



Fire Marshal Division
P.O. Box 370
Lillington, NC 27546
910-893-7580

Reviewed for Fire Code Compliance
 Leslie Jackson
12/07/2023 8:19:23 AM

Application for Plan Review

Permit Type: _____

Date Received: _____ Received By: _____

Name of Project: _____

Physical Address of Project: _____

Plans Submitted By: _____

Project Phone: (____) - ____ - _____

Contact Person/Address: _____

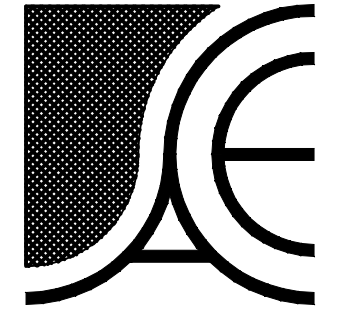
Contact Phone: (____) - ____ - _____ (____) - ____ - _____

Contractor's Name/Info: _____

Contractor's Phone: (____) - ____ - _____

Contact Email: _____

- **Plans that are submitted will be reviewed as quickly as possible with an average time of review between 7-10 working days.**
- **Status checks may be conducted on plan reviews by visiting the website <http://hteweb.harnett.org/Click2GovBP/Index.jsp> or by calling the Harnett County Central Permitting Office (910-893-7525 : Opt. 2), or the Harnett County Fire Marshal's Office (910-893-7580).**
- **Approved plans must be picked up from the Central Permitting Office and all fees paid before any required inspections can be conducted.**



Alamance Consulting Engineers

961-F Burlington Ave.
Gibsonville, N.C. 27249
Phone: (336) 449-4558
www.ace-nc.net
N.C. Firm License Number C-2071

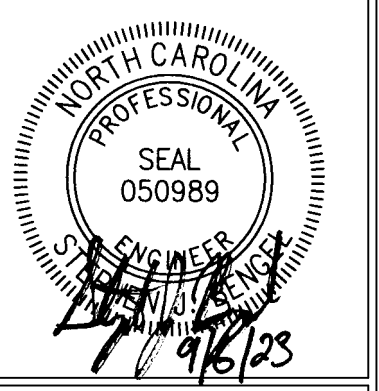
KEEPSAFE SECURITY AND FIRE

136 Ostwalt Amity Rd, Suite A
Troutman, NC 28166

FOOD LION #1237

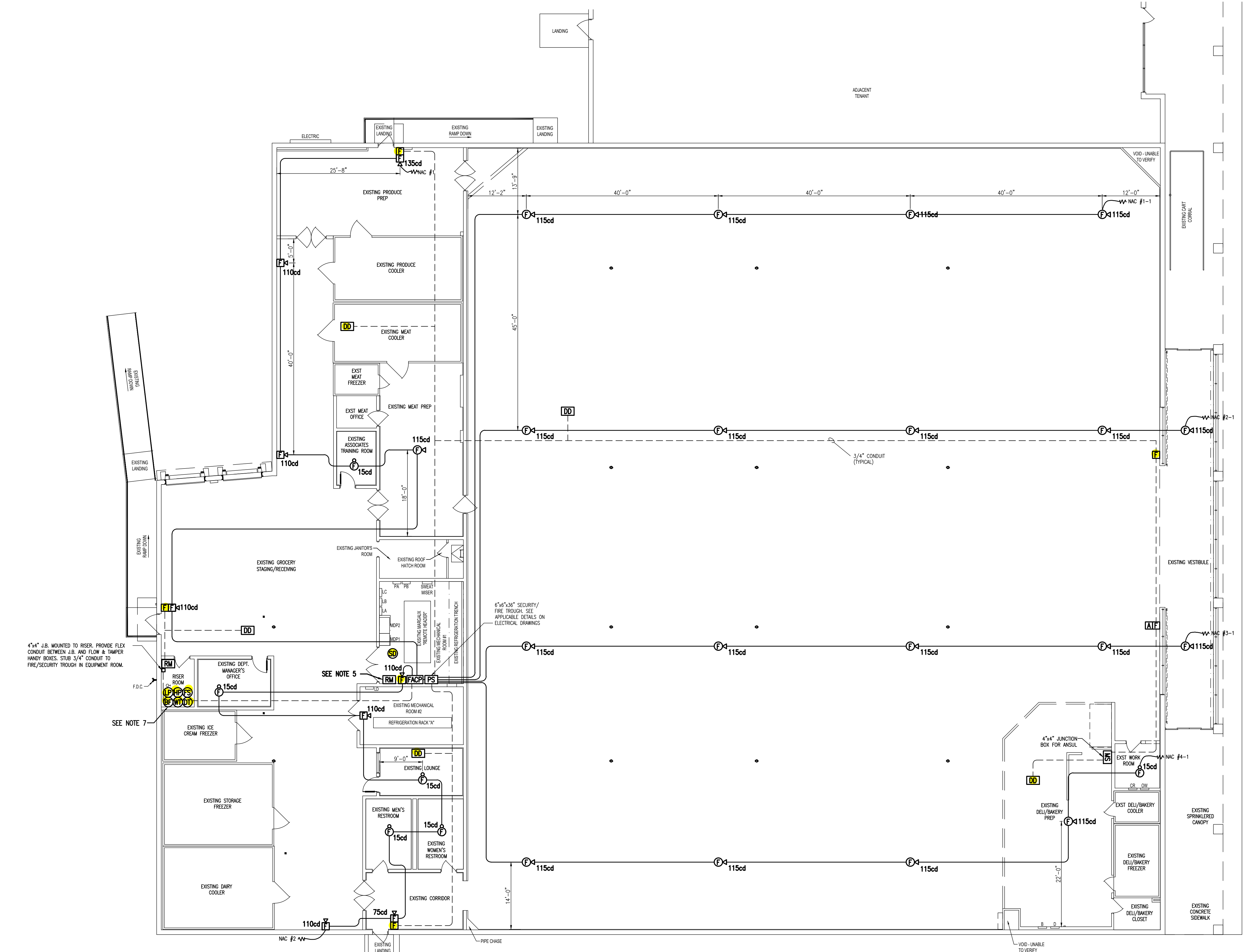
133 Mittie Haddock Dr
Cameron, NC 28326

FIRE ALARM WIRING PLAN



DRAWN	MNH
CHECKED	SJB
DATE	9/6/2023
SCALE	AS NOTED
JOB NO.	23107
SHEET	

FA-1



- FIRE SYSTEM NOTES:**
1. CEILING MOUNT HORN/STROBE TO BE FIRE-LITE DF-52086.
 2. WALL MOUNT FIRE ALARM STROBE TO BE FIRE-LITE DF-52392A.
 3. ANSUL DISCONNECT AND CONNECT TO BE BY OTHERS.
 4. SEE PAGE FA-3 FOR MINIMUM WIRE SIZES FOR EACH NAC CIRCUIT.
 5. RELAY MODULE TO BE INSTALLED WITHIN 4' OF THE ECP FOR SHUT DOWN OF ALL AIR HANDLING UNITS WHEN FIRE ALARM IS ACTIVATED. ENERGY MANAGEMENT CONTRACTOR WILL INSTALL WIRING FROM RELAY MODULE TO ENERGY MANAGEMENT SYSTEM. FIRE ALARM CONTRACTOR TO COORDINATE WITH GENERAL CONTRACTOR AND SESCO.
 6. NOTIFY SESCO WHEN NEW SMOKE DETECTORS ARE INSTALLED AND FUNCTIONAL. COORDINATE REMOVAL OF OLD SMOKE DETECTORS WITH MECHANICAL AND GENERAL CONTRACTORS.
 7. DRY SPRINKLER PIPE PRESSURE SWITCH LOCATIONS ARE SHOWN FOR INFORMATIONAL PURPOSES, IF APPLICABLE. IF CANOPY DRY SPRINKLER SYSTEM IS INSTALLED, LOW AND HIGH PRESSURE SWITCHES ARE TO BE FIELD LOCATED.
 8. ALL CONDUIT TO BE 3/4" U.O.N.

FIRE ALARM SYMBOL SCHEDULE

⊠	ADA APPROVED FIRE ALARM HORN/STROBE (WALL MOUNTED), XXX cd.
⊞	ADA APPROVED FIRE ALARM HORN/STROBE (CEILING MOUNTED), 115 cd.
⊞	ADA APPROVED FIRE ALARM STROBE ONLY (WALL MOUNTED), XXX cd.
⊞	ADA APPROVED FIRE ALARM STROBE ONLY (CEILING MOUNTED), XXX cd.
⊞	ADA APPROVED FIRE ALARM PULL STATION
A	ANNUNCIATOR
DD	DUCT MOUNTED FIRE SMOKE DETECTOR (SEE NOTE 6)
FACP	FIRE ALARM CONTROL PANEL
SD	SMOKE DETECTOR
RM	RELAY MODULE
MS	HOOD ANSUL SYSTEM MICRO-SWITCH
ELR	END OF LINE RESISTOR (EOLR)
PS	POWER SUPPLY
NAC	NOTIFICATION APPLIANCE CIRCUIT
FS	MONITOR MODULE FOR SPRINKLER FLOW SENSOR
BP	MONITOR MODULE FOR BACKFLOW PREVENTER
WT	MONITOR MODULE WET SPRINKLER TAMPER SWITCH
DT	MONITOR MODULE FOR DRY TAMPER SWITCH
LP	CANOPY DRY SPRINKLER PIPE LOW PRESSURE SWITCH (SEE NOTE 7)
HP	CANOPY DRY SPRINKLER PIPE HIGH PRESSURE SWITCH (SEE NOTE 7)

FIRE ALARM WIRING PLAN
SCALE: 3/32" = 1'-0"

4"x4" JB. MOUNTED TO RISER. PROVIDE FLEX CONDUIT BETWEEN JB. AND FLOW & TAMPER HANDY BOXES. STUB 3/4" CONDUIT TO FIRE/SECURITY THROUGH IN EQUIPMENT ROOM.

SEE NOTE 7

SEE NOTE 5

6"x6"x3/8" SECURITY/FIRE THROUGH. SEE APPLICABLE DETAILS ON ELECTRICAL DRAWINGS

3/4" CONDUIT (TYPICAL)

4"x4" JUNCTION BOX FOR ANSUL

EXISTING DELI/BAKERY PREP

EXIST WORK ROOM

EXIST DELI/BAKERY COOLER

EXISTING DELI/BAKERY FREEZER

EXISTING DELI/BAKERY CLOSET

EXISTING CONCRETE SIDEWALK

EXISTING SPRINKLERED CANOPY

EXISTING VESTIBULE

EXISTING DRYT CORRAL

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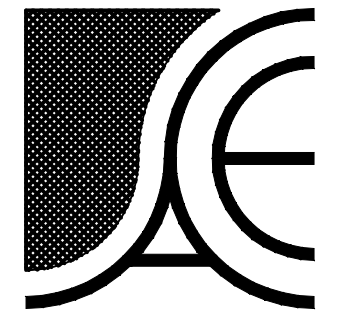
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KEEPSAFE SECURITY AND FIRE

136 Ostwalt Amity Rd, Suite A
Troutman, NC 28166

FOOD LION #1237

133 Mittie Haddock Dr
Cameron, NC 28326

DRAWING NAME
VOLTAGE DROP CALCULATIONS



DRAWN
MNH
CHECKED
SJB
DATE
9/6/2023
SCALE
AS NOTED
JOB NO.
23107
SHEET

FA-3

FACP

FoodLion1237 - Voltage Drop Calculation Report

POWER SOURCE

Power Source	ES-200X CLASS B	Brand	FireLite	Model Number	ES-200X CLASS B	Nominal System Voltage	20.4 VOLTS
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CIRCUIT 1 - POINT TO POINT

