MR-2300 Series

LED Fire Alarm Control Panel

MR-2300 Fire Alarm Control Panel

Secutron™

Contents

1.0   Introduction

1.1   About this Manual

This user's guide provides information on the main indicators and controls of the MR-2300 Fire Alarm Control Panel. Specifically, with this manual you will learn about what the LEDs indicate and what the buttons on the main display do.

Refer to the **Glossary** on page 16 for an explanation of commonly used terms in this manual.

1.2   Technical Support

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

Local Phone: 1-888-732-8876   **Toll-Free Phone:** 1-888-SECUTRON (1-888-732-8876)

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

2.0   Main Display

Refer to the diagram below for the LED indicators and control buttons locations.
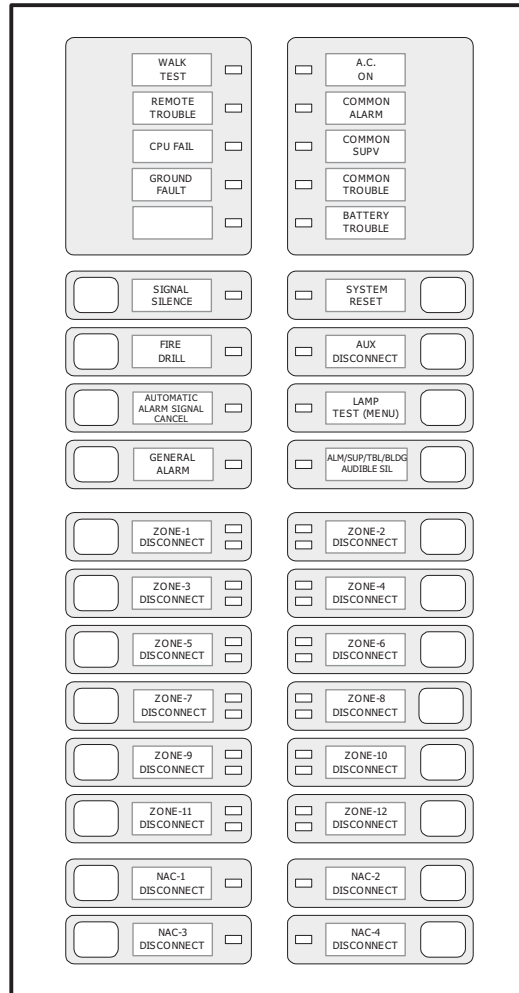
The main display panel on the main fire alarm control board consists of:

- 18 common LED indicators (top half of display)
- Eight common buttons (top half of display)
- Up to 12 Initiating circuit alarm LEDs and 12 initiating circuit trouble LED indicators
- Four indicating circuit LEDs (labeled NAC- Notifying Appliance Circuit)
- Up to sixteen disconnect buttons (12 for initiating circuit & four for indicating circuits)

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

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

2.1   Paper labels for buttons and indicators

Each display is supplied with laser printable labels. These labels slide into the plastic label templates on the panel.
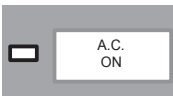
3.0 The Buzzer and LED Indicators

3.1 Common LED Indicators

3.1.1 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 if the ALM/SUP/TBL/BLDG AUDIBLE SIL (buzzer silence) button is pressed.

3.1.2 AC On LED

A.C. ON

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.

3.1.3 Common Alarm LED

COMMON ALARM

The red Common Alarm LED will illuminate steadily whenever there is a fire alarm. If the panel is set for two stage operation, pressing the red General Alarm button will also turn on the Common Alarm indicator. This indicator will remain on until the system is reset.

3.1.4 Common Supervisory LED

COMMON SUPV

The amber Common 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.

3.1.5 Common Trouble LED

COMMON TROUBLE

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

3.1.6 Remote Trouble LED

REMOTE TROUBLE

The amber Remote Trouble LED flashes at the trouble flash rate if the panel detects a trouble at the City Tie or UDACT module, communication trouble with a remote annunciator, or a local trouble at a remote annunciator.

