PL610S Protocol Manual V2.8

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1 Preface

This document is intended primarily for software engineers and system administrators. Readers must have a basic knowledge of the computer. Due to continuous optimization and improvement of product features, it is possible that the protocol documents you read are not exactly the same as product currently used. Please contact with pictor sales for the latest PL610S Protocol documentation.

2 Terms and Abbreviations

Name	Description
GPS Platform	Asset Management GPS platform software, hereafter called GPS platform
Device	PL610S intelligent electronic lock, acts as client
IMEI	International Mobile Equipment Identity, each 2G/3G/4G module has its unique IMEI
Unit ID	last 10 digit numbers of the IMEI number. IMEI: 860298043396604 Unit ID : 8043396604
GPRS	General Packet Radio Service
APN	Access Point Name
TCP	Transmission Control Protocol
SMS	Short Message service

3 Product Working logic

3.1 Sleep state

The device will switch from the awake state to the sleep state. When sleeping, the GPS and 2G/3G modules will be turned off. The device will sleep for 30 minutes by default (this time can be configured) and wake up periodically. During this period, it can be externally Wake up the source.

3.2 Awakening state

In order to monitor the wake-up source in real time and communicate with the GPS platform, the device can be awakened by the wake-up source to change from the sleep state to the awake state. At this time, if the vibration, RFID card reading ,Back Cover opened and lock rope insertion and unplugging external wake-up source are detected again, the device will update the wake-up work. The time is 10 minutes (this time is configurable), otherwise the device will work for up to 10 minutes (which is configurable) to go to sleep.

3.3 Wake up source

The device will wake up from the external interrupt wake-up source and the RTC wake-up source(internal interrupt), and the external interrupt wake-up source, hereinafter referred to as “external wake-up source”:

No.	Wake up source	After wake up	Remark
1	Vibration	When the device detects the vibration amplitude is greater than the preset vibration sensitivity coefficient, it wakes up and continues to work for 10 minutes (this time is configurable). If the valid external wake-up source is not captured during the period, it sleeps; otherwise, it starts timing when the external wake-up source is detected last time. Work 10 minutes to go to sleep.	external wake up source
2	RFID Key Reading	The device is woken up when detecting the RFID card reading, and continues to work for 10 minutes (this time is configurable). If the valid external wake-up source is not captured during the period, it sleeps; otherwise, the time is started when the external wake-up source is detected last time. Work 10 minutes to go to sleep.	external wake up source
3	Back Cover Opened	The device is woken up when detecting Back Cover Opened, and continues to work for 10 minutes (this time is configurable). If the valid external wake-up source is not captured during the period, it sleeps; otherwise, the time is started when the external wake-up source is detected last time. Work 10 minutes to go to sleep.	external wake up source
4	Lock rope inserted and unplugging	The device is woken up when detecting the lock rope is inserted or unplugging, and continues to work for 10 minutes (this Time configurable),If the valid external wake-up source is not captured during the period, it sleeps; otherwise, it starts timing when the external wake-up source is detected last time. Work 10 minutes to go to sleep.	external wake up source
5	Sleep and timing wake up	The device starts timing when it enters the sleep time. If no external wake-up source is generated during this period, it wakes up after 30 minutes, uploads a positioning data and delays 30 seconds to enter the sleep. Otherwise, it goes to the external wake-up source to trigger the wake-up work for 10 minutes(this time is configurable).	RTC wake up source
6	SMS	When the device receives any SMS, it wakes up and continues to work for 10 minutes (this time is configurable). If the valid external wake-up source is not captured during the period, it sleeps; otherwise, it starts timing when the external wake-up source is detected last time. Work 10 minutes to go to sleep.	external wake up source

3.4 Blind zone data

If The device enters the mobile network blind zone, the device will save the current position data and alert data (at least 28000) to Flash, and these data will be uploaded to GPS platform in the first-in first-out order after the device is connected to the GPRS network. The device saves lock and unlock report at least 2400, these data will be uploaded in the first-in first-out order after the GPRS network is restored.

4 Protocol Basis

4.1 Communication mode

This communication protocol adopts TCP, GPS platform acts as server; Device acts as client. Usually use TCP protocol as the main communication way.

4.2 Transmission Rules

Protocol adopts Big-endian network byte sequence to transmit word and double word. Position/Alert data ,Lock /Unlock report are transmitting according First in First out (FIFO).

5 Command Syntax(GRPS/SMS)

5.1 Read/Write Command Syntax

(<Command Word>,<Parameter 1>,…<Parameter N>)

Note:

The command uses '(' as the header, '')" as the end of the package. When editing the command, ignore the '<' and '>' symbol.

Example: (P04,1,60,30)

Field Name	length(byte)	Example(ASCII)
Header	1	(
Command Word	3	P04
Comma as separator	1	,

Each parameter takes a comma as a separator <Parameters…>	N	60,30
End	1	)

5.2 Command Reponse Syntax

(<Unit ID>,<Command Word>,<Parameter 1>,…<Parameter N>)

Note:

The command response uses '(' as the header, '')" as the end of the package. Please ignore the '<' and '>' symbol when decode the command response.

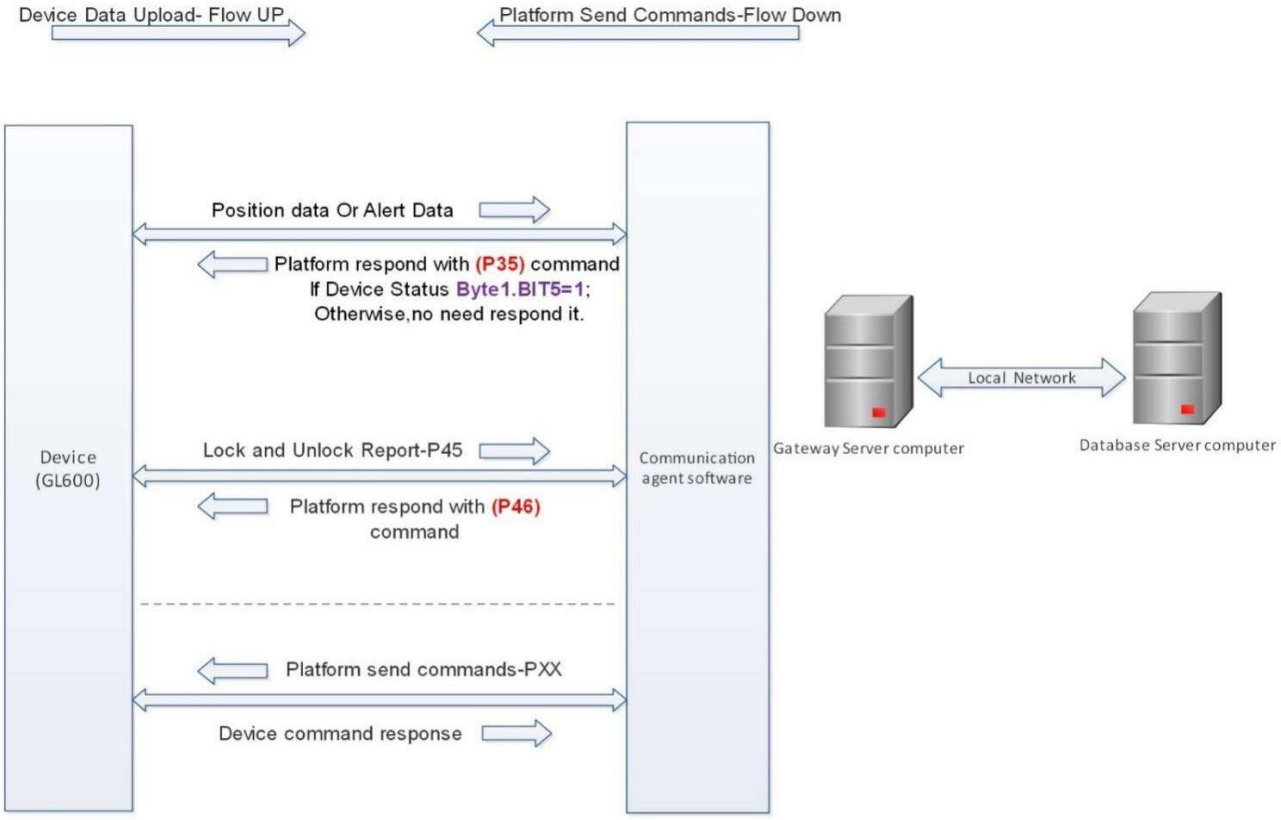
Example: (8043396604,P43,1,0)

Field Name	length(byte)	Example(ASCII)
Header	1	(
<Unit ID> Last 10 digit numbers of IMEI number	10	8043396604
Comma as separator	1	,
Command Word	3	P43
Comma as separator	1	,
<Parameters…> Each parameter takes a comma as a separator	N	1,0
End	1	)

6 Protocol Integration Guide

After the device is configured with the correct host IP address and TCP port, the device will send the position data to the GPS platform automatically when it is in the awake state. The GPS platform refers to the following diagram to respond to the relevant binary position data .All position data and alert data need to be parsed in binary data, with 0x24$_{(HEX)}$ as the data header, and then intercept the data according to the data length; All lock and unlock reports and commands interactions need to convert the binary data into ASCII format and then parse the data ,with 0x28$_{(HEX)}$ as the data header, 0x29$_{(HEX)}$ as the end of the packet.

