MS-9200UD
Intelligent Addressable FACP with Built-In Modem
Section: Addressable

California State Fire Marshal
7165-0075:208

MEA 341-03-E

UL LISTED S624

FM APPROVED

GENERAL

The **Fire•Lite MS-9200UD** is a compact, cost-effective, intelligent addressable fire alarm control panel with a capacity of 198 addressable Fire•Lite devices on one Signaling Line Circuit (SLC) and a **built-in modem** for **remote site upload/download** or remote monitoring.

The Signaling Line Circuit (SLC) loop supports up to 99 addressable detectors including photoelectric, photoelectric with heat, ionization, photoelectric duct, fixed heat, fixed heat with rate-of-rise, and fixed high-heat detectors. It also supports up to 99 addressable modules including monitor (two-wire detector, normally open devices), dual-monitor functions (two monitor circuits from one module, two addresses used), control (for Notification Appliance Circuits), and relay (two Form-C) modules. The panel uses surface-mount technology and is designed for ease of installation, programming, and maintenance. It features the latest in advanced fire protection technology, including maintenance alert and automatic detector test functions.

SPECIAL FEATURES:

- *Built-in modem.*
- *Selectable strobe synchronization per NAC.*
- *Remote site upload/download.*
- *Four Class B or two Class A NAC circuits.*

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, control, or relay modules), including the *new* addressable dual-monitor module, heat detectors, and duct detector.
- SLC loop maximum length 10,000 ft. (3,048 m) @ 12 AWG (3.25 mm²). Requires twisted, shielded wire (3,000 ft./914.4 m untwisted, unshielded wire).

Notification Appliance Circuits (NACs):
- Four onboard NACs with additional NAC capability using output control modules (CMF-300 or CMF-300-6).
- Silence Inhibit and Auto Silence timer options.
- Continuous, March Time, Temporal or California code for main circuit board NACs with two-stage capability.
- Selectable strobe synchronization per NAC.
- 6.0 amps total NAC power with optional XRM-24.

Advanced Fire Technology:
- Sensitivity testing with printable results, onsite or offsite.
- Automatic drift compensation.

Programming and Software:
- Autoprogram (learn mode) reduces installation time.
- Fully programmable from local keypad, local PS-2 keyboard or PC via PK-Plus Windows® utility.
- Remote site upload/download capability.
- Two-level user-programmable passwords.

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- Custom English labels (per point) may be manually entered or selected from an internal library file.
- Two programmable Form-C relay outputs.
- 99 software zones.