NAC Circuit1	0.91 AMPS	CLASS B	14 AWG	6 Devices	0.91 AMPS USED	1.25 VOLTAGE DROP
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#	Device Model	Candela	Pattern	Volume	Tone	CURRENT (AMPS)	Dist from prev device (feet)	Volts
1	P2RL	110	Temporal	High	Electromechanical	0.162	80	19.94
2	PCZRL	115	Temporal	High	Electromechanical	0.187	95	19.5
3	SCRL	15				0.041	25	19.41
4	P2RL	110	Temporal	High	Electromechanical	0.162	25	19.33
5	P2RL	110	Temporal	High	Electromechanical	0.162	50	19.21
6	P2RL	135	Temporal	High	Electromechanical	0.196	50	19.15

CIRCUIT 2 - POINT TO POINT

NAC Circuit2	0.771 AMPS	CLASS B	14 AWG	8 Devices	0.771 AMPS USED	0.74 VOLTAGE DROP
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#	Device Model	Candela	Pattern	Volume	Tone	CURRENT (AMPS)	Dist from prev device (feet)	Volts
1	P2RL	110	Temporal	High	Electromechanical	0.162	10	20.35
2	SCRL	15				0.041	60	20.12
3	P2RL	110	Temporal	High	Electromechanical	0.162	50	19.94
4	SCRL	15				0.041	40	19.84
5	SCRL	15				0.041	20	19.8
6	SCRL	15				0.041	20	19.76
7	P2RL	75	Temporal	High	Electromechanical	0.121	40	19.68
8	P2RL	110	Temporal	High	Electromechanical	0.162	25	19.66

PS-1

FoodLion1237 - Voltage Drop Calculation Report

POWER SOURCE

Power Source	FL-PS10 CLASS B	Brand	FireLite	Model Number	FL-PS10 CLASS B	Nominal System Voltage	20.4 VOLTS
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CIRCUIT 1 - POINT TO POINT

NAC Circuit1-1	0.748 AMPS	CLASS B	14 AWG	4 Devices	0.748 AMPS USED	1 VOLTAGE DROP
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#	Device Model	Candela	Pattern	Volume	Tone	CURRENT (AMPS)	Dist from prev device (feet)	Volts
1	PCZRL	115	Temporal	High	Electromechanical	0.187	130	19.79
2	PCZRL	115	Temporal	High	Electromechanical	0.187	55	19.6
3	PCZRL	115	Temporal	High	Electromechanical	0.187	55	19.47
4	PCZRL	115	Temporal	High	Electromechanical	0.187	55	19.4

CIRCUIT 2 - POINT TO POINT

NAC Circuit2-1	0.935 AMPS	CLASS B	14 AWG	6 Devices	0.935 AMPS USED	1.15 VOLTAGE DROP
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#	Device Model	Candela	Pattern	Volume	Tone	CURRENT (AMPS)	Dist from prev device (feet)	Volts
1	PCZRL	115	Temporal	High	Electromechanical	0.187	85	19.9
2	PCZRL	115	Temporal	High	Electromechanical	0.187	55	19.64
3	PCZRL	115	Temporal	High	Electromechanical	0.187	55	19.45
4	PCZRL	115	Temporal	High	Electromechanical	0.187	55	19.32
5	PCZRL	115	Temporal	High	Electromechanical	0.187	55	19.25

CIRCUIT 3 - POINT TO POINT

NAC Circuit3-1	0.935 AMPS	CLASS B	14 AWG	5 Devices	0.935 AMPS USED	0.91 VOLTAGE DROP
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#	Device Model	Candela	Pattern	Volume	Tone	CURRENT (AMPS)	Dist from prev device (feet)	Volts
1	PCZRL	115	Temporal	High	Electromechanical	0.187	45	20.14
2	PCZRL	115	Temporal	High	Electromechanical	0.187	55	19.88
3	PCZRL	115	Temporal	High	Electromechanical	0.187	55	19.68
4	PCZRL	115	Temporal	High	Electromechanical	0.187	55	19.55
5	PCZRL	115	Temporal	High	Electromechanical	0.187	55	19.49

CIRCUIT 4 - POINT TO POINT

NAC Circuit4-1	0.789 AMPS	CLASS B	14 AWG	5 Devices	0.789 AMPS USED	0.81 VOLTAGE DROP
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#	Device Model	Candela	Pattern	Volume	Tone	CURRENT (AMPS)	Dist from prev device (feet)	Volts
1	PCZRL	115	Temporal	High	Electromechanical	0.187	75	20.03
2	PCZRL	115	Temporal	High	Electromechanical	0.187	55	19.82
3	PCZRL	115	Temporal	High	Electromechanical	0.187	55	19.68
4	PCZRL	115	Temporal	High	Electromechanical	0.187	55	19.6
5	SCRL	15				0.041	45	19.59

ALL NOTIFICATION DEVICE WIRING IS #14 AWG COPPER

1 VOLTAGE DROP CALCULATIONS
FA-3 SCALE NTS

ES-200X Intelligent Addressable FACP with Communicator

General

The ES-200X is the latest intelligent addressable Fire Alarm Control Panel (FACP) from Fire-Lite Alarms and is a direct replacement for the MS-2000. The ES-200X comes with a pre-installed communicator and supports up to 198 addressable devices (99 detectors and 99 modules). With an extensive list of powerful features, the ES-200X programs just like Fire-Lite's other addressable products, yet fits into applications previously served only by conventional panels.

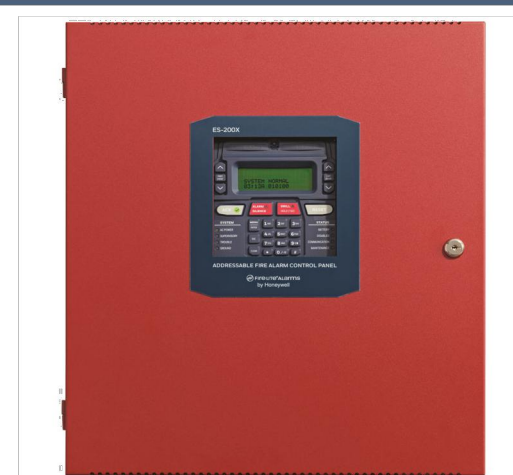
The pre-installed POT5-COM is a dual technology (POTS and IP) communicator. The POTS transmits system status (alarms, troubles, AC loss, etc.) to a Central Station via the public switched telephone network. The IP communicator's internet monitoring capability sends alarm signals over the Internet saving the monthly cost of two dedicated business telephone lines. Although not required, the second telephone line may be retained providing backup communication over the public switched telephone line. Optional cellular reporting is available using the CELL-MOD or CELL-CAB-FX.

Remote and local programming of the control panel is possible using the FS-Tools Upload/Download utility. Programming databases can be updated/downloaded via the panel's USB port (and USB cable) or via an ethernet connection using the POT5-COM communicator. The USB port also allows for the download or upload of the entire program, history file, walk-test data, current status and system voltages by means of a USB flash drive.

The power supply and all electronics are contained on a circuit board supported on a new quiet metal chassis and housed in a metal cabinet. Available accessories include local and remote alarm station, alarm verification selection per detector point and relay box transmitter (AKTMF).

Features

- Listed to UL Standard 864, 10th edition
- Pre-installed POT5-COM Ethernet IP and POTS (Plain Old Telephone) Central Station Communicator over AlarmNet
- Optional CELL-MOD or CELL-CAB-FX GSM Central Station Communicator over AlarmNet
- Automated activation of the ECC-50100 Emergency Command Center
- ECC-FFT Firefighter Telephone option
- Compatible with SWIFT wireless devices
- Auto-programming (learn mode) reduces installation time. Reports two devices set to the same address.
- Four built-in, independently programmable Style Z (Class A) or Style Y (Class B) NAC circuits
- Selectable strobe synchronizers for System Sensor, Wheelock, and Genex devices
- Notifiable Appliance Circuit End of Line resistor matching
- Four programmable function keys for ease of maintenance
- Two programmable relay outputs for remote trouble relay
- Built-in Programmer LCD display with backlighting
- Integral 60 character LCD keypad with backlighting
- Real-time clock/calendar with automatic daylight savings control
- History file with 1,000 event capacity
- Addressable sounder base compatibility
- Multi-criteria detector (smoke, heat, CO) with programmable response
- Control module delay timer
- Automatic detector sensitivity testing (NFPA 72 compliant)
- Automatic device type-code verification
- Point trouble identification
- Waterflow selection per module point



- Alarm verification selection per detector point
- Maintenance alert warns when smoke detector dust accumulation is excessive
- One-person audible or silent walk test with walk-test log and printout
- Alarm Silence
- PAS (Positive Alarm Sequence) and Pre-signal per point (NFPA 72 compliant)
- Up to 16 ANN-BUS annunciators - 8 per each ANN-BUS
- Remote Acknowledge, Alarm Silence, Reset and Drill via addressable module or remote annunciator
- Upload/download of program and data via USB with optional FS-Tools Programming Utility

SLC COMMUNICATION LOOP

- Supports LifeSpeed™ and CLIP protocols
- SLC operates up to 10,000 ft. (3,000 m) in LifeSpeed mode with twisted, unshielded wire
- Single addressable SLC loop which meets NFPA Class B and Class A requirements
- 198 addressable device capacity (99 addressable detectors and 99 modules)
- Compatible with Fire-Lite's addressable devices (refer to the SLC Wiring Manual)

NOTIFICATION APPLIANCE CIRCUITS (NACS)

- Four independently programmable output circuits. Circuits can be configured for the following output types:
 - Style Y (Class B)
 - Style Z (Class A)
 - Style X (Inhibit and Autolapse timer options)
 - Continuous, March Time, Temporal, or California code for main circuit board NACS with two-stage capability
 - Selectable strobe synchronization per NAC
 - 2.5 A special application, 250mA regulated, total power for NACS
 - NOTE: Maximum total NAC power shared between all NAC circuits and the ANN-BUS is 2.7 A

PROGRAMMING AND SOFTWARE

- Auto-programming (learn mode) reduces installation time
- 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
- Continuous fire protection during online programming
- Program Check automatically catches common errors not linked to any zone or input point
- OFFLINE PROGRAMMING: Create the entire program in your office using FS-Tools, a Windows®-based software package, and upload/download system programming locally. Offline programming requires an ethernet connection. FS-Tools is available on www.trelle.com

User Interface

LED INDICATORS

- Fire Alarm (red)
- CO Alarm (red)
- AC Power (green)
- Supervisory (yellow)
- Trouble (yellow)
- Circuit fault (yellow)
- Battery fault (yellow)
- Disabled (yellow)
- Maintenance (yellow)
- Communication (yellow)
- Alarm Silenced (yellow)
- F-1-F4 Programmable Function Keys (yellow)

KEYPAD

- 16 key alpha-numeric pad
- Acknowledge
- Alarm Silence
- Drill (Manual Evacuate)
- 3 (Manual) Evacuate)
- Up to 16 programmable function keys
- Reset (any time)

PRODUCT LINE INFORMATION

- ES-200X: Addressable Fire Alarm Control Panel with one SLC loop, includes main circuit board with display, pre-installed communicator chassis with transformer, backbox with door, plastic bag containing screws, cables, key, etc. (For ES-200X, refer to DF-60958)
- FS-Tools: Programming software for Windows®-based PC computer. Available for download at www.trelle.com
- CELL-CAB-FX/CELL-MOD: Optional GSM communicators.
- POT5-COM: Dual technology (POTS and IP) communicator.
- ES-200X: Optional dress panel for the ES-200X.
- DP-ES-4: Optional cabinet for one or two modules.
- BB-4F: Optional cabinet for up to six modules mounted on CHS-6 bases.
- BB-2N: Battery backbox, holds up to two 25 AH batteries and CHS-75.
- BB-5SF: Battery box, houses two 55 AH batteries
- BB-6: Battery box, houses up to six multi-modules in a BB-6F cabinet.
- CHS-75: Battery charger for lead-acid batteries with a rating of 25 to 75 AH.
- CHS-128F: Remote battery charging system for lead-acid batteries with a rating of 55 to 120 AH. Requires additional BB-5SF for mounting.
- NOTE: Maximum total NAC power shared between all NAC circuits and the ANN-BUS is 2.7 A

Page 2 of 4 — DF-60957-C - 7/16/2018

SYSTEM SPECIFICATIONS

System Capacity

- Intelligent Signaling Line Circuits.....1
- Addressable device capacity.....198
- Programmable software zones.....99
- Annunciators.....16

Electrical Specifications

- AC Power: Operates in either 120 or 240 VAC, 50/60 Hz, 3.25 A, auto-sensing, no switch required. Wire size: minimum 14 AWG (2.0 mm²) with 90°C insulation. Non-weather-limited, supervised.
- Battery: Two 12 V, 16 AH lead-acid batteries. Battery Charger Capacity: 7-18 AH (ES-200X cabinet holds maximum of two 18 AH batteries.)
- Communication Loop: Supervised and power-limited.
- Notification Appliance Circuits: Terminal Block provides connections for four NACS: Style Y (Class B) or Style Z (Class A). Special Application power. Power-limited, supervised circuit. Maximum signaling current per circuit: 2.5 amps. special application, 250mA regulated. End-of-Line Resistor: 4.7k ohm, 1/4 watt (PL 71252 UL listed) for Style Y (Class B) NACS; system capable of 1.9 kΩ - 22 kΩ ELI range. Refer to the Fire-Lite Device Compatibility Document for listed compatible devices.
- Two Programmable Relays and One Fixed Trouble Relay: Contact rating: 2.0 A @ 30 VDC (resistive), 0.5 A @ 30 VAC (resistive). Form-C relays, non-power limited, non-supervised.

