

Installation and Operation Manual

TX3042E Gas Extinguishing Control Panel

Forward

TX3402E Gas Extinguishing Control Panel is a new-generation intelligent product (called TX3042E panel for short) developed by TANDA Technology Co.Ltd. based on years of experience in fire protection engineering and in-depth researches on fire protection market requirements. Complying with *GB16806-2006 Automatic Control System for Fire Protection*.

With LCD display, TX3042E panel has a friendly interface. It is simple and convenient to use. So, all complicated key operations can be completed through menus easily. TX3042E panel has ability of programming on site. It has maximum 4 zones and each zone can have 128 addresses at the most.

TX3042E panel can form a small individual system together with those field devices including T3 sounder strobe, emergency buttons, gas release indicator, input module, and I/O module. This small system can network with a fire alarm control panel from TANDA Technology Co.Ltd. and receive fire alarm messages to manually or automatically control gas extinguishing. This manual should be kept properly for future use.

Content

1 Overview.....	1
1.1 Specifications.....	1
1.2 Appearance	1
2 Structure and Configuration.....	2
2.1 Structure.....	2
2.2 Internal Wiring.....	3
2.3 Field Wiring	4
3 Key Operation and Menu System	5
3.1 Keys and Indicators.....	5
3.2 Menu	7
3.3 Start/Stop	22
4 Engineering Debugging	22
4.1 TX3042E Gas Extinguishing Control Panel Commissioning	22
4.2 TX3042E Gas Extinguishing Control Panel Commissioning Method.....	22
5 Troubleshooter and Maintenance.....	26
5.1 Loop Device Don't Login.....	26
5.2 Loop devices are registered, but they don't give faults.	27
5.3 The device display does not conform to the actual condition after registering or login	27
5.4 Fault Warning of Battery.....	27
6 Maintenance.....	27
6.1 Cautions	27
Appendix 1 Device Type Table for Gas Extinguishing Control Panel.....	28
Chapter 7 System Devices	31
7.1Printer	31
Declaration.....	31

1 Overview

TX3042E Gas Extinguishing Control Panel complies with requirements of GB 16806-2006 Automatic Control System for Fire Protection. It is a new intelligent gas extinguishing control panel designed by our company. It is wall-mounted with small size and powerful functions. Having high reliability, flexible configuration, TX3042E panel is simple to install and operate. It connect with T3 series products from our company such as sounder strobes, emergency buttons, gas release indicators, input modules, and I/O modules.

1.1 Specifications

Capacity: maximum 4 zones and each zone having 128 addresses at the most.

Bus protocol: T3 protocol

Main Power Source: AC 187V~242V

Load:

Single drive gas valve current $\leq 1.8A$

Single automatic power load $\leq 1A$

Total load of the panel $\leq 6A$

Batteries: two 2V/12Ah batteries

Temperature: $0^{\circ}C \sim +40^{\circ}C$

Relative Humidity $\leq 95\%$, non condensing.

Display: 128x64 LCD

Dimension(LxWxD): 410.0mmx135.0mmx500.0mm

1.2 Appearance

The appearance of the panel is shown in Fig.1-1.

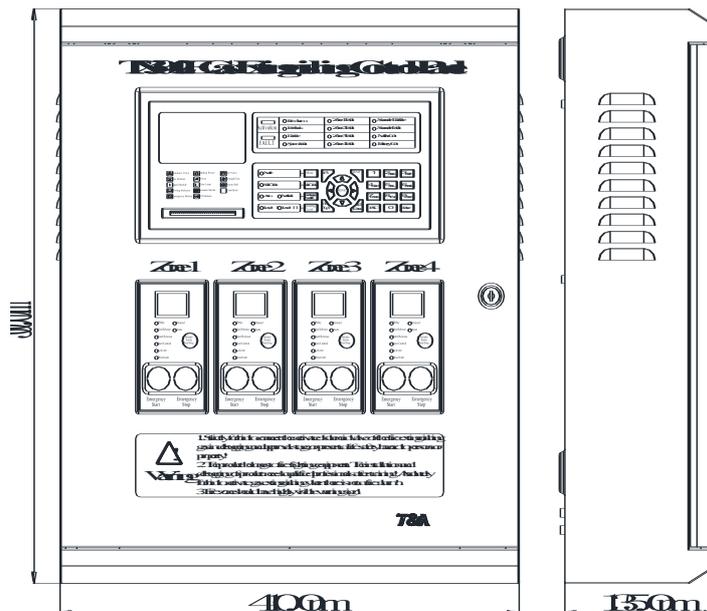


Fig.1-1 TX3042E Appearance

2 Structure and Configuration

2.1 Structure

2.1.1 Front Panel

The front panel of TX3042E includes information display and operation as shown in Fig.2-1 and zonal information display and operation as shown in Fig. 2-2.

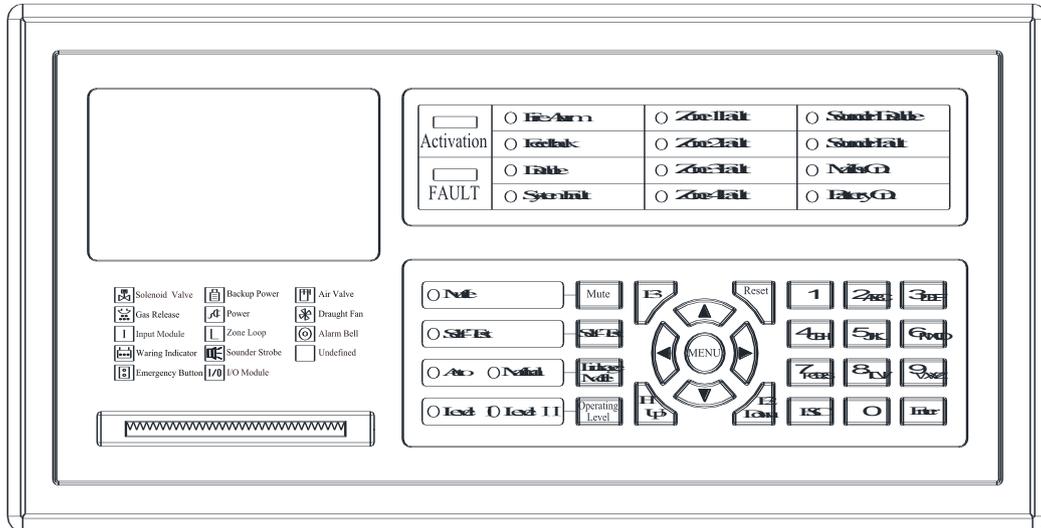


Fig.2-1 Information Display and Operation Panel

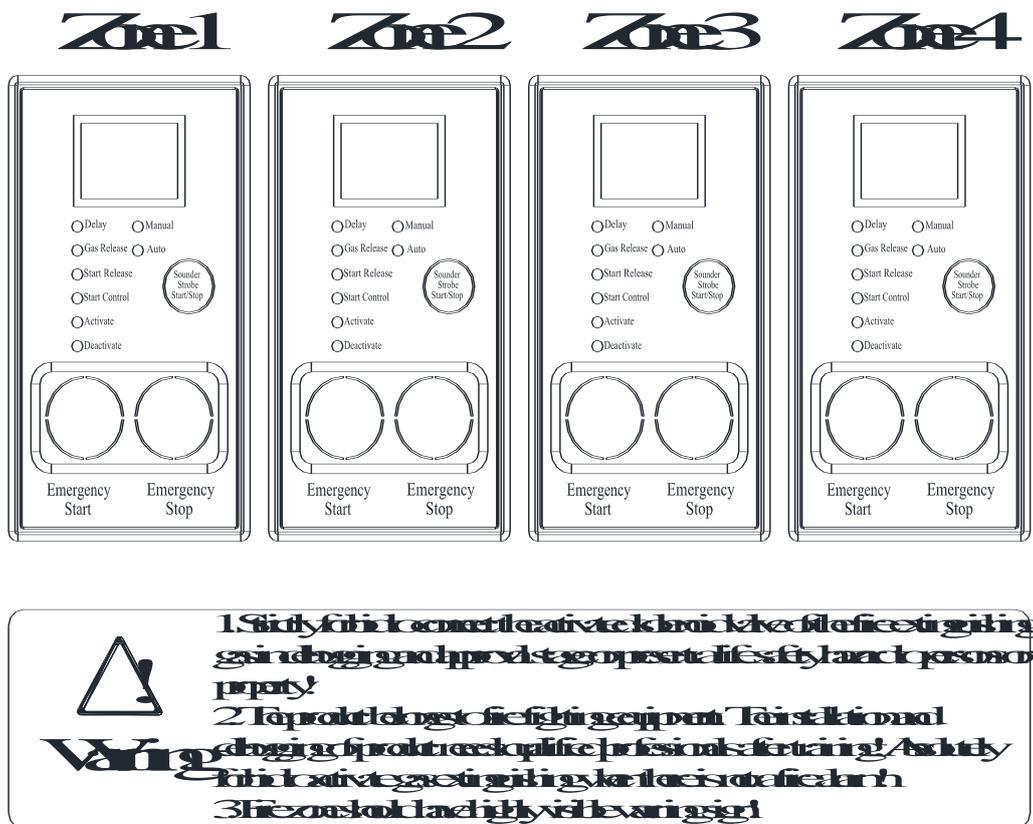


Fig.2-2 Zonal Information Display and Operation Panel

The front panel is made up of these parts below.

① LCD ② Printer ③ State Indicator ④ Keyboard ⑤ Zonal Indication Module

⑥ Digital Tube for Delay ⑦ Zonal Indicator ⑧ Zonal Start/Stop Button

① LCD: it displays system state and operation information in real time.

② Printer: As the printer is set to On , it can print real time records at any time. As the printer is set to Off, it can't print any records. A roll of paper for printing has been installed before factory.

③ State Indicator: it can indicate kinds of states such as start, fault, fire alarm, feedback, disable, system fault and main power and standby power faults. It lights steadily as there is start and feedback. It flashes as the start stops or there is start without feedback. The start LED turns out only after reset.

④ Keyboard: it can be used to operate the panel. Refer to the subsequent chapter in the document.

⑤ Zonal Indication Module: TX3042E panel has four zones. Zonal information can be displayed on the zonal indication module.

⑥ Digital Tube for Delay: As the panel starts, emergency button starts, or auto signals are sent from a fire alarm control panel to TX3042E panel. The digital tube displays countdown to gas release. The field people can evacuate as the gas releases after delay.