User Interface:
- Built-in modem (DACT).
- Remote Acknowledge, Silence, Reset and Drill via addressable monitor modules, ACS Series annunciators or LCD-80F remote annunciator.
- EIA-232 printer/PC interface (variable baud rate) on main circuit board.
- Integral 80-character LCD display with backlighting.
- Real-time clock/calendar with automatic daylight savings adjustments.
- History file with 1,000-event capacity.
- EIA-485 supporting up to 32 ACS Series annunciators.
- EIA-485 supporting up to 32 LCD-80F annunciators.
- Maintenance alert warns when smoke detector dust accumulation is excessive.
- Automatic device type-code verification.
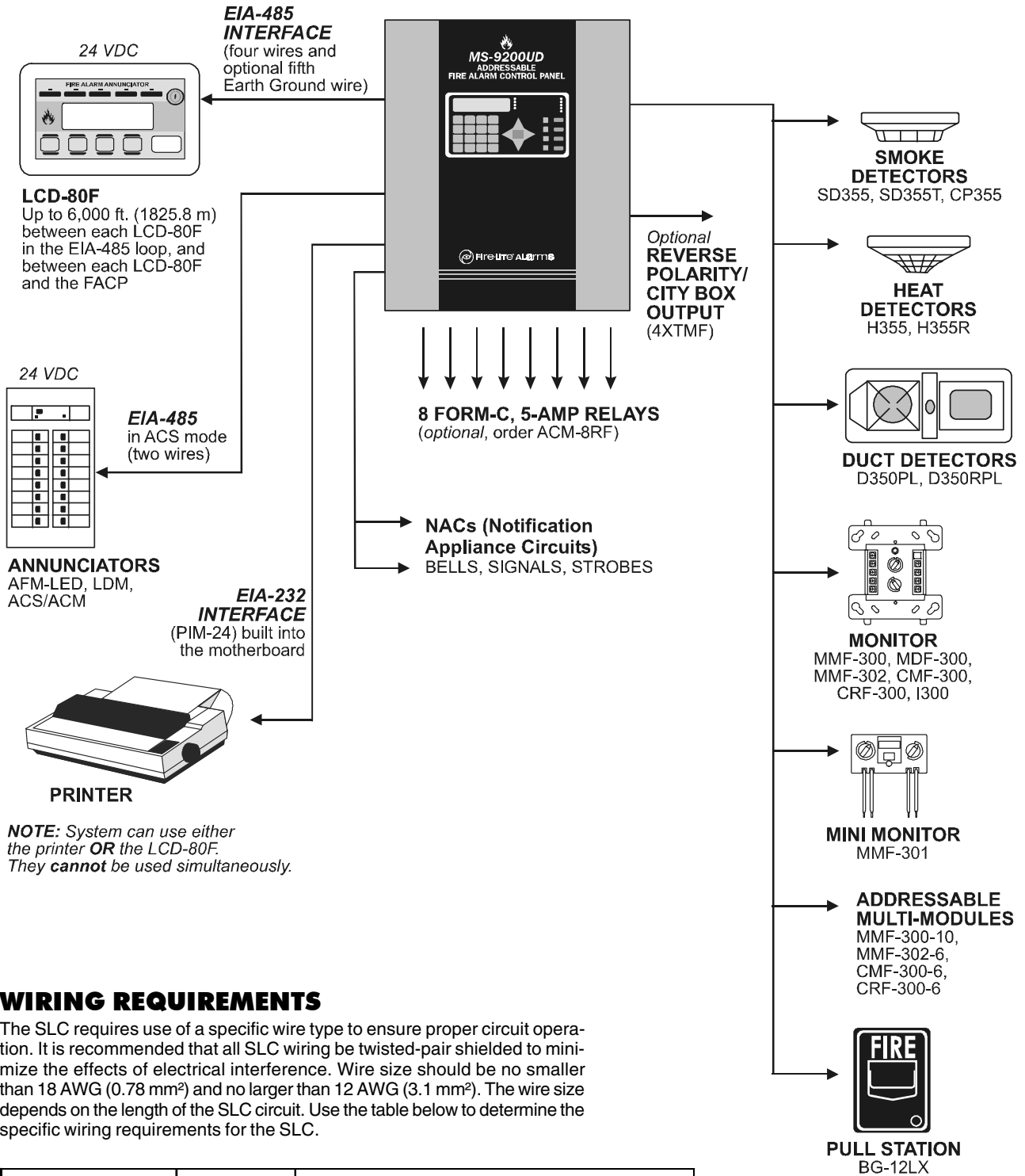- One person audible or silent walk test with walk-test log and printout.

ISO 9001 CERTIFIED
ENGINEERING & MANUFACTURING
QUALITY SYSTEMS

Made in the U.S.A.

EIA-485 INTERFACE
(four wires and optional fifth Earth Ground wire)

24 VDC

LCD-80F
Up to 6,000 ft. (1825.8 m) between each LCD-80F in the EIA-485 loop, and between each LCD-80F and the FACP

24 VDC

EIA-485
in ACS mode
(two wires)

ANNUNCIATORS
AFM-LED, LDM,
ACS/ACM

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

PRINTER

NOTE: *System can use either the printer OR the LCD-80F. They cannot be used simultaneously.*

MS-9200UD
ADDRESSABLE
FIRE ALARM CONTROL PANEL

Fire•Lite Alarms

Optional
REVERSE POLARITY/ CITY BOX OUTPUT
(4XTMF)

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

NACs (Notification Appliance Circuits)
BELLS, SIGNALS, STROBES

SMOKE DETECTORS
SD355, SD355T, CP355

HEAT DETECTORS
H355, H355R

DUCT DETECTORS
D350PL, D350RPL

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

MINI MONITOR
MMF-301

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

FIRE

PULL STATION
BG-12LX

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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 mm²) and no larger than 12 AWG (3.1 mm²). 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	3,000 feet (915 m)	12 – 18 AWG (3.1 – 0.78 mm²).

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- Point trouble identification.
- Local piezo sounder.
- Waterflow (nonsilenceable) selection per monitor point.
- System alarm verification selection per detector point.
- PAS (Positive Alarm Sequence) and presignal delay per point (NFPA 72 compliant).
- Optional 4XTMF module (conventional reverse polarity/city box transmitter).

CONTROLS AND INDICATORS

LED INDICATORS

1. AC POWER (green)
2. FIRE ALARM (red)
3. SUPERVISORY (yellow)
4. ALARM SILENCED (yellow)
5. SYSTEM TROUBLE (yellow)
6. MAINTENANCE/PRESIGNAL (yellow)
7. DISABLED (yellow)
8. BATTERY FAULT (yellow)
9. GROUND FAULT (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

FIELD-PROGRAMMING FEATURES

OFFLINE PROGRAMMING: Create the entire program in your office using a Windows®-based software package *(order programming kit* **PK-CD***, containing PK-Plus, separately. Requires* **PRT/PK** *cable)*. Upload/download system programming locally to the MS-9200UD in less than one minute.

