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DN-6629 • A-106

# AFP-100 Analog/Addressable Fire Alarm Control Panel

Section: Intelligent Fire Alarm Control Panels

## GENERAL

The **AFP-100** is a compact, cost-effective, feature-packed, analog/addressable fire alarm control panel with a capacity of 198 NOTIFIER addressable 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: three levels of detector sensitivity settings, programming of inputs to two software zones, analog maintenance alert, and automatic detector test.

## FEATURES

- SLC supports up to 198 analog/addressable devices (99 detectors and 99 control or monitor modules).
- SLC can be configured for Style 4, 6, or 7 operation.
- Dual integral Notification Appliance (signal) Circuits (NAC's), Style Y or Z (Class B or A).
- 3.0 Amp Notification Appliance (signal) power, expandable to 6.0 Amperes.
- NAC's may be programmed for Steady, March Time, Temporal (Code 3), or California Code.
- Alarm, trouble, and supervisory relays, standard.
- Supports NOTIFIER addressable devices (see page 3).
- Manual sensitivity adjust per detector with Low, Medium (default), or High levels.
- Analog maintenance alert warns when smoke detector dust accumulation is excessive.
- 56 software zones — inputs programmable to two software zones, outputs programmable to three software zones.
- Optional UDACT Digital Alarm Communicator reports 56 zones or 198 points to a Central Station.
- Optional LCD-2X20 Series alphanumeric, 40-character, backlit remote serial annunciators operate over high-speed EIA-485 port. Up to 32 may be supported by AFP-100.
- Optional printer interface — UL listed for permanent attachment.
- Integral 40-character LCD display with backlighting.
- 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.
- Autoprogram and Walk Test features identify 2 or more devices set to same address.
- Real-time clock/calendar.
- History file with 500-event capacity.
- Waterflow or supervisory selection per monitor point.
- System alarm verification, smoke only.
- Presignal delay option per NFPA 72.
- Silence Inhibit and Auto Silence timer options.



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**AFP-100**

- Battery charger for up to 60 hours of standby power.
- Fuseless, power-limited technology meets latest UL power-limiting requirements.
- Rapid poll algorithm for manual stations. Responds to alarm/activation in less than two seconds.
- Operates with untwisted, unshielded wire (up to 1,000 feet [304.8 m]) for retrofit applications (U.S. Patent 5,210,523).
- NOTIFIER analog/addressable devices feature decimal address selection. Address of each device can be easily set in the field by use of a screwdriver. Smoke detectors also feature a separate head and base design for ease of installation and serviceability.
- Remote Acknowledge/Silence/Reset/Drill via monitor modules.
- SLC loop maximum length 10,000 ft. (3048 m) @ 12 AWG (3.25 mm<sup>2</sup>).
- Large enclosure: 16.9" (42.926 cm) high x 14.5" (36.830 cm) wide x 4.5" (11.430 cm) deep.

This document is not intended to be used for installation purposes. We try to keep our product information up-to-date and accurate. We cannot cover all specific applications or anticipate all requirements. All specifications are subject to change without notice. For more information, contact **NOTIFIER**. Phone: (203) 484-7161 FAX: (203) 484-7118