6.1 Message Interaction diagram



Note：
Device Status : Byte1.BIT5
Refer to section 7.1 Postion and Alert Data -No.17

7 Device Send data to GPS Platform

7.1 Position and Alert Data

Position and Alert Raw data Example (HEX):

2480433966040111002718031919195822424550114158888E15A40000F124080000000000F00F110A24991900000DF0C7

For easy reading, separate the fields with underscores:

24_8043396604_01_1_1_0027_180319_191958_22424550_114158888_E_15_A4_0000F124_08_00000000_00F0_0F_110A2499_19_00_000DF0_C7

No.	Field Name	Data Example(HEX)	Length (Byte)	Description
1	Protocol header	24	1	$0x24_{(HEX)}$,Convert to ASCII format ,it's '$' character
2	Unit ID	8043396604	5	Last 10 digit numbers of IMEI
3	Protocol version	01	1	01 indicates protocol version
4	Device type	1	0.5	1 indicates PL610S.
5	Data type	1	0.5	1 indicates Real time data 2 indicates **Alert data** 3 indicates Blind zone data
6	Data length	0027	2	Data content length, total 39 bytes. from No.7 to No.23
7	Date	180319	3	Day Month Year. It's Mar. 18th , 2019
8	Time	191958	3	Hour-Minute-Second, UTC time, 19:19:58
9	Latitude	22424550	4	DDMM.MMMM format, the latitude conversion method as below: 22424550/10000=2242.4550 2242.4550 DDMM.MMMM 22+42.4550/60=22+ 0.707583=22.707583º
10	Longitude	114158888	4.5	DDDMM.MMMM format, the longitude conversion method as below: 114158888/10000=11415.8888 11415.8888 DDDMM.MMMM 114+15.8888/60=114+ 0.264813=114.264813º
11	Latitude/Longitude Direction	E	0.5	Convert this' Latitude/Longitude Direction' to Binary system data. 1110 Bit3 to Bit0 from left to right

Bit indicator	Description	Example (Binary system)
Bit3	Fixed value 1	1
Bit2	Longitude Direction 1 East Longitude 0 West Longitude	1

				Bit1 Latitude direction 1 1 North Latitude 0 South Latitude Bit0 GPS Validity 0 1 GPS valid 0 GPS invalid
12	Speed	15	1	Current GPS speed is 15 knots, Convert to kilometer/hour 15 * 1.852 = 27.78 KM/H
13	Direction	A4	1	$A4_{(HEX)} = 164_{(Dec)}$, multiply by 2=$328_{(Dec)}$, direction is 328^{o} North is 0^{o},Clockwise counting The unit in degree. range:0~359 degree
14	GPS Odometer	0000F124	4	Unit in kilometer. Current GPS Odometer is 61732 KM. The accumulated mileage of the device when it is awake
15	Number of captured satellites	08	1	Captured 8 satellites
16	Vehicle ID Blinding Key number	00000000	4	Reserved. This value is fixed to '00000000'.
17	**Device status**	00F0	2	**Device's status or Alert indicator :** 0x00 0xF0 Byte2 at left side .it's 0x00; Byte1 at right side it's 0xF0 Convert 'Device Status' to Binary system data. BYTE2 BYTE1 00000000 11110000 Bit7 to Bit0 from left to right

Byte. Bit	Description	$Example_{(BIN)}$ **$00F0_{(HEX)}$** e
Byte2	**Description**	
Byte2.BIT7	Reserved. This bit is fixed at 0	0
Byte2.BIT6	Motor fault alert 1 indicates triggered alert; 0 indicates normal.	0
Byte2.BIT5	Back Cover status: 1 indicates back cover close; 0 indicates back cover opened	0
Byte2.BIT4	Back cover Opened alert 1 indicates triggered alert ; 0 indicates normal.	0
Byte2.BIT3	Low battery alert 1 indicates triggered alert; 0 indicates normal.	0
Byte2.BIT2	Swiping unauthorized RFID key alert 1 indicates triggered alert;	0

	0 indicates normal.	
Byte2.BIT1	Wrong password alert The password is continuously entered incorrectly 5 times. 1 indicates triggered alert; 0 indicates normal.	0
Byte2.BIT0	Unlocking alert 1 indicates triggered alert; 0 indicates normal.	0
Byte1 Description **Note:** Device Locked : Byte1.BIT7 and Byte1.BIT6=1 Device Unlocked: Byte1.BIT6=0		
Byte1.BIT7	Motor Lock status: 1 indicates Motor lock; 0 indicates Motor unlock.	1
Byte1.BIT6	Lock Rope status: 1 indicates Lock Rope inserted; 0 indicates Lock Rope unplugging	1
Byte1.BIT5	ACK indicator 1 indicates This data requires the GPS platform to acknowledge it; 0 indicates This data does not require the GPS platform to acknowledge it. **Note:** If Byte1.BIT5=1,GPS Platform need to send (P35) command to acknowledge this data. Otherwise, the device will keep sending the same data.	1
Byte1.BIT4	Vibration alert 1 indicates triggered alert; 0 indicates normal.	1
Byte1.BIT3	Lock rope tamper alert 1 indicates triggered alert; 0 indicates normal.	0
Byte1.BIT2	Exit Geo-fence alert 1 indicates triggered alert; 0 indicates normal.	0
Byte1.BIT1	Enter Geo-fence alert 1 indicates triggered alert; 0 indicates normal.	0
Byte1.BIT0	Base station positioning indicator 1 indicates Base station positioning;	0

				0 located by GPS positioning
18	Battery Level	0F	1	Remaining Battery Level. 0x0F the current battery is 15%, 0x64 means 100% the accuracy is 5%, if the value is 0xFF,means charging
19	CELL ID and LAC	110A2499	4	$110A_{(HEX)}$ is CELL ID; $2499_{(HEX)}$ is LAC.
20	GSM signal quality	19	1	Indicates the strength of GSM signal, $19_{(HEX)}$, signal value $25_{(DEC)}$. The maximum value for GSM signal strength is 31.
21	Geo-Fence alert Fence ID	00	1	Indicates the geo-fence alert fence ID ;when no geo-fence alert, this value is fixed to '00'.
22	Reserve	1c	1	Reserved for the temperature (degree Celsius) 1c mean 28degree
23	Battery voltage	1032	2	Unit 10mv, 1032 means 4.146V
24	IMEI string	0868703050882927	8	IMEI string of communication module
25	Reserve	04d2	2	Cell id for 3G, 4G cellular network
26	MCC code	01c4	2	Mcc code; mobile country code
27	MNC code	04	1	Mnc code; mobile network code
28	Serial number	C7	1	Serial number $199_{(DEC)}$, Add 1 for each data sent; reset to 0x00 after 0xFF

7.2 Lock and Unlock Report-P45

Report Description	
Note: When parsing data, you need to convert hexadecimal data to ASCII format first. This is Lock and Unlock Report, not a command. It's transmitted to GPS platform side automatically when Customers Swipe the RFID keys Or Lock/Unlock the Device. The GPS platform needs to send a (P46) command to acknowledge this report, otherwise the device will continue to send this report. In case of multiple event sources at the same time, the device will send one by one.	
Syntax	
Response	(<Unit ID>,P45,<Date>,<Time>,<Latitude>,<N/S Latitude indicator>,<Longitude>,<E/W Longitude indicator>,<GPS fix indicator>,<Speed>,<Direction>,<Even Source>,<Unlock successful/failed>,<RFID key number>,<Password True/False>,<Input Wrong Password Times>,<Report Serial number>)
Parameter Description	
Parameters	**Description**
<Date>	Repot Date. format :DDMMYY 170219 means Feb. 17th 2019
<Time>	Report Time .format: HHMMSS 162349 means 16:23:49 UTC time

<Latitude>	Latitude . format: DD.DDDDDD . The unit in degree
<N/S Latitude indicator>	N indicates Northern latitude; S indicates South latitude
<Longitude>	Longitude. format: DDD.DDDDDD. The unit in degree
<E/W Longitude indicator>	E indicates East longitude ; W indicates West longitude
<GPS Validity>	A indicates GPS fix ; V indicates GPS signal invalid
<Speed>	GPS speed. Unit in KM/H (Kilometers per hour)
<Direction>	North is 0 degree, Clockwise counting .the unit in degree. range:0~359 degree
<Even Source>	1 indicates Swipe Authorized RFID key; 2 indicates Swipe Unauthorized RFID key; 3 indicates Swipe the vehicle ID blinding RFID key; 4 indicates Unlock by Password ; 5 indicates The device is automatically locked
<Unlock successful/failed>	1 means the RFID key or password is verified, unlocked successfully, 0 means RFID key or password is not verified, refused to unlock **Note:** If <Even Source> is 2,3,5 ,this value is fixed to 0 .
<RFID key number>	The ID card number when swiping the card. **Note:** If the <Event Source> is 4 or 5, the value is 0000000000.
<Password True/False>	If the <Event Source> is 4, this value indicates whether the password is correct. If password is correct, it is 1, and for other types, it is fixed to 0.
<Input Wrong Password Times>	If the <Event Source> is 4, this value indicates the number of consecutive password input errors. For other types, it is fixed to 0.
<Report Serial number>	The serial number of the lock and unlock report, indicating the number of times the device sent the records.

Example

Swipe Authorized RFID key

Response	(8043396604,P45,180219,184809,22.924088,N,114.540793,E,V,12.00,60,1,1,0006182080,0,0,35)	
Response Description	**Content**	**Description**
	8043396604	Unit ID
	P45	Command Word
	180219	Feb. 18th 2019
	184809	18:48:09. UTC time
	22.924088	Latitude
	N	Northern latitude
	114.540793	Longitude
	E	East longitude
	V	GPS invalid
	12.00	12 KM/H

	60	60° Direction
	1	Swipe Authorized RFID key
	1	RFID key is verified, unlocked successfully
	0006182080	RFID key number
	0	Password True/False. Fixed to '0'
	0	Input Wrong Password Times .Fixed to '0'
	35	The serial number of the lock and unlock report
Unlock by Password		
Response	(8043396604,P45,180219,184809,22.924088,N,114.540793,E,A,12.00,60,4,1,0000000000,1,0,36)	
Response Description	**Content**	**Description**
	8043396604	Unit ID
	P45	Command Word
	180219	Feb. 18th 2019
	184809	18:48:09 . UTC time
	22.924088	Latitude
	N	Northern latitude
	114.540793	Longitude
	E	East longitude
	A	GPS fix
	12.00	12 KM/H
	60	60° Direction
	4	Unlock by Password
	1	Password is verified, unlocked successfully
	0000000000	RFID key number. fixed to '0000000000'
	1	Password is correct
	0	Input Wrong Password Times
	36	The serial number of the lock and unlock report
Sending Report Channel		
☑GPRS		

7.3 Command Response

For the response content of all commands sent through the GPS platform, please refer to the Section:9 GPS platform sends commands to device Response content.

8 Device Send short message to Authorized Phone numbers

8.1 Position data short message Format

Note: Refer to P02 -Query Current Position

Example:

8043396604 ,09-28 12:11:02,Speed:0km/h,Battery:85%,GPS:3,Lock Close, http://maps.google.com/?q=22.549737,114.076685

NO.	Field Name	Example	Description
1	Unit ID	8043396604	
2	Separator	,	
3	Date time	09-28 12:11:02	Sep. 28th 12:11:02 UTC time. Adjust this time by P10 command.
4	Separator	,	
5	GPS Speed	Speed:0km/h	
6	Separator	,	
7	Battery Level	Battery:85%	if charging power, will display: Charging
8	Separator	,	
9	Number of Capture satellites	GPS:3	Number of captured satellites
10	Separator	,	
11	Lock status	Lock Closed	Lock Status
12	Separator	“,”	
13	New line	0x0D 0x0A	Invisible character(New Line)
14	Google Map link	http://maps.google.com/?q=22.549737,114.076685	22.549737 indicate Latitude, positive value north latitude, negative value south latitude; 114.076685 indicate longitude, positive value East Longitude, negative value West longitude.

