



GE Interlogix

ARITECH →

FEC400 Series

Conventional microprocessor
controlled fire detection and
alarm panels with
extinguishing control

User Guide

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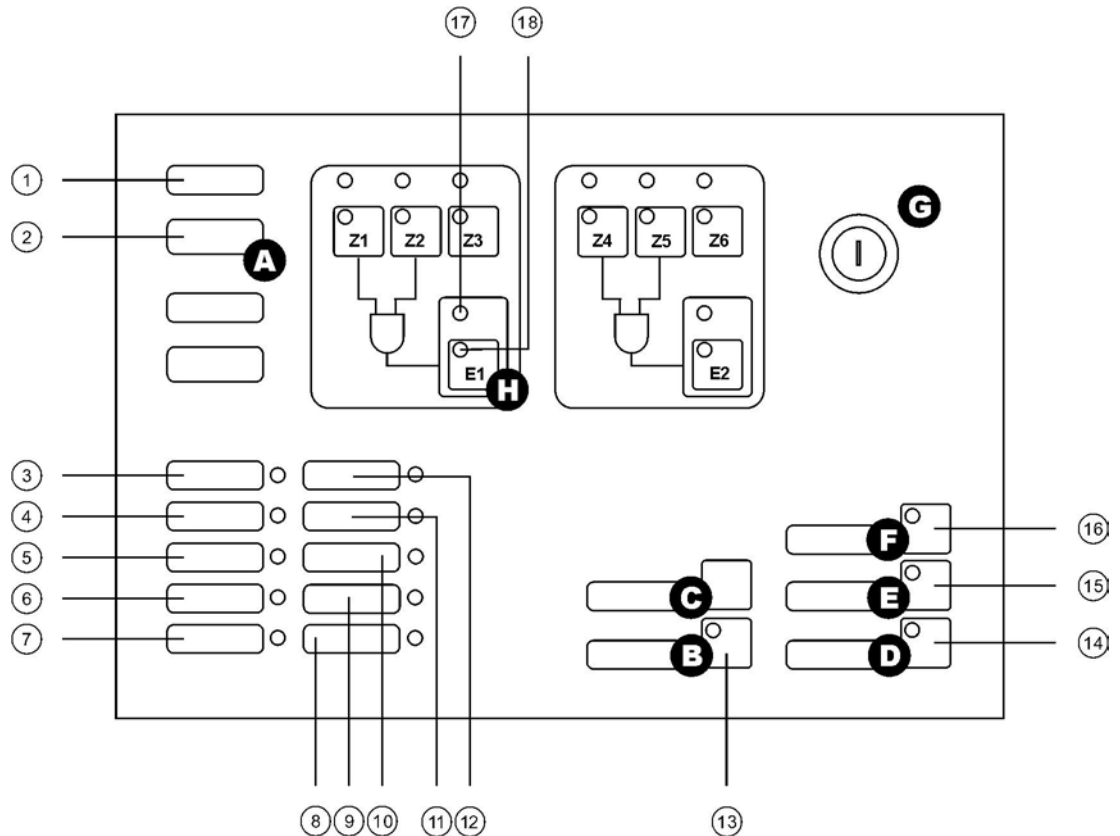
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1 USER GUIDE

1.1 Description of control panel

Figure 1: FEC406 Front Panel



1.1.1 LED indicators

1. Fire (zone)

When the red LED is activated the indicated zone is in alarm status. A flashing LED indicates that a detector has activated the alarm. A constant LED indicates that a manual call point has activated the alarm.

2. Fault / Test / Disabled (zone)

A flashing yellow LED indicates a fault in the zone. A constant LED means the zone is either disabled or in test mode.

3. Supply ON

A green LED indicates that the system is powered up.

4. Fire (general)

A red LED indicates a zone is in alarm status. A flashing LED indicates that a detector has activated the alarm. A constant LED indicates that a manual call point has activated the alarm.

5. Fault (general)

A flashing yellow LED indicates a fire system fault.

6. Disabled

A zone or sounder has been disabled.

7. Maintenance

For installations using Clean-Me enabled detectors only. A yellow LED indicates detector maintenance is required. The detector zone is displayed when the Silence Buzzer key is pressed for more than one second.

8. Sounder Delay

A sounder delay has been programmed and is enabled.

9. Sounder Fault / Disabled

A flashing yellow LED indicates a fault in one of the sounder outputs. A constant LED indicates that the sounders have been disabled.

10. System Fault

A fault in the fire panel has been detected.

11. Supply Fault

Indicates a power supply fault – mains, batteries or fuse.

12. Out of Service

The fire panel has lost power and battery voltage is below the minimum value (22 VDC).

13. Silence Buzzer

The fire panel buzzer has been silenced pressing the Silence Buzzer button.

14. Sounders ON

The sounders have been activated. If the LED flashes the sounders will be activated after the programmed delay.

15. Sounders Silence

The sounders have been silenced by pressing the Sounders Silence / Disable button.

16. Test

A zone is in test mode.

17. Extinguishing process activated

A flashing red LED indicates that the extinguishing process has been started but is in the programmed delay period. The system is waiting until the delay time is over. A constant red LED indicates that the extinguishing process has been activated.

18. Fault / Extinguishing disabled

A flashing yellow LED indicates a fault in the extinguishing area. A constant yellow LED indicates that the automatic extinguishing process has been cancelled (by activating of a stop manual call point during the delay period or via the control panel).

1.1.2 Acoustic indicators

Alarm indicator: Continuous internal buzzer.

Fault indication: Intermittent internal buzzer.

1.1.3 Control panel buttons

A. Zone (Z1, Z2 etc.)

Enable / disable a zone. When a zone is disabled the LED is ON.

B. Silence Buzzer

Silences the internal buzzer and activates the corresponding LED.

C. Reset

Resets the system. Any fault or alarm that has not been resolved will be highlighted again.

D. Sounder ON

Activates the sounder outputs. If a delay is programmed it may be overridden by pressing this button from level 1.

E. Sounders silence / Disable

Stops the sounder outputs if they are activated and activates the corresponding LED. If the sounders are not active they may also be disabled by pressing this button for approximately 2 seconds. To enable sounders press the button again.

F. Test

Tests the internal buzzer and unit LEDs. If pressed together with a zone button the zone is placed into test mode and the corresponding LED is activated.

G. ON/OFF (key)

Enables and disables the keyboard.

H. Disable extinguishing

Disables the extinguishing area and prevents activation of the extinguishing process.



If extinguishing has been activated through a manual call point the extinguishing process cannot be disabled.

1.1.4 Operating modes

Standby

When the fire panel is in standby mode the Supply ON LED is activated. If a sounder delay has been programmed the Sounder Delay LED will also be activated. There are no acoustic signals.

Alarm

When the fire panel detects any alarm situation it will be indicated as follows:

- The general **Fire** LED will be activated.
- The zone **Fire** LED will be activated.
- The internal buzzer will sound continuously.
- The alarm relays (potential free) and sounder (with any programmed delay) will be activated.

Fire panel operation in alarm state

The following operations can be performed while the fire panel is in alarm status:

- Silence the internal buzzer pressing the Silence Buzzer button.
- Silence sounders with Silence Sounders button. To re-activate them push the Sound Alarm button. If a delay has been programmed, the sounders can be activated without delay by keeping the Sound Alarm button pressed for 4 seconds (from security level 1).
- Reset the system with the Reset button. It is not recommended to reset the system until the location and resolution of the cause of the alarm has been established.



It is required that the control panel key is in the ON position in order to be able to reset the panel.

Fault

When the fire panel detects a fault its type and location will be shown as:

- LED indicators, of general fault (flashing), of zone fault (flashing), power fault (constant ON) or sounder fault (flashing)
- Acoustic indicator with intermittent sound of the internal buzzer.
- Output activation of the fault relay (potential free)

Fire panel operation in fault state

- Silence internal buzzer with Silence Buzzer button
- Restart system with Reset button

Potential causes for faults

- Zone faults are usually caused by open or short circuits (or because an end-of-line resistor was not properly placed (4k7))
- The normal reasons for a Power Supply Fault are the absence of mains voltage, batteries not installed or at low voltage, or defective/broken fuses, either in the mains input or the battery input.
- Sounder faults are normally caused by a failure of the protective fuses or to short or open circuit lines. A badly placed end-of-line resistor in the sounder line may also cause problems.

Disabled status

The fire panel allows the enable and disablement of each zone independently by pressing the corresponding zone disable button. When a zone is disabled, none of the indications or events that may occur within the zone will be reported to the fire panel. It is therefore important to limit the usage of this feature.

This is reported in the following way:

- LED indicators for general Disable (intermittent) and/or zone Disable (continuous).
- Acoustic indicator by means of the internal buzzer with an intermittent sound.

Fire panel operation during disable status

- Silence internal buzzer with Silence Buzzer button.
- Restart the system with the Reset button.

Zone test status

The fire panel allows performing of tests on every zone independently. This mode is achieved by keeping the Test button pressed while pressing the required Zone button. Once the zone is in test mode, the fire panel will activate the corresponding outputs for 3 seconds and will then automatically reset the system to check the detector (or zone) again without having to walk to the fire panel.

This is reported in the following way:

- LED indicators - the general Test LED is steady ON, as well as the Fault LED of the zone in test.
- There is no acoustic signal.



If someone wishes to activate the sounders during the test mode, it will not have any programmed delay.

Out of order

The fire panel enters into an out-of-service mode only when the mains power is out and the batteries voltage is below 22 V. In this mode there is no alarm or fault warning.

- Light indicators: general fault (flashing) and out of service (steady).
- Acoustic indicator with intermittent sound
- Activation of outputs: activation of fault relay (potential free)



When main power is re-established, the fire panel returns to its former status. If the mains failure lasts for an extended time, the panel will enter into system fault when the battery voltage reaches 19 V. All operations will then stop.

