FX-350 Series

Analog/Addressable Fire Alarm Panels

User Guide

LT-965 Rev. 3.2
March 2018

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Introduction

About this Manual

This user guide provides information on the main indicators and controls of the FX-350/351/353 Series Fire Alarm Control Panel. With this manual you will learn about:

- What certain common LCD screen messages mean
- What the buttons on the main display do
- What the LEDs on the main display indicate

Refer to the **Glossary** on page 10 for an explanation of commonly used terms in this manual.

Technical Support

For all technical support inquiries, please contact Mircom's Technical Support Department between 8 A.M. and 5 P.M. (EDT) Monday through Friday, excluding holidays.

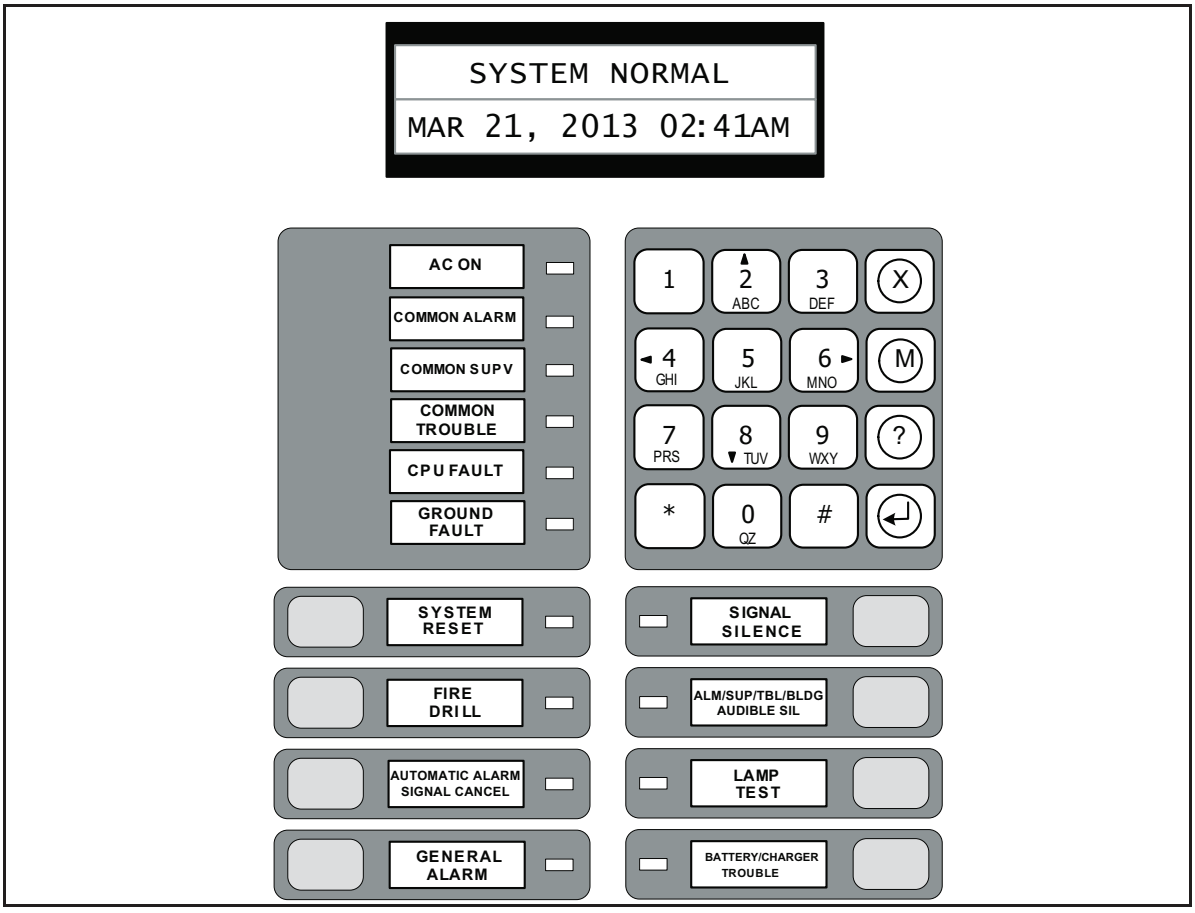
Local Phone: 905-660-4655 **Toll-Free Phone:** 1-888-660-4655

Local Fax: 905-660-4113 **Toll-Free Fax:** 1-888-660-4113

Email: techsupport@mircom.com

Main Display

Refer to the diagram below for the LCD display, LED indicators, and control buttons locations.