8.2 Alert data short message Format

Lock rope tamper Alert Format

ALM, Lock Rope Tamper, 8043396604 ,09-28 12:03:43,Battery:95%,GPS:3, Lock Closed,http://maps.google.com/?q=22.549737,114.076685

Swiping unauthorized RFID key Alert Format

ALM, Swiping unauthorized RFID key,8043396604 ,09-28 12:11:02,Battery:95%,GPS:3, Lock Closed,http://maps.google.com/?q=22.549332,114.076561

Unlocking Alert Format

ALM,Lock Open,8043396604 ,09-28 12:11:02,Battery:95%,GPS:3, Lock Open,http://maps.google.com/?q=22.549730,114.076615

Wrong Password Alert Format

ALM, Wrong Password,8043396604 ,09-28 12:11:02,Battery:95%,GPS:3, Lock Closed,http://maps.google.com/?q=22.549656,114.076564

Vibration Alert Format

ALM,Vibration,8043396604 ,09-28 04:31:32,Battery:66%,GPS:3, Lock Closed,http://maps.google.com/?q=22.549754,114.076250

Enter Geo-fence Alert Format

ALM,Enter Geo-fence,Fence Name:Home,8043396604 ,09-28 00:02:39,Battery:60%,GPS:3, Lock closed,http://maps.google.com/?q=22.549737,114.076685

Exit Geo-fence Alert Format

ALM, Exit Geo-fence,Fence Name:Company,8043396604 ,09-28 03:21:45,Battery:58%,GPS:3, Lock closed,http://maps.google.com/?q=22.549737,114.076685

Low Battery Alert Format

ALM,Low Battery, 8043396604 ,09-28 03:27:48,Battery:15%,GPS:3, Lock closed,http://maps.google.com/?q=22.549736,114.076588

Back cover Opened Alert Format

ALM,Back Cover Opened,8043396604 ,09-28 03:27:48,Battery:58%,GPS:3, Lock closed,http://maps.google.com/?q=22.549736,114.076677

Motor Fault Alert Format

ALM,Moter Fault,8043396604 ,09-28 03:27:48,Battery:58%,GPS:3, Lock closed,http://maps.google.com/?q=22.549736,114.076677

No.	Field Name	Example	Description
1	Header	ALM	
2	Alert type	Lock Rope Tamper	
3	separator	,	
4	Unit ID	8043396604	
5	separator	,	

6	Date time	08-28 12:03:43	Aug 28th 12:03:43 UTC time. Adjust this time by P10 command.
7	separator	,	
8	Battery	Battery:85%	
9	separator	,	
10	GPS signal	GPS:3	Number of captured satellites
11	Separator	,	
12	Lock open/close status	Lock closed	Lock Status
13	separator	,	
14	carriage return-linefeed	0x0D 0x0A	Invisible character(New Line)
15	Google Map link	http://maps.google.com/?q=22.549737,114.076685	22.549737 mean latitude. Positive value is North latitude, negative value is South latitude. 114.076685 mean longitude. Positive value is East longitude, Negative value is West longitude

8.3 Command Response short message Format

For the response content of all commands sent through authorized Phone Numbers, please refer to the Section:9 GPS platform sends commands to device Response content.

Note: Short message and GPRS command response content format are the same.

9 GPS Platform Send Commands to Device

Command Word List(ASCII)

Command Word	Description
P00	Set/query Working Mode
P01	Query Device Firmware Version
P02	Query Current Position.
P04	Set /Query Position data reporting time interval after device wake up and Device Timing wake up interval
P06	Set/query SIM1 and SIM2 Communication Parameters
P09	Set/query GPS and GSM indicators Control
P10	Set /query the time difference of short message Position data
P11	Set /query Authorized Phone Numbers that used to receive alert message /short message position data or sending SMS commands.
P12	Enable or Disable the device to send SMS alerts to the specified Authorized Phone Numbers.
P13	Restore factory setting of device. All parameters will be recovered to factory setting exclude Host IP address, port, APN, Authorized Phone numbers.
P14	Query device's IMEI number
P15	Reboot the device remotely. the device will restart after 30 sec when received this command.
P22	Do time synchronization When the device continues to report invalid GPS signals and GPS time in the Position data
P24	Set /query geo-fence name and enable/disable one of the geo-fence
P29	Set or query the Fence Nodes of The Polygon Geo-fence
P30	Delete fence Node information and geo-fence name for a fence ID
P31	Inform the device that GPS platform/Serial port side has finished setting this Geo-fence, it can detect geo-fence alert now.
P32	Force the device to go to sleep.
P35	Acknowledge the alert or position data at GPS platform.
P36	Set /query Vibration sensitivity coefficient threshold of Vibration alert.
P37	Set /query Vibration Sensitivity Coefficient of Motion state detection. The smaller the acceleration value, the easier it is to detect the Motion state.
P38	Set /query Interval of Unlocking alert.
P39	Set /query working time after waking up
P40	Set/query alert switch. The device supports 10 types of alerts. They are Lock rope tamper, swiping unauthorized RFID key, unlocking, wrong password, vibration, enter geo-fence, exit geo-fence, low battery, Back cover Opened and Motor Fault alerts

P41	Authorized RFID key Management
P43	Unlock device by password.
P44	Change the unlock password.
P46	Acknowledge the Lock and Unlock Report data at GPS platform.
P50	Enable or Disable the power switch on device mainboard.
P97	Change the data acknowledgement mechanism. By default, all alert data and lock/unlock report - (P45) require the GPS platform to acknowledge them, otherwise the data will continue to be sent. With this command, you can configure these data without platform confirmation, or configure the maximum number of reports when the platform does not respond correctly.
P99	Upgrade the Device's Firmware over the air.
P100	Query device real-time status and GSM module version (2G/3G/4G)
P106	Set/Query Can Unlock In The polygon Geo-fence
P108	Set/Query Can Unlock In The POI(Point of Interest)
P109	Set/Query The OPENAPP POI(Point of Interest)

P00- Set working mode

Command Description			
This command is used to set /query the working mode of the device. SMS mode need STM8 chip version after **190418_V1.0**			
Syntax			
Read Command	(P00,<Action>)		
Response	(<Unit ID>,P00,<Working mode>)		
Write Command	(P00,<Action>,< Working mode >)		
Response	(<Unit ID>,P00,<Working mode>)		
Parameter Description			
Parameters	**Description**	**Value Range**	**Default**
<Action>	0 Query the previous setting 1 Write the Parameters	0~1	
<Working mode>	0 SMS mode 1 Power saving mode 2 Real-time tracking mode	0~2	1
Example			
Query Working mode			
Read Command	(P00,0)		
Response	(8043396604,P00,1)		
Response Description	**Content**	**Description**	
	8043396604	Unit ID	
	P00	Command Word	
	1	Working mode: Power saving mode	
Set Working mode to Real-time tracking mode			
Write Command	(P00,1,2)		
Response	(8043396604,P00,2)		
Response Description	**Content**	**Description**	
	8043396604	Unit ID	
	P00	Command Word	
	2	Working mode: Real-time tracking mode	
Sending Command Channel			
☑GPRS ☑SMS ☑USB			

P01-Query firmware version

Command Description			
Query Device Firmware Version			
Syntax			
Read Command	(P01)		
Response	(<Unit ID>,P01,<Firmware version>)		
Parameter Description			
Parameters	**Description**	**Value Range**	**Default**
<Firmware version>	Device Firmware version		
Example			
Query Device Firmware Version			
Read Command	(P01)		
Response	(8043396604,P01,PL610S__2019-03-13_13:41:57_V1.0)		
Response Description	**Content**	**Description**	
	8043396604	Unit ID	
	P01	Command Word	
	PL610S 2019-03-13_13:41:57_V1.0	Firmware version	
Sending Command Channel			
☑GPRS ☑SMS ☑USB			

P02-Query Current Position

Command Description

Query Current Position.

The device will respond the Position data(short message) to the Authorized Phone Number 1 if send this command via GPRS/Cellular Network; will respond the Position data(short message) to the Sending Authorized Phone Number if send this command via one of the Authorized Phone Number. The short message Position data format, Refer to Section 8.1 Position data short message format

Syntax

Read Command	(P02)
Response	<Unit ID>,<Date time>,<GPS Speed>,<Battery Level>,<Number of Capture satellites>,<Lock Status>,<Google Map link>

Parameter Description

Parameters	Description	Value Range	Default
<Unit ID>	Device ID last 10 digit numbers of IMEI		
<Date time>	Report Date time. Format: MM-DD HH:MM:SS Adjust the Time difference of the short message by P10 command.		
<GPS Speed>	GPS speed . in KM/H		
<Battery Level>	Battery Level .	1%~100%	
<Number of Capture satellites>	Number of captured satellites.		
<Lock Status>	Lock Status. Locked or Unlocked		
<Google Map link>	Google Map link. Copy this link to Browser to check Detailed location.		

Example

Query Current Position

Read Command	(P02)	
Response	8043396604,11-30 12:00:00,Speed:10km/h,Battery:50%,GPS:7,Lock Closed, http://maps.google.com/?q=22.549737,114.076685	
Response Description	**Content**	**Description**
	8043396604	Unit ID
	11-30 12:00:00	November 30th 12:00:00
	Speed:10km/h	GPS speed is 10km/h
	Battery:50%	Battery Level is 50%
	GPS:7	Number of captured satellites .7
	Lock Closed	Lock Status. Currently, It's Locked.
	http://maps.google.com/?q=22.549737,114.076685	Google Map link

Sending Command Channel

☑GPRS ☑SMS ☑USB

P04-Set/Query Position Data Reporting Time interval and Timing wake up interval

Command Description			
This command is used to set /query Position data reporting time interval after device wake up and Device Timing wake up interval			
Syntax			
Read Command	(P04,<Action>)		
Response	(<Unit ID>,P04, <Reporting time interval>,<Timing wake up interval>)		
Write Command	(P04,<Action>,<Reporting time interval>,<Timing wake up interval>)		
Response	(<Unit ID>,P04,<Reporting time interval>,<Timing wake up interval>)		
Parameter Description			
Parameters	**Description**	**Value Range**	**Default**
<Action>	0 Query the previous setting 1 Write the Parameters	0~1	
<Reporting time interval>	Position data reporting time interval after wake up. unit in seconds	5~600	30
<Timing wake up interval>	Timing wake up interval.unit in minutes	30~1440	30
Example			
Query Position data reporting time interval after wake up and Timing wake up interval			
Read Command	(P04,0)		
Response	(8043396604,P04,30,30)		
Response Description	**Content**	**Description**	
	8043396604	Unit ID	
	P04	Command Word	
	30	Reporting time interval is 30 sec	
	30	Timing wake up interval is 30 minutes.	
Set Position data reporting time interval to 60 sec , and Timing wake up interval to 120 minutes.			
Write Command	(P04,1,60,120)		
Response	(8043396604,P04,60,120)		
Response Description	**Content**	**Description**	
	8043396604	Unit ID	
	P04	Command Word	
	60	Reporting time interval is 60 sec	
	120	Timing wake up interval is 120 minutes.	
Sending Command Channel			
☑GPRS ☑SMS ☑USB			