Cabinet Specifications

- Depth: 19.25" (49.32 cm) high x 16.875" (42.73 cm) wide x 8.72" (22.00 cm) deep. Backbox: 19.00" (48.26 cm) high x 16.65" (42.29 cm) wide x 2.25" (57.15 cm) deep. Trim Ring (TR-02): 22.00" (55.88 cm) high x 18.62" (47.24 cm) wide.
- Shipping Specifications: Weight: 26 lbs. (12.20 kg) Dimensions: 20.00" (50.80 cm) high x 22.5" (57.15 cm) wide x 8.5" (21.59 cm) deep.

Wiring Requirements

- While shielded wire is not required, it is recommended that all SLC wiring be twisted pair to minimize the effects of electrical interference. Refer to the panel manual for wiring details.



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PRN Series: UL listed compatible event printer, Uses tractor-fed paper

- 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
- Continuous fire protection during online programming
- Program Check automatically catches common errors not linked to any zone or input point
- OFFLINE PROGRAMMING: Create the entire program in your office using FS-Tools, a Windows®-based software package, and upload/download system programming locally. Offline programming requires an ethernet connection. FS-Tools is available on www.trelle.com

COMPATIBLE ANNUNCIATORS

- ANN-80: Remote LCD annunciator mimics the information displayed on the FACP LCD display. Recommended wire type is unshielded.
- ANN-100: Remote LCD annunciator mimics the information displayed on the FACP LCD display. Recommended wire type is unshielded. For use in FM applications only.
- ANN-100: LED Inverter Module provides connections to a user-supplied graphic annunciator. (See DF-52430)
- ANN-LED: Annunciator Module provides three LEDs for each zone: Alarm, Trouble, and Supervisory. Ships with red enclosure. (See DF-60217)
- ANN-RLD: Provides alarm (red) indicators for up to 30 input zones or addressable points. (See DF-60217)
- ANN-RLY: Relay Module provides 10 programmable Form C relays. Can be mounted inside the cabinet. (See DF-52431)
- ANN-SPS: Serial/Parallel Printer Gateway module provides a connection for a serial or parallel printer. (See DF-52429)

ADDRESSABLE DEVICES

- All devices require a positive LED and rotary switches for addressing.
- SD35X: Addressable low-profile photoelectric smoke detector. Life-Speed only
- SD35N: Addressable low-profile photoelectric smoke detector. Invo-LiteSpeed and CLIP mode.
- SD35T: Addressable low-profile photoelectric smoke detector with thermal sensor. LifeSpeed only.
- SD35T-W: Addressable low-profile photoelectric smoke detector with thermal sensor. Invo-LiteSpeed and CLIP mode.
- SD35R: Remote test capable addressable photoelectric smoke detector for use with DNRW duct detector housing. LifeSpeed only.
- SD35R-W: Remote test capable addressable photoelectric smoke detector for use with DNRW duct detector housing. Invo-LiteSpeed and CLIP mode.
- H36S: Low-profile 135°F fixed thermal sensor. LifeSpeed only.
- H36N: Low-profile 135°F fixed thermal sensor. Invo-LiteSpeed and CLIP mode.
- H36R: Low-profile, intelligent, rate-of-rise thermal sensor. Life-Speed only.
- H36T: Low-profile, intelligent, rate-of-rise thermal sensor. Invo-LiteSpeed and CLIP mode.
- DP-ES-4: Optional dress panel for the ES-200X.
- BB-4F: Optional cabinet for one or two modules.
- BB-4F: Optional cabinet for up to six modules mounted on CHS-6 bases.
- BB-2N: Battery backbox, holds up to two 25 AH batteries and CHS-75.
- BB-5SF: Battery box, houses two 55 AH batteries
- BB-6: Battery box, houses up to six multi-modules in a BB-6F cabinet.
- CHS-75: Battery charger for lead-acid batteries with a rating of 25 to 75 AH.
- CHS-128F: Remote battery charging system for lead-acid batteries with a rating of 55 to 120 AH. Requires additional BB-5SF for mounting.
- NOTE: Maximum total NAC power shared between all NAC circuits and the ANN-BUS is 2.7 A

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SYSTEM SPECIFICATIONS

Temperature and Humidity Ranges

- This system meets NFPA requirements for operation at 0 – 49°C/32 – 120°F and at a relative humidity 93% ± 2% RH (noncondensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's slatby slatby and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 – 27°C/60 – 80°F.

NFPA Standards

- The ES-200X complies with the following NFPA 72 Fire Alarm System requirements:
 - LOCAL (Automatic, Manual, Waterflow and Sprinkler Supervisory)
 - AUXILIARY (Automatic, Manual and Waterflow) (requires AKTMF).
 - REMOTE STATION (Automatic, Manual and Waterflow) (When a DACT is not accepted, the alarm, trouble and supervisory relays may be connected to UL 864 listed transmitters. For reverse polarity signaling of alarm and trouble, AKTMF is required.)
 - PROPRIETARY (Automatic, Manual and Waterflow)
 - CENTRAL STATION (Automatic, Manual and Waterflow, and Sprinkler Supervisory).
 - OT, PSDN (Other Technologies, Packet-switched Data Network)
 - IBC 2014, IBC 2009, IBC 2006, IBC 2003, IBC 2000 (Seismic)
 - CEC 2007 (Seismic)

Agency Listings and Approvals

- The listings and approvals below apply to the basic ES-200X 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.
 - UL: 8624
 - FM approved
 - CSFM: 1165-075-500
 - FDNV: COA 80261
- NOTE: See DF-60958 for UL-C listed model.

FL-PS6(C) & FL-PS10(C) 6 Amp and 10 Amp, 24 Volt Remote Power Supplies

General

The PS Series is a remote power supply line from Fire-Lite Alarms and is a direct replacement for the FCPS-24P/80B Series. The FL-PS6(C) is a 6 amp and the FL-PS10(C) is a 10 amp, remote power supply with battery charger that may be connected to any 12 or 24 volt fire alarm control panel (FACP) or used as a stand-alone power supply. The PS Series provides 24 VDC power for NACS (notification appliance circuits) configured as either Class B or Class A (requires the ZNAC-PS option card) with multiple sync protocol options. The PS Series also provides auxiliary power: constant or resettable, suited for detectors, annunciators, door holders, and other fire alarm system peripherals. The PS Series cabinet can hold two 7 AH or 18 AH batteries and can charge up to 33 AH batteries in a separate cabinet.

Features

- Up to five (6 amp model) or seven (10 amp model) independently-configurable, power-limited output circuits for:
 - Class B and/or Class A NACS
 - Class B and/or Class A resettable or non-resettable 24V auxiliary power
 - door holder power
- Converts from Class B to Class A wiring without losing any outputs using the ZNAC-PS converter card (sold separately)
- Optimal for powering four-wire smoke detectors, annunciators, and other system peripherals requiring regulated power
- Configurable for ANSIR Temporal 3 or Temporal 4 coded output
- UL Listed NAC synchronization using System Sensor®, Wheelock®, Genex®, or AMSECOB appliances
- Synchronization can be triggered from FACP NACremote sync outputs, cascaded power supply, or a control module, single or multi, which may be housed within the power supply cabinet
- Ability to cascade up to four power supplies
- Two (6 amp model) or three (10 amp model) fully-isolated input/control circuits which can be programmed to any output
- Two Form C, normally-closed trouble relays for AC Trouble and General Trouble, Ground Fault relay available on Canadian models only
- 6 or 10 amp full load output, respectively, with 3 A maximum/ultra-low inrush
- Individual NAC power and trouble LEDs for diagnostic efficiency
- Trouble history modes for diagnostic support
- Wide range end-of-line supervision value (normal: 26-27k ohms)
- Selectable earth fault detection (enable or disable)
- AC trouble report delay timer
- Completely configurable via onboard DIP switches, no extra software required
- Self-contained in compact, locking cabinet constructed of heavy gauge steel with a corrosion-resistant powder coat chip and scratch-resistant finish
- Cabinet designed with ten double knockouts and a removable door for ease of installation and wiring
- Includes integral battery charger capable of charging up to 33 AH batteries
- Cabinet can house two 7 AH or 18 AH batteries



- Battery charger may be disabled by application requiring larger batteries and external battery charger
- Removable terminal blocks accommodate up to 12 AWG (3.1mm²) wire
- Works with any UL 864 FACP which utilizes an industry-standard reverse-polarity notification circuit
- Optional devices include addressable control, monitor, and relay modules and power-supervision relay (ELCR-1)

Standards and Codes

- These listings and approvals apply to the following standards:
 - NFPA 72 National Fire Alarm Code
 - UL 864 Standard for Control Units for Fire Alarm Systems (NAC input module), 10th Edition
 - UL 1481 Power Supplies for Fire Alarm Systems
 - IBC 2009 (when using SEIKST-MULTI-1)
 - CEC 2007 (when using SEIKST-MULTI-1)

Agency Listings and Approvals

- These listings and approvals apply to fire alarm applications if this document. 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.
 - UL Listed: 52424
 - ULC Listed: 52424 (FL-PS10(C))
 - CSFM approved: 735-075-05-10
 - FDNV approved
 - FM Approved

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SYSTEM SPECIFICATIONS

Primary (AC) Power:

- FL-PS6: 6.0 A, 120 VAC, 50/60 Hz, 5.0A maximum
- FL-PS10: 12.0VAC, 50/60 Hz, 6.2 A maximum
- Wire Size: #12-14 AWG with 600 V insulation
- Command Input Circuits:
 - Trigger Input Voltage: 9 to 32 VDC
 - Trigger Current: 2.0 mA (8 - 32 V); Per Input: 1.0 mA (8 - 16 V)
- Trouble Contact Rating: 4 A @ 24 VDC

Output Circuits:

- 24 VDC filtered, regulated
- FL-PS6: TSB-T03 – 1A Regulated, 3A special applications; TSB-T04 – 0.3A Regulated, 3A special applications
- FL-PS10: TSB-T011 – 1.5A Regulated, 3A special applications; TSB-T014 – 0.3A Regulated, 3A special applications
- 6.0 A (FL-PS6) or 10.0 A (FL-PS10) maximum total continuous current for all outputs
- Secondary Power (Battery) Charging Circuit:
 - Supports lead-acid batteries only
 - Float-charge voltage: 27.6 VDC
 - Maximum current charge: 1.5 A
 - Maximum battery capacity: 18 AH (inside cabinet)
 - Maximum battery charging capacity: 33 AH (external cabinet)
- Physical:
 - Dimensions: 20.01" x 14.51" x 3.07" (cm); 50.81 x 36.83 x 8.80
 - Weight: with two 7Ah batteries is 24 pounds (10.9 kg), with two 18 AH batteries is 39 pounds (17.7 kg)

Ordering Information

- FL-PS6: 6.0 A, 120 VAC remote charger power supply in a lockable, metal enclosure
- FL-PS10: Same as above, UL-C listed model
- FL-PS16: 10.0 A, 120 VAC remote charger power supply in a lockable, metal enclosure
- FL-PS10C: Same as above, UL-C listed model
- ZNAC-PS: Optional Class A output converter module
- CMF-300: Addressable Control Module for one Class B or Class A zone of supervised, polarized Notification Appliances. 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
- MMF-300: Addressable Monitor Module for one zone of normally-open dry-contact initiating devices. Includes plastic cover plate and end-of-line resistor. Module may be configured for either a Class B or Class A
- H3F-300: Dual Monitor Module. Same as MMF-300 except it provides two inputs for Class B wiring only
- CDRM-300: Provides two monitored inputs and two Form-C relays. Functions in Class B wiring only
- CMF-300-6: Six circuit supervised control module
- CRF-300-6: Six Form-C relay control module
- ECLR-1: 0.25A VDC end-of-line relay for monitoring four-wire smoke detector power
- BAT-127B-8P: Battery, 12 volt, 7.0 AH, 5-pack (two required)
- BAT-216B-8P: Battery, 12 volt, 18AH, 2-pack
- BAT-1933B: Battery, 12 volt, 33AH
- SEIKST-MULTI-1: Sensitive kit for the FL-PS Series. Includes bracket and hardware for two 7AH or two 18AH batteries.

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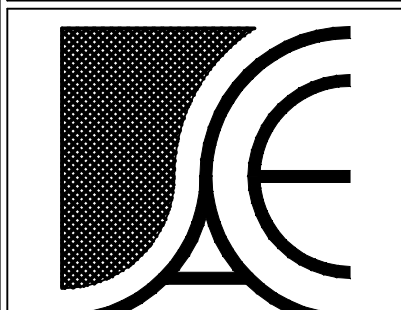
This document is not intended to be used for installation purposes. We try to keep our product information up-to-date and accurate. We cannot accept specific applications or complete all requirements. All specifications are subject to change without notice.

For more information, contact Fire-Lite Alarms, Phone: (800) 627-3473, FAX: (877) 699-4105, www.trelle.com, County of Origin: USA



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KEEPSAFE SECURITY AND FIRE

136 Ostwalt Amity Rd, Suite A
Troutman, NC 28166

FOOD LION # 1237

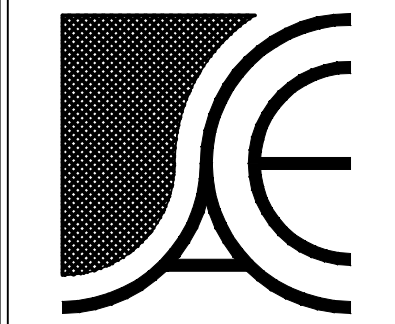
133 Mittie Haddock Dr
Cameron, NC 28326

DRAWING NAME
FIRE ALARM SPECIFICATIONS



DRAWN: MNH
CHECKED: SJB
DATE: 9/6/2023
SCALE: AS NOTED
JOB NO: 23107
SHEET

FA-4



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KEEPSAFE SECURITY AND FIRE 136 Ostwalt Amity Rd, Suite A Troutman, NC 28166

FOOD LION #1237 133 Mittie Haddock Dr Cameron, NC 28326

DRAWING NAME: FIRE ALARM SPECIFICATIONS



DRAWN: MNH CHECKED: SJB DATE: 9/6/2023 SCALE: AS NOTED JOB NO: 23107 SHEET

FA-5

DF-60430 C3 - E-650

Fire-Lite Alarms by Honeywell

Addressable Devices

D355PL(A)/DNRW InnovairFlex Intelligent Non-Relay Photoelectric Duct Smoke Detector

General

The Fire-Lite InnovairFlex™ D355PL(A) intelligent non-relay photoelectric duct smoke detector and DNRW watertight non-relay photoelectric duct smoke detector feature a grommet housing that fits both square and rectangular footprints capable of mounting to a round or rectangular duct.

DNRW duct smoke detector, with its NEMA-4 rating, is listed as a watertight, UV resistant enclosure providing protection against falling dirt, rain, and snow/ice dust, splashing and hose directed water, allowing operators to use the detector in the most extreme environments.

These units sense smoke in the most challenging conditions, operating in air flow speeds of 100 to 4,000 feet per minute (0.5 to 20.32 m/s), temperatures of 4°F to 158°F (20°C to 70°C), and a humidity range of 0 to 95 percent (non-condensing).

An improved cover design isolates the sensor head, which allows for ease of maintenance. A cover tamper feature indicates a trouble signal for a removed or improperly installed sensor cover. The Fire-Lite InnovairFlex housing provides a 3/4-inch conduit knockout and ample space to facilitate easy wiring and mounting of a relay module.

The Fire-Lite InnovairFlex duct smoke detector can be customized to meet local codes and specifications without additional wiring. The new InnovairFlex product line is compatible with all previous Innovair™ models, including remote test accessories.

Features

- Photoelectric, integrated low-flow technology
- An selectivity rating from 100 fpm to 4,000 fpm (0.5 m/s to 20.32 m/s)
- Versatile mounting options: square or rectangular configuration
- Broad ranges for operating temperature (4°F to 158°F, 20°C to 70°C) and humidity (0% to 95% non-condensing)
- Patented sampling tube installs from front or back of the detector with no tools required
- Cover tamper signal
- Increased wiring space with a newly added 3/4" conduit knockout
- Available space within housing to accommodate mounting of a relay module
- Easily accessible code wheels on sensor head (sold separately)
- Clear cover for convenient visual inspection
- Remote testing capability
- Requires on-line power only
- Accommodates the installation of an addressable relay module, sold separately, (CRF-300) for applications requiring a Form-C relay

Specifications

Size: (Rectangle) 14.38 in (37 cm) Length, 5 in (12.7 cm) Width, 2.5 in (6.6 cm) Depth
Size: (Square) 7.75 in (19.7 cm) Length, 9 in (22.9 cm) Width, 2.5 in (6.35 cm) Depth
Weight: 1.6 lb (0.73 kg)
Operating Temperature Range: -4°F to 158°F (-20°C to 70°C)
Storage Temperature Range: -22°F to 158°F (-30°C to 70°C)

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Important Notes

- DNRW duct detector housings with a date code of 0013 or higher do not require a DCOLIL or auxiliary 24 VDC power for remote test applications when used with a remote test capable detector.
- DNRW duct detector housings with a date code of 0012 or earlier require a DCOLIL and auxiliary 24 VDC power for remote test applications.

DS115(A): Metal sampling tube duct width up to 1 ft to 2 ft (0.3 to 0.6 m)
DS13(A): Metal sampling tube duct width up to 2 ft to 4 ft (0.6 to 1.2 m)
DS15(A): Metal sampling tube duct width up to 4 ft to 8 ft (1.2 to 2.4 m)
DS17(A): Metal sampling tube duct width up to 8 ft to 12 ft (2.4 to 3.7 m)

DM4000E-1: Weatherproof enclosure
ETC: Metal exhaust tube duct, width 1 ft (0.3 m)
M02-04-00: Test magnet
P48-21-40: End cap for metal sampling tubes
PA81002(A): Remote annunciator alarm LED
RTS15(A): Remote test station
RTS15(KEY): Remote test station with key lock

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DF-02386 C - E-610

Fire-Lite Alarms by Honeywell

Addressable Devices

AD355(A) ADAPT® Multi-Sensor Low Profile Intelligent Detector

General

The AD355(A) ADAPT® detector is an intelligent, addressable, multi-sensing, low-profile detector designed for use with Fire-Lite Fire Alarm Control Panels.

The ADAPT detector uses a combination of photoelectric and thermal sensing technologies to increase immunity to false alarms. Unlike traditional intelligent detectors, the ADAPT detector has a microprocessor in the detector head that processes alarm data. As a result, the ADAPT detector adjusts its sensitivity automatically, without operator intervention or control panel programming.

Areas where the ADAPT detector is especially useful include office complexes, schools, college campuses, manufacturing and industrial facilities, and anywhere else the use of a particular area may change. The ADAPT detector automatically adjusts its sensitivity to the environment.

LiteSpeed™ is a communication protocol developed to greatly enhance the speed of communication between analog intelligent devices and compatible systems. Intelligent devices communicate in a grouped fashion. If one of the devices within the group has new information, the panels CPU stops the group poll and concentrates on single points. The net effect is response speed greater than five times that of earlier designs.

Features

- Automatically adjusts sensitivity levels without operator intervention or programming. Sensitivity increases with heat.
- Microprocessor based, combination photo and thermal technology
- Compatible with LiteSpeed™ and CLIP systems
- Addressable analog communication
- Sleek, low-profile design
- Two-wire UL connection
- Rotary, decimal addressing: 01-159 with MS-9000JUL3 and MS-9000JUL3 series systems, and 01-99 with MS-9000JUL3(C) FireMax™ series
- Addresses can be viewed and changed without electronic programming
- Dual bi-color LED design provides 360° viewing angle
- LEDs show red when in alarm. In LiteSpeed™, LEDs flash green in standby for normal condition
- Built-in tamper-resistant feature
- Constructed of off-white fire-resistant plastic, designed to meet fire department standards, and offers an attractive appearance
- SEMS screws for wiring of the separate base
- Several base options, including relay isolator and sounder
- Built-in functional test switch activated by external magnet
- Listed to UL 268.

Electrical Specifications

Voltage range: 15 - 32 volts DC peak
UL-Listed voltage range: 0 - 4000 ft/min. (1219.2 m/min.), suitable for installation in ducts.
Relative humidity: 10% - 95% non-condensing
Thermal sensing rating: fixed-temperature setpoint 135°F (57°C)
Standby current (max. avg.): 300 µA
Loop resistance: 50 ohms maximum, varies according to control panel used. Refer to panel installation manuals.
LED current (max.): 6.5 mA @ 24 VDC (CRF)

Installation

The AD355(A) plug-in detector uses a separate base to simplify installation, service, and maintenance. A special tool allows maintenance personnel to plug-in and remove detectors without using a ladder. Suitable mounting base boxes include:

- 4" (10.16 cm) square box
- 3.5" (8.89 cm) or 4" (10.16 cm) octagonal box
- Single-gang box (except relay or isolator base)

NOTE: The AD355(A) detector has the unique ability to adjust sensitivity according to the environment, based on heat and smoke levels. Avoid installing these detectors in locations that are susceptible to rapid and high temperature changes. An example of an incorrect application would be near or on the wall with the output of a self-contained heater.

Specifications

Sensitivity: auto-adjusting levels: 1 to 2%/ft, and 2 to 4%/ft with classic CLIP systems; 1 to 2 to 3, and 3 to 4%/ft with LiteSpeed™ systems; fixed-sensitivity levels: 1, 2, and 4%/ft

DF-02386 C - 1/30/2011 — Page 1 of 2

Agency Listings and Approvals

These listings and approvals apply to the modules specified in this document. Certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Listed:** S1059
- **ULC Listed:** S1059
- **MEA Listed:** 243-02-E
- **FM Approved:**
- **CSFM:** 7272-0075-0194

Ordering Information

NOTE: 'A' suffix indicates ULC Listed model.
AD355: Low-profile intelligent multi-sensor detector.
AD355A: Same as AD355 but with ULC Listing.