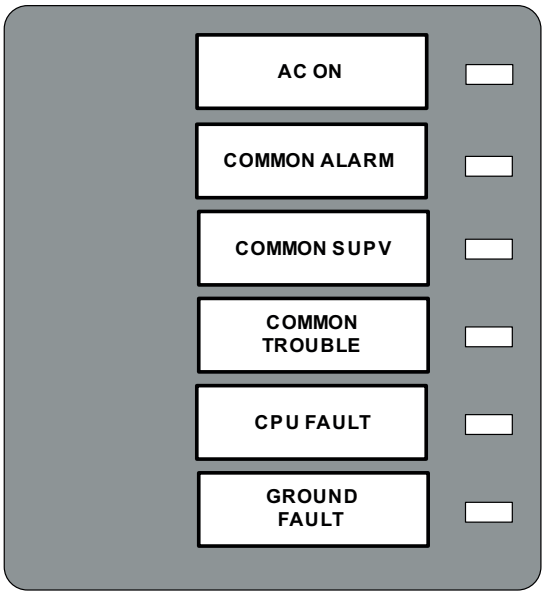
The main display panel on the fire alarm control board consists of:

- Six LED indicators (located just below and to the left of the LCD screen)
- 16 program buttons or keys consisting of an alphanumeric keypad and LCD screen keys (located just below and to the right of the LCD screen)
- Eight control buttons and corresponding LEDs (below the alphanumeric keypad)

LED indicators may be amber, red, or green, and may **illuminate continuously (steady for alarm)**, or at one of two flash rates:

- **Fast flash (supervisory):** 120 flashes per minute
- **Trouble flash (trouble):** 20 flashes per minutes

The Buzzer and Common LED Indicators



Buzzer

The buzzer sounds if there is a fire alarm, a supervisory alarm, or a trouble in the fire alarm system. It turns OFF if the condition causing the buzzer to sound goes away or the ALM/SUP/TBL/BLDG AUDIBLE SIL (buzzer silence) button is pressed. After being silenced, the buzzer will resound approximately 24 hours later if the condition did not clear.

AC ON LED

The green AC ON LED illuminates steadily as long as the main power is above minimum level. The indicator turns OFF when the level falls below the minimum level and the panel switches to standby (battery) power.

Common Alarm LED

The red Alarm LED will illuminate steadily whenever there is a fire alarm. This indicator will remain ON until the system is reset.

Common Supervisory LED

The amber Supervisory LED illuminates at the fast flash rate when there is a supervisory alarm in the fire alarm system. For non-latching supervisory alarms, the Supervisory LED will turn OFF when the condition causing the alarm goes away. For latching supervisory alarms, this LED remains ON until the panel is reset.

Common Trouble LED

The Trouble LED flashes amber at the trouble flash rate when the panel detects any trouble condition. For non-latching trouble conditions, the Trouble LED will turn OFF when the condition causing the alarm goes away. For latching trouble conditions, this LED remains ON until the panel is reset.

CPU Fault LED

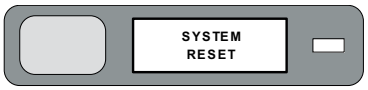
The CPU Fault LED flashes amber at the trouble flash rate to indicate microprocessor failure on the main board.

Ground Fault LED

The Ground Fault LED flashes amber at the trouble flash rate to indicate a ground fault detection on the wiring.

Main Display Buttons and LEDs

System Reset Button

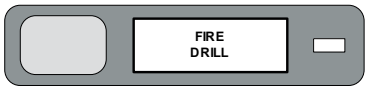


The System Reset button resets the fire alarm control panel and all circuits. The System Reset LED turns ON steady for the duration of the reset operation. This button is also used to confirm Positive Alarm Sequence (if implemented).

Signal Silence Button

Pressing the Signal Silence button when the panel is in alarm deactivates any silenceable signal devices in the fire alarm system. Non-silenceable signal devices are unaffected. If you press the Signal Silence button a second time, or if there is a subsequent alarm, the signals will re-sound. If the panel has been configured with a Signal Silence Inhibit timer, this button will not work until the timer times out. This button also does not work if the Fire Drill is already in progress. The Signal Silence LED will illuminate steady amber while the panel is in the signal silence mode.

Fire Drill Button



Pressing the Fire Drill button will simulate a fire alarm by activating the fire alarm signals without transmitting an alarm to the central station. To cancel the fire drill, press the button again. If the fire alarm system goes into a real alarm while you are performing a fire drill, this button will not turn OFF the signals or operate any programmed relays. The red Fire Drill LED will illuminate steady while the Fire Drill is active.

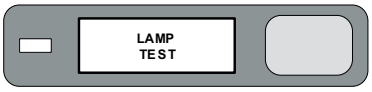
ALM/SUP/TBL/BLDG AUDIBLE SIL Button (Buzzer Silence)

Pressing the ALM/SUP/TBL/BLDG AUDIBLE SIL button while the buzzer is sounding silences the buzzer. The buzzer will resound automatically if there is a subsequent event. Pressing the button again (after it has been silenced) will resound the buzzer if a condition still exists. The ALM/SUP/TBL/BLDG AUDIBLE SIL Button acts as a toggle. The ALM/SUP/TBL/BLDG AUDIBLE SIL LED will flash amber at a slow rate for a trouble or alarm (and when the ALM/SUP/TBL/BLDG AUDIBLE SIL button has been toggled ON). The ALM/SUP/TBL/BLDG AUDIBLE SIL LED will turn OFF if the ALM/SUP/TBL/BLDG AUDIBLE SIL button has been toggled OFF.