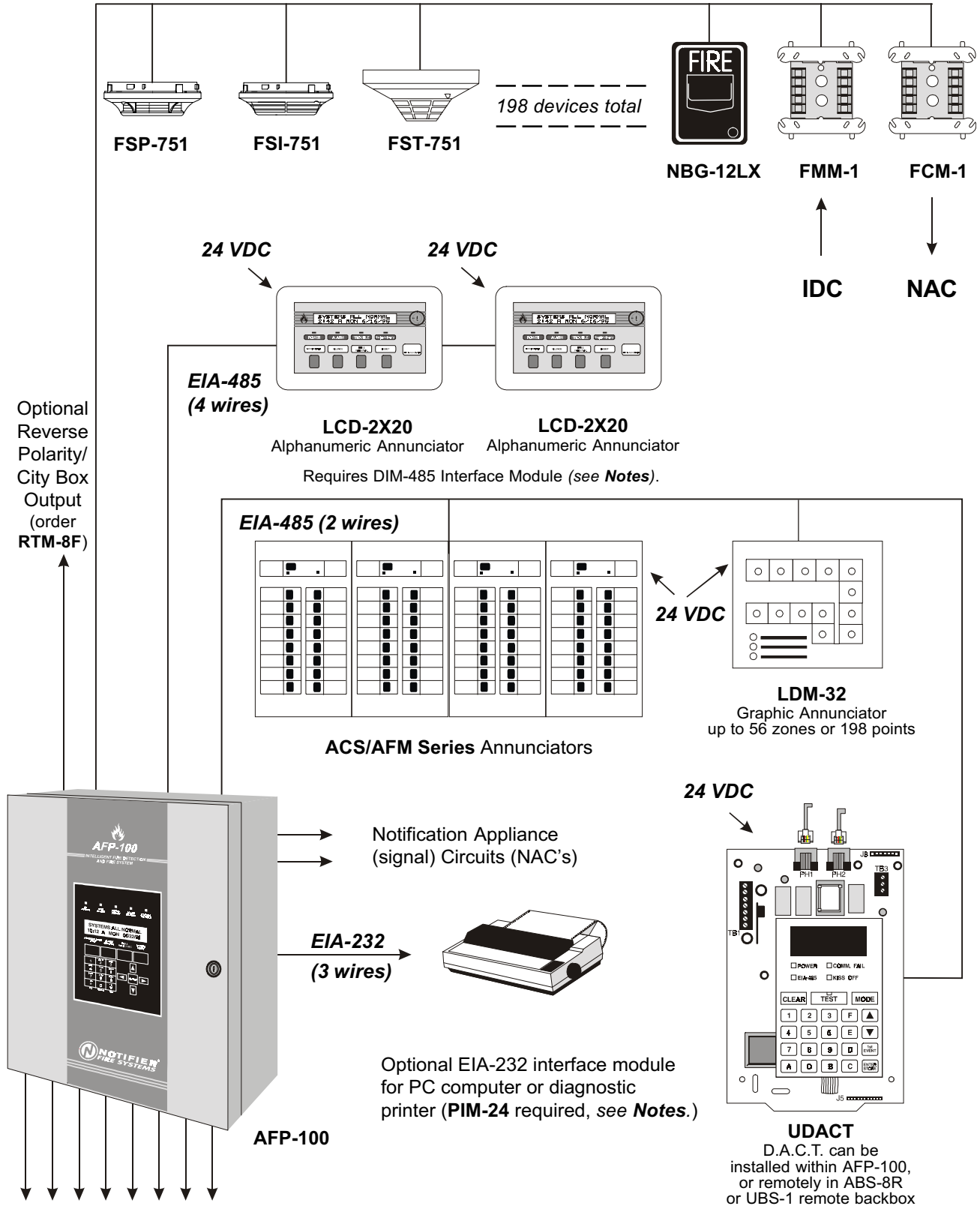
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# SYSTEM PERIPHERALS

## SLC Intelligent Loop



**Notes:** 1) "A" suffix should be included when ordering Canadian version devices.  
2) LCD-2X20 and printer option cannot be used simultaneously.

## COMPATIBLE ANALOG/ ADDRESSABLE DEVICES

<i>Model</i>	<i>Description</i>
<b>FSI-751</b>	Low-profile ionization detector.
<b>FSP-751</b>	Low-profile photoelectric detector.
<b>FSP-751T</b>	Photoelectric with thermal element.
<b>FST-751</b>	Fixed thermal (heat) sensor.
<b>FST-751R</b>	Fixed and rate-of-rise thermal sensor.
<b>FSD-751P</b>	Photoelectric duct detector with housing.
<b>FSD-751RP</b>	Photoelectric duct detector with alarm relay and duct housing.
<b>B710LPBP</b>	Low-profile base, standard U.S. style, package of ten.
<b>B501BP</b>	Standard flangeless base, package of ten.
<b>B224RB</b>	Low-profile relay base.
<b>B224BI</b>	Isolator base for low-profile detectors.
<b>B501BH</b>	Sounder base.
<b>FMM-1</b>	Monitor module.
<b>FDM-1</b>	Dual monitor module. Two Class B IDC's.
<b>FZM-1</b>	Two-wire detector monitor module.
<b>FMM-101</b>	Miniature Monitor Module.
<b>FCM-1</b>	Control Module.
<b>NBG-12LX</b>	Manual Fire Alarm Station, addressable.
<b>ISO-X</b>	Isolator Module.
<b>SMK400</b>	Surface mounting kit. <i>For use with B501 base only.</i>
<b>RMK400</b>	Recessed mounting kit. <i>For use with B501 base only.</i>
<b>BCK-200</b>	Black detector covers (ten) with black trim rings (ten). <b>NOTE:</b> <i>For low-profile photo or ion detectors (both conventional and intelligent).</i>

**NOTES:** 1) "A" suffix should be included **only** when ordering ULC Listed devices. 2) The AFP-100 is compatible with all previous intelligent devices, **except** the LPX-751 and IPX-751.

## COMPATIBLE ANNUNCIATORS

**LCD-2X20 Series:** 40-character, backlit LCD-type fire annunciators capable of displaying English-language text (requires one DIM-485 per AFP-100 panel to interface with up to 32 LCD-2X20 annunciators).

**AFM/ACS Series:** LED-type fire annunciators capable of providing up to 56 software zones of annunciation. Available in increments of 16 or 32 with expandable (ACS 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.

**NOTE:** *For more detailed information on Compatible Annunciators for use with the AFP-100, please see the following data sheets (document numbers): AFM Series (DN-0056), ACS Series (DN-0524), LDM Series (DN-0551), and LCD-2X20 (DN-6737).*

## FIELD-PROGRAMMING FEATURES

**Off-Line Programming:** Create entire program in your office using a Windows®-based PC computer (order programming kit **VERIFIRE-CD** separately). Upload/Download system programming locally to the AFP-100 in less than one minute.