Fire panel operation in/out-of-service

- Silence the internal buzzer with the Silence Buzzer button.



If the fire panels enter into this mode, it is recommended to disconnect the system until mains power is restored. This prevents possible damage to the batteries.

2 WHAT TO DO IN CASE OF A FIRE OR FAULT

2.1 General

This fire system has been designed to guarantee a quick and efficient reaction in case of alarm. To achieve this, the fire panel checks all the devices connected to it constantly, making sure that the installation is correct and providing signals in order to warn users in case of any event or abnormality. It is required to know the meaning of each of the control panel indicators in order to be able to react accordingly.



Read the following steps carefully. It could be extremely useful in case of any alarm or fault situation.

KEEP CALM

1. In an alarm situation, the fire panel activates the sounders to warn users about the event. It is very important to keep calm, regardless the acoustic signal, so the right decisions may be taken.

KEYPAD ACCESS

2. Remember: To be able to operate the fire panel keypad, it is required to place the key in the ON position.

PRESS THE SILENCE BUZZER BUTTON

3. The user may press the Silence Buzzer button in order to silence the internal buzzer. This will help to think about what to do under better conditions.



Sounders may also be disabled by pressing the Silence Sounders button.

IDENTIFY THE ALARM ROOT CAUSE

4. The LED indicators on the front of the control panel will help to identify what kind of alarm or fault has caused the system to enter in the current state.

ACT

5. Once the cause has been identified, react according to the emergency plan that must be defined at every site.

SYSTEM RESET

6. Once the problem has been solved, the system may be reset to clear the system and again be in a normalised environment.

2.2 Extinguishing

If the two zones that are linked to an extinguishing area enter into an alarm mode, then the panel will automatically start the extinguishing process. If a delay has been programmed, there will be some time available to solve the risk situation and to stop the process by activating a **Stop manual call point** (or via the control panel). If the risk situation cannot be controlled the extinguishing process may be started immediately by activating a **Release manual call point**.



If extinguishing has been activated through a manual call point the extinguishing process cannot be disabled.

3 MAINTENANCE

3.1 System maintenance

To guarantee correct functioning of the system and compliance with EN-54 standards, the following checks are recommended:

Daily Verification

Check that the system is in ready status. If the above is not so, take the appropriate measures. (e.g. verification of incidents, alerts to maintenance, etc.).

Weekly Verification

Check at least one detector or call point to confirm the functioning of the panel (make sure you do not always check the same one).

Quarterly Verification

Carry out a quarterly verification by personnel who are experts in fire systems. This check must test one device per zone, supervising the activation of the corresponding outputs, verification of batteries and their load voltage.

Annual Verification

All the system devices must be checked annually.



Recommended! Keep a register book for noting down all system incidents, such as fire alarms, faults, modifications to the installation, etc.

3.2 Battery maintenance

The batteries must be replaced periodically as recommended by the manufacturer. The useful life of the battery is 4 years. Avoid the total discharge of the batteries.

3.3 Cleaning

Keep the outside and inside of the panel clean. Carry out periodic cleaning using a damp cloth for the outside. Do not use products containing solvents to clean the unit. Do not clean the inside with liquid products.

4 TROUBLESHOOTING

Indication	Cause	Action
The service LED indicator is OFF.	The panel has no power.	Check power supply (110 or 230 VAC). Check power supply fuse. Check battery. Check battery fuse.
The general fault and power supply failure LED indicator is on and the buzzer is sounding intermittently.	The panel has no power supply from the mains and is working with batteries.	Check power supply (110 or 230 VAC). Check power supply fuse. Check transformer Check battery connection. Check battery fuse Check that battery voltage is above 24 VDC Check battery charger voltage is 27.6 VDC
The system failure LED - indicator is on and the buzzer is sounding continuously.	Control panel failure.	Restart the system disconnecting the batteries and the power supply voltage. After a few seconds, reconnect the power supply. If the problems remain contact the supplier.
The general fault and disconnection LED indicators are on and the buzzer is sounding intermittently.	The panel has no power supply from the mains and the battery is below 22 V (minimum working voltage).	Disconnect the battery and the power supply until the mains voltage or charged batteries can be supplied.
The general fault and zone failure LED indicators are on (flashing) and the buzzer is sounding intermittently.	The indicated zone has a fault.	Check the end-of-line resistance of the zone (4k7). Check that there are no short or open circuits in the lines. Check that there are no inverted polarity detector connections. Check that there are no manual call points activated without a series resistance.
The general disabled and zone disabled LED indicators are on and the buzzer is sounding intermittently.	The indicated zone is disabled.	If you wish to enable, turn the key to the ON position and press the key of the disabled zone.
The panel does not respond to the keypad.	The keypad is disabled.	To enable the keypad, turn the key to the ON position.



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