Automatic Alarm Signal Cancel Button (Acknowledge)

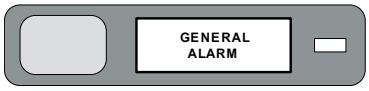
For a One or Two Stage System: this button acknowledges a first or second stage alarm and cancels the general alarm timer. For a Positive Alarm Sequence: it is used to acknowledge the first PAS device in alarm. The amber LED will flash at a fast rate on alarm and go steady when the Automatic Alarm Signal Cancel button is pressed.

Lamp Test Button



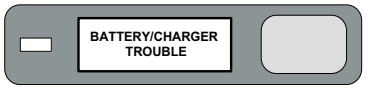
Pressing and holding the Lamp Test button causes the LCD to display the software version, all the front panel LEDs to illuminate, and sounds the buzzer. Use this button to test that the LCD display and all LEDs on the main display are working. If you hold the Lamp Test button, the amber Lamp Test LED will illuminate steady amber.

General Alarm Button



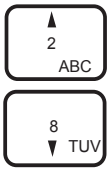
This button is used on a two stage system only. Pressing the General Alarm button will send the system into second stage general alarm and activate all outputs associated with this status. The red General Alarm LED will turn ON steady when the General Alarm button is pressed or any input designated general alarm is activated, and will latch until the panel is reset.

Battery/Charger Trouble Button



The Battery/Charger Trouble LED will flash amber at the trouble rate when battery charger voltage is below 20.4V (below nominal 24V). The Battery/Charger Trouble button is non-functional.

The Up and Down Arrow Buttons



Use these buttons to scroll through any events listed on the screen. The up arrow moves to the next listed condition and the down arrow moves to the previously listed condition.

The Info Button

Press the Info button while there is a message on the LCD screen to view additional information.

The Enter, Menu, and Cancel Buttons

The Enter, Menu, and Cancel buttons are only used by technicians to program the fire alarm control panel.

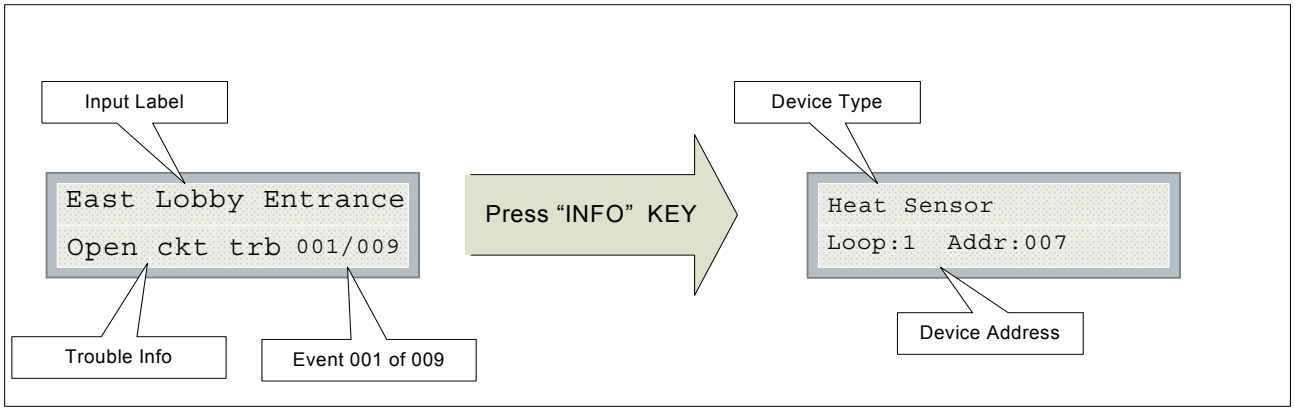
Understanding On-screen Messages

The LCD screen of the fire alarm control panel displays messages regarding system events. System events display on the screen in a queue. Events in this queue are listed on the screen in order of priority: alarms are of highest priority, followed by supervisory, trouble, and property and building safety (monitor) conditions. If the same type of event happens more than once (for example, two trouble conditions occur successively) they will be listed in the order that they occur first event to the last event. Priority is from the highest to lowest, i.e. alarm, supervisory, trouble and property and building safety. If an alarm, supervisory, or trouble condition occurs, their respective LED will be steady, fast flash and slow flash respectively.

Scroll through the events by using the 2 ABC and 8 TUV arrow buttons. If you need more information about a displayed event, press ? .

