



Operation Manual AES 944 Fire Exit Door Control System

SYSTEM COMPONENTS

- **945 Fire Exit Door Control Module** fits 900 or 905 rack, with adapter wire
- **946 Fire Exit Door Status Display Panel**, which is mounted adjacent to the fire exit. Surface mount and flush mount boxes are provided (#'s 946-SB and 946-MB).

ALSO REQUIRED (not included in this package): AES 900 or 905 Rack Cabinet; AES 910 Emergency Module in position #1 of above rack; AES 726, 727, 780, 926 (or equiv) 24 volt DC power supply; Panic Bar Release, (NO/NC) bond sensing contacts; and Magnetic Contact Switch N.O.

INSTALLATION

- Before installing the 945 module into the 900 or 905 rack cabinet, locate the rack connector in the position to be used. Pin #1 of this connector should be wired to the common buss. In some earlier versions of the 900 rack however, Pin #1 has no wire. This wire must be installed for the 945 to operate. A pre-cut adapter wire with connectors has been provided to make the connection from Pin 1 to the common bus.
- In general, wiring should be made in accordance with the diagram provided.

OVERVIEW OF SYSTEM FUNCTIONS

The fire exit door control system provides an automatic, controlled delay of fire door release with abort and override capabilities.

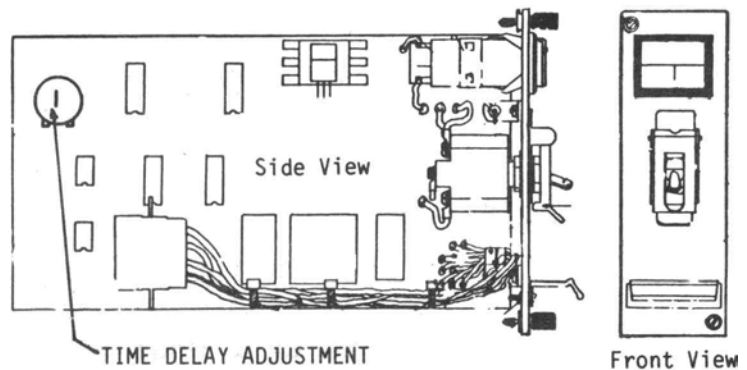
- Allows time for a guard or operator at the door control console to determine who is attempting to leave via a fire exit door before releasing the lock.
- Automatically releases the fire door lock after a delay period (adjustable from approx. 0 – 20 seconds). The guard or operator can release the door, keep it locked or allow the automatic delay to run its course.
- Provides visual and audible annunciation of door and lock status at the control console at the door location.
- A fire alarm system input can override the time delay and release the lock.
- The 910 Emergency Lock Up module (a separate option) overrides the automatic release. The fire system input is also overridden by the 910. The operator can still release the lock using the switch on the 945 module or the keyswitch on the 946 panel.

945 FIRE EXIT DOOR CONTROL MODULE

Guarded Toggle Switch

The guarded switch controls the lock on the fire exit door:

- **Center Position – Secure**
- **Down Position – Release**
- **Up Position – Unconditional Release**



Push Button Switch with Indicators

- **Push Button Switch:** The function of the push button is to cancel/reset the timed release function. If the timer is in the process of timing out, the push button will cancel its process preventing the lock from releasing. If the timer has reached the end of its cycle and the door has not yet been opened, pushing the button will secure the lock.
- **Indicators:** The indicator section of the push button is divided into three segments.
 - The **green** segment in the upper half lights when the door is secured, as sensed by the magnetic bond detector.
 - The **amber** segment in the lower left quarter flashes to indicate that the exit timer is running. A steady light from this segment indicates the timer period has expired and the lock is released, as sensed by the magnetic bond sensor.
 - The **red** segment, in the lower right quarter lights when the door is physically open, as sensed by the door status switch.

Buzzer

The buzzer sounds whenever the panic release bar on the fire exit door is pushed, which also activates the timer. The buzzer continues to sound until the door is open or the delay circuit is deactivated.

NOTE: The audible and visual indicators on the 945 module operate simultaneously with the indicators on the 946 panel.

Time Delay Adjustment

The time delay adjustment sets the delay time period between the moment the panic release bar is pushed and the time the door would automatically unlock if not manually overridden. The range of adjustment is approx 0-20 seconds. An adjusting potentiometer is located on the 945 printed circuit board (see diagram above).

Individual, Isolated Fire Control Input

A direct, isolated input is provided in the 945 module. It is isolated from other system modules and the 900 system fire buss. It allows a separate fire control to immediately release the lock controlled by the 945 module. The emergency lock up function activated by a 910 module overrides this input.

*945 Module, Continued*False Alarm Protection Features

Several electronic circuits are included to prevent casual or accidental initiation of functions.

- The panic release bar must be pushed for at least ½ second to activate the exit delay timer.
- The fire input must be switched on (to minus [-]) for ½ second to release door.
- The push button switch must be held in for ¼ second to cancel the timer.
- The door must be open for ¼ second to reset the buzzer.
- The emergency lockup must be present for ¼ second to be acknowledged.

946 STATUS DISPLAY PANEL

The 946 status display panel is mounted adjacent to the fire exit door. It annunciates the door status, informing anyone attempting to leave via that exit when the door is released.

Buzzer

A buzzer sounds when the panic release bar on the fire exit is pressed. The buzzer continues to sound until the door is opened or the delay circuit is deactivated. In addition to acknowledging the exit attempt, the buzzer serves to notify a guard or other personnel in the area that someone is attempting to exit.

Indicator Functions:

- The **green** light labeled “secure” lights when the door is secured, as sensed by the magnetic bond detector.
- The **amber** light labeled “flashing...steady...” flashes to indicate that the exit timer is running. A steady light indicates the timer has expired and the lock is released, as sensed by the magnetic bond detector.
- The **red** light labeled “open” lights when the door is physically open, as sensed by the door status switch.

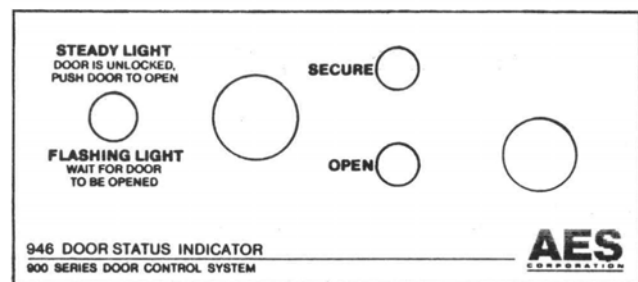
NOTE that these indicators operate in sequence with indicators on the 945 module.

Key Switch Function:

A sustained position key switch is included to release the lock at any time. This key is the final factor in the circuit because it physically breaks the electrical circuit to the lock.

Other Features:

A relay is mounted in the display panel and serves to disable the panic bar switch contact when the lock is released.



INTERACTION WITH OTHER SYSTEM COMPONENTS:

910 EMERGENCY LOCK UP MODULE

The AES 910 Emergency Lock Up module is a standard component on AES 900 Series Door Control Systems. Its impact on the Fire Exit Door Section of the system is discussed here.

The 910 Lock Up Module Disables the Following Functions:

In almost every case the emergency lockup switch will secure or keep secured the fire exit door by:

- Disabling the panic bar switch
- Disabling the fire exit module's individual fire input circuit
- Deactivating the exit timer circuit, if timing out or time out
- Applying power to both the fire buss and emergency buss of the rack in its usual manner

The 910 Lock Up Module May be Overridden in the Following Ways:

With the emergency lockup switch active, there are two ways to release the fire exit door:

- Lifting the switch guard on the 945 module and moving the switch to its uppermost position
- Using the key switch on the 946 fire exit door status display panel.

FIRE INPUT, 900 SYSTEM BUSS

The fire circuit of the 910 emergency module forms a system-wide buss that can be used to release this type of lock along with any other locks in the 900 rack.

The manual emergency lockup will secure all locks in the usual manner even when released by this fire circuit.

A separate, isolated fire control input is available at the individual 945 module. This input affects only the door controlled by the 945 module. It is described under the heading "Individual Fire Control Input", elsewhere in this document.



WIRING DIAGRAM, AES 944 FIRE DOOR CONTROL SYSTEM

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