3.1.7 Fire Drill LED
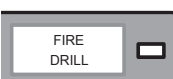
FIRE DRILL

The amber Fire Drill LED illuminates steadily after you press the Fire Drill button. This LED remains on until you press the Fire Drill button again.

3.1.8   AUTOMATIC ALARM SIGNAL CANCEL LED (Acknowledge)

If the panel is configured as a two-stage system, the AUTOMATIC ALARM SIGNAL CANCEL LED illuminates steadily when the Alarm timer is canceled by the activation of the AUTOMATIC ALARM SIGNAL CANCEL or SIGNAL SILENCE buttons. The LED goes out when the SYSTEM RESET button is pressed.

This LED can be configured to flash amber at the fast rate while the Auto General Alarm timer is running. If the Auto General Alarm timer times out and puts the panel into General Alarm, the LED turns off.

Note: If this LED is configured to flash, then the panel is outside of UL/ULC certification acceptability. The authority having jurisdiction must approve this selection.

If the panel is not configured as a two-stage system, this LED is ALM/SUP/TBL/BLDG AUDIBLE SIL (buzzer silence). It flashes at the slow rate when the ALM/SUP/TBL/BLDG AUDIBLE SIL button is pressed.

3.1.9   General Alarm LED

The red General Alarm LED illuminates steadily when the General Alarm button is pushed, a General Alarm Initiating circuit is activated, or the Auto General Alarm timer times out. Once the General Alarm LED has turned on, it will stay active until the panel is reset.

3.1.10 Walk Test LED

The amber Walk Test indicator illuminates steadily to indicate that the panel is in walk test mode. If the panel is left in this mode for over an hour with no operator activity, the panel will return to normal and the Walk Test indicator will turn OFF.

3.1.11 CPU Fail LED

The CPU Fail LED flashes amber at the trouble flash rate to indicate a processor failure on the main board.

3.1.12 Auxiliary Disconnect LED

The amber Auxiliary Disconnect LED flashes at the trouble rate when the Auxiliary Disconnect button is pressed. It turns off when the Auxiliary Disconnect button is pressed a second time. When on, the Auxiliary Disconnect LED signifies that auxiliary alarm relay and relay adder modules (if disconnect is enabled) are not activated. If installed and enabled, the city tie module and the smart relay annunciator relays are also inactive.
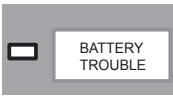
3.1.13 Signal Silence LED

The Signal Silence indicator flashes amber at the trouble rate when indicating circuits are silenced either by the Signal Silence button or by the Auto Signal Silence timer. It turns off when the signals are re-sounded by a subsequent alarm or when the panel is reset.

3.1.14 Battery Trouble LED

BATTERY
TROUBLE

The amber Battery Trouble LED flashes at the trouble rate when the battery is either low or disconnected.

3.1.15 Ground Fault LED

GROUND
FAULT

The amber Ground Fault LED flashes at the trouble rate when the ground fault detector detects a ground fault on any field wiring. It turns off when the ground fault is cleared.

3.1.16 System Reset LED
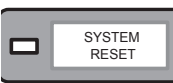
SYSTEM
RESET

The amber System Reset LED illuminates for a short time when the System Reset button is pressed.

3.2   Indicating Circuit Indicators

The panel has 1 indicator for each of the 12 initiating circuits (shown in Figure 1). Each indicator has a button and 2 LEDs, shown in Figure 1.

Circuit
Disconnect
Button

ZONE-1
DISCONNECT

Circuit Status LED
Circuit Trouble LED
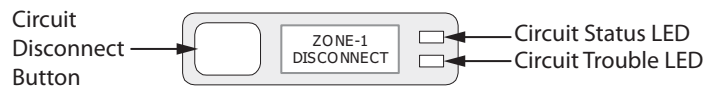
Figure 1   Alarm Circuit Indicator

The Circuit Disconnect Button is described in 5.0 Circuit (Zone) Disconnect Buttons on page 15. The LEDs are described below.

3.2.1 Alarm Circuit Indicators

This operation applies to Initiating Circuits configured as Verified Alarm, Non-Verified Alarm, Water flow Alarm, Sprinkler Alarm, or General Alarm Circuits. The following table summarizes the indications at different events:

Table 1   Alarm Circuit Indicators

Event	Circuit Status LED	Configuration
Circuit in Alarm	Steady (red)	
Pre-alarm	Fast flash rate (red)	Verified Alarm Sprinkler Alarm Water flow Alarm
Activated circuit reconnected (when you press the Disconnect button a second time)	Fast flash rate (red) for 5 seconds to indicate a pending alarm	
Event	**Circuit Trouble LED**	**Configuration**
Open circuit (Class B)	Flashes at the trouble rate (amber)	Verified Alarm
Open circuit or Style D/Class A trouble	Flashes at the trouble rate (amber)	Non-Verified Alarm Water flow Alarm
Disconnected (Style D/Class A)	Flashes at the trouble rate (amber)	Sprinkler Alarm
Circuit in Alarm	OFF	General Alarm

3.2.2 Supervisory Circuit Indicators

This operation applies to initiating circuits configured as latching or non-latching supervisory circuits. The following table summarizes the indications in response to different events:

Table 2   Supervisory Circuit Indicators

Event	Circuit Status LED	Configuration
Circuit in Alarm	Steady (amber)	Latching Sup. Non-Latching Sup.
Activated circuit reconnected	Fast flash rate (red) for 5 seconds to indicate a pending alarm	
Event	**Circuit Trouble LED**	**Configuration**
Open circuit (Class B)	Flashes at the trouble rate (amber)	
Open circuit or Style D/Class A trouble	Flashes at the trouble rate (amber)	Latching Sup. Non-Latching Sup.
Disconnected (Style D/Class A)	Flashes at the trouble rate (amber)	
Circuit in Alarm	OFF	

3.2.3 Property and Building Safety Circuit Indicators

This operation applies to initiating circuits configured as property and building safety circuits. The following table summarizes the indications in response to different events:

Table 3 Property and Building Safety Circuit Indicators

Event	Circuit Status LED	Configuration
Circuit Active	Steady (amber)	Property and Building Safety
Activated circuit reconnected	Fast flash rate (red) for 5 seconds to indicate a pending alarm	
Event	**Circuit Trouble LED**	**Configuration**
Open circuit (Class B)	Flashes at the trouble rate (amber)	Property and Building Safety
Open circuit or Style D/Class A trouble	Flashes at the trouble rate (amber)	
Disconnected (Style D/Class A)	Flashes at the trouble rate (amber)	
Circuit Active	OFF	

3.2.4 Trouble-only Circuit Indicators

This operation applies to initiating circuits configured as Trouble-Only Circuits. The following table summarizes the indications in response to different events:

Table 4   Trouble-Only Circuit Indicators

Event	Circuit Trouble LED	Configuration
Open circuit (Class B)	Flashes at the trouble rate (amber)	Trouble Only
Open circuit or Style D/Class A trouble	Flashes at the trouble rate (amber)	
Disconnected (Style D/Class A)	Flashes at the trouble rate (amber)	
Short Circuit	Flashes at the trouble rate (amber)	

3.2.5 Signal Circuit Indicators

This operation applies to indicating circuits of any type. The Circuit Trouble Indicator flashes amber at the Trouble Rate to indicate short-circuit or open-circuit trouble, or if the circuit is Disconnected.

Table 5   Signal Circuit Indicators

Event	Circuit Trouble LED	Configuration
Open circuit	Flashes at the trouble rate (amber)	Signal
Short Circuit	Flashes at the trouble rate (amber)	
Disconnected	Flashes at the trouble rate (amber)	

4.0 Main Display Buttons

4.1 System Reset Button

The System Reset button resets the fire alarm control panel and all circuits.

4.2 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 you have pressed the FIRE DRILL button.

In a two-stage system, the SIGNAL SILENCE button silences the stage 1 and stage 2 alarms.

4.3 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 activate any programmed relays.

4.4 AUTOMATIC ALARM SIGNAL CANCEL Button (or ALM/SUP/ TBL/BLDG AUDIBLE SIL Button for Single Stage System)

If the Panel is configured as a two-stage system, pressing the AUTOMATIC ALARM SIGNAL CANCEL (Acknowledge) button while the Auto General Alarm timer is running (there is an alarm in the panel, but it is still in the first stage), cancels the timer and illuminates the amber AUTOMATIC ALARM SIGNAL CANCEL LED steadily, thereby acknowledging the alarm.

If the Panel is not configured as a two-stage system, this button becomes ALM/SUP/TBL/BLDG AUDIBLE SIL (buzzer silence). Press ALM/SUP/TBL/BLDG AUDIBLE SIL to silence the buzzer.

4.5 General Alarm Button

Press the GENERAL ALARM button to immediately send the panel into General Alarm or total evacuation. It also re-activates the signals if they have been silenced during General Alarm. The General Alarm condition remains active until the SYSTEM RESET button is pressed.

4.6 Auxiliary Disconnect Button

Pressing the Auxiliary Disconnect button activates the auxiliary disconnect function. Pressing the button again de-activates this function.

4.7 Lamp Test Button

Pressing and holding the Lamp Test button causes all front panel LEDs to illuminate and sounds the buzzer. Use this button to test that all LEDs in the main display are working. If you hold the Lamp Test button for more than ten seconds, the Trouble LED will illuminate.

4.8 ALM/SUP/TBL/BLDG AUDIBLE SIL Button (or MENU for Single Stage Systems)

If the Panel is configured as a two-stage system, press the ALM/SUP/TBL/BLDG AUDIBLE SIL (buzzer silence) button to silence the buzzer. The buzzer resounds if there is a subsequent event. Pressing the button when the buzzer is not sounding has no effect.

If the Panel is configured as a single stage system, press the MENU button to select the command menu when a CFG-300 Service Tool with LCD is connected. Otherwise, this button has no effect.

5.0 Circuit (Zone) Disconnect Buttons

Circuit (zone) disconnect buttons are provided for all initiating and indicating circuits on the fire alarm control panel. These buttons are located beside their respective indicating LEDs.

Pressing a circuit disconnect button disconnects that circuit from the system and turns on its trouble indicator. While a circuit is disconnected, the panel will ignore all changes in the status (alarms and troubles) of that circuit. Circuit disconnect buttons are toggle switches; therefore, pressing an activated button a second time will reconnect the circuit.

Disconnecting an active latching initiating circuit such as alarms, water-flow alarm, sprinkler alarm, general alarm, and latching supervisory does not affect its status until the panel is reset. Disconnecting active non-latching initiating circuits including non-latching supervisory and trouble-only causes them to behave as if the alarm situation has disappeared. Disconnecting an active indicating circuit immediately deactivates the circuit.

When an initiating circuit disconnect button is pressed a second time, the panel checks the state of the circuit. If the circuit is active and will cause a false alarm, the Status LED flashes for ten seconds at the fast flash rate (red for alarm or amber for supervisory) without processing the input. If the circuit is not re-disconnected by then, it will be processed as a new input.

6.0   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 initiating (detection), indicating (signal), or relay. 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.

General Alarm Timer

In a two stage system, the general alarm timer begins timing when the panel is in the alert stage. When the general alarm timer times out, the system will go into a general alarm, where all signals in the building will sound.

Indicating Circuit

A circuit in a fire alarm system that is connected to audible or visual signalling devices.

Initiating Circuit

A circuit in a fire alarm system that is connected to detectors, pull stations, or sprinkler flow switches.

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) of the MR-2306 are colored either amber, red, or green. When lit, LEDs provide information regarding the status of the panel.

Property and Building Safety Condition

Occurs when dampers open or close, when supply and return fans are running, etc.

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.

Single Stage System

A type of fire alarm system that immediately sounds all the signals throughout the building when an alarm is detected in any part of the system.

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.

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.

Two Stage System

A type of fire alarm system that causes an alert signal to sound when an alarm is detected in any part of the system. An alert signal advises designated persons of a fire emergency. If the alert signal is not acknowledged within five minutes of its initiation, an alarm signal will automatically sound throughout the building.

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.

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