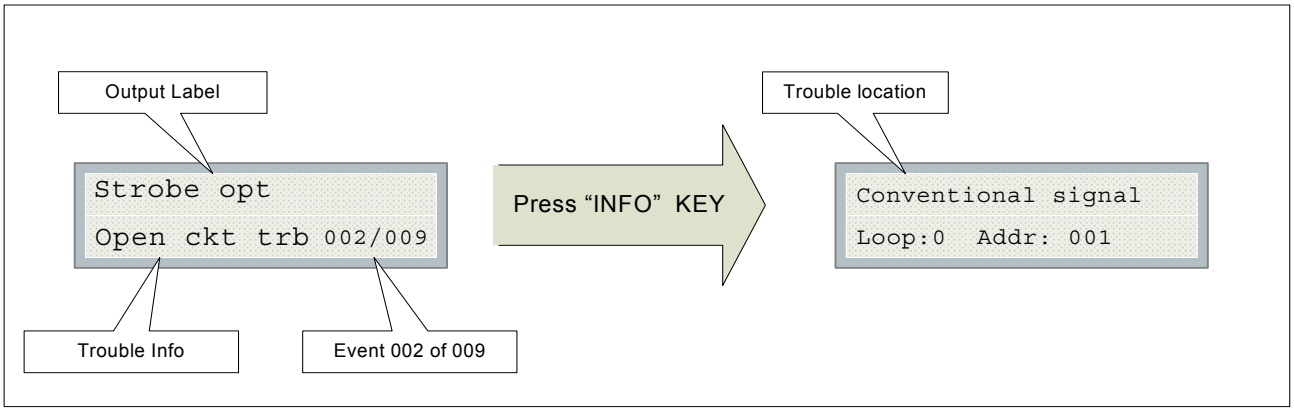
Example 1 (input circuit)

The message below indicates that event 1 of 9 is an open trouble at the East Lobby Entrance. When ? is pressed, the screen shows the trouble code and info. For the date and time you must review the event log.



Example 2 (output circuit):

The message below indicates that event 2 of 9 is a open circuit trouble on the strobe output. When ? is pressed, the screen shows the trouble label and address.



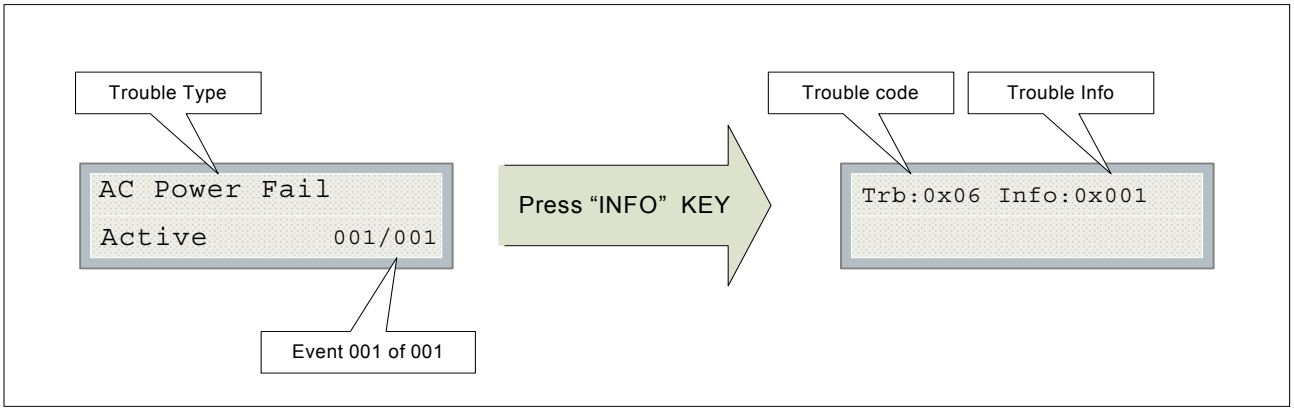
Note: The trouble code is a reference code for trained service personnel only.

Common Messages

Common system messages are outlined below.

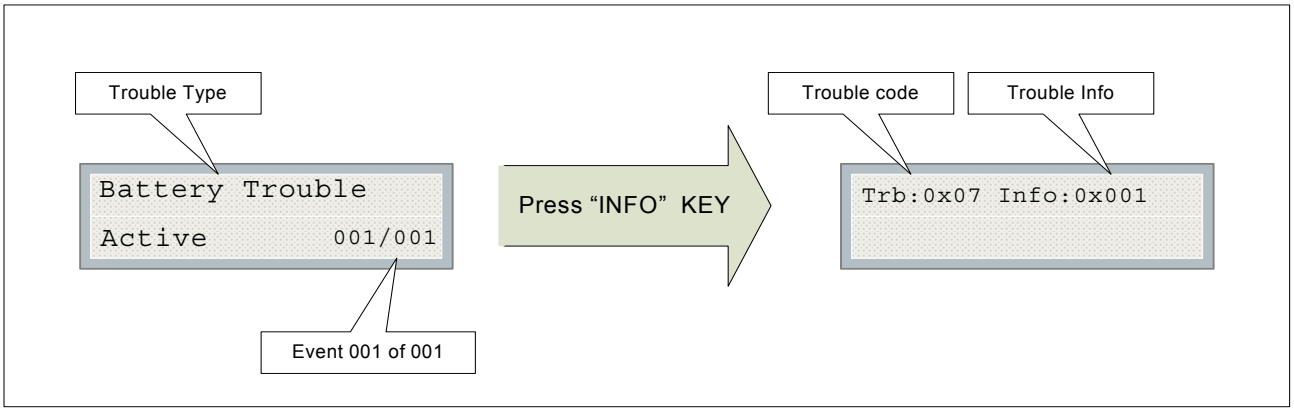
AC Power Fail

The “AC Power Fail” message indicates that the power has dropped below the minimum level and the system is running on backup battery power. The trouble is removed when the power returns to the normal value.



