LK210

Game Security Guard

(Connection Version)

Product Features:

1. Modular Connection Design

o   The game security guard supports flexible connection of host machine + alarm lamp + extension.

o   Ethernet cable connections in any topology, ensuring full coverage without blind spots.

2. High-Precision Interference Detection System

o   Real-time monitoring of interference behaviors such as radio frequency interference(RFI) and electrostatic discharge(ESD).

o   Intelligent identification of characteristic signals of score cheating and coin theft.

o   CPU dynamic analysis algorithm greatly reduces false alarm rates.

o   Ultra-fast response: delay from interference trigger to alarm display is less than 50ms.

3. Intelligent Diagnostic System

o   Accurate positioning of interference sources; digital tube and LED display interference type in real time.

o   Self-check of extension connection status with precise fault code location.

o   18-level adjustable sensitivity to adapt to complex electromagnetic environments.

4.Full-Terminal Coordinated Control

o   **Host Machine:** Centralized parameter control for all connected extensions, with digital tube showing each extension's status.

o   **Extension:** independently adjusts its own parameters and displays working status in real time.

o   **Alarm Lamp:** sound-light alarm and detailed interference display.

5. Intelligent Operation & Maintenance Management

o   Support dual modes of automatic/manual recovery after alarm.

o   Digital tube displays extension ID, sensitivity level, and network status in real time, reducing maintenance costs.

o   extensions are plug-and-play; capacity expansion requires no system reconfiguration.

Product Specifications:

Working Voltage	AC100~230V	Individual	Dimension	18.7*12.5*12CM
Power Consumption	≤60W	Packaging	Gross Weight	0.065KG
Working Temperature	-15~+50°C	Carton	Package	20PCS/CTN
		Packaging	Dimension	65*39*26CM
Alarm Volume	≤120db		Gross Weight	13.9KG

Function Description:

Default Factory Configuration：
1. Host machine and extension in automatic alarm mode.
2. Extension ID F01, sensitivity d12 (blue LED).
3. Alarm Lamp in sound and light mode, volume at maximum.

Extension Sensitivity Setting:
1. Press the K3 key→ digital tube flashing displays current sensitivity.
2. Continue to press the K3 key several times to change the sensitivity.
3. When the blinking stops, the new sensitivity is automatically saved and synchronized to the host machine.
4. Sensitivity has 18 levels, d01－d18: d01－d06 low sensitivity (green LED),d07－d12 medium sensitivity (blue LED),d13－d18 high sensitivity (red LED).

Host Machine Adjusting Extension Sensitivity：
1. Press and hold the K1 key on host machine for 2 seconds → all indicator lights turn red → release the K1 key →the digital tube shows a rotating pattern → press the K2 key to enter the function menu. Function menu key logic: K1 key is used to select, K2 key to confirm, and press the K1 key and K2 simultaneously to return to the previous step.
2. If want centralized adjust all extensions sensitivity, operation: 0-1 → 1-d → d01–d18.
3. If want adjust single extension sensitivity, for example F04 extension sensitivity, operation: 0-2 → F04 → 2-d → d01–d18.

Host Machine

Number	Name	Function Description	Remark
1	Power Socket	AC Input	Operating Voltage Range: AC100–230V.
2	Auto Mode Indicator Light	Steady on in auto mode (blue)	In auto mode, each newly added extension is automatically assigned an ID and updated in the host machine, e.g., first extension F01, second F02, ⋯ last FXX (max F29). After distribution, press the K1key and the K2 key to return to user mode.
3	User Mode Indicator Light	Steady on in user mode (blue)	In user mode, interference detection and function settings are performed in user mode.
4	Radio Frequency Interference(RFI) Indicator Light	LED displays RFI alarm (red)	Steady red when RFI alarm is triggered.
5	Electrostatic discharge(ESD) Indicator Light	LED displays ESD alarm (red)	Steady red when ESD alarm is triggered.

6	Power Indicator Light	LED displays working status (green)	Steady green when power supply is normal.
7	Digital Tube	Multifunctional display of extension and host machine connection status, alarm status, and operation menu interface	In normal state, it displays LXX, indicating the number of connected extensions. For example, L08 means 8 extensions are connected; In alarm state, it flashes to show which extension is alarming. For example, F03 means extension 3 has a Radio Frequency Interference(RFI), H02 means extension 2 has an Electrostatic discharge(ESD); If multiple extensions alarm simultaneously, the display cycles through the IDs; If extensions with the same ID are connected, an error is immediately displayed as EXX. For example, E06 means two extensions with the same ID number 6 are connected.When no ID conflicts exist, the display automatically returns to normal; K1 key used in combination with K2 key to access the menu page.
8	K1 Key	Multifunctional key, access to the function menu	Entering the function menu: Press and hold the K1 key for 2 seconds → all indicator lights turn on → release the K1 key→the digital tube shows a rotating pattern → press the K2 key to enter the function menu interface; press the K1 key and the K2 key simultaneously to return to the previous step. If the K1 key and the K2 key are pressed at the same time in the alarm state, all alarm states can be cancelled.

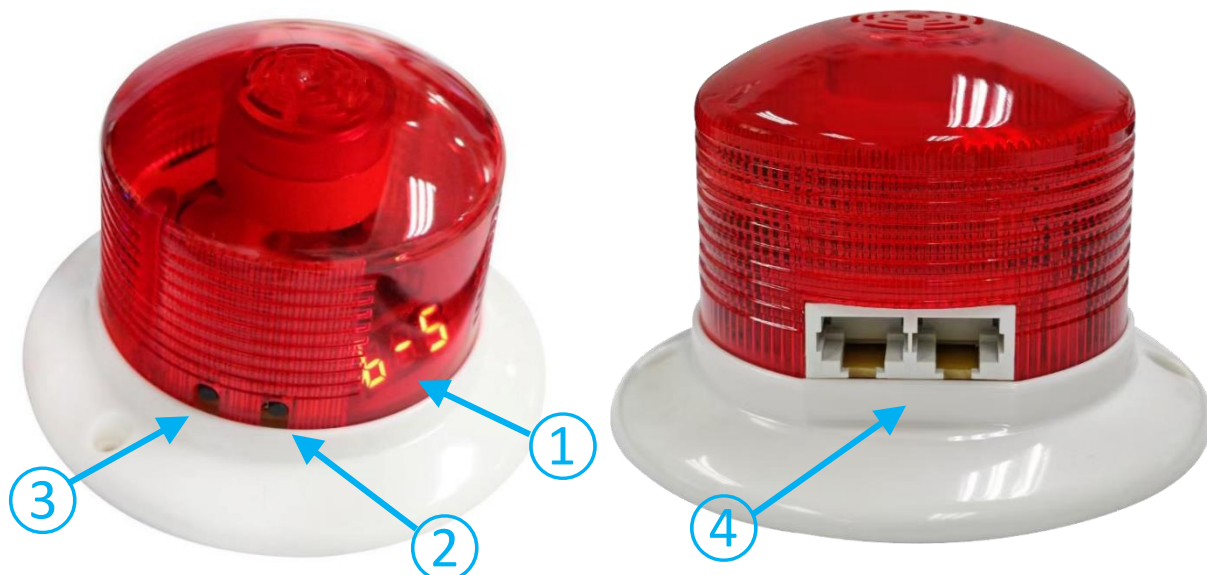|			
9	K2 Key	Multifunctional key, press to sequentially query all extensions' parameters	The retrieved parameters include: the number of connected extensions, each extension's sensitivity level, and each extension's ID number.
10	RJ45 double-row socket	Host machine communication and power interface	There is no order requirement; the two sockets can be connected to extensions in any sequence via Ethernet cables.

Extension

Number	Name	Function Description	Remark
1	RFI-Resisitant antenna plug	Receive RFI signals	The RFI-Resisitant antenna(blue) is first wrapped around the power wires of the ticket dispenser and coin acceptor, then wrapped around the control panel wire, and other locations susceptible to interference.

2	ESD-Resisitant antenna plug	Receive ESD signals	The ESD-Resisitant antenna(red) is clamped onto the coin chute screws, control panel metal parts, coin acceptor and ticket dispenser panel screws, and other associated metal components.
3	Sensitivity indicator light	Displays the sensitivity of the extension	There are 18 levels in total. The LED, together with the digital tube, shows the extension sensitivity: d01－d06 indicate low sensitivity (green),d07－d12 indicate medium sensitivity (blue),d13－d18 indicate high sensitivity (red).
4	Radio Frequency Interference(RFI) Indicator Light	LED displays RFI alarm (red)	Steady red when RFI alarm is triggered.
5	Electrostatic discharge(ESD) Indicator Light	LED displays ESD alarm (red)	Steady red when ESD alarm is triggered.
6	Power Indicator Light	LED displays working status (green)	Steady green when power supply is normal.
7	Digital Tube	Multifunctional display of extension number, sensitivity, and alarm mode	In normal state, the current extension number is displayed. Press the K3 key to adjust the sensitivity, press the K4 key to change the current ID number,and use the K3 and K4 key in combination to modify the extension's alarm mode.(In automatic alarm mode, the extension alarm cancels automatically after 5 seconds. In manual alarm mode, if the alarm is not canceled, the extension will continue alarming every 6 seconds until the alarm is cleared.)
8	K3 Key	Multifunctional key, press to set extension sensitivity	Press the K3 key, the digital tube shows the current sensitivity. Press the K3 key repeatedly to adjust the sensitivity. When the digital tube stops flashing, the adjustment is complete and

			synchronized with the host machine. Press and hold the K3 key for 2 seconds → all indicator lights turn on → release the K3 key→The digital tube shows a rotating pattern → press the K4 key to modify the alarm mode. Press the K3 and K4 key simultaneously to return to the previous step.
9	K4 Key	Multifunctional key, press to set extension ID	Press the K4 Key, the digital tube shows the current ID number. Press the K4 key repeatedly to adjust the ID number. When the digital tube stops flashing, the adjustment is complete and synchronized with the host machine.
10	RJ45 double-row socket	extension communication and power interface	There is no order requirement; the two sockets can be connected to extensions in any sequence via Ethernet cables.

Alarm Lamp

Number	Name	Function Description	Remark
1	Digital Tube	Multifunctional display of volume level and alarm mode	In normal state, the volume level is displayed as b-0 to b-5, where b-0 means volume off, and b-5 means maximum volume.
2	Plus Key (+)	Combination key paired with '-'	Press and hold the "+" → all indicator lights turn on → release the "+" →The digital tube shows a rotating pattern → press "-" to enter the volume setting interface. Continue pressing "－" to select the volume level, and press "+" to confirm. Press "+" and "－" simultaneously to return to the previous step. Press can cancel the alarm status.
3	Minus Key (-)	Combination key paired with '+'	Press and hold the "－" → all indicator lights turn on → release the "－" →The digital tube shows a rotating pattern → press "+" to enter the alarm mode setting page. Continue pressing "+" to select a mode, and press "－" to confirm. Pressing can cancel the alarm status.
4	RJ45 double-row socket	Alarm communication and power interface	There is no order requirement; the two sockets can be connected to extensions in any sequence via Ethernet cables.

Function menu:

Host machine automatic ID assignment mode operation：

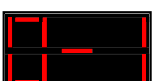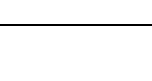1. Press and hold the K2 key for 2 seconds → all indicator lights turn red → release the K2 key→ the digital tube shows a rotating pattern.
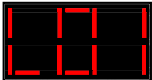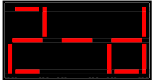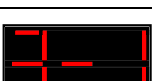
2. Press the K2 key to confirm and enter automatic ID assignment mode; the automatic indicator light turns blue.

3. Press the K1 and K2 key simultaneously to exit.

Appendix 1: host machine Function Menu Overview

Number	Name	Function Description
L01	Number of connected extensions	LXX indicates the total number of connected extensions. For example, L01 means 1 extension is connected. The count updates automatically whenever a new extension is connected.
1-1	Centralized Control	Centralized control of all extension functions.
1-2	Independent Control	Independent control of a specific extension's functions.
1-3	Alarm Lamp control	Control Alarm Lamp functions.
1-4	Alarm query	Query the latest alarm record.
1-5	Alarm Mode Setting	Set Alarm Mode for Host Machine.
1-d	Centralized sensitivity control	Centralized control of all extensions' sensitivity.
1-F	Centralized ID assignment	Centralized reassignment of IDs for all extensions. extensions with lower original ID numbers are assigned new IDs with higher priority.
1-A	Centralized alarm mode set	Centralized control of alarm modes for all extensions (automatic alarm mode / manual alarm mode).
d09	Sensitivity selection	There are 18 levels in total: d01–d06 represent low sensitivity (green), d07–d12 represent medium sensitivity (blue), d13–d18 represent high sensitivity (red). For example, d09 indicates medium sensitivity, and the sensitivity LED will be blue, as shown in the figure.
A-1	Alarm mode setting	A-1 indicates automatic alarm mode, and A-0 indicates manual alarm mode. **Extension alarm mode setting:** In automatic alarm mode, extension stops alarm automatically 5 seconds after alarm triggers; in manual alarm mode, extension continues alarming every 6 seconds until alarm is canceled. **Host machine alarm mode setting:** In automatic alarm mode, host machine stops alarm for all devices 10 seconds after alarm triggers; in manual alarm mode, alarm must be manually canceled.
F04	Select a specific extension	1.After entering 0–2, need to select a specific extension. For example, F04 means selecting extension number 4 for control. 2.After entering 2–F, select the ID to assign. For example, F04 means assigning ID number 4 to the selected.

	Independent sensitivity control	Independently control the sensitivity of a specific extension (e.g., F04). After entering, the displayed level corresponds to the current sensitivity of the selected extension.
	Independent ID assignment	Independently assign ID to a specific extension.
	Independent alarm mode set	Independently set automatic or manual alarm mode for a specific extension.
	Set alarm volume	Set the alarm volume.
	Alarm mode 1	In this mode, the alarm enables both the alarm LED and the buzzer.
	Alarm mode 2	In this mode, the alarm enables only the alarm LED.
	Alarm mode 3	In this mode, the alarm enables only the buzzer.
	Alarm volume setting	After entering 3-1, there are 6 levels: b-0 to b-5. b-0 means the alarm sound is off, and b-5 is the maximum volume.

Extension ID change operation:

1. Press the K4 key→ the digital tube shows the current ID and flashes.
2. Continue pressing the K4 key to change the ID.
3. When the digital tube stops flashing, the ID is automatically updated and synchronized to the host machine.

Extension alarm mode change operation:

1. Press and hold the K3 key for 2 seconds → all indicator lights turn on →

release the K3 key→The digital tube shows a rotating pattern.

2. press the K4 key to enter the interface.

3.A-1 indicates automatic alarm mode, and A-0 indicates manual alarm mode.
(In automatic alarm mode, the extension alarm automatically cancels after 5 seconds.
In manual alarm mode, if the alarm state is not canceled, the extension will continue

alarming every 6 seconds until the alarm is manually cleared).

Alarm Volume Adjustment Operation:

1. Press and hold the "+" → all indicator lights turn on → release the "+"

→The digital tube shows a rotating pattern.
2. Press the "－" to enter the volume selection interface.
3. Continue pressing the "－" to select volume levels from b-0 to b-5 (6 levels in

total), where b-0 means alarm sound off and b-5 is maximum volume.
4. Press the "+" to confirm the change.
5. Press both "－" and "+" simultaneously to return to the previous step.

Alarm Mode Change Operation:

1. Press and hold the "-" → all indicator lights turn on → release the "-" →

The digital tube shows a rotating pattern.
2. Press the "+" to enter the alarm lamp setting interface.
3. Continue pressing the "+" to select modes.
4. Press the "-" to confirm the change.
5. Press both "－" and "+" simultaneously to return to the previous step.

Appendix 2: Alarm Mode Menu Overview

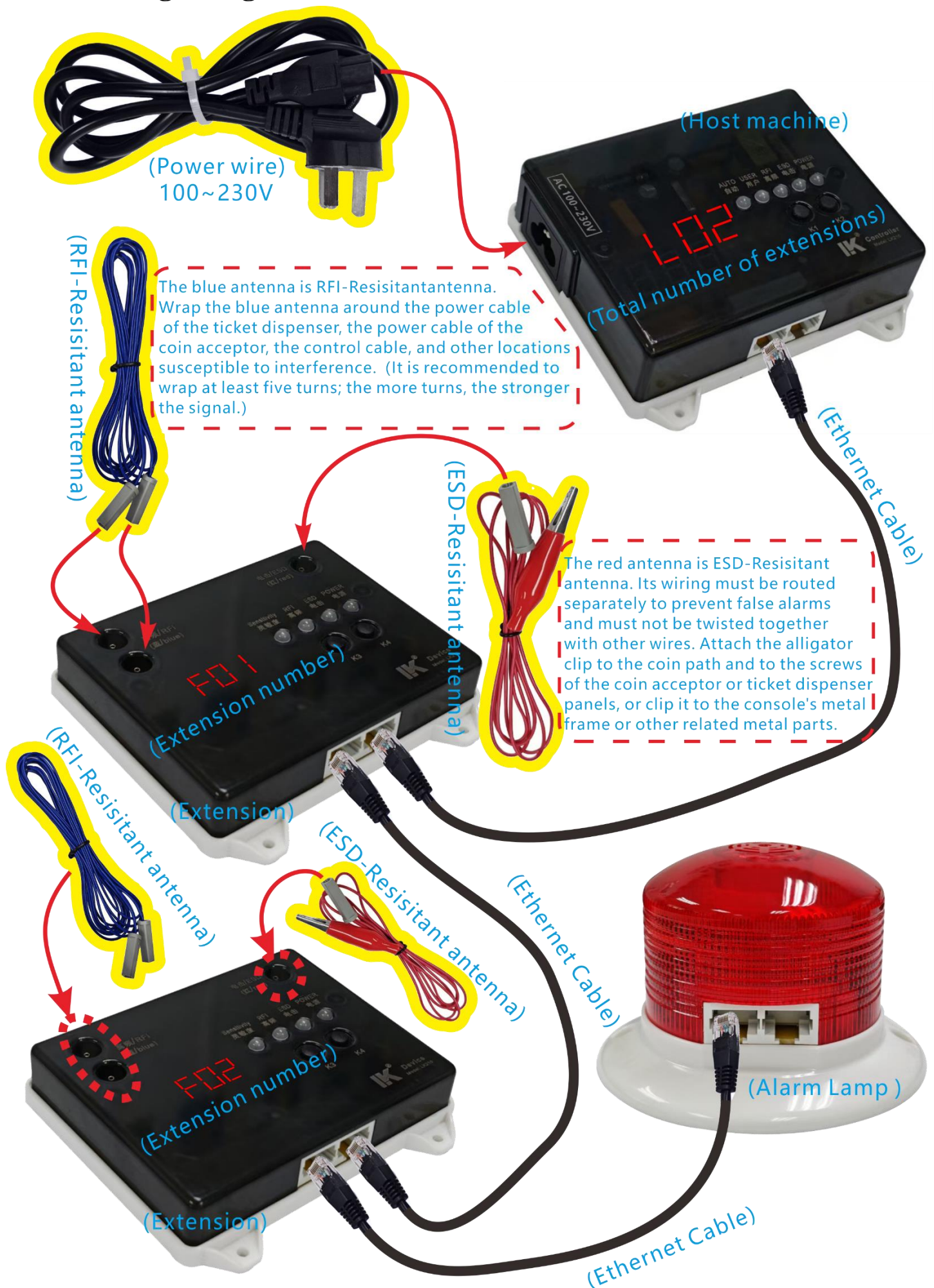| Number	Name	Function Description
	Alarm mode 1	In this mode, the alarm enables both the alarm LED and the buzzer.
	Alarm mode 2	In this mode, the alarm enables only the alarm LED.
	Alarm mode 3	In this mode, the alarm enables only the buzzer.

Detailed Explanation:

1. The higher the extension's sensitivity, the more easily it triggers an alarm. If frequent false alarms occur during use, the extension's sensitivity can be lowered; conversely, it can be increased if needed. Sensitivity applies to radio frequency interference(RFI) alarms, while discharge interference(ESD) alarms do not have a sensitivity setting.

2. The parameters of the extensions and alarm lamp can be modified directly on the units themselves or via the host machine.

3. Insert the blue RFI-Resisitant antenna with dual connectors into the RFI protection socket. Wrap the blue antenna around the power wires of the ticket dispenser and coin acceptor, the splitter wires, the control console wires, and other interference-prone areas. It is recommended to wrap at least 5 turns (more coils increase signal strength).

4. Connect the red ESD-Resisitant antenna to the ESD protection socket. Note: Do not wrap the red antenna together with other wires; route it separately to prevent false alarms.

5. When powered on, the host machine will automatically obtain information from all extensions. During initial use, if there is an ID conflict, the ID numbers can be configured in three ways: A. Use the host machine to centrally reassign ID numbers; B. Change each extension's ID individually; C. Use the automatic ID assignment mode.When no conflicting IDs exist on the lines, the error alarm will be automatically cleared.

6. There is no required connection order between the host machine, extensions, and alarm lamp; both interfaces can be used to connect devices freely.

7. During the first 2 .5seconds after power-on, the digital tubes of the host machine, extensions, and alarm lamp will show "888" and all indicator LEDs will light up. This allows you to check whether the displays and indicators are functioning properly.

8. If an extension is removed , the host machine will not automatically update the extension information. Press the the K2 key on the host machine to perform a polling to obtain the latest extension information.

9.Press the K1 and K2 key on host machine simultaneously to cancel all alarm states(host machine,extensions,and alarm lamp).Press either key on alarm lamp to cancel its own alarm state(only cancels its own alarm state ,does not cancel host machine alarm state).

10. After the host machine and alarm lamp cancel the alarm status, the number of triggered alarms will be displayed within 1.5 seconds.

11. The total network length is recommended not to exceed 200 meters (including the host machine, all extensions, and alarm devices).

12. Host machine factory state: user mode LED is always on; Extension factory state: sensitivity is medium d12, alarm mode is automatic alarm mode, ID number is F01; Alarm Lamp factory state: volume is b-5, alarm LED and buzzer are both on.
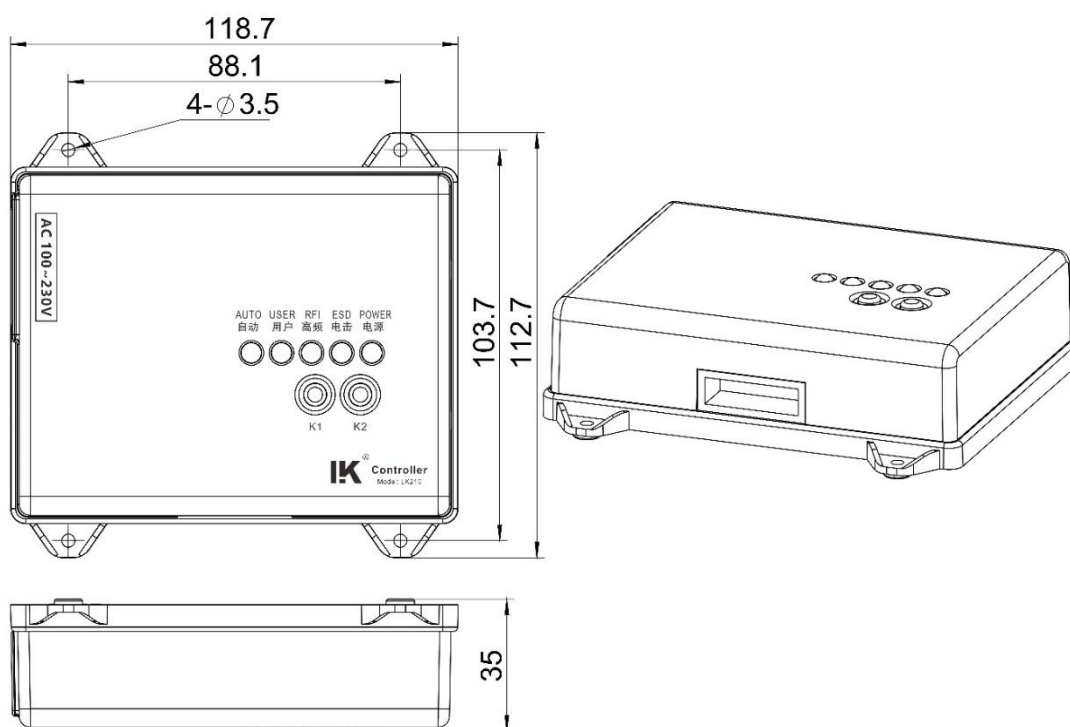
Fault Handling:

No.	Failure Phenomenon	Solution
1	No response / Status LED is not on	Check if the input is connected and if the external power supply is normal.
2	Fail alarming when affected by RFI	A. Check if the RFI-Resisitant antenna(blue) is connected to the extension B. Ensure the antenna is installed correctly, close to interference-prone areas C. Adjust the extension’s sensitivity
3	Fail alarming when affected by ESD	A. Check whether the ESD-Resisitant antenna (red) antenna is properly connected. B. Check whether the ESD-Resisitant antenna (red) clip is attached to a metal part of the chassis and making good contact.
4	Occasional false alarms	A.Reduce environmental interference, such as power supply box, large motor, welding machine, high-power wireless transmitter, etc. B. Adjust the sensitivity of the extension. C. Reduce the number of turns of the RFI-Resisitant antenna(blue).
5	Host machine display flashing EXX	There is a duplicate ID among the connected extensions. For example, if the host machine flashes E05, it indicates that extension ID 5 is duplicated. Changing the duplicate ID to a unique one will automatically restore normal operation.
6	Alarm on some extension when interference,but host machine/alarm lamp does not alarm	Check whether Ethernet cable connection between host machine/alarm lamp and extension is normal, replace with another network cable for testing.
7	Repeated alarms after triggering	Set the extension’s alarm mode to automatic.

Usage Diagram:

(Power wire)
100~230V

(Host machine)

(Total number of extensions)

(RFI-Resisitant antenna)

The blue antenna is RFI-Resisitantantenna. Wrap the blue antenna around the power cable of the ticket dispenser, the power cable of the coin acceptor, the control cable, and other locations susceptible to interference. (It is recommended to wrap at least five turns; the more turns, the stronger the signal.)

(ESD-Resisitant antenna)

(Ethernet Cable)

The red antenna is ESD-Resisitant antenna. Its wiring must be routed separately to prevent false alarms and must not be twisted together with other wires. Attach the alligator clip to the coin path and to the screws of the coin acceptor or ticket dispenser panels, or clip it to the console's metal frame or other related metal parts.

(Extension number)

(Extension)

(RFI-Resisitant antenna)

(ESD-Resisitant antenna)

(Ethernet Cable)

(Alarm Lamp)

(Extension number)

(Extension)

(Ethernet Cable)

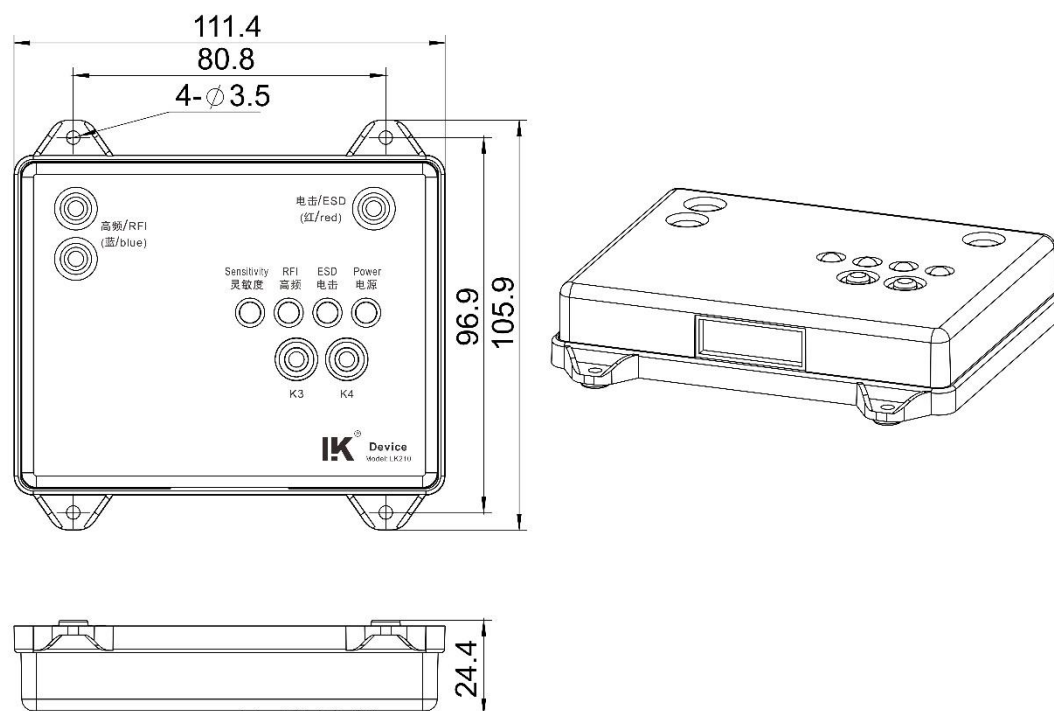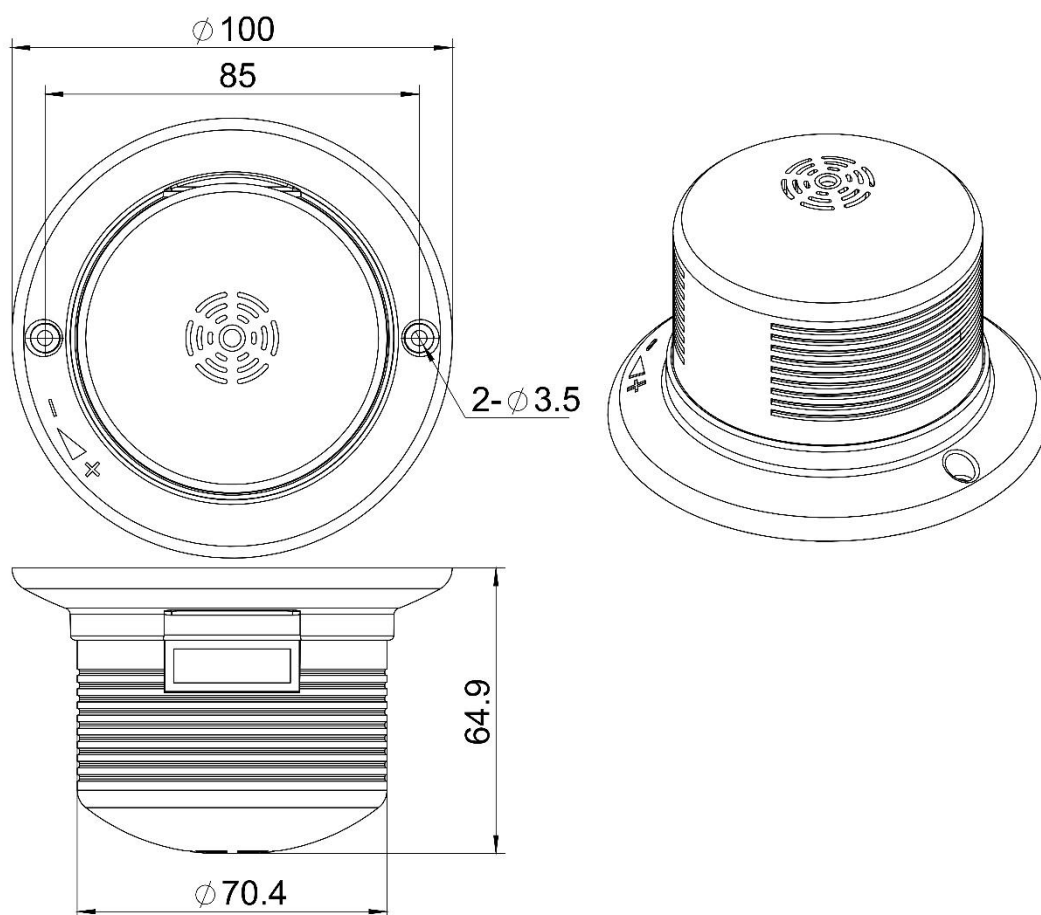# Product dimension diagram:

LK210 Host Machine Dimension Diagram:

LK210 Extension Dimension Diagra:

LK210 Alarm Lamp Dimension Diagram:

∅100
85
2-∅3.5
64.9
∅70.4

If product technology improved, it will be edited in the new manual without notice.
The ultimate interpretation of this manual is up to Guangzhou Likang Electronic Technology Co.,Ltd.

LK Guangzhou Likang Electronic Technology Co.,Ltd.
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V1.0