10}`

### **Vibration sensitivity setting ack(RD)**

Topic : bike  
QoS : 0  
Payload:  
{  
"a": 40, // integer ,  
"i": "12AB",// string ,vehicle number  
"s":0, // integer 0:success 1: failure  
}

---

### **Kilometer or mile switch setting (WR)**

Topic: vehicle number  
QoS : 0



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Payload:

```
{  
"a": 41, // integer , Kilometer mile switch  
"f":0// integer 0: kilometer 1: mile  
}
```

Example: if you want to set speed unit as kilometer on display, send {"a":41,"f":0} when the scooter is off.

if you want to set speed unit as mile on display, send {"a":41,"f":1} when the scooter is off.

### **Kilometer or mile switch setting ack(RD)**

Topic : bike

QoS : 0

Payload:

```
{  
"a": 42, // integer ,  
"i": "12AB",// string , vehicle number  
"s":0, // integer 0: success 1: failure  
}
```

---

### **Lamp mode setting (WR)**

Topic: vehicle number

QoS : 0

Payload:

```
{  
"a": 43, // integer , headlight switchover  
"j":0// integer 0: command control 1: always on  
}
```

Example:This command works only when the scooter is powered on. You need to send command {"a":1} turn on the scooter first.

### **Lamp mode setting ack ack(RD)**

Topic : bike

QoS : 0

Payload:

```
{  
"a": 44, // integer ,  
"i": "12AB",// string , vehicle number  
"s":0, // integer 0: success 1:failure  
}
```

---

### **Set\_Assist\_Level (WR)**

•Instruction format:

Topic: vehicle number

QoS : 1

Payload:

```
{  
"a": 49, // integer  
"k": 0 // integer[ 0~2]  
}
```

### **Set\_Assist\_Level ack (RD)**

Topic: bike

QoS : 0

Payload:

```
{  
"a": 50, // integer  
"i": "12AB", // string , vehicle number  
"s": <status>, // integer , Status: 0 :success; 1 fault  
}
```

### **APN setting(WR)**

•Instruction Format:

Topic: vehicle number

QoS : 0

Payload:

```
{  
"a": 53, // integer  
"z": AT+QICSGP=15,1,"apn","username","password",0 // string  
}
```

Example: If you want to set the APN as 123, username as 456, password as 789, send {"a":53, "z":AT+QICSGP=15,1,"123","456","789",0}

If there is no username and password, the relevant position is empty. Such as APN is 123, username is empty, password is empty, send {"a":53, "z":AT+QICSGP=15,1,"123","","",0}

### **APN setting ack(RD)**

Topic : o

QoS : 0

Payload:

```
{  
"a": 54, // integer,  
"i": "12AB", // string ,vehicle number  
"s":0, // integer 0: success 1: failure  
}
```

---

### **Scooter status parameter Report(RD)**

Topic : o

QoS : 0

Payload:

```
{  
"a": 55, // integer,  
"i": "12AB", // string ,vehicle number  
"s":0, // integer 0: the scooter is not fall down 1: the scooter is fell down  
"r" //interger means the battery voltage, unit v  
}
```

Mark: This command is deleted in latest protocol version.

### **Vibration dection Report(RD)**

Topic : o

QoS : 0

Payload:

```
{  
"a": 57, // integer,  
"i": "12AB", // string ,vehicle number  
"s":1, // integer  
}
```

Mark: This command is deleted in latest protocol version.

---

### **Special alarm buzzer(WR)**

Topic : vehicle number

QoS : 0

Payload:

```
{  
"a": 58, // integer,ring  
"v":5, // Numbers of rings  
"i":100, // time of buzzer ring unit:ms  
"L":200 // the time of that the buzzer does not sound unit:ms  
}
```

Annotation: The above parameter means that the buzzer will ring for 100ms, then not for 200ms, so it alternates 5 times.

---

### **Battery unlock(WR)**

Topic: vehicle number

QoS : 0

Payload:

```
{  
"a": 60 // integer  
}
```

Example: if you want to remove battery, send {"a":60}

## **Battery unlock ack(RD)**

Topic : bike

QoS : 0

Payload:

```
{  
"a": 61, // integer,confirmed power on  
"i": "12AB",// string ,vehicle number  
"s": <status> // integer,status:  0 :success ; 1: hardware failure; 2:firmware upgrading  
}
```

---

## **Battery lock(WR)**

Topic: vehicle number

QoS: 0

Payload:

```
{  
"a": 62 // integer  
}
```

Example: if you want to lock the battery, send {"a":62}

## **Battery lock ack(RD)**

Topic : bike

QoS : 0

Payload:

```
{  
"a": 63, // integer ,confirmed power on  
"i": "12AB", // string ,vehicle number  
"s": <status> // integer , status:  0 :success ; 1: hardware failure; 2:firmware upgrading  
}
```

