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PL610S Smart Electronic Lock

User Guide



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1. CopyrightandDisclaimer

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2. Product Overview

PL610S is 4G Smart Electronic Lock, built-in 10400mAh battery, G-sensor and RFID reader, and monitor the container or asset's location. Through the wireless technology, User can open the GPS lock remotely by SMS password or (android or IOS) app. If there is no cellular network, user can also open the lock by the authorized RFID key on spot.

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3.Product Functions

Hardware/ Firmware	Main Functions	Description
Hardware	2G/4G cellular network	3G Optional
	GPS+LBS Positioning	GNSS positioning GPS+-Beidou-+GLONASS, multiple positioning systems ensure accurate real-time positioning system
	Dual SIM cards	It 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.
	Build in 10400mAH Rechargeable 18650 lithium battery	Customizable
	Build in 3 Axis acceleration sensor	Motion or vibration detecting
	Buzzer and LED indicators reminder	Different device Status Buzzer and LED indicator reminder
	Bluetooth (Optional)	Unlocking via APP or Download historical Track data through Bluetooth (replace serial port)
Firmware	Real time Position querying	Query current location by SMS/TCP command
	Unlock by Password	Unlock the device by Password (TCP/SMS)
	Unlock device by authorized RFID key	Unlock the device by authorized RFID keys
	Locked automatically	The device will automatically lock when the Hard lock hook softrope is inserted
	50 authorized RFID keys	Unlock the device by authorized RFID keys
	Polygon Geo-fence	10 Polygon Geo-fences
	5 Authorized Phone Numbers	Receiving short message alert or command response and sending command
	Supports 9 alerts	Hard lock hook softrope tamper, Swiping unauthorized RFID key, Unlocking, Wrong password, Vibration, Enter Geo-fence, Exit Geo-fence, Low battery, Back Cover Opened,

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		Motor Fault
	Lock and Unlock Report	The way to lock or unlock, unlock by Password or RFID key, report time, locked /unlocked successful or failed
	FOTA	Firmware upgrading via OTA
	Solar charging	Charging through solar panels

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4. Specifications

Items		Description
Size		195mm x 114mm x 37mm
Weight		833g (Include main unit and Hard lock hock soft rope)
Material		Engineering plastic
GPS Chipset		AT6558R
GSM module		Quectel M25, EC200 series or EC25 series
Working temperature		-20°C -- +80°C
Store temperature		-40°C -- +80°C
Humidity		5%—99%
Built in battery capacity		Rechargeable battery 10400mAh
Average working current		<65 mA
Average current standby		<100uA
Working hour		2G device(10400mAh) continuous full load operation for 160 hours 4G device(10400mAh) real-time working mode: 140 hours
Waterproof		IP67
Transmission mode		Support TCP (cellular network) or SMS (short messages)
Charging specification		DC5V, 2A, 5521 interface
Motion sensor		3D acceleration sensor
Memory		16MB
Antenna		GSM/GPS default built-in antenna
lock hook		Stainless steel, tensile resistance 200KG
LED		4 indicator (Communication. Location. Low power Charge)
SIM		Double card single standby , Micro SIM card
Cellular Module	Chipset	4G LTE Cat1 industrial IOT module
	Bands	-CN LTE FDD : Band 1,3,5,8 LTE TDD : Band 34,38,39,40,41 WCDMA: Band 1,5,8 GSM/EDGE: Band 3,8(Optional) -EU LTE FDD : Band 1,3,5,7,8,20,28 LTE TDD : Band 38,40,41 WCDMA: Band 1,5,8 GSM : Band 3,8 -AU LTE FDD : Band 1,2,3,4,5,7,8,28,66 LTE TDD : Band40 WCDMA: Band 1,2,4,5,8 GSM/EDGE : Band 2,3,5,8
GNSS module		SYSTEM GPS+BEIDOU+GLONASS Chipset AT6558R