P06-Set/Query SIM1 and SIM2 Communication Parameters

P06-Set/Query SIM1's IP Port and GPRS/Cellular network Parameters

Command Description			
This command is used to set /query SIM Card 1's host IP address(Domain Name)/Port/APN and APN account. Note: The device can be installed with two Micro SIM cards and supports the dual SIM single standby mode. The device will automatically select a SIM card to register the network.			
Syntax			
Read Command	(P06,<Action>)		
Response	(<Unit ID>,P06,<Host IP address/Domain Name>,<TCP port>,<APN>,<APN user>,<APN pass>,<SIM card Number>)		
Write Command	(P06,<Action>,<Host IP address/Domain Name>,<TCP port>,<APN>,<APN user>,<APN pass>,<SIM card Number>)		
Response	(<Unit ID>,P06,<Host IP address/Domain Name>,<TCP port>,<APN>,<APN user>,<APN pass>,<SIM card Number>)		
Parameter Description			
Parameters	**Description**	**Value Range**	**Default**
<Action>	0 Query the previous setting 1 Write the Parameters	0~1	
<Host IP address/Domain Name>	Hosting IP address: 58.61.154.231 Domain Name: dxapi.trac4you.com		58.61.154.231
<TCP port>	TCP Port number of the remote host server.	0~65530	12000
<APN>	Access Point Name. e.g. China Mobile APN is cmnet	Up to 50 characters	cmnet
<APN user>	The APN username to access GPRS network.	Up to 50 characters	
<APN pass>	The APN password to access GPRS network.	Up to 50 characters	
<SIM card Number>	SIM card Number. 0 SIM1 1 SIM2	0~1	0
Example			
query SIM Card 1's host IP address(Domain Name)/Port/APN and APN account			
Read Command	(P06,0)		
Response	(8043396604,P06,58.61.154.231,11006,cmnet,,,0) or (8043396604,P06,dxapi.trac4you.com,11006,cmnet,,,0)		
Response Description	**Content**	**Description**	
	8043396604	Unit ID	
	P06	Command Word	
	58.61.154.231	Host IP address	

	dxapi.trac4you.com	Domain Name
	11006	TCP port
	cmnet	APN Note: here ,no APN account. Keep the APN user and pass blank
	0	SIM card 1
Set SIM Card 1's host IP address: 211.136.214.222 ,TCP port: 1156 , APN: internet ,APN user: gprs APN pass: web		
Write Command	(P06,1,211.136.214.222,1156,internet,gprs,web)	
Response	(8043396604,P06,211.136.214.222,1156,internet,gprs,web,0)	
Response Description	**Content**	**Description**
	8043396604	Unit ID
	P06	Command Word
	211.136.214.222	Host IP address
	1156	TCP port
	internet	APN
	gprs	APN username
	web	APN password
	0	SIM card 1
Set SIM Card 1's host Domain Name : dxapi.trac4you.com ,TCP port: 1156 , APN: internet ,APN user and pass are blank.		
Write Command	(P06,1,dxapi.trac4you.com,1156,internet,,)	
Response	(8043396604,P06,dxapi.trac4you.com,1156,internet,,,0)	
Response Description	**Content**	**Description**
	8043396604	Unit ID
	P06	Command Word
	dxapi.trac4you.com	Domain Name
	1156	TCP port
	internet	APN .
		APN username is blank
		APN password is blank
	0	SIM card 1
Sending Command Channel		
☑GPRS ☑SMS ☑USB		

P06-Set/Query SIM2's IP Port and GPRS/Cellular network Parameters

Command Description			
This command is used to set /query SIM Card 2's host IP address(Domain Name)/Port/APN and APN account. Note: The device can be installed with two Micro SIM cards and supports the dual SIM single standby mode. The device will automatically select a SIM card to register the network.			
Syntax			
Read Command	(P06, <Action>)		
Response	(<Unit ID>,P06,<Host IP address/Domain Name>,<TCP port>,<APN>,<APN user>,<APN pass>,<SIM card Number>)		
Write Command	(P06,<Action>,<Host IP address/Domain Name>,<TCP port>,<APN>,<APN user>,<APN pass>,<SIM card Number>)		
Response	(<Unit ID>,P06,<Host IP address/Domain Name>,<TCP port>,<APN>,<APN user>,<APN pass>,<SIM card Number>)		
Parameter Description			
Parameters	**Description**	**Value Range**	**Default**
<Action>	2 Query the previous setting 3 Write the Parameters	2~3	
<Host IP address/Domain Name>	Hosting IP address: 58.61.154.231 Domain Name: dxapi.trac4you.com		58.61.154.231
<TCP port>	TCP Port number of the remote host server.	0~65530	12000
<APN>	Access Point Name. e.g. China Mobile APN is cmnet	Up to 50 characters	cmnet
<APN user>	The APN username to access GPRS network.	Up to 50 characters	
<APN pass>	The APN password to access GPRS network.	Up to 50 characters	
<SIM card Number>	SIM card Number. 0 SIM1 1 SIM2	0~1	1
Example			
query SIM Card 2's host IP address(Domain Name)/Port/APN and APN account			
Read Command	(P06,2)		
Response	(8043396604,P06,58.61.154.231,11006,cmnet,,,1) or (8043396604,P06,dxapi.trac4you.com,11006,cmnet,,,1)		
Response Description	**Content**	**Description**	
	8043396604	Unit ID	
	P06	Command Word	
	58.61.154.231	Host IP address	
	dxapi.trac4you.com	Domain Name	
	11006	TCP port	
	cmnet	APN .	

		Note: here ,no APN account. Keep the APN
		user and pass blank
	1	SIM card 2
Set SIM Card 2's host IP address: 211.136.214.222 ,TCP port: 1156 , APN: internet ,APN user: gprs APN pass: web		
Write Command	(P06,3,211.136.214.222,1156,internet,gprs,web)	
Response	(8043396604,P06,211.136.214.222,1156,internet,gprs,web,0)	
Response Description	**Content**	**Description**
	8043396604	Unit ID
	P06	Command Word
	211.136.214.222	Host IP address
	1156	TCP port
	internet	APN .
	gprs	APN username
	web	APN password
	1	SIM card 2
Set SIM Card 2's host Domain Name : dxapi.trac4you.com ,TCP port: 1156 , APN: internet ,APN user and pass are blank.		
Write Command	(P06,3,dxapi.trac4you.com,1156,internet,,)	
Response	(8043396604,P06,dxapi.trac4you.com,1156,internet,,,1)	
Response Description	**Content**	**Description**
	8043396604	Unit ID
	P06	Command Word
	dxapi.trac4you.com	Domain Name
	1156	TCP port
	internet	APN .
		APN username is blank
		APN password is blank
	1	SIM card 2
Sending Command Channel		
☑GPRS ☑SMS ☑USB		

P09-Turn On/Off GPS and GSM indicator

Command Description			
This command is used to turn on or turn off GPS and GSM indicators. After turn off the GPS and GSM indicators, they will remain off regardless of whether the device is working properly or not. After turn on them, they will continue to work according to the original indicator definition state mode.			
Syntax			
Read Command	(P09,<Action>)		
Response	(<Unit ID>,P09,<Turn On/Off indicator>)		
Write Command	(P09,<Action>,<Turn On/Off indicator>)		
Response	(<Unit ID>,P09,<Turn On/Off indicator>)		
Parameter Description			
Parameters	**Description**	**Value Range**	**Default**
<Action>	0 Query the previous setting 1 Write the Parameters	0~1	
<Turn On/Off indicator>	0 indicates Turn off GPS and GSM indicators; 1 indicates Turn on GPS and GSM indicators	0~1	1
Example			
Query GPS and GSM indicators Control Status			
Read Command	(P09,0)		
Response	(8043396604,P09,1)		
Response Description	**Content**	**Description**	
	8043396604	Unit ID	
	P09	Command Word	
	1	Turn on GPS and GSM indicators	
Turn off GPS and GSM indicators			
Write Command	(P09,1,0)		
Response	(8043396604,P09,0)		
Response Description	**Content**	**Description**	
	8043396604	Unit ID	
	P09	Command Word	
	0	Turn off GPS and GSM indicators	
Sending Command Channel			
☑GPRS ☑SMS ☑USB			

P10-Set/Query the time difference of GPRS position data and SMS alert

Command Description			
This command is used to set /query the time difference of GPRS position data and SMS alert.			
Syntax			
Read Command	(P10,<Action>)		
Response	(<Unit ID>,P10,<GPRS/SMS time difference>)		
Write Command	(P10,<Action>,<time difference>)		
Response	(<Unit ID>,P10, <GPRS/SMS time difference>)		
Parameter Description			
Parameters	**Description**	**Value Range**	**Default**
<Action>	0 Query the previous setting (GPRS) 1 Write the Parameters (GPRS) 2 Query the previous setting (SMS) 3 Write the Parameters (SMS)	0~3	
<GPRS time difference> Or <SMS time difference>	the time difference of short message Position data. Unit in minutes. E.g. UTC +08:00 8*60=480 UTC -05:30 5*60+30=-330	-720~780	0
Example			
Query the time difference of GPRS Position data			
Read Command	(P10,0)		
Response	(8043396604,P10,480)		
Response Description	**Content**	**Description**	
	8043396604	Unit ID	
	P10	Command Word	
	480	GPRS time difference. UTC+08:00	
Set the time difference of GPRS Position data to UTC -03:00. time difference is -180			
Write Command	(P10,1,-180)		
Response	(8043396604,P10,-180)		
Response Description	**Content**	**Description**	
	8043396604	Unit ID	
	P10	Command Word	
	-180	GPRS time difference. UTC-03:00	
Query the time difference of SMS alert			
Read Command	(P10,2)		
Response	(8043396604,P10,480)		

Response Description	**Content**	**Description**
	8043396604	Unit ID
	P10	Command Word
	480	SMS time difference. UTC+08:00
Set the time difference of SMS alert to UTC -03:00. time difference is -180		
Write Command	(P10,3,-180)	
Response	(8043396604,P10,-180)	
Response Description	**Content**	**Description**
	8043396604	Unit ID
	P10	Command Word
	-180	SMS time difference. UTC-03:00
Sending Command Channel		
☑GPRS ☑SMS ☑USB		

P11-Set/Query Authorized Phone Numbers

Command Description			
This command is used to set /query Authorized Phone Numbers that used to receive alert message /short message position data or sending SMS commands. The device does not respond when the mobile number is not registered.			
Syntax			
Read Command	(P11,<Action>,<Authorized Phone number index>)		
Response	(<Unit ID>,P11,<Authorized Phone number index>,<Authorized Phone number>)		
Write Command	(P11,<Action>,<Authorized Phone number index>,<Authorized Phone number >)		
Response	(<Unit ID>,P11,<Authorized Phone number index>,<Authorized Phone number >)		
Parameter Description			
Parameters	**Description**	**Value Range**	**Default**
<Action>	0 Query the previous setting 1 Write the Parameters	0~1	
<Authorized Phone number index>	Up to 5 Authorized Phone numbers.	1~5	0
<Authorized Phone number>	phone number, can not exceed 15 digit numbers, add country code at front, e.g. China is 86 or +86.		
Example			
Query The first Authorized Phone number			
Read Command	(P11,0,1)		
Response	(8043396604,P11,1,8615017931001)		
Response Description	**Content**	**Description**	
	8043396604	Unit ID	
	P11	Command Word	
	1	Index, Authorized Phone number1	
	8615017931001	Authorized Phone number	
Set the Authorized Phone number 2 to 8615017931001			
Write Command	(P11,1,2,8615017931001)		
Response	(8043396604,P11,2,8615017931001)		
Response Description	**Content**	**Description**	
	8043396604	Unit ID	
	P11	Command Word	
	2	Index, Authorized Phone number2	
	8615017931001	Authorized Phone number	
Sending Command Channel			
☑GPRS ☑SMS ☑USB			

P12-Enable or Disable the device to send SMS alerts to the specified Authorized Phone number

Command Description	
This command is used to enable or disable the device to send SMS alerts to the specified Authorized Phone Number. by default, The device only sends SMS alert information to Authorized Phone Number1 and Authorized Phone Number 2.	
Syntax	
Read Command	(P12,<Action>)
Response	(<Unit ID>,P12,<Enable/Disable Phone Number1>,<Enable/Disable Phone Number2>,<Enable/Disable Phone Number3>,<Enable/Disable Phone Number 4>,<Enable/Disable Phone Number5>)
Write Command	(P12,<Action>,<Enable/Disable Phone Number1>,<Enable/Disable Phone Number2>,<Enable/Disable Phone Number3>,<Enable/Disable Phone Number 4>,<Enable/Disable Phone Number5>)
Response	(<Unit ID>,P12,<Enable/Disable Phone Number1>,<Enable/Disable Phone Number2>,<Enable/Disable Phone Number3>,<Enable/Disable Phone Number 4>,<Enable/Disable Phone Number5>)

Parameter Description

Parameters	Description	Value Range	Default
<Action>	0 Query the previous setting 1 Write the Parameters	0~1	
<Enable/Disable Phone Number1>	0 indicates Disable the device to send SMS alerts to the specified Authorized Phone number1; 1 indicates Enable the device to send SMS alerts to the specified Authorized Phone number 1.	0~1	1
<Enable/Disable Phone Number2>	0 indicates Disable the device to send SMS alerts to the specified Authorized Phone number 2; 1 indicates Enable the device to send SMS alerts to the specified Authorized Phone number 2.	0~1	1
<Enable/Disable Phone Number3>	0 indicates Disable the device to send SMS alerts to the specified Authorized Phone number 3; 1 indicates Enable the device to send SMS alerts to the specified Authorized Phone number 3.	0~1	0
<Enable/Disable Phone Number4>	0 indicates Disable the device to send SMS alerts to the specified Authorized Phone number 4; 1 indicates Enable the device to send SMS alerts to the specified Authorized Phone number 4.	0~1	0
<Enable/Disable Phone Number5>	0 indicates Disable the device to send SMS alerts to the specified Authorized Phone number 5; 1 indicates Enable the device to send SMS alerts to the specified Authorized Phone number 5.	0~1	0

Example

Query the configuration of the Authorized Phone number receiving SMS alert		
Read Command	(P12,0)	
Response	(8043396604,P12,1,1,0,0,0)	
Response Description	**Content**	**Description**
	8043396604	Unit ID
	P12	Command Word
	1	Authorized Phone number1 Enable to accept SMS alert
	1	Authorized Phone number2 Enable to accept SMS alert
	0	Authorized Phone number3 Disable to accept SMS alert
	0	Authorized Phone number4 Disable to accept SMS alert
	0	Authorized Phone number5 Disable to accept SMS alert
Set the specified Authorized Phone number 1,2,3 to accept the SMS alert		
Write Command	(8043396604,P12,1,1,1,1,0,0)	
Response	(8043396604,P12,1,1,1,0,0)	
Response Description	**Content**	**Description**
	8043396604	Unit ID
	P12	Command Word
	1	Authorized Phone number1 Enable to accept SMS alert
	1	Authorized Phone number2 Enable to accept SMS alert
	1	Authorized Phone number3 Enable to accept SMS alert
	0	Authorized Phone number4 Disable to accept SMS alert
	0	Authorized Phone number5 Disable to accept SMS alert

Sending Command Channel

☑GPRS ☑SMS ☑USB

P13-Restore Factory setting

Command Description			
Restore factory setting of device. All parameters will be recovered to factory setting exclude Host IP address, port, APN, Authorized Phone numbers.			
Syntax			
Read Command	(P13)		
Response	(<Unit ID>,P13)		
Parameter Description			
Parameters	**Description**	**Value Range**	**Default**
-	-	-	-
Example			
Restore factory setting of device			
Read Command	(P13)		
Response	(8043396604,P13)		
Response Description	**Content**	**Description**	
	8043396604	Unit ID	
	P13	Command Word	
Sending Command Channel			
☑GPRS ☑SMS ☑USB			

P14-Read device's IMEI number

Command Description			
Query device's IMEI number			
Syntax			
Read Command	(P14)		
Response	(8043396604,P14,860298043396604)		
Parameter Description			
Parameters	**Description**	**Value Range**	**Default**
-	-	-	-
Example			
Query device's IMEI number			
Read Command	(P14)		
Response	(8043396604,P14,860298043396604)		
Response Description	**Content**	**Description**	
	8043396604	Unit ID	
	P14	Command Word	
	860298043396604	IMEI	
Sending Command Channel			
☑GPRS ☑SMS ☑USB			

P15-Reboot the device remotely

Command Description			
Reboot the device remotely. the device will restart after 30 sec when received this command.			
Syntax			
Read Command	(P15)		
Response	(8043396604,P15)		
Parameter Description			
Parameters	**Description**	**Value Range**	**Default**
-	-	-	-
Example			
Reboot the device remotely			
Read Command	(P15)		
Response	(8043396604,P15)		
Response Description	**Content**	**Description**	
	8043396604	Unit ID	
	P15	Command Word	
Sending Command Channel			
☑GPRS ☑SMS ☑USB			

P22-Time Synchronization

Command Description			
This command is used to do time synchronization When the device continues to report invalid GPS signals and GPS time in the Position data. If the device is currently acquiring GPS signals normally, this command will not take effect.			
Syntax			
Write Command	(P22,<Date Time>)		
Response	(<Unit ID>,P22,<Successful/failed>)		
Parameter Description			
Parameters	**Description**	**Value Range**	**Default**
<Date Time>	Year/Month/Day/Hour/Minute/Second, and it is UTC time. Format as below: YYYYMMDDHHMMSS		
<successful/failed>	1 indicates successful; 0 indicates failed	0~1	
Example			
Set the device's Position data's Date time to 2019/03/18 16:43:28 (UTC)			
Write Command	(P22,20190318164328)		
Response	(8043396604,P22,1)		
Response Description	**Content**	**Description**	
	8043396604	Unit ID	
	P22	Command Word	
	1	Set successfully; if this value is 0 ,means Set unsuccessfully.	
Sending Command Channel			
☑GPRS ☑SMS ☑USB			

P32-Force the device to go to sleep

Command Description			
This command is used to force the device to go to sleep. **Note**: After the device receives this command for 30 seconds, it goes to sleep. If the current device is in the process of unlocking or locking, wait for the operation to end, then go to sleep again.			
Syntax			
Write Command	(P32)		
Response	(<Unit ID>,P32)		
Parameter Description			
Parameters	**Description**	**Value Range**	**Default**
-	-		
Example			

Force the device to go to sleep

Write Command	(P32)	
Response	(8043396604,P32)	
Response Description	**Content**	**Description**
	8043396604	Unit ID
	P32	Command Word

Sending Command Channel

☑GPRS ☑SMS ☑USB

P35-Acknowledge Command to receive Alert and Position data

Command Description			
This command is used to acknowledge the alert or position data at GPS platform. **Note: T**he device will keep on sending the same alert or position data if didn't receive the acknowledge command from GPS platform . Whether the position data need to be acknowledge need to decode the ACK bit in Position data.			
Syntax			
Write Command	(P35)		
Response	(<Unit ID>,P35)		
Parameter Description			
Parameters	**Description**	**Value Range**	**Default**
-	-		
Example			
GPS platform send below command to acknowledge the alert or position data from device side.			
Write Command	(P35)		
Response	(8043396604,P35)		
Response Description	**Content**	**Description**	
	8043396604	Unit ID	
	P35	Command Word	
Sending Command Channel			
☑GPRS ☑SMS ☑USB			

P36-Set/Query Vibration Sensitivity Coefficient threshold of Vibration alert and repeated interval

Command Description			
This command is used to set /query Vibration sensitivity coefficient threshold of Vibration alert. And minimum time interval for repeated vibration alarms. The greater the acceleration value, the harder it is to detect the vibration alarm.			
Syntax			
Read Command	(P36,<Action>)		
Response	(<Unit ID>,P36,<Acceleration threshold/interval for repeated>)		
Write Command	(P36,<Action>,< Acceleration threshold/interval for repeated>)		
Response	(<Unit ID>,P36, <Acceleration threshold/interval for repeated>)		
Parameter Description			
Parameters	**Description**	**Value Range**	**Default**
<Action>	0 Query the previous setting 1 Write the Parameters 2 Query the interval for repeated vibration alarms 3 Write the interval for repeated vibration alarms	0~3	
<Acceleration threshold>	Vibration alert acceleration threshold. The greater the acceleration value, the harder it is to detect the vibration alarm. Unit in mg. suggest 500 to 900mg. default 500 mg.	500~8000	500
<interval for repeated>	Minimum time interval for repeated vibration alarms. The unit is seconds. Default 600 seconds.	1~65535	600
Example			
Query Vibration sensitivity coefficient threshold of Vibration alert.			
Read Command	(P36,0)		
Response	(8043396604,P36,500)		
Response Description	**Content**	**Description**	
	8043396604	Unit ID	
	P36	Command Word	
	500	Vibration alert acceleration threshold.500mg	
Set Vibration sensitivity coefficient threshold of Vibration alert to 700mg			
Write Command	(P36,1,700)		
Response	(8043396604,P36,700)		
Response Description	**Content**	**Description**	
	8043396604	Unit ID	
	P36	Command Word	
	700	Vibration alert acceleration threshold.700mg	

Query the interval for repeated vibration alarms		
Read Command	(P36,2)	
Response	(8043396604,P36,600)	
Response Description	**Content**	**Description**
	8043396604	Unit ID
	P36	Command Word
	600	Minimum time interval for repeated vibration alarms.600 seconds.
Query the interval for repeated vibration alarms		
Write Command	(P36,3,60)	
Response	(8043396604,P36,60)	
Response Description	**Content**	**Description**
	8043396604	Unit ID
	P36	Command Word
	60	Minimum time interval for repeated vibration alarms.60 seconds.
Sending Command Channel		
☑GPRS ☑SMS ☑USB		

