

Section 4: Operating Instructions

4.1 Panel Control Buttons

4.1.1 Acknowledge/Step

The first press of the *Acknowledge/Step* button silences the piezo sounder, changes flashing indicators/LEDs to steady and also changes the status field on the LCD display from capital letters to small letters. When the piezo is silenced, an *acknowledge* message is sent to the printer and the history file. *Acknowledge* also sends a *silence piezo* command to the optional annunciators connected to the FACP.

When more than one event exists, the first press of the Acknowledge/Step button functions as described in the preceding paragraph. Subsequent pressing of the button *steps* through each off-normal active event, with alarm events having a higher priority than trouble and supervisory events.

4.1.2 Alarm Silence

The *Alarm Silence* button performs the same functions as Acknowledge/Step. In addition, if an alarm exists, it turns off all silenceable NACs (Notification Appliance Circuits) and causes Alarm Silenced indicator to turn on. It also sends an 'alarm silenced' message to the printer, history file and optional annunciators. A subsequent new alarm will resound the system NACs. *Note that the Alarm Silenced indicator is turned off by pressing the Reset button, the Drill button or subsequent activation of the NACs.*

4.1.3 Drill/Hold 2 Sec

When the *Drill* button is held for a minimum of two seconds (time required to prevent accidental activations), the FACP turns on both main panel NAC outputs and all silenceable circuits such as control modules that are programmed as silenceable, and turns off the Alarm Silenced indicator if it was previously on. The *EVAC IN SYSTEM* message is shown on the LCD display. The same message is sent to the printer and history file. The *Alarm Silence* button can be used to turn off all silenceable NAC outputs following activation by the *Drill* button.

4.1.4 Reset

Pressing and releasing the *Reset* button turns off all control modules and NACs, temporarily turns off resettable power to 4-wire detectors, causes a *RESET IN SYSTEM* message to be displayed on the LCD and sends the same message to the printer and history file. It also performs a lamp test by turning on all indicators/LEDs (except the Ground LED), piezo sounder and LCD display segments after the *Reset* button is released. Any alarm or trouble that exists after a reset will resound the system.

4.2 Status Indicators and LEDs

The five status indicators which are located on the front panel and the three LEDs located on the main circuit board, operate as follows:

AC Power

AC Power indicator illuminates green if AC power is applied to the FACP. A loss of AC power will turn off this indicator.

Fire Alarm

Fire Alarm indicator flashes red when one or more alarms occur. It illuminates steady when the *Acknowledge/Step* or *Alarm Silence* button is pressed. The *Fire Alarm* indicator turns off when the *Reset* button is pressed. The indicator will remain off if all alarms have been cleared.

Supervisory

Supervisory indicator flashes yellow when one or more supervisory conditions occur, such as a sprinkler valve tamper condition. It illuminates steady when the *Acknowledge/Step* or *Alarm Silence* button is pressed. It turns off when the *Reset* button is pressed and remains off if all supervisory alarms have been cleared.

Trouble

Trouble indicator flashes yellow when one or more trouble conditions occur. It stays on steady when the *Acknowledge/Step* or *Alarm Silence* button is pressed. The indicator turns off when all trouble conditions are cleared. This indicator will also illuminate if the microprocessor watchdog circuit is activated.

Alarm Silenced

Alarm Silenced indicator illuminates yellow after the *Alarm Silence* button is pressed while an alarm condition exists. It turns off when the *Drill* or *Reset* button is pressed.

Primary Line Active

This is a red LED, located on the main circuit board, that indicates the primary phone line is active.

Secondary Line Active

This is a red LED, located on the main circuit board, that indicates the secondary phone line is active.

Kiss-off

This is a green LED, located on the main circuit board, that blinks when a Central Station has acknowledged receipt of each transmitted message or when a portion of upload or download data has been accepted from a Service Terminal.

4.3 Normal Operation

With no alarms or troubles in the system, the display message is *System All Normal* along with the current time and date as shown below. To set the time and date, refer to the appropriate section in this manual.



SYSTEM ALL NORMAL
10:00A 100913

The MS-9050UD performs the following functions at regular intervals while in Normal mode:

- ✓ Monitors AC input voltage and battery voltage
- ✓ Monitors and reports status of SLC loop, option cards and control panel
- ✓ Polls all devices on the SLC loop and flashes each device LED while checking for valid replies, alarms, troubles, etc.
- ✓ Refreshes LCD display and updates time
- ✓ Scans control panel keypad for key presses
- ✓ Performs autotest for all SLC devices
- ✓ Tests memory
- ✓ Updates and reads all communication buses (EIA-485, EIA-232, etc.)

4.4 Trouble Operation

With no alarms in the system, the detection of a trouble will cause the following:

- The piezo to pulse 1 second On and 1 second Off
- The system Trouble LED to flash one second On and one second Off
- The trouble relay to activate
- *TROUBL* with device type, noun/adjective, address and trouble description will appear on the LCD display
- The same message, along with the time and date, is sent to the optional printer and the history buffer.
- Communicate the trouble conditions to the Central Station
- Terminate upload or download communications

Note that specific troubles will initiate additional actions; for example, loss of AC power will turn off the AC Power LED, etc.

Addressable Smoke Detectors, Monitor Modules and Control Modules

For addressable devices connected to the SLC loop, the following is a typical message that could appear on the LCD display for a device trouble:

```

TROUBL SMOKE (PHOTO)
<ADJ> <NOUN>
INVREP
10:00A 100913 1D001
  
```

The information displayed in the above example provides the following information:

- First line in display:
 - The type of event; in this example *TROUBL* indicating a device trouble
 - Device type identifier; in this example, *SMOKE (PHOTO)* indicates a Photoelectric smoke detector. Other device type identifiers which can be displayed include *SMOKE (ION)* for Ionization Detector, *HEAT* for Heat Detector, *CONTROL* for Control Module, and *MONITOR* for Monitor Module, *PULL STATION* for a manual pull box, etc. Refer to “*Edit Detector*” on page 60, “*Edit Module Screen for Monitor Module*” on page 67, and “*Edit Module Screen for Control Modules*” on page 73 for information on additional device types.
- Second line in display:
 - <ADJ>; refers to the user programmed adjective descriptor from library list resident in the control panel or custom entry via PC.
 - <NOUN>; refers to the user programmed noun descriptor from library list resident in the control panel or custom entry via PC.
- Third line in display: *INVREP* indicates an invalid reply from the addressable device. Other possible troubles include:
 - ✓ *SHORT* - indicating a shorted circuit on an addressable device
 - ✓ *OPEN* - indicating an open circuit on an addressable device
 - ✓ *DIRTY1* - maintenance alert indicating that a detector is near but below the allowed alarm limit and is in need of maintenance before the performance is compromised
 - ✓ *DIRTY2* - maintenance alert indicating that a detector needs immediate maintenance since it has been within 80% of its alarm threshold for 24 hours
 - ✓ *INVREP* - maintenance alert indicating a hardware problem in the detector
 - ✓ *TEST F* - indicating a detector has failed the automatic test operation which functionally checks its sensing chamber and electronics

- ✓ *INV ID* - indicating that an incorrect device code (Type ID) has been programmed for an installed device (for example, Photo has been programmed but an Ion detector has been installed)
- ✓ *SW TBL* - indicating a module has failed the testing of its Class A switching relay
- Fourth line in display:
 - Time; the current time in this example is *10:00A* which represents 10:00 AM
 - Date; the current month, day and year in this example is *10* for October, *09* for the 9th day of the month and *13* for the year 2013
 - Device Address; *1D001* in this example *1* represents SLC Loop, *D* represents a detector, and *001* represents device address 001

Pressing the *Acknowledge/Step* or *Alarm Silence* key will cause the pulsing piezo to silence and the system Trouble LED to change from flashing to on steady. This block acknowledgment occurs regardless of the number of troubles, alarms and supervisory events active in the system. When the *Acknowledge/Step* key is pressed and at least one new alarm or trouble exists in the system, the 'acknowledge' message is sent to the printer and history file. If the trouble clears, either before or after the *Acknowledge/Step* key is pressed, the 'clear trouble' message is sent to the printer and history file.

If all troubles clear and there are no supervisory or fire conditions active in the system, the system returns to normal mode operation and the *System All Normal* message is shown on the LCD display and sent to the history and printer files. The auto-restore feature will restore cleared troubles even if the troubles were never acknowledged. Note that pressing the *Alarm Silence* key when only troubles exist in the system will have the same effect as pressing the *Acknowledge/Step* key except the Alarm Silenced LED will light.

4.5 Alarm Operation

Alarm operation is similar to trouble operation with the following differences:

- The piezo sounder produces a steady output as opposed to a pulsed output
- The Fire Alarm LED flashes 1 second On and 1 second Off
- The LCD displays *Alarm* along with the device name, type, address, adjective/noun, associated zones and time/date
- Communicate the alarm to the Central Station
- Alarms latch and *are not allowed to clear automatically*
- Alarms activate software zones if so programmed
- Timers for Silence Inhibit, Autosilence and Trouble Reminder are started
- Alarms activate the general alarm relay and general alarm zone Z00
- The trouble relay is not activated
- Store event in history buffer
- Terminate upload or download communications

A typical alarm display would be as illustrated below:

```

ALARM PULL STATION
<ADJ> <NOUN>
      Z000
10:00A 091213 1M001
  
```

Note that the device type, which in this example is *PULL STATION*, can be any other programmable alarm type.

The information displayed in the above example provides the following information:

- First line in display:
 - The type of event; in this example *ALARM* indicating an alarm condition

- Device type identifier; in this example, *PULL STATION* indicates a manual pull box. Other device type identifiers which can be displayed include *SMOKE (ION)* for Ionization Detector, *HEAT* for Heat Detector, *CONTROL* for Control Module, and *MONITOR* for Monitor Module, *PULL STATION* for a manual pull box, etc. Refer to “Edit Detector” on page 60, “Edit Module Screen for Monitor Module” on page 67 and “Edit Module Screen for Control Modules” on page 73 for information on additional device types.
- Second line in display:
 - <ADJ>; refers to the user programmed adjective descriptor from library list resident in the control panel or custom entry via PC.
 - <NOUN>; refers to the user programmed noun descriptor from library list resident in the control panel or custom entry via PC.
- Third line in display: *Z000* indicates the zone programmed to this device which, in this example, is general alarm Zone 000. Note that a single device can be programmed to five different zones but only the first zone will be displayed.
- Fourth line in display:
 - Time; the current time in this example is *10:00A* which represents 10:00 AM
 - Date; the current month, day and year in this example is *09* for September, *12* for the 12th day of the month and *13* for the year 2013
 - Device Address; *1M001* in this example *1* represents SLC Loop, *M* represents a module, and *001* represents device address 001

4.6 Supervisory Operation

Supervisory operation is similar to alarm operation but with the following differences:

- The piezo sounder pulses ½ second On and ½ second Off
- The Supervisory LED flashes ½ second On and ½ second Off
- The LCD displays the status label *Active Supervisory* along with the device name, type, address, adjective/noun, associated zones, and time/date
- Communicate the supervisory condition to the Central Station
- The supervisory relay is activated
- The alarm relay is not activated
- Silenced alarms are resounded
- Timers are not started
- Store event in history buffer
- Terminate upload or download communications

A typical Supervisory event would be displayed as illustrated in the following:

ACTIVE SUPERVISORY
<ADJ> <NOUN>
Z000
10:00A 062513 1M001

Note that, like alarms, supervisory signals latch (except when programmed for supervisory autore-settable) and can be assigned to software zones. Supervisory alarms do not cause resound as do other alarm conditions. Open circuits in supervisory wiring are processed by the control panel the same way as other trouble conditions. Refer to “Alarm Operation” on page 129, for a description of the information displayed on the control panel LCD.

4.7 Process Monitor Operation

Process Monitor operation will initiate the following events:

- The piezo sounder pulses ¼ second On and ¼ second Off