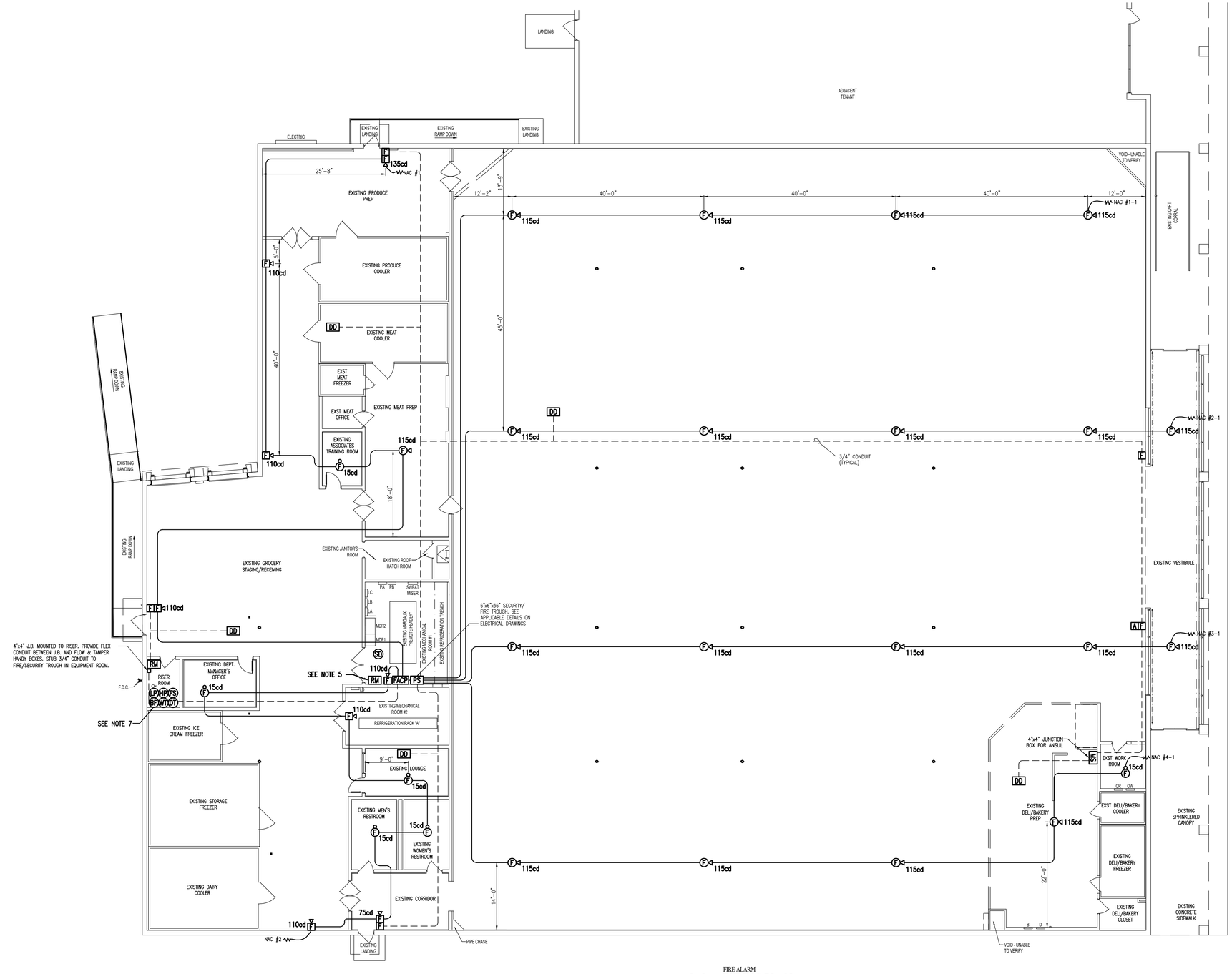

1 FA-1 FIRE ALARM WIRING PLAN
SCALE: 3/32" = 1'-0"

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-52392:A.
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

F	ADA APPROVED FIRE ALARM HORN/STROBE (WALL MOUNTED). XXX cd.
F	ADA APPROVED FIRE ALARM HORN/STROBE (CEILING MOUNTED). 115 cd.
F	ADA APPROVED FIRE ALARM STROBE ONLY (WALL MOUNTED). XXX cd.
F	ADA APPROVED FIRE ALARM STROBE ONLY (CEILING MOUNTED). XXX cd.
F	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
	END OF LINE RESISTER (EOLR)
PS	POWER SUPPLY
NAC	NOTIFICATION APPLIANCE CIRCUIT
FS	MONITOR MODULE FOR SPRINKLER FLOW SENSOR
BF	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)

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FOOD LION #1237
133 Mittie Haddock Dr
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DRAWING NAME
FIRE ALARM WIRING PLAN

NORTH CAROLINA PROFESSIONAL SEAL 050989 ENGINEER
9/6/23

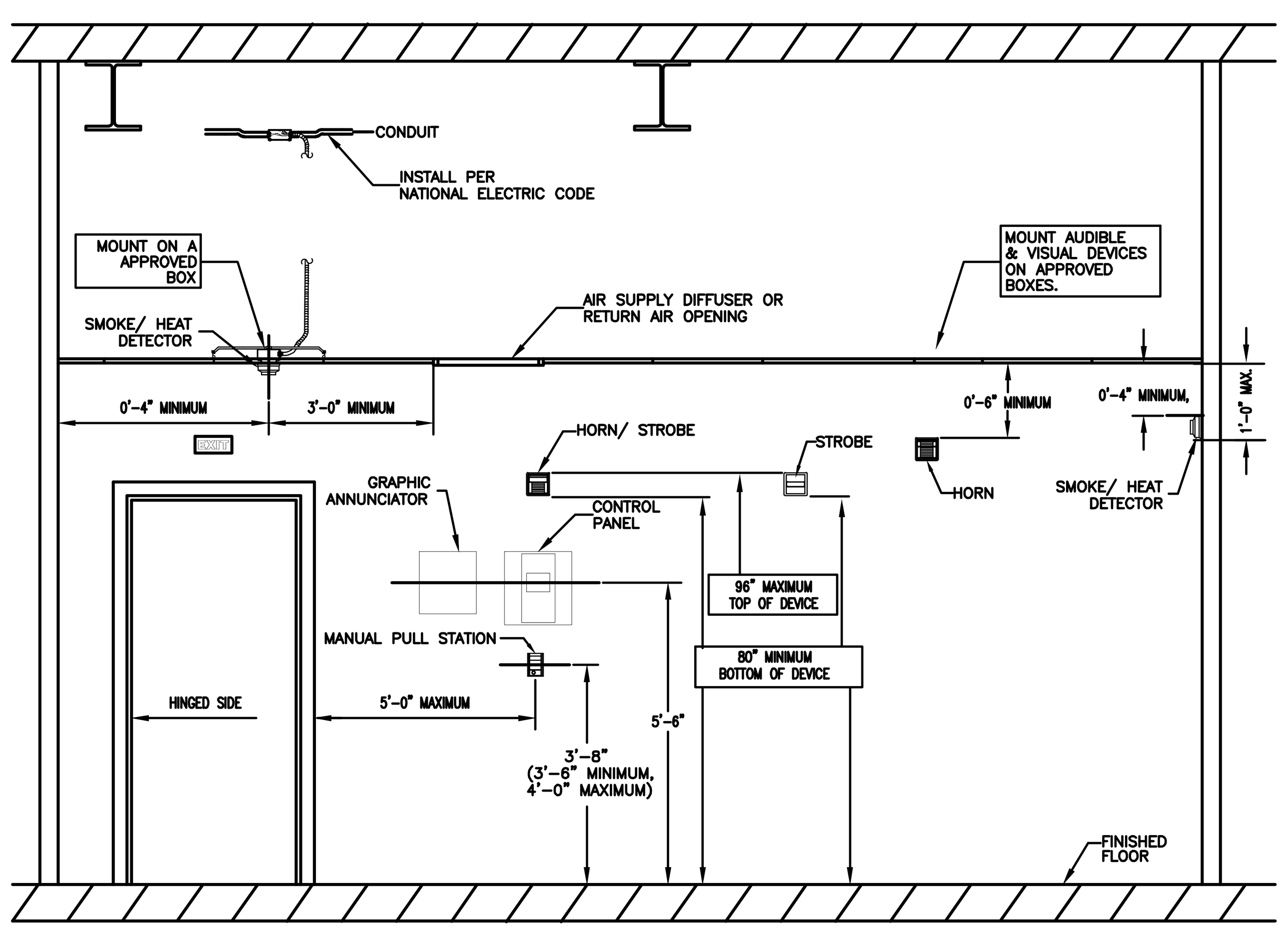
DRAWN	MNH
CHECKED	SJB
DATE	9/6/2023
SCALE	AS NOTED
JOB NO.	23107
SHEET	FA-1