**Auto-Programming:** Command the AFP-100 to program itself (takes less than 30 seconds). In the Auto-Program mode, the AFP-100 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 AFP-100 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.

**Sensitivity Settings:** The AFP-100 provides manual detector sensitivity selection among three settings: high, medium, and low. The program default is Medium sensitivity, which can be changed in Programming Level I.

## ANALOG MAINTENANCE ALERT

The AFP-100 continually monitors each analog 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 AFP-100 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 AFP-100 complies with the following NFPA 72, Fire Alarm Systems:

- **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*).
- **PROPRIETARY** (Automatic, Manual, and Waterflow).
- **CENTRAL STATION** (Automatic, Manual, and Waterflow) (*requires UDACT*).

## SPECIFICATIONS

- Primary input power: 120 VAC, 50/60 Hz, 2.3 Amps.
- Total 24 V system power: 3.6 A (expandable to 6.6 A).
- Standard notification circuits: 2 (Style Y or Z/Class B or A).
- Expansion notification circuits: up to 99 (using CMX-2 module).
- Notification appliance power: 3.0 A (expandable to 6.0 A 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 V system power.*

- Battery charger range: 7 AH – 18 AH (BB-17 battery cabinet for 12 – 18 AH batteries).
- Remote charger: 25 AH – 120 AH.
- 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.

## CABINET SPECIFICATIONS

**Door:** 17.114" (38.65 cm) high x 14.75" (37.38 cm) wide x 0.375" (0.95 cm) deep.

**Backbox:** 16.9" (42.926 cm) high x 14.5" (36.830 cm) wide x 4.5" (11.430 cm) deep.

**Trim Ring:** 18.12" (46.02 cm) high x 17.62" (44.75 cm) wide — 16 gauge.

## SYSTEM CAPACITY

- Total programmable input/output points: 198
- Analog/addressable detectors: 99
- Addressable monitor or control modules: 99
- Notification Appliance Circuits (NAC's) in panel: 2\*
- Programmable software zones: 56
- ACS/LDM/LCD2X20 Series Annunciators per system: 32
- UDACT Digital Alarm Communicator Transmitter: 1

\*NOTE: NAC's can be added using FCM control modules.

## 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.

## COMPATIBLE ANALOG/ ADDRESSABLE DEVICES

See page 3 of this document.

## EIA-232 PORT

MODEL DESCRIPTION

**PIM-24** Printer/PC Interface Module, Cable, DB9F Connector and 9-pin male to 25-pin female adapter.

**DIM-485** LCD-2X20 Display Interface Module.

NOTE: PIM-24 and DIM-485 options are not available simultaneously.

## COMPATIBLE DEVICES, EIA-485 PORT

**UDACT:** Digital Alarm Communicator Transmitter.

**LCD-2X20 Series:** 40-character, backlit LCD-type fire annunciators capable of displaying English-language text (requires one DIM-485 per AFP-100 panel to interface with up to 32 LCD-2X20 annunciators).

**AFM/ACS Series:** LED-type fire annunciators capable of providing up to 56 software zones of annunciation. Available in increments of 16 or 32 with expandable (ACS 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.

NOTE: For more detailed information on **Compatible EIA-485 Port Devices** for use with the AFP-100, please see the following data sheets (document numbers): **UDACT** (DN-4867), **LCD-2X20** (DN-6737), **AFM** (DN-0056), **ACS** (DN-0524), and **LDM Series** (DN-0551).

## PRODUCT LINE INFORMATION

MODEL DESCRIPTION

**BE-AFP100G** Basic equipment package for AFP-100 Analog/Addressable Fire Alarm Control Panel (requires **SBB-1** cabinet). Includes display and single printed circuit board.

**SBB-1** Surface Backbox, gray.

**RTM-8F** Plug-in Relay Transmitter Option Module. Provides 8 Form-C relays, plus municipal box and remote station connections.

**DP-1-B** Full-length internal dead-front panel.

**UDACT** Digital Alarm Communicator Transmitter (mount within cabinet or remotely in **UBS-1** or **ABS-8R** backbox).

**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-2X20 Display Interface Module required to convert EIA-232 to EIA-485 for use with the LCD-2X20 Series annunciators.

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

**TR-4-G** Trim Ring for semi-flush mounting.

**BB-17** Battery box, required to mount PS-12120 or PS-12180 batteries.

**BB-55** Battery box, required to house two (2) 25 AH batteries and one (1) CHG-120 battery charger. For batteries greater than 25 AH, consult factory for housing/mounting arrangements.

**CHG-120** Remote battery charging system. Required for charging 25 to 120 AH batteries.

**PS Series** Panel charging circuit range is 7 – 18 AH. Refer to PS Series Batteries data sheet DN-1109.

**FCPS-24** Remote Power Supply expands NAC outputs by 6 Amps or total system power by 4 Amps.

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