

CAKJ-XBH-32C M Central Signal Alarm Device



CM Series Touch Screen
32-channel signal alarm

I. Summary

CAKJ-XHB-32CM Touch Screen Voice Alarm Device is a centralized management microcomputer signal alarm system designed for power plants and substation signal systems. With 7-inch touch screen display operation, it has the characteristics of strong anti-interference capability, simple operation, convenient installation and use, and less maintenance. This product is widely used in power, petroleum, chemical, metallurgical and coal industries, making it a highly intelligent product for power and industrial automation monitoring and signal alarm.

2.Functional features

- 1.The device panel has LCD touch screen display and self-test on power up.
 - 2.It has the functions of test, confirm (accept), silence, and reset, touch screen operation and external terminals.
 - 3.It has manual and automatic confirm functions, and the automatic confirmation time (0-200s) can be set.
 4. Signal alarm type can be distinguished: accident signals, warning signals, and position signals.
 5. Alarm window Color: according to signal alarm types it will distinguish automatically in red (accident), green (warning), and yellow (location), separate by color will be more obvious and visually .
 6. Signal Name: The name of each alarm signal can be entered and modified on site.

 7. Input signal type: instantaneous type (signal on alarm, signal off return), hold (signal on alarm, signal off hold alarm, need manual reset).
 8. Input signal normally open normally closed selection: For each signal, normally open can be set to normally closed alarm (default), normally closed can be set to normally open alarm.
 9. Input Signal on/off: Any alarm signal can be selected for on or off(has signal alarm when off and device does not respond).
 10. Signal Delay Alarm: 0-9999ms delay alarm time can be set.
 11. Device buzzer, different sounds for accident and warning signals, position signal does not sound, can be on or off.
 12. The device with accident and warning sound and alarm output contacts, which can start external electric whistle and bell, and can be on or off.
 13. Has teleindication signal output contacts, power-loss output contacts, and total teleindication signal output contacts for accidents and warning.
 14. The device can be equipped with a voice output interface, and an external speaker can be connected to realize voice broadcast alarm.
 15. It has digital communication output, RS485 serial communication interface, MODBUS communication protocol.
- ◆Note: Description of input signal status and alarm program.

The working flow when the input signal state is selected as "instantaneous alarm" (default) as follows:

Routes	Operating conditions	Button operation	Alarm Status	Alarm window	Alarm sound	Note
1	Normal	-	Normal	off	Silent	
2A	Abnormal	-	alarm	Flash	Sounding	Audio-optical alarm
2B	Abnormal	Silent	alarm	Flash	#Silent	Keep alarm on
3A	Abnormal	Confirm	confirm	Plain	Silent	Keep alarm
3B	Normal	-	-	to line 4		Instant alarm
4	Normal	-	Normal	off	Silent	Automatic reset

When the input signal state is selected as "maintain alarm", the workflow is as follows:

Routes	Operating conditions	Button operation	Alarm Status	Alarm window	Alarm sound	Note
1	Normal	-	Normal	off	Silent	
2A	Anomaly	-	alarm	Flash	Sounding	Audio-optical alarm
2B	Anomaly	Silencing	alarm	Flash	#Silent	Keep alarm
3	Anomaly or normal	Confirm	confirmed	Plain	#Silent	Keep alarm
4A	Anomaly	Reset		to line 3		Keep alarm
4B	Normal	-	Normal	off	Silent	Manual Reset

Note: a normal signal refers to no alarm status, an abnormal signal refers to a alarm state.

III. Model Specifications

Model	Number of alarm circuits	Signal Type	Specify
CAKJ-XHB			Chang'an Science and Technology Integrated Signal Alarm Device
	-32CM		32 Circuit alarm signal, touch screen interface
		null	The alarm signal is a passive dry contact signal input.
		-A	The alarm signal is an active voltage signal input (DC220V, DC110V, DC125V, etc.)

Model example: CAKJ-XHB-32CM passive dry contact signal input

CAKJ-CMP-32CM-A Active Voltage Signal Input

DC220V

IV. General Technical Requirements

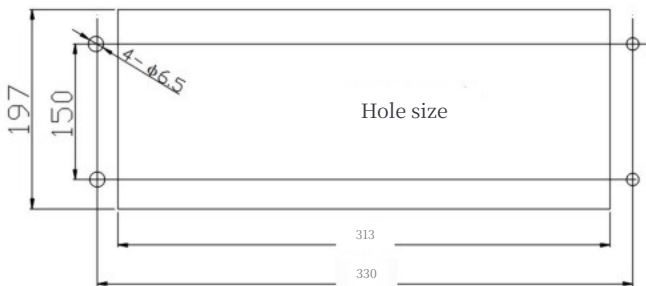
1. Working power supply: DC220V, DC110V, DC125V, AC220V, AC240V optional.
2. Signal capacity: 32 circuits.
3. Input signal mode: passive dry contact or active voltage signal.
4. Alarm output: LCD display, buzzer, audio sound, and external speaker for voice alarm.
5. Alarm sound: buzzer beep 60DB; expandable audio include CAKJ-DL bell, CAKJ-DD whistle.
6. Contact output: 5 relay contacts outputs.
7. Contact capacity: AC250V, 3A pure resistive load, DC220V, 0.125A inductive load.
8. Function setting: Touch screen operation.
9. Power consumption: No more than 30W in total.
10. Communication interface: Standard RS485 serial communication interface, MODBUS communication protocol.
11. Insulation resistance: No less than 100MΩ between input-output-power-case.
12. RMS voltage resistance: Between input-output-power-case, it can withstand 2kv, 1min, 5mA, 50/60Hz test , without flashover or breakdown.
13. Anti-interference capability: It can withstand high-frequency interference tests of 1MHz and 100kHz attenuated shock waves. The first half-wave voltage amplitude is common mode 2.5kV, differential mode 1.0Kv, and the product will not have false or refusal to move.
14. Environmental conditions: Ambient temperature -10°C~60°C; ambient humidity is no more than 90%.
15. Weight: 2kg.

5. Device Alarm and Inspection

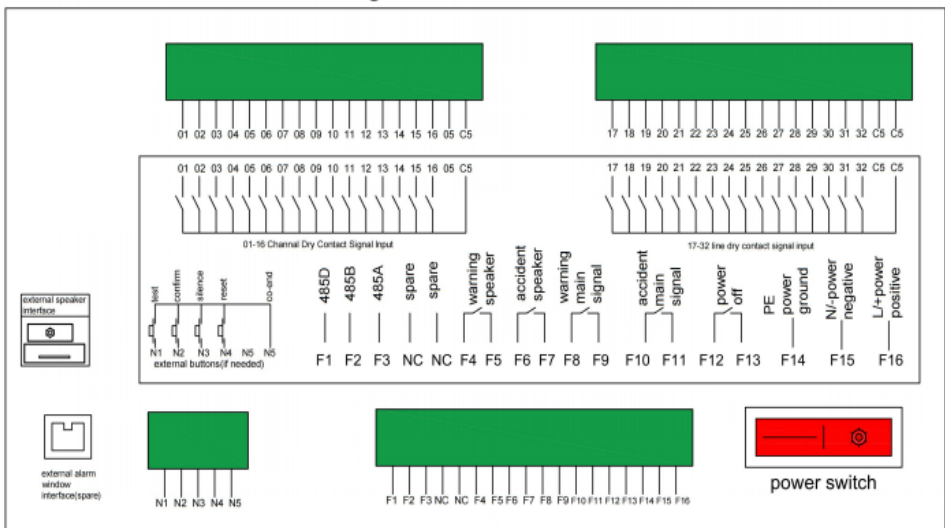
1. Self-test when power on, connect the device to the power supply, the panel displays that the central signal alarm device is starting, and the main interface will display after startup is completed.
2. Press the "Test" button on the LCD screen, the setted signal circuit displays red, green, yellow, the unset signal displays gray, the buzzer sounds, the output audio contact acts, and return to the monitoring state when button released.
3. When the signal is alarming, the corresponding signal alarm window is flashing, the buzzer is sounding, the audio contact is active, the electric bell and electric whistle are sounding, the teleindication contact is active, and the alarm signal name is reported with voice.
4. When the signal alarm occurs, pressing the "Silence" button can silence the alarm, the buzzer is silent, the audio output contact returns, and the voice stops.
5. When the signal alarm occurs, pressing the "Confirm" button (or automatic confirmation within 0-200s), the signal light changes from flashing to steady, the buzzer is silent, the audio output contact returns, the electric bell and whistle are silent, and the voice stops.
6. When the signal is reset, the instantaneous input signal is extinguished, and the teleindication contact returns. The signal lamp of the holding input signal remains in alarm and needs to be manually reset (press the "Reset" button) before the signal lamp is extinguished and the teleindication contact returns.
7. When the alarm signal with voice is on, the alarm signal name is broadcast by voice, and the operation button name is broadcast when the external button is operated.

6. Detailed Description of the Apparatus

1, Appearance and installation size diagram (thickness 95mm)



2.Terminal Connection Diagram



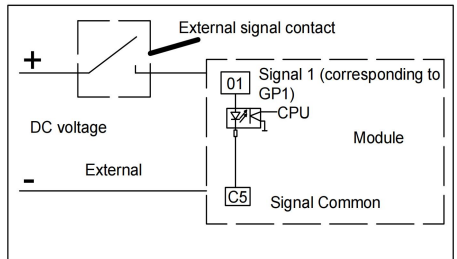
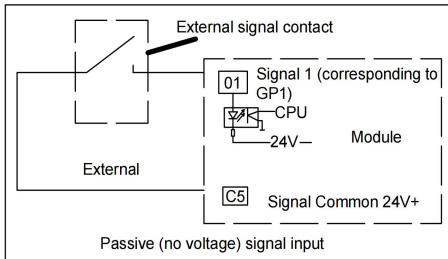
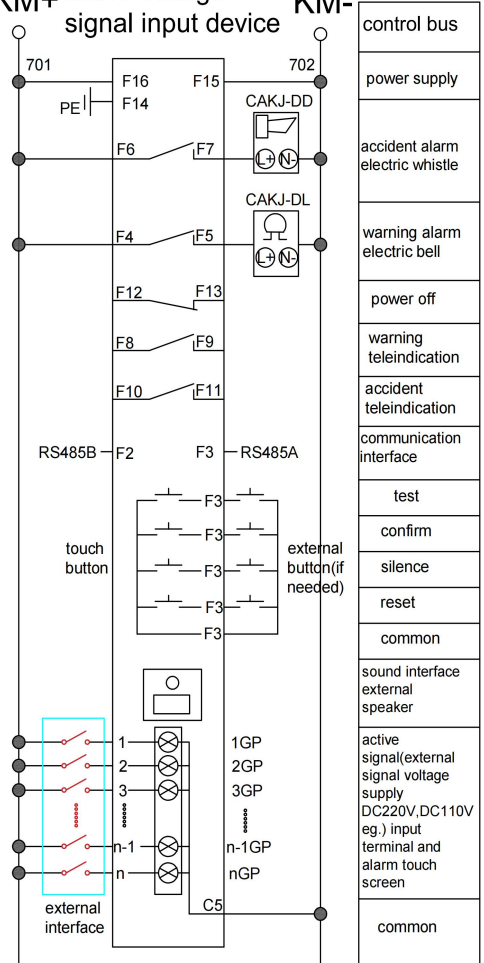
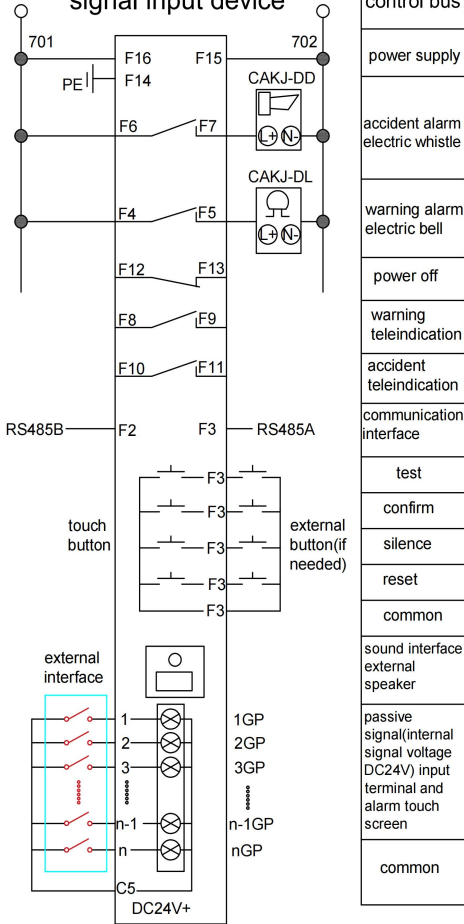
3. System Wiring Diagram

CAKJ-XHB-32CM

CAKJ-XHB-32CM-A

KM+ passive dry contact signal input device

KM+ active voltage signal input device



4. Startup and alarm interface



◆ Turn on the power switch, display startup, startup completed, main interface display main interface

◆ The device definition is grey-white when there is no alarm, and when there is an alarm, the accident signal is red, the warning signal is green, and the position signal is yellow.

◆ According to the device setting, press the "Test" button, all signal status indicators, display the corresponding color, release to return to the original color. When there is a signal alarm (such as signal alarm No.1), signal No.1 is set as the accident signal, the No.1 signal light on the status interface is red and flashing, the alarm signal name is displayed at the top, and the red signal light is on steadily (flat light) after pressing the confirmation button.



Also press the page key when the signal alarm, the interface is turned to the alarm text interface, the No.1 red light bar flashes, and the red light bar is on steadily after pressing the confirmation button;

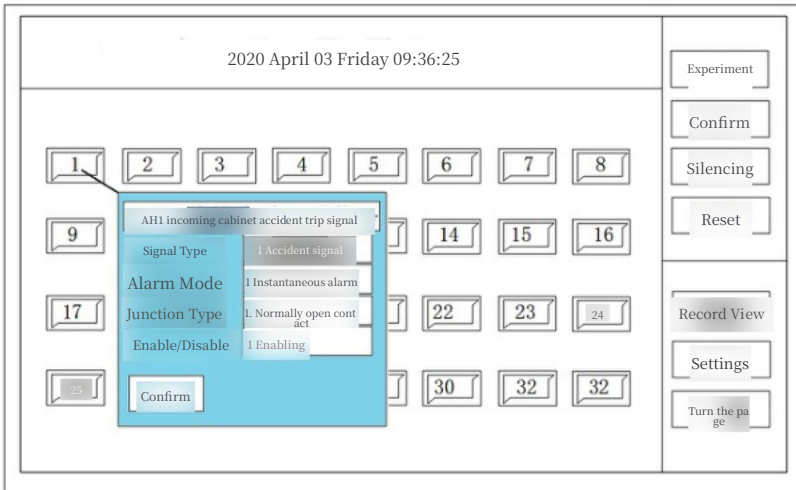
Note: The status interface and the text interface are linked. If the automatic confirmation time is set, the confirmation can be made automatically without operating the confirmation button.

◆ Signal confirmation: When the operator knows that the signal has alarmed, the flashing state of the signal light that alarms is changed into a steady on state, and the audible alarm is canceled at the same time. ◆ Alarm light bar and text interface (Press the "Turn page" button)



Click on the next page to view all signal status

5. Alarm Signal Name Input and Signal Attribute Selection



- ◆ Signal Name: Press the signal lamp on the main interface (such as 1) to pop up the setup selection interface, click the alarm signal name column, you can enter or modify the alarm signal name. The length of the signal alarm name is 26 characters (13 Chinese characters).
- ◆ Signal Type: 1 Accident Signal, 2 Forewarning Signal, 3 Position Signal, click the text box to select; (Note, see Article 8)
- Alarm Mode: 1 Instantaneous alarm, 2 Persistent alarm, click the text box to select; (Note, see item 8 for details)
- ◆ Contact Type: 1 Normally Open Contact, 2 Normally Closed Contact, click the text box to select; (Note, see Article 8 for details)
- ◆ Enable/Disable: 1 Enable, 2 Disable, click the text box to select; (Note, see Article 8)
- ◆ Press the Enter key to save and return without setting or setting is completed. Alarm signal name and signal attribute can be input or selected in turn according to the alarm loop.

6. Basic device settings (tap the settings button on the main interface)



◆ Tap the button that needs to be set, push out the setting interface, tap the text box to push out the keyboard or select an item,

Confirm when you have entered or selected it.

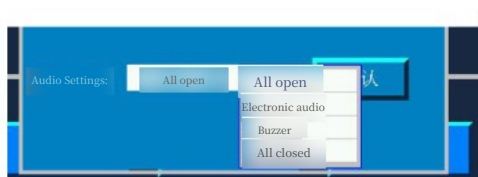
◆ Auto confirmation time: 0-200s, no auto confirmation when 0 (auto confirmation when signal alarm). Click "Auto confirmation time", click the number drop-down menu to edit, click confirm to set.



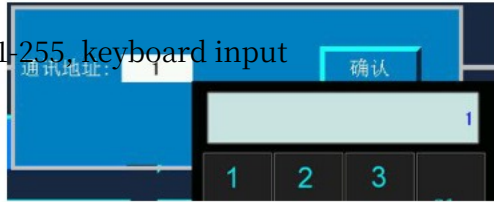
Signal delay time: 0-9999ms, Signal alarm delay time. Click "Signal Delay Time", Dot number dropdown menu is editable, Dot confirmation settings completed.



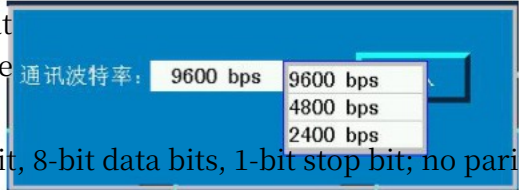
Audio Settings: All On, Electronic Only, Buzzer Only, All Off (Mute), Tap "Audio Settings" Tap "All on" drop-down menu Select Tap confirm Set up complete.



◆ Correspondence address: 1-255, keyboard input

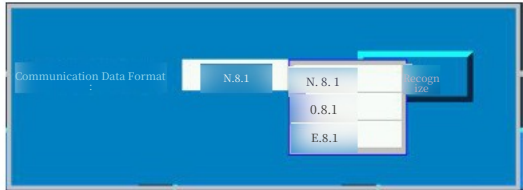


◆ Communication Baud Rate: 9600, 4800, click on the text box to select



◆ Data format: 1-bit start bit, 8-bit data bits, 1-bit stop bit; no parity, even parity, odd

Validity Click text box
 x Select N for no check
 k O for odd check E f
 or even check



◆ System clock setting: year, month, day, hour, minute and second can be entered item by item
 Dot Year + Year -

Month + Month -

Day+Day-

Time + Time -

Plus-minus

Seconds+Seconds-



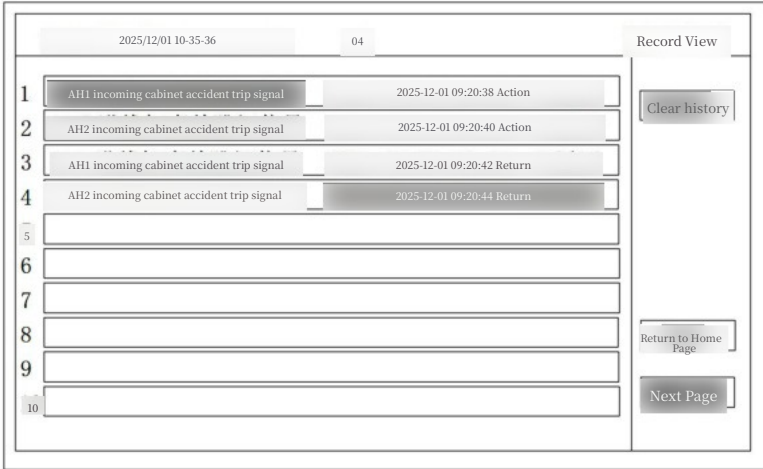
After setting, click "Update System Clock" to complete the modification.

◆ Voice broadcast: You can choose to set it to single, continuous, or off. Press the mute button or confirm button on the main interface to stop the broadcast.



7. Record View

Click the "Record View" button on the main interface, you can view 100 signal records that have reported alarms according to the prompts, and you can view all records by turning pages.



Note: The device must be restarted after the record is cleared.

8. Signal Attributes

Signal Type

1. Accident signal: set to sound the electric whistle related to the accident signal, the device's built-in buzzer emits a drop-----long sound.
2. Warning signal: When set to the warning signal, the associated bell rings, and the buzzer built into the device emits a short beep, beep ----- short sound.
3. Position signal: When set to the position signal, the signal light and the character panel are illuminated, but no sound is emitted.

◆ Terminal Type

1. Normally open contact: for passive dry contact signal, the alarm changes from normally open state to normally closed state; for active voltage signal, the alarm changes from low voltage to high voltage.
2. Normally Closed Contact: For passive dry contact signals, the normally closed contact status changes to normally open status alarm; for active voltage signals, high voltage changes to low voltage alarm.

◆ Enable/Disable

1. Open: When selected, it indicates that the road signal can alarm normally.
2. Alarm Masking: When alarm masking is selected, it indicates that the alarm of this circuit is masked, and the device does not respond when the alarm signal occurs.

7. Ordering Instructions

Please provide the model number of the product, the specification of the power supply voltage, and the specification of the signal voltage (if the power input is selected) when ordering. Note: The electric bell and electric whistle are optional, please indicate if you need to match them. If the user already has the "alarm signal name" (for each signal) when ordering, please provide it to us, and we will set up all signals as required.

Voice Alert Box (optional)

Model: US2 Material: ABS Case
Product size: 95x65x61 (single)
Speaker size: 52mm Full-range speaker
Speaker power: 3Wx2
Frequency response: 180-20KHZ
Amplifier: LTK5209
Power supply mode: USB-DC5V
Cable length: 125cm (exposed)



CAKJ-DL,DD Electronic Bell and Whistle (optional)

I. Overview

CAKJ-DL, DD Electronic Bell and Whistle, is a low-power, interference-free, high-volume electronic alarm device designed for central signal alarm in power systems. It uses a single-chip microcomputer to simulate the sound spectrum of electromagnetic bells and whistles, with a sound similarity of up to 98% to electromagnetic bells and whistles.

2. Model specifications:

CAKJ-DL Electronic Bell

CAKJ-DD Electronic Whistle

3. Technical parameters:

Working power supply: AC, DC30~265V, wide voltage AC/DC universal, DC24V specified when ordering.

Consumption power: not more than 3VA

Sound volume: 120DB

Bell sound: Ding-dong-dong-dong, uninterrupted sound

Whistle sound: Toot-toot-toot-toot, uninterrupted sound

Working mode: power on sound, power off silence

Dielectric performance:

Isolation voltage: 3000V between input terminals and ground, 1 minute.

Insulation resistance: >100MΩ.

Interference resistance: The product can withstand the electrical fast transient pulse group interference test specified in Chapter 5 of GB/T 17626.4-2008 with a test level of 4.

Applicable environment:

Temperature: -25~55℃

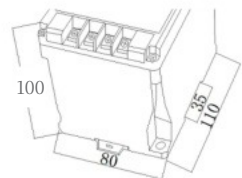
Humidity: not more than 90% RH

Average fault-free working time: not less than 50000h

4. External dimensions and wiring

External dimensions: 80x110x100mm

Installation method: 35mm guide rail installation



Wiring L+ N-

Xuchang Changan Technology Co., Ltd _____
. Address: Industrial Agglomeration Area, Xicheng District, Weidu District, Xuchang City, Henan Province Telephone : 0374-3321607 Fax: 0374-3131318 Website: www.xjca.com