FIRE ALARM SYSTEM INPUT/OUTPUT MATRIX

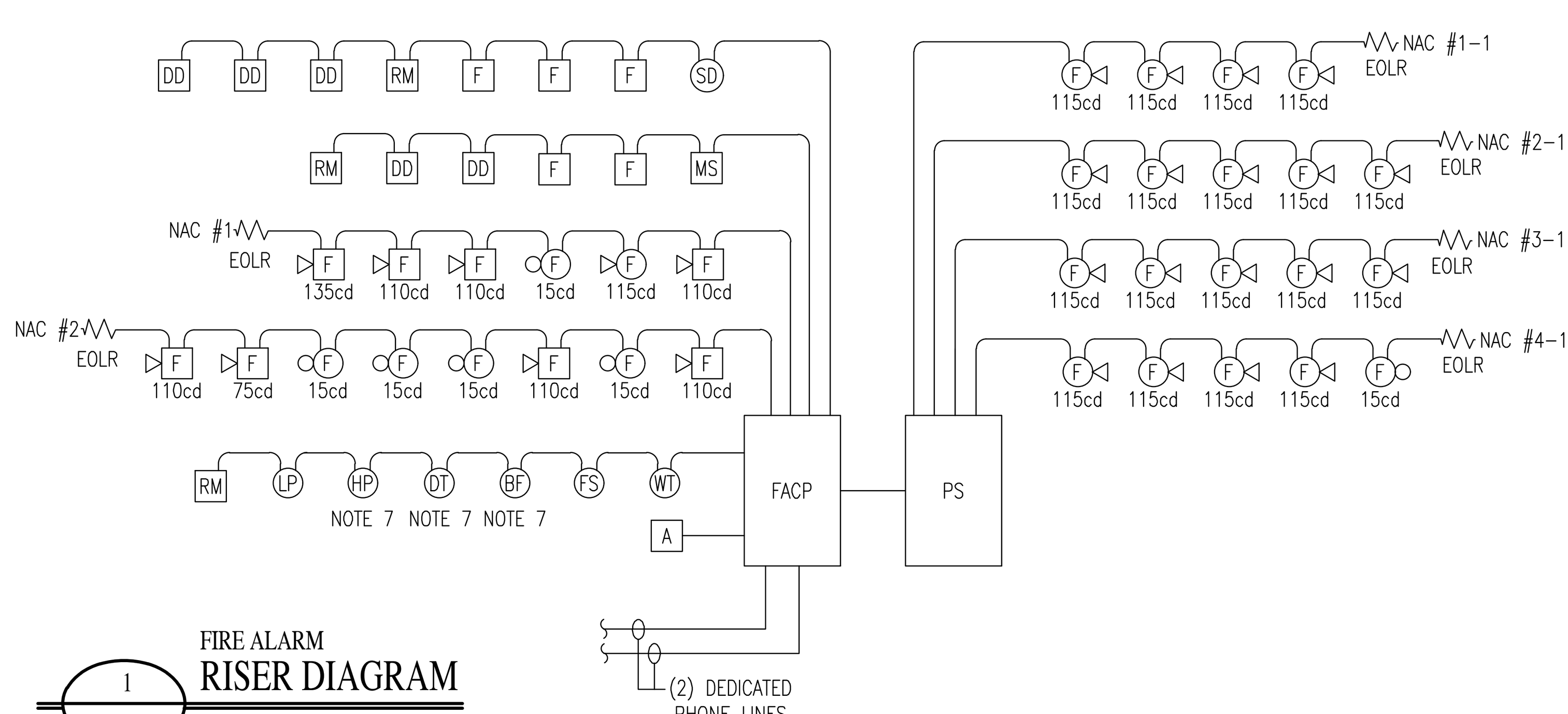
SYSTEM OUTPUTS: FACP ANNUNCIATION / NOTIFICATION / REQUIRED FIRE SAFETY CONTROL

- A – ACTUATE COMMON ALARM SIGNAL INDICATOR
- B – ACTUATE AUDIBLE ALARM SIGNAL
- C – ACTUATE COMMON SUPERVISORY SIGNAL INDICATOR
- D – ACTUATE AUDIBLE SUPERVISORY SIGNAL
- E – ACTUATE COMMON TROUBLE SIGNAL INDICATOR
- F – ACTUATE AUDIBLE TROUBLE SIGNAL
- G – ACTUATE ZONE OR DEVICE ADDRESS ALARM INDICATOR
- H – ACTUATE GENERAL EVACUATION SIGNAL
- I – DISPLAY CHANGE OF STATUS
- J – TRANSMIT FIRE ALARM SIGNAL TO CENTRAL STATION
- K – TRANSMIT SUPERVISORY SIGNAL TO CENTRAL STATION
- L – TRANSMIT TROUBLE SIGNAL TO CENTRAL STATION
- M – RELEASE MAGNETICALLY HELD DOORS
- N – RECALL ELEVATOR TO RECALL FLOOR
- O – RECALL ELEVATOR TO ALTERNATE RECALL FLOOR
- P – ACTUATE WARNING TO ELEVATOR CABS
- Q – DELAYED REMOVAL OF POWER FROM ELEVATOR
- R – CLOSE ALL SMOKE DAMPERS
- S – UNLOCK EXITS AND CONTROL DOORS
- T – SHUT DOWN RESPECTIVE AIR HANDLING EQUIPMENT
- U – ACTUATE FLOOR PRESSURIZATION
- V – ACTUATE STAIRWELL PRESSURIZATION
- W – ACTUATE SMOKE EXHAUST
- X – –
- Y – –

#	SYSTEM INPUTS	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	#
1	FIRE ALARM SYSTEM AC POWER FAILURE			●	●	●	●					●															1
2	FIRE ALARM SYSTEM LOW BATTERY					●	●						●														2
3	OPEN CIRCUIT					●	●						●														3
4	GROUND FAULT					●	●						●														4
5	NOTIFICATION APPLIANCE CIRCUIT SHORT					●	●						●														5
6	BUILDING MANUAL PULL STATIONS	●	●					●	●	●	●			●						●							6
7	CORRIDOR SMOKE DETECTORS	●	●					●	●	●	●			●													7
8	AREA SMOKE DETECTORS	●	●					●	●	●	●			●													8
9	HVAC AIR DUCT SMOKE DETECTORS			●	●			●				●									●						9
10	AREA HEAT DETECTORS	●	●					●	●	●	●			●					●	●							10
11	HOOD OR ROOM FIRE SUPPRESSION SYSTEM ALARM	●	●					●	●	●	●			●					●	●							11
12	WET PIPE SPRINKLER TAMPER SWITCH			●	●			●				●															12
13	SPRINKLER WATER FLOW IN BUILDING	●	●					●	●	●	●			●					●	●							13
14	DRY PIPE SPRINKLER TAMPER SWITCH					●	●						●														14
15	DRY PIPE LOW/HIGH PRESSURE SWITCH					●	●						●														15
16	–																										16
17	–																										17
18	–																										18
19	ELEVATOR CONTROLLER POWER SHUNT TRIP STATUS																										19
20	FIRE PUMP POWER FAILURE/PHASE REVERSAL																										20
21	FIRE PUMP RUNNING																										21
22	FIRE PUMP SYSTEM NOT IN AUTOMATIC																										22
23	LEGALLY REQUIRED GENERATOR SYSTEM LOW FUEL																										23
24	LEGALLY REQUIRED GENERATOR NOT IN AUTOMATIC																										24
25	AREA OF REFUGE TWO-WAY COMMUNICATIONS STATUS																										25
26	–																										26
27	–																										27
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	V	W	



FIRE ALARM
DEVICE MOUNTING
2 / FA-2 SCALE: N.T.S.



FIRE ALARM
RISER DIAGRAM
1 / FA-2

FoodLion1237 - Battery Calculation Report

PANEL INFORMATION

Panel Type	ES-200X
No. of Loops	0
No. of Devices	
Status	PASS

BATTERY & CHARGER REQUIREMENT

Normal Operation	24 Hours	**BAT-1270** Suggested Battery	**7Ah** Suggested Capacity	**6.09Ah** Required Capacity	**BB-17F** Suggested Batt. Box
In Alarm	5 Mins				

Standby/Quiescent Load			Alarm Load		
Standby Load Current	x Panel in Normal Operation (In hours)		In Alarm Load Current(In Amps)	x Panel In Alarm(In Hours)	
0.196	24	= 4.704 Ah	2.019	0.083(5mins)	= 0.168Ah

Total Current Load = 4.872Ah
Multiply with derating factor = x 1.25
Adding with spare capacity = N/A
Total AH required = 6.09 Ah

PANEL MODULES & CIRCUITS

No. of Modules & Circuits: 5 — 2019 mA Consumed 28.8% (0% – 100%)

Device Name	Quantity	Quiescent/Stand By (mA)	Alarms (mA)
Main Circuit Board	1	141	257
IPOTS-COM	1	40	41
ANN-80	1	15	40

NAC CIRCUITS

NAC Name	Alarms (mA)	Quiescent/Stand By (mA)
NAC Circuit 1	910	0
NAC Circuit 2	771	0
NAC Circuit 3	0	0
NAC Circuit 4	0	0

BATTERY SHARING

Battery Sharing	Alarms (mA)	Quiescent/Stand By (mA)
Battery Sharing 1	0	0
Battery Sharing 2	0	0
Battery Sharing 3	0	0

SEE VOLTAGE DROP CALCULATIONS FOR DEVICE CURRENT VALUES & WIRE SIZE

FACP BATTERY CALCULATIONS
3 / FA-2 SCALE: N.T.S.

