

A1410智能网关规格说明书

A1410 Smart Gateway Specification



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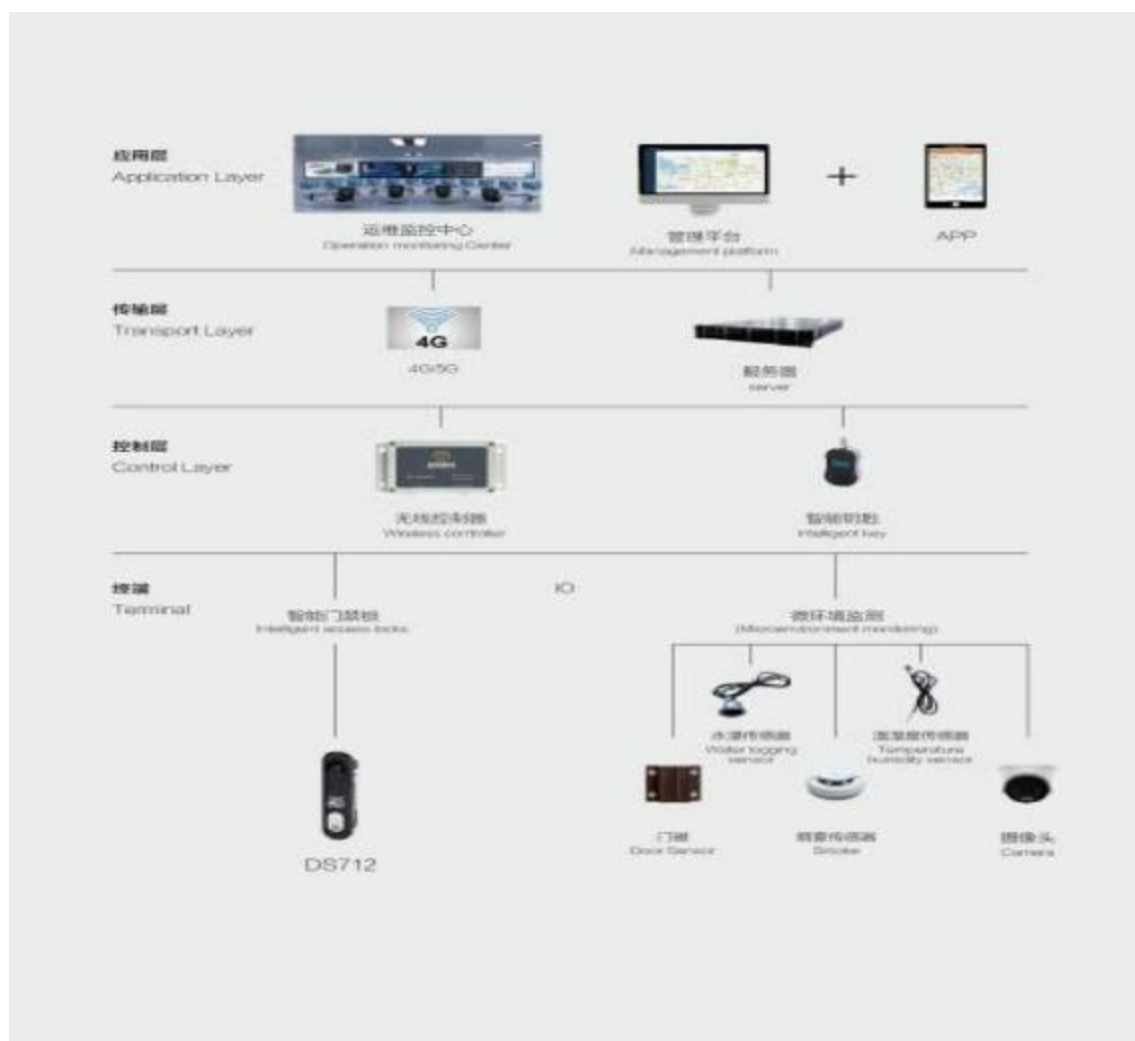
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1 产品简介 Product Introduction

4G 智能控制终端系统能够实现远程开锁、数据采集、告警等信息的定点的无线上报，后台统一管理需求。该系统包含电池电源，MCU，锁控制电路，传感器接口电路，刷卡模块，4G 模块，后台服务器软件等部分。采用通用化的产品设计方案。

The 4G intelligent control terminal system enables wireless reporting of remote unlocking, data collection, alarm notifications, and other Information at designated points, while supporting centralized backend management. The system comprises components including battery power supply, MCU, lock control circuitry, sensor interface circuits, card-Swiping module, 4G module, and backend server software. It adopts a standardized product design approach.

2 应用组成 Application composition



3 产品功能 Product Function

2.1 网络接入能力 Network Access Capability

- 支持 4G-CAT1 接入能力 Supports 4G-CAT1 access capability

2.2 工作环境/状态监控

Work Environment/state Monitoring

- 支持工作温度、湿度检测;

Support working temperature and humidity detection

- 支持水侵检测, 预留烟雾检测功能;

Support water intrusion detection reserved smoke detection function;

- 支持振动检测、倾斜检测功能。

Support vibration detection, tilt detection function.

2.3 平台接入功能 Platform Access Function

- 接入金弗自有物联锁闭管理平台 (PC 端 + APP 端);

Access Jinfu's own Internet of Things interlocking management platform (PC terminal+APP terminal);

- 具备 OneNet 平台接入能力, 具备中国电信平台接入能力, 具备华为物联网平台接入能力;

It has access capability to One Net platform, ChinaTelecom platform and Huawei Internet of Things platform;

- 终端向平台实时周期性上报心跳包数据, 上报间隔周期可配置

The terminal periodically reports heartbeat packet data to the platform in real time, and the reporting interval can be configured.

- 管理平台可控制开关锁以及查看锁状态、门状态、微环境参数、告警记录、开锁记录

The management platform can control the switch lock and view the lock status, door status, micro environment parameters, alarm records, and unlock records.

2.4 远程固件升级功能 Remote Firmware Upgrade Capability

终端支持远程固件升级功能。升级流程为, 在终端唤醒进入工作模式或者定时启动时与平台建立连接后, 平台向终端发送最新固件版本信息, 终端下载最新固件并更新。

The terminal supports remote firmware upgrade. The upgrade process is as follows: When the terminal wakes up and enters working mode or starts at a scheduled time, it connects with the platform. Then the platform sends the latest firmware version information to the terminal, and the terminal downloads the latest firmware and updates.

2.5 终端配置 Terminal Configuration

终端支持远程参数配置功能。参数配置流程为，在终端唤醒进入工作模式或定时启动时与平台建立连接后，平台向终端发送最新参数配置信息并更新。所支持配置参数如下：

The terminal supports remote parameter configuration. The configuration process works as follows: When the terminal wakes up to enter working mode or is activated at scheduled intervals, it connects with the platform and receives updated parameter configurations from the platform. The supported parameters include:

1) 定时上报周期;

Periodic reporting cycle;

2) 终端报警阈值配置，报警机制配置;

Terminal alarm threshold configuration, alarm mechanism configuration

3) IP, 端口等参数配置;

IP, port and other parameters configuration;

2.6 终端工作模式 Terminal Operation Mode

(1) 定时工作模式：终端检测各个传感器数据、信号质量、环境状态参数等数据，并将数据上报平台，同时接收平台下发数据；

Periodic working mode: The terminal detects the data of each sensor, signal quality, environmental state parameters and other data, reports the data to the platform, and receives the data from the platform at the same time;

(2) 休眠模式：终端断开与平台连接，断开各个网络连接，终端处于休眠模式，待到下次检测时间点唤醒并进入工作模式；

Sleep mode: The terminal disconnects from the platform, disconnects all network connections, and the terminal is in sleep mode. It wakes up and enters working mode when the next detection time point comes.

(3) 触发模式：终端被触发激活，进入工作状态后，对触发状态进行判断后，进行实时处理后，上报平台，并和平台进行通讯，执行平台对应的操作。

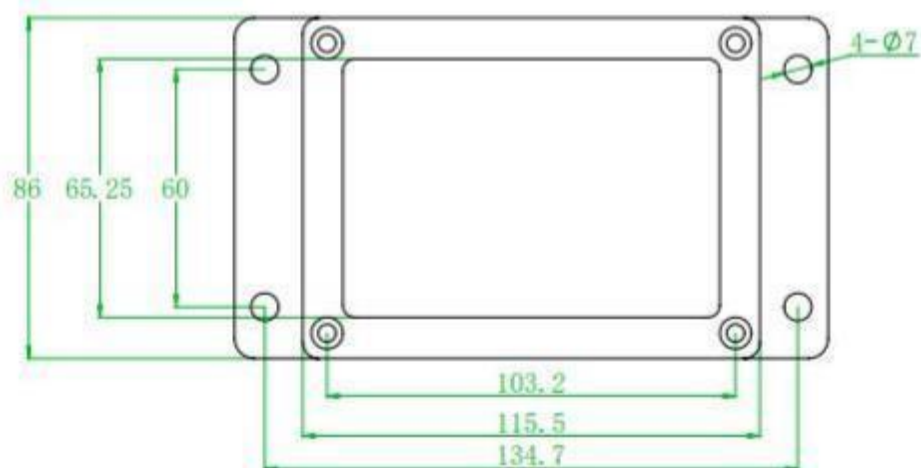
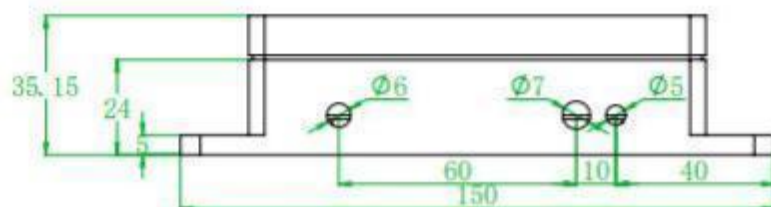
Trigger mode: The terminal is triggered and activated, enters the working state, judges the trigger status, processes it in real time, reports to the platform, communicates with the platform, and performs corresponding operations on the platform.

4 产品技术参数 Product Technical Parameters

产品技术参数 Product Technical Parameters

参数项 Parameter items	参数说明 Parameter declaration	备注 Remarks
SIM 卡 SIM Card	Nano sim	Nano sim 卡 Nano SIM cards
操作电压 control voltage	DC 3.6-4.2V	电池供电 Battery-powered
待机电流 Standby current	≤40uA	
峰值电流 Peak current	≤1A	
通讯协议 Communication protocol	TCP/IP	
通讯方式 Communication method	4G	
4G	支持移动，联通，电信全网通 Supports full network compatibility with China Mobile, China Unicom and China Telecom	
天线 Antenna	全向天线 Omnidirectional antenna	
终端尺寸 Terminal size	150*86*35.15mm	
工作温度 Working temperature	-40~85℃	
防护等级 Protection grade	IP67	户外工作环境 Outdoor working environment
外部接口 External interface	锁接口、门磁接口、水浸接口 Lock interface, door magnetic interface, water immersion interface	

5 产品尺寸 Product Size



6 使用说明 Instructions for Use

2.1 硬件测试环境 Hardware testing environment

- > A1410控制器一个； One A1410 controller
- > DC5V 电源一个； One DC5V power supply;
- > 智能锁一把（IO控制型-712/713）； One Smart lock (IO controlled-712/713);
- > 普通笔记本电脑一台； One ordinary laptop;

设备接线如下图： The wiring of the equipment is as shown in the following figure



2.2 软件测试环境 Software testing environment

1. 先在小程序注册账号，注册完成后待我们工作人员进行审核，审核之后账号就开通了，小程序名称：金弗物联

First, register an account on the mini-program. After the registration is completed, wait for our staff to review it. Once reviewed, the account will be activated. The name of the mini-program is: Jinfu Internet of Things



2. 账号启用后可通过注册是输入的用户名和对应密码登录金弗物联小程序和电子锁后台，后台地址：<http://152.136.192.99:8100/#/login>

Accounts opened by registered as input user name and password to login gold, al small programs and electronic lock the background, the background address: <http://152.136.192.99:8100/#/login>

3. 登陆后在菜单智能箱柜-->设备管理-->新建，可添加对应设备

3. After logging in, go to the menu "Smart Cabinet" -> "Device Management" -> "New" to add the corresponding devices

The screenshot displays the '金弗智能锁管理系统' (JFJS Intelligent Lock Management System) interface. A '新建' (New) modal window is open, showing a form for adding a new device. The form includes fields for '箱柜编号' (Box/Cabinet Number), '控制器编号' (Controller Number), 'SIM卡号' (SIM Card Number), '位置' (Location), '所属机构' (Affiliated Institution), '备注' (Remarks), and '密码' (Password). The background shows a sidebar with navigation options like '首页' (Home), '智能设备' (Smart Devices), '智能设备列表' (Smart Device List), '智能设备详情' (Smart Device Details), '智能设备管理' (Smart Device Management), '设备管理' (Device Management), '设备列表' (Device List), '设备详情' (Device Details), '设备管理' (Device Management), '设备列表' (Device List), '设备详情' (Device Details), '设备管理' (Device Management), '设备列表' (Device List), '设备详情' (Device Details).

Parameter description

参数说明:

The box and cabinet number is the number of the equipment installation box and cabinet, which the user fills in by themselves

箱柜编号为设备安装箱柜的编号，用户自行填入

The controller number is the eight-digit number following the "-" on the device casing

控制器编号为设备外壳上“-”后面的八位数字编号

The SIM card number can currently be filled in with a number within 10 at will. This number is not in use for the time being

SIM 卡号目前可随意填写 10 为以内的数字编号，暂未使用该编号

The location is the address where the equipment is installed

位置为设备安装的位置地址

The affiliated institution refers to the institution to which the previous account belongs

所属机构为上前账号的所属机构

You can find the corresponding points for longitude and latitude on the map on the home page and click on them. The corresponding longitude and latitude will appear at the lower right corner of the page. Just copy and fill them in

经度和纬度可在首页的地图上找到对应的点位后点击，页面右下角会有对应的经纬度，复制填入即可

Parameter configuration can be set to default parameters. If there are no default parameters, you can add them by yourself in the parameter Settings menu or contact our technical personnel for addition

参数配置可配置为默认参数，若无默认参数，可自行在参数设置的菜单中添加，或联系我方技术人员进行添加

4. 设备添加后可在菜单智能箱柜-->实时状态中查看对应设备

4. After adding the device, you can view the corresponding device in the menu Smart Cabinet --> Real-time Status





设备通电 2~3 分钟后对应的网络状态会改为在线，如果设备网络状态通电后长时间未改变，请先检查控制器编号是否正确填入，另外填入时是否不小心加入了空格等，如果检查无问题但是设备网络状态依旧为离线，则请联系我们技术人员进行原因排查。

After the device is powered on for 2 to 3 minutes, the corresponding network status will change to online. If the network status of the device remains unchanged for a long time after being powered on, please first check whether the controller number is correctly filled in and whether Spaces were accidentally added during the filling process. If there are no issues but the network status of the device is still offline, please contact our technicians for cause investigation.

5.网络状态为在线后，点击操作栏开锁，若设备正常开锁，则表示锁具正常链接到电子锁平台，若未开锁，可多点击几次，设备可能会由于信号原因未接收到对应指令，如果多次点击后锁具无反应请联系我们技术人员进行处理

5. After the network status is online, click on the operation bar to unlock. If the device is unlocked normally, it indicates that the lock is properly connected to the electronic lock platform. If it is not unlocked, you can click several times. The device may not receive the corresponding command due to signal reasons. If the lock does not respond after multiple clicks, please contact our technicians for handling.