INTELLIGENT BASES

NOTE: 'A' suffix indicates ULC Listed model.
NOTE: The detector's plug-in base can be changed off for special applications. For details about intelligent bases and their mounting, see DF-60508.

B210L(P/A): Plug-in detector base (included), standard U.S. tapered low-profile mounting base.
B210L(P/B): Bulk pack of B210L(P/A) package contains 10.
B501(A): Flangeless mounting base.
B501(B): Bulk pack of B501(A) package contains 10.
B2005(R/A): Intelligent sounder base, capable of producing sound output with ANSI Temporal 3 or continuous tone. Replaces B501(B) series bases in retrofit applications.
B224(R/A): Relay base. Screw terminals: up to 14 AWG (2.0 mm). Relay type Form-C. Rating: 2.0 A @ 30 VDC resistive, 0.3 A @ 110 VDC inductive, 1.0 A @ 30 VDC inductive.
B224(B/A): Isolator base. Maximum: 25 devices between isolator bases.

ACCESSORIES

F110: Retrofit flange to convert B210L(P) to match the B2005L(P)SCL(P) profile, or to convert older high-profile bases to low-profile.
F110(B): Bulk pack of F110, package contains 15.
F210: Replacement flange for B210L(P/A) base.
PA1002(A): Remote LED annunciator, 3 - 32 VDC. Fire U.S. single-gang electrical box. Supported by B210L(P/A) and B501(A) bases only.
SM600: Surface mounting kit for use with B210L(P/A).
M02-04-00: Test magnet.
M02-09-00: Test magnet with telescoping handle.
XR2B: Detector removal tool. Allows installation and/or removal of LiteSpeed™ Series detector heads from base in high ceiling installations.
TS6-127-010: Detector removal tool without pole.
XP: Extension pole for XR2B. Comes in three 5-foot (1.52 m) sections.

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DF-02386 C - 1/30/2011

3 SMOKE DETECTOR SCALE: N.T.S.

FA-5

DF-62013 D - E-100

Fire-Lite Alarms by Honeywell

Addressable Devices

BG-12LX Addressable Manual Pull Station

General

The Fire-Lite BG-12LX is a state-of-the-art, dual-action (i.e., requires two motions to activate the station) pull station that includes an addressable interface (mounted inside) for Fire-Lite's addressable fire alarm control panels (FACP's). Because the BG-12LX is addressable, the control panel can display the exact location of the activated manual station. This leads fire personnel quickly to the location of the alarm.

Features

- Maintenance personnel can open station for inspection and address setting without causing an alarm condition.
- Built-in bicolor LED, which is visible through the handle of the station, flashes in normal operation and flashes steady red when in alarm.
- Handle latches in down position and the word "ACTIVATED" appears to clearly indicate the station has been operated.
- Captive screw terminals wire-ready for easy connection to SLC loop (accepts up to 15 AWG/25 mm² wires).
- Can be surface mounted (with SB-10 or SB-10) or semi-flush mounted. Semi-flush mount to a standard single-gang, double-gang, or 4" (10.16 cm) square electrical box.
- Smooth dual-action design.
- Meets ADAAG controls and operating mechanisms guidelines (Section 4.1.3[13]), meets ADA requirement for 5 lb. maximum activation force.
- Highly visible
- Attractive shape and textured finish
- Key reset
- Includes Braille text on station handle.
- Optional trim ring (BG12TR).
- Meets UL 38, Standard for Manually Actuated Signaling Boxes.
- All UL connections are power-limited and supervised.

Operation

Pushing in, then pulling down on the handle causes 1 to latch in the de-activated position. Once latched, the word "ACTIVATED" (in bright yellow) appears at the top of the handle, while a portion of the handle protrudes from the bottom of the station. To reset the station, simply unlock the station with the key and pull the door open. This action resets the handle, closing the door automatically resets the switch.

Each manual station, on command from the control panel, sends data to the panel representing the state of the manual switch. Two rotary decimal switches allow address settings (1 - 159 with Breakaway Tab removed for MS-9000 Series, 1 - 99 and MS-9000JUL3, 1 - 50 for MS-9000JUL3).

Structural/Engineering Specifications

Manual Fire Alarm Stations shall be non-coated, with a key-operated reset lock in order that they may be tested, and so designed that after actual Emergency operation, they cannot be returned to normal except by use of a key. An opened station shall automatically condition itself so as to be visually detected as actuated. Manual stations shall be constructed of red-colored polycarbonate material with clearly visible operating instructions provided on the cover. The word FIRE shall appear on the front of the station in white letters, 1.00 inches (2.54 cm) or larger. Stations shall be suitable for surface mounting on a standard single-gang, double-gang, or 4" (10.16 cm) square electrical box, and shall be installed within the limits defined by the Americans with Disabilities Act (ADA) or per national requirements. Manual Stations shall be Underwriters Laboratories listed.

Manual stations shall connect with two wires to one of the control panel SLC loops. The manual station shall, on command from the control panel, send data to the panel representing the state of the manual switch. Manual stations shall provide address setting by use of rotary decimal switches.

Product Line Information

BG-12LX: Dual-action addressable pull station. Includes key locking feature. (Listed for Canadian and non-Canadian applications.)
SB-10: Surface backbox, metal.
SB-40: Surface backbox, plastic.
BG12TR: Optional trim ring.
17003: Keys, set of two.

Agency Listings and Approvals

In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **ULC Listed:** S711 (listed for Canadian and non-Canadian applications)
- **MEA:** 67-02-E
- **CSFM:** 7150-0075-0194
- **FM Approved:**

Patented: U.S. Patent No. D429,351, 6,380,846, 6,314,772, 6,632,106.

DF-62013 D - 4/13/2012

2 PULL STATION SCALE: N.T.S.

FA-5

DF-52417 D - 9-80

Fire-Lite Alarms by Honeywell

Annunciators

ANN-80 80-Character Serial LCD Annunciator

General

The ANN-80 annunciator is a compact, backlit, 80-character LCD fire annunciator that mimics the Fire Alarm Control Panel (FACP) display. It provides system status indicators for AC, Power, Alarm, Trouble, Supervisory, and Alarm Silenced conditions. The ANN-80 and the FACP communicate over a two-wire serial interface employing the ANN-Bus communication format. Connected devices are powered, via two additional wires, by either the host FACP or a remote UL-listed, filtered power supply. The ANN-80 is red, for white, order ANN-80-W.

The ANN-80 displays English-language text of system point information including device type, zone, independent point alarm, trouble or supervisory status, as well as any custom alpha labels programmed into the control panel. It includes control switches for remote control of critical system functions. A keypad prevents unauthorized operation of the control switches.

Up to eight ANN-80s may be connected to the ANN-Bus of each FACP. No programming is required, which saves time during system commissioning.

Features

- Supervisory
- Alarm Silenced

Specifications

Operating voltage range: 18 VDC to 28 VDC
Current consumption @ 24 VDC nominal (filtered and non-resistive): 40 mA maximum
Ambient temperature: 32°F to 120°F (0°C to 49°C)
Relative humidity: 93% ± 2% RH (non-condensing at 32°C ± 2°C (90°F ± 3°F))
Size: 5.37" (13.65 cm) high x 6.875" (17.46 cm) wide x 1.375" (3.49 cm) deep
For use indoors in a dry location
All connections are power-limited and supervised

The ANN-Bus

ANN-80 connects to the ANN-Bus from AUXILIARY POWER SUPPLY

The ANN-Bus can be powered by an auxiliary power supply when the maximum number of ANN-Bus devices exceeds the ANN-Bus power requirements. See the FACP manual for more information.

ANN-BUS DEVICE ADDRESSING

Each ANN-Bus device requires a unique address (ID Number) in order to communicate with the FACP. A maximum of 8 devices can be connected to the FACP ANN-Bus communication circuit. See the FACP manual for more information.

WIRE REQUIREMENTS: COMMUNICATIONS CIRCUIT

The ANN-80 connects to the FACP ANN-Bus communications circuit. To determine the type of wire and the maximum wiring distance that can be used with FACP ANN-Bus accessory modules, it is necessary to calculate the total worst case current draw for all modules on a single 4-conductor bus. The total worst case current draw for each module is calculated by adding the individual worst case currents for each module.

NOTE: For total worst case current draw on a single ANN-Bus refer to appropriate FACP manual.

Controls and Indicators

- AC Power
- Alarm
- Trouble

DF-52417 D - 3/15/2018 — Page 1 of 2

Agency Listings and Approvals

The listings and approvals below apply to the ANN-80. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL:** S2424
- **FM Approved:**
- **CSFM:** 7120-0075-0211
- **MEA:** 442-00-E

Ordering Options

ANN-80: 80-character LCD Annunciator.
ANN-80-W: White, 80 character LCD Annunciator.
ANN-80BKIT-R: Red surface mount backbox with angled wedge.
ANN-80BKIT-W: White surface mount backbox with angled wedge.

WIRE REQUIREMENTS: POWER CIRCUIT

- 14 to 18 AWG (0.75 - 2.08 mm²) wire for 24 VDC power circuit is acceptable. Power wire distance limitation is set by 1.2 volt maximum line drop form source to end of circuit.
- All connections are power-limited and supervised
- A maximum of eight ANN-80 modules may be connected to this circuit.

WIRE REQUIREMENTS: POWER CIRCUIT

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DF-52417 D - 3/15/2018

1 REMOTE ANNUNCIATOR SCALE: N.T.S.

FA-5

4 DUCT DETECTOR SCALE: N.T.S.

FA-5

1 REMOTE ANNUNCIATOR SCALE: N.T.S.

2 PULL STATION SCALE: N.T.S.

3 SMOKE DETECTOR SCALE: N.T.S.

4 DUCT DETECTOR SCALE: N.T.S.

Indoor Selectable-Output Strobes and Horn Strobes for Ceiling Applications

General

The System Sensor L-Series audible visible notification products are rich with features guaranteed to cut installation time and maximize profits with lower current draw and modern aesthetics.

The System Sensor L-Series offers the most versatile and easy-to-use line of horns, strobes, and horn strobes in the industry with lower current draws and modern aesthetics. With white and red plastic housings, wall and ceiling mounting options, System Sensor L-Series can meet virtually any application requirement.

The entire L-Series product line of ceiling-mount strobes and horn strobes include a variety of features that increase their application versatility while simplifying installation. All devices feature a plug-in design with minimal intrusion into the back box, making installations fast and foolproof while virtually eliminating costly and time-consuming ground faults.

To further simplify installation, the L-Series utilizes a universal mounting plate so installers can mount them to a wide array of back boxes. With an onboard shoring spring, installers can test wiring continuity before the device is installed.

Installers can also easily adjust devices to a suit a wide range of application requirements using field-selectable cannela settings, automatic selection of 12- or 24-volt operation, and a rotary switch for horn tones with two volume selections.

Features

- Plug-in design with minimal intrusion into the back box
- Tamper-resistant construction
- Automatic selection of 12- or 24-volt operation at 15, 30, 75, 95, 115, 150, and 177
- Field-selectable cannela settings on ceiling units: 15, 30, 75, 95, 115, 150, and 177
- Horn rated at 88-104 at 16 volts
- Rotary switch for horn tones and two volume selections
- Universal mounting plate for ceiling units
- Mounting plate shoring spring checks wiring continuity before device installation
- Electrically compatible with legacy SpectraAlert and SpectraAlert Advance devices
- Compatible with MDL3 sync module
- Listed for ceiling mounting only



SCRL PCWL

Architect/Engineer Specifications

GENERAL

L-Series ceiling-mount strobes and horn strobes shall mount to a standard 4 x 4 x 1 1/2-inch back box, 4-inch octagon back box, or double-gang back box. Two-wire products shall also mount to a single-gang 2 x 4 x 1 1/2-inch back box. A universal mounting plate shall be used for mounting ceiling and wall products. The notification appliance circuit wiring shall terminate at the universal mounting plate. Also, L-Series products, when used with the Sync-Circuit™ Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12- or 24-volt. When used with the Sync-Circuit Module, 12-volt-rated notification appliance circuit output shall operate between 8.5 and 17.5 volts, 24-volt-rated notification appliance circuit output shall operate between 16.5 and 33 volts. Indoor L-Series products shall operate between 32 and 120 degrees Fahrenheit from a regulated DC or full-wave rectified unfiltered power supply. Ceiling strobes and horn strobes shall have field-selectable cannela settings including 15, 30, 75, 95, 115, 150, and 177.

STROBE

The strobe shall be a System Sensor L-Series Model listed to UL 1971 and shall be approved for fire protective service. The strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system.

HORN STROBE COMBINATION

The horn strobe shall be a System Sensor L-Series Model listed to UL 1971 and UL 464 and shall be approved for fire protective service. The horn strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system.

SYNCHRONIZATION MODULE

The module shall be a System Sensor Sync-Circuit model MDL3 listed to UL 464 and shall be approved for fire protective service. The module shall synchronize L-Series strobes at 1 Hz and horns at temporal three. Also, while operating the strobes, the module shall silence the horns on horn strobe models over a single pair of wires. The module shall mount to a 4 1/2" x 4 1/2" x 2 1/2" inch back box. The module shall also control two Style Y (class B) circuits or one Style Z (class A) circuit. The module shall synchronize multiple zones. Daisy chaining two or more synchronization modules together will synchronize all the zones they control. The module shall not operate on a coded power supply.

PHYSICAL/ELECTRICAL SPECIFICATIONS

- **Standard Operating Temperature:** 32°F to 120°F (0°C to 49°C)
- **Humidity Range:** 10 to 95% non-condensing
- **Stroke Flash Rate:** 1 flash per second
- **Nominal Voltage:** Regulated 12VDC or regulated 24DC/FWR
- **Operating Voltage Range:** 8 to 17.5V (12V nominal) or 16 to 33V (24V nominal)
- **Operating Voltage Range with MDL3:** 8.5 to 17.5V (12V nominal) or 16.5 to 33V (24V nominal)
- **Input terminal wire gauge:** 12 to 18 AWG
- **Ceiling-Mount Dimensions (including lens):** 6.8" diameter x 2.5" high (173 mm diameter x 64 mm high)
- **Ceiling-Mount Surface Mount Back Box Sizing Dimensions (SBBCL, SBBWC):** 6.6" diameter x 3.4" high (175 mm diameter x 86 mm high)

Notes:
1. Full Wave Rectified (FWR) voltage is a non-filtered, time-varying power source that is used on some power supply and control devices.
2. P, S, PC, and SC products will operate at 12 V nominal only for 16 and 30 volt.

UL CURRENT DRAW DATA

UL MAX. STROBE CURRENT DRAW (MA RMS)

Candela	8-17.5 Volts			16-33 Volts		
	DC	DC	FWR	DC	DC	FWR
15	87	41	60			
30	153	63	96			
75	N/A	111	142			
95	N/A	134	164			
115	N/A	158	191			
150	N/A	199	229			
177	N/A	229	294			

*This data represents coding of 3 ohms per second. Actual current draw will vary depending upon coding selected.

UL MAX. CHIME/STROBE CURRENT DRAW (MA RMS), 2-WIRE HORN STROBE

The 3.1k is the sound of the mini-horns. The EM (which stands for Electro-mechanical) is the sound of the SpectraAlert Advance line which uses an algorithm that hops frequencies between 20Hz and 4Hz.

Candela	8 VDC			16 VDC			
	15	30	75	95	115	150	177
Temporal High	103	167	71	90	143	165	187
Temporal Low	96	165	54	71	137	161	185
Non-Temporal High	106	173	71	90	141	165	187
Non-Temporal Low	95	166	54	71	124	161	170
3.1K Temporal High	111	164	69	84	147	163	184
3.1K Temporal Low	103	163	54	68	143	155	182
3.1K Non-Temporal High	111	172	69	84	144	164	202
3.1K Non-Temporal Low	103	169	54	68	131	155	187

Candela	16VFW			16-33VFW			
	15	30	75	95	115	150	177
Temporal High	107	135	179	198	223	254	286
Temporal Low	76	101	151	172	199	229	262
Non-Temporal High	107	135	179	198	223	254	286
Non-Temporal Low	76	101	151	172	199	229	262
3.1K Temporal High	108	136	179	200	225	255	289
3.1K Temporal Low	79	101	150	171	196	222	260
3.1K Non-Temporal High	108	135	179	200	225	255	289
3.1K Non-Temporal Low	79	101	150	171	196	229	260

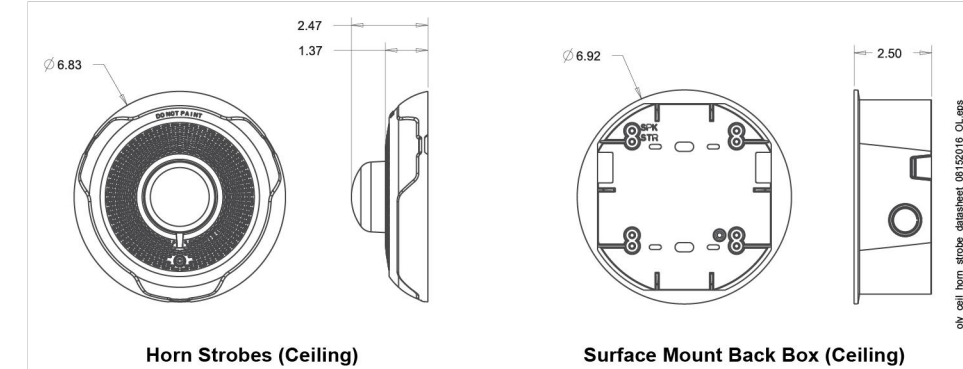
Horn Strobes Tones and Sound Output Data

HORN AND HORN STROBE OUTPUT (DB)

Switch Position	Sound Pattern	dB	8-17.5 Volts			16-33 Volts		
			DC	DC	FWR	DC	DC	FWR
1	High	High	84	89	69			
2	Temporal	High	75	83	63			
3	Non-Temporal	High	85	90	60			
4	Non-Temporal	Low	76	84	64			
5	3.1 KHz Temporal	High	83	88	62			
6	3.1 KHz Temporal	Low	76	82	62			
7	3.1 KHz Non-Temporal	High	84	89	69			
8	3.1 KHz Non-Temporal	Low	77	83	63			

NOTE: "A" suffix indicates UL-Listed model. UL-Listed devices include required French labeling. See Agency Listings for listing details.
NOTE: "H" suffix indicates UL-Listed models, UL models have FIVE/FWR marking on cover.
NOTE: UL-Listed models add "E" suffix for English only "FIRE" marking on cover.
NOTE: UL-Listed models add "F" suffix for French only "FEU" marking on cover.

Product Drawings: L-Series Dimensions



Agency Listings and Approvals

The listings and approvals below apply to L-series devices. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL/ULC-Listed**
 - S4011 Ceiling horn strobes
 - S5512 Ceiling strobes
- **FM Approved** (All except ALERT devices)
- **CSFM Listed:** 7125-1653-0503 (Ceiling Horns and Ceiling Horn Strobes), 7125-1653-0504 (Ceiling Strobes)

Product Line Information

CEILING HORN STROBES

PCW(LA) (E)(F), PCRL(A) (E)(F), 2-Wire, Horn Strobe (White, Red).

CEILING STROBES

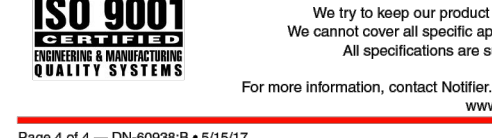
SCW(LA) (E)(F), SCRL(A) (E)(F), Strobe (White, Red), SCWL-CLR-ALERT, Strobe, ALERT (White).

ACCESSORIES

TR-2W, TR-2, Universal Ceiling Trim Ring (White, Red), SBBCL, SBBCL, Ceiling Surface Mount Back Box (White, Red).

NOTE: "A" suffix indicates UL-Listed model. UL-Listed devices include required French labeling. See Agency Listings for listing details.
NOTE: "H" suffix indicates UL-Listed models, UL models have FIVE/FWR marking on cover.
NOTE: UL-Listed models add "E" suffix for English only "FIRE" marking on cover.
NOTE: UL-Listed models add "F" suffix for French only "FEU" marking on cover.

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1 CEILING MOUNTED NOTIFICATION DEVICE

FA-6 SCALE: N.T.S.

Indoor Selectable-Output Horns, Strobes, and Horn Strobes for Wall Applications

General

The L-Series offers the most versatile and easy-to-use line of horns, strobes, and horn strobes in the industry with lower current draws and modern aesthetics. With white and red plastic housings, standard and small footprint devices, and plain, FIVE-printed devices, L-Series can meet virtually any application requirement.

The L-Series product line of wall-mount horns, strobes, and horn strobes include a variety of features that increase their application versatility while simplifying installation. All devices feature plug-in designs with minimal intrusion into the back box, making installations fast and foolproof while virtually eliminating costly and time-consuming ground faults.

To further simplify installation and protect devices from construction damage, L-Series utilizes a universal mounting plate for all standard and compact models with an onboard shoring spring, so installers can test wiring continuity before the device is installed.

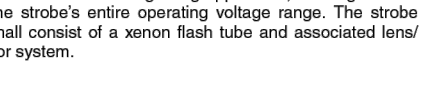
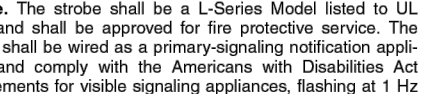
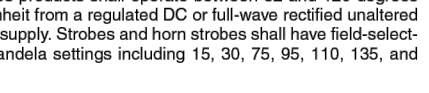
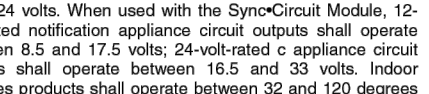
Installers can also easily adjust devices to a suit a wide range of application requirements using field-selectable cannela settings, automatic selection of 12- or 24-volt operation, and a rotary switch for horn tones with two volume selections.

Features

- Updated modern aesthetics.
- Small profile devices for Horns and Horn Strobes.
- Plug-in design with minimal intrusion into the back box.
- Tamper-resistant construction.
- Automatic selection of 12- or 24-volt operation at 15 and 30 volts.
- Field-selectable cannela settings on wall units: 15, 30, 75, 95, 115, 150, and 185.
- Rotary switch for horn tones and two volume selections.
- Universal mounting plate for all standard and all compact wall units.
- Mounting plate shoring spring checks wiring continuity before device installation.
- Electrically compatible with legacy SpectraAlert™ and SpectraAlert Advance devices.
- Compatible with MDL3 sync module.
- Listed for wall mounting only.

Architect/Engineering Specifications

General: L-Series standard horns, strobes, and horn strobes shall mount to a standard 2 x 4 x 1 1/2-inch back box, 4" x 4" x 1 1/2" back box, 4" octagon back box, or double-gang back box. L-Series compact products shall mount to a single-gang 2" x 4" x 1 1/2" back box. A universal mounting plate shall be used for mounting ceiling and wall products for all standard-size models and a separate universal mounting plate shall be used for mounting compact wall models. The notification appliance circuit wiring shall terminate at the universal mounting plate. Also, L-Series products, when used with the Sync-Circuit™ Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal



UL CURRENT DRAW DATA

UL MAX. STROBE CURRENT DRAW (MA RMS)

Candela	8-17.5 Volts			16-33 Volts		
	DC	DC	FWR	DC	DC	FWR
15	88	43	60			
30	143	63	93			
75	N/A	107	136			
95	N/A	121	155			
110	N/A	148	179			
135	N/A	172	209			
185	N/A	222	287			

UL MAX. HORN CURRENT DRAW (MA RMS)

The 3.1k is the sound of the mini-horns. The EM (which stands for Electro-mechanical) is the sound of the SpectraAlert Advance line which uses an algorithm that hops frequencies between 20Hz and 4Hz.

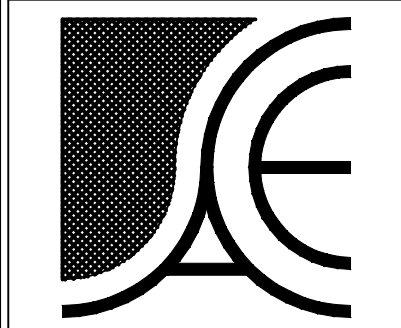
Sound Pattern	dB	8-17.5 Volts			16-33 Volts		
		DC	DC	FWR	DC	DC	FWR
Temporal	Low	28	32	54			
Temporal	High	38	44	54			
Non-Temporal	Low	29	32	54			
Non-Temporal	High	43	47	54			
3.1 KHz Temporal	High	39	41	54			
3.1 KHz Temporal	Low	29	32	54			
3.1 KHz Non-Temporal	High	42	43	54			
3.1 KHz Non-Temporal	Low	28	29	54			
Coded	High	43	47	54			
3.1 KHz Coded	High	42	43	54			

UL MAX. CURRENT DRAW (MA RMS), 2-WIRE HORN STROBE, CANDELA RANGE (15-115 CD)

The 3.1k is the sound of the mini-horns. The EM (which stands for Electro-mechanical) is the sound of the SpectraAlert Advance line which uses an algorithm that hops frequencies between 20Hz and 4Hz.

DC Input: 8-17.5 Volts	DC Input: 16-33 Volts												FWR Input: 16 VDC					
	15	30	75	95	110	135	185	15	30	75	95	110	135	185	15	30	75	
Temporal High	58	108	54	74	121	142	166	245	83	107	156	177	198	234	267			
Temporal Low	50	104	44	65	111	133	157	184	235	68	91	145	165	185	223	271		
Non-Temporal High	100	160	73	94	130	160	182	211	262	111	135	185	207	230	264	318		
Non-Temporal Low	95	156	51	71	110	139	162	190	238	79	104	157	175	197	235	283		
3.1K Temporal High	93	156	53	73	110	140	164	190	242	81	105	155	177	196	234	284		
3.1K Temporal Low	91	154	45	66	112	133	160	185	235	68	90	145	166	186	222	276		
3.1K Non-Temporal High	99	162	69	90	130	157	175	208	261	104	131	177	204	230	264	328		
3.1K Non-Temporal Low	93	156	52	72	110	138	162	192	242	77	102	156	177	199	234	291		

2 WALL MOUNTED NOTIFICATION DEVICE



Alomance Consulting Engineers

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N.C. Firm License Number C-2071

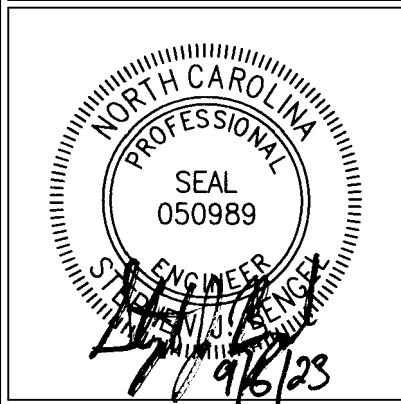
KEEPSAFE SECURITY AND FIRE

136 Ostwalt Amity Rd, Suite A
Troutman, NC 28166

FOOD LION #1237

133 Mittie Haddock Dr
Cameron, NC 28326

DRAWING NAME:
FIRE ALARM SPECIFICATIONS



DRAWN: MNH
CHECKED: SJB
DATE: 9/6/2023
SCALE: AS NOTED
JOB NO: 23107
SHEET

FA-7

MMF-300(A) Series, MDF-300
Addressable Monitor Modules

General

Four different monitor modules are available for Fire-Lite's intelligent control panels to suit a variety of applications. Monitor modules are used to supervise a circuit of dry-contact input devices, such as conventional heat detectors and pull stations, or monitor and power a circuit of two-wire smoke detectors (MMF-302(A)).

MMF-300(A) is a standard-sized module (typically mounts to a 4" (10.16 cm) square box) that supervises either a Style D (Class A) or Style B (Class B) circuit of dry-contact input devices.

MMF-301(A) is a miniature monitor module a mere 1.3" (3.302 cm) H x 2.75" (6.985 cm) W x 0.67" (1.651 cm) D that supervises a Style B (Class B) circuit of dry-contact input devices. Its compact design allows the MMF-301(A) to be mounted in a single-gang box behind the device it monitors.

MMF-302(A) is a standard-sized module used to monitor and supervise compatible two-wire, 24 volt, smoke detectors on a Style D (Class A) or Style B (Class B) circuit.

MDF-300(A) is a standard-sized dual monitor module used to monitor and supervise line independent, two-wire, Style B (Class B) dry-contact initiating device circuits (IDCs) at two separate, consecutive addresses in intelligent, two-wire systems.

LifeSpeed™ is a communication protocol developed by Fire-Lite Engineering that greatly increases the speed of communication between analog intelligent devices. Intelligent devices communicate in a grouped fashion. If one of the devices within the group has new information, the panel CPU stops the group poll and concentrates on single points. The net effect is response speed greater than five times that of other communication protocols.

MMF-300(A) Monitor Module

- Built-in type identification automatically identifies this device as a monitor module to the control panel.
- Powered directly by two-wire SLC loop. No additional power required.
- High noise (EMF/RFI) immunity.
- SEMS screws with clamping plates for ease of wiring.
- Directed-entry of address: 01 - 159 on MS-9600 series panels, 01 - 99 on other compatible systems.
- LED flashes during normal operation and flashes on steady to indicate alarm.

The MMF-300(A) Monitor Module is intended for use in intelligent, two-wire systems, where the individual address of each module is selected using the built-in rotary switches. It provides either a two-wire or four-wire fault-tolerant Initiating Device Circuit (IDC) for normally-open-contact fire alarm and supervisory devices. The module has a panel-controlled LED indicator. The MMF-300(A) can be used to replace M300(A) modules in existing systems.

MMF-300(A) APPLICATIONS
Use to monitor a zone of four-wire smoke detectors, manual fire alarm pull stations, waterflow devices, or other normally-open dry-contact alarm activation devices. May also be used to monitor normally-open supervisory devices with special

NOTE: The MDF-300(A) provides two Style B (Class B) IDC circuits ONLY. Style D (Class A) IDC circuits are NOT supported in any application.

MMF-300(A) SPECIFICATIONS
Nominal operating voltage range: 15 to 32 VDC
Maximum current draw: 6.4 mA (LED on)
Average operating current: 750 µA (LED flashing)
Maximum IDC wiring resistance: 1,500 Ohms
Maximum IDC Voltage: 11 Volts
Maximum IDC Current: 240 µA
EOL resistance: 47K Ohms
Temperature range: 32° to 120°F (0° to 49°C)
Humidity range: 10% to 95% non-condensing
Dimensions: 4.5" (11.43 cm) high x 4" (10.16 cm) wide x 1.25" (3.175 cm) deep. Mounts to a 4" (10.16 cm) square x 2.125" (5.398 cm) deep box.

MDF-300(A) AUTOMATIC ADDRESSING
The MDF-300(A) automatically assigns itself to two addressable points, starting with the original address. For example, if the MDF-300(A) is set to address "20", then it will automatically assign itself to addresses "20" and "21".
NOTE: "One" addresses on the MDF-300(A) are 0, 2, 4, 6, or 8 only. Terminals 6 and 7 use the first address, and terminals 8 and 9 use the second address.

CAUTION:
Avoid duplicating addresses on the system.

Installation

MMF-300(A), MMF-302(A), and MDF-300(A) modules mount directly to a standard 4" (10.16 cm) square, 2.125" (5.398 cm) deep, electrical box. They may also be mounted to the SM5500 surface-mount box. Mounting hardware and installation instructions are provided with each module. All wiring must conform to applicable local codes, ordinances, and regulations. These modules are intended for power-limited wiring only.

The MMF-301(A) module is intended to be wired and mounted without right connections inside a standard electrical box. All wiring must conform to applicable local codes, ordinances, and regulations.

Agency Listings and Approvals

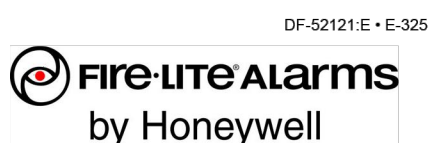
- In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.
- UL: S2424
 - ULC: S2424
 - FM Approved.
 - CSFM: 7300-0075-0185.
 - MEA: 72-01-E.

Product Line Information

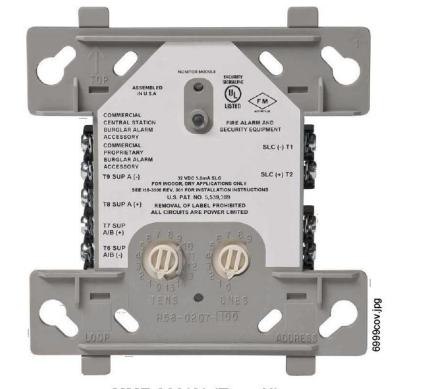
- NOTE:** "A" suffix indicates UL-C listed model.
- **MMF-300(A):** Monitor module.
 - **MMF-301(A):** Monitor module, miniature.
 - **MMF-302(A):** Monitor module, two-wire detectors.

NOTE: For installation instructions, see document ISE-1190-005 and refer to the SLC Wiring Manual, document F1309.

1
FA-7
MONITOR MODULE
SCALE: N.T.S.



Addressable Devices



MMF-300(A) (Type H)

supervisory indication at the control panel. Monitored circuit may be wired as an NFPA Style B (Class B) or Style D (Class A) Initiating Device Circuit. A 47K Ohm End-of-Line Resistor (provided) terminates the Style B circuit. No resistor is required for supervision of the Style D circuit.

MMF-300(A) OPERATION
Each MMF-300(A) uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/closed) of its Initiating Device Circuit (IDC). A flashing LED indicates that the module is in communication with the control panel. The LED flashes steadily on alarm (subject to current limitations on the loop).

MMF-300(A) SPECIFICATIONS
Nominal operating voltage: 15 to 32 VDC
Maximum current draw: 6.4 mA (LED on)
Average operating current: 375 µA (LED flashing), 1 communication every 5 seconds, 47K EOL
Maximum IDC wiring resistance: 1000 Ohms
Maximum IDC Voltage: 11 Volts
EOL resistance: 47K Ohms
Temperature range: 32° to 120°F (0° to 49°C)
Humidity range: 10% to 95% non-condensing
Dimensions: 4.5" (11.43 cm) high x 4" (10.16 cm) wide x 1.25" (3.175 cm) deep. Mounts to a 4" (10.16 cm) square x 2.125" (5.398 cm) deep box.

MMF-301(A) Mini Monitor Module

- Built-in type identification automatically identifies this device as a monitor module to the panel.
- Powered directly by two-wire SLC loop. No additional power required.
- High noise (EMF/RFI) immunity.

The MMF-301(A) Mini Monitor Module can be installed in a single-gang junction directly behind the monitored unit. Its small size and light weight allow it to be installed without rigid mounting. The MMF-301(A) is intended for use in intelligent, two-wire systems where the individual address of each module is selected using rotary switches. It provides a two-wire initiating device circuit for normally-open-contact fire alarm devices. The MMF-301(A) can be used to replace M301(A) modules in existing systems.

MMF-301(A) APPLICATIONS
Use to monitor a single device or a zone of four-wire smoke detectors, manual fire alarm pull stations, waterflow devices, or other normally-open dry-contact devices. May also be used to monitor normally-open supervisory devices with special supervisory indication at the control panel. Monitored circuit may be wired as an NFPA Style B (Class B) or Style D (Class A) Initiating Device Circuit. A 47K Ohm End-of-Line Resistor (provided) terminates the Style B circuit. No resistor is required for supervision of the Style D circuit.