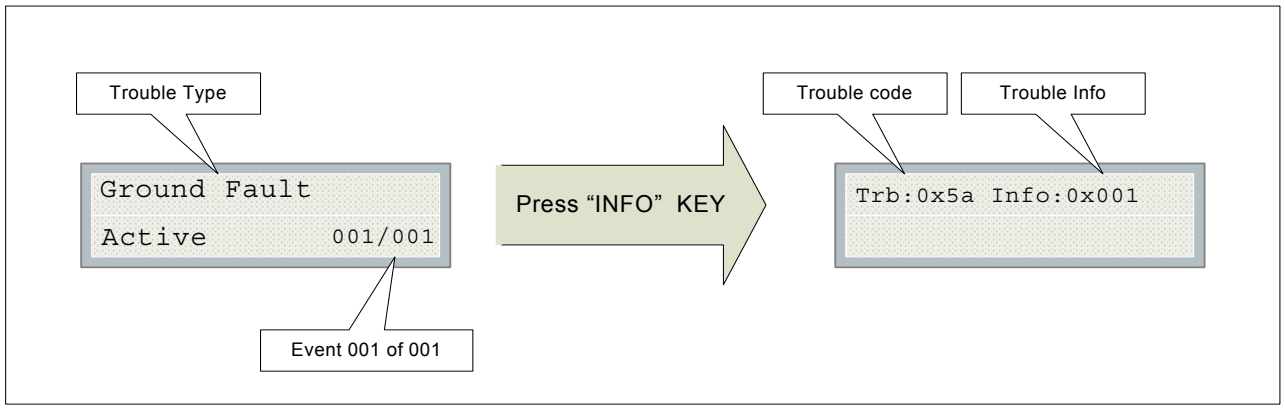
Battery Trouble

The “Battery Trouble” message indicates that the battery voltage has dropped below the minimum value. The trouble is restored when the voltage returns to the normal value.



Ground Fault

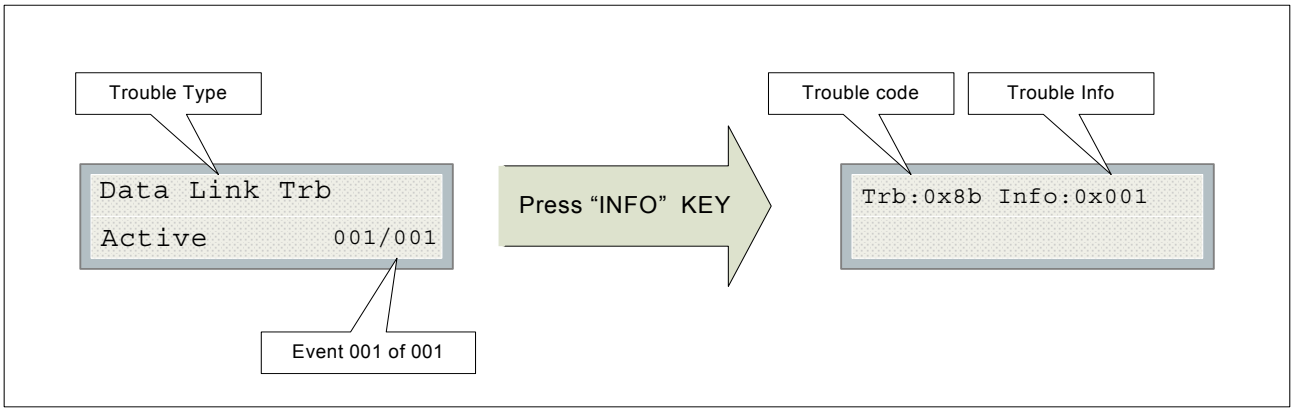
The “Ground Fault ” message indicates that there is a ground fault on the field wiring.



Note: The trouble code is a reference code for trained service personnel only.

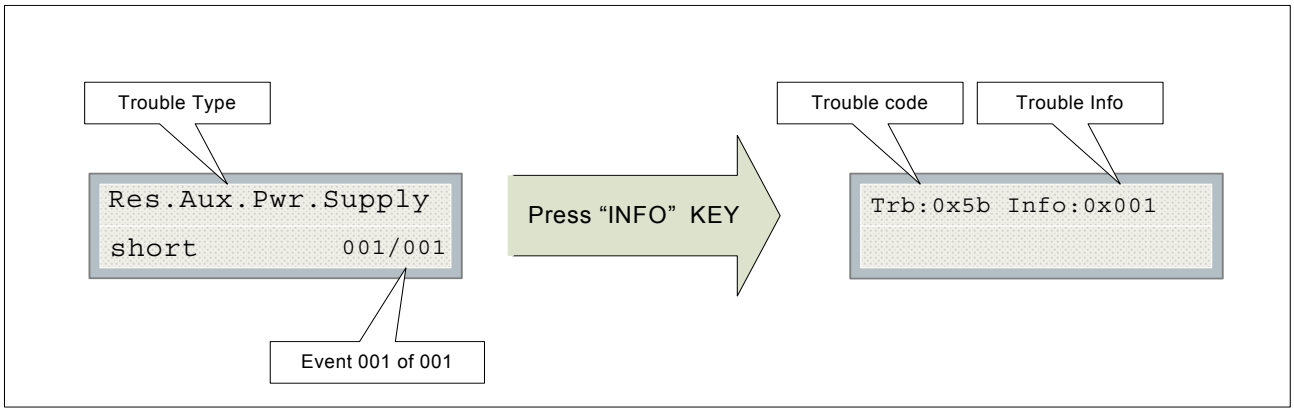
Data Link Trouble

The “Data Link Error” message can display for one of two reasons: either the main panel and annunciator failed to communicate with each other or an unconfigured remote annunciator is communicating with the main panel. In both cases, the following trouble message is displayed:



Resettable Auxiliary Power Supply

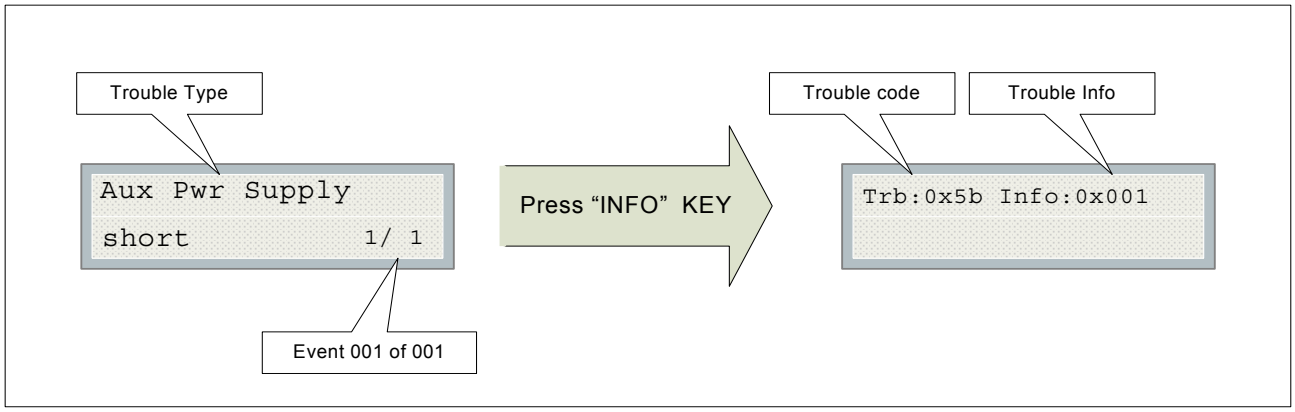
The “Res. Aux. Pwr. Supply” message indicates that the panel has detected a short on the resettable auxiliary power supply, the power is cut off and a trouble message is generated. Press the SYSTEM RESET to restore power to the system. If the short is removed, the panel will return to normal; otherwise the trouble message will stay.



Note: The trouble code is a reference code for trained service personnel only.

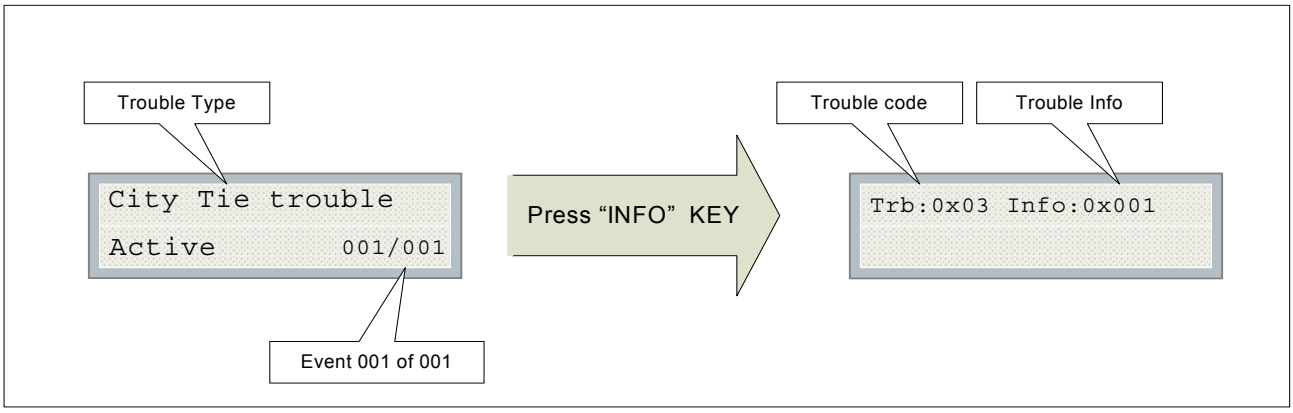
Auxiliary Power Supply

The “Aux. Power Supply” message indicates that the panel has detected a short on the auxiliary power supply, the power is cut it off and a trouble message is generated. Press SYSTEM RESET to restore power to the system. If the short is removed, the panel will return to normal; otherwise the trouble message will stay.



City tie Polarity reversal - PR-300/Relay module

The “City Tie trouble” message below indicates that the panel detects an open on the city tie output.