⑦ Zonal Indicator:

Indicator for Start Command: As the panel starts, emergency button starts, or auto signals are sent from a fire alarm control panel to TX3042E panel. It turns on and turns out as the delay is interrupted.

Delay Indicator: it lights red as a protected zone enters the delay of gas releasing. It turns out as the delay finishes or interrupts.

Start Gas Release Indicator: it turns on as a protected zone enters the firefighting. It turns out as the system is reset.

Gas Release Indicator: It lights as gas extinguishing valve is started. It turns out as the system is reset.

Field Start Indicator: It turns on as a field emergency button is pressed. It turns out the delay is interrupted.

Fault Indicator: It turns on as a connected device to TX3042E has any type of fault. It turns out as the fault is removed.

⑧ Zonal Start/Stop Button: It used to start gas release (0-30s is available to set)in monitoring state or to stop delay and return to monitoring state.(This button can't stop releasing once it is stated.)

Danger: Fire extinguishing gas should be released only in actual fire condition because it is easy to make people suffocate and make casualties.

2.2 Internal Wiring

2.2.1 Internal Structure

The internal structure of the panel is shown in Fig.2-3.

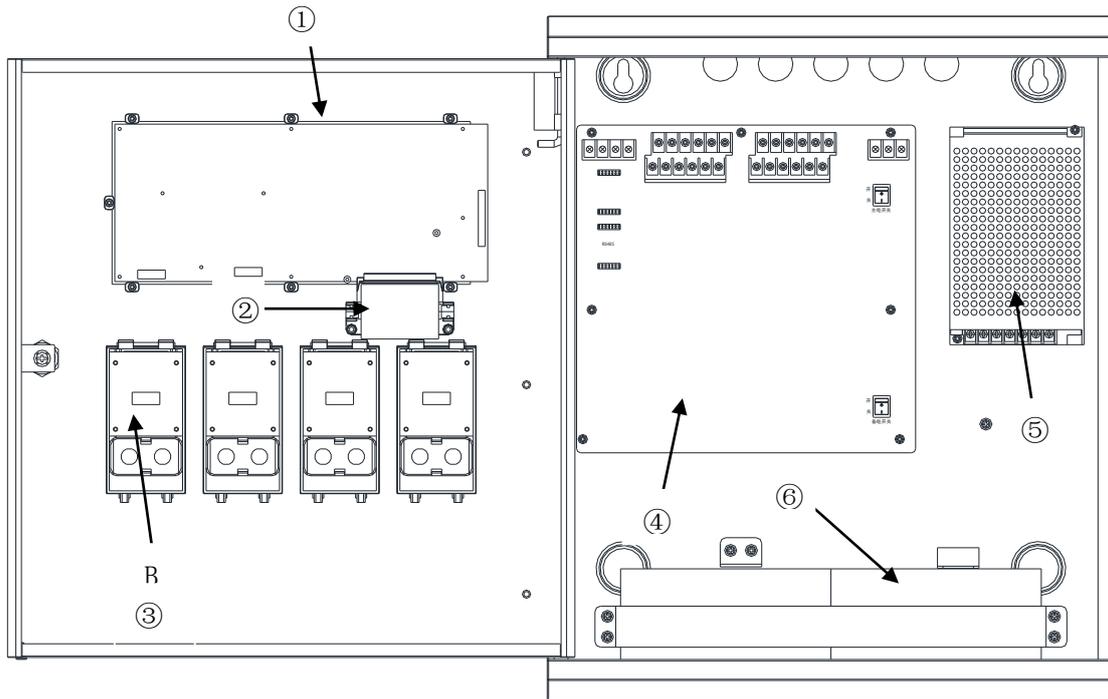


Fig. 2-3 TX3042E Internal Structure and Installation Dimensions

- ① Main Board ② Printer ③ Zonal Display Board ④ Drive Board ⑤ Power ⑥ Batteries

2.2.2 Mounting

TX3042E panel is wall-mounted. Mounting dimensions are shown in Fig.2-3.

Description: Fix the panel on the wall using two M8 expansion bolts. Hole spacing is 300mm.

2.3 Field Wiring

2.3.1 External Terminals

The field wiring of TX3042E panel is shown in Fig.2-4.

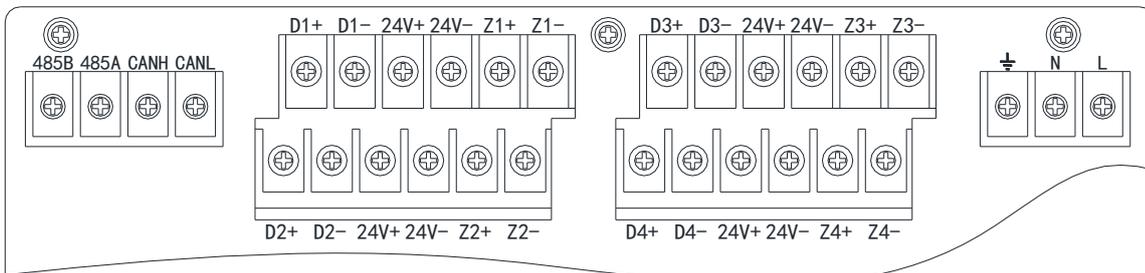


Fig. 2-4 Field Wiring

- 1) **CANH, CANL**: CAN comm terminals, networking with a fire alarm control panel, for receiving downloading and uploading signals of TX3042E panel to the fire alarm control panel.
- 2) **485A, 485B**: 485 comm interface terminals for the third party output (only connecting to 485

communication board, those terminals are valid.)

- 3) **Z (1~4) +, Z (1~4) -** : two-wire loop terminals, polarity-insensitive. Connecting with devices such as emergency buttons, gas release indicators, sounder strobes and I/O modules. Recommend to use RVS-2x1.5mm² cable.
- 4) **24V+,24V-**: associating power output terminals. Four sets of output in all. supplying for front-end devices. It is recommended that BV-2x 2.5mm² wire should be used with anode red and cathode black.
- 5) **D (1~4) +,D (1~4) -**: solenoid valve drive output terminals. BV-2x2.5mm² wire should be used.
- 6) **L, N, Ground**: power input terminals, 220VAC
- 7) **Note: For any devices, connecting CAN cable, H for H, L for L. connecting 485 cable, A for A, B for B. Don't reverse them, or the system can't communicate.**

2.3.2 Recommended Wiring:

- 1) CAN comm cable and alarm loop use ZR-RVSP2x1.5 mm² twist wire. Power line and gas extinguishing cylinder use NH-BV-2x2.5mm² wire.
- 2) CAN comm cable, telephone line and alarm loop are not allowed to be in the same multi-core cable.

3 Key Operation and Menu System

3.1 Keys and Indicators

3.1.1 Keys Description

- 1) Mute: Pressing this key can silence the sound of fire alarm/start, and fault. The mute LED lights red as the sound is silenced.
- 2) Self-test: pressing this key, auto and manual LEDs on the zonal panel turn on one by one. Other LEDs light all. At the same time, the loudspeaker gives start/fault sound in a cycle.
- 3) Auto Mode: Pressing this key can enter automatic mode to choose a mode you need. Then press F1 to save.
- 4) Access Level: Press this key can switch between access levels. There are two access levels. It need a password as from level I to level II. From level II to level I, just press this key.
- 5) Reset: Pressing this key can reset TX3402C panel.
- 6) UP, Down, Left, Right: pressing one of those four keys, the cursor can move correspondingly.
- 7) F1, F2: in menu operation, those keys are used for page up and page down, or for execution of functional operation.
- 8) Menu: Pressing it can enter the main menu.
- 9) 0-9 numbers: it is used to enter related numbers or English letters.
- 10) ESC: pressing it can cancel the current operation or return to the previous menu.
- 11) Enter: This key is a multi-functional key and mainly used to select menu, change state and save changes.

3.1.2 Indicators Description

- 1) Start LED: It lights steadily red as there is start and feedback. It flashes as the start stops or there is start without feedback.
- 2) Fault LED: It lights yellow steadily as there is a fault.
- 3) Fire LED: It turns on red when TX3042E panel receives fire alarm signals from the fire alarm control panel.
- 4) It lights steadily red as there is feedback.
- 5) Disable LED: It lights yellow as there is a disabled device.
- 6) System Fault LED: It lights yellow steadily and gives fault warning signals as controlled device can't operate normally. (Such as main power is down, battery power is low voltage and controlled devices can't operate normally).
- 7) Zonal Fault LED: It indicates the related zonal fault. For example, as Zone 1 Fault LED turns on, it shows there is a fault in zone 1. At the same time, Fault LED turns on.
- 8) Sounder Disable: It lights yellow showing a sounder strobe is disabled. It turns off as the sounder strobe is enabled.
- 9) Sound Fault: It lights yellow steadily as there is a sounder strobe fault from zones.
- 10) Mains On: It turns on green when TX3042E panel is supplied by 220VAC power source. It turns off as mains power fault occurs.
- 11) Battery On: It turns on green when the panel is supplied by standby power. It turns off as battery power fault occurs.
- 12) Mute: It lights steadily red as sound is silenced.
- 13) Self-Test: It lights as the panel is self-testing.
- 14) Auto: It lights green as the automatic mode is set to partial auto or auto.
- 15) Manual: It lights green as the automatic mode is set to manual control.
- 16) Operation Level I: It lights green as there is operation level I. It turns off as there is other operation level.
- 17) Operation Level II: It lights green as there is operation level II. It turns off as there is operation level I.

3.1.3 Fire Protection Activation Zone

3.1.3.1 Keys

- 1) Emergency Start: Pressing and holding this key for over 3 seconds, LCD displays "Zone X Panel Enters Countdown with Enter Pressed. It Exits by Pressing ESC". It exits this state if Enter is not pressed in 10 seconds. Delay start begins by pressing Enter. The panel sends solenoid valve signal to start gas release.
- 2) Emergency Stop: Pressing this key during delay, the related zone delay is disrupted and "SP" is displayed.
- 3) Sound and Light Start/Stop: press this key to start or stop all sounder strobes quickly in this zone.

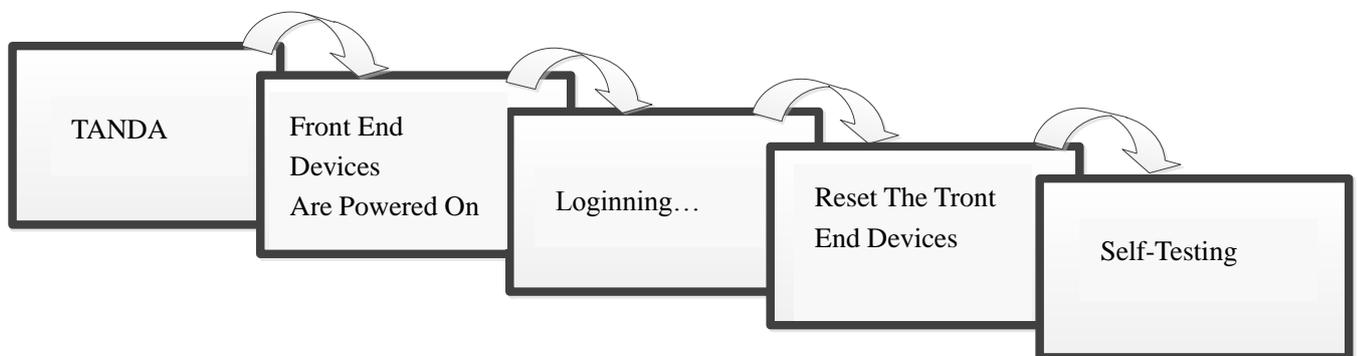
3.1.3.2 LEDs:

- 1) Delay: It lights as the panel enters countdown.
- 2) Gas Discharge: The panel has received feedback signals of cylinder release as this LED turns on.
- 3) Manual: if it lights steadily, it means the valve of this zone in manual release mode. The valve is only started by pressing Emergency Start button of TX3042E panel or Emergency Start button at site.
- 4) Auto: if it lights steadily, it means the valve of this zone in auto release mode. The valve is started either by pressing Emergency Start button of TX3042E panel or by the fire alarm control panel.
- 5) Start Discharge : if it lights steadily, it means delay is over. The panel has turned on the control valve relay. That means it sends release signal to the cylinder.
- 6) Start Control: if it lights steadily, it means emergency start button on the front panel has been pressed, and enters into valve start delay program.
- 7) On-site Start: if it lights steadily, it means emergency start/stop button in field has been pressed.
- 8) On-site Stop: if it lights steadily, it means emergency start/stop button in field has been pressed to interrupt the gas release during delay.
- 9) LED Digital Tube: it displays countdown time dynamically. " 00 " means the delay is completed; "SP" means the delay is interrupted.

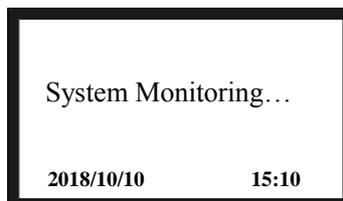
3.2 Menu

3.2.1 Menu Operation

Switching on mains power and battery power, the system initiates as shown in Figure below.



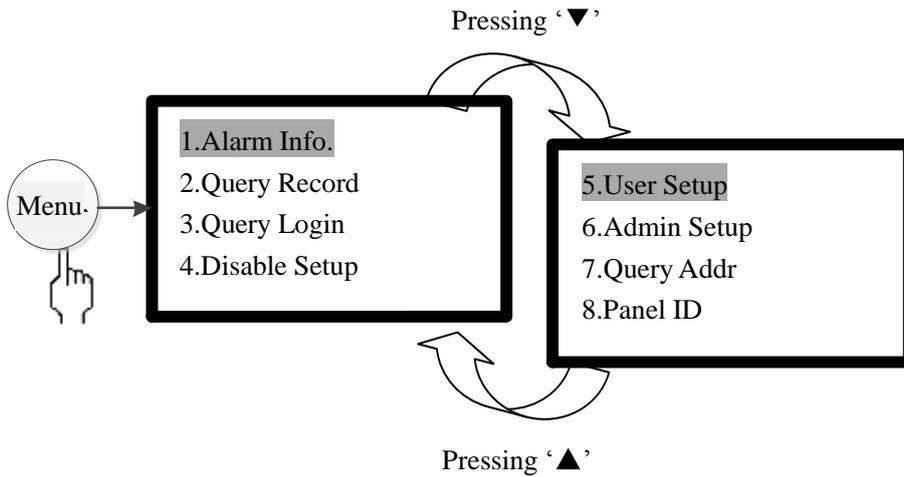
Main interface displays date, time and real state of system etc.



Main Interface for Indication

Main interface displays messages in the following order: fire alarm > association(or automatic)>feedback>fault> disable

Pressing Menu enters the main menu, it returns to the main interface if there is no operation in 30 seconds.



Main Menu

Tips: Pressing Menu enters and ESC exits the main menu. Pressing direction keys can choose options. The chosen option is highlighted.

3.2.2 Alarm Message

There are 4 options as shown in Fig. 3-1 in the alarm screen. Pressing numbers keys or up/down keys can move the cursor. Then pressing Enter enters the specific screen of message browsing.

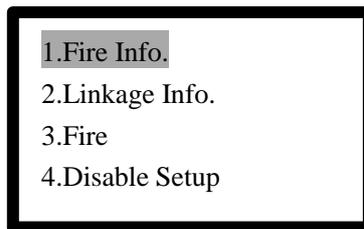


Fig. 3-1

① Fire alarm

Receiving fire alarm signals, the fire alarm interface shows total number of fire alarms, fire alarm numbers, when fire alarm occurs, device address with fire alarm and location. Refer to Fig.3-2.

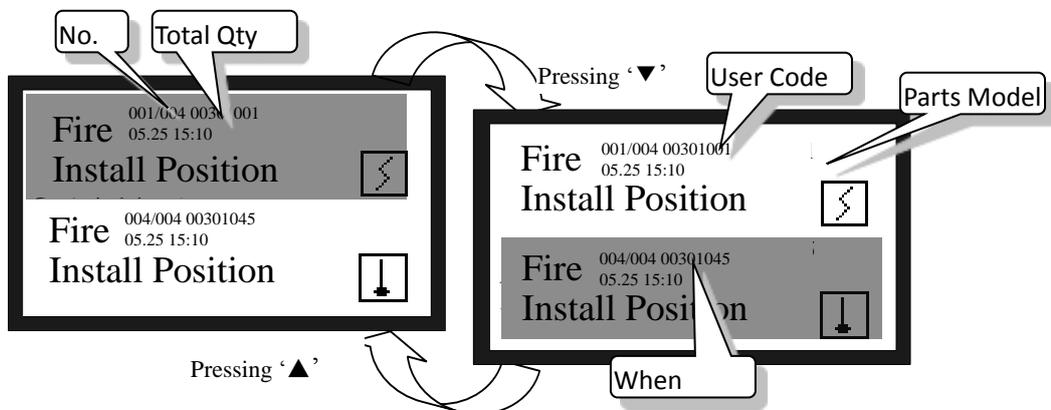


Fig. 3-2

② Association (Automatic) Indication

The interface displays the current association number, total quantity of associations, when association occurs, association action, user code, and location. (Refer to Fig. 3-3.)

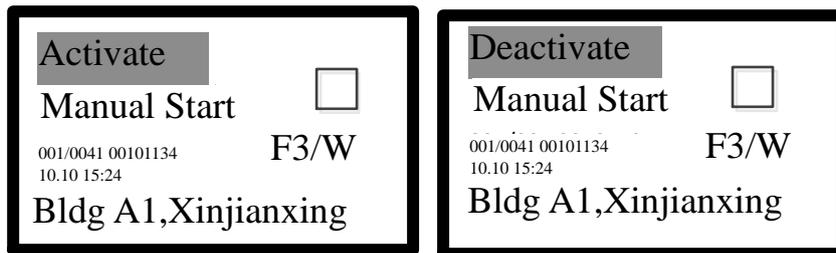


Fig. 3-3

③ Fault

The interface displays the current fault number, total number of faults, when fault occurs, fault type, and the device address with fault.

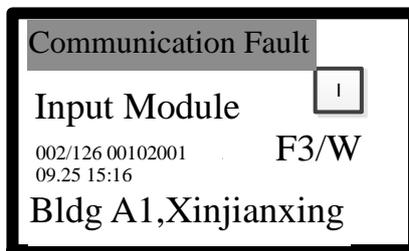


Fig. 3-4

④ Disable

As devices are disabled by need, the disable interface shows total number of disable, disable serial numbers, when disable occurs, disabled device user codes and location information. Refer to Fig.3-5.

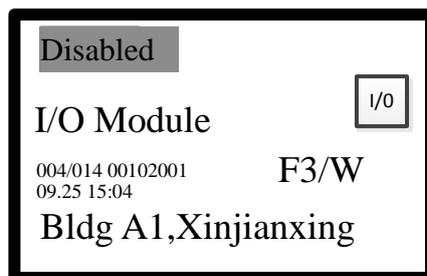


Fig. 3-5

3.2.3 Record Inquiry

There are 4 options as shown in Fig. 3-6 in the record inquiry screen. Pressing numbers keys or up/down keys can move the cursor. Then pressing Enter enters the specific screen of record inquiry.

Up to 999 for each record. If there is more than 999, the earliest records will be covered correspondingly. Reset or restore to factory set will not erase the record.

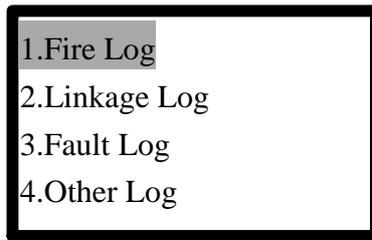


Fig. 3-6

① Fire Log

The fire log screen as shown in Fig. 3-7 is accessed as there is fire alarm signal and fire alarm record needs browsing. Details of each fire alarm can be browsed in this screen, including device type, serial number, quantity, user code, when it occurs and its location.

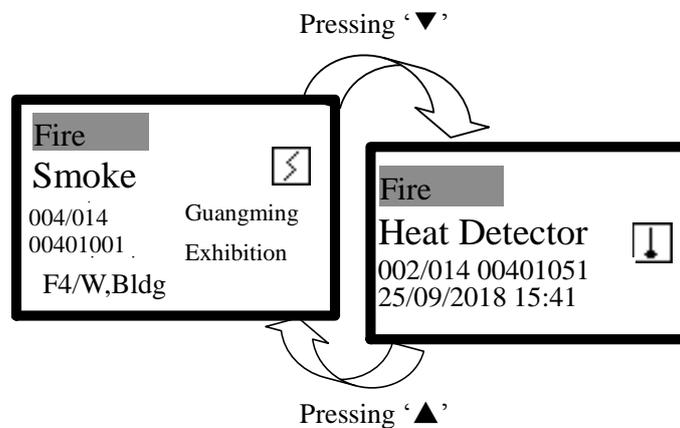


Fig. 3-7

② Association (Automatic) Log

The association log screen as shown in Fig. 3-8 is accessed as association log needs browsing. Details of device association can be browsed in this screen, including action type, time, zone, serial number and device type with association.

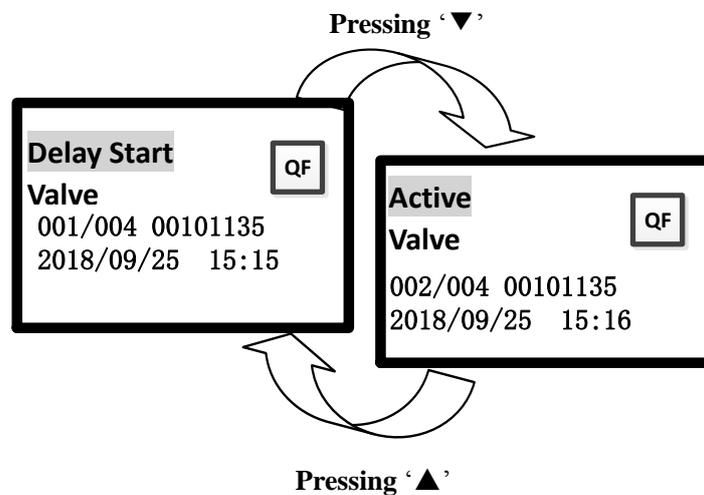


Fig. 3-8

③ Fault Log

The fault log screen as shown in Fig. 3-9 is accessed as the panel fault or other device fault need browsing. Details of faults can be browsed in this screen, including date, time, serial number, fault device and fault type.

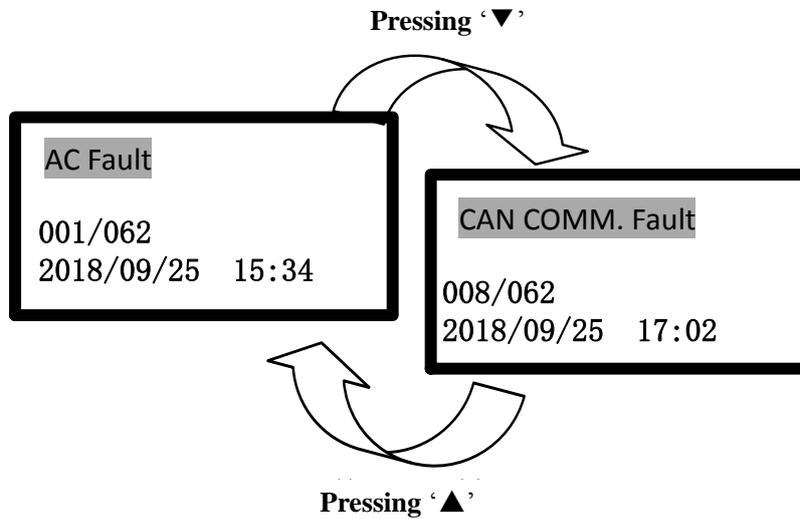


Fig. 3-9

④ Other Log

As other log needs browsing, it enters Fig. 3-10. Other events can be browsed including serial number, time, date and record type.

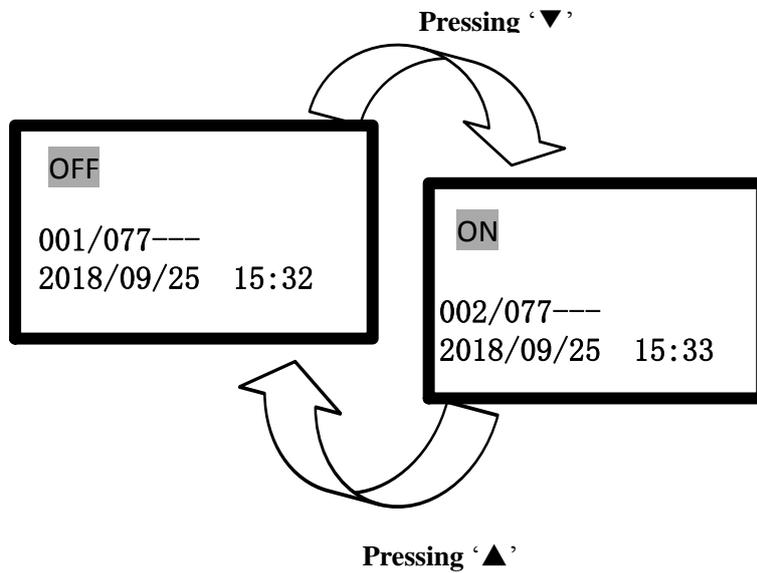


Fig. 3-10

3.2.4 Login Inquiry

This menu includes Login Info, Loop Info and Re-login. Refer to Fig. 3-11.



Fig. 3-11

① Login Info

Enter the screen as shown in Fig. 3-12 by pressing number 1 or moving cursor to select ①. Quantities for all kinds of connected devices can be browsed.

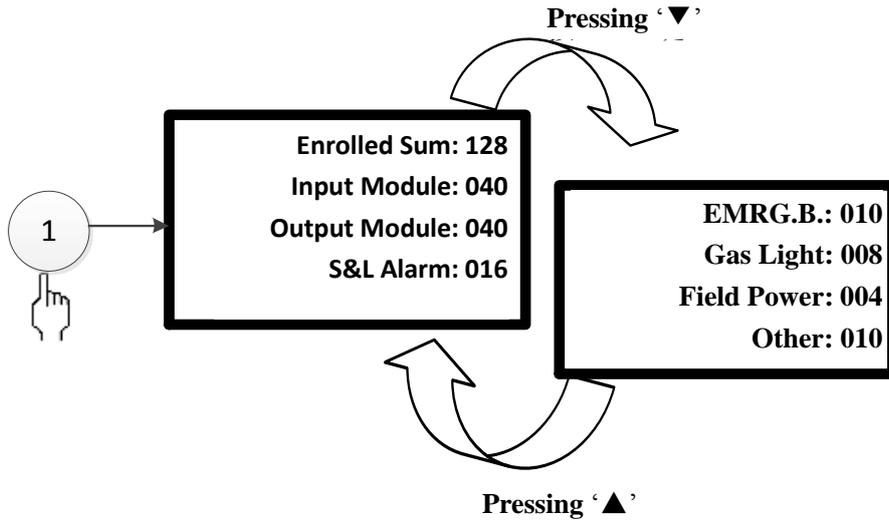


Fig. 3-12

② Loop Info

Enter the screen as shown in Fig. 3-13 by pressing number 2 or moving cursor to select ②. Quantities for all connected devices of a certain zone can be browsed.

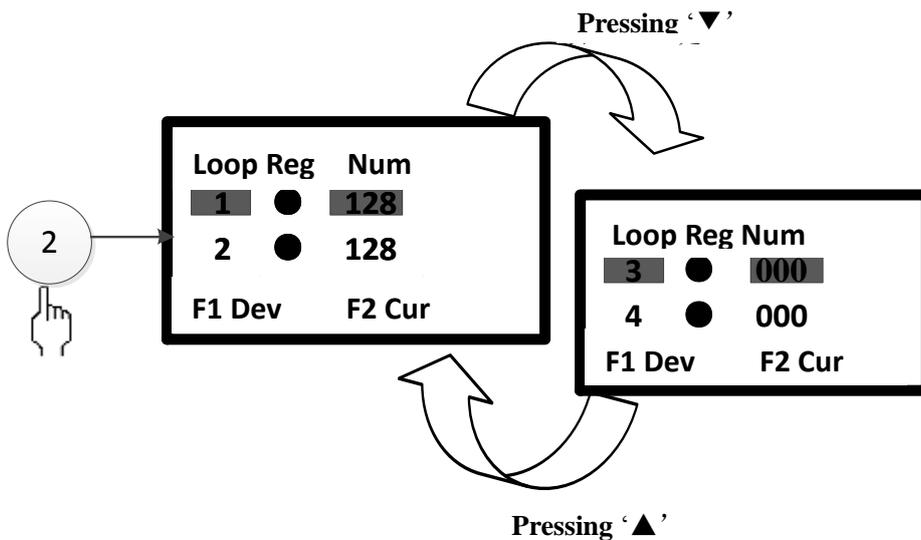


Fig. 3-13

③ Login Again

Enter the screen as shown in Fig. 3-14 by pressing number 3 or moving cursor to select ③. Pressing “F1”, login field devices again.



Fig. 3-14

3.2.5 Disable

(Password is required or put operation level lock to level II)

Disable menu includes Address and User Code.

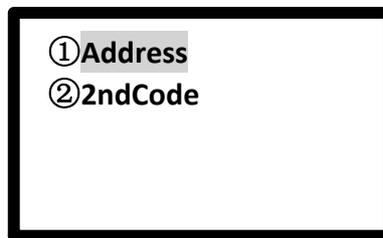


Fig. 3-15

①Address

Enter the screen as shown in Fig. 3-16 by pressing number 1 or moving cursor to select ①. In this screen, an address of any loop can be set to disable or enable. Pressing “F1” can make selections. Press Enter after selection.

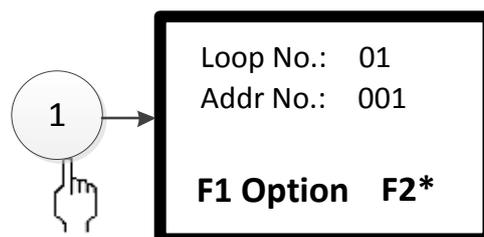


Fig. 3-16

② User Code

Enter the screen as shown in Fig. 3-17 by pressing number 2 or moving the cursor to select ②. In this screen, an address of any loop can be set to disable or cancel disable. Pressing “F1” can make selections. Press Enter after selection.

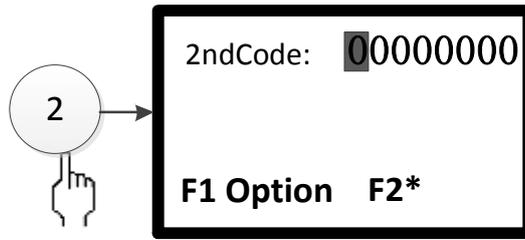


Fig. 3-17

3.2.6 User Operation

(Password is required or put operation level lock to level II)

There are 8 options as shown in Fig. 3-18 in the user operation screen.

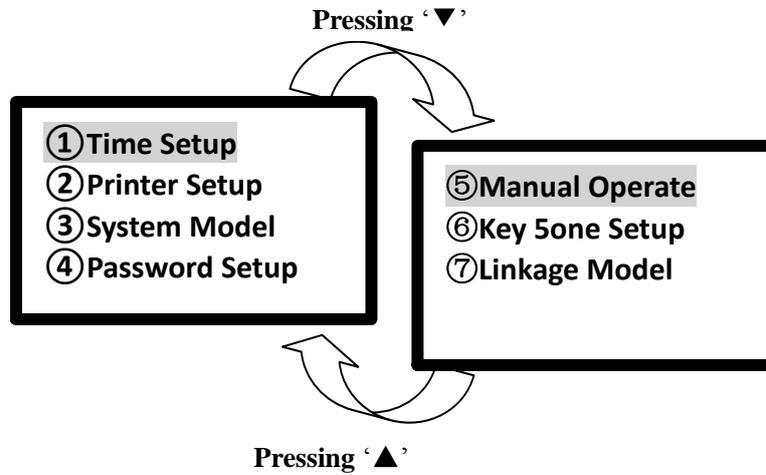


Fig. 3-18

① Time Setup

Enter the screen as shown in Fig. 3-19 by pressing number 1 or moving cursor to select ①. The clock has year, month, date, hour, minute. Move the cursor to modify them by pressing numbers. After modification, press “F1” to save and press “ESC” to exit.

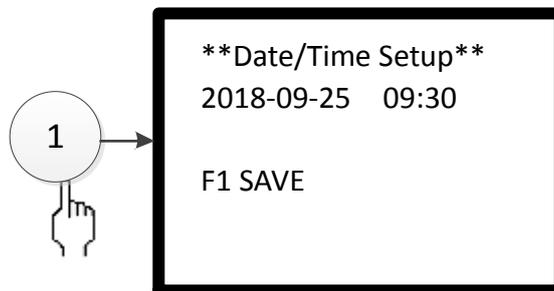


Fig. 3-19

② Print Set

Enter the screen as shown in Fig. 3-20 by pressing number 2 or moving cursor to select ②. In this screen, there are 4 print options for selection: ① Fire Alarm ② Association ③ Fault ④ Others. “●” means printing and “Blank” means no printing. Pressing UP and Down move and pressing “Enter” switch between

“●”and“Blank”. After selection, press “F1” to save.

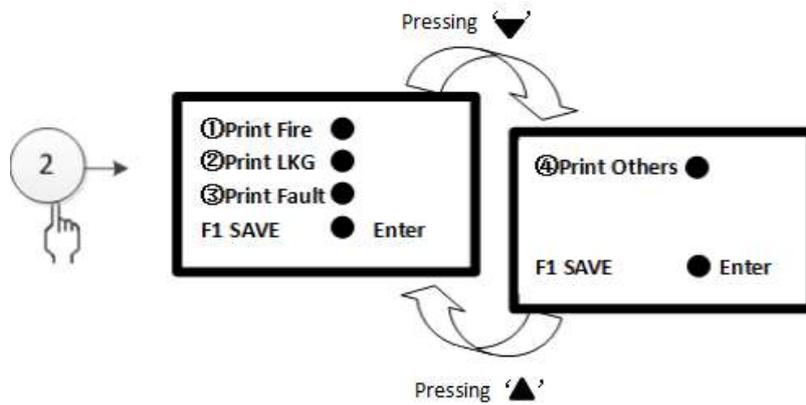


Fig. 3-20

③ System Working Mode

Enter the screen as shown in Fig. 3-21 by pressing number 3 or moving cursor to select ①. In this screen, the system working mode has 2 options: ①System Debug ②Normal Monitoring Pressing Up or Down key can select system working mode. It is saved mode with “●”. In normal monitoring mode, pressing Left or Right direction key can select login or not. Press F1 to save after selection.

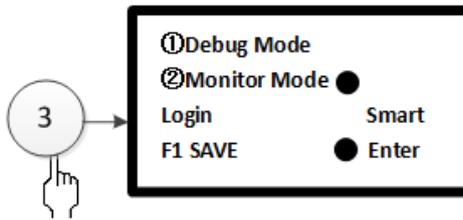


Fig. 3-21

④ Password Setup

Enter the screen as shown in Fig. 3-22 by pressing number 4 or moving cursor to select ④. The next step can not be taken until administrator authority is accessed. Administrator password can be used instead of user password and to modify user password.

Selecting the password to be modified, entering numbers directly and pressing Enter can change the previous password. Enter a new password and confirm it. It displays “OK”if the new password is set successfully. It displays “Wrong Administrator Password” or “Wrong Entered Password”, and the original password remains.

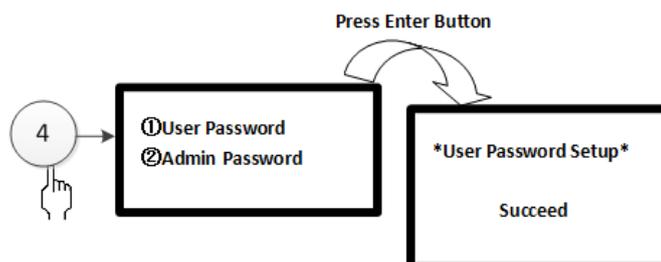


Fig. 3-22

⑤ Manual

Enter the screen as shown in Fig. 3-23 by pressing number 5 or moving cursor to select ⑤. In this screen, start or stop can be selected by setting user code and device type. Pressing “F1”selects Start or Stop. Pressing ESC after selection is back.

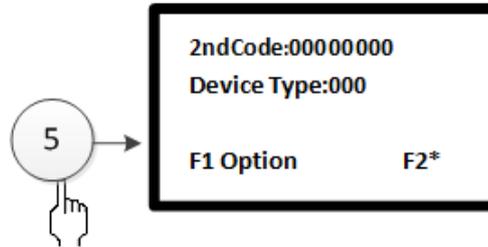


Fig. 3-23

⑥ Key Sound

Enter the screen as shown in Fig. 3-24 by pressing number 6 or moving cursor to select ⑥. In this screen, pressing “F1” is Open and “F2” is Close. Pressing ESC after selection is back.

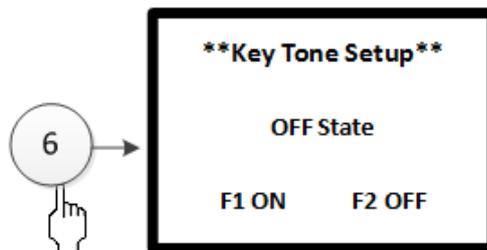


Fig. 3-24

⑦ Association Mode

Enter the screen as shown in Fig. 3-25 by pressing number 7 or moving cursor to select ⑦. In this screen, pressing Up and Down key choose ① Manual Disable ② Manual Enable ③ Partial Auto Press “F1” to save after selection.

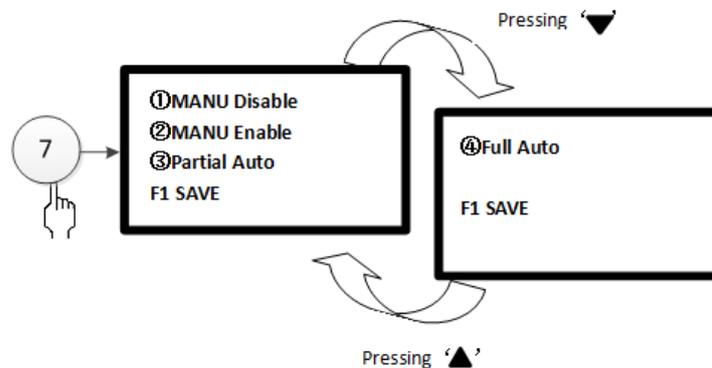


Fig. 3-25

3.2.7 Administrator Operation

(Password is required or put operation level lock to level II)

There are 7 options as shown in Fig. 3-26 in the administrator operation screen.

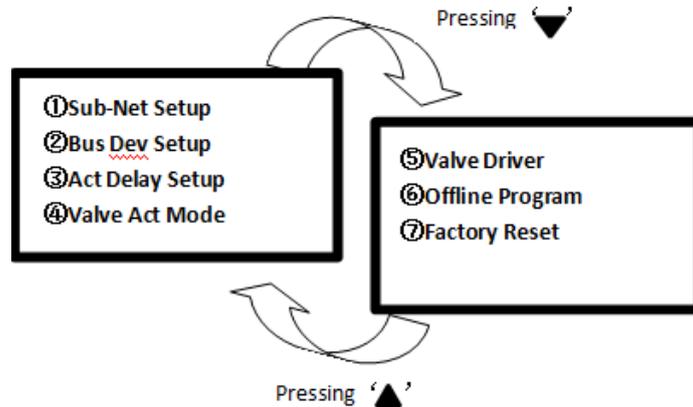


Fig. 3-26

① Slave Network Setup

Enter the screen as shown in Fig. 3-27 by pressing number 1 or moving cursor to select ①. Move the cursor by pressing UP and Down key. Make changes by pressing Left and Right key or entering numbers directly. After modification, press “F1”to save. Pressing ESC returns to the previous menu.

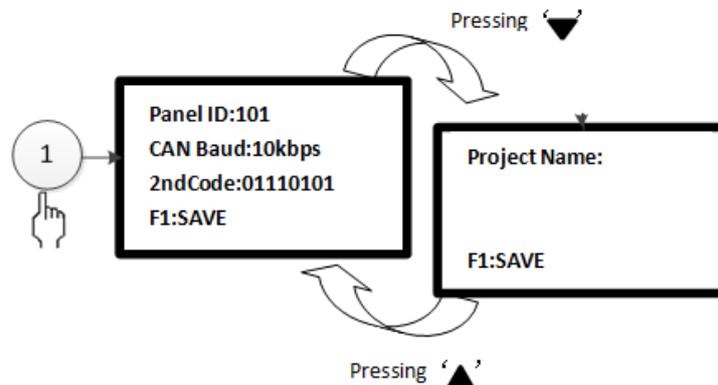


Fig. 3-27

② Loop Device Setup

Enter the screen as shown in Fig. 3-28 by pressing number 2 or moving cursor to select ②. Pressing UP and Down key selects loop device type. Pressing Left and Right key or number key sets specific devices. Press “F1” to save and “F2” for turning over pages. Pressing ESC returns to the previous menu.

Loop Device Setup is used for browsing/modifying to-be-installed device types and devices installation of all zones.

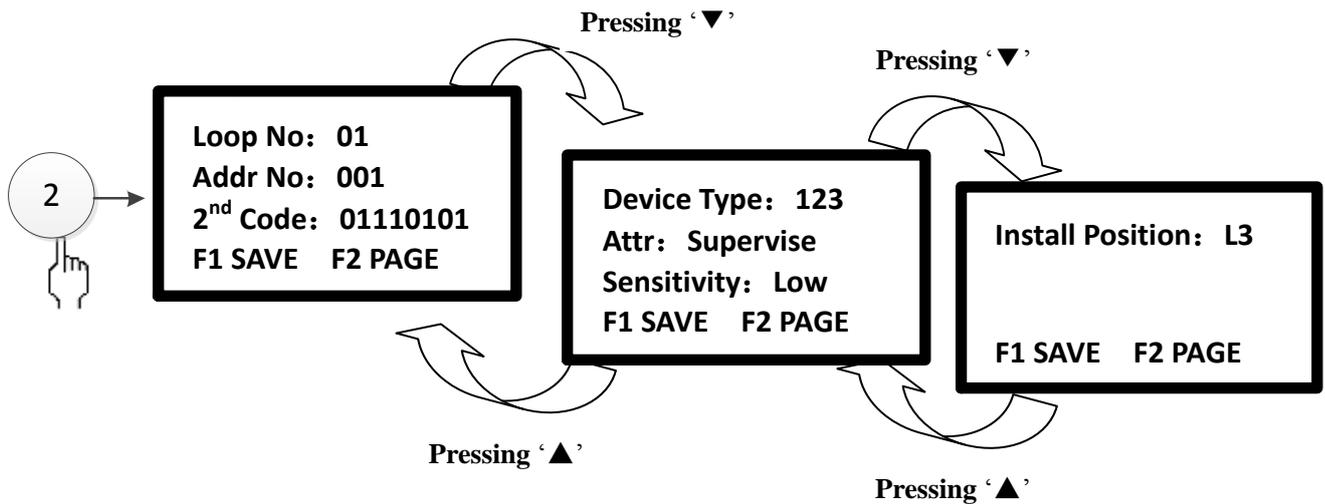


Fig. 3-28

Device Addresses in advance are shown below.

Address	Types
1~8	EMGY Start/Stop Button
9~16	Gas Discharge Indicator, it lights as the valve activates.
17~24	Sounder strobe 1, it is started as one of these conditions is met. 1. Smoke detector or heat detector gives alarm. 2. Press manual call point or emergency start/stop button 3. Press Start button on the front panel.
25~32	Sounder strobe 2, it is started as one of these conditions is met.
33~40	Output module 1, it is started as one of these conditions is met. 1. Smoke detector or heat detector gives alarm. 2. Press manual call point or emergency start/stop button 3. Press Start button on the front panel.
41~50	Output module 2, it is started as one of these conditions is met. 1. Smoke detector and heat detector give alarm together. 2. Press EMGY Start/Stop Button 3. Press Start button on the front panel.
51~55	Input module, monitoring gas release feedback
56~90	Self-define (078)
91~125	Self-define (067)
126	The module outputs in fire condition
127	The module outputs in gas discharge
128	The module outputs in fault.

C&E Condition:

Zone Mode	Local C&E	Front panel by manual, emergency start(manual)	Detector alarms (auto)
Manual/Auto	Manual	Automatic sounder strobes and modules I	No Automatic sounder strobes and modules I
		Automatic sounder strobes and modules II	No Automatic sounder strobes and modules II
		Automatic Valve	No Automatic Valve
Manual	Auto	Automatic sounder strobes and modules I	Automatic sounder strobes and modules I
		Automatic sounder strobes and modules II	No Automatic sounder strobes and modules II
		Automatic Valve	No Automatic Valve
Auto	Auto	Automatic sounder strobes and modules I	Automatic sounder strobes and modules I
		Automatic sounder strobes and modules II	Automatic sounder strobes and modules II
		Automatic Valve	Automatic Valve

③ Start Delay

Enter the screen as shown in Fig. 3-29 by pressing number 3 or moving cursor to select ③. Pressing Up and Down key selects zones. Pressing numbers enters delay time. Press "F1" to save the setup. Pressing ESC returns to the previous menu.

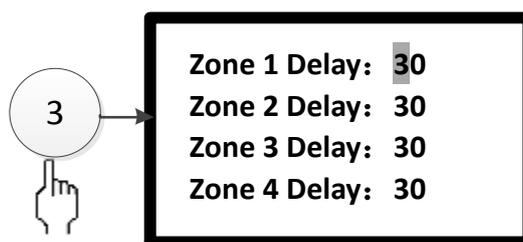


Fig. 3-29

Start Delay is a period of time from the button on the front panel is pressed or the field button is pressed automatically by the fire alarm control panel to execution of gas release. The period is for field people to evacuate or for mis-operation to be canceled. Delay time can be set from 0 seconds to 30 seconds.

As Start button on the front panel is pressed over 3 seconds, the system shows entering valve delay or not. Pressing Enter can enter the delay process, and pressing other key can return to the monitoring state. In valve delay, there is voice and sound indicator. At the same time, countdown begins. Last 10 seconds, voice is given. The gas discharges immediately as soon as the countdown is over. Stop button is for canceling the

valve delay. The panel still gives indication sound as the valve delay is stopped until the reset is operated or Mute key is pressed (Mute LED turns on as Mute key is pressed until the reset is one.) Simultaneously, the related zone digital tube displays “SP”. **Note: As Stop button on site is pressed, the gas release can't be started by pressing Start button on the front panel. It is normal after reset.**

④ Valve Start

Enter the screen as shown in Fig. 3-30 by pressing number 4 or moving cursor to select ④. Pressing Up and Down key selects a zone. Pressing Left and Right key can switch between “Auto” and “Manual” mode of valve start. Press “F1” to save the setup and then returns to the previous menu.

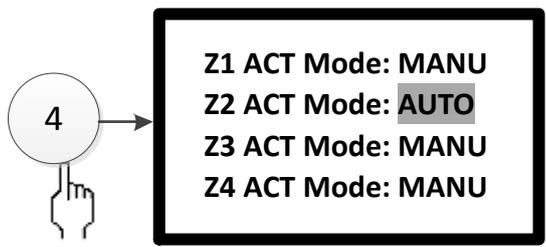


Fig. 3-30

“Manual” or “Auto” of the valve can be selected through changing Start Mode.

Manual Mode: It enters the delay state only by pressing Emergency Start/Stop button and Start button on the front panel. After delay, the gas releases.

Auto Mode: It enters the delay state by fire alarm control panel. After delay, the gas releases.

⑤ Valve Drive

Enter the screen as shown in Fig. 3-31 by pressing number 5 or moving cursor to select ⑤. Pressing Up and Down key selects a zone. Pressing Left and Right key can switch between “Level” and “Pulse”. Press “F1” to save the setup and then returns to the previous menu.

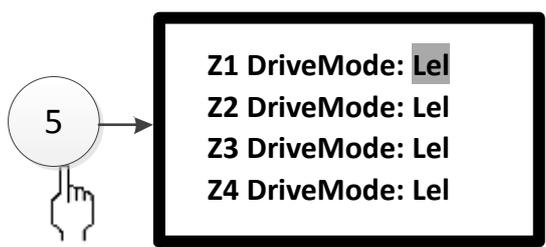


Fig. 3-31

“Pulse” and “Level” can be selected for Valve Drive.

In “Pulse” mode, as output voltage is opened for over 10 seconds, it stops outputting.

In “Level” mode, as output voltage is opened, it keeps outputting.

⑥ Off-line Program

Enter the screen as shown in Fig. 3-32 by pressing number 6 or moving cursor to select ⑥. Pressing “F1” enters off-line program. Pressing “F2” stops off-line program. Pressing ESC returns to the previous menu.

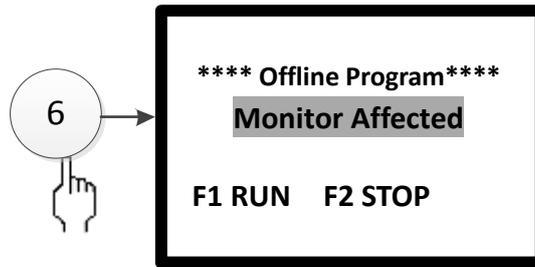


Fig. 3-32

⑦ Restore to Factory Set

Enter the screen as shown in Fig. 3-33 by pressing number 7 or moving cursor to select ⑦. Restore to Factory Set will erase many settings. Consider it carefully. Pressing “F1” and then “Enter”, Restore to Factory Set is completed with “OK” on the screen. Those settings will be restored, including password setup, system type, local address, front-end editable data, type, device location and menus. **Don't use this function if not necessary.**

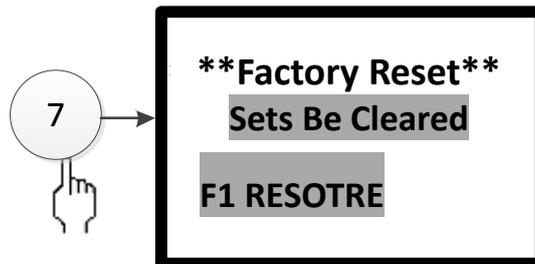


Fig. 3-33

3.2.8 Address Distribution

Enter the screen as shown in Fig. 3-34 by pressing number 7 or moving cursor to select ⑦.

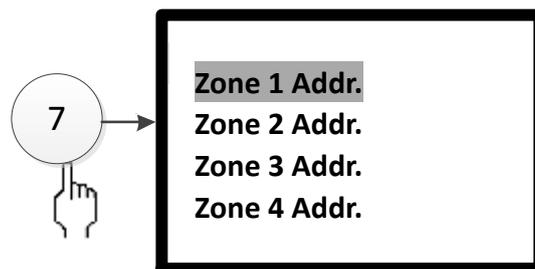


Fig. 3-34

3.2.9 Control Panel ID

Enter the screen as shown in Fig. 3-35 by pressing number 8 or moving cursor to select ⑧.



Fig. 3-35

3.3 Start/Stop

Warning: Solenoid valve is forbidden to connect during debugging and before acceptance. The following are only operated when fire occurs.

3.3.1 EMGY Start

- ① Emergency Start: Pressing and holding this key for over 3 seconds, LCD displays “Zone X Panel Enters Countdown with Enter Pressed. It Exits by Pressing ESC”. Pressing Enter enters delay start. The panel sends solenoid valve signal to start gas release after delay. It exits this state if Enter is not pressed in 10 seconds.
- ② EMGY Start on Site: Pressing and holding red emergency button for over 3 seconds unit EMGY Start LED turns on. The panel enters delay start at the moment.

3.3.2 EMGY Stop

- ① In delay state, pressing EMGY Stop on the panel can cancel the operation.
- ② In delay state, pressing EMGY Stop on site can cancel the operation. In this way, the EMGY button on the panel can not be started again until the system is reset or by pressing emergency buttons in the field.

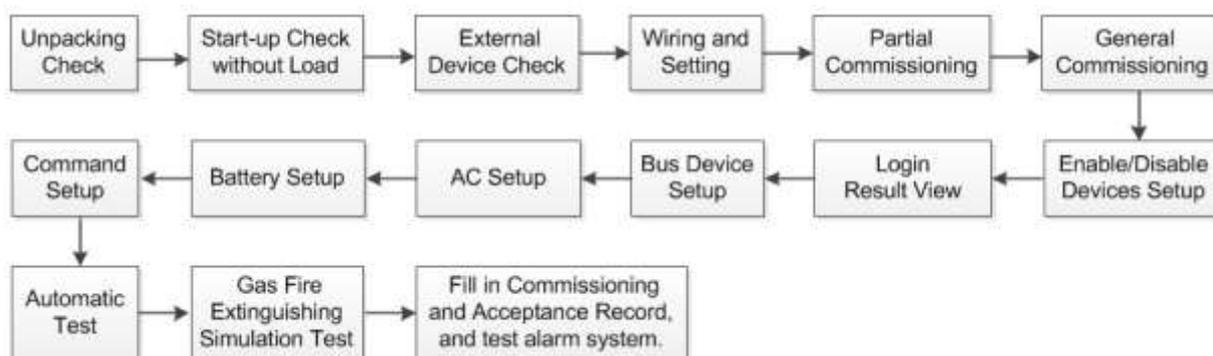
Note: The two ways are not effective as gas release begins after delay.

3.3.3 Close Valve

- ① In Pulse mode, the zonal valve closes automatically 10 seconds later D(x)+ and D(x)- stops outputting.
- ② In Level mode, the zonal valve closes by resetting the system.

4 Engineering Debugging

4.1 TX3042E Gas Extinguishing Control Panel Commissioning



4.2 TX3042E Gas Extinguishing Control Panel Commissioning Method

4.2.1 Unpacking Check

Check all items in the carton. It mainly checks: installation and operation manual, fuse and door key. After that, check the appearance of control panel and check if the appearance is tilting or damaged. Check if fixed screws are loose. For any inconformity, please contact with technicians of our company. In order to install and maintain the equipment correctly, the operator shall read this manual carefully and operate according to this manual to ensure the equipment is in normal and safe running.

This product is special firefighting equipment, which is managed by specialized person. Only professional persons who are qualified after training can install and commission this product. Others are forbidden to touch it at random!

During commissioning and acceptance, it is forbidden to connect start solenoid valve of fire-extinguishing gas in each partition. Otherwise, it may lead to gas spraying by mistake, which threats life safety and causes major damage loss.

4.2.2 Internal Configuration and Connection Checking

Refer to Chapter 3. Check internal configuration of control panel. At the same time, check the connection between components, and take necessary records, such as connection between main board and drive board, connection between main board and display board etc. in order to use them in installation and commissioning. If fixed screws of internal wire of control panel is loose or plug-in connectors are loose, or if there is inconformity to the manual or unclear identification, please contact with technicians of our company.

4.2.3 Installation Conditions of Cabinet

- Ambient Temperature: 0°C ~ +40°C
- Relative Humidity ≤95%, non condensing.

4.2.4 Start-up Check without Load

After installation, apply power to the panel and then check the following in the field.

- 1) Connection wires of the panel should be disconnected.
- 2) Check if 220V input voltage is normal (187 and 242V) with a multimeter. Switch on 220V power supply and standby battery (pay attention to polarity, do not make short circuit).
- 3) Turn on main power and battery power inside to complete startup. Then check the following items:
 - a. Check if LCD and indicators are normal during the self-test of the panel.
 - b. Measure automatic output voltage value (Standby state: about 24~27.5V; It is about 23.5~27V as the device starts). Bus output voltage value (about 15~28V pulse) with a multimeter.
 - c. After registration, check if the number of zones and system configuration are the same as the actual situation.
 - d. Check if operation key can display normally.

If everything is normal, turn off main power switch to “Off”, and then the panel is closed.

4.2.5 External Device Check

- 1) Check Connection

- a. Check if wire marks are clear and correct.
- b. Check the insulation between circuits:

Confirm earthing is reliable, and measure insulation resistance between the circuit and the ground with 500V insulation resistance meter; the minimum insulation requirements of the circuit: 1MΩ/500V (construction in rainy season) and 2MΩ/500V (construction in dry season). Insulation resistance shall be measured by “insulation resistance meter”(or megger).

- 2) Measure the resistance of bus and power supply line as follows:

confirm mutual short circuit on the farthest end of each circuit, and then measure the resistance of each circuit in central control room with ohm position of a multimeter.

- a. Bus circuit resistance of repeated display ≤ 20 ohm.
- b. After measuring, record related items and restore short circuit to normal state.

- 3) Measure line-to-line resistance of the circuit

- 4) Check line-to-line resistance of automatic power supply line and communication line.

- a. Check if automatic power output line is short circuit.
- b. Check if bus loop is short circuit.

- 5) Check if ground insulation and line-to-line insulation of other circuit. When measuring, do not measure with the equipment.

4.2.6 Circuit with Electricity Check

- 1) Arrange field devices configuration of the circuit to be debugged.

- 2) According to technical parameters of front end equipment, static current and maximum load current of the circuit are calculated to determine if maximum load current exceeds the maximum load capacity of the circuit.

- 3) Static voltage of the farthest end of the bus shall not be less than 15V.

After the above parameters are normal, shut down and then repeat the above procedures to check other circuit.

4.2.7 Device Check

Check device status on the loops, mainly make sure that device quantity, programming and working status satisfy the design requirement, solve potential problems and prepare for system connection.

4.2.8 Wiring and Setting

As the panel and devices have been checked and satisfy testing requirements, please connect the panel with the devices according to Chapter 2 and 3. Fill out the commissioning form for commissioning and programming definitions later.

4.2.9 Partial Commissioning

Connect each loop to corresponding terminals, and then enter “System Operation” menu, and set the following according to actual conditions: slave network, devices, start delay, valve start, valve drive and off-line program.

- 1) After login, check if programmed devices are registered normally.
 - a. if front-end devices can't login, check its programming or the voltage of signal line.
 - b. if the total quantity is incorrect, check repeated addresses or not registered devices.
 - c. Register other loop if one is completed without any problems.
 - d. Record related items for the commissioning form.
- 2) Repeat the above procedures, check registering conditions of other loop until all are normal.

4.2.10 General Commissioning

1) Connect all devices to the panel correctly, turn on the power supply switch of the panel; after the panel logs in, LCD displays "System Monitoring".

2) Enable/Disable devices setup.

If necessary, the equipment shall be enable.

3) Login result view.

After the panel logs in, check if login result is correct. The operation as follows:

a. After control panel goes into normal monitoring state, press " menu", and select item 3"Query Login" in the menu, ->" Login Info" and "Loop Info".

b. According to Chapter 4, view detailed addresses of equipment, press the cursor key until all addresses are displayed. Press and hold "cancel" key until the panel returns to normal monitoring state.

4) Bus Device Setup

Press "menu" to select 6 "Admin Setup" (password required) -> " Bus Dev Setup"

a. Zone Number: enter the zone number to be set.

b. Address: enter the address to be programmed.

c. User Code: user code of this device.

d. Device Type: Pressing number key or Left, Right key selects device type.

e. Device Property: Input module is defaulted as feedback.

f. Sensitivity: Pressing Left and Right key make modifications.

g. Location: Pressing Enter enters operation screen as the cursor is at installation location. Pressing "F1" can delete previous words. Pressing "F2" can switcher over input methods among Pinyin, Numbers, Letters, Characters. Pinyin: Left and Right keys are used for Pinyin, Up and Down keys are for words. Press Enter to confirm the words. Numbers: Press numbers directly. Letters: Press Letter key and then Enter. After selecting Chines characters, fill pinyin in "Pinyin" line and Chinese characters in "Chinese Character". In this way, three symbols can be used for installation location. Pressing ESC returns to installation location and save the menu.

5) AC testing: In normal state, fault sound shall be given out with AC power off. Fault Indicator lights. Main power LED goes out. Switching on AC power again, the fault can be eliminated automatically.

6) Battery test: In normal state, fault sound shall be given out with battery power off. Fault LED

lights. Battery LED goes out. Switching on battery power again, the fault can be eliminated automatically.

7) Time Setup: In User Setup menu, selecting Time Setup can modify date and time: year, month, date, hour, minute and second. Press “F1” to save after modification.

4.2.11 Association (Automatic) Test

1) Used together with the fire alarm control panel, the gas extinguishing control panel should be programmed. C&E equation is effective as there are two conditions at least. The equation should include address 135 (user code) .

2) TX3042E panel can be countdown to associate device in auto mode.

3) Test C&E equations based on system settings to ensure the system is operating reliably.

4.2.12 Gas fire extinguishing simulation test

Adjust different start delay time, use start key in fire zone to check if the panel can go into gas extinguishing delay state normally; before spraying countdown is over, use stop key in fire zone to check if the panel can stop gas extinguishing delay state to ensure the whole system runs stably and reliably.

4.2.13 Fill in Commissioning and Acceptance Record, and test alarm system.

After commissioning, the system work mode should be set to “Monitor Mode” and operation level be set to “1”. Now system commissioning is over and then 120-hour test run period starts.

According to General Commissioning Manual, fill in Commissioning and Acceptance Record. Before filling, please read Commissioning and Acceptance Record carefully and fill it completely and accurately. Then send it back to our company. The company will provide after-sales service according to Commissioning and Acceptance Record.

If the above functions are abnormal. Please refer to solutions of common problem in this manual.

5 Troubleshooter and Maintenance

5.1 Loop Device Don't Login

If all loop devices cannot be registered, it means bus is open circuit or bus fuse is broken. Now it is necessary to check if the bus is open circuit.

If an individual device cannot be entered, there are some conditions as follows:

1) The bus connecting with the device is broken. Now, measure bus voltage of the base with a multimeter, it is zero. Check the bus.

2) The device and its base are connected loosely.

3) The module terminals and bus circuit are connected loosely.

4) Addresses of loop devices are repeated or exceed effective range of the panel. It shall be programmed again.

5.2 Loop devices are registered, but they don't give faults.

- 1) The loop device may be shielded.
- 2) Loop devices are activated, but they don't give faults.

5.3 The device display does not conform to the actual condition after registering or login

In "User Setup -> System Mode", select "Login" in normal standby. Restart the panel to view.

5.4 Fault Warning of Battery

- 1) Check if the battery is damaged.
- 2) Check if the battery terminal is in good condition.
- 3) Check if the battery terminal connection is correct (black terminal shall be connected with the negative electrode and red terminal shall be connected with positive electrode)
- 4) Check if standby power fuse is damaged.

6 Maintenance

6.1 Cautions

- 1) Fire zone shall be marked obviously with warning signs.
- 2) Installed in strong magnetic field environment, effective shielding measures shall be taken.
- 3) During commissioning and acceptance, it is forbidden to connect start solenoid valve of fire-extinguishing gas in each zone. Otherwise, it may lead to gas spraying by mistake, which causes injuries and casualties or property loss.
- 4) This product is special firefighting equipment, which is managed by specialized person. Only professional persons who are qualified after training can install and commission this product. Others are forbidden to touch it at random! It is forbidden to start gas release when there is no fire alarm!
- 5) When there is someone on duty, gas fire extinguishing control panel should be set to manual mode.
- 6) The operator who does not work for this product shall not operate or press various buttons and switches without permission.
- 7) The operator who work in fire zone is trained about gas extinguishing knowledge. It is suggested that the operator wear oxygen respirator.
- 8) Installation, commissioning and maintenance can be made by only specialized persons. Energy plugging is forbidden.
- 9) Without permission of our company, it is forbidden to modify internal setup and wiring.
- 10) At the time of maintenance and testing, external cylinder shall be disconnected to avoid gas release due to mis-operation.

- 11) Standby power shall be discharged every month. Disconnecting main power supply, standby power are working for many hours (more than 5 hours) or when standby power fault occurs, power on the mains again. If possible, measure the voltage on the battery output end by multimeter. After the voltage reduces to 23V, then switch on main power.
- 12) Power supply line shall be laid out against the wall. It is forbidden to expose it on the ground where persons walk frequently. Do not overload power supply line.
- 13) Clean the panel with soft cloth sprayed by neutral detergent or window detergent. Do not use the detergent with high volatility. Do not spray detergent on the panel directly.
- 14) Password and cabinet key shall be kept by a specialized person. The password shall not be revealed.
- 15) When servicing the system, it is essential to shut the power down. Restart the panel as no fault is confirmed.
- 16) When the panel sends bus fault, shutdown shall be done immediately. After troubleshooting, restart it and put it into use.
- 17) In order to install and maintain the equipment correctly, the operator shall read this manual carefully and operate according to this manual to ensure the equipment is in normal and safe running.
- 18) Do not disassemble the panel by yourself. Don't remove the panel with energy.
- 19) Handling and Storage The panel shall be transported, delivered and stored in packaging state. When loading and unloading, please hold with care to prevent damage due to collision. Storage environment shall be ventilated, dry. It shall not be stored in the open air.
- 20) In the project, the panel can be unpacked and installed for system commissioning after the decoration is finished.

Appendix 1 Device Type Table for Gas Extinguishing Control Panel

Type	Description	Type	Description	Type	Description
0	Common Use	69	Point Heat	138	Pressure Switch
1	Fire Alarm Control Panel	70	Line Heat	139	Reserved
2	CRT in Fire Control Room	71	Line Heat	140	Valve Drive
3	Reserved	72	Line Heat	141	Fire Door
4	Reserved	73	Fiber Heat	142	Fire Valve
5	Reserved	74	Reserved	143	Ventilation System
6	Reserved	75	Reserved	144	Foam Pump
7	Reserved	76	Smoke Detector	145	Pipe Solenoid Valve
8	Reserved	77	Ionization Smoke	146	Reserved

			Detector		
9	Reserved	78	Optical Smoke Detector	147	Reserved
10	Gas Alarm Control Panel	79	Beam Detector	148	Reserved
11	Electrical Fire Device	80	Inspiring Smoke Detector	149	Reserved
12	Reserved	81	Reserved	150	Smoke Fan
13	Reserved	82	Reserved	151	Reserved
14	Reserved	83	Reserved	152	Fire Damper
15	Reserved	84	Reserved	153	Normally Closed Air Supply Outlet
16	Reserved	85	Reserved	154	Smoke Vent
17	Reserved	86	Fire Compound	155	Electric control smoke block hanging wall
18	Reserved	87	Smoke and Heat Combination	156	Roller Control Panel
19	Reserved	88	Optical and Heat Combination	157	Fire Door Monitor
20	Fire Hydrant Sys	89	Optical and Smoke Combination	158	Control Panel
21	Water Spraying Fire Extinguishing System	90	Reserved	159	Reserved
22	Gas Extinguishing Control Panel	91	Reserved	160	Alarm Device
23	Foam Extinguishing System	92	Reserved	161	Sounder Strobe
24	Fire Extinguishing System	93	Reserved	162	Alarm Bell
25	Smoke Prevention and Exhausting System	94	Reserved	163	Reserved
26	Fire Door and Roller	95	Reserved	164	Reserved
27	Emergency Broadcast	96	Detector	165	Reserved
28	Fire Telephone	97	Violate Detector	166	Reserved

29	Emergency Lighting Evacuation	98	Detector	167	Reserved
30	Fire Power	99	Reserved	168	Reserved
31	Reserved	100	Reserved	169	Reserved
32	Reserved	101	Reserved	170	Reserved
33	Reserved	102	Reserved	171	Reserved
34	Reserved	103	Reserved	172	Reserved
35	Reserved	104	Reserved	173	Reserved
36	Reserved	105	Photosensitive Detector	174	Reserved
37	Reserved	106	Reserved	175	Reserved
38	Reserved	107	Reserved	176	Reserved
39	Reserved	108	Reserved	177	Reserved
40	Reserved	109	Reserved	178	Reserved
41	Reserved	110	CO Detector	179	Reserved
42	Reserved	111	Reserved	180	Reserved
43	Reserved	112	Reserved	181	Output Interface
44	Reserved	113	Reserved	182	Multi-wire Panel
45	Reserved	114	Image Detector	183	Broadcast Panel
46	Gas Detector	115	Image Detector	184	Bus Circuit Panel
47	Gas Detector	116	Reserved	185	Reserved
48	Gas Detector	117	Gas Extinguishing Control Panel	186	Reserved
49	Gas Detector	118	Fire Electrical Equipment	187	Reserved
50	Reserved	119	Reserved	188	Reserved
51	Reserved	120	Module	189	Reserved
52	Electrical Fire Device	121	Input Module	190	Reserved
53	Electrical Detector	122	Output Module	191	Elevator Landing
54	Electrical Detector	123	Input/Output Module	192	Half Roller Down
55	Reserved	124	Relay Module	193	All Roller Down

56	Reserved	125	Reserved	194	Solenoid Valve
57	Detection Loop	126	Reserved	195	Emergency Lighting
58	Repeater Panel	127	Hydrant Pump	196	Gas Release Indication
59	Manual Call Point	128	Water Spraying Pump	197	Light Distribution
60	Fire Hydrant Call Point	129	Water Mist Pump	198	Power Distribution
61	Fire Detector	130	Stabilized Pressure Pump	199	Air Compressor
62	Reserved	131	Fire Water Tank	200	Gas Release Warning Indicator
63	Reserved	132	Reserved	241	Manual Front Panel
64	Reserved	133	Reserved	242	EMGY Start/Stop Button
65	Reserved	134	Spray Pump	243	Valve
66	Heat	135	Water Flow Indicator	244	Gas Release
67	Point Heat	136	Signal Valve		
68	Point Heat	137	Alarm Valve		

Chapter 7 System Devices

7.1 Printer

7.1.1 Thermal Printing Paper

Paper Wide:58mm

Paper Depth: 60μm~80μm

Paper Roll Diameter: ≤50mm

7.1.2 Install Paper Roll

The printer has paper roll before the factory. If the paper runs out, users can buy thermal printing paper.

Feeding the paper roll is shown below.

- 1) Insert the paper roll into the guide slot of the printer. The printer will automatically suck the paper in. Set the paper roll to the bracket. Check the paper roll and make sure it is not installed inversely.
- 2) Don't tilt the paper.

7.1.3 Feeding Way

Pressing LF key, the printer sends the paper. Releasing LF key, it stops.

Declaration

This manual describes functions and applications of TX3042E Gas Extinguishing Control Panel. We are committed to making it accurate, latest, but it also can't meet all requirements.

Please contact us for further information as the panel may be improved in appearance, specification and function.

Shenzhen Tanda company have all the rights of this manual. It can't be copied, revised, added or delated without our permission.

TX3042E power input and output terminals are not provided with protection cover. 220VAC input terminals in the cabinet are exposed.

A specialized person operating in high voltage environment faces the potential danger .

Declaration for operation:

- 1) The cabinet for fire protection device belongs to primary protection terminal, so it's forbidden to be opened by non fire professional persons. Those professional persons should enter exams after training before they are working in fire production industry.
- 2) As fire professional persons installs, commissions and services TX3042E panel,220VAC external power must be disconnected if the cabinet needs opening. Using standby power, high voltage environment should be avoided.
- 3) For main power problem, professional persons, serviceman and power supplier are responsible to find reasons and solve the problems.

As operators are not following the above-mentioned process, our company will not be responsible for any safety problems. Besides the above, note the following cautions.

- 1) The panel belongs to precise electronic products. It is kept by a special person not allowed to touch casually.
- 2) Actual capacity should not exceed the design capacity of the panel.
- 3) After acceptance, don't add devices by yourself. If it is necessary, please contact technical personnel of our company. The new-added devices require an individual system,
- 4) not affecting the present one.
- 5) After acceptance, don't change internal structure or external wires by yourself. If it is necessary, please contact technical personnel of our company.
- 6) The system should be commissioned, accepted again as the project site is decorated again. The system can be used if it is qualified.

As the accepted project is in use, communication fault is given in field, settle it in time.

Our company are not responsible for injuries or damages because of violating above-mentioned cautions