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Receiver	32 Channel
Cold start	≤32s
Hot start	≤1s
Coldstartcapture sensitivity	-148dBm
Tracking sensitivity	-165dBm
Accuracy	<2.5m (CEP50)

5.Standard Package and Optional Accessories

		
Main Unit (Standard)	Hard lock hock soft rope (Standard)	RFID Keys (2 pcs) (Standard)
		
Packing Box (Standard)	Charging Cable (Standard)	
		
Charger Adapter (Optional)	Dedicated screwdriver(Optional)	

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6 Product Appearance

Front View



- 1 Hardlockhook Soft Rope: Thickness is 10MM
- 2 Swipe RFID Key Area : Swipe RFID Key



- 1 Solar panels

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Bottom View

1 Buzzer:Different Device Status, Buzzer reminder


2Charger Interface5V DC -2A Charger

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Side View**LED indicator:**

: GSM-Red led : Cellular network connection Status

: GPS-Green led: GPS fix Status

: LVS-Yellow led: Low Battery Status

: CHG-Red led: Charging or Charging full Status

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Back view and Back cover open (back view)

- 1 Cushioned silicone pad: Prevent equipment damage when equipment crashes
- 2 Nameplate: Device Brand Name, IMEI and so on.
- 3 Strong magnet: Prevent equipment shake and collision monitoring assets

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Back Cover Open



- 1.SIM1 slot : Push the SIM card holder down vertically to open it, and then put theMicro-SIM card 1 inside,press down then push the SIM card holder up vertically to lock the SIM card
- 2.SIM2 slot : Push the SIM card holder down vertically to open it, and then put theMicro-SIM card 2 inside,press down then push the SIM card holder up vertically to lock the SIM card
- 3.Power switch: Turn the switch to the left, power on the device;
Turn the switch to the right, power off the device.
- 4.MicroUSB socket : Connect Micro USB configure cable to PC, initialize parameters or debug purpose and Firmware upgrade.
- 5.Light sensor : it' s used to detect whether Back Cover opened or not.

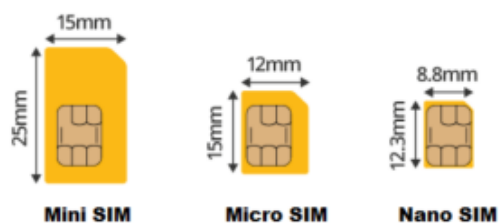
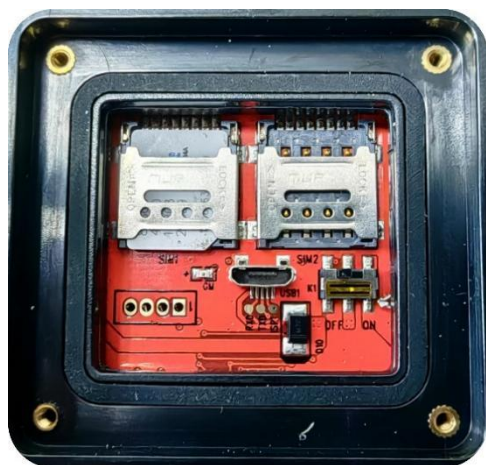
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7. First Use

7.1 SIM card installation

Open SIM1 or SIM2 SIM card slot.

Insert the Micro SIM card into the card slot so that the side with the chip faces the circuit board (PCB)



Please note: Slide the SIM card holder to lock it in place.

Make sure SMS/cellular services are available on your SIM card.

Make sure that the phone card PIN lock is closed correctly.