MMF-301(A) OPERATION
Each MMF-301(A) uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/closed) of its Initiating Device Circuit (IDC).

MMF-301(A) SPECIFICATIONS
Nominal operating voltage: 15 to 32 VDC
Maximum current draw: 5.1 mA (LED on)
Average operating current: 270 µA, 1 communication and 1 LED flash every 5 seconds, 3.9 mA
EOL resistance: 3.9K Ohms
Temperature range: 32° to 120°F (0° to 49°C)
Humidity range: 10% to 95% noncondensing
Dimensions: 1.3" (3.302 cm) high x 2.75" (6.985 cm) wide x 0.67" (1.651 cm) deep
Wire length: 0" (15.24 cm) minimum

MMF-302(A) Interface Module

- Supports compatible two-wire smoke detectors.

MMF-302(A) OPERATION
Each MMF-302(A) Interface Module is intended for use in intelligent, two-wire systems, where the individual address of each module is selected using built-in rotary switches. This module allows intelligent panels to interface and monitor two-wire conventional smoke detectors. It transmits the status (normal, open, or alarm) of one full zone of conventional detectors back to the control panel. All two-wire detectors being monitored must be UL compatible with the module. The MMF-302(A) can be used to replace M302(A) modules in existing systems.

MMF-302(A) APPLICATIONS
Use to monitor a zone of two-wire smoke detectors. The monitored circuit may be wired as an NFPA Style B (Class B) or Style D (Class A) Initiating Device Circuit. A 3.3 K Ohm End-of-Line Resistor (provided) terminates the end of the Style B or D (class B or A) circuit (maximum IDC loop resistance is 25 Ohms). Install ELR across terminals 8 and 9 for Style D application.

MMF-302(A) OPERATION
Each MMF-302(A) uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/closed) of its Initiating Device Circuit (IDC).

MMF-302(A) SPECIFICATIONS
Nominal operating voltage: 15 to 32 VDC
Maximum current draw: 5.1 mA (LED on)
Average operating current: 270 µA, 1 communication and 1 LED flash every 5 seconds, 3.9 mA
EOL resistance: 3.9K Ohms
Temperature range: 32° to 120°F (0° to 49°C)
Humidity range: 10% to 95% noncondensing
Dimensions: 1.3" (3.302 cm) high x 2.75" (6.985 cm) wide x 0.67" (1.651 cm) deep
Wire length: 0" (15.24 cm) minimum

MMF-302(A) APPLICATIONS
Use to monitor a zone of two-wire smoke detectors. The monitored circuit may be wired as an NFPA Style B (Class B) or Style D (Class A) Initiating Device Circuit. A 3.3 K Ohm End-of-Line Resistor (provided) terminates the end of the Style B or D (class B or A) circuit (maximum IDC loop resistance is 25 Ohms). Install ELR across terminals 8 and 9 for Style D application.

MMF-302(A) OPERATION
Each MMF-302(A) uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/closed) of its Initiating Device Circuit (IDC).

MMF-302(A) SPECIFICATIONS
Nominal operating voltage: 15 to 32 VDC
Maximum current draw: 5.1 mA (LED on)
Average operating current: 270 µA, 1 communication and 1 LED flash every 5 seconds, 3.9 mA
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Temperature range: 32° to 120°F (0° to 49°C)
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Dimensions: 1.3" (3.302 cm) high x 2.75" (6.985 cm) wide x 0.67" (1.651 cm) deep
Wire length: 0" (15.24 cm) minimum

MMF-302(A) APPLICATIONS
Use to monitor a zone of two-wire smoke detectors. The monitored circuit may be wired as an NFPA Style B (Class B) or Style D (Class A) Initiating Device Circuit. A 3.3 K Ohm End-of-Line Resistor (provided) terminates the end of the Style B or D (class B or A) circuit (maximum IDC loop resistance is 25 Ohms). Install ELR across terminals 8 and 9 for Style D application.

MMF-302(A) OPERATION
Each MMF-302(A) uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/closed) of its Initiating Device Circuit (IDC).

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Nominal operating voltage: 15 to 32 VDC
Maximum current draw: 5.1 mA (LED on)
Average operating current: 270 µA, 1 communication and 1 LED flash every 5 seconds, 3.9 mA
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Wire length: 0" (15.24 cm) minimum

MMF-302(A) APPLICATIONS
Use to monitor a zone of two-wire smoke detectors. The monitored circuit may be wired as an NFPA Style B (Class B) or Style D (Class A) Initiating Device Circuit. A 3.3 K Ohm End-of-Line Resistor (provided) terminates the end of the Style B or D (class B or A) circuit (maximum IDC loop resistance is 25 Ohms). Install ELR across terminals 8 and 9 for Style D application.

MMF-302(A) OPERATION
Each MMF-302(A) uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/closed) of its Initiating Device Circuit (IDC).

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Use to monitor a zone of two-wire smoke detectors. The monitored circuit may be wired as an NFPA Style B (Class B) or Style D (Class A) Initiating Device Circuit. A 3.3 K Ohm End-of-Line Resistor (provided) terminates the end of the Style B or D (class B or A) circuit (maximum IDC loop resistance is 25 Ohms). Install ELR across terminals 8 and 9 for Style D application.

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MMF-302(A) APPLICATIONS
Use to monitor a zone of two-wire smoke detectors. The monitored circuit may be wired as an NFPA Style B (Class B) or Style D (Class A) Initiating Device Circuit. A 3.3 K Ohm End-of-Line Resistor (provided) terminates the end of the Style B or D (class B or A) circuit (maximum IDC loop resistance is 25 Ohms). Install ELR across terminals 8 and 9 for Style D application.

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Use to monitor a zone of two-wire smoke detectors. The monitored circuit may be wired as an NFPA Style B (Class B) or Style D (Class A) Initiating Device Circuit. A 3.3 K Ohm End-of-Line Resistor (provided) terminates the end of the Style B or D (class B or A) circuit (maximum IDC loop resistance is 25 Ohms). Install ELR across terminals 8 and 9 for Style D application.

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Use to monitor a zone of two-wire smoke detectors. The monitored circuit may be wired as an NFPA Style B (Class B) or Style D (Class A) Initiating Device Circuit. A 3.3 K Ohm End-of-Line Resistor (provided) terminates the end of the Style B or D (class B or A) circuit (maximum IDC loop resistance is 25 Ohms). Install ELR across terminals 8 and 9 for Style D application.

MMF-302(A) OPERATION
Each MMF-302(A) uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/closed) of its Initiating Device Circuit (IDC).

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Wire length: 0" (15.24 cm) minimum

MMF-302(A) APPLICATIONS
Use to monitor a zone of two-wire smoke detectors. The monitored circuit may be wired as an NFPA Style B (Class B) or Style D (Class A) Initiating Device Circuit. A 3.3 K Ohm End-of-Line Resistor (provided) terminates the end of the Style B or D (class B or A) circuit (maximum IDC loop resistance is 25 Ohms). Install ELR across terminals 8 and 9 for Style D application.

MMF-302(A) OPERATION
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Dimensions: 1.3" (3.302 cm) high x 2.75" (6.985 cm) wide x 0.67" (1.651 cm) deep
Wire length: 0" (15.24 cm) minimum

MMF-302(A) APPLICATIONS
Use to monitor a zone of two-wire smoke detectors. The monitored circuit may be wired as an NFPA Style B (Class B) or Style D (Class A) Initiating Device Circuit. A 3.3 K Ohm End-of-Line Resistor (provided) terminates the end of the Style B or D (class B or A) circuit (maximum IDC loop resistance is 25 Ohms). Install ELR across terminals 8 and 9 for Style D application.

MMF-302(A) OPERATION
Each MMF-302(A) uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/closed) of its Initiating Device Circuit (IDC).

MMF-302(A) SPECIFICATIONS
Nominal operating voltage: 15 to 32 VDC
Maximum current draw: 5.1 mA (LED on)
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EOL resistance: 3.9K Ohms
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Wire length: 0" (15.24 cm) minimum

MMF-302(A) APPLICATIONS
Use to monitor a zone of two-wire smoke detectors. The monitored circuit may be wired as an NFPA Style B (Class B) or Style D (Class A) Initiating Device Circuit. A 3.3 K Ohm End-of-Line Resistor (provided) terminates the end of the Style B or D (class B or A) circuit (maximum IDC loop resistance is 25 Ohms). Install ELR across terminals 8 and 9 for Style D application.

MMF-302(A) OPERATION
Each MMF-302(A) uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/closed) of its Initiating Device Circuit (IDC).

MMF-302(A) SPECIFICATIONS
Nominal operating voltage: 15 to 32 VDC
Maximum current draw: 5.1 mA (LED on)
Average operating current: 270 µA, 1 communication and 1 LED flash every 5 seconds, 3.9 mA
EOL resistance: 3.9K Ohms
Temperature range: 32° to 120°F (0° to 49°C)
Humidity range: 10% to 95% noncondensing
Dimensions: 1.3" (3.302 cm) high x 2.75" (6.985 cm) wide x 0.67" (1.651 cm) deep
Wire length: 0" (15.24 cm) minimum

MMF-302(A) APPLICATIONS
Use to monitor a zone of two-wire smoke detectors. The monitored circuit may be wired as an NFPA Style B (Class B) or Style D (Class A) Initiating Device Circuit. A 3.3 K Ohm End-of-Line Resistor (provided) terminates the end of the Style B or D (class B or A) circuit (maximum IDC loop resistance is 25 Ohms). Install ELR across terminals 8 and 9 for Style D application.

MMF-302(A) OPERATION
Each MMF-302(A) uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/closed) of its Initiating Device Circuit (IDC).

MMF-302(A) SPECIFICATIONS
Nominal operating voltage: 15 to 32 VDC
Maximum current draw: 5.1 mA (LED on)
Average operating current: 270 µA, 1 communication and 1 LED flash every 5 seconds, 3.9 mA
EOL resistance: 3.9K Ohms
Temperature range: 32° to 120°F (0° to 49°C)
Humidity range: 10% to 95% noncondensing
Dimensions: 1.3" (3.302 cm) high x 2.75" (6.985 cm) wide x 0.67" (1.651 cm) deep
Wire length: 0" (15.24 cm) minimum

MMF-302(A) APPLICATIONS
Use to monitor a zone of two-wire smoke detectors. The monitored circuit may be wired as an NFPA Style B (Class B) or Style D (Class A) Initiating Device Circuit. A 3.3 K Ohm End-of-Line Resistor (provided) terminates the end of the Style B or D (class B or A) circuit (maximum IDC loop resistance is 25 Ohms). Install ELR across terminals 8 and 9 for Style D application.

MMF-302(A) OPERATION
Each MMF-302(A) uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/closed) of its Initiating Device Circuit (IDC).

MMF-302(A) SPECIFICATIONS
Nominal operating voltage: 15 to 32 VDC
Maximum current draw: 5.1 mA (LED on)
Average operating current: 270 µA, 1 communication and 1 LED flash every 5 seconds, 3.9 mA
EOL resistance: 3.9K Ohms
Temperature range: 32° to 120°F (0° to 49°C)
Humidity range: 10% to 95% noncondensing
Dimensions: 1.3" (3.302 cm) high x 2.75" (6.985 cm) wide x 0.67" (1.651 cm) deep
Wire length: 0" (15.24 cm) minimum

MMF-302(A) APPLICATIONS
Use to monitor a zone of two-wire smoke detectors. The monitored circuit may be wired as an NFPA Style B (Class B) or Style D (Class A) Initiating Device Circuit. A 3.3 K Ohm End-of-Line Resistor (provided) terminates the end of the Style B or D (class B or A) circuit (maximum IDC loop resistance is 25 Ohms). Install ELR across terminals 8 and 9 for Style D application.

MMF-302(A) OPERATION
Each MMF-302(A) uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/closed) of its Initiating Device Circuit (IDC).

MMF-302(A) SPECIFICATIONS
Nominal operating voltage: 15 to