P37-Set/Query Vibration Sensitivity Coefficient of Motion state detection

Command Description			
This command is used to set /query Vibration Sensitivity Coefficient of Motion state detection. The smaller the acceleration value, the easier it is to detect the Motion state. **Note:** if the motion acceleration value is 0 ,means disable motion detection function. And Vibration or Moving can't be wake up the device in future. Restore this function by setting other motion acceleration values.			
Syntax			
Read Command	(P37,<Action>)		
Response	(<Unit ID>,P37,<Acceleration threshold>)		
Write Command	(P37,<Action>,< Acceleration threshold>)		
Response	(<Unit ID>,P37,< Acceleration threshold>)		
Parameter Description			
Parameters	**Description**	**Value Range**	**Default**
<Action>	0 Query the previous setting 1 Write the Parameters	0~1	
<Motion Acceleration Value>	Vibration Sensitivity Coefficient of Motion state detection. The smaller the acceleration value, the easier it is to detect the vibration. Unit in mg. suggest 63 to 500. default 126 mg. 0 indicates Disable motion detection function.	0 or 63~500	126
Example			
Query Vibration Sensitivity Coefficient of Motion state detection			
Read Command	(P37,0)		
Response	(8043396604,P37,126)		
Response Description	**Content**	**Description**	
	8043396604	Unit ID	
	P37	Command Word	
	126	Motion Acceleration Value.126mg	
Set Vibration Sensitivity Coefficient of Motion state detection to 63 mg			
Write Command	(P37,1,63)		
Response	(8043396604,P37,63)		
Response Description	**Content**	**Description**	
	8043396604	Unit ID	
	P37	Command Word	
	63	Motion Acceleration Value.63mg	
Sending Command Channel			
☑GPRS ☑SMS ☑USB			

P38-Set/Query Interval of Unlocking alert

Command Description			
This command is used to set /query Interval of Unlocking alert. When the device is unlocked, an unlock alert is generated immediately. When the device is always unlocked, you can set the alert to be reported again at this interval.			
Syntax			
Read Command	(P38,<Action>)		
Response	(<Unit ID>,P38,<Unlock alert interval>)		
Write Command	(P38,<Action>,< Unlock alert interval>)		
Response	(<Unit ID>,P38, <Unlock alert interval>)		
Parameter Description			
Parameters	**Description**	**Value Range**	**Default**
<Action>	0 Query the previous setting 1 Write the Parameters	0~1	
<Unlock alert interval>	Unlock alert interval. Unit in minutes.	3~180	120
Example			
Query Interval of Unlocking alert			
Read Command	(P38,0)		
Response	(8043396604,P38,120)		
Response Description	**Content**	**Description**	
	8043396604	Unit ID	
	P38	Command Word	
	120	Unlock alert interval.120 minutes	
Set Interval of Unlocking alert to 3 minutes			
Write Command	(P38,1,3)		
Response	(8043396604,P38,3)		
Response Description	**Content**	**Description**	
	8043396604	Unit ID	
	P38	Command Word	
	3	Unlock alert interval.3 minutes	
Sending Command Channel			
☑GPRS ☑SMS ☑USB			

P39-Set/Query Working time after waking up

Command Description

This command is used to set /query working time after waking up.

Note:

The device can be woken up by vibrating/swipe the RFID key/unlock (lock)/timed condition. For example, after the device vibration wakes up, it will work according to the preset working time. During the wake-up period, if the lock is unlocked, the time is accumulated again from the unlocking time; if it is continuously in the vibration state, the device continues to work until the device detects no wake-up condition, Then go to sleep.

Syntax

Read Command	(P39,<Action>)
Response	(<Unit ID>,P39,<Working time>)
Write Command	(P39,<Action>,<Working time>)
Response	(<Unit ID>,P39,<Working time>)

Parameter Description

Parameters	Description	Value Range	Default
<Action>	0 Query the previous setting 1 Write the Parameters	0~1	
< Working time>	Working time after waking up. Unit in minutes.	3~10	10

Example

Query Working time after waking up

Read Command	(P39,0)	
Response	(8043396604,P39,10)	
Response Description	**Content**	**Description**
	8043396604	Unit ID
	P39	Command Word
	10	Working time after waking up.10 minutes

Set Working time after waking up to 5 minutes

Write Command	(P39,1,5)	
Response	(8043396604,P39,5)	
Response Description	**Content**	**Description**
	8043396604	Unit ID
	P39	Command Word
	5	Working time after waking up .5 minutes

Sending Command Channel

☑GPRS ☑SMS ☑USB

P40-Set/Query Alert Switch

Command Description			
This command is used to set /query alert switch. The device supports 10 types of alerts. They are Lock rope tamper, swiping unauthorized RFID key, unlocking, wrong password, vibration, enter geo-fence, exit geo-fence, low battery, Back cover Opened and Motor Fault alerts.			
Syntax			
Read Command	(P40,<Action>)		
Response	(<Unit ID>,P40,<Lock rope tamper alert>,<Swiping unauthorized RFID key alert>,<Unlocking alert>,<Wrong password alert>,<Vibration alert>,<Enter geo-fence alert>,<Exit geo-fence alert >,<Low battery alert>,< Back cover Opened alert>,<Motor Fault alert>)		
Write Command	(P40,<Action>,<Lock rope tamper alert>,<Lock rope tamper alert>,<Swiping unauthorized RFID key alert>,<Unlocking alert>,<Wrong password alert>,<Vibration alert>,<Enter geo-fence alert>,<Exit geo-fence alert>,<Low battery alert>,< Back cover Opened alert>,<Motor Fault alert>)		
Response	(<Unit ID>,P40,<Lock rope tamper alert>,<Swiping unauthorized RFID key alert>,<Unlocking alert>,<Wrong password alert>,<Vibration alert>,<Enter geo-fence alert>,<Exit geo-fence alert >,<Low battery alert>,< Back cover Opened alert>,<Motor Fault alert>)		
Parameter Description			
Parameters	**Description**	**Value Range**	**Default**
<Action>	0 Query the previous setting 1 Write the Parameters	0~1	
<Lock rope tamper alert>	Lock rope tamper alert switch 0 indicates Disable alert transmitting via GPRS and SMS 1 indicates Enable alert transmitting via GPRS 2 indicates Enable alert transmitting via SMS 3 indicates Enable alert transmitting via GPRS and SMS	0~3	1
<Swiping unauthorized RFID key alert>	Swiping unauthorized RFID key alert switch 0 indicates Disable alert transmitting via GPRS and SMS 1 indicates Enable alert transmitting via GPRS 2 indicates Enable alert transmitting via SMS 3 indicates Enable alert transmitting via GPRS and SMS	0~3	1
<Unlocking alert>	Unlocking alert switch 0 indicates Disable alert transmitting via GPRS and SMS 1 indicates Enable alert transmitting via GPRS 2 indicates Enable alert transmitting via SMS 3 indicates Enable alert transmitting via GPRS and SMS	0~3	1
<Wrong password alert>	Wrong password alert switch: send the Unlock command with wrong password more than 5 times. 0 indicates Disable alert transmitting via GPRS and SMS 1 indicates Enable alert transmitting via GPRS 2 indicates Enable alert transmitting via SMS 3 indicates Enable alert transmitting via GPRS and SMS	0~3	1

<Vibration alert>	Vibration alert switch 0 indicates Disable alert transmitting via GPRS and SMS 1 indicates Enable alert transmitting via GPRS 2 indicates Enable alert transmitting via SMS 3 indicates Enable alert transmitting via GPRS and SMS	0~3	0
<Enter geo-fence alert>	Enter Geo-fence alert switch 0 indicates Disable alert transmitting via GPRS and SMS 1 indicates Enable alert transmitting via GPRS 2 indicates Enable alert transmitting via SMS 3 indicates Enable alert transmitting via GPRS and SMS	0~3	1
<Exit geo-fence alert>	Exit Geo-fence alert switch 0 indicates Disable alert transmitting via GPRS and SMS 1 indicates Enable alert transmitting via GPRS 2 indicates Enable alert transmitting via SMS 3 indicates Enable alert transmitting via GPRS and SMS	0~3	1
<Low battery alert>	Low Battery alert switch 0 indicates Disable alert transmitting via GPRS and SMS 1 indicates Enable alert transmitting via GPRS 2 indicates Enable alert transmitting via SMS 3 indicates Enable alert transmitting via GPRS and SMS	0~3	1
<Back cover Opened alert>	Back Cover Opened alert switch 0 indicates Disable alert transmitting via GPRS and SMS 1 indicates Enable alert transmitting via GPRS 2 indicates Enable alert transmitting via SMS 3 indicates Enable alert transmitting via GPRS and SMS	0~3	1
<Motor Fault alert>	Motor Fault alert switch 0 indicates Disable alert transmitting via GPRS and SMS 1 indicates Enable alert transmitting via GPRS 2 indicates Enable alert transmitting via SMS 3 indicates Enable alert transmitting via GPRS and SMS	0~3	1

Example

Query Alert switch setting

Read Command	(P40,0)	
Response	(8043396604,P40,1,0,1,1,0,1,1,1,1,1)	
Response Description	**Content**	**Description**
	8043396604	Unit ID
	P40	Command Word
	1	Enable Lock rope tamper alert transmitting via GPRS channel
	0	Disable Swiping unauthorized RFID key alert transmitting
	1	Enable Unlocking alert transmitting via GPRS channel
	1	Enable Wrong password alert transmitting via GPRS

		channel
	0	Disable Vibration alert transmitting
	1	Enable Enter geo-fence alert transmitting via GPRS channel
	1	Enable Exit geo-fence alert transmitting via GPRS channel
	1	Enable Low battery alert transmitting via GPRS channel
	1	Enable Back cover Opened alert transmitting via GPRS channel
	1	Enable Motor Fault alert transmitting via GPRS channel.
Set Alert switch For Each alert types		
Write Command	(P40,1,3,0,3,1,0,1,1,1,1,1)	
Response	(8043396604,P40,3,0,3,1,0,1,1,1,1,1)	
Response Description	**Content**	**Description**
	8043396604	Unit ID
	P40	Command Word
	3	Enable Lock rope tamper alert transmitting via GPRS and SMS channel
	0	Disable Swiping unauthorized RFID key alert transmitting
	3	Enable Unlocking alert transmitting via GPRS and SMS channel
	1	Enable Wrong password alert transmitting via GPRS channel
	0	Disable Vibration alert transmitting
	1	Enable Enter geo-fence alert transmitting via GPRS channel
	1	Enable Exit geo-fence alert transmitting via GPRS channel
	1	Enable Low battery alert transmitting via GPRS channel
	1	Enable Back cover Opened alert transmitting via GPRS channel
	1	Enable Motor Fault alert transmitting via GPRS channel.
Sending Command Channel		
☑GPRS ☑SMS ☑USB		

P41- Authorized RFID key Management

P41- Query Authorized RFID key

Command Description			
This command is used to query Authorized RFID key. A total of 50 RFID keys are supported and they are stored in three separate groups. Up to 20 RFID keys per group			
Syntax			
Read Command	(P41,<Action>,<Authorized RFID key group Index>)		
Response	(<Unit ID>,P41,<Authorized RFID key group Index>,<Total RFID keys in this group>,<Unlock RFID keys…>)		
Parameter Description			
Parameters	**Description**	**Value Range**	**Default**
<Action>	0 Query the previous setting	0	
<Authorized RFID key group Index>	A total of 200 RFID keys are supported and they are stored in three separate groups. Up to 20 RFID keys per group	1~10	
<Total RFID keys in this group>	Up to 20 RFID keys per group	0~20	
<Unlock RFID keys…>	The range of RFID key card number is: 0000000001~4294967295, no more than 10 Numbers, otherwise the input is considered invalid.	0000000001~ 4294967295	
Example			
Query All Authorized RFID keys in group 2.			
Read Command	(P41,0,2)		
Response	(8043396604,P41,2,3,0013953759,0013953758,0013953757)		
Response Description	**Content**	**Description**	
	8043396604	Unit ID	
	P41	Command Word	
	2	group 2	
	3	Total RFID keys in this group	
	0013953759,0013953758,0013953757	Unlock RFID keys	
Query All Authorized RFID keys in group 1 ,2 ...9,10			
Read Command	(P41,0,1) (P41,0,2) (P41,0,3) .... (P41,0,10)		
Response	**Note:** There is no newline in the actual received command content. The newline in the example is due to document layout.		