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7.2 LED Indicators Description

ICON	LED Indicators	Status	Description
	RED LED GSM	Blinking very fast, 3 times in one sec	cellular network registered, sending data to server
		Blinking every 3 sec	cellular network registered, but can't active data service, need to check parameters setting and if SIM card was activated data function
	Green LED GPS	Blinking every 10 sec	GPS positioning valid
		Blinking every 3 sec	GPS signal is invalid
		Off	The device is in sleep mode or power off
	Yellow LED Low BAT	Blinking every 3 sec	When the internal battery power is lower than 20%
	Red LED Charging	Charging or charging full	When charging, red light is always on; When charged full, red light turns green

7.3 Initializing Device Parameters via Configuration Tool

Use the SMS or serial port configuration tool to configure the following commands

7.3.1 Check factory default parameters :

Command content	*SPJLX*P:753869*C: #
Description	Query parameters
Terminal response	<SIM:2;IMEI:868703050814516;CREG:1;CSQ:30;IP:,URL:58.61.154.247,7018;APN:cmnet,,;ID:3050814516;ACC:0;LOC:0;R:30;WK:3;SLP:720;LOCK:2;VER:PL610S_2022-08-18_16:37:35_V1.0>
Description	SIM:2; Current SIM card: SIM card 2 IMEI:868703050814516; Equipment IMEI CREG:1; CSQ:30; CSQ signal strength value IP:URL:58.61.154.247,7018; IP parameter APN: cmnet, APN Parameters ID:3050814516; Device id ACC:0; ACC status: 0 off, 1 on LOC:0; Positioning status: 0 not positioning, 1 positioning R:30; Lock report interval WK:3; working hours

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	SLP:720; Sleep time LOCK:2; Lock cylinder status (0 unknown, 1 locked, 2 unlocked, 3 failed) VER:PL620S__ 00_ 2022-08-18_ 16:37:35_ V1.0 Current software version number
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7.3.2 If the terminal server parameter does not point to the correct IP, use the following command to configure.

Command content	*SPJLX*P:753869*U: dxapi.trac4you.net,7018,1, #
Description	*SPJLX * P: 753869 * U: IP address/domain name, port number, connection type (1 tcp, 0 udp) #
Terminal response	<*U: dxapi.trac4you.net,7018,1>
Description	*U: IP address/domain name, port number, connection type (1 tcp, 0 udp)

7.3.3 If SIM card APN parameters and terminal factory default parameters are inconsistent, please use the following command to configure. Please obtain SIM card APN parameters from SIM card provider.

Command content	*SPJLX*P:753869*A:cmnet,,#
Description	*SPJLX * P: 753869 * A: APN name, APN user name, APN password#
Terminal response	<*A:cmnet,,>
Description	<* A: APN name, APN user name, APN password>

7.3.4 The factory default is motion reporting, with 30 seconds of motion reporting and 60 seconds of static reporting. You can use the following command to configure.

Command content	*SPJLX*P:753869*E:1,30,60#
Description	*SPJLX * P: 753869 * E: 1, reporting interval when locking, reporting interval when unlocking#
Terminal response	<*E:1,30,60>
Description	E: 1. Report interval when locking and when unlocking;

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7.4 Product working Logic

Normally, if there is no any external wake up source, the device will go to sleep, and wake up according to RTC wake up interval (30 minutes as default value)

When swipe the RFID key, detected vibration, Back Cover Opened, Hard lock hook softrope inserted and unplugging, RTC timing wake up, these Wake-up source will wake up this device, when device wake up, it will work about 10 minutes, during the 10 minutes, it reports position data according to Position Data Reporting Time interval (30 sec as default value).

7.5 Lock and Unlock Device

7.5.1 Lock the device

When inserted the two ends of Hard lock hook softrope inside device in place, the PL620S device will lock itself automatically.

Working Process: *Buzzer ring once, Motor running, Buzzer ring twice.*

'Buzzer ring once' indicates the device detects that both ends of the Hard lock hook softrope are inserted into the proper position;

'Buzzer ring twice' Indicates that the device locked successfully.