Note: The trouble code is a reference code for trained service personnel only.

Glossary

Alarm Condition
Occurs when devices such as detectors, pull stations, or sprinklers are activated. In a single stage system, this condition will activate all signalling devices throughout the building. In a two stage system, this condition will activate an alert signal and the General Alarm timer.

Circuits
Refers to an actual electrical interface and can be classified as input and output. The terms “circuit” and “zone” are often used interchangeably in the fire alarm industry.

Fast Flash Rate
120 flashes per minute is the rate at which an LED will flash to indicate a supervisory alarm.

Input Circuit
For this panel, the input circuit consists of addressable devices.

Output Circuit
For this panel, the output circuit is connected to audible or visual signalling devices, synchronized or unsynchronized.

Latching Circuit
A circuit that, when activated, will cause a condition on the panel that cannot be cleared until the panel is reset.

LED
The light-emitting diodes (LEDs) illuminate amber, red, or green. When lit, LEDs provide information regarding the status of the panel.

Non-latching Circuit
A circuit that, when activated, will cause a condition on the panel that will be cleared once the circuit is deactivated. This term is used to describe supervisory and trouble circuits.

Non-Silenceable Circuit
A signal circuit that cannot be silenced by pressing the Signal Silence button.

Relay Circuit
A circuit in a fire alarm system that connects relay devices (e.g. fan damper relays, etc).

Remote Annunciator
A device that visually indicates, either by LCD or LEDs, the floor or zone where the alarm originated.

Silenceable Circuit
A signal circuit that can be silenced by pressing the Signal Silence button.

Supervisory Condition
Occurs when the system detects open circuits, short circuits, and grounds. A supervisory condition is one that would interfere with the operation of the fire alarm system.

Supervisory Alarm Condition
Occurs when the system detects a short on a supervisory circuit.

Trouble Condition
Occurs when an abnormal condition such as a problem in the wiring, battery or power circuits exists in the fire alarm system.

Trouble Flash Rate
20 flashes per minute is the rate at which an LED will flash to indicate a trouble condition.

Walk Test
A test performed by a technician to ensure that each detection device is connected to the panel and working properly.

Zones
A fire alarm protected area that consists of at least one circuit. The terms “circuit” and “zone” are often used interchangeably in the fire alarm industry.

Warranty and Warning Information

WARNING!

Please read this document **CAREFULLY**, as it contains important warnings, life-safety, and practical information about all products manufactured by the Mircom Group of Companies, including Mircom and Secutron branded products, which shall include without limitation all fire alarm, nurse call, building automation and access control and card access products (hereinafter individually or collectively, as applicable, referred to as "**Mircom System**").

NOTE TO ALL READERS:

1. **Nature of Warnings.** The within warnings are communicated to the reader out of an abundance of caution and create no legal obligation for Mircom Group of Companies, whatsoever. Without limiting the generality of the foregoing, this document shall NOT be construed as in any way altering the rights and obligations of the parties, governed by the legal documents that apply in any given circumstance.
2. **Application.** The warnings contained in this document apply to all Mircom System and shall be read in conjunction with:
    a. the product manual for the specific Mircom System that applies in given circumstances;
    b. legal documents that apply to the purchase and sale of a Mircom System, which may include the company's standard terms and conditions and warranty statements;
    c. other information about the Mircom System or the parties' rights and obligations as may be application to a given circumstance.
3. **Security and Insurance.** Regardless of its capabilities, no Mircom System is a substitute for property or life insurance. Nor is the system a substitute for property owners, renters, or other occupants to act prudently to prevent or minimize the harmful effects of an emergency situation. Building automation systems produced by the Mircom Group of Companies are not to be used as a fire, alarm, or life-safety system.

NOTE TO INSTALLERS:

All Mircom Systems have been carefully designed to be as effective as possible. However, there are circumstances where they may not provide protection. Some reasons for system failure include the following. As the only individual in contact with system users, please bring each item in this warning to the attention of the users of this Mircom System. Failure to properly inform system end-users of the circumstances in which the system might fail may result in over-reliance upon the system. As a result, it is imperative that you properly inform each customer for whom you install the system of the possible forms of failure:

4. **Inadequate Installation.** All Mircom Systems must be installed in accordance with all the applicable codes and standards in order to provide adequate protection. National standards require an inspection and approval to be conducted by the local authority having jurisdiction following the initial installation of the system and following any changes to the system. Such inspections ensure installation has been carried out properly.
5. **Inadequate Testing.** Most problems that would prevent an alarm a Mircom System from operating as intended can be discovered by regular testing and maintenance. The complete system should be tested by the local authority having jurisdiction immediately after a fire, storm, earthquake, accident, or any kind of construction activity inside or outside the premises. The testing should include all sensing devices, keypads, consoles, alarm indicating devices and any other operational devices that are part of the system.