	First Group (8043396604,P41,1,20,0000000021,0000000022,0000000023,0000000024,0000000025,0000000026, 0000000027,0000000028,0000000029,0000000030,0000000031,0000000032,0000000033,0000000034, 0000000035,0000000036,0000000037,0000000038,0000000039,0000000040) Second Group (8043396604,P41,2,20,0000000041,0000000042,0000000043,0000000044,0000000045,0000000046, 0000000047,0000000048,0000000049,0000000050,0000000051,0000000052,0000000053,0000000054, 0000000055,0000000056,0000000057,0000000058,0000000059,0000000060) Third Group (8043396604,P41,3,10,0000000061,0000000062,0000000063,0000000064,0000000065,0000000066,0000000067, 0000000068,0000000069,0000000070)	
Response Description	**Content**	**Description**
	8043396604	Unit ID
	P41	Command Word
	1	group 1
	20	Total 20 RFID keys in this group
	0000000021,0000000022,0000000023…	Unlock RFID keys
Sending Command Channel		
☑GPRS ☑SMS ☑USB		

P41- Register(Add) Authorized RFID Key

Command Description			
This command is used to register Authorized RFID key. A total of 50 RFID keys are supported.			
Syntax			
Write Command	(P41,<Action>,<Add>,<Total of New added RFID keys>,< Unlock RFID keys…>)		
Response	(<Unit ID>,P41,<Add>,<Total RFID keys in Flash>)		
Parameter Description			
Parameters	**Description**	**Value Range**	**Default**
<Action>	1 indicates Write the Parameters	1	
<Add>	Register Unlock RFID key. 1 indicates Add	1	
<Total of New added RFID keys>	The number of new RFID keys added this time. Add up to 20 RFID keys at a time	1~20	
<Unlock RFID keys…>	The range of RFID key card number is: 0000000001~4294967295, no more than 10 Numbers, otherwise the input is considered invalid.	0000000001~ 4294967295	
<Total RFID keys in	Total RFID keys remaining in Flash after added.	0~200	

Flash>			

Example

Add RFID keys: 0013953759,0013953758,0013953757 as Unlock RFID key.		
Write Command	(P41,1,1,3,0013953759,0013953758,0013953757)	
Response	(8043396604,P41,2,3,0013953759,0013953758,0013953757)	
Response Description	**Content**	**Description**
	8043396604	Unit ID
	P41	Command Word
	1	Add operation
	3	Total 3 RFID keys remaining in Flash after added
Add 50 RFID keys as Authorized RFID keys		
Write Command	**Note:** When the instruction is actually sent, there should be no line breaks in the content of the instruction. The newline in the example is because of the need for document layout Add 20 RFID keys (P41,1,1,20,0000000021,0000000022,0000000023,0000000024,0000000025,0000000026,0000000027, 0000000028,0000000029,0000000030,0000000031,0000000032,0000000033,0000000034,0000000035, 0000000036,0000000037,0000000038,0000000039,0000000040) Add another 20 RFID keys (P41,1,1,20,0000000041,0000000042,0000000043,0000000044,0000000045,0000000046,0000000047, 0000000048,0000000049,0000000050,0000000051,0000000052,0000000053,0000000054,0000000055, 0000000056,0000000057,0000000058,0000000059,0000000060) Add last 10 RFID keys. Total supports 50 Unlock RFID keys (P41,1,1,10,0000000061,0000000062,0000000063,0000000064,0000000065,0000000066,0000000067, 0000000068,0000000069,0000000070) **.....**	

Response	(8043396604,P41,1,20) // Add 20 RFID keys
	(8043396604,P41,1,40) // Add another 20 RFID keys
	.....
	(8043396604,P41,1,200) // Add last 20 RFID keys. Total supports 200 Unlock RFID keys	

Response Description	**Content**	**Description**
	8043396604	Unit ID
	P41	Command Word
	1	Add operation
	40	Total 40 RFID keys remaining in Flash after added

Sending Command Channel

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P41- Delete Specified Authorized RFID key

Command Description			
This command is used to delete the specified Authorized RFID key.			
Syntax			
Write Command	(P41,<Action>,<Delete>,<Total number of RFID keys deleted>,< Unlock RFID keys…>)		
Response	(<Unit ID>,P41,<Delete>,<Total RFID keys in Flash>)		
Parameter Description			
Parameters	**Description**	**Value Range**	**Default**
<Action>	1 indicates Write the Parameters	1	
<Delete>	delete the specified Authorized RFID key. 2 indicates Delete	2	
<Total number of RFID keys deleted>	The total number of RFID keys deleted in this operation. Delete up to 20 RFID keys at a time	1~20	
<Unlock RFID keys…>	The range of RFID key card number is: 0000000001~4294967295, no more than 10 Numbers, otherwise the input is considered invalid.	0000000001~ 4294967295	
<Total RFID keys in Flash>	Total RFID keys remaining in Flash after deleted.	0~50	
Example			
Delete RFID keys: 0013953759,0013953758,0013953757			
Write Command	(P41,1,2,3,0013953759,0013953758,0013953757)		
Response	(8043396604,P41,2,47)		
Response Description	**Content**	**Description**	
	8043396604	Unit ID	
	P41	Command Word	
	2	Delete operation	
	47	Total 47 RFID keys remaining in Flash after deleted	
Delete 10 Authorized RFID keys			
Write Command	**Note:** When the instruction is actually sent, there should be no line breaks in the content of the instruction. The newline in the example is because of the need for document layout Delete 10 Authorized RFID keys **(P41,1,2,10,0000000021,0000000062,0000000063,0000000064,0000000065,0000000066,0000000067, 0000000068,0000000069,0000000070)**		
Response	(8043396604,P41,2,23)		
Response Description	**Content**	**Description**	
	8043396604	Unit ID	
	P41	Command Word	
	2	Delete operation	

	23	Total 23 RFID keys remaining in Flash after deleted
Sending Command Channel		
☑GPRS ☑SMS ☑USB		

P41- Delete All Authorized RFID keys in Device

Command Description			
This command is used to delete the Authorized RFID keys stored in device at once.			
Syntax			
Write Command	(P41,<Action>,<Delete All>)		
Response	(<Unit ID>,P41,<Delete>,<Total RFID keys in Flash>)		
Parameter Description			
Parameters	**Description**	**Value Range**	**Default**
<Action>	1 indicates Write the Parameters	1	
<Delete All>	delete all Authorized RFID keys. 3 indicates Delete All	3	
<Total RFID keys in Flash>	Total RFID keys remaining in Flash after deleted	0	
Example			
Delete All Authorized RFID keys			
Write Command	(P41,1,3)		
Response	(8043396604,P41,3,0)		
Response Description	**Content**	**Description**	
	8043396604	Unit ID	
	P41	Command Word	
	3	Delete All	
	0	Total 0 RFID keys remaining in Flash after deleted	
Sending Command Channel			
☑GPRS ☑SMS ☑USB			

P43-Unlock the device by Password

Command Description			
This command is used to unlock device by password. Default password is 888888			
Syntax			
Write Command	(P43,<Password>)		
Response	(<Unit ID>,P43,<Successful/failed>,<Wrong password times>)		
Parameter Description			
Parameters	**Description**	**Value Range**	**Default**
<Password>	The password to unlock this device.The password is fixed to a 6 arbitrary combination of characters.	6 characters	888888
<successful/failed>	1 indicates unlock successfully; 0 indicates failed	0~1	
<Wrong password times>	The number of times the unlock command was sent with the wrong password. More than 5 times, the device will trigger wrong password alert. This value is reset to 0 when the correct password is successfully entered.		
Example			
Unlock device by password			
Write Command	(P43,888888)		
Response	(8043396604,P43,1,0)		
Response Description	**Content**	**Description**	
	8043396604	Unit ID	
	P43	Command Word	
	1	1 indicates unlock successfully; 0 indicates failed	
	0	The number of times the unlock command was sent with the wrong password is 0. This value is reset to 0 when the correct password is successfully entered.	
Sending Command Channel			
☑GPRS ☑SMS ☑USB			

P44-Change the Unlock Password

Command Description			
This command is used to change the unlock password. Default password is 888888			
Syntax			
Write Command	(P44,<New Password>,<Old Password>)		
Response	(<Unit ID>,P44,<Successful/failed>)		
Parameter Description			
Parameters	**Description**	**Value Range**	**Default**
<New Password>	The new password to unlock this device. The password is fixed to a 6 arbitrary combination of characters.	6 characters	
<Old Password>	The new password to unlock this device. The password is fixed to a 6 arbitrary combination of characters.	6 characters	888888
<successful/failed>	1 indicates change password successfully; 0 indicates failed	0~1	
Example			
Change the unlock password			
Write Command	(P44,12#aAM,888888)		
Response	(8043396604,P44,1)		
Response Description	**Content**	**Description**	
	8043396604	Unit ID	
	P44	Command Word	
	1	1 indicates change password successfully; 0 indicates failed	
Sending Command Channel			
☑GPRS ☑SMS ☑USB			

P46-Acknowledge Command to receive Lock or Unlock Report

Command Description	
This command is used to acknowledge the Lock and Unlock Report data at GPS platform. **Note: T**he device will keep on sending the same Lock and Unlock Report data if didn't receive this acknowledge command from GPS platform .	
Syntax	
Write Command	(P46)
Response	(<Unit ID>,P46)
Parameter Description	

Parameters	Description	Value Range	Default
-	-		

Example

GPS platform send below command to acknowledge the Lock and Unlock Report data from device side

Write Command	(P46)	
Response	(8043396604,P46)	
Response Description	**Content**	**Description**
	8043396604	Unit ID
	P46	Command Word

Sending Command Channel

☑GPRS ☑SMS ☑USB

P50-Enable/Disable the Power Switch on Device Mainboard

Command Description

This command is used to enable or disable the power switch on device mainboard.