---

## **Chainlock unlock(WR)**

Topic: vehicle number

QoS: 0

Payload:

```
{  
"a": 71 // integer  
}
```

Example: if you want to unlock the chain lock, send {"a":71}

## **Chainlock unlock ack(RD)**

Topic : bike

QoS : 0

Payload:

```
{  
"a": 72, // integer  
"i": "12AB", // string ,vehicle number  
"s": <status> // integer , status:  0 :success ; 1: hardware failure; 2:firmware upgrading  
}
```

### **Enter pause mode (WR)**

Topic: vehicle number

QoS: 0

Payload:

```
{  
"a": 73 // integer  
}
```

Example: if you want to enter pause mode{"a":73}

### **Enter pause mode ack(RD)**

Topic : bike

QoS : 0

Payload:

```
{  
"a": 74, // integer ,  
"i": "12AB", // string ,vehicle number  
"s": <status> // integer , status:  0 :success ; 1: failed  
}
```

### **Exit pause mode (WR)**

Topic: vehicle number

QoS: 0

Payload:

```
{  
"a": 75 // integer  
}
```

Example: if you want to exit pause mode{"a":73}

### **Exit pause mode ack(RD)**

Topic : bike

QoS : 0

Payload:

```
{  
"a": 76, // integer ,  
"i": "12AB", // string ,vehicle number  
"s": <status> // integer , status:  0 :success ; 1: failed  
}
```

### **Query IOT Log(WR)**

Topic: vehicle number

QoS: 0

Payload:

```
{  
"a": 77 // integer
```

```
}
```

Example: if you want to query IOT Log send {"a":77}

### Query IOT Log ack(RD)

Topic: vehicle number

QoS: 0

Payload:

```
{  
"a": 78 // integer  
"i": "12AB", // string ,vehicle number  
"b": "12AB", // string ,vehicle number  
"c": "12AB", // string ,vehicle number  
"d": "12AB", // string ,vehicle number  
"e": "12AB", // string ,vehicle number  
"f": "12AB", // string ,vehicle number  
"g": "12AB", // string ,vehicle number
```

```
}
```

### Query status of chain lock (WR)

Topic: vehicle number

QoS: 0

Payload:

```
{  
"a": 83 // integer
```

```
}
```

Example: if you want to query status of chain lock send {"a":83}

### Query status of chain lock (RD)

Topic : bike

QoS : 0

Payload:

```
{  
"a": 84, // integer ,  
"i": "12AB", // string ,vehicle number  
"s": <status> // integer , status: 0 :close ; 1: open  
}
```

### Viberating check (RD)

Topic : bike



QoS : 0

Payload:

```
{  
"a": 88, // integer ,  
"i": "12AB", // string ,vehicle number  
"s": <status> // integer , status: reserved}
```

---

### Reboot IOT if Updated (WR)

Topic: vehicle number

QoS: 0

Payload:

```
{  
"a": 93 // integer  
}
```

Example: if you want to reboot the iot after you update it successfully send {"a":93}

Remark:No response for this command.

---

### Query 4G signal intensity(WR)

Topic: vehicle number

QoS: 0

Payload:

```
{  
"a": 97 // integer  
}
```

Example: if you want to query signal intensity, send {"a":71}

---

### Query 4G signal intensity ack(RD)

Topic : bike

QoS : 0

Payload:

```
{  
"a": 98, // integer ,confirmed power on  
"i": "12AB", // string ,vehicle number  
"x": // integer , level of signal intensity  
}
```

### Set server parameters (WR)

•Instruction format:

Topic: vehicle number

QoS : 0

Payload:

```
{  
"a": 101, "u":18.180.156.177: 1883:username :password:  
}
```

### Set Iot Parameters ack(RD)

QoS : 0

Payload:

```
{  
"a": 102, // integer ,confirmed power on  
"i": "12AB", // string ,vehicle number  
"s": // 0=success 1=failed  
}
```

---

### Modify IOT SN (WR)

•Instruction format:

Topic: vehicle number

QoS : 0

Payload:

```
{"a": 103,"u":SN_Number:}
```

### Modify IOT SN ack(RD)

QoS : 0

Payload:

```
{  
"a": 104, // integer ,confirmed power on  
"i": "12AB", // string ,vehicle number  
"s": // 0=success 1=failed  
}
```

---

### unlock the motor lock (WR)

•Instruction format:

Topic: vehicle number

QoS : 0

Payload:

```
{"a": 105}
```

### unlock the motor lock ack(RD)



## MQTT PROTOCOL FOR FITRDIER IOT

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QoS : 0

Payload:

```
{  
"a": 106, // integer ,confirmed power on  
"i": "12AB", // string ,vehicle number  
"s": // 0=success 1=failed  
}
```

---

### lock the motor lock (WR)

•Instruction format:

Topic: vehicle number

QoS : 0

Payload:

```
{"a": 107}
```

### lock the motor lock ack(RD)

QoS : 0

Payload:

```
{  
"a": 108, // integer ,confirmed power on  
"i": "12AB", // string ,vehicle number  
"s": // 0=success 1=failed  
}
```