



Description

Mircom's FX-2200 addressable input fire alarm control panel provides flexible and cost effective operation to satisfy system requirements for both economy and capability. It's modular design assures that as system needs and applicable codes evolve, fire alarm control panel functions can be updated as required.

Optional networking modules allows the FX-2200 to be connected to a Mircom network to provide additional input circuits, visual zones, programmable notification appliance (bell) circuits, and relays. Up to 24 control and annunciator units can be networked together. The network is a DCLR (Data Communications Link, Redundant) configuration loop.

The FX-2200 provides two SLCs for support of 198 devices on each SLC, allowing a total capacity of up to 396 addressable devices (Max. of 198 detectors and 198 control/monitor modules total.)

Option modules are available and can be conveniently field installed. Modules are available for: additional NAC output circuits & function relays, local LED annunciation, additional NAC power, and Central Station (DACT) or Remote Station (DACT or CITY Module) connection.

Programming the FX-2200 consists of two convenient and easy operations. Input circuit programming and special features (such as cross zoning functions, day/night mode, selective control operations, etc.) is performed from an externally generated database produced on a Windows® based PC. System parameters and control panel display and operation functions are conveniently programmed from the on board LCD and keypad.

Features

- Listed to UL 864, 9th edition
- Provides Dual Addressable Input Signaling Line Circuits (SLC) for up to 396 Addressable Devices
- SLCs are selectable for either Class A (Style 6) or Class B (Style 4) operation
- Two Notification Appliance Circuits (NACs), Class A (Style Z) or Class B (Style Y); expandable to eight NACs with optional SGM-2200-2 modules
- Four programmable functions relays, Form C; expandable to sixteen relays with RM-2200-4 modules
- Programmable cross-zoning functions, day/night mode, and selective control operations
- Two aux. power outputs, 500 mA @ 24 VDC each
- 6.0 Amp Power supply with integral battery charger provides 2.5 A for NACs and Auxiliary Outputs; Expandable to provide up to 7 A NAC Current
- Four additional communications ports for Dialer, PC Interface, Voice Evacuation System, and Remote Annunciators
- Optional Style 7 (DCLR) MR network peer-to-peer communications
- LCD/LED system status display with optional RAM-2200-8 LED zone display modules
- Surface/flush mount cabinet with dead front construction allows up to 12 Ah batteries internally mounted
- Battery charger is capable of charging up to 35 Ah mounted in an external battery cabinet
- Cabinet doors are removable for easy installation
- Terminal blocks are removable for easy wiring
- Operating program and database can both be uploaded/downloaded using a Windows® based PC Programming Software
- Non-volatile event history log stores 1000+ events



Main Control Unit

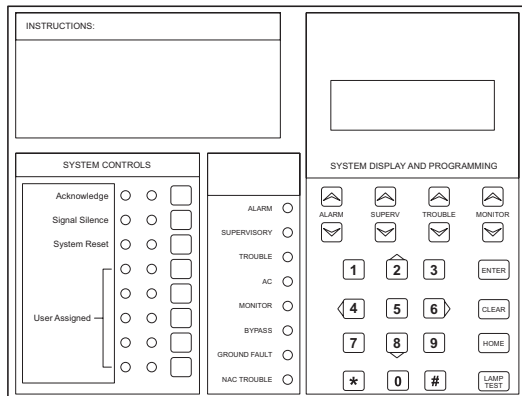
System controls consist of eight system switches, an LCD readout, and display entry switches. The display entry keypad is used for technical functions, system/detector maintenance, history recall, device and circuit disarming, and for manual operation of addressable output modules, relay modules, and notification appliance (bell) circuits.

Operator Keys

There are eight operator keys. In the figure below, the keys are located on the lower left and are labeled “System Controls.” The LEDs associated with these keys are used to display function status. The top three keys are pre assigned and are: Acknowledge, Signal Silence, and System Reset.

The bottom five keys are user-assignable, selected for the following functions: Lamp Test, Relay Disconnect, Test Mode, Signal Disconnect, Common Disconnect, General Alarm, Selectable Switch Function On, Switch Function Off, or Manual Restart.

The panel local sounder will beep once when a valid key is pressed and beep three times if an invalid or unavailable key is pressed. Key presses are recorded in the history log.



FX-2200 Main Control Panel

Display Information

The Main Control Panel LCD readout is backlit and displays 4 lines with 20 characters per line. With AC power present, the LCD backlighting turns off automatically within 5 minutes if no activity occurs. During AC power failure, the backlighting will turn off within 30 seconds without activity.

During normal conditions the display is the main menu which includes the date and a 24 hour clock. During alarm conditions, the first or last (selectable) events of highest priority will be displayed instead of the main menu. A status summary screen lists the number of active alarm, supervisory, or trouble events indicating “SYSTEM OFF NORMAL.”

Addressable Input Circuits

Up to 99 addressable detectors and up to 99 addressable control/monitoring modules may be connected per SLC for a total of 198 addressable devices.

Addressable monitoring modules can be programmed for alarm or supervisory functions. Control modules are available for dry contact or supervised output functions.

NAC Outputs

Standard are two NACs rated 2 A maximum. NAC output voltage is a nominal 24 VDC, full wave rectified. NAC expansion can be up to eight NACs by using SGM-2200-2 NAC expander modules.

Auxiliary Outputs

Two auxiliary power outputs are provided, each rated for 500 mA at a nominal 24 VDC, filtered and regulated.

Function Relays

The panel comes with four programmable Form C function relays rated 2 A @ 30 VDC resistive. Total function relays can be expanded to 16 by using RM-2200-4 relay expander modules. Relays can be programmed as Common Alarm, Common Trouble, Common Supervisory, or general purpose functions.

Power Supply and Expansion Transformer

Each FX-2200 fire alarm control panel is shipped with a 120 / 240 VAC transformer. Total NAC power can be increased by adding a PS-2200-6 expansion transformer.

The standard power supply provides 2.5 A @ 24 VDC (full wave rectified, unfiltered) for the total of NAC and Auxiliary power output. With the addition of an optional transformer, the total NAC and Auxiliary power output is increased to 8 A with up to 7 A available for NACs.

Enclosure Details

The enclosure includes the mounting box, outer door, dead front door, and hardware plate. It can be flush or surface mounted without requiring a separate trim ring.

Both the outer door and dead front doors are removable. The hardware plate holds the main printed circuit board and transformer(s). This enclosure holds two transformers, up to three NAC or Relay expander modules, and one communicator module.

The backbox is included with the fire alarm control panel and includes an outer lip around the perimeter to provide a built in trim for semi-flush mounting applications. The door conceals the outer lip and provides a neat and clean appearance for surface mounted box applications.

Optional Features

SGM-2200-2 NAC Expander Board

The SGM-2200-2 NAC Expander Boards provide two additional NAC outputs. Up to three modules can be added within the basic enclosure and can be any combination of NAC or Relay expanders. NAC Expander Boards are rated for 2 A @ 24 VDC each, the same as the standard NACs.

RM-2200-4 Relay Expander Module

The RM-2200-4 Relay Expander module provides four additional function relay outputs. Each relay provides a Form C contact rated 2 A @ 30 VDC resistive with dry contacts requiring connection to a power limited source.

RAM-2200-8 Eight Zone LED Module

For local LED panel mounted zone annunciation, the RAM-2200-8 module provides eight zones of LED annunciation, readily visible on the front of the control panel cabinet. Up to three LED modules can be mounted on the front of the cabinet. Each module has label pockets to locally identify zone locations.

UDACT-2200 DACT Module

The optional Digital Alarm Communicator Transmitter (DACT) module is added to the system to provide Remote Station monitoring of system alarms, troubles, and supervisory conditions. Communications are available for : Contact ID, SIA, or 10/20 bps formats.

Use of the DACT module requires that two telephone lines be provided for connection to the DACT. Service must be arranged with a Central Station monitoring facility for Remote Station Service.

PR-2200 City Connection Module

Optional module PR-2200 can be configured for remote Station (reverse polarity) or Municipal Master (local energy) service. The PR-2200 can transmit alarm, trouble, and supervisory conditions when configured for reverse polarity operation. Alarm conditions are only reported when configured for Municipal Master operation.

Note: The FX-2200 accepts either the UDACT-2200 or the PR-2200 module.

Peer-to-Peer Networking

The FX-2200 control panels can be networked to other control units for up to a total of 24 network members, each using Style 7 (DCLR) loop communications. One control unit is designated as the master control unit for the network and diagnostics can be done at any control unit.

Programming of each individual control unit is done at that unit. Each control unit operates independently in a standalone mode if network communications are lost.

Compatible Products



RAM-2644LCD LCD Annunciator

The RAM-2644LCD display follows the display of the fire alarm control panel to which it is connected allowing immediate action from wherever these units are installed. The on-board system hotkeys provide quick access to Lamp Test and Acknowledge functions, but require the keyswitch to be used when accessing Silence or Reset functions. In addition to the textual LCD, the RAM-2644LCD incorporates six system status LEDs that offer a quick overview of system status. Monitored conditions include: Alarm, Supervisory, Trouble, Monitor, AC On, and Ground Fault.



RAM-2944LCD Surface Mount Annunciator

The RAM-2944LCD surface mount annunciator comes complete with a 4 x 20 LCD display, four controls, and keyswitch. Controls include event acknowledge, signal silence, system reset, and scroll display. The keyswitch enables/disables the signal silence and system reset controls. The annunciator is surface mounted extending 2" (5cm) from the wall.

Specifications

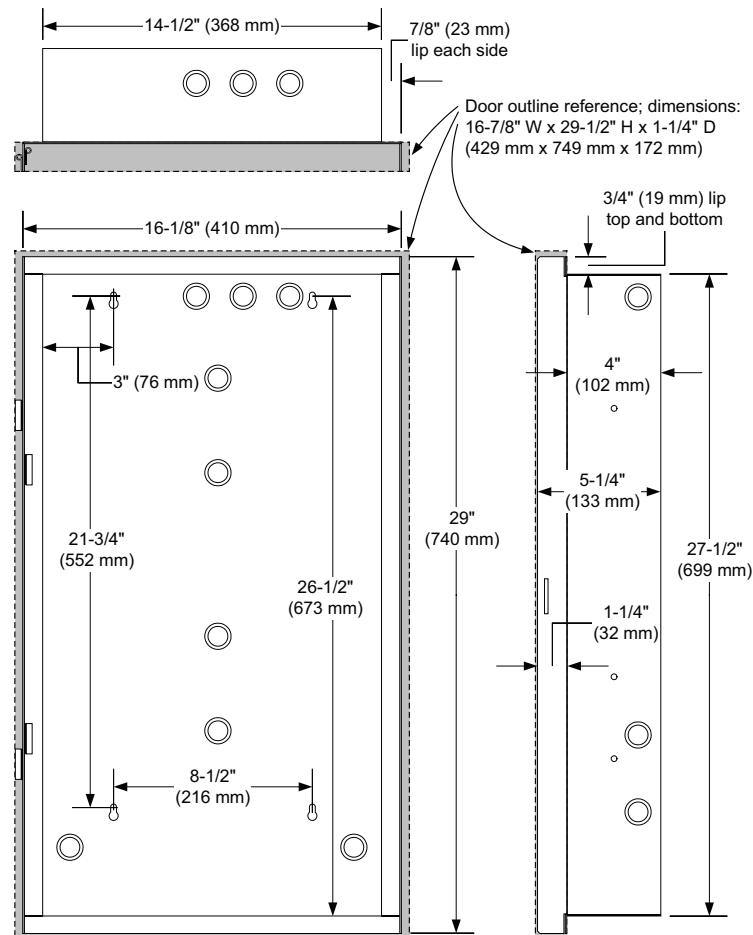
Input Power															
120 VAC, 60 Hz	2 A maximum	Ratings are per transformer; one additional transformer may be added to increase capacity													
Mechanical															
Overall Dimensions with Door	16-7/8" W x 29-1/2" H x 5-1/4" D (429 mm x 749 mm x 133 mm) [see page 5 for mounting box detail]														
Environmental															
Temperature Range	32° to 120°F (0° to 49° C)														
Humidity Range	Up to 93% RH, non-condensing @ 90° F (32° C) maximum														
Signaling Line Circuit Ratings															
Voltage	24 VDC nominal, 27.5 VDC maximum														
Max. number of devices	396 total, 198 detectors, 198 control/monitor modules														
Compatible devices	Refer to list on page 5														
Maximum line length	3045 m (10,000 ft) (12 AWG, 3.31 mm ²)														
Operation modes	Available as Style 6 (Class A) or Style 4 (Class B); T-tapping is allowed with Style 4 (Class B) connections only														
Notification Appliance Circuit Output Circuits, Standard and Expansion NACs															
NAC Output Ratings	2 A maximum per NAC; 24 V full wave rectified DC output; power limited														
NAC Current, Standard with One Transformer	Total of NACs + Auxiliary Power = 2.5 A maximum (if Aux. Power Total = 500 mA; NAC power = 2 A maximum)														
NAC Current with Optional Transformer	Total NAC current = 7 A maximum Total of NACs + Auxiliary Power = 8 A maximum (optional transformer PS-2200-6)														
Function Relay Output Circuits, Standard and Expansion Relays															
All Relays	2 A @ 30 VDC resistive; Form C contacts; requires power limited source														
Power Output Circuits															
Auxiliary Power Outputs (two outputs)	Each output is rated 500 mA @ 24 VDC, filtered, regulated, and power limited; maximum ripple voltage = 600 mVpp														
Battery Information															
Battery Charger	Current limited float charger for sealed lead acid batteries														
Float Charge	27.5 VDC														
Charging Current	2.7 A maximum, no auxiliary loads; 1.7 A nominal with 0.5 A on each Auxiliary output														
Maximum Battery Capacity	12 Ah maximum size internal to cabinet; 35 Ah maximum size allowed, requires External Battery Cabinet														
Communications Ports															
ANN (annunciator port)	Fixed baud rate @ 4800 bps; for use with RAM-2644LCD Annunciators (refer to individual product Installation Instructions for capacities and wiring distances)														
RS-232-2 (HMX or GRID)	Fixed baud rate @ 9600 bps; 20 ft (6m) maximum distance; for use with HMX Voice Evacuation System or GRID Graphical PC Display														
CON4 (Dialer/City Module Port)	Fixed baud rate @ 4800 bps; for use with UDACT-2200 Digital Communicator Module or PR-2200 City Module														
J1 (Service port or serial printer port)	Fixed baud rate @ 9600 bps; 6 m (20 ft) maximum distance; for use with Service/Programming PC (using Windows 95 or 98); or for serial input printer														
Network Ports															
COM1, COM2 (Mircom peer to peer network, redundant DCLR)	Standard Protocol: 10km (33,000 feet; 6.2 miles) maximum distance between nodes, minimum 28 AWG wires (0.081 mm ²); Total panel capacity varies with programmable baud rate: up to 24 panels with 9600, 4800, and 2400; RS-232 Protocol: up to 20 m (66 ft), typically for connection to external modem														
Network Wiring Parameters (maximum line resistance = 680 ohms)	<table border="1"> <thead> <tr> <th>Baud Rate</th> <th>Maximum Capacitance</th> <th>Maximum Network Nodes</th> </tr> </thead> <tbody> <tr> <td>9600</td> <td>100 nF</td> <td>24</td> </tr> <tr> <td>4800</td> <td>220 nF</td> <td>24</td> </tr> <tr> <td>2400</td> <td>470 nF</td> <td>24</td> </tr> </tbody> </table>	Baud Rate	Maximum Capacitance	Maximum Network Nodes	9600	100 nF	24	4800	220 nF	24	2400	470 nF	24		
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9600	100 nF	24													
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Compatible Addressable Devices

Compatible Addressable Devices Reference Information

Model	Description
MIX-1251B	Ionization type smoke detector
MIX-2251B	Photoelectric type smoke detector
MIX-2251TB	Photoelectric type smoke detector with thermal element
MIX-2251TMB	Acclimate Photo-Thermal Detector
MIX-DH200PL	Intelligent photoelectric duct smoke detector (w/o relays)
MIX-DH200RPL	Intelligent photoelectric duct smoke detector with two, 10 A Form C relays
MIX-5251B	Thermal detector
MIX-5251RB	Thermal detector with rate of rise
MIX-M500DM	Dual input monitor module
MIX-M500M	Monitor module, Classes A/B initiating
MIX-M501M	Mini-monitor module, Class B initiating
MIX-M502M	Monitor module for 2-wire smoke detectors Classes A/B initiating
MIX-M500S	Supervised control module
MIX-M500R	Dual Form C relay module
MIX-M500X	Fault isolator module

FX-2200 Back Box Dimension Reference



Ordering Information

FX-2200 Fire Alarm Control Panel			
Model	Description		
FX-2200	Dual SLC Fire Alarm Control Panel, 120 VAC input, Red		
Optional Panel Modules			
SGM-2200-2*	Dual NAC Expansion Module (output ratings are the same as standard NACs)	10 mA	65 mA
RM-2200-4*	Four Relay Module	5 mA	17 mA/relay
RAM-2200-8	Eight (8) LED Module; Quantity 3 maximum (Alarm current is for 3 devices in alarm, add 5 mA each if more)	5 mA	15 mA (see current note)
PS-2200-6	Expansion Transformer, 120 / 240 VAC	NA	NA
UDACT-2200**	DACT Module	33 mA	60 mA
PR-2200**	City Connection Module	20 mA	20 mA
Optional Network Modules	Port 1 Operation	Port 2 Operation	
NWM-2200-R	Standard	Standard	
NWM-2200-R1	RS-232	Standard	
NWM-2200-R2	Standard	RS-232	
NWM-2200-R12	RS-232	RS-232	
Remote Annunciators			
RAM-2644LCD	Remote LCD Annunciator (Non Networkable)		
BB-2644R	RAM-2644LCD Surface Mount Backbox, Red		
RAM-2944LCD	FX-2200 Network LCD Annunciator (Requires one NWM-2944-XXX Annunciator Network Module)		
NWM-2944-R	RAM-2944LCD Network Module c/w two standard ports (Both for copper)		
NWM-2944-R1	RAM-2944LCD Network Module c/w Port#1 Copper and Port #2 RS-232 (Modem)		
NWM-2944-R2	RAM-2944LCD Network Module c/w Port#1 Copper and Port #2 RS-232 (Modem)		
NWM-2944-R12	RAM-2944LCD Network Module c/w two RS-232 ports for modem		
MGD-2944	FX-2200 Network Graphic Annunciator Main Board (Requires one NWM-2944-XXX Annunciator Network Module)		
AGD-2944-8	Graphic Driver Card. Connects to MGD-2944.		
RAM-2944-8	LED Expander Card. 8-Zone x 3 LED Display (Requires one expansion slot)		
RAM-2944-24	LED Expander Card. 24-Zone x 3 LED Display (Requires one expansion slot)		
Fiber Optic Network Converters			
FM-2200-R1	RS-232 Transeiver Module to Fiber, 24VDC, Single Channel		
FM-2200-R2	RS-232 Transeiver Module to Fiber, 24VDC, Dual Channel		
FM-D1010-24	Fiber Optic Modem		

* Select any combination for up to 3 modules total.

** Quantity one maximum from these modules.

NOT TO BE USED FOR INSTALLATION PURPOSES.



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