Fire·Lite Alarms

www.firelite.com

MS-9200(C/E)
Addressable Fire Alarm Control Panel
Section: Addressable

GENERAL

The **Fire•Lite MS-9200** is a compact, cost-effective, addressable fire alarm control panel with a capacity of 198 **Fire•Lite 300 Series** devices. A single Signaling Line Circuit (SLC) loop supports up to 99 smoke detectors and 99 control or monitor modules. The panel uses surface-mount technology and is designed for ease of installation and programming. It features the latest in fire protection technology, including maintenance alert and automatic detector test. Its new, larger enclosure is capable of housing 12.0 AH batteries.

The MS-9200 includes on the motherboard (rev. PC-D) built-in interfaces for a printer and remote annunciators (on panels manufactured after September 1, 2001).

FEATURES

SLC Loop
- SLC can be configured for NFPA Style 4, 6, or 7 operation.
- SLC supports up to 198 addressable devices [99 detectors and 99 monitor or control modules], including new addressable dual monitor module.
- SLC loop maximum length 10,000 ft. (3,048 m) @ 12 AWG (3.1 mm²).

Notification Appliance Circuits (NACs)
- Dual Integral NACs, Style Y or Z (Class B or A).
- Silence Inhibit and Auto Silence timer options.
- Alarm, trouble and supervisory relays, standard.
- May be programmed for Steady, March Time, Temporal or California code *(requires software P/N 73750 or greater)*.
- 3.0 amp NAC power, expandable to 6.0 amps.

Programming and Software
- Autoprogram and Walk Test features identify two or more devices set to same address.
- Keypad programmable on panel, with two user-defined passwords, plus an Autoprogram feature.
- Custom English labels per point may be manually entered or selected from an internal library file.
- Remote Acknowledge, Silence, Reset and Drill via MMF-300 modules and LCD-40 remote annunciators.

User Interface
- Integral 40-character LCD display with backlighting.
- Real-time clock/calendar.
- History file with 500-event capacity.

Advanced Fire Technology
- Maintenance alert warns when smoke detector dust accumulation is excessive.
- Battery charger for up to 60 hours of standby power.
- Waterflow or supervisory selection per monitor point.
- System alarm verification selection, smoke only.

UL LISTED
S624
(MS-9200, MS-9200E)

ULC
CS68
(MS-9200C)

FM APPROVED

MEA
16-94-E
(MS-9200)

California State Fire Marshal
7165-0075:158
(MS-9200)
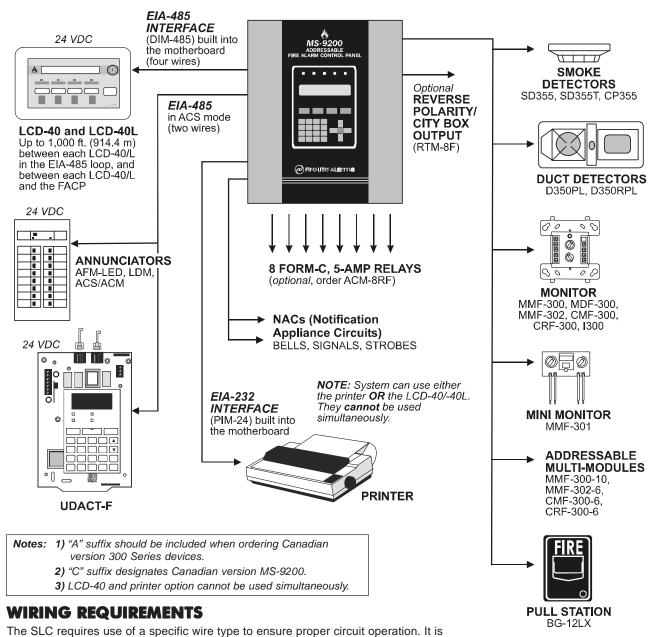
- Fuseless, power-limited technology meets UL power-limiting requirements.
- Detector sensitivity printout (requires v2.1 software).
- Presignal delay option per NFPA 72.
- Rapid poll algorithm for manual stations. Responds to alarm/activation in less than two seconds.
- Operates with untwisted, unshielded wire (up to 1,000 ft./ 304.8 m) for retrofit applications (U.S. Patent 5,210,523).
- 300 Series addressable devices feature decimal address selection. Address of each device can be easily set in the field by use of a screwdriver.
- UDACT-F Digital Alarm Communicator reports 56 zones or 198 points to a Central Station.
- Built-in printer interface — UL listed for permanent attachment.
- LCD-40 Series alphanumeric, 40-character, backlit remote serial annunciators operate over built-in high-speed EIA-485 port. Up to 32 may be supported on the MS-9200 *(requires software P/N 73750 or greater)*.

ISO 9001 CERTIFIED
ENGINEERING & MANUFACTURING
QUALITY SYSTEMS

Made in the U.S.A.

SYSTEM PERIPHERALS AND WIRING

EIA-485 INTERFACE (DIM-485) built into the motherboard (four wires)

24 VDC

LCD-40 and LCD-40L
Up to 1,000 ft. (914.4 m) between each LCD-40/L in the EIA-485 loop, and between each LCD-40/L and the FACP

EIA-485 in ACS mode (two wires)

MS-9200 ADDRESSABLE FIRE ALARM CONTROL PANEL

Fire•LITE ALARMS

Optional **REVERSE POLARITY/ CITY BOX OUTPUT** (RTM-8F)

SMOKE DETECTORS
SD355, SD355T, CP355

DUCT DETECTORS
D350PL, D350RPL

24 VDC

ANNUNCIATORS
AFM-LED, LDM, ACS/ACM

8 FORM-C, 5-AMP RELAYS (*optional*, order ACM-8RF)

NACs (Notification Appliance Circuits)
BELLS, SIGNALS, STROBES

MONITOR
MMF-300, MDF-300, MMF-302, CMF-300, CRF-300, I300

MINI MONITOR
MMF-301

24 VDC

UDACT-F

EIA-232 INTERFACE (PIM-24) built into the motherboard

NOTE: System can use either the printer **OR** the LCD-40/-40L. They **cannot** be used simultaneously.

PRINTER

ADDRESSABLE MULTI-MODULES
MMF-300-10, MMF-302-6, CMF-300-6, CRF-300-6

FIRE

PULL STATION
BG-12LX

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Notes:
1) "A" suffix should be included when ordering Canadian version 300 Series devices.
2) "C" suffix designates Canadian version MS-9200.
3) LCD-40 and printer option cannot be used simultaneously.

WIRING REQUIREMENTS

The SLC requires use of a specific wire type to ensure proper circuit operation. It is recommended that all SLC wiring be twisted-pair shielded to minimize the effects of electrical interference. Wire size should be no smaller than 18 AWG (0.78 mm^2) and no larger than 12 AWG (3.1 mm^2) wire.

The wire size depends on the length of the SLC circuit. Use the table below to determine the specific wiring requirements for the SLC.

Wire Requirements	Distance in Feet (m)	Typical Wire Size
Twisted-pair, shielded	10,000 feet (3,048 m)	12 AWG (3.1 mm²): Belden 9583, Genesis 4410, Signal 98230, WPW D999.
Twisted-pair, shielded	8,000 feet (2,438 m)	14 AWG (2.00 mm²): Belden 9581, Genesis 4408, Signal 98430, WPW D995.
Twisted-pair, shielded	4,875 feet (1,486 m)	16 AWG (1.3 mm²): Belden 9575, Genesis 4406 and 4606, Signal 98630, WPW D991.
Twisted-pair, shielded	3,225 feet (983 m)	18 AWG (0.78 mm²): Belden 9574, Genesis 4402 and 4602, Signal 98300, WPW D975.
Unwisted, unshielded	1,000 feet (305 m)	12 – 18 AWG (3.1 – 0.78 mm²).

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COMPATIBLE ADDRESSABLE DEVICES

All feature a polling LED and rotary address switches.

CP355: Addressable ionization smoke detector.

SD355/SD355T: Addressable photoelectric smoke detector (T = with thermal sensor).

D350PL/D350RPL: Addressable duct detector (R = with relay).

MMF-300: Addressable monitor module for one zone of normally-open dry-contact initiating devices. Mounts in standard 4" (10.16 cm) box. Includes plastic cover plate and end-of-line resistor. Module may be configured for either a Style B (Class B) or Style D (Class A) initiating device circuit.

MDF-300: Dual monitor module. Same as MMF-300 except it operates in Style B (Class B) only. Provides two Class B circuits.

MMF-301: Miniature version of MMF-300. Excludes LED and Style D option. Connects with wire pigtails. May mount in device backbox.

MMF-302: Similar to MMF-300, but may monitor up to 20 conventional two-wire detectors. Requires external 24 VDC power. *Consult factory for compatible smoke detectors.*

CMF-300: Addressable control module for one Style Y/Z (Class B/A) zone of supervised polarized Notification Appliances. Mounts directly to a 4" (10.16 cm) electrical box. Notification Appliance Circuit option requires external 24 VDC to power notification appliances.

CRF-300: Addressable relay module containing two isolated sets of Form-C contacts, which operate as a DPDT switch. Mounts directly to a 4" (10.16 cm) box, surface mount using the SMB500.

MMF-300-10: Ten-input monitor module. Mount one or two modules in a BB-2F cabinet *(optional)*. Mount up to six modules on a CHS-6 chassis in a BB-6F.

MMF-302-6: Six-zone interface module. Mount one or two modules in a BB-2F cabinet *(optional)*. Mount up to six modules on a CHS-6 chassis in a BB-6F.

CMF-300-6: Six-circuit supervised control module. Mount one or two modules in a BB-2F cabinet *(optional)*. Mount up to six modules on a CHS-6 chassis in a BB-6F.

CRF-300-6: Six Form-C relay control module. Mount one or two modules in a BB-2F cabinet *(optional)*. Mount up to six modules on a CHS-6 chassis in a BB-6F.

I300: This module isolates the SLC loop from short circuit conditions *(required for Style 7 operation)*.

BG-12LX: Addressable manual pull station with interface module mounted inside.

Compatible with legacy Fire•Lite 300 Series devices. Please consult factory for further information on all the previous 300 Series devices: CP300/CP350, SD300(T)/SD350(T), D350P/D350RP, C304, M300, M301, M302, C304, and BG-10LX. ***NOTES: 1)*** *"A" suffix should be included only when ordering ULC listed units (e.g. SD350A, MMF-300A).* ***2)*** *For more on MS-9200* ***Compatible Addressable Devices****, please see the following data sheets (document numbers):* ***SD355/SD355T*** *(DF-52384),* ***CP355*** *(DF-52383),* ***DH350PL/DH350RPL*** *(DF-52176),* ***MMF-300 Series/MDF-300 Monitor Modules*** *(DF-52121)****,*** ***MMF-300-10*** *(DF-52347),* ***MMF-302-6*** *(DF-52356),* ***CMF-300-6*** *(DF-52365),* ***CRF-300-6*** *(DF-52374),* ***I300*** *(DF-52389), and* ***BG-12LX*** *(DF-52013).*

EIA-232 PORT

PIM-24: Printer/PC interface module, cable, DB9F connector and 9-pin male to 25-pin female adapter.

DIM-485: LCD-40 display interface module.

NOTE: PIM-24 and DIM-485 options are not available simultaneously. Neither the PIM-24 or DIM485 is needed with the MS-9200 motherboard Rev. PC-D.

COMPATIBLE ANNUNCIATORS/ DEVICES USING EIA-485 PORT

LCD-40 Series: 40-character, backlit LCD-type fire annunciators capable of displaying English-language text (requires one DIM-485 per MS-9200 panel to interface with up to 32 LCD-40 annunciators). Requires software P/N 73750 or greater — contact Fire•Lite Technical Services about software compatibility questions.

AFM/AFM-X Series: LED-type fire annunciators capable of providing up to 56 software zones of annunciation. Available in increments of 16 or 32 with expandable (AFM-X Series) and non-expandable (AFM Series) configurations to meet a variety of applications.

LDM Series: Lamp Driver Module series for use with custom graphic annunciators.

UDACT-F: Digital Alarm Communicator Transmitter.

NOTE: For more on MS-9200 ***Compatible Annunciators*** *and* ***Compatible EIA-485 Port Devices****, please see the following data sheets (document numbers):* ***LCD-40*** *(DF-51474),* ***AFM/AFM-X*** *(DF-51465),* ***LDM Series*** *(DF-51384), and* ***UDACT-F*** *(DF-51294).*

FIELD-PROGRAMMING FEATURES

Off-Line Programming: Create entire program in your office using a Windows®-based PC computer (order programming kit PK-9200W separately). Upload/Download system programming locally to the MS-9200 in less than one minute.

Auto-Programming: Command the MS-9200 to program itself (takes less than 30 seconds). In the Auto-Program mode, the MS-9200 scans for all possible devices at all addresses, stores the device types, and addresses found, and then loads default values for all options (General Alarm). It also checks for two or more devices set to the same address.

On-Line Edit: While still providing fire protection, the MS-9200 may be programmed from the front panel. Simple menu trees displayed on the LCD allow the trained user to perform all functions without referring back to the programming manual.

English Label Library: Quickly select labels from a standard library of more than 50 adjectives/nouns, such as "FLR 3 HALLWAY," or enter custom labels letter-by-letter. Use recall function to repeat previously used label.

Program Check: Automatically catch common errors, such as relays not linked to any zone or point.

MAINTENANCE ALERT

The MS-9200 continually monitors each smoke detector and responds to a reading of 80% of the detectors alarm threshold. If the detector continually reports an 80% threshold reading (8/10 of what is required to be an alarm condition) for 24 hours, a trouble condition is created. This reduces the risk of false alarms due to dust and dirt by alerting a trouble (maintenance) condition rather than initiating a false alarm.

AUTOMATIC TEST OPERATION

The MS-9200 performs an automatic test of each detector every two hours. Failure to meet the test limits causes an AUTO TEST FAIL trouble type. System Reset clears this trouble.

NFPA STANDARDS

The MS-9200 complies with the following NFPA 72 Fire Alarm Systems requirements:

- **LOCAL** (Automatic, Manual, Waterflow, and Sprinkler Supervisory).
- **AUXILIARY** (Automatic, Manual, and Waterflow) *(requires RTM-8F)*.
- **REMOTE STATION** (Automatic, Manual, and Waterflow) *(requires RTM-8F or UDACT-F)*.
- **PROPRIETARY** (Automatic, Manual, and Waterflow).
- **CENTRAL STATION** (Automatic, Manual, and Waterflow) *(requires UDACT-F)*.

CABINET SPECIFICATIONS

Door: 17.11" (43.46 cm) high x 14.71" (37.36 cm) wide x 0.375" (0.95 cm) deep. **Backbox:** 16.90" (42.93 cm) high x 14.50" (36.83 cm) wide x 4.50" (11.43 cm) deep. **Trim Ring (part # TR-4-R):** 20.02" (50.85 cm) high x 17.62" (44.75 cm) wide.

SPECIFICATIONS

- **Primary input power for *MS-9200* and *MS-9200C*:** 120 VAC, 50/60 Hz, 2.3 Amps. **Primary input power for *MS-9200E*:** 220/240 VAC, 50 Hz.
- **Total 24 V system power:** 3.6 A (expandable to 6.6 A).
- **Standard Notification Circuits:** 2 (Style Y or Z).
- **Expansion Notification Circuits:** up to 99 (using CMF300 module).
- **Notification Appliance Power:** 3.0 A (expandable to 6.0A with XRM-24).
- **Four-wire detector power:** 300 mA.*
- **Non-resettable regulated power:** 300 mA.*
- **Non-regulated power:** 2.5 Amps maximum.*
- *NOTE: Subtract from total 24 VDC source.*
- **Battery charger range:** 7 AH – 18 AH (BB-17F battery cabinet for 18 AH batteries).
- **Remote charger** *(panel charger disabled, requires MS-9200 circuit board #71741, available June 1, 1998)*: 25-120 AH *(use CHG-120F)*.
- **Charge float rate:** 27.6 V.
- **Charger current:** limited to 0.8 A.
- **Control panel Alarm, Trouble, Supervisory Relay contact ratings:** 2.0 A @ 30 VDC.

CONTROLS AND INDICATORS

LED INDICATORS

1. AC POWER (green).
2. FIRE ALARM (red).
3. SUPERVISORY (yellow).
4. ALARM SILENCE (yellow).
5. SYSTEM TROUBLE (yellow).

MEMBRANE SWITCH CONTROLS

1. ACKNOWLEDGE/STEP
2. ALARM SILENCE
3. DRILL
4. SYSTEM RESET (lamp test)
5 — 16. 12-key pad with full alphabet
17 — 20. 4 cursor keys
21. ENTER

LCD DISPLAY

40 characters (2 x 20) with long-life LCD display, backlit.

PRODUCT LINE INFORMATION

MS-9200 Addressable fire alarm control panel. Includes LCD display, single printed circuit board and cabinet.

MS-9200C Same as above with ULC listing and DP-1-R dead-front panel.

9200RBV2.0 Replacement motherboard.

MS-9200E Same as MS-9200 with 220/240 VAC, 50 Hz transformer (UL listed).

RTM-8F Plug-in relay transmitter option module. Provides eight Form-C relays, plus municipal box and remote station connections.

DP-1-R Full-length internal dress panel ***(required for FM applications; included when ordering MS-9200C).***

UDACT-F Digital alarm communicator transmitter.

XRM-24 120 VAC, 100 VA transformer. Expands system power supply. Expands notification appliance power from 3.0 amps to 6.0 amps.

PIM-24 Printer interface module required to connect a 40- or 80-column printer.**

DIM-485 LCD-40 display interface module required to convert EIA-232 to EIA-485 for use with the LCD-40 Series annunciators.**

PK-CD Programming Kit for Windows®-based PC computer *(requires **PIM-24** and associated hardware)*.

TR-4-R Trim ring for semi-flush mounting.

BB-17F Battery box, required to mount PS-12180 batteries.

BB-55F Battery box, required to house two BAT-12250 batteries and one CHG-120F battery charger. *For batteries greater than 25 AH, consult factory for housing/mounting arrangements.*

CHG-120F Remote battery charging system. *Required for charging 25 to 120 AH batteries (can **only** be used in conjunction with MS-9200 circuit board #71741).*

BAT-1270 Battery, 12 volt, 7.0 AH, *(two required)*.

BAT-12120 Battery, 12 volt, 12.0 AH, *(two required)*.

BAT-12180 Battery, 12 volt, 18.0 AH, *(two required)*.

BAT-12250 Battery, 12 volt, 25 AH, *(two required; requires **CHG-120F**)*.

BAT-12550 Battery, 12 volt, 55 AH, *(two required; requires **CHG-120F**)*.

FCPS-24F Remote power supply expands NAC outputs by 6.0 amps or total system power by 4.0 amps.

FCPS-24FS6 Remote power supply expands NAC outputs by 6.0 amps. Integral battery charger capable of 18 AH.

FCPS-24FS8 Remote power supply expands NAC outputs by 8.0 amps.

**NOTE: PIM-24 and DIM-485 options are not available simultaneously. Neither the PIM-24 or DIM485 is needed with the MS-9200 motherboard Rev. PC-D.

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