NOTE TO USERS:

All Mircom Systems have been carefully designed to be as effective as possible. However, there are circumstances where they may not provide protection. Some reasons for system failure include the following. The end user can minimize the occurrence of any of the following by proper training, testing and maintenance of the Mircom Systems:

6. **Inadequate Testing and Maintenance.** It is imperative that the systems be periodically tested and subjected to preventative maintenance. Best practices and local authority having jurisdiction determine the frequency and type of testing that is required at a minimum. Mircom System may not function properly, and the occurrence of other system failures identified below may not be minimized, if the periodic testing and maintenance of Mircom Systems is not completed with diligence and as required.
7. **Improper Operation.** It is important that all system users be trained in the correct operation of the alarm system and that they know how to respond when the system indicates an alarm. A Mircom System may not function as intended during an emergency situation where the user is unable to operate a panic or emergency switch by reason of permanent or temporary physical disability, inability to reach the device in time, unfamiliarity with the correct operation, or related circumstances.
8. **Insufficient Time.** There may be circumstances when a Mircom System will operate as intended, yet the occupants will not be protected from the emergency due to their inability to respond to the warnings in a timely manner. If the system is monitored, the response may not occur in time enough to protect the occupants or their belongings.
9. **Carelessness or Safety Hazards.** Moreover, smoke detectors may not provide timely warning of fires caused by carelessness or safety hazards such as smoking in bed, violent explosions, escaping gas, improper storage of flammable materials, overloaded electrical circuits or children playing with matches or arson.
10. **Power Failure.** Some Mircom System components require adequate electrical power supply to operate. Examples include: smoke detectors, beacons, HVAC, and lighting controllers. If a device operates only by AC power, any interruption, however brief, will render that device inoperative while it does not have power. Power interruptions of any length are often accompanied by voltage fluctuations which may damage Mircom Systems or other electronic equipment. After a power interruption has occurred, immediately conduct a complete system test to ensure that the system operates as intended.
11. **Battery Failure.** If the Mircom System or any device connected to the system operates from batteries it is possible for the batteries to fail. Even if the batteries have not failed, they must be fully charged, in good condition, and installed correctly. Some Mircom Systems use replaceable batteries, which have a limited life-span. The expected battery life is variable and in part dependent on the device environment, usage and type. Ambient conditions such as high humidity, high or low temperatures, or large temperature fluctuations may reduce the expected battery life. Moreover, some Mircom Systems do not have a battery monitor that would alert the user in the event that the battery is nearing its end of life. Regular testing and replacements are vital for ensuring that the batteries function as expected, whether or not a device has a low-battery monitor.
12. **Physical Obstructions.** Motion sensors that are part of a Mircom System must be kept clear of any obstacles which impede the sensors' ability to detect movement. Signals being communicated by a Mircom System may not reach the receiver if an item (such as metal, water, or concrete) is placed on or near the radio path. Deliberate jamming or other inadvertent radio signal interference can also negatively affect system operation.
13. **Wireless Devices Placement Proximity.** Moreover all wireless devices must be a minimum and maximum distance away from large metal objects, such as refrigerators. You are required to consult the specific Mircom System manual and application guide for any maximum distances required between devices and suggested placement of wireless devices for optimal functioning.
14. **Failure to Trigger Sensors.** Moreover, Mircom Systems may fail to operate as intended if motion, heat, or smoke sensors are not triggered.

a. Sensors in a fire system may fail to be triggered when the fire is in a chimney, walls, roof, or on the other side of closed doors. Smoke and heat detectors may not detect smoke or heat from fires on another level of the residence or building. In this situation the control panel may not alert occupants of a fire.

b. Sensors in a nurse call system may fail to be triggered when movement is occurring outside of the motion sensors' range. For example, if movement is occurring on the other side of closed doors or on another level of the residence or building the motion detector may not be triggered. In this situation the central controller may not register an alarm signal.

15. **Interference with Audible Notification Appliances.** Audible notification appliances may be interfered with by other noise sources such as stereos, radios, televisions, air conditioners, appliances, or passing traffic. Audible notification appliances, however loud, may not be heard by a hearing-impaired person.
16. **Other Impairments.** Alarm notification appliances such as sirens, bells, horns, or strobes may not warn or waken a sleeping occupant if there is an intervening wall or door. It is less likely that the occupants will be alerted or awakened when notification appliances are located on a different level of the residence or premise.
17. **Software Malfunction.** Most Mircom Systems contain software. No warranties are provided as to the software components of any products or stand-alone software products within a Mircom System. For a full statement of the warranties and exclusions and limitations of liability please refer to the company's standard Terms and Conditions and Warranties.
18. **Telephone Lines Malfunction.** Telephone service can cause system failure where telephone lines are relied upon by a Mircom System. Alarms and information coming from a Mircom System may not be transmitted if a phone line is out of service or busy for a certain period of time. Alarms and information may not be transmitted where telephone lines have been compromised by criminal tampering, local construction, storms or earthquakes.
19. **Component Failure.** Although every effort has been made to make this Mircom System as reliable as possible, the system may fail to function as intended due to the failure of a component.
20. **Integrated Products.** Mircom System might not function as intended if it is connected to a non-Mircom product or to a Mircom product that is deemed non-compatible with a particular Mircom System. A list of compatible products can be requested and obtained.

Warranty

Purchase of all Mircom products is governed by:

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https://www.mircom.com/software-license-terms-and-conditions

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