PICTOR®

PL610 Smart Electronic Lock
User Guide

1.Product Overview

This Lock is 2G/3G/4G Smart Electronic Lock, bulit-in10400maH 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.

2.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 soft rope 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 soft rope tamper, Swiping unauthorized RFID key, Unlocking, Wrong password, Vibration, Enter Geo-fence, Exit Geo-fence, Low battery, Back Cover Opened, 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

3.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	<90 mA
Average current standby	<100uA
Working hour	2G device(10400mAh) continuous full load operation for 150 hours
	4G device(10400mAh) real-time working mode: 135 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 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
		Receiver	32 Channel
		Cold start	≤32s
		Hot start	≤1s
		Cold start capture	-148dBm
		Tracking sensitivity	-165dBm
		Accuracy	<2.5m（CEP50）

4.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)	

5. Product Appearance

Front View

1 Hard lock hook Soft Rope: Thickness is 10MM

2 Swipe RFID Key Area: Swipe RFID Key

Bottom View

1 Buzzer: Different Device Status, Buzzer reminder

2 Charger Interface 5V DC -2A Charger

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

Back view and Back cover open (back view)

1 Cushioned silicone pad: Prevent equipment damage when equipment crashes

2 Name plate: Device Brand Name, IMEI and so on.

3 Strong magnet: Prevent equipment shake and collision monitoring assets

Back Cover Open

1.SIM1 slot：Push the SIM card holder down vertically to open it, and then put the Micro-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 the Micro-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.Micro USB socket：Connect Micro USB configure cable to PC, initialize parameters or debug purpose and Firmware upgrade.

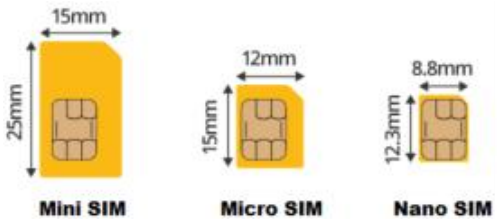
5.Light sensor：it’ s used to detect whether Back Cover opened or not.

6. First Use

6.1 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.

6.2 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

6.3

	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

Initializing Device Parameters via Configuration Tool

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

6.3.1 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:TL10_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 SLP:720; Sleep time LOCK:2; Lock cylinder status (0 unknown, 1 locked, 2 unlocked, 3 failed) VER:TL10__ 00_ 2022-08-18_ 16:37:35_ V1.0 Current software version number

6.3.2 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	<*U: dxapi.trac4you.net,7018,1>

response	
Description	*U: IP address/domain name, port number, connection type (1 tcp, 0 udp)

6.3.3 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>

6.3.4 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;

6.4 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 soft rope 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).

6.5 Lock and Unlock Device

6.5.1 Lock the device

When inserted the two ends of Hard lock hook soft rope inside device in place, the 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 soft rope are inserted into the proper position;

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

6.5.2 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 soft rope. After unlocking for 10 seconds, the Hard lock hook soft rope is not pulled out and the* ***buzzer will continue to beep for 60 seconds****; During the buzzer ringing, if the Hard lock hook soft rope is pulled out, the buzzer stops ringing; or after 60 seconds, the buzzer stops ringing and the device starts to lock automatically.*

6.5.3 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 soft rope.*

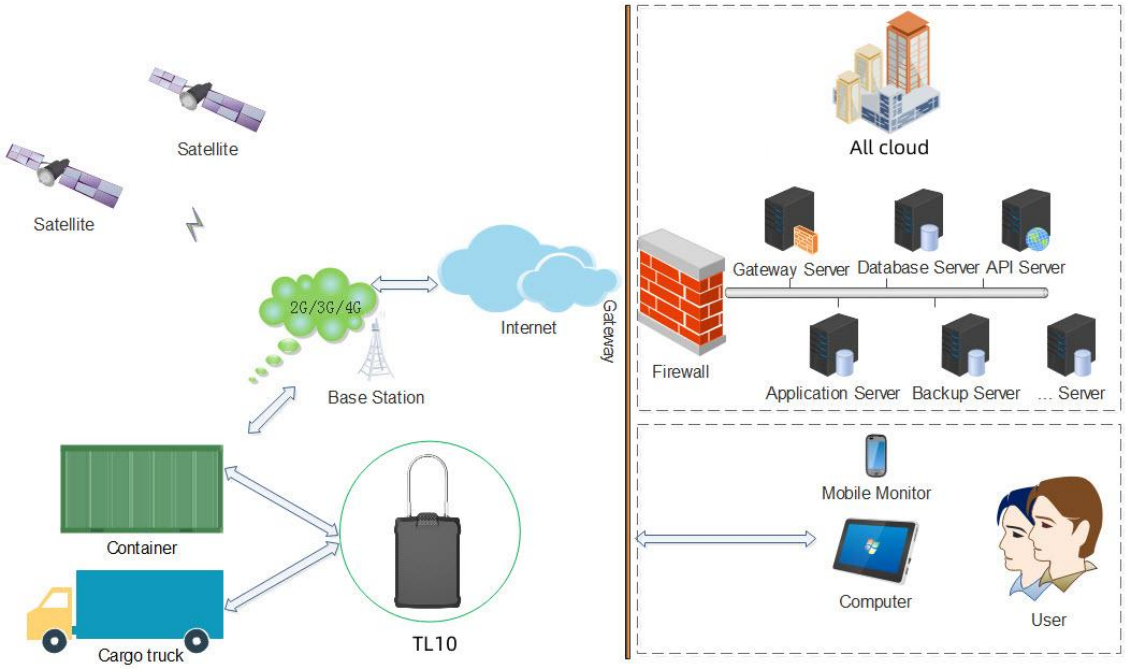
Note:

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

7.Tracking the device in Web Platform

7.1 Principle of communication

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



7.2 Get the login ID

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

7.3 Login Software Platform

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

7.4 Trac4you Web App link:

Web.trac4you.com

Login Interface as below:

Main Interface as below: