V1.0.0

Addressable Fire Alarm Control Panel

DHI-HY-1022R、DHI-HY-1025R

Addressable Fire Alarm Control Panel

User's Manual

ZHEJIANG HUAXIAO TECHNOLOGY CO.,LTD.

Address: Area A, Floor 3, Building C, No.28 Dongqiao Road, Dongzhou Sub-district, Fuyang District, Hangzhou City, Zhejiang Province, China

Website: www.wisualarm.com/en/home

1.2.51.32.25006-000

【 User's Manual 】

Foreword

General

This manual introduces the functions and operations of the Addressable Fire Alarm Control Panel (hereinafter referred to as "the Device").

Safety Instructions

The following categorized signal words with defined meaning might appear in the manual.

Signal Words	Meaning
DANGER	Indicates a high potential hazard which, if not avoided, will result in death or serious injury.
WARNING	Indicates a medium or low potential hazard which, if not avoided, could result in slight or moderate injury.
CAUTION	Indicates a potential risk which, if not avoided, could result in property damage, data loss, lower performance, or unpredictable result.
TIPS	Provides methods to help you solve a problem or save you time.
NOTE	Provides additional information as the emphasis and supplement to the text.

About the Manual

- The manual is for reference only. If there is inconsistency between the manual and the actual product, the actual product shall prevail.
- We are not liable for any loss caused by the operations that do not comply with the manual.
- The manual would be updated according to the latest laws and regulations of related jurisdictions. For detailed information, refer to the paper manual, CD-ROM, QR code or our official website. If there is inconsistency between paper manual and the electronic version, the electronic version shall prevail.
- All the designs and software are subject to change without prior written notice. The product updates might cause some differences between the actual product and the manual. Please contact the customer service for the latest program and supplementary documentation.
- There still might be deviation in technical data, functions and operations description, or errors in print. If there is any doubt or dispute, we reserve the right of final explanation.
- Upgrade the reader software or try other mainstream reader software if the manual (in PDF format) cannot be opened.
- All trademarks, registered trademarks and the company names in the manual are the properties of their respective owners.
- Please visit our website, contact the supplier or customer service if there is any problem occurring when using the device.
- If there is any uncertainty or controversy, we reserve the right of final explanation.

Important Safeguards and Warnings

This section introduces content covering the proper handling of the device, hazard prevention, and prevention of property damage. Read carefully before using the device, comply with the guidelines when using it, and keep the manual safe for future reference.

Operation Requirements

- Make sure that the power supply of the device works properly before use.
- Transport, use and store the device under allowed humidity and temperature conditions.
- Prevent liquids from splashing or dripping on the device. Make sure that there are no objects filled with liquid on top of the device to avoid liquids flowing into it.
- Do not disassemble the device.

Installation Requirements

WARNING

- Strictly abide by local electrical safety standards, and make sure that the voltage in the area is steady and conforms to the power requirements of the device.
- Do not connect the device to more than one power supply. Otherwise, the device might become damaged.

- Observe all safety procedures and wear required protective equipment provided for your use while working at heights.
- Do not expose the device to direct sunlight or heat sources.
- Do not install the device in humid, dusty or smoky places.
- Install the device in a well-ventilated place, and do not block the ventilator of the device.

Maintenance Requirements

- Use the accessories suggested by the manufacturer. Installation and maintenance must be performed by qualified professionals.
- Clean the device with a soft dry cloth or a clean soft cloth dipped in neutral detergent.
- Contact your local dealer or the service center nearest to you if the device needs internal configuration or maintenance. Do not dismantle or modify the device without a qualified professional present to avoid the risk of danger or damage to the device. We will assume no responsibility for any problems caused by unauthorized modifications or maintenance.

Table of Contents

1 Product Information

1.1 Introduction

Addressable Fire Alarm Control Panel is designed to provide early warning fire detection, display fire information and inform people to evacuate. With two-wire and polarity-free technology, it connects with other mated products to construct a fire alarm control system. This system offers flexibility in both design and operation to meet the demands of various projects.

It is suitable for residential and industrial buildings such as hotels, shopping malls, hospitals, office buildings, schools, banks, libraries, factories, and warehouses.

1.2 Features

- Two-wire and polarity-free: The system loop line adopts two-wire and polarity-free communication power supply technology without external power supply. Strong anti-interference, convenient wiring, improved system reliability and stability, easy construction and installation, reduced project cost, and convenient maintenance.
- Intuitive display: 480 × 272 4.3" LCD screen provides a highly intuitive interface, allowing the user to fully set up the system without the need of any external tool.
- Ultra-long history record: Save historical events for a long time that can be inquired and printed in various ways such as time and type.
- Intelligent power supply: With automatic switching between the main and backup power and the charging and discharging functions, it ensures the stable power supply of the system to the greatest extent.
- Flexible linkage logic: The logic programming is flexible, which can realize a variety of customized linkage requirements, simple and convenient programming, and reduced debugging workload.
- Protection design: Short circuit, open circuit and overcurrent protection to ensure stable operation.

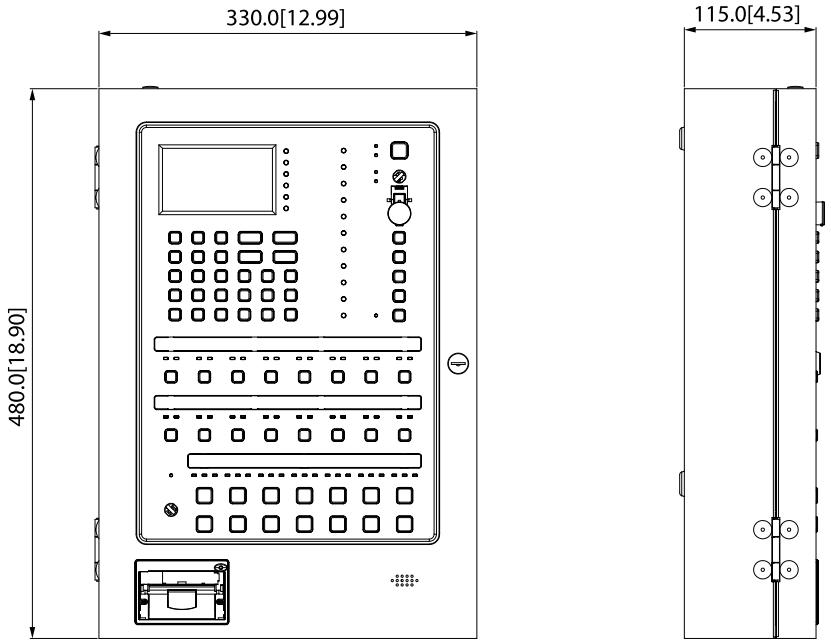
2 Technical Information

Parameter	Introduction
Working Voltage	DC 16V~28V
Loop Capacity	Max.254 addressable devices per loop
Number of Loop	One (DHI-HY-1022R) Two (DHI-HY-1025R)
Loop Type	Class A
Main Power Supply	AC 100-240V/50Hz, 60Hz
Backup Power Supply	2 lead-acid batteries (12V/5Ah each)
Display	480 × 272 4.3″ LCD screen
Zone	8
Dimensions	330.0 mm×115.0 mm×480.0 mm (12.99" × 4.53" × 18.90")
Operating Temperature	–10°C to +55°C (+14°F to +131°F)
Operating Humidity	≤ 95% RH (no condensation)

3 Structure

3.1 Dimensions

Figure 3-1 Dimensions (mm[inch])



3.2 Composition

- Single loop: Max. 254 addressable devices per loop
- 1 NO/NC Fire Alarm Output: Output switch during a fire alarm
- 1 NO/NC Fault Output: Output switch during a fault alarm
- RS-485: Enable communication with other control panels
- DC28V: DC28V/500mA outputs to field devices

3.3 Front Panel

Figure 3-2 Front panel

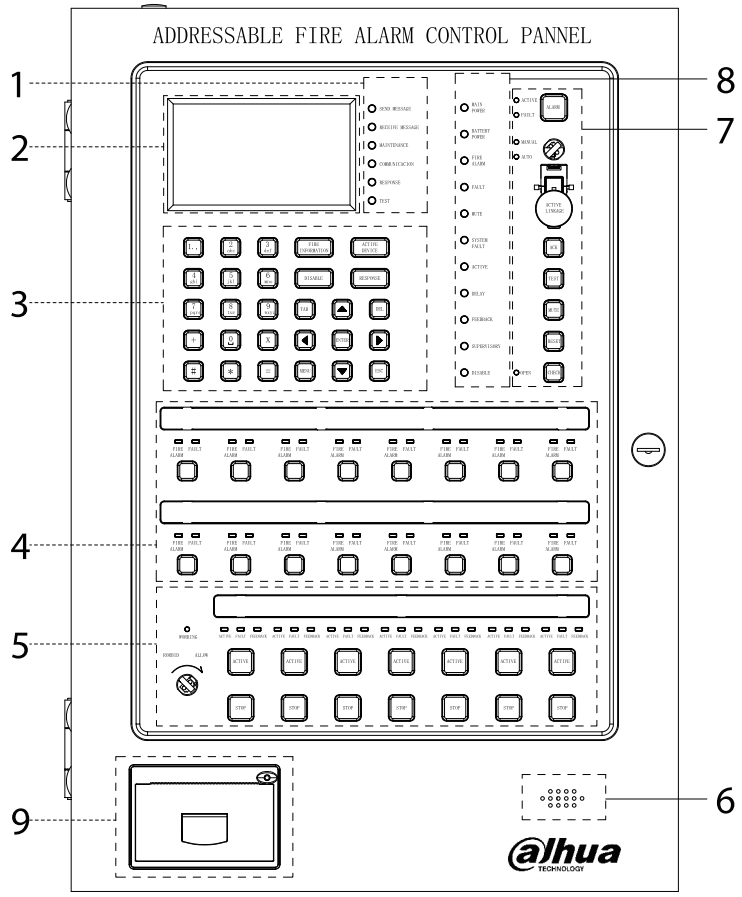


Table 3-1 Front panel introduction

No.	Introduction
1	• Send message: Red, Remain lit when control panel sends message. • Receive message: Red, Remain lit when control panel receives message. • Maintenance: Yellow, Remain lit when control panel is in maintenance mode. • Communication: Red, Remain lit when control panel connects to other panels. • Response: Red, Remain lit after the key is pressed. • Test: Yellow, Remain lit when control panel is in self-test mode.
2	Display operation screen.
3	• ↑ , ↓ , ← , → : Turn pages or navigate between the options on the screen. • Enter: Enter the selected menu and confirm operations. • Numerical and alphabetic keys: Enter numbers, letters and marks. • Fire Message: Search fire alarm information. • Active Device: Enter active/stop menu. • Disable: Disable/enable device. • Tab: Change the display among different windows when there are multiple messages. • Menu: Enter main menu. • Esc: Exit from the current menu or return to the previous menu. • Delete: Delete the input. • +, x, *, #: Edit linkage relation.
4	Fire Zones Indicators
5	Device linkage panel.
6	Alarm sound outlet.
7	• Active linkage: Start linkage signal in accordance with the reset logic. • ACK: Confirm the received fault and alarm information, and identify the confirmed information. • Test: Test the LCD, speaker and all LEDs. • Mute: Silence the speaker of the panel. • Reset: Reset the panel. • Check: Check the relevant information of the panel.
8	• Main power: Green, Remain lit for AC 100V~240V power on. • Battery power: Green, Remain lit for backup battery on. • Fire alarm: Red, remain lit after receiving fire information. The LED turns off when the panel is reset. • Fault: Yellow, remain lit when a trouble condition is detected. The LED turns off when the panel is reset or the fault is addressed. • Mute: Yellow, remain lit when the speaker is silenced. If there is new fire alarm, the speaker will be re-activated and this LED will turn off. • System fault: Yellow, remain lit when the memory of the panel is in trouble or system program cannot be executed. • Active: Red, remain lit when the panel sends active command. The LED flicker if no feedback signal is received within 10s of sending the start command. • Delay: Red, remain lit when there is a sounder or an output in delay mode. The LED turns off when the delay time expires. • Supervisory: Red, remain lit when there is supervisory signal. The LED turns off when the panel is reset. • Disable: Yellow, remain lit when there is a connected device or an output or the delay mode is disabled. • Manual: Green, remain lit when the panel is in manual state. • Auto: Green, remain lit when the panel is in auto state.
9	• Printer (optional)

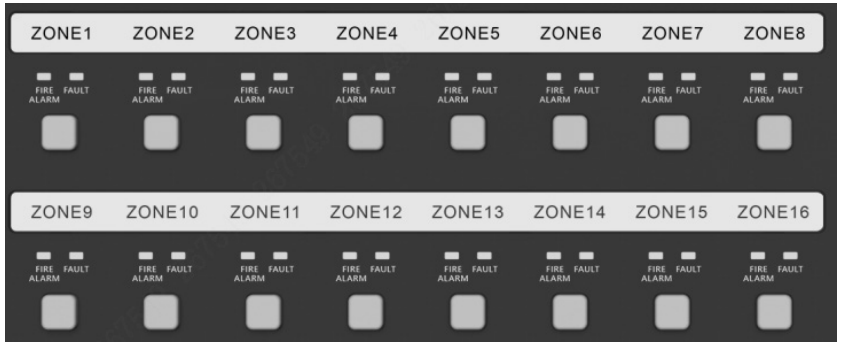
3.4 Fire Zones Indicators

This DHI-HY-1022 (DHI-HY-1025) fire alarm control panel has 8 (16) zones, each zone has two indicator and a Disable/Enable button.

- FIRE ALARM： Red indicator, when there is a fire alarm in this zone, the light is always on.
- FAULT： Yellow indicator, when there is a fault in the zone, the light flashes at a frequency of 1 Hz.
  - ◇ When pressing the button related to each zone, it means that the devices in this area are disabled and the yellow light is always on.
  - ◇ When the button is pressed again, it means that the devices in this zone are enabled and the yellow indicator light is off.

Figure 3-3 Manual module panel (DHI-HY-1022R)

Figure 3-4 Manual module panel (DHI-HY-1025R)



4 Device Installation and Debug

4.1 Packing List

Check the package according to the following checklist. If you find anything damaged or lost, contact customer service.

Keep accessories properly for future use.

Table 4-1 Checklist

Item	Quantity
Addressable fire alarm control panel	1
User's manual	1
Key	2
Key to the FACP	2
Backup insurance	2

4.2 Inspection

- Do not power the system until the installation is completed.
- The Addressable Fire Alarm Control Panel receives main power from AC100V-240V supply. The positive and negative poles of the backup battery are correctly connected.
- Turn on the backup battery first and then the main power (turn off the main power first and then the backup battery).
- The voltage of the manual module panel and device linkage panel terminals should be about 27V.
- Carry out self-test to check whether all parts are successfully inspected.
- The defective detectors should be dealt with according to "FAQ" and "Maintenance", and then test again. If it still fails to pass the test, it should be returned to the factory for repair.

4.3 Installation

4.3.1 Principle

- The FACP adopts wall-mounted installation. It should be installed in the fire control room or the place where people are on duty. Keep away from the environment with electromagnetic interference.
- The design should be strictly implemented in accordance with relevant provisions and regulations, and connect the device correctly according to the construction drawing.

4.3.2 Wiring

Before connecting the signal line and direct control line to the FACP, the insulation test should be carried out.

The insulation resistance between loops is more than 10 KΩ, and insulation resistance between loops and ground is more than 10 MΩ. The enclosure grounding wire should be a 4 mm^2 copper conductor, and the grounding resistance should be less than 4Ω.

⚠

Do not measure the line resistance of the installed device by a megger.

Figure 4-1 Wiring terminal (DHI-HY-1022R)

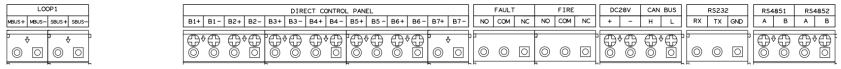
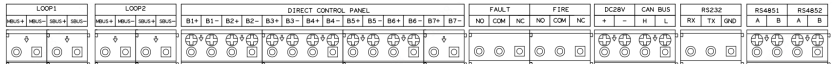


Figure 4-2 Wiring terminal (DHI-HY-1025R)

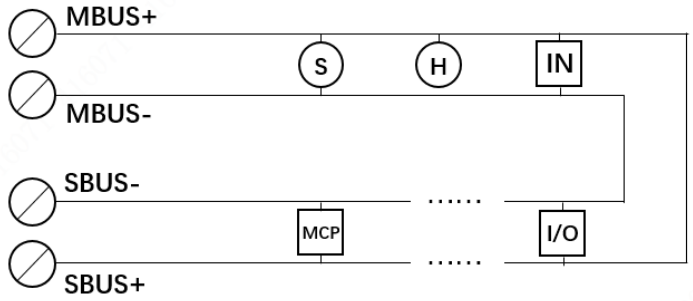


Bus terminal

LOOP (MBUS+, MBUS-, SBUS+, SBUS-): Connect detector, module, sounder strobe, etc.

Recommend to use RVS-2×1.0mm² or 1.5mm² flame-retardant or fire-resistant twisted-pair cable, and the communication distance is ≤1500m.

Figure 4-3 Bus terminal



Other terminal

- FAULT: Fault output. When the FACP receives fault information, the normally open switch of the terminal becomes the normally closed switch (NO, COM); the normally closed switch of the terminal becomes the normally open switch (NC, COM).
- FIRE: Alarm output. When the FACP receives alarm information, the normally open switch of the terminal becomes the normally closed switch (NO, COM); the normally closed switch of the terminal becomes the normally open switch (NC, COM).
- DC28V, GND: Power output, DC28V. Recommend to use RVS-2×1.5mm² flame retardant or fire-resistant twisted-pair cable, and the communication distance is ≤100m.
- 232TX, 232RX, GND: Communication port between control panel and CRT. Recommend to use RS232 standard communication line, the communication distance ≤ 15m.
- 485A1, 485B1: RS-485 networking port for communication among control panels. Recommend to use RVS-2×1.5mm² flame retardant or fire-resistant twisted-pair cable, and the communication distance is ≤1000m.

Main electrical terminal

L、N、⏚: AC 100V~240V power supply. Recommend to use flame retardant three-core insulated wire with a voltage resistance of 750V or more.

4.3.3 Battery

⚠

Connect the final battery after completing installation.

Step 1 Connect fuse.

Step 2 Connect the red and black power wires reserved in the wire slot to the positive and negative terminals of the battery respectively.

Figure 4-4 Battery (DHI-HY-1022R)

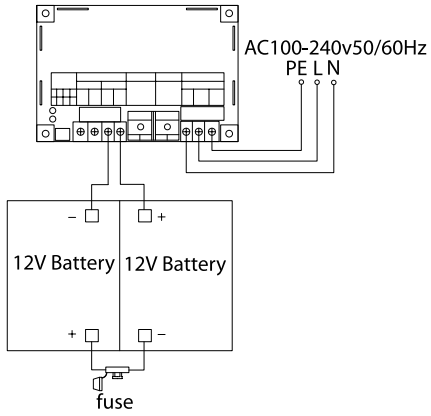
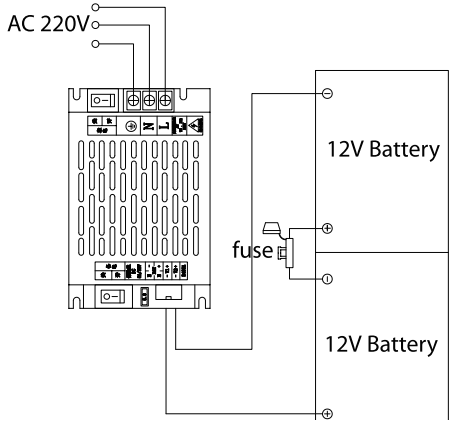


Figure 4-5 Battery (DHI-HY-1025R)



4.4 System Debugging

4.4.1 Preparation

After connection and verification, the system may be switched on for debugging, mainly including logging and testing of detector and module, and setup of linkage relation.

4.4.2 Device Register

Select Debugging > Register Device to register the field devices. For the specific operation method, please see 5.7.3 Register Device.

4.4.3 Registration Check

After the device is successfully registered, check the login result and network state. For details of the field device query, please see 5.2.1 Device.

4.4.4 Define

After ensuring that all the devices are registered and online, define the field device, including the user code, description information and device parameters, and set the manual module panel and device linkage panel. For details, please see 5.7.5 Define.

4.4.5 Simulation Experiment

Simulate alarm test. If Addressable Smoke Detector, Addressable Manual Call Point and Addressable Sounder Strobe work normally, test the panel function by pressing Addressable Manual Call Point or simulating fire alarm by Addressable Smoke Detector. The fire light is lit and alarm is triggered, representing that the fire function is normal. After completing testing start/stop function, and defining manual module panel and device linkage panel, the manual module panel and device linkage panel button can be used to fast start and stop field devices.

5 Operation

This chapter introduces the operations included in the main menu.
It consists of many menus for management and programming operations. They are as below:

- Querying
- Operation
- Settings
- Networking
- Linkage
- Debugging

5.1 Menu

The main menu of FACP includes Querying, Operation, Settings, Networking, Linkage and Debugging.

- When there is neither fire alarm nor other event information, the interface shows that the system is working normally.
- When the system is in normal state, press **Menu** to enter the main menu interface.

Figure 5-1 Menu

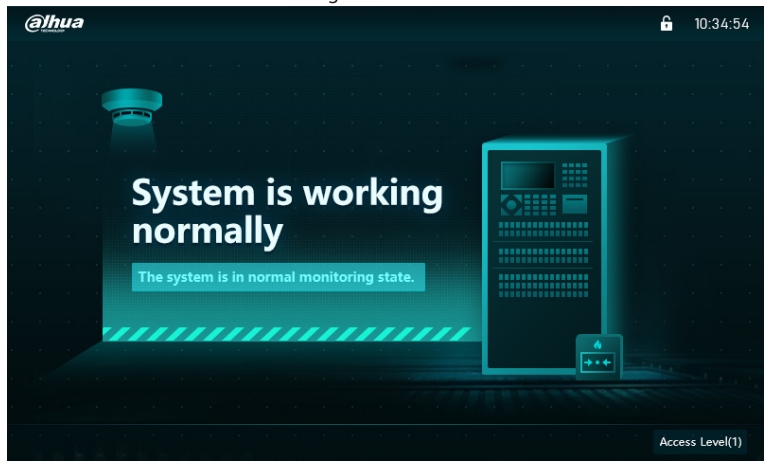
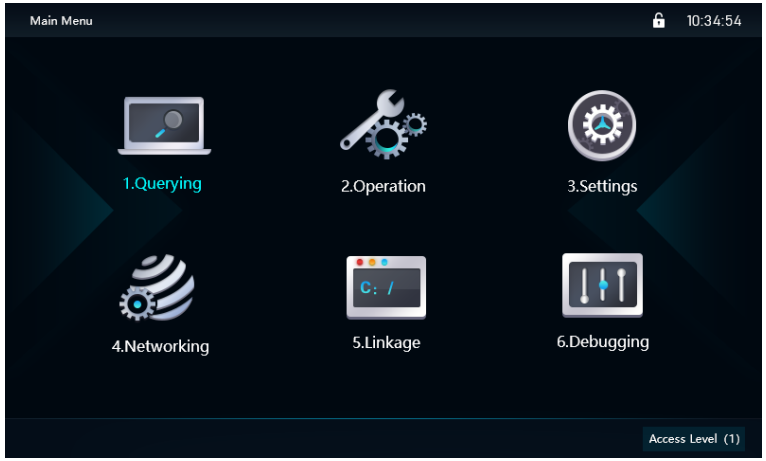


Figure 5-2 Main menu



- When there is alarm, the interface displays alarm information.
  1. Press ↑ and ↓ to select the event.
  2. Press ← and → to see brief information of all events.
  3. Press **Enter** to see information in details.

5.2 Querying

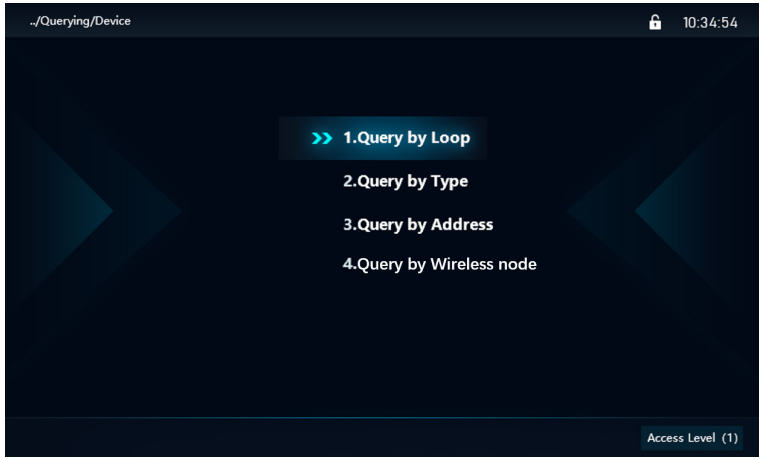
Press **Menu** to enter the **Querying** interface, including Device, Log, Linkage and FACP information.

Figure 5-3 Querying

5.2.1 Device

Select **Querying > Device**, to see the information of all devices in details. Support the query by loop, by type, by address and by wireless node. Query information includes S/N, user code, LA code, device information and parameters.

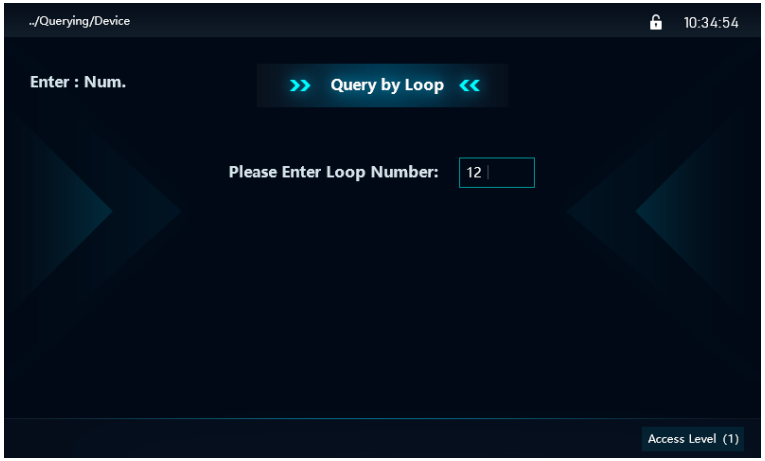
Figure 5-4 Device



5.2.1.1 Query by Loop

Step 1 Select **Querying** > **Device** > **Query by Loop**.

Figure 5-5 Query by loop



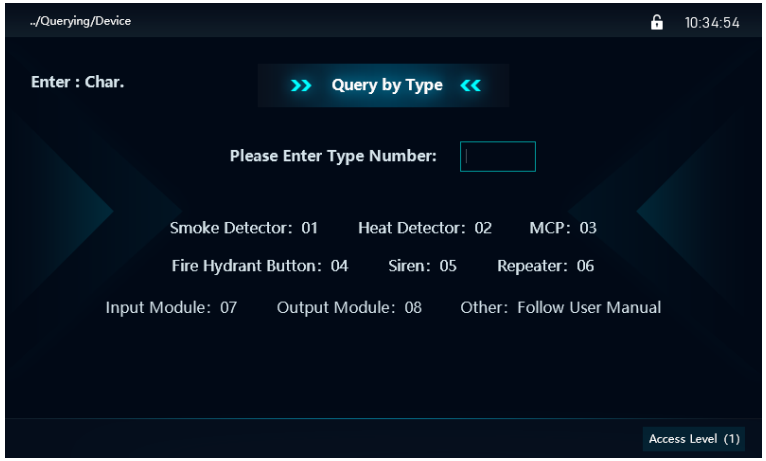
Step 2 Enter **Loop Number**, and press **Enter**.
See the brief information of all devices in this loop.
Step 3 Press **Enter** again to see the detailed information.

Figure 5-6 Devices information

5.2.1.2 Query by Type

Step 1 Select **Querying > Device > Query by Type.**
Step 2 Enter **Type Number**, and press **Enter.**
See the brief information of all devices with same type.

Figure 5-7 Query by type

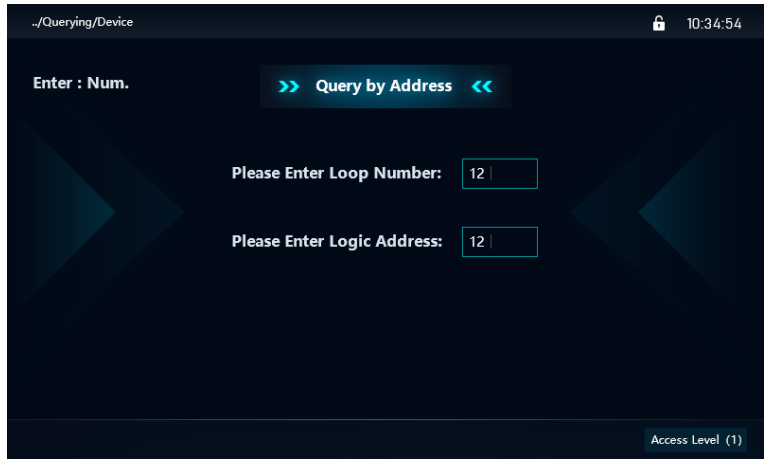


Step 3 Press ↑ or ↓ to select target device, and press **Enter**.
Step 4 See detailed information of this target device.

5.2.1.3 Query by Address

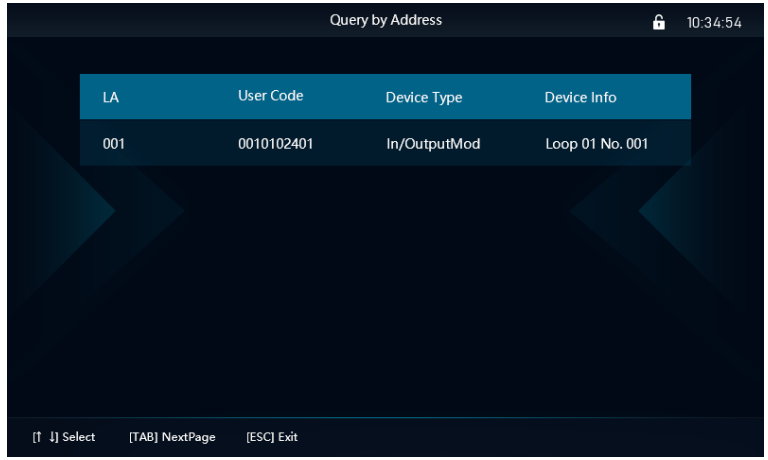
Step 1 Select **Querying > Device > Query by Address**.
Step 2 Enter Loop Number and Logic Address, and press **Enter.**
See the brief information of all devices with same address.

Figure 5-8 F Query by address



Step 3 Press ↑ or ↓ to select target device, and press **Enter**.
See detailed information of this target device.

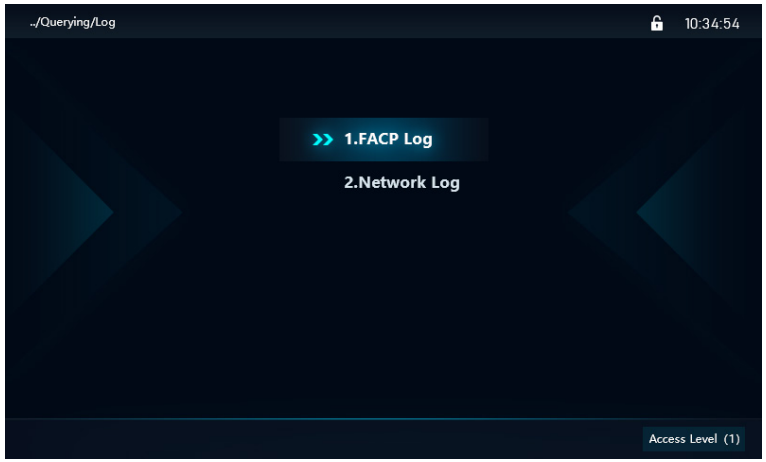
Figure 5-9 Address list



5.2.2 Log

Select **Querying > Log**, to see the **FACP Log** and **Network Log**, including fire alarm, fault, active, feedback, supervisory and others. It can keep 5000 pieces of information at most.

Figure 5-10 Log Query

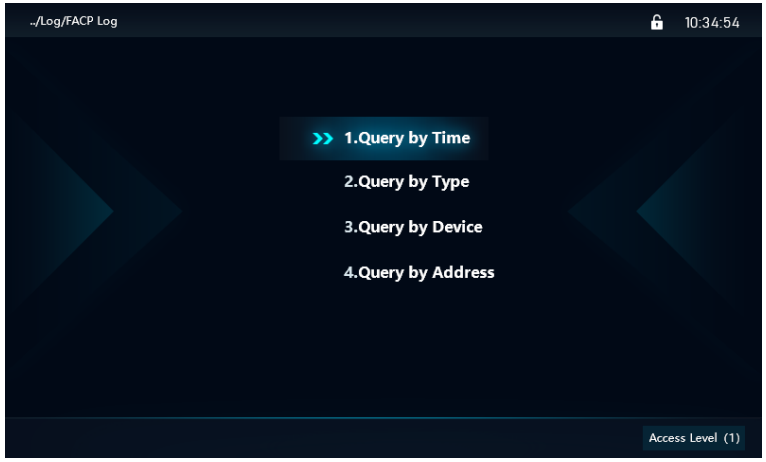


5.2.2.1 FACP Log

The device enables to query by time, type, device and address when acquires fire alarm and fault logs.

Step 1 Select **Querying > Log > FACP Log.**

Figure 5-11 FACP log

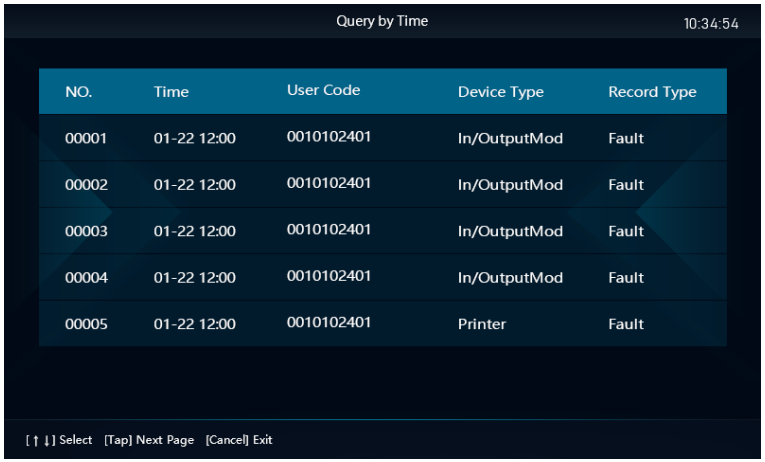


Step 2 Select query type, and press **Enter.**

See the brief information of all devices in this loop.

- Query by Time: Displays a record of all events according to the latest event occurrence time.

Figure 5-12 Query by time



- Query by Type: Displays all records of the same type of event according to the latest event occurrence time. Enter the record type number, press **Enter** to view all fault events.

Table 5-1 Type number

Type Number	Event type
Fire Alarm	00
Supervisory	01
Active	02
Feedback	03
Delay	04
Fault	05
Disable	06

- Query by Device: Displays all records of the device according to the latest event occurrence time.
- Query by Address: Displays the historical event records of a device with a specific logic address in a loop. Enter the loop number and logic address of the target device, and press **Enter** to view the historical record information of the device.

Step 3 Press ↑ or ↓ to select target device, and press **Enter.**

See detailed information of this target device.

Figure 5-13 Record information

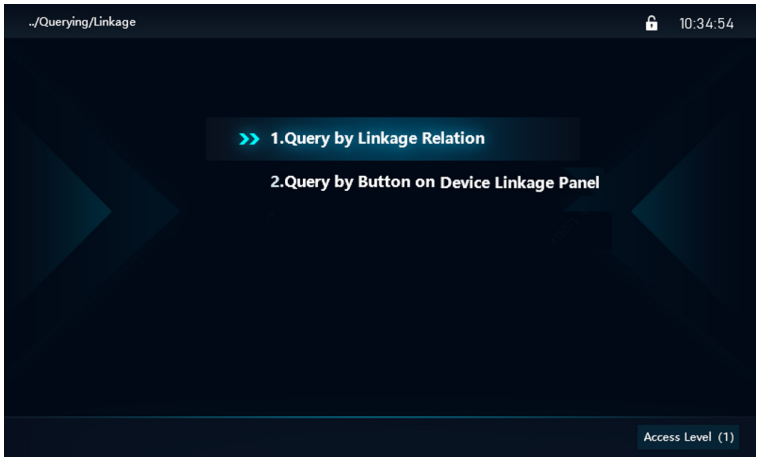
5.2.2.2 Network Log

Display event information transmitted to this FACP by other panels in the network. The operation is similar to querying FACP Log, please refer to 5.2.2.1 FACP Log.

5.2.3 Linkage

Linkage includes query by linkage relation and query by button on device linkage panel.

Figure 5-14 Linkage



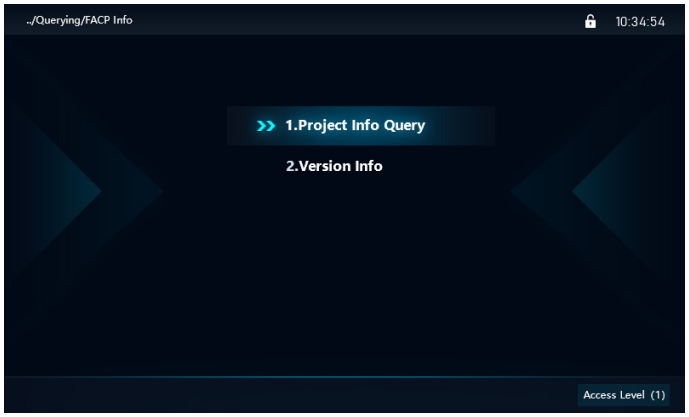
5.2.3.1 Query by Linkage Relation

Step 1 Select **Querying > Linkage> Query by Linkage Relation** to see linkage relation.
Step 2 Press ↑ or ↓ to select target linkage relation, and press **Enter.**
See detailed information of this linkage relation.

5.2.4 FACP Info

FACP Info includes project information and version information.

Figure 5-15 FACP Info



5.2.4.1 Project Information

Select **Querying > FACP Info > Project Info Query** to see detailed information of this project, for example, project name, project address, contact, and telephone.

5.2.4.2 Version Information

Select **Querying > FACP Info > Version Info** to see the hardware / software version of FACP and FACP ID.

5.3 Operation

Press **Menu** to enter the **Operation** interface, including Active & Stop, Disable, Log Print and System Test.

Figure 5-16 Operation

5.3.1 Active & Stop

Active & Stop menu includes active / stop device by user code, and active / stop device by logic address.

Active & Stop operations can only active and stop devices that support startup commands and are registered online. If the device is not registered online, when the device is activated, it will prompt that the device is offline. After the device is normally registered and online, the Active & Stop operations can respond normally.

Figure 5-17 Active & Stop

The active and stop operation is similar. The following uses the user code to active the device as an example.

Step 1 Select **Operation > Active & Stop > Active Device by User Code.**

Step 2 Enter user code, and press **Enter.**Activate this device.

5.3.2 Disable

Disable operation is used for faulty field devices that are not able to be repaired in time. In such cases, they should be isolated temporarily and released after the problems are resolved. Devices can be disabled or enabled by user code and logic address.

Figure 5-18 Disable

The operation method of disabling device is similar. The following takes isolating a device by user code as an example.

Step 1 Select **Operation > Disable > Disable Device by User Code.**

Step 2 Enter user code, and press **Enter.**

Disable this device.

5.3.3 Log Print

Print the specified event information for the specified time period.

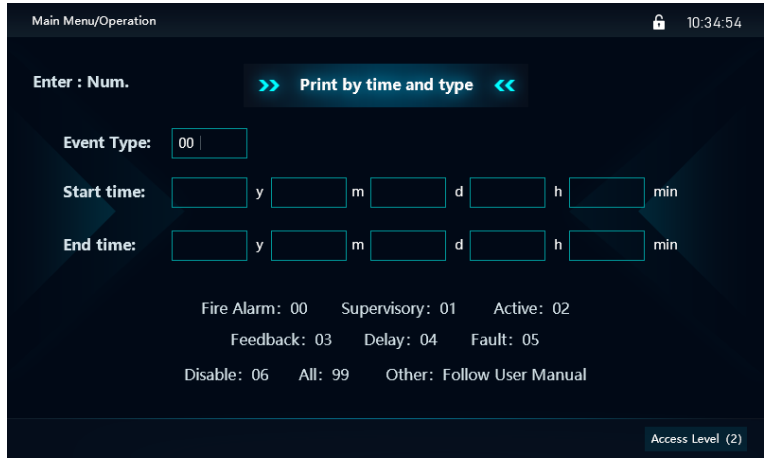
Step 1 Select **Operation > Log Print.**

Step 2 Select the event type to be printed.

Step 3 Enter Start time and End time, and press **Enter.**

Print the recode of this event type during this period.

Figure 5-19 Print by time and type



5.4 Settings

Press **Menu** to enter **Settings** interface, including Password, Display, Time, Print, Project and Language.

Figure 5-20 Settings

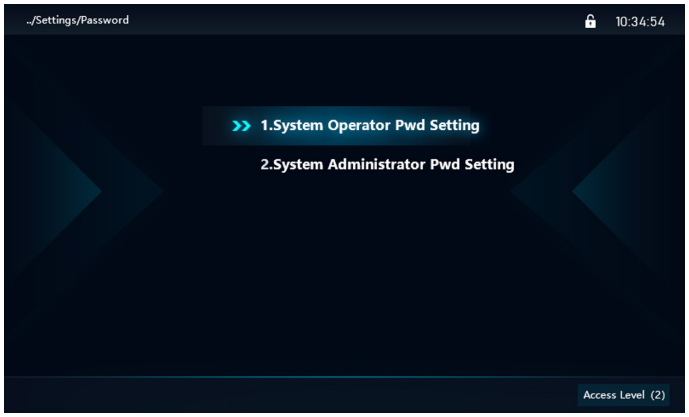
5.4.1 Password

Password Setting includes setting the system operator password, administrator password, and super user password.

Different operations require different minimum operation authorities, and high-level authority has the right to perform low-level authority operations. Enter the password first to obtain the operation authority, among which the system default first-level operation authority does not require a password.

The passwords for all levels of operation authority should be mastered and kept secret by specialized personnel. After the user completes the operation, the panel keyboard should be locked to restore the operation authority to the first level, so as to prevent unrelated personnel from operating the panel.

Figure 5-21 Password setting



5.4.1.1 System Operator Password Setting

The system operator can only perform basic common operations such as system viewing, muting, and resetting. There is no password by default.

Step 1 Select **Settings > Password > System Operator Pwd Setting.**

Step 2 Enter old password. Enter new password and then confirm it.

Step 3 Press **Enter** to save the new password.

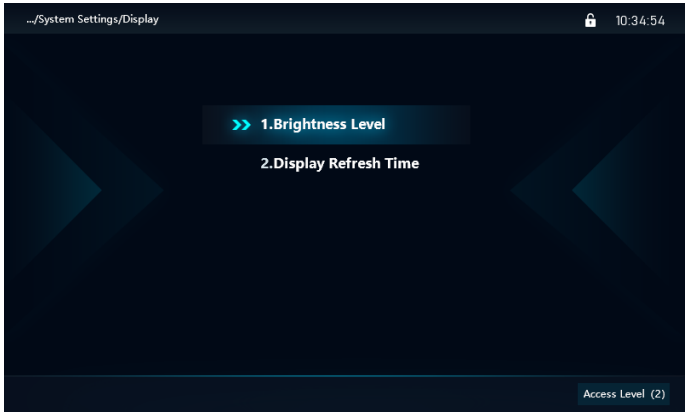
5.4.1.2 System Administrator Password Setting

System administrator can perform operations such as registration, definition, and linkage programming for loop devices. There is no password by default. To set the system administrator password, please refer to 5.4.1.1 System Operator Pwd Setting.

5.4.2 Display

Set the brightness of the LCD screen of the panel as well as the update time of the lock screen, the cursor update time, and the unattended exit update time when the panel is not operated.

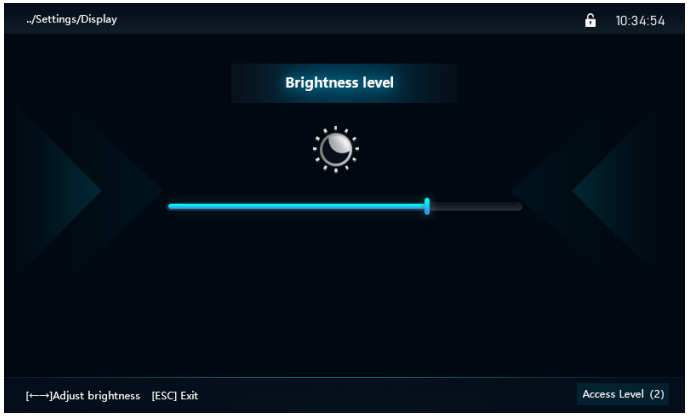
Figure 5-22 Display setting



5.4.2.1 Brightness Level

Step 1 Select **Settings > Display > Brightness Level** to set brightness.
Step 2 Press ← or → to adjust brightness. The setting is automatically saved when it is completed.

Figure 5-23 Brightness level



5.4.2.2 Display Refresh Time

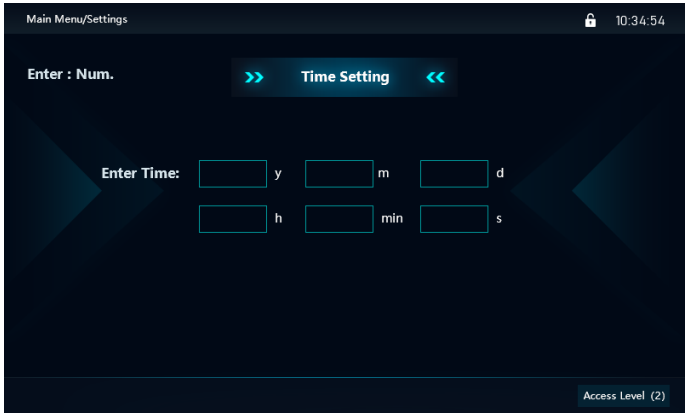
Step 1 Select **Settings > Display > Display Refresh Time.**
Step 2 Press ↑ or ↓ to adjust refresh time and enter number. Press **Enter** to save the setting.

5.4.3 Time

5.4.3.1 Clock

Step 1 Select **Settings > Time>Clock.**
Step 2 Enter time and press ← or → .
Press **Enter** to save time setting.

Figure 5-24 Time



5.4.3.2 Time Zone

Step 1 Select Settings > Time > Time Zone.
Step 2 Setting Time Zone.
Press **Enter** to save time zone.

5.4.4 Print

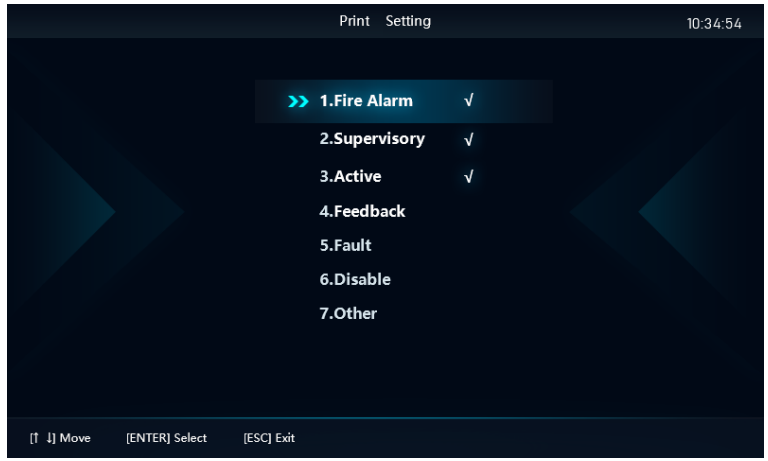
5.4.4.1 Printer Switch

Step 1 Select Settings > Print>Printer Switch.
Step 2 Select Printer Disable or Printer Enable, and press Enter.

5.4.4.2 Print option

When the event with designated type occurs, the information is printed automatically.
Step 1 Select **Settings > Print>Print option.**
Step 2 Select print types, and press **Enter.**

Figure 5-25 Print Setting



5.4.5 Project Information Settings

Select **Settings > Project Info Settings** to set project name, address, contact, and telephone.

5.4.6 Language

Step 3 Select **Settings > Language** to set language, including Chinese, English and Russian.

5.4.7 Sound

5.4.7.1 Silence Mode Switch

Used to enable/disable the mute function for the buzzer.

5.4.7.2 Fire Alarm Siren

Used to configure the startup modes for sound and light notifications.

5.5 Networking

Select Networking to set SUB Network, FACP Network, and Platform.

5.5.1 SUB Network

Set the enable/disable status for network connectivity of the subsystem.

5.5.2 FACP Network

Select **Networking** > FACP Network to set the mode, address, the main/additional mode.

5.5.3 Platform

The control panel can connect with platform. Select **Networking** > Platform to set the connection method and platform information. The fire, fault, supervision and disabled information can send to platform immediately.

5.6 Linkage

Press **Menu** to enter **Linkage** interface, including New Linkage Relation, Modify Linkage Relation and Delete Linkage Relation.

Figure 5-26 Linkage programming

5.6.1 New Linkage Relation

The linkage relation consists of input items and output items, which are connected by "=". Each input and output item consists of a user code and a four-digit suffix.

Step 1 Select **Linkage > New Linkage Relation.**

Step 2 Edit linkage relation.

The four-digit suffix of the input item will automatically pop up to match the device type. The first two digits of the four-digit suffix of the output item are 01, and the last two digits are the delay time (hexadecimal).

Step 3 Press **Enter** to keep settings.

Figure 5-27 New linkage relation

Table 5-2 Symbol introduction

Symbol	Introduction
×	And.
+	Or. It can only appear in input part.
=	The left part of "=" is the input part. When there are multiple input items, each input item is connected by "×" or "+", the logical symbol "×" stands for "and", and "+" stands for "or" , "+" can only appear in the input part. The right part of "=" is the output part. When there are multiple output items, each output item is connected by "×". TIPS To realize the two fire alarm signals sent by 1st smoke detector and 2nd addressable manual call point on the Floor 3, Unit 2, Building 1, activate 4th addressable sounder strobe and delay 6 seconds to start 5th input / output module on the Floor 3, Unit 2, Building 1, the linkage relation is: 01203 001 01 4002 × 01203 002 03 0100=01203 004 05 0100 × 01203 005 09 0106. The definition of numbers can be customized.

Symbol	Introduction
*	Represents any number between 0 and 9. TIPS To realize the two fire alarm signals sent by smoke detector and addressable manual call point on the Floor 3, Unit 2, Building 1, activate all addressable sounder strobes and delay 6 seconds to start all input / output modules on the Floor 3, Unit 2, Building 1, the linkage relation is: 01203 *** 01 4002 × 01203 *** 03 0100=01203 *** 05 0100 × 01203 *** 09 0106.
#	Indicates that the user code is consistent in the same position and must appear in the same position in all input user codes or output user codes. TIPS To realize the two fire alarm signals sent by smoke detector and addressable manual call point on the same floor of the same unit in Building 1, activate all addressable sounder strobes and delay 6 seconds to start all input / output modules on the same floor of the same unit in Building 1, the linkage relation is: 01### *** 01 4002 × 01###*** 03 0100=01### *** 05 0100 × 01### *** 09 0106.

5.6.2 Modify Linkage Relation

While system debugging or device replacing, modify the linkage relation according to the actual situation.

Step 1 Select **Linkage > Modify Linkage Relation.**
Step 2 Modify the linkage relation.
Step 3 Press **Enter** to keep settings.

5.6.3 Delete Linkage Relation

When the linkage relation is not applicable, the linkage relation can be deleted.

Step 1 Select **Linkage > Delete Linkage Relation.**
Step 2 Delete the linkage relation.
Step 3 Press **Enter** to keep settings.

5.7 Debugging

Press **Menu** to enter **Debugging** interface, including System Mode, User Login, Reg. Device, Register Network, Define, Configuration Synchronization and Super Tool.

Figure 5-28 Debugging (1)

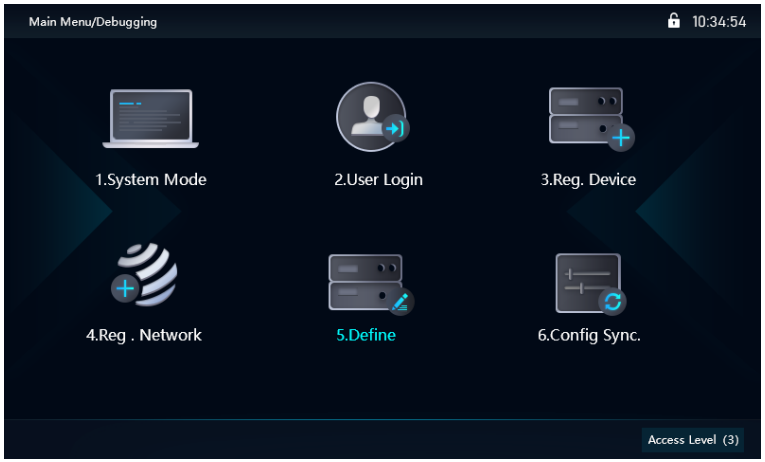
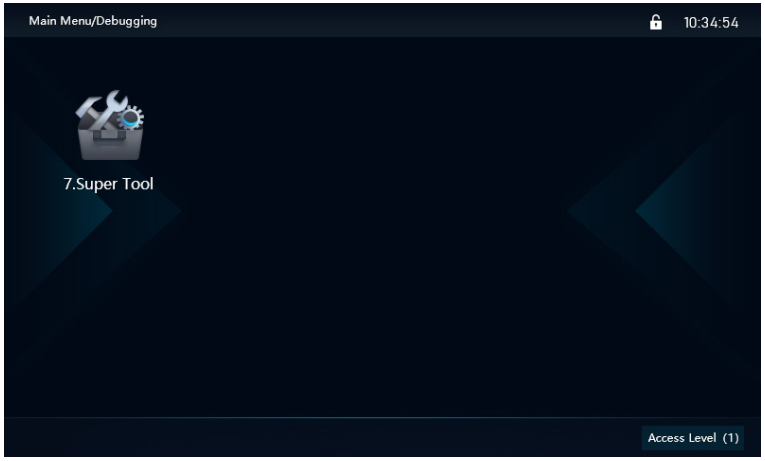


Figure 5-29 Debugging (2)



5.7.1 System Mode

Step 1 Select **Debugging > System Mode.**

Figure 5-30 Figure 530 System Mode

Step 2 Select system mode.

- Select **Debugging Mode**: When FACP is in debugging and maintenance mode, the LCD does not display fault information and Maintenance LED flashes.
- Select **Normal Mode:** When FACP is in debugging and maintenance mode, the LCD displays fault information and Maintenance LED turns off.

Step 3 Press **Enter** to keep settings.

5.7.2 User Login

Step 1 Select **Debugging > User Login.**

Step 2 Select login mode, and press **Enter.**

Enter the password, and press **Enter** to obtain corresponding operation authority.

Figure 5-31 User Login

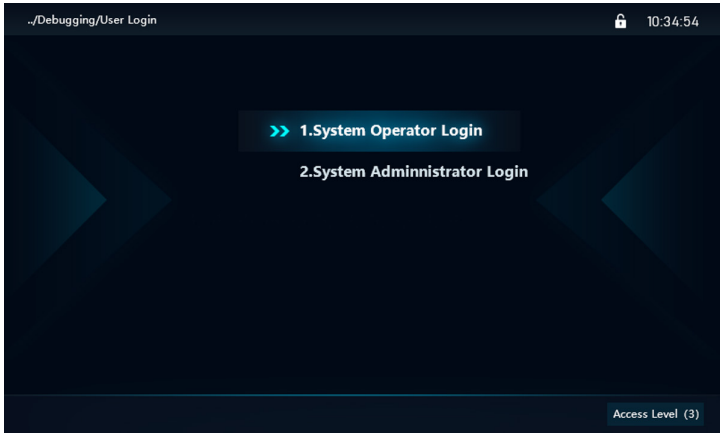


Table 5-3 Operation

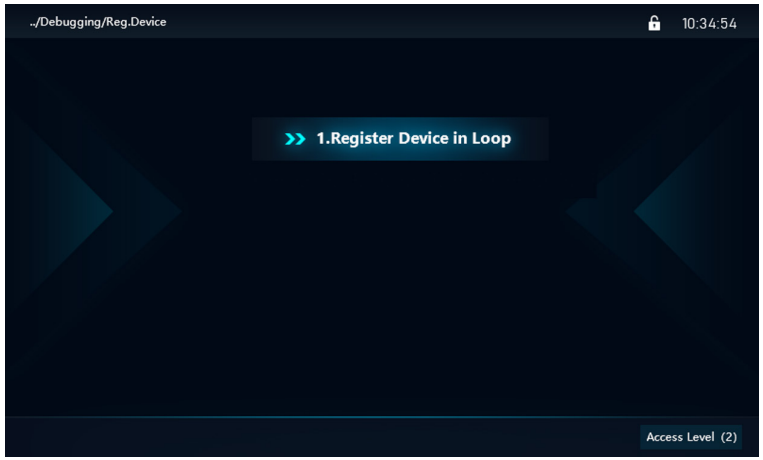
No.	Operation	I	II	III	IV
1	Query information	M	M	M	M
2	Mute device	M	M	M	M
3	Rest	P	M	M	M
4	Manual control	P	M	M	M
5	Test, isolate mode	P	M	M	M
6	Set time	P	M	M	M
7	Power on/off	P	M	M	M
8	Enter or modify data	P	P	M	M
9	Set delay mode	P	P	M	M
10	Programming	P	P	M	M
11	Modify or change software/hardware	P	P	P	M

- P is prohibited, M is allowed.
- Keys and operation numbers are required to enter the state of level II and level III operation functions. The key or number of operations used to enter the state of level III operation can be used to enter the state of level II operation functions, but the keys or number of operations used for level II operation state cannot be used. After entering the state of level III and level IV operation function.

5.7.3 Register Device

It includes register device in loop and channel registration of device linkage panel.

Figure 5-32 Register Device



5.7.3.1 Register Device in Loop

Step 1 Select **Debugging > Reg. Device > Register Device in Loop.**
Step 2 Select register mode, and press **Enter.**

- Select Register Again: Bus device LA remains unchanged.
- Select New Registration: Register based on the internal project information, synchronizing it to the bus device according to the loop and logic address, including device user code, description information, and key parameters. After completing the configuration information of the control panel and supplementing missing equipment in the loop, New Registration can directly deliver and synchronize the information that the panel has to define for the newly added equipment to the newly added equipment. Please refer to Select Register Again.

Step 3 Press **Enter** to keep settings.

5.7.4 Register Network

Select **System Debugging > Register Network** to register other control panels in the local area network with this device. Network registration only registers the information of the control panel, not the information of the node devices connected to this panel.

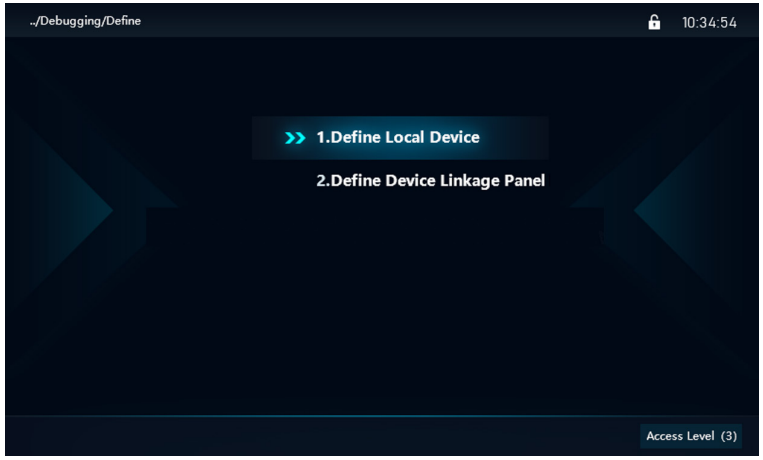
The logic addresses of the control panels to be registered cannot be repeated. If there is repetition, modify the address in the **Super Tool > Modify Device Address on Bus** interface.

5.7.5 Define

Define or modify the user code, description information, key parameters, etc. of the device. It includes four definition functions: local device, manual module panel, and device linkage panel.

It can only define registered devices.

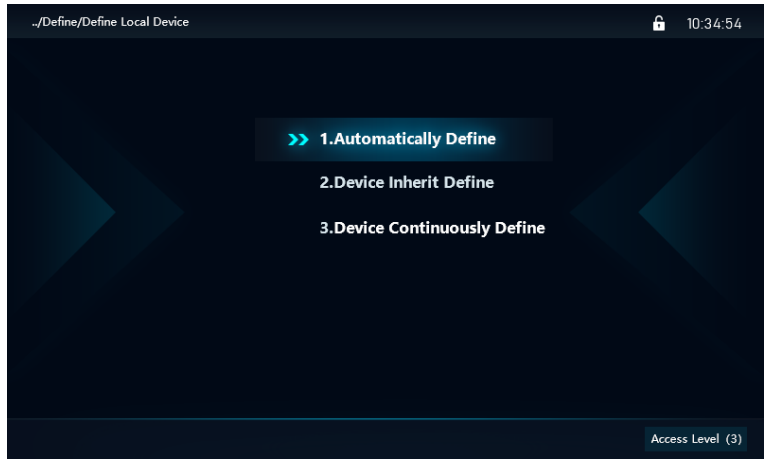
Figure 5-33 Define



5.7.5.1 Define Local Device

Define the user code, operation parameters and description information of the field device.
Step 1 Select **Debugging > Define > Define Local Device.**

Figure 5-34 Define local device



Step 2 Configure define method.

- Select Automatically Define, press Enter.
  Automatically define user code, description information and operation parameters for all devices.
- Select Device Inherited Define, define the device on the basis of the original definition.
- Select Device Continuously Define, the first 5 digits of the user code follow the code of the previous device. The 6th/7th/8th digits of the user code represent the logic address of the device, which is automatically added to the previous one and filled continuously. At the same time, the device type number in the user code remains unchanged.
  1. Configure the device type description to match the device type.
  2. After completing the definition, press the Esc to exit, and the interface prompts "Synchronize device definition information?". Press " ← " or " → " to select "Yes".
  3. Press Enter to save and synchronize device information.

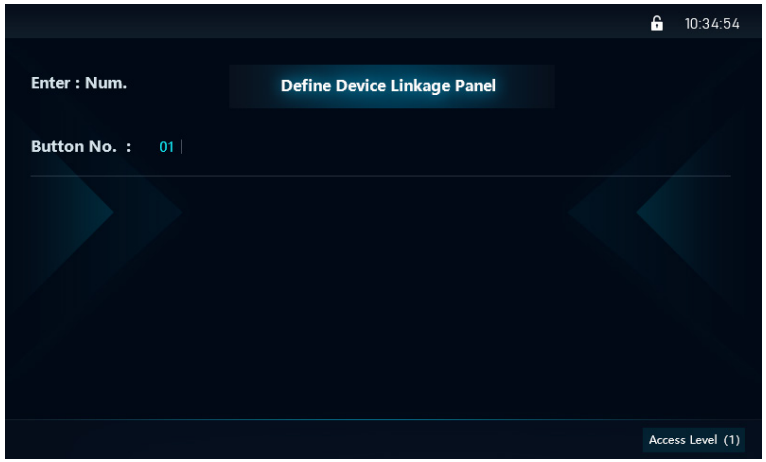
  If the device information synchronization operation is not performed, although the panel saves the definition, the device itself keeps the original information unchanged.

5.7.5.2 Define Device Linkage Panel

The operation of the key definition of the device linkage panel are similar to those of the manual module panel, please refer to 5.6.5.2 Define Manual Module Panel.

When defining the device linkage panel, make sure that the user number and description information of each key of the device linkage panel are consistent with the actual output wiring of the device linkage panel.

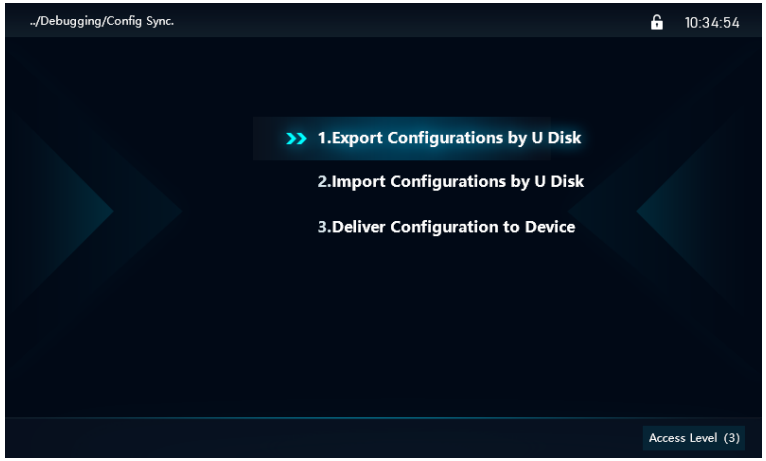
Figure 5-35 Device linkage panel



5.7.6 Configuration Synchronize

It includes export / import configurations by U disk, and deliver configuration to device.

Figure 5-36 Synchronize Configuration



5.7.6.1 Export Configurations by U Disk

Export and save the project configuration file by U disk, which is mainly used to query and check the device information in the debugging software of the host computer, or export the project configuration file for archive backup.

Step 1 Insert the U disk into the USB port behind the control panel.

Step 2 Select **Debugging > Config Sync. > Export Configurations by U Disk,** and press **Enter.**

Save the project configuration file to U disk.

5.7.6.2 Import Configurations by U Disk

In the field application, the configuration information of all field devices can be edited in advance through the host computer debugging software, the configuration file can be put into the U disk, the configuration information can be imported by U disk, and then the configuration information can be sent to the field device to modify device user code, device description information, device parameters and other information. The procedure for importing configuration information from U disk is similar to that of "Exporting configurations by U disk". For details, see 5.7.6.1 Export Configurations by U disk.

5.7.6.3 Deliver Configurations to Device

Select **Debugging > Config Sync. > Deliver Configurations to Device**, the control panel supports to deliver the project configuration to field devices.

5.7.7 Super Tool

It includes Update Firmware, Modify Device Address on Bus, Automatically Assign Address, Monitor Comm. Success Rate, Delete Device and Device Debugging.

Figure 5-37 Super Tool

5.7.7.1 Update Firmware

Update Firmware is used for upgrading program version by professionals. Insert the U disk containing the update file into the USB port of the manual module panel, and select the upgrade program and press **Enter** to update.

5.7.7.2 Modify Device Address on Bus

Modify Address is used for modifying logic address of bus device.

Step 1 Select **Debugging > Super Tool > Modify Device Address on Bus.**

Step 2 Enter the loop number and logic address of target device, and press **Enter.**

Step 3 Enter the new logic address, and press **Enter** to keep settings.
Step 4 After completing modification, register device and the device has new logic address.

The modification result can be queried in **Device** interface.

5.7.7.3 Automatically Assign Address

When the field bus device does not write the logic address or the logic address of the existing device is repeated, use Automatically Assign Address to register all the bus devices. The system rewrites the logic address of all devices in sequence according to the S/N of each loop bus device.

The Automatically Assign Address will clear the written logic address and re-written new logic address according to device S/N. If all bus devices have written logic address, this function should be disabled to avoid unnecessary rework.

5.7.7.4 Monitor Communication Success Rate

Communication success rate represents the ratio of the successful communications between the device and the control panel to the total communications, determining normal communication. If the communication success rate is above 90%, it means that the communication is normal; otherwise, it is abnormal, and the line needs to be checked.

5.7.7.5 Delete Device

Delete paired wireless devices.

5.7.7.6 Device Debugging

1. Used for equipment debugging and modifying specific device parameters.
2. Query the real-time pollution levels of smoke detection devices.

6 FAQ

1) Device are unable to register and frequently be online and offline.
- Measure the voltage of loop bus. (DC23V~DC28V)
- Measure the voltage at the end of the loop. (≥DC16V)
- Measure whether the LOOP cable is grounded. (Ground Resistance ≥10MΩ)
- Measure whether there is a short circuit between loop wires. (Interline resistance ≥ 10KΩ)
- Is the device wiring secure or damaged?
- Check if there are duplicate logic address. (FACP has duplicate LA fault log)
- Check if devices in a specific area are unable to register. If so, inspect the wiring in that area for any issues.

Note: When the loop cable is long (greater than 1KM), recommended to add a loop extender module to enhance the signal and voltage.

2) The device registration device is very slow, and a MCP or broadcast module fails to register every time.

The telephone line or the broadcast line of the MCP is incorrectly connected to the bus. Based on the user code of MCP or broadcast module to do troubleshoot.

3) Siren or Module unable to active by user code, but able to by logic address

UC code is not synchronized; it needs to be synchronized and issued.

Steps: Debugging > Config Sync. > Deliver Configuration to Device

4) Input 1 Short Circuit
- The terminals (3, 4) of input module are configured as NC, and the input terminals are in a short-circuit state (the default parameter is NO).
- Solutions: Modify the parameter of Input Module by a. Encoder or b.c onfiguration tool or c. FACP

5) Input 1 Open Circuit
- The input terminals (3, 4) of the module are not connected, or the feedback line is indeed disconnected.
- Solution: If the feedback line is not connected, connect a 1KΩ line detection resistor. If the line detection function is not required, set the module parameter to "No Fault Check" by a. Encoder or b. configuration tool or c. FACP

6) Output 1 Open Circuit
- The output terminal of the module is not connected or the load is mismatched.
- Solution: If the line detection function is not required, set the module parameter to "No Fault Check"

7) Output 1 Short Circuit
- The output terminal of the module is short circuit
- If the speaker connected to the broadcasting module is non-compliant (with a too low resistance), the speaker may still activate, but it will cause the broadcasting module

to report this fault. In such cases, either disable the output line detection of the broadcasting module or replace the speaker.

8) Duplicated Logic Address

➢ Based on the duplicate code information prompted on the homepage, click the "#" key on FACP and enter the code that needs to be modified.

9) The FACP displays "FFFFFFFFFF New Device Online" or "Device Replacement."

➢ a new device is online or a device has been replaced. Re-register device by the steps: "Debugging" — "Device Registration".

10) After linkage activation, devices cannot be reset

➢ During linkage, the bus current is too high or the line resistance is too large, resulting in a too low loop voltage.

➢ Solution:

① Adjust the number of level output modules (maximum is 3);

② If there are many devices in the loop require level output mode, use the DH1410+24V power supply;

③ If the issue is caused by low voltage, it is recommended to add a bus repeater module.

7 Maintenance

To keep your device in good working condition, please follow these requirements.

- Simulate alarm test: Test the device once half a year (recommended).
- Battery check: A visual inspection should be made once a quarter and discharging once half a year to ensure they are in good serviceable condition.

The battery has under-voltage protection function. When the battery is under-voltage, the panel will report the under-voltage fault information.

When reporting a backup power failure, check the connector and wiring of the backup battery. When the backup battery continuously works for more than 8 hours, it may also report a backup power failure due to low voltage.

- Fuse maintenance: Check the fuse when the main and backup power supply is abnormal.
- If the fuse is burnt out, replace the fuse with same specification.