AUTOPROGRAMMING: Command the MS-9200UD to program itself (takes less than 30 seconds). In the Auto-Program mode, the MS-9200UD 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.

ONLINE EDIT: While still providing fire protection, the MS-9200UD 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 control modules not linked to any zone or input point.

MAINTENANCE ALERT

The MS-9200UD continuously monitors each smoke detector and is capable of reporting maintenance conditions. This reduces the risk of false alarms due to dust accumulation. Refer to the control panel installation manual for more information.

AUTOMATIC TEST OPERATION

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

- **LOCAL** (Automatic, Manual, Waterflow and Sprinkler Supervisory).
- **AUXILIARY** (Automatic, Manual and Waterflow) *(requires 4XTMF)*.
- **REMOTE STATION** (Automatic, Manual and Waterflow) *(requires 4XTMF)*.
- **PROPRIETARY** (Automatic, Manual and Waterflow).
- **CENTRAL STATION** (Automatic, Manual and Waterflow, and Sprinkler Supervised).

SPECIFICATIONS

AC Power – TB1: 120 VAC, 60 Hz, 3.0 A. *Wire size:* minimum 14 AWG (2.00 mm²) with 600 V insulation.

Battery (lead-acid *only***) – TB2:** *Maximum charging circuit:* Normal flat charge 27.6 VDC @ 0.80 A. *Maximum battery charger capacity:* 18 AH. MS-9200UD cabinet holds maximum of two 18 AH batteries. For 25 – 120 AH batteries, use the **CHG-120F** or **CHG-75** Battery Charger and BB-55F Battery Box.

NOTE: Jumper JP3, on the FACP main circuit board, must be cut to disable the FACP battery charger when using the CHG-120F.

Remote Synchronization Output – TB2: A 24 VDC, 40 mA signal that mimics the sync signal of NAC 1 and can be utilized by remote power supplies such as the FCPS-24FS6/8. This allows NAC devices attached to the power supply to synchronize with the devices connected to NAC 1 of the FACP.

Communication Loop – (standard) TB8: 24 VDC nominal, 27.6 VDC maximum. *Maximum length:* 10,000 ft. (3048 m) total twisted, shielded pair length. *Maximum loop current*: 400 mA (short circuit) or 100 mA (normal). *Maximum loop resistance*: 40 ohms. Supervised and power-limited.

Notification Appliance Circuits – TB4: Power-limited circuitry. *Maximum voltage drop in wiring:* 2.0 VDC. *Nominal operating voltage:* 24 VDC. *Current limit:* fuseless, electronic, power-limited circuitry. *Maximum signaling current per circuit:* 2.50 A. *End-of-line resistor:* 4.7K ohm, 1/2 watt (P/N 71252 UL listed) for NACs. Refer to *Fire•Lite Device Compatibility Document* for listed compatible devices.

Programmable and Trouble Output Relays – TB5, TB6, TB7: *Contact rating:* 2.0 A @ 30 VDC (resistive), 0.5 A @ 30 VAC (resistive). Form-C relays.

Four-Wire Resettable Smoke Detector Power (24 VDC nominal) – TB1, Terminals 3 (+) & 4 (–): *Maximum ripple voltage:* 10 mV$_{RMS}$. Up to 0.5 A for powering four-wire smoke detectors. Power-limited circuit. Refer to *Fire•Lite Device Compatibility Document* for listed compatible devices.

Nonresettable Power #1 (24 VDC Nominal) –TB1, Terminals 3 (+) & 4 (–): *Maximum ripple voltage:* 10 mV$_{RMS}$. Up to 0.5 A total DC current available from each output. Power-limited circuit. **TB1, Terminals 1 (+) & 2 (–)** can be configured as resettable 24 V or non-resettable via JP4.

NOTE: If using optional XRM-24, total NAC and auxiliary current draw cannot exceed 6 A.

EIA-485 (ACS) – TB6: ACS annunciator connector, Terminal 1 (+) and Terminal 2 (–).

EIA-485 (TERM) – TB7: Terminal mode annunciator connector, Terminal 1 (Out +), 2 (In +), 3 (Out –), 4 (In –).

EIA-232 – TB8: PC/printer connector, Terminal 1 (Transmit), 2 (Receive), 3 (DTR), 4 (Ground).

CABINET SPECIFICATIONS

Door: 18.67" (47.43 cm) high x 15.78" (40.08 cm) wide x 1.08" (2.74 cm) deep. **Backbox:** 18.50" (47.0 cm) high x 15.50" (39.37 cm) wide x 4.37" (11.1 cm) deep. **Trim Ring (FC-TR):** 21.62" (54.92 cm) high x 18.62" (47.3 cm) wide.

PRODUCT LINE INFORMATION

MS-9200UD: 198-point addressable Fire Alarm Control Panel. Includes 80-character LCD display, single printed circuit board, and cabinet.

ACM-8RF: Optional plug-in relay module provides 8 Form-C 5.0 amp relays.

PK-CD: Contains PK-Plus programming software for Windows®-based PC computer *(cable not included)*.

DP-9200UD: Dress panel for MS-9200UD.

FC-TR: Trim Ring for semi-flush mounting.

BB-55F: Battery box, required to house two BAT-12260 batteries and one CHG-120F battery charger. *For batteries greater than 26 AH, consult factory for housing/mounting arrangements.*

BB-26: Battery backbox, holds up to two BAT-12260 batteries.

CHG-120F: Remote battery charging system for lead-acid batteries with a rating of 25 to 120 AH. *CHG-120F or CHG-75 required for charging greater than 25AH batteries.*

CHG-75: Battery charger for lead-acid batteries with a rating of 25 to 75 AH. *CHG-120F or CHG-75 required for charging greater than 25 AH batteries.*

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

BAT-12260: Battery, 12 volt, 26 AH, *(two required; requires **CHG-75**).*

BAT-12550: Battery, 12 volt, 55 AH, *(two required; requires **CHG-75**).*

PRT/PK-CABLE: Cable printer/personal computer interface cable.

Windows® is a registered trademark of Microsoft Corporation.

COMPATIBLE ADDRESSABLE DEVICES

All feature a polling LED and rotary switches for addressing.

CP355: Addressable low-profile ionization smoke detector.

SD355: Addressable low-profile photoelectric smoke detector.

SD355T: Addressable low-profile photoelectric smoke detector with thermal sensor.

H355: Fast-response, low-profile heat detector.

H355R: Fast-response, low-profile heat detector with ***rate-of-rise*** option.

AD355: Low-profile, intelligent, "Adapt" multisensor detector *(B350LP base included).*

D350PL: Photoelectric low-flow duct smoke detector.

D350RPL: Photoelectric low-flow duct smoke detector with ***relay*** option.

MMF-300: Addressable Monitor Module for one zone of normally-open dry-contact initiating devices. Mounts in standard 4.0" (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) IDC.

MDF-300: Dual Monitor Module. Same as MMF-300 except it provides two Style B (Class B) *only* IDCs.

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 resettable 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 4.0" (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 4.0" (10.16 cm) box, surface mount using the SMB500.

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

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

SMB500: Used to mount all modules *except* the MMF-301 and M301.

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.

NOTES: 1) *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, M300, M301, M302, C304, and BG-10LX.* ***2)*** *"A" suffix should be included only when ordering ULC listed units (e.g., SD350A, MMF-300A).* ***3)*** *For more information on **Compatible Addressable Devices** for use with the MS-9200UD, see the following data sheets (document numbers): **AD355** (DF-52386), **BG-12LX** (DF-52013), **CMF-300-6** (DF-52365), **CRF-300-6** (DF-52374), **CMF/CRF Series** (DF-52130), **CP355** (DF-52383), **D350PL/D350RPL** (DF-52398), **H355 Series** (DF-52385), **I300** (DF-52389), **MMF-300 Series/MDF-300** (DF-52121), **MMF-300-10** (DF-52347), **MMF-302-6** (DF-52356), **SD355/SD355T** (DF-52384).*

COMPATIBLE ANNUNCIATORS

EIA-485 interface: Built into the motherboard.

ACS/ACM Annunciator Series: Allows annunciation of loop modules and detectors.

ACM-8RF: provides eight Form-C mappable relays with relay-by-zone capability for elevator recall, HVAC control, etc.

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

LCD-80F (Liquid Crystal Display) point annunciator: 80-character, backlit LCD-type fire annunciators capable of displaying English-language text. Up to 32 LCD-80F annunciators may be connected to the EIA-485 terminal mode serial interface on the MS-9200UD motherboard.

AFM-LED Zone Series: LED-type fire annunciators capable of providing up to 99 software zones of annunciation. 16 or 32 with expandable (AFM-X Series) and non-expandable (AFM Series) configurations.

NOTE: *For more information on **Compatible Annunciators** for use with the MS-9200UD, see the following data sheets (document numbers), **ACM-8RF** (DF-51555), **ACS/ACM Series** (DF-52378), **LDM Series** (DF-51384), **LCD-80F** (DF-52185).*

AGENCY LISTINGS AND APPROVALS

See the first page of this data sheet for listing agencies and file numbers. These listings and approvals apply to the basic MS9200UD control panel. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.