M300(A) MONITOR MODULE, C304(A) CONTROL MODULE, AND I300(A) FAULT ISOLATOR MODULE INSTALLATION INSTRUCTIONS

This information is included as a quick reference installation guide. Refer to the appropriate Fire-Lite control panel installation manual for detailed system information. If the modules will be installed in an existing operational system, inform the operator and local authority that the system will be temporarily out of service. Disconnect power to the control panel before installing the modules.

NOTICE: This manual should be left with the owner/user of this equipment.

GENERAL DESCRIPTION
M300(A) MONITOR MODULES provide a two-wire, or fault-tolerant, initiating circuit for normally open contact fire alarm and supervisory devices, or either normally open or normally closed security devices. The LED indicator can be latched on or returned to the normal mode by code command from the panel. Rotary decade switches are used to set the address of each module.

C304(A) CONTROL MODULES allow a compatible control panel to switch discrete contacts by code command. The control module offers a status LED that can be latched on or returned to the normal mode by code command from the panel. Rotary decade switches are used to set the address of each module.

The control module offers two modes of switching operation. As shipped, the module is configured for switching an external power source to notification appliances. The external power source can be a DC power supply or an audio amplifier (up to 70.7 Vrms). In this mode, the module reports supervision status of the connected loads to the control panel. Load circuit status is reported as a normal, open, or shorted circuit. Two pairs of output termination points are available for fault-tolerant wiring. The second mode of switching operation allows the panel to control one Form-C (SPDT) set of contacts. Circuit connections to the contacts are not supervised by the module. This mode is enabled by breaking two external tabs on the module.

I300(A) FAULT ISOLATOR MODULES enable part of the communications loop to continue operating when a short circuit occurs on it. An LED indicator blinks in the normal condition and turns on during a short circuit condition. The module will automatically restore the entire communications loop to the normal condition when the short circuit is removed. (The isolator module does not have decade switches.)

COMPATIBILITY REQUIREMENTS
To insure proper operation, these modules must be connected to addressable, listed compatible Fire-Lite control panels only.

MOUNTING M300(A), C304(A), AND I300(A) DEVICES
M300(A), C304(A), and I300(A) modules mount directly to 4 inch square electrical boxes as shown in Figure 2A. The box must have a min. depth of 2 1/8".

WIRING
NOTE: All wiring must conform to applicable local codes, ordinances, and regulations. When using control modules in nonpower limited applications, the CB500 Module Barrier must be used to meet UL requirements for the separation of power-limited and nonpower-limited terminals and wiring. The barrier must be inserted in a 4"x4"x2 1/8" junction box, and the control module must be placed into the barrier and attached to the junction box (Figure 2A). The power-limited wiring must be placed into the isolated quadrant of the module barrier (Figure 2B).

1. Install module wiring in accordance with the job drawings and appropriate wiring diagrams (Figures 3 - 10).
2. Set the address on the M300 and C304 per job drawings. Record this address and loop on the front of the module, if desired.
3. Secure module to electrical box (supplied by installer), as shown in Figure 2A.

M300(A) MAGNET TEST
The M300(A) Monitor module can be tested with Fire-Lite's M02-04-01 Test Magnet (see Figure 1). The magnet test checks the module electronics and connections to the control panel. Interfaced initiating and indicating devices must be tested independently.
**FIGURE 3. TYPICAL M300 2-WIRE INITIATING CIRCUIT CONFIGURATION, NFPA STYLE A OR B**

Connect modules to listed compatible Fire-Lite control panels only.

*Any number of UL listed contact closure devices may be used. Do not mix fire alarm initiating, supervisory, or security devices on the same module.*

IDC installation wiring shall not exceed 40 ohms or 250 feet, 12 - 18 AWG.

Install contact closure devices per manufacturer's installation instructions.

**FIGURE 4. TYPICAL M300 FAULT TOLERANT INITIATING CIRCUIT CONFIGURATION, NFPA STYLE D**

Connect modules to listed compatible Fire-Lite control panels only.

Any number of UL listed contact closure devices may be used. Do not mix fire alarm initiating, supervisory, or security devices on the same module.

IDC installation wiring shall not exceed 40 ohms or 250 feet, 12 - 18 AWG.

Install contact closure devices per manufacturer's installation instructions.

**FIGURE 5. TYPICAL C304 INDICATING CIRCUIT CONFIGURATION, NFPA STYLE W**

Connect modules to listed compatible Fire-Lite control panels only.

*Any number of UL listed contact closure devices may be used. Do not mix fire alarm initiating, supervisory, or security devices on the same module.*

IDC installation wiring shall not exceed 40 ohms or 250 feet, 12 - 18 AWG.

Install contact closure devices per manufacturer's installation instructions.
INSTALLATION WARNINGS AND NOTES

Control and isolator modules use a latching relay that can change states if it is subjected to mechanical shocks or jarring. As a result, although modules are shipped with their relays in the open state, the contacts may have closed during shipment. Connecting an auxiliary control circuit to closed relay contacts in a control module can cause an unexpected, and possibly dangerous, activation of that circuit. Therefore, do NOT connect an auxiliary control circuit to the relay contacts before ensuring that they are in their open (standby) state. Make sure that the contacts are open by allowing the control panel to poll the module at least once, as indicated when the LED blinks.

If the contacts of several isolator modules are closed when system power is initially applied, it increases the load on upstream modules, causing their relays to open. This prevents the proper application of power to the entire system. To correct this, connect a temporary jumper between terminals 2 and 3 on all isolator modules whose LEDs are continuously lit OR interrupt the signal line circuit after the last open isolator. The panel must delay communications for at least one minute after power is applied to allow all system devices to power up past the 7 volt threshold.

FIGURE 10. I300 FAULT ISOLATOR MODULE WIRING

FIGURE 9. C304 CONTROL MODULE IN RELAY OUTPUT MODE

CONNECT MODULES TO LISTED COMPATIBLE
CONTROL PANELS ONLY

FROM PANEL OR
PREVIOUS DEVICE

RELAY CONTACT RATINGS:
RESISTIVE: 2 A @ 30 VDC
INDUCTIVE: 1 A @ 30 VDC (.6 PF)
PILOT DUTY: 6 A @ 30 VDC (35 PF)
3 A @ 120 VAC (.35 PF)

BREAK OFF TABS J1 & J2 TO ENABLE FORM C OPERATION

FORM "C" RELAY OPERATION WHEN BOTH TABS J1 AND J2 ARE BROKEN.

MODULE DOES NOT SUPERVISE CIRCUITS
CONTROLLED BY FORM C CONTACT.

A PAIR OF FAULT ISOLATOR MODULES WILL DISCONNECT A
FIRE-LITE UL LISTED COMPATIBLE
CONTROL PANEL

A GROUP OF ADDRESSABLE DEVICES ARE SEPARATED BY FAULT ISOLATOR
MODULES. ANY COMBINATION OF COMPATIBLE,
LISTED DEVICES MAY BE MIXED WITHIN A GROUP.

A PAIR OF FAULT ISOLATOR MODULES WILL DISCONNECT A
GROUP OF DEVICES IF A SHORT CIRCUIT OCCURS ON THE
SIGNALING LINE CIRCUIT WITHIN THAT GROUP.

ALL WIRING SHOWN IS POWER LIMITED.

ALL WIRING SHOWN IS SUPERVISED AND POWER LIMITED.

GROUPS OF ADDRESSABLE DEVICES ARE SEPARATED BY FAULT ISOLATOR
MODULES.