After Disable power switch function, The device can't be shut down by this power switch.

Syntax

Read Command	(P50,<Action>)
Response	(<Unit ID>,P50,<Enable/Disable Power Switch >)
Write Command	(P50,<Action>,<Enable/Disable Power Switch>)
Response	(<Unit ID>,P50,<Enable/Disable Power Switch >)

Parameter Description

Parameters	Description	Value Range	Default
<Action>	0 Query the previous setting 1 Write the Parameters	0~1	
<Enable/Disable Power Switch >	0 indicates Disable Power Switch function, The device can't be power off by this power switch.; 1 indicates Enable Power Switch function	0~1	1

Example

Query Power Switch Status

Read Command	(P50,0)	
Response	(8043396604,P50,1)	
Response Description	**Content**	**Description**
	8043396604	Unit ID
	P50	Command Word
	1	Enable Power Switch function

Disable Power Switch on device Mainboard

Write Command	(P50,1,0)	
Response	(8043396604,P50,0)	
Response Description	**Content**	**Description**
	8043396604	Unit ID
	P50	Command Word
	0	Disable Power Switch function
Sending Command Channel		
☑GPRS ☑SMS ☑USB		

P97-Set/Query Data Acknowledgement Mechanism

Command Description
This command is used to change the data acknowledgement mechanism. By default, all alert data and lock/unlock report -(P45) require the GPS platform to acknowledge them, otherwise the data will continue to be sent. With this command, you can configure these data without platform confirmation, or configure the maximum number of reports when the platform does not respond correctly.

Syntax	
Read Command	(P97,<Action>)
Response	(<Unit ID>,P97,<Data type>,<Enable/Disable>,<Repeat times>)
Write Command	(P97,<Action>,<Data type>,<Enable/Disable>,<Repeat times>)
Response	(<Unit ID>,P97,<Data type>,<Enable/Disable>,<Repeat times>)

Parameter Description

Parameters	**Description**	**Value Range**	**Default**
<Action>	0 Query the previous setting 1 Write the Parameters	0~1	
<Data type>	0 indicates Real time Position data 1 indicates Blind zone data 2 indicates Alert data Refer to Section 7.1 Position and Alert data No.5 3 indicates Lock and Unlock report-P45	0~3	
<Enable/Disable>	1 Indicates Enable acknowledgement mechanism. i.e. Set this data type require acknowledgement from GPS platform. 0 indicates Disable acknowledgement mechanism. i.e. Set this data type doesn't require acknowledgement from GPS platform. If this value is 0, the <Repeat times> parameter can be ignored	0~1	
<Repeat times>	0 means Repeat this report all the time if device do not receive the correct response command; 1~127 means Repeat Specified times, and then report the next data.	0~127	

Example

Query Blind zone data's data acknowledgement mechanism setting		
Read Command	(P97,0,1)	
Response	(8043396604,P97,1,0,0)	
Response Description	**Content**	**Description**
	8043396604	Unit ID
	P97	Command Word
	1	Data type: Blind zone data
	0	Disable acknowledgement mechanism If this value is 0, the <Repeat times> parameter can be ignored
	0	Repeat times
Query Lock and Unlock data's data acknowledgement mechanism setting		
Read Command	(P97,0,3)	
Response	(8043396604,P97,3,1,0)	
Response Description	**Content**	**Description**
	8043396604	Unit ID
	P97	Command Word
	3	Data type: Lock and Unlock data
	1	Enable acknowledgement mechanism
	0	Repeat this report all the time if device do not receive the correct response command
Disable Alert data acknowledgement mechanism		
Write Command	(P97,1,2,0,0)	
Response	(8043396604,P97,2,0,0)	
Response Description	**Content**	**Description**
	8043396604	Unit ID
	P97	Command Word
	2	Data type: Alert data
	0	Disable acknowledgement mechanism. If this value is 0, the <Repeat times> parameter can be ignored
	0	Repeat times

Sending Command Channel

☑GPRS ☑SMS ☑USB

P99-Firmware Upgrade over the air

Command Description			
This command is used to upgrade the device firmware the air. Need to contact sales to confirm the correct IP address and port			
Syntax			
Write Command	(P99,<OTA server IP>,<OTA server port>)		
Response	(<Unit ID>,P99)		
Parameter Description			
Parameters	**Description**	**Value Range**	**Default**
<OTA server IP>	Host Server IP that deploy OTA server software and specified firmware file		58.61.154.231
<OTA server port>	UDP port.		XXXX
Example			
Query Power Switch Status			
Write Command	(P99,58.61.154.231,1234)		
Response	(8043396604,P99)		
Response Description	**Content**	**Description**	
	8043396604	Unit ID	
	P99	Command Word	
Sending Command Channel			
☑GPRS ☑SMS ☑USB			

P100- Query device real-time status and GSM module version

Command Description			
This command is used to query device real-time status and GSM module version(2G/3G/4G)			
Syntax			
Read Command	(P100)		
Response	(<Unit ID>,P100,<status data...>)		
Parameter Description			
Parameters	**Description**	**Value Range**	**Default**
/	/	/	/
Example			
Query device real-time status and GSM module version			
Read Command	(P100)		
Response	(8043396604,P100,SIM:1,CG:1,CSQ:22,MV:UC15EQAR03A10E1G,MS:7,IP:58.61.154.231,1234,Loc:1,Sat:11,Lock:1,Mil:10546,His:0,Rc:0,Volt:4082,90%,Chg:0,Tmp:37)		
Response	**Content**	**Description**	

Description	8043396604	Unit ID
	P100	Command Word
	SIM	Working SIM card slot: 1 mean's SIM Card slot 1 is working. The value is1 or 2
	CG	Network registration status 1: registered local network 2: unregistered, in search 3; registration rejected 4: unknown 5: registered roamed
	CSQ	Received signal strength indication
	MV	GSM module version: this is Quectel 3G module UC15EQAR03A10E1G
	MS	Mobile Status(Online mode) 0: The module is powered on for the first time 1: Module power off and restart 2: AT command initialization 3: Network check 4: Dialing 5: Network connection 6: Login 7: Online 8: Offline
	IP	Upload data to this IP/Port IP:58.61.154.231 Port:1234
	Loc	location status: 1 mean's positioned,0 mean's not positioned
	Sat	Number of satellites
	Lock	Lock status: 1 mean's lock,0 mean's unlock
	Mil	Currently mileage(unit is meter)
	His	The number of remaining blind zone replenishment data stored by the current device
	Rc	The number of remaining blind zone P45(lock/unlock data) stored by the current device
	Volt	Current battery voltage (the unit is millivolts) and Percentage of electricity
	Chg	Whether charging status 1 mean's charging,0 mean's no charging
	Tmp	Current MCU temperature(the unit is Celsius)
Sending Command Channel		
☑GPRS ☑SMS ☑USB		

P115-Set/Query The OPENAPP POI(Point of Interest)

Command Description

This command can query or set the OPENAPP POI.

The total number of PL610S configurable POI is 100 pcs.

Syntax

Read Command	(P115,<Action>)
Response	(<Unit ID>,P115, <Total number of POIs>,<unlockstatus>)
Write Command	(P115,<Action>,<POI-INDEX>,<lat>,<lng>,<radius>)
Response	(<Unit ID>,P115, <Total number of POIs>,<POI-INDEX>,<lat>,<lng>,<radius>)

Parameter Description

Parameters	Description	Value Range	Default
<Action>	0 Query the previous setting 1 Write the Parameters/set or replace 2 Remove POI with POI-INDEX 3 Set UNLOCKSTATUS applied to all POI 4 Delete all the POI	0~4	
< POI-INDEX >		0~FFFFFFFF	
<lat>	Longitude and latitude string: 4 bytes per longitude, 4 bytes per latitude in hexadecimal notation, with no sign in the middle.		Hex format,the latitude conversion method as below: eg:Lat-12.679153 12.679153*1000000 =12679153 =0xC177F1
<lon>	Longitude and latitude string: 4 bytes per longitude, 4 bytes per latitude in hexadecimal notation, with no sign in the middle.		Hex format,the longitude conversion method as below: eg:Lon-79.985007 79.985007*1000000 =79985007 =0x4C4796F
<radius>	Radius range: 0-FFFF, two bytes, unit is meter		
<unlockstatus>	1 enable only unlock in POI(using RFID, GPRS and BT don't be limited), 0 unlock anywhere.	0-1	

Example

Query can unlock in the specified POI

Read Command	(P115,0)	
Response	(8043396604,P115,91,0)	
Response Description	**Content**	**Description**
	8043396604	Unit ID

	P115	Command Word
	91	The total number of POIs that have been set
	0	the UNLOCKSTATUS disable
Set POI		
Write Command	(P109,1,7835, C177F1,4C4796F,3000)	
Response	(8043396604,P115,91)	
Response Description	**Content**	**Description**
	8043396604	Unit ID
	P115	Command Word
	91	The total number of POIs that have been set
Write Command	(P115,2,7835)	
Response	(8043396604,P115,90,1)	
Response Description	**Content**	**Description**
	8043396604	Unit ID
	P115	Command Word
	90	The total number of POIs that have been set
	1	the UNLOCKSTATUS enable
Write Command	(P115,3,1)	
Response	(8043396604,P115,90,1)	
Response Description	**Content**	**Description**
	8043396604	Unit ID
	P115	Command Word
	90	The total number of POIs that have been set
	1	the UNLOCKSTATUS enable
Write Command	(P115,4)	
Response	(8043396604,P115,0)	
Response Description	**Content**	**Description**
	8043396604	Unit ID
	P115	Command Word
	0	Delete all the POI
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P122-Turn on/off Bluetooth

Command Description	
This command is used to turn on or turn off Bluetooth function. (The hardware needs to have a Bluetooth module)	
Syntax	
Read Command	(P122,<Action>)

Response	(<Unit ID>,P122<Turn On/Off indicator>)
Write Command	(P122,<Action>,<Turn On/Off indicator>)
Response	(<Unit ID>,P122,<Turn On/Off indicator>)

Parameter Description

Parameters	Description	Value Range	Default
<Action>	0 Query the previous setting 1 Write the Parameters	0~1	
<Turn On/Off indicator>	0 indicates Turn off Bluetooth function ; 1 indicates Turn on Bluetooth function .	0~1	1

Example

Query Bluetooth function switch		
Read Command	(P122,0)	
Response	(8043396604,P122,1)	
Response Description	**Content**	**Description**
	8043396604	Unit ID
	P122	Command Word
	1	Turn on Bluetooth function
Turn off Bluetooth function		
Write Command	(P122,1,0)	
Response	(8043396604,P122,0)	
Response Description	**Content**	**Description**
	8043396604	Unit ID
	P122	Command Word
	0	Turn off Bluetooth function.

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