FoodLion1237 - Battery Calculation Report

PANEL INFORMATION

Panel Type	FL-PS10
No. of Loops	0
No. of Devices	
Status	PASS

BATTERY & CHARGER REQUIREMENT

Normal Operation	24 Hours	**BAT-1270** Suggested Battery	**7Ah** Suggested Capacity	**5.719Ah** Required Capacity	**BB-17F** Suggested Batt. Box
In Alarm	5 Mins				

Standby/Quiescent Load			Alarm Load		
Standby Load Current	x Panel in Normal Operation (In hours)		In Alarm Load Current(In Amps)	x Panel In Alarm(In Hours)	
0.178	24	= 4.272 Ah	3.639	0.083(5mins)	= 0.303Ah

Total Current Load = 4.575Ah
Multiply with derating factor = x 1.25
Adding with spare capacity = N/A
Total AH required = 5.719 Ah

PANEL MODULES & CIRCUITS

No. of Modules & Circuits: 5 — 3639 mA Consumed 52% (0% – 100%)

Device Name	Quantity	Quiescent/Stand By (mA)	Alarms (mA)
MAIN CIRCUIT BOARD WITH 2K EOLR INSTALLED	1	178	232

NAC CIRCUITS

NAC Name	Alarms (mA)	Quiescent/Stand By (mA)
NAC Circuit 1 -1	748	0
NAC Circuit 2 -1	935	0
NAC Circuit 3 -1	935	0
NAC Circuit 4 -1	789	0
NAC Circuit 5	0	0
NAC Circuit 6	0	0
NAC Circuit 7	0	0

BATTERY SHARING

Battery Sharing	Alarms (mA)	Quiescent/Stand By (mA)
Battery Sharing 1	0	0
Battery Sharing 2	0	0
Battery Sharing 3	0	0

POWER SUPPLY BATTERY CALCULATIONS
4 / FA-2 SCALE: N.T.S.

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DRAWING NAME: FIRE ALARM DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 050989 ENGINEER

DRAWN: MNH
CHECKED: SJB
DATE: 9/6/2023
SCALE: AS NOTED
JOB NO.: 23107
SHEET: FA-2

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

CIRCUIT 1 - POINT TO POINT

NAC Circuit1	0.91 AMPS	CLASS B	14 AWG	6 Devices	0.91 AMPS USED	1.25 VOLTAGE DROP

#	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	PC2RL	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

#	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

CIRCUIT 1 - POINT TO POINT

NAC Circuit1-1	0.748 AMPS	CLASS B	14 AWG	4 Devices	0.748 AMPS USED	1 VOLTAGE DROP

#	Device Model	Candela	Pattern	Volume	Tone	CURRENT (AMPS)	Dist from prev device (feet)	Volts
1	PC2RL	115	Temporal	High	Electromechanical	0.187	130	19.79
2	PC2RL	115	Temporal	High	Electromechanical	0.187	55	19.6
3	PC2RL	115	Temporal	High	Electromechanical	0.187	55	19.47
4	PC2RL	115	Temporal	High	Electromechanical	0.187	55	19.4

CIRCUIT 2 - POINT TO POINT

NAC Circuit2-1	0.935 AMPS	CLASS B	14 AWG	5 Devices	0.935 AMPS USED	1.15 VOLTAGE DROP

#	Device Model	Candela	Pattern	Volume	Tone	CURRENT (AMPS)	Dist from prev device (feet)	Volts
1	PC2RL	115	Temporal	High	Electromechanical	0.187	85	19.9
2	PC2RL	115	Temporal	High	Electromechanical	0.187	55	19.64
3	PC2RL	115	Temporal	High	Electromechanical	0.187	55	19.45
4	PC2RL	115	Temporal	High	Electromechanical	0.187	55	19.32
5	PC2RL	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

#	Device Model	Candela	Pattern	Volume	Tone	CURRENT (AMPS)	Dist from prev device (feet)	Volts
1	PC2RL	115	Temporal	High	Electromechanical	0.187	45	20.14
2	PC2RL	115	Temporal	High	Electromechanical	0.187	55	19.88
3	PC2RL	115	Temporal	High	Electromechanical	0.187	55	19.68
4	PC2RL	115	Temporal	High	Electromechanical	0.187	55	19.55
5	PC2RL	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

#	Device Model	Candela	Pattern	Volume	Tone	CURRENT (AMPS)	Dist from prev device (feet)	Volts
1	PC2RL	115	Temporal	High	Electromechanical	0.187	75	20.03
2	PC2RL	115	Temporal	High	Electromechanical	0.187	55	19.82
3	PC2RL	115	Temporal	High	Electromechanical	0.187	55	19.68
4	PC2RL	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 FA-3 VOLTAGE DROP CALCULATIONS

SCALE: NTS

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133 Mittie Haddock Dr
Cameron, NC 28326

DRAWING NAME
VOLTAGE DROP CALCULATIONS

NORTH CAROLINA PROFESSIONAL SEAL 050989 ENGINEER
9/6/23

DRAWN
MNH
CHECKED
SJB
DATE
9/6/2023
SCALE
AS NOTED
JOB NO.
23107
SHEET
FA-3

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DRAWING NAME
FIRE ALARM SPECIFICATIONS

NORTH CAROLINA PROFESSIONAL SEAL 050989 ENGINEER
9/6/23

DRAWN: MNH
CHECKED: SJB
DATE: 9/6/2023
SCALE: AS NOTED
JOB NO.: 23107
SHEET: FA-4

ES-200X

Intelligent Addressable FACP with Communicator

FIRE-LITE ALARMS by Honeywell

Addressable Fire Alarm Control Panels

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-9200UDLS. 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 IPOTS-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 secondary 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-FL.

Remote and local programming of the control panel is possible using the FS-Tools Upload/Download utility. Programming databases can be uploaded/downloaded via the panel's USB port (and USB cable) or via an ethernet connection using the IPOTS-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 quick install chassis and housed in a metal cabinet. Available accessories include local and remote upload/download software, remote annunciators, and reverse polarity/city box transmitter (AXTMF).

Features

- Listed to UL Standard 864, 10th edition
- Pre-installed IPOTS-COM Ethernet IP and POTS (Plain Old Telephone Service) Central Station Communicator over AlarmNet
- Optional CELL-MOD or CELL-CAB-FL GSM Central Station Communicator over AlarmNet®
- Automated activation of the ECC-50/100 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 synchronization for System Sensor, Wheelock, and Gentex devices
- Notification Appliance Circuit End of Line resistor matching
- Four programmable function keys for ease of maintenance
- Two programmable relays and one fixed trouble relay
- Built-in Programmer
- Integral 80-character LCD display 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
- System alarm verification selection per detector point
- 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 modules or remote annunciator
- Upload/Download of program and data via USB with optional FS-Tools Programming Utility

SLC COMMUNICATION LOOP

- Supports LiteSpeed™ and CLIP protocols
- SLC operates up to 10,000 ft. (3,000 m) in LiteSpeed 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 outputs:
  - **Style Y** (Class B)
  - **Style Z** (Class A)
- Silence Inhibit and Autosilence 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 or total 24VDC system power shared between all NAC circuits and the ANN-BUS is 2.7 A*

PROGRAMMING AND SOFTWARE

- Autoprogramming (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.firelite.com

User Interface

LED INDICATORS

- Fire Alarm (red)
- CO Alarm (red)
- AC Power (green)
- Supervisory (yellow)
- Trouble (yellow)
- Ground fault (yellow)
- Battery fault (yellow)
- Disabled (yellow)
- Maintenance (yellow)
- Communication (yellow)
- Alarm Silenced (yellow)
- F1-F4 Programmable Function Keys (yellow)

KEYPAD

- 16 key alpha-numeric pad
- Acknowledge
- Alarm Silence
- Drill (Manual Evacuate)
- Four (4) programmable function keys
- Reset (lamp test)

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-200XC, refer to DF-60958.)*

FS-Tools: Programming software for Windows®-based PC computer. Available for download at www.firelite.com

CELL-CAB-FL/CELL-MOD: Optional GSM communicators.

IPOTS-COM: Dual technology (POTS and IP) communicator. (replacement board)

DP-ES-R: Optional dress panel for the ES-200X.

TR-CE: Optional trim ring for semi-flush mounting.

BB-2F: Optional cabinet for one or two modules.

BB-6F: Optional cabinet for up to six modules mounted on CHS-6 chassis.

BB-26: Battery backbox, holds up to two 25 AH batteries and CHG-75.

BB-55F: Battery box, houses two 55 AH batteries

CHS-6: Chassis, mounts up to six multi-modules in a BB-6F cabinet.

CHG-75: Battery charger for lead-acid batteries with a rating of 25 to 75 AH.

CHG-120F: Remote battery charging system for lead-acid batteries with a rating of 55 to 120 AH. Requires additional BB-55F for mounting.

NOTE: *Maximum or total 24VDC system power shared between all NAC circuits and the ANN-BUS is 2.7 A*

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

OPTIONAL MODULES

4XTMF Reverse Polarity Transmitter Module: Provides a supervised output for local energy municipal box transmitter, alarm and trouble. Includes a disable switch and disable trouble LED.

PWRMOD24 Power Expander Module: Optional power module. Increases alarm power output to 6 amps.

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-I/O: LED Driver 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-60241.)*

ANN-RLED: Provides alarm (red) indicators for up to 30 input zones or addressable points. *(See DF-60241.)*

ANN-RLY: Relay Module provides 10 programmable Form-C relays. Can be mounted inside the cabinet. (See DF-52431.)

ANN-S/PG: Serial/Parallel Printer Gateway module provides a connection for a serial or parallel printer. *(See DF-52429.)*

ADDRESSABLE DEVICES

All feature a polling LED and rotary switches for addressing.

SD365: Addressable low-profile photoelectric smoke detector. Lite-Speed only.

SD365-IV: Addressable low-profile photoelectric smoke detector. Ivory. LiteSpeed and CLIP mode.

SD365T: Addressable low-profile photoelectric smoke detector with thermal sensor. LiteSpeed only.

SD365T-IV: Addressable low-profile photoelectric smoke detector with thermal sensor. Ivory. LiteSpeed and CLIP mode.

SD365R: Remote test capable addressable photoelectric smoke detector for use with DNR(W) duct detector housing. Lite-Speed only.

SD365R-IV: Remote test capable addressable photoelectric smoke detector for use with DNR(W) duct detector housing. Ivory. Lite-Speed and CLIP mode.

H365: Low-profile 135° F fixed thermal sensor. LiteSpeed only.

H365-IV: Low-profile 135° F fixed thermal sensor. Ivory. LiteSpeed and CLIP mode.

H365R: Low-profile, intelligent, rate-of-rise thermal sensor. Lite-Speed only.

H365R-IV: Low-profile, intelligent, rate-of-rise thermal sensor. Ivory. LiteSpeed and CLIP mode.

H365HT: Low-profile intelligent 190°F/88°C fixed thermal sensor. LiteSpeed only.

H365HT-IV: Low-profile intelligent 190°F/88°C fixed thermal sensor. Ivory. LiteSpeed and CLIP mode.

Legacy Devices

CP355: Addressable low-profile ionization smoke detector.

SD355: Addressable low-profile photoelectric smoke detector.

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

SD355R: Remote test capable addressable photoelectric smoke detector for use with DNR(W) duct detector housing.

SD355CO: Addressable, low-profile device that provides fire, heat, and carbon monoxide (CO) detection.

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

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

H355HT: Fast-response, low-profile heat detector that activates at 190°F/88°C.

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

B200S: Programmable, addressable sounder base.

B200SR: Addressable sounder base.

BEAM355: Intelligent beam smoke detector.

BEAM355S: Intelligent beam smoke detector with integral sensitivity test.

D355PL: InnovairFlex low-flow non-relay duct-detector housing; includes SD355R.

DNR: InnovairFlex low-flow non-relay duct-detector housing. (Order SD355R/SD365R separately.)

DNRW: InnovairFlex low-flow non-relay duct-detector housing, with NEMA-4 rating. Watertight. (Order SD355R/SD365R separately.)

Addressable Modules

MMF-300: Addressable Monitor Module for one zone of normally-open dry-contact initiating devices. Mounts in standard 4.0" (10.16 cm.) box. Includes plastic cover plate and end-of-line resistor. Module may be configured for either a Style B (Class B) or Style D (Class A) IDC.

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

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

MMF-302: Similar to MMF-300. Addressable Monitor Module for one zone of conventional two-wire detectors. Requires resettable 24 VDC power. Refer to the *Device Compatibility Document* for listed compatible devices and quantity limitation.

CMF-300: Addressable Control Module for one Style Y/Z (Class B/A) zone of supervised polarized Notification Appliances. Mounts directly to a 4.0" (10.16 cm.) electrical box. NAC option requires external 24 VDC to power notification appliances.

CRF-300: Addressable relay module containing two isolated sets of Form-C contacts, which operate as a DPDT switch. Mounts directly to a 4.0" (10.16 cm.) box, surface mount using the SMB500.

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

I300: This module isolates the SLC loop from short circuit conditions (required for Style 6 or 7 operation).

ISO-6: Six-fault isolator module. Mount one or two modules in a BB-2F cabinet (optional). Mount up to six modules on a CHS-6 chassis in a BB-6F cabinet.

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

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

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

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

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

SWIFT Wireless Devices

W-GATE: LiteSpeed Wireless Gateway

W-SD355: LiteSpeed intelligent, wireless photo detector.

W-H355R: LiteSpeed intelligent wireless rate of rise (135°) heat detector.

W-SD355T: Intelligent wireless photo/heat detector.

W-H355: LiteSpeed Intelligent wireless fixed-temperature (135°) heat detector.

W-MMF: LiteSpeed Intelligent wireless monitor module.

W-CRF: LiteSpeed Intelligent wireless relay module.

W-BG12LX: LiteSpeed Intelligent wireless pull station.

WAV-RL, WAV-WL,WAV-CRL,WAV-CWL: LiteSpeed Intelligent AV bases.

W-USB: Wireless USB radio/antenna dongle that plugs into the USB port of a PC running SWIFT Tools.

SWIFT Tools: Programming and diagnostic utility for the Wireless Gateway and devices. Available for download from firelite.com.

NOTE: *For more information on Compatible Addressable Devices for use with the ES-200X, see the following data sheets (document numbers): SD365 Series (DF-61010), H365 Series (DF-61071), AD355 (DF-52386), BG-12LX (DF-52013), CMF-300-6 (DF-52365), CRF-300-6 (DF-52374), CMF/CRF Series (DF-52130), CP355 (DF-52383), H355 Series (DF-52385), I300 (DF-52388), ISO-6 (DF-60465), MMF-300 Series/MDF-300 (DF-52127), MMF-300-10 (DF-52347), MMF-302-6 (DF-52356), SD355/SD355T (DF-52384), and SLC Wiring Manual (51309).*

NOTE: *Legacy 300 Series detection devices such as the CP300/CP350, SD300/TI/SD350/TI and older modules such as the M500, M501, M502, C304, and BG-10LX are not compatible with LiteSpeed polling. If the SLC contains one of these devices, polling must be set for standard CLIP protocol. Please consult factory for further information on previous 300 Series devices.*

ADDRESSABLE DEVICE ACCESSORIES

End-of-Line Resistor Assembly (R-47K and R-3.9K): The 47k ohm assembly supervises the MMF-300, MDF-300, MMF-301, and CMF-300 module circuits. The 3.9k ohm assembly supervises the MMF-302 module circuit. These resistors are included with each module.

Power Supervision Relay: Supervises the power to 4-wire smoke detectors and notification appliances.

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.

1 FA-4 FIRE ALARM CONTROL PANEL
SCALE: N.T.S.

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 (2.00 mm2) with 600 V insulation. Nonpower-limited, supervised.

Battery: Two 12 V 18 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 circuitry. Maximum signaling current per circuit: 2.5 amps special application, 250mA regulated. End-of-Line Resistor: 4.7k ohm, ½ watt (P/N 71252 UL listed) for Style Y (Class B) NAC; system capable of 1.9 kΩ - 22 kΩ ELR 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

Door: 19.26" (48.92 cm.) high x 16.82" (42.73 cm.) wide x 0.72" (1.82 cm.) deep. **Backbox:** 19.00" (48.26 cm.) high x 16.65" (42.29 cm.) wide x 5.25" (13.34 cm.) deep. **Trim Ring (TR-CE):** 22.00" (55.88 cm.) high x 19.65" (49.91 cm.) wide.

Shipping Specifications

Weight: 26.9 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.

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 standby batteries 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 Systems requirements:

- **LOCAL** (Automatic, Manual, Waterflow and Sprinkler Supervisory).
- **AUXILIARY** (Automatic, Manual and Waterflow) (requires 4XTMF).
- **REMOTE STATION** (Automatic, Manual and Waterflow) (Where 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, 4XTMF is required.)
- **PROPRIETARY** (Automatic, Manual and Waterflow).
- **CENTRAL STATION** (Automatic, Manual and Waterflow, and Sprinkler Supervised).
- **OT, PSDN** (Other Technologies, Packet-switched Data Network)
- **IBC 2012, IBC 2009, IBC 2006, IBC 2003, IBC 2000** (Seismic).
- **CBC 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:** S624
- **FM approved**
- **CSFM:** 7165-0075:500
- **FDNY:** COA #6261

NOTE: *See DF-60958 for ULC-listed model.*

ISO 9001 CERTIFIED — INTERTEK REGISTRATION QUALITY SYSTEMS

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www.firelite.com

Country of Origin: USA

FL-PS6(C) & FL-PS10(C)

6 Amp and 10 Amp, 24 Volt Remote Power Supplies

FIRE-LITE ALARMS by Honeywell

Power Supplies/Accessories

General

The PS Series is a remote power supply line from Fire-Lite Alarms and is a direct replacement for the FCPS-24FS6/8 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 standalone 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 ANSI/B Temporal 3 or Temporal 4 coded output
- UL-Listed NAC synchronization using System Sensor®, Wheelock®, Gentex®, or AMSECO® appliances
- Synchronization can be triggered from FACP NAC/remote 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/circuit
- Individual NAC power and trouble LEDs for diagnostic efficiency
- Trouble history modes for diagnostic support
- Wide range end-of-line supervision value (normal: 2K-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 via DIP switch for applications 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 (EOLR-1)

Standards and Codes

The FL-PS Series comply with the following standards:

- **NFPA 72** National Fire Alarm Code
- **UL 864** Standard for Control Units for Fire Alarm Systems (NAC expander mode), 10th Edition
- **UL 1481** Power Supplies for Fire Alarm Systems
- **IBC 2009** (when using SEISKIT-MULTI-1)
- **CBC 2007** (when using SEISKIT-MULTI-1)

Agency Listings and Approvals

These listings and approvals apply to the modules specified in this document. 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 Listed:** S2424
- **ULC Listed:** S2424 (FL-PS6/10C)
- **CSFM Approved:** 7315-0075:0510
- **FDNY Approved**
- **FM Approved**

SYSTEM SPECIFICATIONS

Primary (AC) Power:

- **FL-PS6(C):** 120 VAC, 50/60 Hz, 5.0A maximum
- **FL-PS10(C):** 120VAC, 50/60 Hz, 6.2 A maximum
- **Wire Size:** #12-14 AWG with 600 V insulation

Command Input Circuit:

- **Trigger Input Voltage:** 9 to 32 VDC
- **Trigger Current:** 2.0 mA (16 - 32 V); Per Input: 1.0 mA (9 - 16 V)

Trouble Contact Rating: 4 A at 24 VDC

Output Circuits:

- 24 VDC filtered, regulated
- FL-PS6: TB6-TB9 – 1A Regulated, 3A special applications; TB10-TB12 – 0.3A Regulated, 3A special applications
- FL-PS10: TB6-TB11 – 1.5A Regulated, 3A special applications; TB12-TB14 – 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:** 20.0"H x 14.5"W x 3.5"D (cm: 50.8H x 36.83W x 8.9D)
- **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-PS6C: Same as above, ULC-listed model

FL-PS10: 10.0 A, 120 VAC remote charger power supply in a lockable, metal enclosure

FL-PS10C: Same as above, ULC-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 IDC.

MDF-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

EOLR-1: 12/24 VDC end-of-line relay for monitoring four-wire smoke detector power

BAT-1270-BP: Battery, 12 volt, 7.0 AH, 5-pack (two required).

BAT-12160-BP: Battery, 12 volt, 18AH, 2-pack

BAT-12330: Battery, 12 volt, 33AH

SEISKIT-MULTI-1: Seismic kit for the FL-PS Series. Includes bracket and hardware for two 7AH or two 18AH batteries.

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www.firelite.com

Country of Origin: USA

2 FA-4 REMOTE POWER SUPPLY
SCALE: N.T.S.

ANN-80

80-Character Serial LCD Annunciator

FIRE-LITE ALARMS by Honeywell

Annunciators

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 keyswitch 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

- Listed to UL Standard 864, 9th Edition
- Backlit 80-character LCD display (20 characters x 4 lines)
- Mimics all display information from the host panel
- Control switches for System Acknowledge, Signal Silence, Drill, and Reset
- Control switches can be independently enabled or disabled at the FACP
- Keyswitch enables/disables control switches and mechanically locks annunciator enclosure
- Keyswitch can be enabled or disabled at the FACP
- Enclosure supervised for tamper
- System status LEDs for AC Power, Alarm, Trouble, Supervisory, and Alarm Silence
- Local sounder can be enabled or disabled at the FACP
- ANN-80 connects to the ANN-Bus terminal on the FACP and requires minimal panel programming
- Displays device type identifiers, individual point alarm, trouble, supervisory, zone, and custom alpha labels
- Time-and-date display field
- Surface mount directly to wall or to single, double, or 4" square electrical box
- Semi-flush mount to single, double, or 4" square electrical box. Use ANN-SB80KIT for angled view mounting
- Can be remotely located up to 6,000 feet (1,800 m) from the panel
- Backlight turns off during AC loss to conserve battery power but will turn back on if an alarm condition occurs
- May be powered by 24 VDC from the host FACP or by remote power supply (requires 24 VDC)
- Up to eight ANN-80s can be connected on the ANN-Bus

Controls and Indicators

- AC Power
- Alarm
- Trouble
- Supervisory
- Alarm Silenced

Specifications

- **Operating voltage range:** 18 VDC to 28 VDC
- **Current consumption** @ 24 VDC nominal (filtered and non-resettable): 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)
- 5.375" (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

POWERING THE DEVICES ON 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 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.*

WIRE REQUIREMENTS: POWER CIRCUIT

- 14 to 18 AWG (0.75 - 2.08 mm^2) 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.

Ordering Options

ANN-80: Red 80 character LCD Annunciator.

ANN-80-W: White, 80 character LCD Annunciator.

ANN-SB80KIT-R: Red surface mount backbox with angled wedge.

ANN-SB80KIT-W: White surface mount backbox with angled wedge.

Agency Listings and Approvals

The listings and approvals below apply to the ANN-80. 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
- **FM approved**
- **CSFM:** 7120-0075:0211
- **MEA:** 442-06-E

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www.firelite.com

Country of Origin: USA

1 REMOTE ANNUNCIATOR
FA-5 SCALE: N.T.S.

BG-12LX

Addressable Manual Pull Station

FIRE-LITE ALARMS by Honeywell

Addressable Devices

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 (FACPs). 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 latches 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 12 AWG/3.25 mm^2 wire).
- Can be surface mounted (with SB-10 or SB-I/O) 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.

Construction

Shell, door, and handle are molded of durable polycarbonate material with a textured finish.

Specifications

- **Shipping Weight:** 9.6 oz. (272.15 g)
- **Normal operating voltage:** 24 VDC.
- **Maximum SLC loop voltage:** 28.0 VDC.
- **Maximum SLC standby current:** 375 µA.
- **Maximum SLC alarm current:** 5 mA.
- **Temperature Range:** 32°F to 120°F (0°C to 49°C)
- **Relative Humidity:** 10% to 93% (noncondensing)
- **For use indoors in a dry location**

Installation

The BG-12LX will mount semi-flush into a single-gang, double-gang, or standard 4" (10.16 cm) square electrical outlet box, or will surface mount to the model SB-10 or SB-I/O surface backbox. If the BG-12LX is being semi-flush mounted, then the optional trim ring (BG12TR) may be used. The BG12TR is usually needed for semi-flush mounting with 4" (10.16 cm) or double-gang boxes (not with single-gang boxes).

Operation

Pushing in, then pulling down on the handle causes it to latch in the down/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-9600 Series, 1 – 99 and MS-9200UDLS, 1 – 50 for MS-9050UD).

Architectural/Engineering Specifications

Manual Fire Alarm Stations shall be non-coded, with a key-operated reset lock in order that they may be tested, and so designed that after actual Emergency Operation, they cannot be restored to normal except by use of a key. An operated station shall automatically condition itself so as to be visually detected as activated. 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 stations in white letters, 1.00 inches (2.54 cm) or larger. Stations shall be suitable for surface mounting on matching backbox SB-10 or SB-I/O; or semi-flush 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/local 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-I/O: 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.

- **UL/ULC Listed:** S711 (listed for Canadian and non-Canadian applications).
- **MEA:** 67-02-E.
- **CSFM:** 7150-0075:0184.
- **FM Approved.**

Patented: U.S. Patent No. D428,351; 6,380,846; 6,314,772; 6,632,108.

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For more information, contact Fire•Lite Alarms. Phone: (800) 627-3473, FAX: (877) 699-4105.
www.firelite.com

Made in the U.S. A.

2 PULL STATION
FA-5 SCALE: N.T.S.

AD355(A)

ADAPT® Multi-Sensor Low Profile Intelligent Detector

FIRE-LITE ALARMS by Honeywell

Addressable Devices

General

The AD355(A) ADAPT® detector is an intelligent, addressable, multi-sensing, low-profile detector designed for use with FireLite 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 panel's 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 SLC connection.
- Rotary, decimal addressing: 01-159 with MS-9600UDLS and MS-9600LS series systems, and 01-99 with MS-9200UDLS/CI Firmware 4.
- Addresses can be viewed and changed without electronic programmers.
- Dual bi-color LED design provides 360° viewing angle.
- LEDs lock 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 commercial 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.

Specifications

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

AD355 in B210LP(A) Base

with classic CLIP systems; 0.5, 1, 2, 3, and 4%/ft. with FlashScan systems.

Size: 2.0" (5.3 cm) high; base determines diameter.

- **B210LP(A):** 6.1" (15.5 cm) diameter.
- **B501(A):** 4.1" (10.4 cm) diameter.
- **B200SR(A):** 6.875" (17.46 cm) diameter.
- **B224RB(A):** 6.2" (15.748 cm) diameter.

Shipping weight: 5.2 oz. (147 g).

Operating temperature: 0°C to 38°C (32°F to 100°F).

UL-Listed velocity range: 0 – 4000 ft./min. (1219.2 m/min.), suitable for installation in ducts.

Relative humidity: 10% – 93% noncondensing.

Thermal sensing rating: fixed-temperature setpoint 135°F (57°C).

ELECTRICAL SPECIFICATIONS

Voltage range: 15 – 32 volts DC peak.

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 ("ON").

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:

- 4.0" (10.16 cm) square box.
- 3.5" (8.89 cm) or 4.0" (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 in line with the output of a self-contained heater.*

Agency Listings and Approvals

These listings and approvals apply to the modules specified in this. 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 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-60059.*

B210LP(A): Plug-in detector base (included); standard U.S. flanged low-profile mounting base.

B210LPBP: Bulk pack of B210LP; package contains 10.

B501(A): Flangeless mounting base.

B501BP: Bulk pack of B501; package contains 10.

B200SR(A): Intelligent sounder base capable of producing sound output with ANSI Temporal 3 or continuous tone. Replaces B501BH series bases in retrofit applications.

B224RB(A): Relay base Screw terminals: up to 14 AWG (2.0 mm^2). Relay type Form-C. Rating: 2.0 A @ 30 VDC resistive; 0.3 A @ 110 VDC inductive; 1.0 A @ 30 VDC inductive.

B224BI(A): Isolator base. Maximum: 25 devices between isolator bases.

ACCESSORIES

F110: Retrofit flange to convert B210LP to match the B350LP/B350LP profile, or to convert older high-profile bases to low-profile.

F110BP: Bulk pack of F110, package contains 15.

F210: Replacement flange for B210LP(A) base.

RA100Z(A): Remote LED annunciator. 3 – 32 VDC. Fits U.S. single-gang electrical box. Supported by B210LP(A) and B501(A) bases only.

SMB600: Surface mounting kit for use with B210LP(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.

T55-127-010: Detector removal tool without pole.

XP-4: Extension pole for XR2B. Comes in three 5-foot (1.524 m) sections.

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www.firelite.com

Made in the U.S. A.

3 SMOKE DETECTOR
FA-5 SCALE: N.T.S.

D355PL(A)/DNRW InnovairFlex

Intelligent Non-Relay Photoelectric Duct Smoke Detector

FIRE-LITE ALARMS by Honeywell

Addressable Devices

General

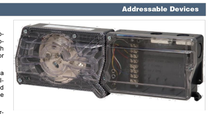
The FireLite InnovairFlex™ D355PL(A) intelligent non-relay photoelectric duct smoke detector and DNRW watertight non-relay photoelectric duct smoke detector feature a pivoting housing that fits both square and rectangular footprints capable of mounting to a round or rectangular duct.

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

These units sense smoke in the most challenging conditions, operating in airflow 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 FireLite InnovairFlex housing provides a 3/4-inch conduit knockout and ample space to facilitate easy wiring and mounting of a relay module.

The FireLite 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
- Air velocity rating from 100 ft/min to 4,000 ft/min (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 com this 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)

Operating Humidity Range: 0% to 95% relative humidity (non-condensing)

Air Duct Velocity: 100 to 4,000 ft/min (0.5 to 20.32 m/s)

Accessories

Fire•Lite provides system flexibility with a variety of accessories, including two remote test stations and different means of visible and audible system annunciation. As with our duct smoke detectors, all duct smoke detectors accessories are UL listed.

D355PLs and DNRWs with a date code of 0013 or higher do not require external 24VDC for remote test applications when used with a remote-test-capable detector.

ACCESSORY CURRENT LOADS AT 24 VDC

Device	Standby	Alarm
RA100Z	0mA	12 mA Max
RTS151R/RTS151KEY	0mA	12mA Max

Agency Listings and Approvals

Consult product manual for lists of compatible UL-Listed devices. 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:** S1059
- **ULC:** S1059
- **CSFM:** 3240-0075:0221
- **FM approved**

Product Line Information

NOTE: *"A" suffix indicates ULC listed model.*

D355PL: Intelligent non-relay photoelectric low flow smoke detector housing. Includes SD355R Detector

DNRW: Watertight intelligent non-relay photoelectric low flow duct smoke detector housing. Does not include detector head.

SD355R(A): Remote test capable addressable low-profile photoelectric smoke detector

SD355(A): Addressable low-profile photoelectric smoke detector

DCOIL: Remote test coil. Required for older DNR(W) duct detector housing

DST1(A): Metal sampling tube duct width up to 1 ft (0.3m)

DST1.5(A): Metal sampling tube duct widths up to 1 ft to 2 ft (0.3 to 0.6 m)

DST3(A): Metal sampling tube duct widths up to 2 ft to 4 ft (0.6 to 1.2 m)

DST5(A): Metal sampling tube duct widths up to 4 ft to 8 ft (1.2 to 2.4 m)

DST10(A): Metal sampling tube duct widths up to 8 ft to 12 ft (2.4 to 3.7 m)

DH400DE-1: Weatherproof enclosure

ETX: Metal exhaust tube duct, width 1 ft (0.3 m)

M02-04-00: Test magnet

P48-21-00: End cap for metal sampling tubes

RA100Z(A): Remote annunciator alarm LED

RTS151(A): Remote test station

RTS151KEY(A): Remote test station with key lock

Important Notes

- DNRW duct detector housings with a date code of 0013 or higher do not require a DCOIL or auxiliary 24 VDC 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 DCOIL and auxiliary 24 VDC power for remote test applications.

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www.firelite.com

Country of Origin: Mexico

4 DUCT DETECTOR
FA-5 SCALE: N.T.S.

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

DRAWING NAME
FIRE ALARM SPECIFICATIONS

NORTH CAROLINA PROFESSIONAL SEAL 050989 ENGINEER
9/6/23

DRAWN	MNH
CHECKED	SJB
DATE	9/6/2023
SCALE	AS NOTED
JOB NO.	23107
SHEET	FA-5

DN-60938.B

Indoor Selectable-Output Strobes and Horn Strobes for Ceiling Applications

NOTIFIER by Honeywell

Audio/Visual Devices

General

System Sensor L-Series audible visible notification products are rich with features guaranteed to cut installation times 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 shorting spring, installers can test wiring continuity before the device is installed.

Installers can also easily adapt devices to a suit a wide range of application requirements using field-selectable candela 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 and 30 candela
- Field-selectable candela settings on ceiling units: 15, 30, 75, 95, 115, 150, and 177
- Horn rated at 88+ dBA at 16 volts
- Rotary switch for horn tone and two volume selections
- Universal mounting plate for ceiling units
- Mounting plate shorting spring feature checks wiring continuity before device installation
- Electrically compatible with legacy SpectrAlert and SpectrAlert Advance devices
- Compatible with MDL3 sync module
- Listed for ceiling mounting only

SCRL

PC2WL

Architect/Engineer Specifications

GENERAL

L-Series ceiling-mount strobes and horn strobes shall mount to a standard 4 x 4 x 1½-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 1½ 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 volts. When used with the Sync•Circuit Module, 12-volt-rated notification appliance circuit outputs shall operate between 8.5 and 17.5 volts; 24-volt-rated notification appliance circuit outputs 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 candela 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. The horn shall have two audibility options and an option to switch between a temporal three pattern and a non-temporal (continuous) pattern. These options are set by a multiple position switch. The horn or horn strobe models shall operate on a coded or non-coded power supply.

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$^{11}/_{16}$ x 4$^{11}/_{16}$ x 2$^{1}/_{16}$ 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 93% non-condensing
- **Strobe Flash Rate:** 1 flash per second
- **Nominal Voltage:** Regulated 12VDC or regulated 24DC/FWR[1]
- **Operating Voltage Range[2]:** 8 to 17.5V (12V nominal) or 16 to 33V (24V nominal)
- **Operating Voltage Range with MLD3:** 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 2.5" high (173 mm diameter 64 mm high)
- **Ceiling-Mount Surface Mount Back Box Skirt Dimensions (SBBCR, SBBCW):** 6.9" 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 panel outputs.
2. P, S, PC, and SC products will operate at 12 V nominal only for 15 and 30 cd.

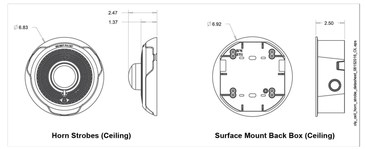
UL Current Draw Data

UL MAX. STROBE CURRENT DRAW (MA RMS)

Candela	8–17.5 Volts DC	16–33 Volts DC	16–33 Volts FWR
15	87	41	60
30	153	63	86
75	N/A	111	142
95	N/A	134	164
115	N/A	158	191
150	N/A	189	228
177	N/A	226	264

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

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
  - S5512 Strobe-only ALERT devices
- **FM Approved** (All except ALERT models)
- **CSFM Listed:** 7135-1653:0503 (Ceiling Horns and Ceiling Horn Strobes), 7125-1653:0504 (Ceiling Strobes)

Product Line Information

CEILING HORN STROBES

PC2W(L(A) (-E)(-F), PC2RL(A) (-E)(-F). 2-Wire, Horn Strobe (White, Red).

CEILING STROBES

SCWL(A) (-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).

SBBCWL, SBBCRL. Ceiling Surface Mount Back Box (White, Red).

NOTE: *"A" suffix indicates UL/C-Listed model. ULC-listed devices include required French labeling. See Agency Listings for listing details.*

NOTE: *"A" suffix indicates ULC-listed models, ULC models have FIRE/FEU marking on cover.*

NOTE: *ULC-listed models add "-E" suffix for English only "FIRE" marking on cover.*

NOTE: *ULC-listed models add "-F" suffix for French only "FEU" marking on cover.*

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 SpectrAlert Advance line which uses an algorithm that hops frequencies between 2Hz and 4Hz.

Candela	8 VDC		16 VDC						
	15	30	15	30	75	95	115	150	177
Temporal High	103	167	71	90	143	165	187	217	254
Temporal Low	96	165	54	71	137	161	185	215	249
Non-Temporal High	108	173	71	90	141	165	187	230	273
Non-Temporal Low	95	166	54	71	124	161	170	216	258
3.1K Temporal High	111	164	69	94	147	163	184	229	257
3.1K Temporal Low	103	163	54	88	143	155	185	212	252
3.1K Non-Temporal High	111	172	69	94	144	164	202	229	271
3.1K Non-Temporal Low	103	169	54	88	131	155	187	217	259

Candela	15VFWR						
	15	30	75	95	115	150	177
Temporal High	107	135	179	198	223	254	286
Temporal Low	78	101	151	172	199	229	262
Non-Temporal High	107	135	179	198	223	254	286
Non-Temporal Low	78	101	151	172	199	229	262
3.1K Temporal High	108	135	179	200	225	255	289
3.1K Temporal Low	79	101	150	171	196	229	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 Strobe Tones and Sound Output Data

HORN AND HORN STROBE OUTPUT (DBA)

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

1 FA-6 CEILING MOUNTED NOTIFICATION DEVICE
SCALE: N.T.S.

DN-60918.B

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

NOTIFIER by Honeywell

Audio/Visual Devices

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, FIRE-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 shorting spring, so installers can test wiring continuity before the device is installed.

Installers can also easily adapt devices to a suit a wide range of application requirements using field-selectable candela 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 candela.
- Field-selectable candela settings on wall units: 15, 30, 75, 95, 110, 135, and 185.
- Horn rated at 88+ dBA at 16 volts.
- Rotary switch for horn tone and two volume selections.
- Universal mounting plate for all standard and all compact wall units.
- Mounting plate shorting spring checks wiring continuity, before device installation.
- Electrically Compatible with legacy SpectrAlert® and SpectrAlert Advance devices.
- Compatible with MDL3 sync module.
- Listed for wall mounting only.

P2RL

P2GWL

SGWL

HWL

Architectural/Engineering Specifications

General: L-Series standard horns, strobes, and horn strobes shall mount to a standard 2" x 4" x 1½" back box, 4" x 4" x 1½" 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 1½" 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 12 or 24 volts. When used with the Sync•Circuit Module, 12-volt-rated notification appliance circuit outputs shall operate between 8.5 and 17.5 volts; 24-volt-rated c appliance circuit outputs 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 unaltered power supply. Strobes and horn strobes shall have field-selectable candela settings including 15, 30, 75, 95, 110, 135, and 185.

Strobe. The strobe shall be a 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 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. The horn shall have two audibility options and an option to switch between a temporal three pattern and a non-temporal (continuous) pattern. These options are set by a multiple position switch. The horn on horn strobe models shall operate on a coded or non-coded power supply.

Synchronization Module. The module shall be a Sync•Circuit model MDL3 listed to UL 464 and shall be approved for fire protective service. The module shall synchronize SpectrAlert 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$^{11}/_{16}$ x 4$^{11}/_{16}$ x 2$^{1}/_{16}$ 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 93% non-condensing.
- **Strobe Flash Rate:** 1 flash per second.
- **Nominal Voltage:** Regulated 12 DC or regulated 24 DC/FWR[1] (full wave rectified).
- **Operating Voltage Range[2]:** 8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal).
- **Operating Voltage Range:** MDL3 Sync Module 8.5 to 17.5 V (12 V nominal) or 16.5 to 33 V (24 V nominal).
- **Input Terminal Wire Gauge:** 12 to 18 AWG.
- **Wall-Mount Dimensions (including lens):** 5.6" L x 4.7" W x 1.25" D (143 mm L x 119 mm W x 32 mm D).
- **Compact Wall-Mount Dimensions (including lens):** 5.26" L x 3.46" W x 1.93" D (133 mm L x 88 mm W x 49 mm D).
- **Horn Dimensions:** 5.6" L x 4.7" W x 1.25" D (143 mm L x 119 mm W x 32 mm D).
- **Compact Horn Dimensions:** 5.26" L x 3.45" W x 1.25" D (133mm L x 88mm W x 32mm D).

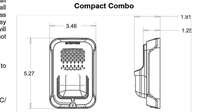
NOTE:

1. Full Wave Rectified (FWR) voltage is a non-regulated, time-varying power source that is used on some power supply and panel outputs.
2. P, S, PC, and SC products will operate at 12 V nominal only for 15 cd and 30 cd.

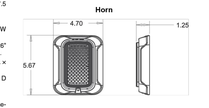
L-Series Drawings

Compact Horn

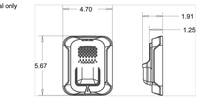
Compact Combo



Horn



Combo



UL Current Draw Data

UL MAX. STROBE CURRENT DRAW (MA RMS)

Candela	8-17.5 Volts DC	16-33 Volts DC	16-33 Volts FWR
15	88	43	60
30	143	63	83
75	N/A	107	136
95	N/A	121	155
110	N/A	148	179
135	N/A	172	209
185	N/A	222	257

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 SpectrAlert Advance line which uses an algorithm that hops frequencies between 2Hz and 4Hz.

Sound Pattern	dB	8-17.5 Volts DC	16-33 Volts DC	16-33 Volts FWR
Temporal	High	39	44	54
Temporal	Low	28	32	54
Non-Temporal	High	43	47	54
Non-Temporal	Low	29	32	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 SpectrAlert Advance line which uses an algorithm that hops frequencies between 2Hz and 4Hz.

	DC Input: 8-17.5 Volts	DC Input: 16-33 Volts						FWR Input: 16 FWR						
	15 cd	30 cd	15 cd	30 cd	75 cd	95 cd	110 cd	135 cd	185 cd	15 cd	30 cd	75 cd	90 cd	110 cd	135 cd	185 cd
Temporal High	96	158	54	74	121	142	162	196	245	83	107	156	177	198	234	287
Temporal Low	93	154	44	65	111	133	157	184	235	68	91	145	165	185	223	271
Non-Temporal High	108	166	73	94	139	160	182	211	262	111	135	185	207	230	264	316
Non-TemporalLow	93	156	51	71	119	139	162	190	239	79	104	157	175	197	235	283
3.1K Temporal High	93	156	53	73	119	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	135	157	175	208	261	104	131	177	204	230	264	326
3.1K Non-Temporal Low	93	156	52	72	119	138	162	192	242	77	102	156	177	199	234	291

HORN TONES AND SOUND OUTPUT DATA: HORN AND HORN STROBE OUTPUT (DBA)

The 3.1k is the sound of the mini-horns. The EM (which stands for Electro-mechanical) is the sound of the SpectrAlert Advance line which uses an algorithm that hops frequencies between 2Hz and 4Hz.
In the coded positions, temporal coding must be provided by the NAC. If the NAC voltage is held constant, the horn output will remain constantly on.

Pos.	Sound Pattern	dB	8-17.5 Volts DC	16-33 Volts DC	16-33 Volts FWR
1	Temporal	High	84	89	89
2	Temporal	Low	75	83	83
3	Non-Temporal	High	85	90	90
4	Non-Temporal	Low	76	84	84
5	3.1 KHz Temporal	High	83	88	88
6	3.1 KHz Temporal	Low	76	82	82
7	3.1 KHz Non-Temporal	High	84	89	89
8	3.1 KHz Non-Temporal	Low	77	83	83
9†	Coded	High	85	90	90
10†	3.1 KHz Coded	High	84	89	89

†Settings 9 and 10 are not available on the 2-wire horn strobes.

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 Wall Horn Strobes
  - S5512 Wall Strobes
  - S5512 Wall Horns
  - S5512 Strobe-only ALERT devices
- **FM Approved** (All except ALERT models)
- **CSFM Listed:** 7135-1653:0503 (Wall Horns and Wall Horn Strobes), 7125-1653:0504 (Wall Strobes)

Product Line Information

WALL HORN STROBES

P2W(L)A(-E)(-F), P2RL(A)(-E)(-F). 2-Wire, Horn Strobe (White, Red).

PG2W(L)A(-E)(-F), PG2RL(A)(-E)(-F). 2-Wire, Compact Horn Strobe (White, Red).

P2W(L)A(-F, P2RL(A)-P. 2-Wire, Horn Strobe, Plain (White, Red).

P2WL-SP, P2RL-SP. 2-Wire, Horn Strobe, FUEGO (White, Red).

WALL STROBES

SWL(A)(-E)(-F), SRL(A)(-E)(-F). Strobe, Red (White, Red).

SGWL(A)(-E)(-F), SGRL(A)(-E)(-F). Compact Strobe (White, Red).

SWL(A)-P, SRL(A)-P. Strobe, Plain (White, Red).

SRL-SP. Strobe, FUEGO (Red).

SWL-CLR-ALERT. Strobe, ALERT (White).

SWL-ALERT. Strobe, Wall, Amber Lens, ALERT (White).

HORNS

HWL(A), HRL(A). Horn (White, Red).

HGWL(A), HGRL(A). Compact Horn (White, Red).

ACCESSORIES

TR-2W, TR-2. Universal Wall Trim Ring (White, Red).

SBBWL, SBBRL. Wall Surface Mount Back Box (White, Red).

SBBGWL, SBBGRL. Compact Wall Surface Mount Back Box (White, Red).

NOTE: *"A" suffix indicates UL/C-Listed model. ULC-listed devices include required French labeling. See Agency Listings for listing details.*

NOTE: *ULC-listed models add "-E" suffix for English only "FIRE" marking on cover.*

NOTE: *ULC-listed models add "-F" suffix for French only "FEU" marking on cover.*

2 FA-6 WALL MOUNTED NOTIFICATION DEVICE
SCALE: N.T.S.

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

DRAWING NAME
FIRE ALARM SPECIFICATIONS

NORTH CAROLINA PROFESSIONAL SEAL 050989 ENGINEER
9/6/23

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

MMF-300(A) Series, MDF-300

Addressable Monitor Modules

FIRE-LITE ALARMS by Honeywell

Addressable Devices

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 0.65" (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 two independent two-wire Style B (Class B) dry-contact initiating device circuits (IDCs) at two separate, consecutive addresses in intelligent, two-wire systems.

LiteSpeed™ 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.
- Direct-dial entry of address: 01 – 159 on MS-9600 series panels, 01 – 99 on other compatible systems.
- LED flashes during normal operation and latches 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 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) (Type H)

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/normal/short) of its Initiating Device Circuit (IDC). A flashing LED indicates that the module is in communication with the control panel. The LED latches steady on alarm (subject to current limitations on the loop).

MMF-300(A) Specifications

Nominal operating voltage: 15 to 32 VDC.

Maximum current draw: 5.0 mA (LED on).

Average operating current: 375 µA (LED flashing), 1 communication every 5 seconds, 47k EOL.

Maximum IDC wiring resistance: 1500 Ohms.

Maximum IDC Voltage: 11 Volts.

EOL resistance: 47K Ohms.

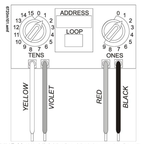
Temperature range: 32°F to 120°F (0°C to 49°C).

Humidity range: 10% to 93% noncondensing.

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.
- Tinned, stripped leads for ease of wiring.
- Direct-dial entry of address: 01 – 159 on MS-9600 series panels, 01 – 99 on other compatible systems.



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 is wired as an NFPA Style B (Class B) Initiating Device Circuit. A 47K Ohm End-of-Line Resistor (provided) terminates the 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/normal/short) of its Initiating Device Circuit (IDC).

MMF-301(A) Specifications

Nominal operating voltage: 15 to 32 VDC.

Average operating current: 350 µA, 1 communication every 5 seconds, 47k EOL; 600 µA Max. (Communicating, IDC Shorted).

Maximum IDC wiring resistance: 1500 Ohms.

Maximum IDC Voltage: 11 Volts.

Maximum IDC Current: 450 µA.

EOL resistance: 47K Ohms.

Temperature range: 32°F to 120°F (0°C to 49°C).

Humidity range: 10% to 93% noncondensing.

Dimensions: 1.3" (3.302 cm) high x 2.75" (6.985 cm) wide x 0.65" (1.651 cm) deep.

Wire length: 6" (15.24 cm) minimum.

MMF-302(A) Interface Module

- Supports compatible two-wire smoke detectors.
- Supervises IDC wiring and connection of external power source.
- High noise (EMF/RFI) immunity.
- SEMS screws with clamping plates for ease of wiring.
- Direct-dial entry entry of address: 01 – 159 on MS-9600 series panels, 01 – 99 on other compatible systems.
- LED flashes during normal operation.
- LED latches steady to indicate alarm on command from control panel.

The MMF-302(A) Interface Module is intended for use in intelligent, addressable 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 the MMF-302(A) 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 3.9 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/normal/short) of its Initiating Device Circuit (IDC). A flashing LED indicates that the module is in communication with the control panel. The LED latches steady on alarm (subject to current limitations on the loop).

MMF-302(A) Specifications

Nominal operating voltage: 15 to 32 VDC.

Maximum current draw: 5.1 mA (LED on).

Maximum IDC wiring resistance: 25 Ohms.

Average operating current: 270 µA, 1 communication and 1 LED flash every 5 seconds, 3.9k eol.

EOL resistance: 3.9K Ohms.

External supply voltage (between Terminals T10 and T11):

- DC voltage: 24 volts power limited.
- Ripple voltage: 0.1 Vrms maximum.
- Current: 90 mA per module maximum.

Temperature range: 32°F to 120°F (0°C to 49°C).

Humidity range: 10% to 93% noncondensing.

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) Dual Monitor Module

The MDF-300(A) Dual Monitor Module is intended for use in intelligent, two-wire systems. It provides two independent two-wire initiating device circuits (IDCs) at two separate, consecutive addresses. It is capable of monitoring normally open contact fire alarm and supervisory devices. The module has a single panel-controlled LED.

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.*

MDF-300(A) Specifications

Normal 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 93% (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 "26", then it will automatically assign itself to addresses "26" and "27".

NOTE: *"Ones" 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 SMB500 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 rigid 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 ULC-listed model.*

MMF-300(A): Monitor module.

MMF-301(A): Monitor module, miniature.

MMF-302(A): Monitor module, two-wire detectors.

MDF-300(A): Monitor module, dual, two independent Class B circuits.

SMB500: Optional surface-mount backbox.

NOTE: *See installation instructions and refer to the SLC Wiring Manual, PN 51309.*

Architects'/Engineers' Specifications

Specifications of these devices and all FireLite products are available from FireLite.

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

CRF-300(A)

Relay Module

FIRE-LITE ALARMS by Honeywell

Addressable Devices

General

The **CRF-300(A)** Addressable Relay Module provides the system with a dry-contact output for activating a variety of auxiliary devices, such as fans, door holders, dampers, control equipment, etc. Addressability allows the dry contact to be activated through panel programming, on a select basis.

LiteSpeed™ is a communication protocol developed by FireLite Engineering that greatly enhances 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 designs.

Features

- Built-in type identification automatically identifies these devices to the control panel.
- Internal circuitry and relay powered directly by two-wire SLC loop
- Integral LED "blinks" green each time a communication is received from the control panel and turns on in steady red when activated.
- High noise immunity (EMF/RFI).
- Wide viewing angle of LED
- SEMS screws with clamping plates for wiring ease.
- Direct-dial entry of address: 01– 159 on MS-9600(A) series panels, 01 – 99 on MS-9200UD(LS(A) and MS-9050UD(A).

Applications

The CRF-300(A) may be programmed to operate dry contacts for door holders, Air Handling Unit shutdown, etc., and to reset four-wire smoke detector power.

Construction

- The face plate is made of off-white heat-resistant plastic.
- Controls include two rotary switches for direct-dial entry of address setting.
- The CRF-300(A) is configured for a single Class B (Style Y) or Class A (Style Z) Notification Appliance Circuit.
- The CRF-300(A) provides two Form-C dry contacts that switch together.

Operation

Each CRF-300(A) uses one of the addresses on a SLC loop. It responds to regular polls from the control panel and reports its type and status, including the open/normal/short status of its Notification Appliance Circuit (NAC). The LED blinks with each poll received. On command, it activates its internal relay.

NOTE: *Open/short supervision is suspended with the CRF-300.*

Rotary switches set a unique address for each module. The address may be set before or after mounting. The built-in TYPE CODE (not settable) will identify the module to the control panel, so as to differentiate between a control module and a relay module.

CRF-300(A)

Specifications

Normal operating voltage: 15 to 32 VDC.

Maximum SLC current draw: 6.5 mA (LED on).

Average operating current: 230 µA direct poll (CLIP mode), 255 µA group poll (LiteSpeed mode) with LED flashing.

EOL resistance: not used.

Temperature range: 32°F to 120°F (0°C to 49°C).

Humidity range: 10% to 93% 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 mm) deep box.

Relay Contact Ratings

Load Description	Application	Maximum Voltage	Current Rating
Resistive	Non-Coded	30 VDC	3.0 A
Resistive	Coded	30 VDC	2.0 A
Resistive	Non-Coded	110 VDC	0.9 A
Resistive	Non-Coded	125 VAC	0.9 A
Inductive (L/R=5ms)	Coded	30 VDC	0.5 A
Inductive (L/R=2ms)	Coded	30 VDC	1.0 A
Inductive (PF=0.35)	Non-Coded	125 VAC	0.5 A

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:** 7300-0075:185
- **MEA:** 72-01-E

Product Line Information

CRF-300(A): Intelligent addressable relay module.

: Intelligent addressable relay module, ULC listed model.

SMB500: Optional surface-mount backbox.

NOTE: *For installation instructions, see document I56-1100-005 and refer to the SLC Wiring Manual, document 51309.*

2 FA-7 RELAY MODULE
SCALE: N.T.S.

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

DRAWING NAME
FIRE ALARM SPECIFICATIONS

NORTH CAROLINA PROFESSIONAL SEAL 050989 ENGINEER
9/6/23

DRAWN	MNH
CHECKED	SJB
DATE	9/6/2023
SCALE	AS NOTED
JOB NO.	23107
SHEET	FA-7