7.5.2 Unlock the device

Unlock by Password

Send below command via short message or Web platform

(P43,888888)

Working Process: *When unlock successfully, Buzzer ring 3 second continuously, User can take out the Hard lock hook softrope. After unlocking for 10 seconds, the Hard lock hook softrope is not pulled out and the **buzzer will continue to beep for 60 seconds**; During the buzzer ringing, if the Hard lock hook softrope is pulled out, the buzzer stops ringing; or after 60 seconds, the buzzer stops ringing and the device starts to lock automatically.*

7.5.3 Unlock by Authorized RFID key

Customer will get 2 authorized RFID keys in the package. When the device battery is normal, after turning on the power switch, swipe one of the authorized RFID keys to unlock.

Working Process: *When unlock successfully, **Buzzer ring once**, indicates RFID key is read; the Motor running, and **Buzzer ring twice** Indicates that the Hard lock hook soft rope can now be pulled out, and then User can take out the Hard lock hook softrope.*

Note:

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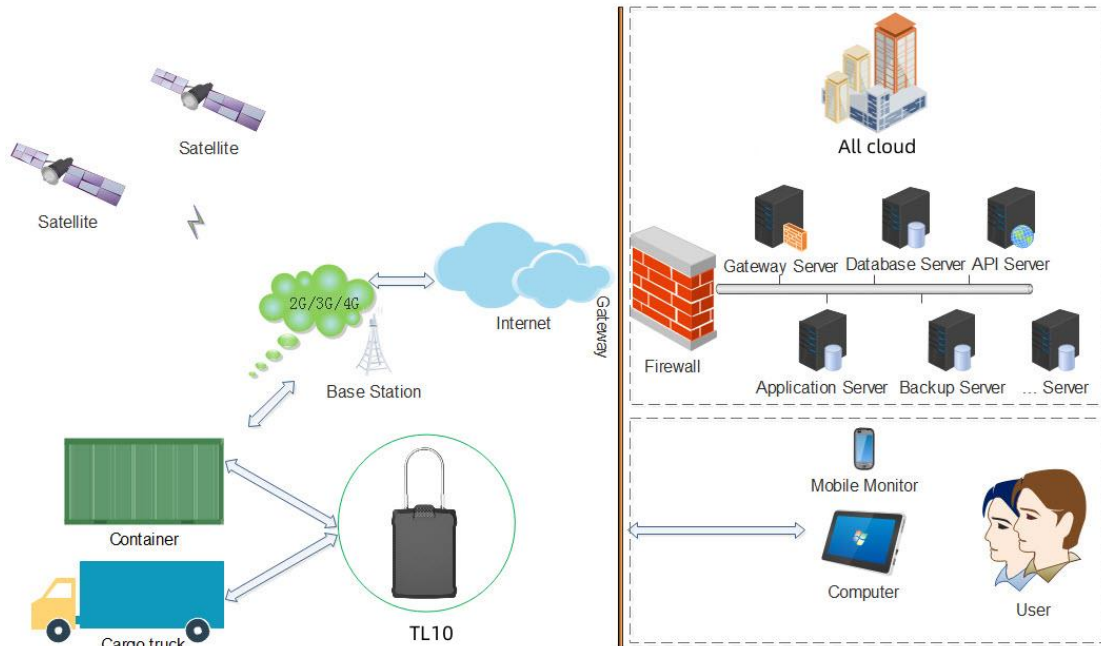
If swiped with an unauthorized RFID key, Buzzer ring 3 second continuously. and User can't take out the *Hard lock hook softrope*, device will also trigger an alert to platform.

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8.Tracking the device in Web Platform

8.1 Principle of communication

In order to have more understanding of PL620S device, it is recommended to experience the related functions of this product on our GPS platform.



8.2 Get the login ID

Please get the Login ID of GPS tracking system from Platform providers (from trac4you sales), and monitor the device' s current position and others.

8.3 Login Software Platform

Please get the Web App link / PC based software / Android/IOS App and Manuals from trac4you sales or other Platform Providers, and manage your PL620S in the software Platform.

8.4 Trac4you Web App link:

Web.trac4you.com

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Login Interface as below:

