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PLOT PLAN
N.T.S

FIRE ALARM SCOPE OF WORK:

THE SCOPE OF WORK IS TO PROVIDE NEW FIRE ALARM EQUIPMENT, DEVICES, WIRING AND NOTIFICATION APPLIANCES. CONDUCT A PRETEST OF ALL NEW DEVICES AND APPLIANCES CONNECTED TO THE FIRE ALARM SYSTEM. SYSTEM TO BE INSPECTED BY AUTHORITY HAVING JURISDICTION (AHJ). CONDUCT A FINAL ACCEPTANCE TEST OF THE FIRE ALARM SYSTEM AND ALL FIRE ALARM COMPONENTS. PROVIDE FINAL ACCEPTANCE DOCUMENTATION AND PACE A COPY IN THE DOCUMENTATION CABINET UNDER THE FACP.

ADDRESSABLE FIRE ALARM SYMBOL LIST

FACP	FIRE ALARM PANEL
PS	FIRE ALARM PULL STATION
H/S	HORN STROBE
SL	STROBE LIGHT
S	SMOKE DETECTOR
S_E	SMOKE DETECTOR FOR ELEVATOR LOBBY
CO_{SB}	CARBON MONOXIDE DETECTOR WITH SOUNDER BASE
F/S	FAN SHUT DOWN RELAY
M	MONITOR MODULE
M^2	DUAL MONITOR MODULE
D	DUCT SMOKE DETECTOR WITH LED AND TEST KEY SWITCH

NFPA 72 2016

Table 18.5.5.4.1(a) Room Spacing for Wall-Mounted Visible Appliances

Maximum Room Size		Minimum Required Light Output [Effective Intensity (cd)]	
ft	m	One Light per Room	Four Lights per Room (One Light per Wall)
20 × 20	6.10 × 6.10	15	NA
28 × 28	8.53 × 8.53	30	NA
30 × 30	9.14 × 9.14	34	NA
40 × 40	12.2 × 12.2	60	15
45 × 45	13.7 × 13.7	75	19
50 × 50	15.2 × 15.2	94	30
54 × 54	16.5 × 16.5	110	30
55 × 55	16.8 × 16.8	115	30
60 × 60	18.3 × 18.3	135	30
63 × 63	19.2 × 19.2	150	37
68 × 68	20.7 × 20.7	177	43
70 × 70	21.3 × 21.3	184	60
80 × 80	24.4 × 24.4	240	60
90 × 90	27.4 × 27.4	304	95
100 × 100	30.5 × 30.5	375	95
110 × 110	33.5 × 33.5	455	135
120 × 120	36.6 × 36.6	540	135
130 × 130	39.6 × 39.6	635	185

NA: Not allowable.

NFPA 72 2016

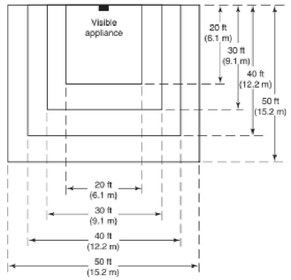
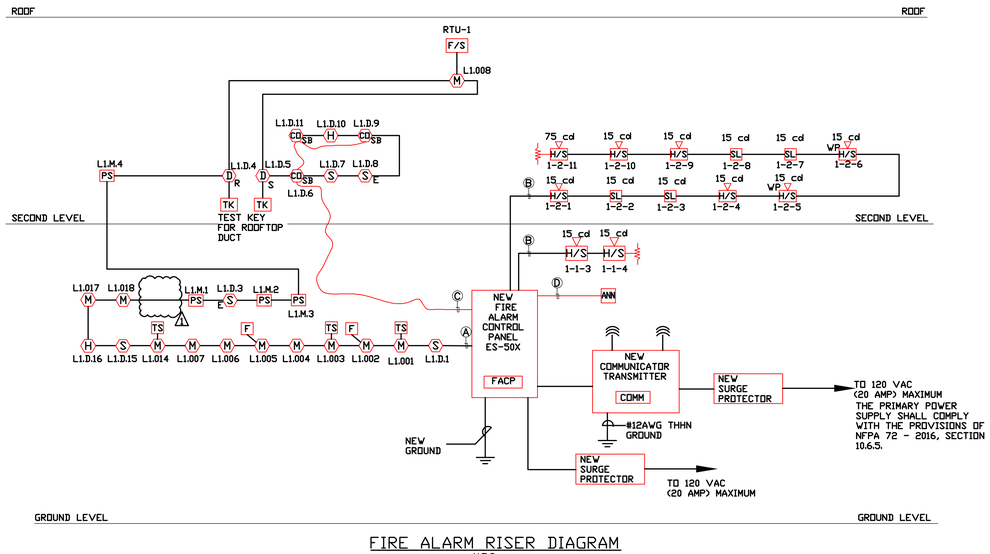


FIGURE 18.5.5.4.1 Room Spacing for Wall-Mounted Visible Appliances.

REMOTE POWER SUPPLY NUMBER (0 INDICATES FACP)
CIRCUIT NUMBER
DEVICE IDENTIFIER
0-1-1
NAC DESIGNATOR LEGEND

IDC LOOP NUMBER
DEVICE TYPE
DEVICE IDENTIFIER
L1D10
IDC DESIGNATOR LEGEND



FIRE ALARM RISER DIAGRAM

N.T.S

CABLE LEGEND	

GENERAL NOTES:

FAFLGENGNOTES 4-30-24

1) ALL EQUIPMENT SHALL BE NEW AND U.L. LISTED, AND SHALL BE LISTED FOR USE AND COMPATIBLE.

2) FOR APPLICATIONS REQUIRING A FIRE ALARM SYSTEM REPLACEMENT (FCC, FACP, OR SCP, SSCP ETC), THE CONTRACTOR SHALL BE RESPONSIBLE FOR INTERFACING THE NEW SYSTEM WITH THE OLD SYSTEM SO THAT THEY ACT AS ONE. ONCE SYSTEM APPROVAL IS GRANTED, THE CONTRACTOR SHALL THEN BE RESPONSIBLE FOR REMOVING THE OLD SYSTEM INCLUDING REMOVING OLD WIRE AND CONDUIT, PATCH, PAINT, AND CLEANUP. FIRE WATCH, IF NECESSARY, SHALL BE THE CONTRACTOR'S RESPONSIBILITY.

3) THE INSTALLATION OF THE FIRE ALARM SYSTEM SHALL COMPLY WITH NFPA 70, NATIONAL ELECTRICAL CODE (2020 EDITION), FLORIDA FIRE PREVENTION CODE 8TH EDITION, NFPA 72 FIRE ALARM CODE (2019 EDITION), FLORIDA BUILDING CODE (FBC) 8TH EDITION.

4) FIRE ALARM SYSTEM SHALL CONSIST OF A FIRE DETECTION CONTROL AND NOTIFICATION SYSTEM.

5) THE FIRE ALARM EQUIPMENT SHALL BE 'POWER LIMITED'

6) LEVEL OF SURVIVABILITY: VERTICAL RISER CABLE FOR ALL SYSTEMS THAT INCLUDE PARTIAL EVACUATION (ANYTHING OTHER THAN A GENERAL ALARM SEQUENCE SHALL INCLUDE A PATHWAY SURVIVABILITY LEVEL 2 (NOT FULLY SPRINKLERED) OR 3 (FULLY SPRINKLERED) AND A 2 HOUR RATED SHAFT OR RISER. ALL OTHERS SHALL INCLUDE A PATHWAY LEVEL 0 (UNSPRINKLERED) OR LEVEL 1 (FULLY SPRINKLERED).

7) THE FIRE ALARM CONTROL PANEL SHALL BE INTELLIGENT AND HAVE STAND-BY BATTERY BACK-UP AS PER NFPA 72 (2019 EDITION) CH. 10.6.7.2.1 PROVIDING BATTERY POWER CAPACITY FOR THE ENTIRE SYSTEM TO OPERATE FOR 24 HOURS IN STAND-BY MODE AND THE ENTIRE SYSTEM IN ALARM FOR 5 MIN.

8) THE PRIMARY POWER SOURCE FOR THE FIRE ALARM SYSTEM SHALL BE CONNECTED TO A DEDICATED LOCKED CIRCUIT BREAKER AND CLEARLY LABEL 'FIRE ALARM'.

9) CABLE TYPE, SIZE AND INSTALLATION REQUIREMENTS SHALL COMPLY WITH ARTICLE 760 OF NFPA 70, NATIONAL ELECTRICAL CODE (2020 EDITION) FOR POWER LIMITED FIRE PROTECTION SIGNALING CIRCUITS-WIRING METHODS AND MATERIALS.

10) MINIMUM CABLE SIZE - REFER TO WIRE LEGEND. CONTRACTOR TO MODIFY CABLE SIZE TO COMPENSATE FOR VOLTAGE DROP. ALL WIRING AND CONDUIT TO CONFORM TO NFPA 70 NATIONAL ELECTRICAL CODE (2020 EDITION). WIRE SHALL BE SOLID COOPER.

11) ALL WIRING INSTALLED IN DUCTS, PLENUMS, AND OTHER SPACES USED FOR ENVIRONMENTAL AIR SHALL BE TYPE FPLP, AS PER NFPA 70, NATIONAL ELECTRICAL CODE (2020 EDITION).

12) ALARM NOTIFICATION APPLIANCES SHALL BE VISUAL, AUDIBLE-VISUAL AND/OR AUDIBLE TYPE.

13) AUDIBLE OR VISUAL COMPONENTS SHALL BE HORN, BELLS, STROBES OR HORN/STROBES. AUDIBLE DEVICES SHALL CONFORM WITH NFPA 72 (2019 EDITION), CHAPTER 18.4 FOR LOCATION, SPACING AND AUDIBILITY REQUIREMENTS.

14) VISUAL DEVICES SHALL CONFORM WITH NFPA 72 (2019) EDITION, CHAPTER 18.5 FOR LOCATION, SPACING AND VISIBILITY REQUIREMENTS.
ALL STROBE LIGHTS SHALL BE UL-1971 APPROVED/LISTED. THE MINIMUM CANDELA IS 15 UNLESS OTHERWISE NOTED. STROBE SYNCHRONIZATION SHALL BE MAINTAINED SO THAT ALL STROBES IN THE SAME FIELD OF VIEW FLASH TOGETHER IN SYNCHRONIZATION PER NFPA 72 REQUIREMENTS.

15) BOOSTER POWER SUPPLIES SHALL BE PROVIDED AS NECESSARY FOR STROBE CIRCUIT DRAW AND LENGTHY STROBE CIRCUIT RUNS. PROVIDE A SEPARATE 120V POWER FEED WITH SURGE PROTECTION FOR EACH BOOSTER AS WELL AS A SMOKE DETECTOR MOUNTED DIRECTLY ABOVE IT.

16) THE LOCATIONS OF THE SMOKE DETECTORS SHALL BE SPECIFIED ON THE DRAWINGS. LOCATION AND SPACING SHALL BE IN CONFORMANCE WITH NFPA 72 (2019 EDITION) CHAPTER 17.5.3, 17.6, 17.7 AND 17.9.
ALL AREA OR DUCT SMOKE DETECTORS SHALL BE PHOTO-ELECTRIC TYPE.

17) DUCT MOUNTED SMOKE DETECTORS SHALL BE MOUNTED ON THE DUCTWORK IN STRICT ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS. ALL DUCT DETECTORS SHALL BE PROVIDED WITH A REMOTE LED AND TEST SWITCH.

18) OUTDOOR DEVICES MUST BE RATED FOR OUTDOOR USE AND INCLUDE THE APPROPRIATE BOXES.

19) MANUAL PULL STATIONS SHALL BE INSTALLED IN CONFORMANCE WITH NFPA 72 (2019 EDITION) CHAPTER 17.14. MANUAL STATIONS SHALL BE MOUNTED 48 INCHES ABOVE THE FINISHED FLOOR TO THE HANDLE OF THE STATION AND SHALL BE PAINTED FIRE DEPARTMENT RED. ALL MANUAL STATION SHALL BE INSTALLED SO THAT THEY ARE KEPT UN-OBSTRUCTED AT ALL TIMES.

20) CONTRACTOR WILL MAKE ANY CORRECTIONS TO DRAWINGS TO REFLECT THE FIRE ALARM SYSTEM, AS FINALED. DEVICES SHOWN ON PLANS MAY NEED TO BE RELOCATED DUE TO ACTUAL BUILDING AND SPRINKLER DESIGN.

21) ALL CEILING MOUNT DEVICES MUST BE SECURELY FASTENED TO BUILDING CONSTRUCTION.

22) CIRCUIT POLARITY SHALL BE OBSERVED ON ALL CIRCUITS. T-TAPPING SHALL NOT BE ALLOWED ON ANY NOTIFICATION CIRCUITS (HORN, STROBE OR SPEAKER). T-TAPPING SHALL NOT BE PERMITTED ON ADDRESSABLE CIRCUITS WITHOUT THE EXPRESS PERMISSION OF THE ENGINEER.

23) CONDUIT, IF REQUIRED SHALL BE NO MORE THAN 40% FILL AS PER NFPA 70, NATIONAL ELECTRICAL CODE (2020 EDITION).

24) THE FIRE ALARM PANEL(S) SHALL NOT BE USED TO POWER ANY UNAUTHORIZED EXTERNAL DEVICES.

25) ALL FIRE STOP PENETRATIONS SHALL BE SEALED WITH UL APPROVED FIRESTOP MATERIAL. REFER TO ARCHITECTURAL DRAWINGS FOR FIRE RATING.

26) ALL SURGE/TRANSIENT SUPPRESSORS MUST BE INSTALLED PER MANUFACTURERS INSTRUCTIONS.

27) FIRE ALARM RISER CIRCUITS SHALL BE CLASS 'B', STYLE 'Y' & STYLE '4'.

28) A BREAK IN ANY FIELD WIRING OR GROUNDING OF ANY CONDUCTOR WILL RESULT IN THE ACTIVATION OF THE FIRE ALARM CONTROL PANEL(S) 'TROUBLE' SIGNAL WHICH WILL PRODUCE AN AUDIBLE AND VISIBLE ANNUNCIATION AT THE PANEL(S) AND ANY REMOTE ANNUNCIATOR.

29) THE 120-VAC POWER FEED FOR THE FIRE ALARM PANEL(S) AND POWER SUPPLIES WILL BE FROM A BRANCH CIRCUIT AND SHALL SUPPLY NO OTHER LOADS OTHER THEN FIRE ALARM OR EMERGENCY COMMUNICATION EQUIPMENT AND THE BREAKER SHALL BE IDENTIFIED AS 'FIRE ALARM CIRCUIT' FOR FIRE ALARM USE, 'EMERGENCY COMMUNICATIONS' FOR EMERGENCY COMMUNICATIONS SYSTEM, 'FIRE ALARM/ECS' FOR COMBINATION FIRE ALARM AND EMERGENCY COMMUNICATION SYSTEMS AS PER NFPA 72 (2019 EDITION) 10.6.5.

30) THE FIRE ALARM SYSTEM SHALL COMPLY WITH THE REQUIREMENTS IN ACCORDANCE WITH NFPA 72, CHAPTER 26.3 (2019 EDITION) FOR CENTRAL STATION SERVICE.

31) UPON COMPLETION OF THE INSTALLATION, THE FIRE ALARM SYSTEM AND ALL FIRE ALARM COMPONENTS SHALL BE TESTED IN ACCORDANCE WITH NFPA72.
A 'CERTIFICATE OF COMPLETION' SHALL BE PROVIDED TO THE COSTUMER AND LOCAL AUTHORITY HAVING JURISDICTION.
A LOGBOOK SHALL REMAIN ON THE PREMISES THAT SHALL INCLUDE DRAWINGS, MANUALS, INSPECTIONS RECORDS, INSTRUCTIONS, ETC. OPERATING, TESTING, AND MAINTENANCE INSTRUCTIONS AND RECORD DRAWINGS ('AS-BUILTS') AND EQUIPMENT SPECIFICATIONS SHALL BE PROVIDED AT AN APPROVED LOCATION.

32) ALL EQUIPMENT SHALL BE INSTALLED IN CONFORMITY WITH THE FLORIDA FIRE PREVENTION CODE 8TH EDITION.

33) TRANSFORMERS AND OTHER DEVICES SUPPLIED FROM POWER-SUPPLY CONDUCTORS SHALL BE PROTECTED BY AN OVERCURRENT DEVICE NOT RATED OVER 20 AMPERES.

34) ALL EQUIPMENT SHALL BE INSTALLED IN AN ENVIRONMENTALLY CONTROLLED AREA TO MAINTAIN THE REQUIRED PERFORMANCE CHARACTERISTICS, AS PER NFPA 72 (2019 EDITION) 10.3.5 VOLTAGE, TEMPERATURE, AND HUMIDITY VARIATION. EQUIPMENT SHALL BE DESIGNED SO THAT IT IS CAPABLE OF PERFORMING ITS INTENDED FUNCTIONS UNDER THE FOLLOWING CONDITIONS:

(1)* AT 85 PERCENT AND AT 110 PERCENT OF THE NAMEPLATE PRIMARY (MAIN) AND SECONDARY (STANDBY) INPUT VOLTAGE(S)
(2) AT AMBIENT TEMPERATURES OF 0°C (32°F) AND 49°C (120°F)
(3) AT A RELATIVE HUMIDITY OF 85 PERCENT AND AN AMBIENT TEMPERATURE OF 30°C (86°F)

35) NFPA 72 (2019 EDITION) 10.4.3 EQUIPMENT SHALL BE INSTALLED IN LOCATIONS WHERE CONDITIONS DO NOT EXCEED THE VOLTAGE, TEMPERATURE, AND HUMIDITY LIMITS SPECIFIED IN THE MANUFACTURE'S PUBLISHED INSTRUCTIONS.

36) SHOP DRAWINGS FOR FIRE ALARM SYSTEMS SHALL BE PREPARED IN ACCORDANCE WITH NFPA 72 AND SUBMITTED FOR REVIEW AND APPROVAL PRIOR TO SYSTEM INSTALLATION.

37) AUDIBLE NOTIFICATION DESIGN GOALS FOR THIS PROJECT ARE AS FOLLOWS:

AUDIBLE NOTIFICATION DEVICES DESIGN CRITERIA	AMBIENT LEVEL	DESIGN GOAL
OFFICES	55dBA	> 70dBA
CORRIDORS	55dBA	> 70dBA
CLASSROOMS	45dBA	> 60dBA
MECHANICAL ROOMS	85dBA	> 100dBA
PLACE OF ASSEMBLY	55dBA	> 70dBA
INSTITUTIONAL	50dBA	> 65dBA
MERCANTILE	40dBA	> 55dBA

NFPA 72 2019 TABLE 18.5.5.5.1(B) ROOM SPACING FOR CEILING MOUNTED VISIBLE APPLIANCES

MAXIMUM ROOM SIZE	MAXIMUM LENS HEIGHT*	MAXIMUM REQUIRED LIGHT OUTPUT (Effective Intensity) ONE LIGHT (cd)
ft	ft	
20x20	10	15
30x30	10	30
44x44	10	75

* THIS DOES NOT PRECLUDE MOUNTING LENS AT LOWER HEIGHTS.
NOTES:
1.- TABLE 18.5.5.4.1(B) SHALL BE USED IF THE CEILINGS MOUNTED VISIBLE NOTIFICATION APPLIANCE IS AT THE CENTER OF THE ROOM. IF THE CEILING MOUNTED VISIBLE NOTIFICATION APPLIANCE IS NOT LOCATED AT THE CENTER OF THE ROOM, THE EFFECTIVE INTENSITY (cd) SHALL BE DETERMINED BY DOUBLING THE DISTANCE FROM THE APPLIANCE TO THE FARTHEST WALL TO OBTAIN THE MAXIMUM ROOM SIZE.
2.- IF ROOM CONFIGURATION IS NOT SQUARE, THE SQUARE ROOM SIZE THAT ALLOWS THE ENTIRE ROOM TO BE ENCOMPASSED OR ALLOWS THE ROOM TO BE SUBDIVIDED INTO MULTIPLE SQUARES SHALL BE USED.

REV.	DATE	DESCRIPTION
	11/13/26	REMOVED CO IN PARKING GARAGE
	7/02/26	REVISED AS PER COMMENTS
	5/01/26	ISSUED FOR FILING

REVISIONS:

ALBERTO JESUS FLORES LICENSE No. 80944 STATE OF FLORIDA PROFESSIONAL ENGINEER

Digitally signed by Alberto J Flores
DN: C=US, O= Unaffiliated, dnQualifier= A01410D0000019D634FA3E9001FBA2F, CN=Alberto J Flores
Reason: your signing reason here
Location: your signing location here
Date: 2026.11.13 11:47:53-05'00'
Foxit PDF Editor Version: 13.2.6

This item has been digitally signed and sealed by Alberto Jesus Flores, P.E.
Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

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WINTER PARK, FL 32792
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ALBERTO@MIRAGEENGINEERINGLLC.COM

PROJECT:

AUTO ART GALLERY

TITLE:

FIRE ALARM NOTES/DETAILS/ RISER DIAGRAM

STAMP:

DATE: 04/20/26
JOB #: F302
DRAWN BY: GL/AF
SCALE: AS SHOWN

DRAWING NO:

FA-001.00

FILE No. :

SHEET:

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I/O MATRIX
SEQUENCE OF OPERATIONS

SYSTEM OUTPUTS

SYSTEM INPUTS

FIRE ALARM DEVICES

		CONTROL UNIT ANNUNCIATION		NOTIFICATION					REQUIRED FIRE SAFETY CONTROL															
		ACTUATE COMMON ALARM SIGNAL	ACTUATE AUDIBLE ALARM SIGNAL	ACTUATE COMMON SUPERVISORY SIGNAL INDICATOR	ACTUATE AUDIBLE SUPERVISORY SIGNAL INDICATOR	ACTUATE COMMON TROUBLE SIGNAL INDICATOR	ACTUATE COMMON TROUBLE SIGNAL	ACTUATE VISUAL/AUDIO DEVICES TEMPORAL 3 THROUGHOUT THE SPACE.	TRANSMIT AUTOMATIC ALARM SIGNAL TO SUPERVISING STATION	TRANSMIT MANUAL SIGNAL TO SUPERVISING STATION	TRANSMIT WATERFLOW SIGNAL TO SUPERVISING STATION	TRANSMIT SUPERVISORY SIGNAL TO SUPERVISING STATION	TRANSMIT CO ALARM SIGNAL TO SUPERVISING STATION	ACTIVATE TEMPORAL 4 SIGNAL ON ACTIVATED CO SOUNDER BASES	TRANSMIT TROUBLE SIGNAL TO SUPERVISING STATION	RELEASE MAGNETICALLY HELD DOORS	RECALL ELEVATORS TO GROUND FLOOR	CLOSE SMOKE/FIRE DAMPERS IN GROUND FLOOR OPEN CAB DOOR	UNLOCK NECESSARY EXITS	OPEN APPROPRIATE SMOKE HATCH	SHUT DOWN ASSOCIATED FAN	CLOSE ASSOCIATED SMOKE DAMPER		
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	
1	MANUAL FIRE ALARM BOXES	✓	✓					✓	✓	✓	✓						✓			✓	✓	✓			1
2	AREA SMOKE DETECTORS	✓	✓					✓	✓	✓							✓			✓	✓				2
3	IN-DUCT SMOKE DETECTORS	✓	✓					✓	✓	✓							✓			✓	✓		✓	✓	3
4	HEAT DETECTORS	✓	✓					✓	✓	✓							✓			✓	✓		✓	✓	4
5	CARBON MONOXIDE DETECTOR				✓									✓	✓										5
6	WATERFLOW SWITCH	✓	✓						✓			✓					✓	✓		✓	✓		✓	✓	6
7	TAMPER SWITCH			✓	✓				✓				✓												7
8	OPEN CIRCUIT					✓	✓		✓							✓									8
9	GROUND FAULT					✓	✓		✓							✓									9
10	NOTIFICATION APPLIANCE CIRCUIT SHORT					✓	✓		✓							✓									10
11	DRILL SWITCH							✓																	11
12																									12

1. GENERAL DESCRIPTION

A. FIRE ALARM SYSTEM CONSISTING OF THE FOLLOWING EQUIPMENT:
- SPRINKLER WATER FLOW SWITCHES SHALL BE PROVIDED BY THE FIRE PROTECTION CONTRACTOR AND WIRED BY THE ELECTRICAL CONTRACTOR TO THE SPRINKLER ALARM PANEL.
- SPRINKLER TAMPER SWITCHES SHALL BE PROVIDED BY THE FIRE PROTECTION CONTRACTOR AND WIRED BY THE ELECTRICAL CONTRACTOR TO THE SPRINKLER ALARM PANEL.
- ADDRESSABLE MANUAL FIRE ALARM STATIONS
- ADDRESSABLE AREA SMOKE DETECTORS
- ADDRESSABLE HEAT DETECTORS
- CENTRAL STATION ALARM CONNECTION CONTROL
- BATTERY STANDBY
- SPRINKLER SUPERVISORY SWITCHES AND TAMPER SWITCH SUPERVISION

AUTOMATIC SMOKE/HEAT DETECTION & SPRINKLER FIRE ALARM SYSTEM
N.T.S

This calculator provided voltage drop calculations in three formats (Point to Point, End of Line, and Load Centering).
Make sure that you know what method is accepted by, and the results do not exceed the limits set by the respective jurisdiction

				Point to Point Method	End of Line Method	Load Centering Method
Project Name	AUTO ART GALLERY			CIRCUIT IS WITHIN LIMITS	CIRCUIT IS WITHIN LIMITS	CIRCUIT IS WITHIN LIMITS
Date	4/30/2026			PASS	PASS	PASS
Circuit Number	NAC #1			End of Line and Load Centering Methods use only the wire guage for the first device to source		
Area Covered	1ST FLOOR					
Nominal System Voltage		20.4		Standard Wire Resistance in Ohms per 1000 feet.		
Minimum Device Voltage		16		18=7.77 16=4.89 14=3.07 12=1.98 10=1.24		
Total Circuit Current	0.070		Wire Gauge	Ohm's Per 1000	18-14 Awg = Solid Conductors 12-10 Awg = Stranded Conductors	
Distance from source to 1st device		46	14	3.07	Notes:	
Wire Gauge for balance of circuit			14	3.07	Wire resistance is doubled in the calculations for two wires (Positive and Negative)	
					The voltage calculated to the last device in any method must not be lower then	
					the manufactures listed minimum operating voltage (IE: rated operating voltage 20-32 VDC).	

Device Number	Device Current	Distance from previous device	At Device	Voltage Drop from source	Percent Drop	Alternate Calculations: End of Line Method Current	End of Line Method Distance	End of Line Method Drop	Load Centering Method Current	Load Centering Method Distance	Load Centering Method Drop
Device 1	0.035	46	20.38	0.020	0.10%	Totals		Voltage	Totals		Voltage
Device 2	0.035	63	20.37	0.033	0.16%	0.070	109	**0.047**	0.070	109	**0.023**
END			20.37	0.033	0.16%	End of Line Voltage		**20.35**	End of Line Voltage		**20.38**
			20.37	0.033	0.16%	Percent Drop		0.23%	Percent Drop		0.11%
	0.000	0	20.37	0.033	0.16%						
	0.000	0	20.37	0.033	0.16%	Device Manufacturer		SYSTEM SENSOR			
	0.000	0	20.37	0.033	0.16%						
	0.000	0	20.37	0.033	0.16%			Current @Rated Voltage			Current @Rated Voltage
	0.000	0	20.37	0.033	0.16%	Model #	Candela		Model #	Candela	
	0.000	0	20.37	0.033	0.16%	P2RLED HORN/STROBE	15	0.035	SRLED	15	0.018
	0.000	0	20.37	0.033	0.16%	P2RLED HORN/STROBE	30	0.038	SRLED	30	0.022
	0.000	0	20.37	0.033	0.16%	P2RLED HORN/STROBE	75	0.087	SRLED	75	0.07
	0.000	0	20.37	0.033	0.16%	P2RLED HORN/STROBE	95	0.092	SRLED	95	0.075
	0.000	0	20.37	0.033	0.16%	P2RLED HORN/STROBE	110	0.094	SRLED	110	0.085
	0.000	0	20.37	0.033	0.16%						
	0.000	0	20.37	0.033	0.16%						
	0.000	0	20.37	0.033	0.16%						
	0.000	0	20.37	0.033	0.16%						
	0.000	0	20.37	0.033	0.16%						
Totals	0.070	109	End of Line Voltage		**20.37**						

This calculator provided voltage drop calculations in three formats (Point to Point, End of Line, and Load Centering).
Make sure that you know what method is accepted by, and the results do not exceed the limits set by the respective jurisdiction

				Point to Point Method	End of Line Method	Load Centering Method
Project Name	AUTO ART GALLERY			CIRCUIT IS WITHIN LIMITS	CIRCUIT IS WITHIN LIMITS	CIRCUIT IS WITHIN LIMITS
Date	4/30/2026			PASS	PASS	PASS
Circuit Number	NAC #2			End of Line and Load Centering Methods use only the wire guage for the first device to source		
Area Covered	2ND FLOOR					
Nominal System Voltage		20.4		Standard Wire Resistance in Ohms per 1000 feet.		
Minimum Device Voltage		16		18=7.77 16=4.89 14=3.07 12=1.98 10=1.24		
Total Circuit Current	0.369		Wire Gauge	Ohm's Per 1000	18-14 Awg = Solid Conductors 12-10 Awg = Stranded Conductors	
Distance from source to 1st device		50	14	3.07	Notes:	
Wire Gauge for balance of circuit			14	3.07	Wire resistance is doubled in the calculations for two wires (Positive and Negative)	
					The voltage calculated to the last device in any method must not be lower then	
					the manufactures listed minimum operating voltage (IE: rated operating voltage 20-32 VDC).	

Device Number	Device Current	Distance from previous device	At Device	Voltage Drop from source	Percent Drop	Alternate Calculations: End of Line Method Current	End of Line Method Distance	End of Line Method Drop	Load Centering Method Current	Load Centering Method Distance	Load Centering Method Drop
Device 1	0.035	50	20.29	0.113	0.56%	Totals		Voltage	Totals		Voltage
Device 2	0.018	25	20.24	0.165	0.81%	0.369	313	**0.709**	0.369	313	**0.365**
Device 3	0.018	10	20.22	0.184	0.90%	End of Line Voltage		**19.69**	End of Line Voltage		**20.05**
Device 4	0.035	30	20.16	0.239	1.17%	Percent Drop		3.48%	Percent Drop		1.74%
Device 5	0.035	61	20.06	0.337	1.65%						
Device 6	0.035	62	19.98	0.424	2.08%	Device Manufacturer		SYSTEM SENSOR			
Device 7	0.018	5	19.97	0.430	2.11%						
Device 8	0.018	10	19.96	0.441	2.16%			Current @Rated Voltage			Current @Rated Voltage
Device 9	0.035	5	19.95	0.446	2.18%	Model #	Candela		Model #	Candela	
Device 10	0.035	45	19.92	0.479	2.35%	P2RLED HORN/STROBE	15	0.035	SRLED	15	0.018
Device 11	0.087	10	19.92	0.485	2.38%	P2RLED HORN/STROBE	30	0.038	SRLED	30	0.022
	0.000	0	19.92	0.485	2.38%	P2RLED HORN/STROBE	75	0.087	SRLED	75	0.07
END	0.000	0	19.92	0.485	2.38%	P2RLED HORN/STROBE	95	0.092	SRLED	95	0.075
	0.000	0	19.92	0.485	2.38%	P2RLED HORN/STROBE	110	0.094	SRLED	110	0.085
	0.000	0	19.92	0.485	2.38%						
	0.000	0	19.92	0.485	2.38%						
	0.000	0	19.92	0.485	2.38%						
	0.000	0	19.92	0.485	2.38%						
	0.000	0	19.92	0.485	2.38%						
Totals	0.369	313	End of Line Voltage		**19.92**						

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PROJECT:
AUTO ART GALLERY

TITLE:
FIRE ALARM
I/O MATRIX
VOLTAGE DROP
CALCULATION

STAMP:

DATE: 04/20/26
JOB #: F302
DRAWN BY: GL/AF
SCALE: AS SHOWN

DRAWING NO:
FA-002.00

FILE No.:

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Fire-Lite Alarms by Honeywell — ES-50X Battery Calculation

Secondary Power Source Requirements

Device	Standby Current (amps) Qty		Current Draw		Total	Secondary Alarm Current (amps) Qty		Current Draw		Total
Main Circuit Board	1	x	0.141000	=	0.141000	1	x	0.257000	=	0.257000
POTS-COM Communicator	1	x	0.040000	=	0.040000	1	x	0.041000	=	0.04100
4XTMF	0	x	0.005000	=		0	x	0.011000	=	
EOLR-1	0	x	0.020000	=		0	x	0.020000	=	
CELL-MOD-FL / CELL-CAB	0	x	0.055000	=		0	x	0.100000	=	
ANN-BUS Devices										
ANN-SEC Card	0	x	0.003000	=		0	x	0.003000	=	
ANN-80(W)	1	x	0.015000	=	0.015000	1	x	0.040000	=	0.040000
ANN-100	0	x	0.020000	=		0	x	0.025000	=	
ANN-(R)LED	0	x	0.028000	=		0	x	0.068000	=	
ANN-RLY	0	x	0.015000	=		0	x	0.075000	=	
ANN-I/O	0	x	0.035000	=		0	x	0.200000	=	
ANN-I/O LED	0	x	0.000000	=		0	x	0.010000	=	
ANN-S/PG	0	x	0.045000	=		0	x	0.045000	=	
Addressable Devices										
BEAM355	0	x	0.002000	=						
BEAM355S	0	x	0.002000	=						
CP355	0	x	0.000300	=						
SD365CO	0	x	0.002000	=						
SD355CO	0	x	0.000300	=						
SD355	0	x	0.000300	=						
SD365	5	x	0.000200	=	0.001000					
SD355T	0	x	0.000300	=						
SD365T	0	x	0.000200	=						
H355	0	x	0.000300	=						
H365	2	x	0.000200	=	0.000400					
H355HT	0	x	0.000300	=						
H365HT	0	x	0.000200	=						
H350R	0	x	0.000300	=						
H355R	0	x	0.000300	=						
H365R	0	x	0.000200	=						
D350RPL	0	x	0.000300	=						
D355PL	0	x	0.000300	=						
MMF-300	10	x	0.000375	=	0.003750					
MMF-300-10	0	x	0.003500	=						
MDF-300	1	x	0.000750	=	0.000750					
MMF-301	0	x	0.000350	=						
MMF-302	0	x	0.000270	=						
MMF-302-6	0	x	0.002000	=						
BG-12LX	3	x	0.000375	=	0.001125					
CMF-300	0	x	0.000390	=						
CMF-300-6	0	x	0.002250	=						
CRF-300	1	x	0.000255	=	0.000255					
CRF-300-6	0	x	0.001450	=						
CDRM-300	0	x	0.001300	=						
I300	0	x	0.000400	=						
ISO-6	0	x	0.002700	=						

B501BH-2	0	x	0.001000	=						
B501BHT-2	0	x	0.001000	=						
B224RB	0	x	0.000500	=						
B224BI	0	x	0.000450	=						
W-GATE	0	x	0.024000	=						
Maximum alarm draw for all Addressable devices ---------->					0.20000					
Resettable Power										
4-Wire Smoke Detectors	0	x	0.000000	=		0	x	0.000000	=	
SWIFT Wireless										
W-GATE	0	x	0.040000	=		0	x	0.040000	=	
Auxiliary Power										
CMF-300 (Aux. Power)	0	x	0.001700	=		0	x	0.007000	=	
CMF-300-6 (Aux. Power)	0	x	0.008000	=		0	x	0.020000	=	
MMF-302 (Aux. Power)	0	x	0.012000	=		0	x	0.090000	=	
MMF-302-6 (Aux. Power)	0	x	0.050000	=		0	x	0.270000	=	
B200SR (Aux. Power)	0	x	0.000500	=		0	x	0.035000	=	
B200SR-LF (Aux. Power)	0	x	0.001000	=		0	x	0.125000	=	
Miscellaneous Devices										
SLE-MAX2-FIRE	1	x	0.200000	=	0.200000	1	x	0.325000	=	0.325000
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
Output Circuits										
NAC/Output #1			0.000000	=				0.174000	=	0.174000
NAC/Output #2			0.000000	=				0.617000	=	0.617000
FCPS (remote Sync)	0	x	0.000000	=		0	x	0.021700	=	
			Total Standby Load		0.403280			Total Alarm Load		1.654000

Fire-Lite Alarms by Honeywell — ES-50X Battery Calculation

Calculation in Total Sheet

		Required Standby Time in Hours			
		24 Hours			
Total Standby Current	0.4033 Amps	x	24	=	9.679 AH
		Required Alarm Time in Minutes			
		5 Minutes			
Total Alarm Load	1.6540 Amps	x	0.084	=	0.139 AH
			Total Current Load		9.818 AH
	Multiply by the Derating Factor		1.2	=	x 1.20
			Total Ampere Hours Required		11.78 AH

Fire-Lite Alarms by Honeywell — ES-50X Circuit Detail

NAC/Output #1

Device	Qty	Non-Alarm Draw		Total	Qty	Alarm Draw		Total
SRL 15	0	x 0.000000	=		0	x 0.022000	=	
SRL 30	0	x 0.000000	=		0	x 0.035000	=	
P2RLED 15	2	x 0.000000	=	0.000000	2	x 0.087000	=	0.174000
P2RLED 30	0	x 0.000000	=		0	x 0.000000	=	
P2RLED 75	0	x 0.000000	=		0	x 0.000000	=	
	0	x 0.000000	=		0	x 0.000000	=	
	0	x 0.000000	=		0	x 0.000000	=	
	0	x 0.000000	=		0	x 0.000000	=	
	0	x 0.000000	=		0	x 0.000000	=	
	0	x 0.000000	=		0	x 0.000000	=	
	Total Standby Load			0.000000		Total Alarm Load		0.174000

NAC/Output #2

Device	Qty	Non-Alarm Draw		Total	Qty	Alarm Draw		Total
SRL 15	4	x 0.000000	=	0.000000	4	x 0.043000	=	0.172000
SRL 30	0	x 0.000000	=		0	x 0.063000	=	
P2RLED 15	6	x 0.000000	=	0.000000	6	x 0.054000	=	0.324000
P2RLED 30	0	x 0.000000	=		0	x 0.074000	=	
P2RLED 75	1	x 0.000000	=	0.000000	1	x 0.121000	=	0.121000
	0	x 0.000000	=		0	x 0.000000	=	
	0	x 0.000000	=		0	x 0.000000	=	
	0	x 0.000000	=		0	x 0.000000	=	
	0	x 0.000000	=		0	x 0.000000	=	
	0	x 0.000000	=		0	x 0.000000	=	
	Total Standby Load			0.000000		Total Alarm Load		0.617000

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ALBERTO@MIRAGEENGINEERINGLLC.COM

PROJECT:

AUTO ART GALLERY

TITLE:

FIRE ALARM
BATTERY CALCULATION

STAMP:

DATE: 04/20/26
JOB #: F302
DRAWN BY: GL/AF
SCALE: AS SHOWN

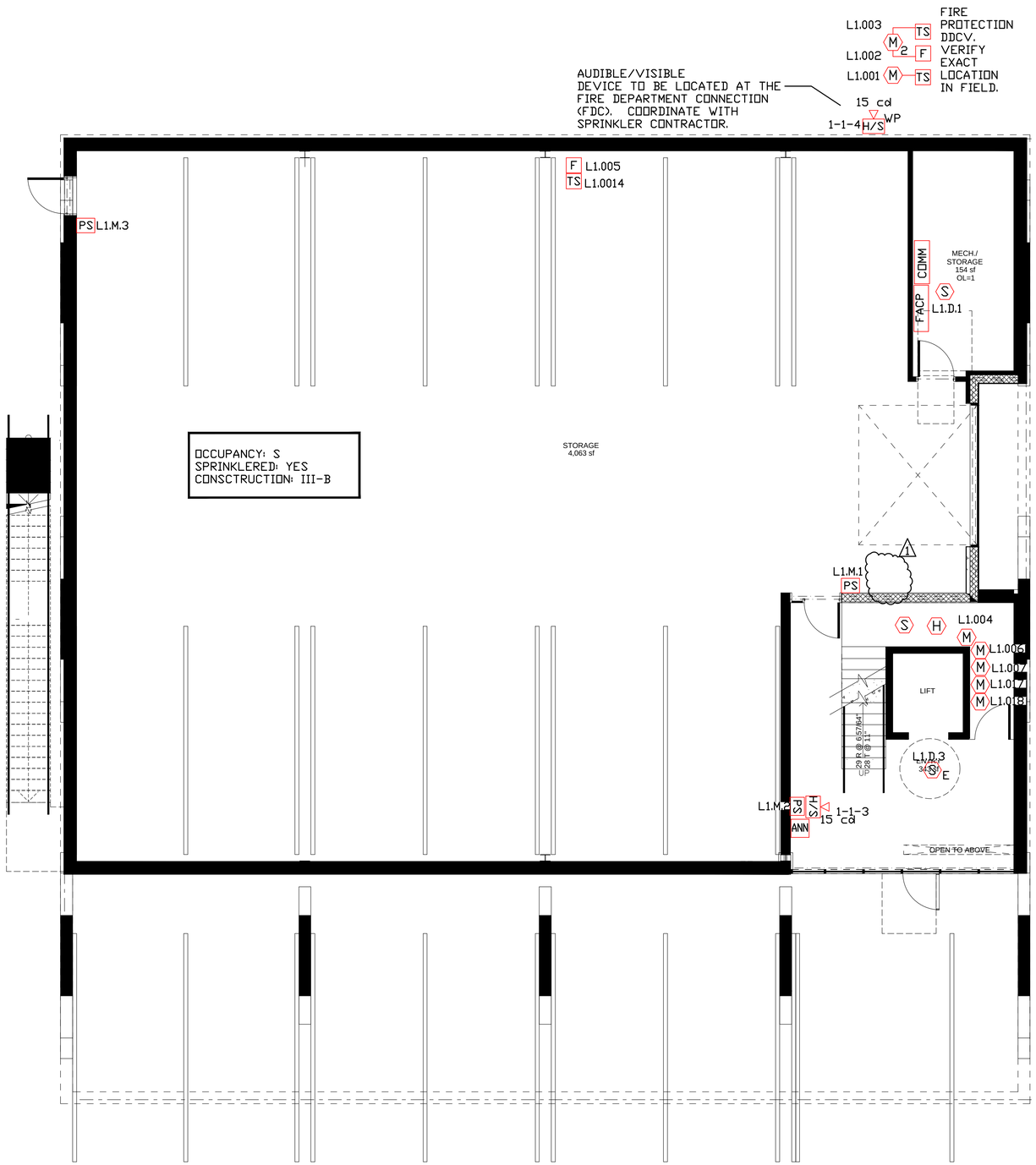
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RTU-1
F/S
M
L1.008

GROUND LEVEL

0 4' 8' 12'

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WINTER PARK, FL 32792
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ALBERTO@MIRAGEENGINEERINGLLC.COM

PROJECT:
AUTO ART GALLERY

TITLE:
FIRE ALARM
GROUND LEVEL PLAN

STAMP:

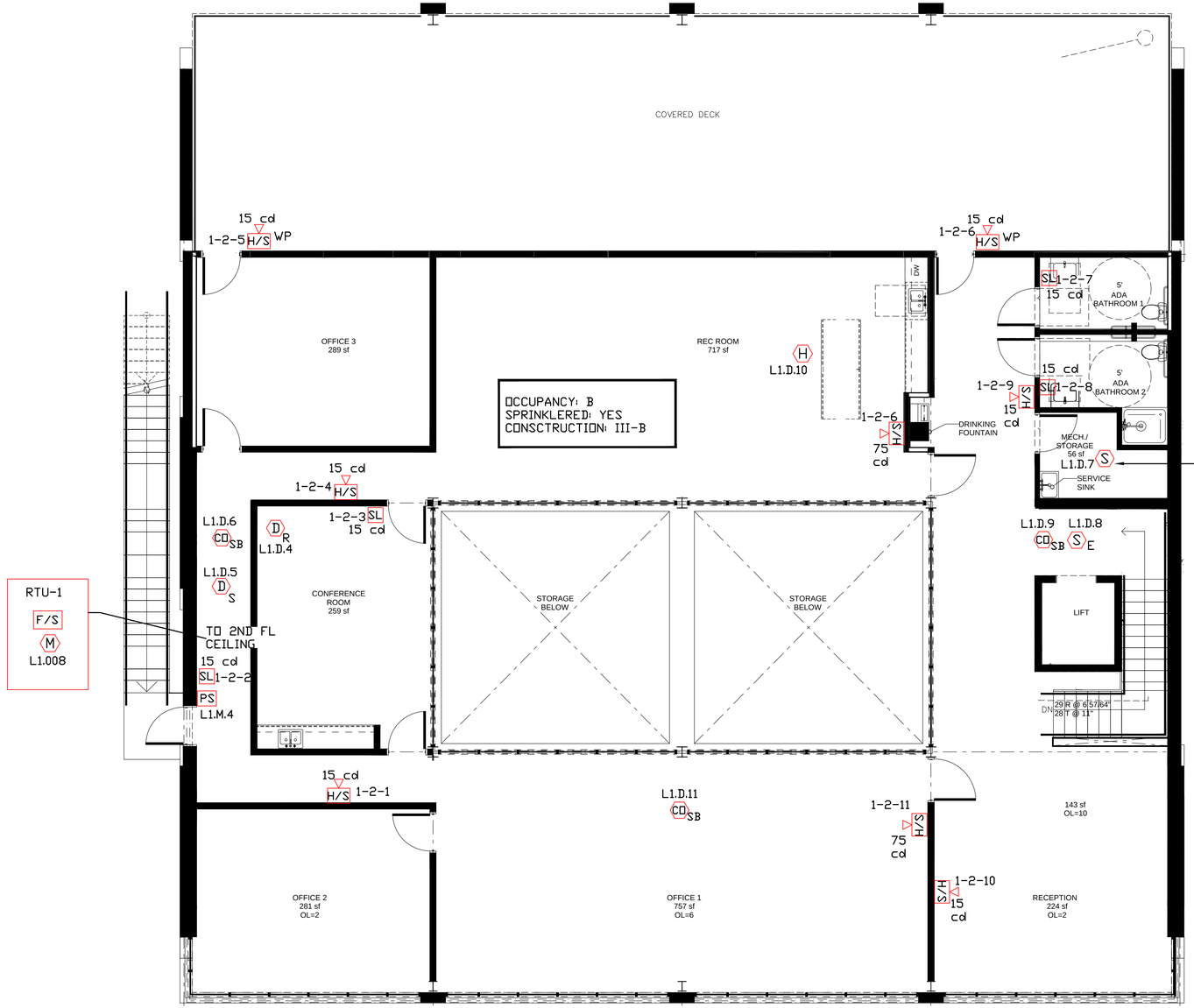
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SECOND LEVEL

0 4' 8' 12'

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PROJECT:

AUTO ART GALLERY

TITLE:

FIRE ALARM
SECOND LEVEL PLAN

STAMP:

DATE: 04/20/26
JOB #: F302
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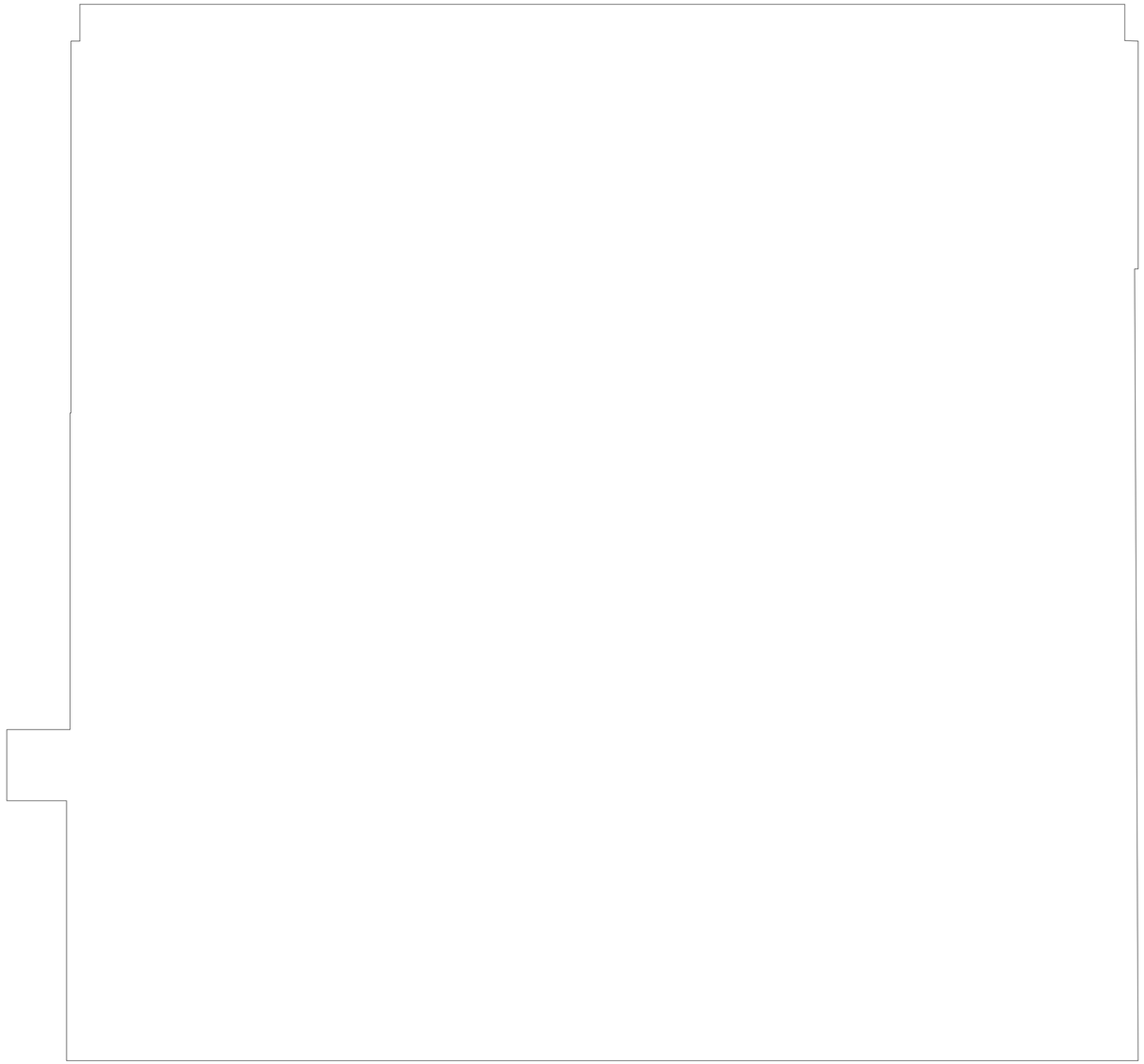
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ROOF PLAN

0 4' 8' 12'

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PROJECT:

AUTO ART GALLERY

TITLE:

FIRE ALARM
ROOF PLAN

STAMP:

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DF-60953:C

ES-50X

Intelligent Addressable FACP with Communicator

Fire-Lite Alarms by Honeywell

Addressable Fire Alarm Control Panels

General

The **ES-50X** is the latest intelligent addressable fire alarm control panel (FACP) from Fire-Lite Alarms and is a direct replacement for the MS-9050UD/LS. The ES-50X comes with a pre-installed communi-cator and supports up to 50 addressable devices in any combination of detectors or modules. With an extensive list of powerful features, the ES-50X programs just like Fire-Lite's other addressable panels, 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 dedi-cated business telephone lines. Although not required, the second-ary 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 volt-ages 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 polar-ity/city box transmitter (4XTMF).

Features

- Listed to UL Standard 864, 10th edition
- Pre-installed IPOTS-COM Ethernet IP and POTS (Plain Old Tele-phone Service) Central Station Communicator
- Optional CELL-MOD or CELL-CAB-FL GSM Central Station Communicator over AlarmNet®
- Compatible with SWIFT® wireless devices
- Auto-programming (learn mode) reduces installation time. Reports two devices set to the same address
- Two independently programmable, built-in 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
- 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 accumula-tion is excessive
- One-person audible or silent walktest with walktest log & 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
- 50 addressable device capacity (any combination of addressable detectors and modules)
- Compatible with FireLite's addressable devices (refer to the *SLC Wiring Manual*)

NOTIFICATION APPLIANCE CIRCUITS (NACS)

- Two 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
- 50 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 program-ming 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-50X: Addressable Fire Alarm Control Panel with one SLC loop. Includes main circuit board with display, pre-installed IPOTS-COM communicator, chassis with transformer, backbox with door, plastic bag containing screws, cables, key, etc. *(For ES-50XC, refer to DF-60954.)*

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

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

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

DP-ES-R: Optional dress panel for the ES-50X.

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 & 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 mount-ing.

BAT Series: Batteries, see data sheet DF-52397.

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

OPTIONAL MODULES

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

COMPATIBLE ANNUNCIATORS

ANN-80: Remote, red LCD annunciator mimics the information dis-played on the FACP LCD display. Recommended wire type is un-shielded.

ANN-100: Remote LCD annunciator mimics the information dis-played on the FACP LCD display. Recommended wire type is un-shielded. For use in FM applications only.

ANN-I/O: LED Driver Module provides connections to a user sup-plied 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 con-nection 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. LiteSpeed 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

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 sensitiv-ity 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. Mod-ule 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 pro-vides 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 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-B612LX: 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-50X, see the following data sheets (document num-bers): SD365 Series (DF-61010), H365 Series (DF-61011), 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-52389), ISO-6 (DF-60485), MMF-300 Series/MDF-300 (DF-52121), MMF-300-10 (DF-52347), MMF-302-6 (DF-52356), SD355/D355T (DF-52384), and SLC Wiring Manual (51309).*

NOTE: *Legacy 300 Series detection devices such as the CP300/CP350, SD300(T)/SD350(T) and older modules such as the M301, M302, 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.

Wiring Requirements

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

SYSTEM SPECIFICATIONS

System Capacity

- Intelligent Signaling Line Circuits.....1
- Addressable device capacity 50
- Programmable software zones.....50
- 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-50X cabinet holds maximum of two 18 AH batteries.)

Communication Loop: Supervised and power-limited.

Notification Appliance Circuits: Terminal Block provides connec-tions for two 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: Con-tact 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-50X complies with the following NFPA 72 Fire Alarm Sys-tems requirements:

- **LOCAL** (Automatic, Manual, Waterflow and Sprinkler Supervi-sory).
- **AUXILIARY** (Automatic, Manual and Waterflow) (requires 4XTMF).
- **REMOTE STATION** (Automatic, Manual and Waterflow) (Where a DACT is not accepted, the alarm, trouble and supervi-sory 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 Net-work)
- **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-50X 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:** *S24.*
- **FM approved**
- **CSFM:** 7165-0075:0500
- **FDNY:** COA #6261

NOTE: *See DF-60954 for ULC-listed model.*

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ISO 9001 CERTIFIED TRADING & MANUFACTURING QUALITY SYSTEMS

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

Country of Origin: USA

DF-52121:E • E-325

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. Moni-tor 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 super-vises 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 sys-tems.

LiteSpeed™ is a communication protocol developed by Fire•Lite Engineering that greatly increases the speed of com-munication 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) (Type H)

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 intelli-gent, two-wire systems, where the individual address of each module is selected using the built-in rotary switches. It pro-vides 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) 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/nor-mal/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 com-munication 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).

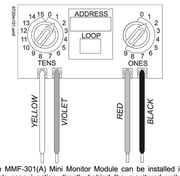
Humidity range: 10% to 93% noncondensing.

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 initiat-ing 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/ device 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/nor-mal/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 intelli-gent, 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/nor-mal/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 cir-cuits 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 address-able points, starting with the original address. For example, if the MDF-300(A) is set to address "26", then it will automati-cally 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 installa-tion instructions are provided with each module. All wiring must conform to applicable local codes, ordinances, and regu-lations. 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 fac-tory 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.

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www.firelite.com

REV.	DATE	DESCRIPTION
	11/13/26	REMOVED CO IN PARKING GARAGE
	7/02/26	REVISED AS PER COMMENTS
	5/01/26	ISSUED FOR FILING

REVISIONS:

Digitally signed by Alberto J Flores
DN: C=US, O= Unaffiliated, dnQualifier= A01410D0000019D634FA3E9001FBA2F, CN=Alberto J Flores
Reason: your signing reason here
Location: your signing location here
Date: 2026.11.13 11:47:53-05'00'
Foxit PDF Editor Version: 13.2.6

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PROJECT:

AUTO ART GALLERY

TITLE:

FIRE ALARM CUTSHEET

STAMP:

DATE: 04/20/26
JOB #: F302
DRAWN BY: GL/AF
SCALE: AS SHOWN

DRAWING NO:

FA-201.00

FILE No.:

SHEET:

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DF-61010:C

SD365 Series

Addressable Photoelectric Smoke Detectors

Addressable Devices

The Fire•Lite® Alarms SD365(A), SD365R(A), and SD365HT(A) intelligent plug-in smoke detectors are designed for both performance and aesthetics, and are direct replacements for the SD355 Series. A new modern, sleek, contemporary design and enhanced optical sensing chamber is engineered to sense smoke produced by a wide range of combustion sources in accordance with more stringent code standards.

Exclusively for use with Fire•Lite's addressable fire alarm control panels, the SD365(A) Series point ID capability allows each detector's address to be set with rotary, decimal address switches, providing exact detector location for emergency personnel to quickly locate a fire during its early stages, potentially saving precious rescue time while also reducing property damage. Two LEDs on each sensor light to provide a local, visible sensor indication.

The SD365(A) Series also offers 135°F (57°C) fixed temperature thermal sensing on the SD365T(A) and a remote test capable detector on the SD365R(A) for use with DNR(A)/DNRW duct smoke detector housings.



Features

SLC LOOP:

- Two-wire SLC loop connection
- Unit uses base for wiring
- Compatible with LiteSpeed™ and CLIP protocol systems
- Stable communication technique with noise immunity

ADDRESSING:

- Addressable by device
- Rotary, decimal addressing
  (Refer to the *Fire•Lite panel manuals* for device capacity.)

ARCHITECTURE:

- Sleek, low-profile, stylish design
- Unique single-source design to respond quickly and dependably to a broad range of fires
- Integral communications and built-in device-type identification
- Built-in tamper resistant feature
- Remote test feature from the panel
- Walk test with address display (an address on 121 will blink the detector LED: 12-[pause]-1*(LiteSpeed systems only)*
- Built-in functional test switch activated by external magnet
- Removable cover and insect-resistant screen for simple field cleaning
- Expanded color options

OPERATION:

- Designed to meet UL 268 7th Edition
- Factory preset at 1.5% nominal sensitivity for panel alarm threshold level
- LED "blinks" when the unit is polled (communicating with the fire panel) and latches in alarm.
- Low standby current

MECHANICALS:

- Sealed against back pressure
- SEMS screws for wiring of the separate base
- Designed for direct-surface or electrical-box mounting
- Plugs into separate base for ease of installation and maintenance
- Separate base allows interchange of photoelectric, ionization and thermal sensors

OPTIONS:

- Optional relay, isolator, and sounder bases

Installation

SD365 Series plug-in intelligent smoke detectors use a detachable base to simplify installation, service and maintenance. Installation instructions are shipped with each detector.

Mount detector bases (all base types) on an electrical backbox which is at least 1.5" (3.81 cm) deep. For a chart of compatible junction boxes, see *DF-60059*.

NOTE: *Because of the inherent supervision provided by the SLC loop, end-of-line resistors are not required. Wiring "T-taps" or branches are permitted for Class "B" wiring only.*
When using relay or sounder bases, consult the I300(A) installation sheet I56-3626 for device limitations between isolator modules and isolator bases.

Construction

These detectors are constructed of fire-resistant plastic. The SD365 Series plug-in intelligent smoke detectors are designed to commercial standards and offer an attractive appearance.

Operation

Each SD365 Series detector uses one of the panel's addresses (total limit is panel dependent) on the Fire•Lite Signaling Line Circuit (SLC). It responds to regular polls from the control panel and reports its type and the status. If it receives a test command from the panel (or a local magnet test), it stimulates its electronics and reports an alarm. It blinks its LEDs when polled and turns the LEDs on when commanded by the panel. The SD365 Series offers features and performance that represent the latest in smoke detector technology.

Detector Sensitivity Test

Each detector can have its sensitivity tested (required per NFPA 72, Chapter 14 on *Inspection, Testing and Maintenance*) when installed/connected to an Fire•Lite addressable fire alarm control panel. The results of the sensitivity test can be printed for record keeping.

Product Line Information

NOTE: *"-IV" suffix indicates CLIP and LiteSpeed device.*

NOTE: *"A" suffix indicates Canadian version.*

SD365: White, low-profile intelligent photoelectric sensor, LiteSpeed only

SD365A: Same as SD365 but with ULC listing

SD365-IV: Ivory, low-profile intelligent photoelectric sensor

SD365A-IV: Same as SD365-IV but with ULC listing

SD365T: White, same as **SD365** but includes a built-in 135°F (57°C) fixed-temperature thermal device, LiteSpeed only

SD365TA: Same as SD365T but with ULC listing

SD365T-IV: Ivory, same as SD365T but includes a built-in 135°F (57°C) fixed-temperature thermal device

SD365TA-IV: Same as SD365T-IV but with ULC listing

SD365R: White, low-profile intelligent photoelectric sensor, remote test capable, for use with DNR/DNRW, LiteSpeed only

SD365RA: Same as SD365R but with ULC listing, for use with DNRA

SD365R-IV: Ivory, low-profile intelligent photoelectric sensor, remote test capable, for use with DNR/DNRW

SD365RA-IV: Same as SD365R-IV but with ULC listing, for use with DNRA

INTELLIGENT BASES

NOTE: *For details on intelligent bases, see DF-60059.*

B300-6: White, 6" base, standard flanged low-profile mounting base *(CSFM: 7300-1653:0109)*

B300-6-IV: Ivory,6" base, standard flanged low-profile mounting base *(CSFM: 7300-1653:0109)*

B300A-6: Same as B300-6, ULC listed

B300A-6-IV: Ivory, 6" standard flanged low-profile mounting base, ULC listed

B300-6-BP: Bulk pack of B300-6, package contains 10

B501-WHITE: White, 4" standard European flangeless mounting base. UL/ULC listed *(CSFM: 7300-1653:0109)*

B501-BL: Black, 4" standard European flangeless mounting base. UL/ULC listed *(CSFM: 7300-1653:0109)*

B501-IV: Ivory color, 4" standard European flangeless mounting base. UL/ULC listed *(CSFM: 7300-1653:0109)*

B501-WHITE-BP: Bulk pack of B501-WHITE contains 10

B224RB-WH: White, relay base *(CSFM: 7300-1653:0216)*

B224RB-IV: Ivory, relay base *(CSFM: 7300-1653:0216)*

B224RBA-WH: White, relay base, ULC listing

B224RBA-IV: Ivory, relay base, ULC listing

B224BI-WH: White, isolator detector base (CSFM: 7300-1653:0216)

B224BI-IV: Ivory isolator detector base (CSFM: 7300-1653:0216)

B224BIA-WH: White, isolator detector base, ULC listing

B224BIA-IV: Ivory isolator detector base, ULC listing

B200S-WH: White, Intelligent addressable sounder base capable of producing sound output in high or low volume with ANSI Temporal 3, ANSI Temporal 4, continuous tone, marching tone, and custom tone. Uses LiteSpeed protocol. *(CSFM: 7300-1653:0213)*

B200S-IV: Ivory, Intelligent addressable sounder base capable of producing sound output in high or low volume with ANSI Temporal 3, ANSI Temporal 4, continuous tone, marching tone, and custom tone. Uses LiteSpeed protocol. *(CSFM: 7300-1653:0213)*

B200SA-WH: Same as B200S-WH, ULC listing

B200SA-IV: Same as B200S-IV, ULC listing

B200SCOA-WH: White, Intelligent, programmable sounder base in English/French (required in Canada for ULC applications with CO Series detector applications

B200SCOA-IV: Ivory Intelligent, programmable sounder base in English/French (required in Canada for ULC applications with CO Series detector applications, ULC listing

B200S-LF-WH: White, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement. *(CSFM: 7300-1653:0238)*

B200S-LF-IV: Ivory, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement. *(CSFM: 7300-1653:0238)*

B200SR-WH: White, Intelligent sounder base capable of producing sound output with ANSI Temporal 3 or continuous tone. Intended for retrofit applications. *(CSFM: 7300-1653:0213)*

B200SR-IV: Ivory Intelligent sounder base capable of producing sound output with ANSI Temporal 3 or continuous tone. Intended for retrofit applications. *(CSFM: 7300-1653:0213)*

B200SRA-WH: Same as B200SR-WH with, ULC listing

B200SRA-IV: Same as B200SR-IV in ivory color, ULC listing

B200SR-LF-WH: White, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement. Intended for retrofit applications. *(CSFM: 7300-1653:0238)*

B200SR-LF-IV: Ivory, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement. Intended for retrofit applications. *(CSFM: 7300-1653:0238)*

MOUNTING KITS AND ACCESSORIES

TR300: White, replacement flange for B210LP(A) base

TR300-IV: Ivory, replacement flange for B210LP(A) base

RA100Z(A): Remote LED annunciator. 3-32 VDC. Mounts to a U.S. single-gang electrical box. For use with B501(A) and B300-6(A).

M02-04-00: Test magnet

M02-09-00: Test magnet with telescoping handle

CK300: Color Kit (includes cover and trim ring), white, 10-pack

CK300-IV: Color Kit (includes cover and trim ring), ivory, 10-pack

CK300-BL: Color Kit (includes cover and trim ring), black, 10-pack

SYSTEM SPECIFICATIONS

Sensitivity:

- UL Applications: 0.5% to 4.0% per foot obscuration.
- ULC Applications: 0.5% to 3.5% per foot obscuration

Size: 2.0" (51mm) high; base determines diameter

- **B300-6:** 6.1" (15.6 cm) diameter
- **B501:** 4" (10.2 cm) diameter

For a complete list of detector bases see DF-60983

Shipping weight: 3.4 oz. (95 g)

Operating temperature range:

- SD365: 32°F to 122°F (0°C to 50°C)
- SD365T Series: 32°F to 100°F(0°C to 38°C)
- SD365R Series installed in a DNR/DNRW, -4°F to 158°F (-20°C to 70°C)

UL/ULC Listed Velocity Range: 0-4000 ft/min. (1219.2 m/min.), suitable for installation in ducts

Relative humidity: 10% – 93% non-condensing

Thermal ratings: fixed-temperature set point 135°F (57°C), rate-of-rise detection 15°F (8.3°C) per minute, high temperature heat 190°F (88°C)

ELECTRICAL SPECIFICATIONS

Voltage range: 15 - 32 volts DC peak

Standby current (max. avg.): 200uA @ 24 VDC (o ne communication every 5 seconds with LED enabled)

Max current: 4.5 mA @ 24 VDC ("ON")

DETECTOR SPACING AND APPLICATIONS

Fire•Lite recommends spacing detectors in compliance with NFPA 72. In low airflow applications with smooth ceiling, space detectors 30 feet (9.1m). For specific information regarding detector spacing, placement, and special applications refer to NFPA 72. A *System Smoke Detector Application Guide*, document SPAG91, is available at **www.systemsensor.com.**

Listings and Approvals

Listings and approvals below apply to the SD365 Series detectors. 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/ULC Listing: S1059
- FM Approved
- CSFM: 7272-0075:0502

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ISO 9001 CERTIFIED BUILDING & INDUSTRIAL QUALITY SYSTEMS

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

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

Country of Origin: Mexico

DF-62000:B

SD365CO

Multi-Criteria Fire/CO Detector

Fire•Lite Alarms by Honeywell

General Description

SD365CO is a plug-in, addressable device that provides both fire and carbon monoxide (CO) detection. The detector combines four separate sensing elements in one unit to sense multiple components of a fire: smoke, CO, light/flame, and heat. This approach enables enhanced sensitivity to real fire with heightened immunity to nuisance particulates. For CO, the detector's electrochemical sensing cell creates a separate signal for life safety CO detection.

Multiple sensors and communication can greatly reduce nuisance alarms compared to single sensing methods. Sophisticated algorithms maximize the advantages of the sensor types creating our best detection strategy offering heightened immunity to nuisance particulate and enhanced sensitivity to real fire.

- Photoelectric sensors detect airborne particles associated with smoke.
- Thermal sensors detect heat and rate-of-rise (135°F fixed temperature threshold).
- Carbon Monoxide sensors detect this by-product of fire for accurate fire detection.
- Infrared sensors discern light patterns in the environment as an additional data point for alarm determination.

This ability to reject certain nuisance alarm triggers, such as theater smoke, supports the use of the fire/CO detector in applications where moderate to heavy nuisance conditions exist that might cause single sensing detectors to false alarm.

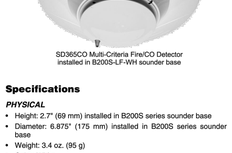
The fire/CO detector meets both UL 268 7th edition and UL 521 listing requirements for fire detection as well as the UL 2075 standard for system-connected life safety carbon monoxide detection.

Released through the incomplete burning of various fuels, CO is a colorless, odorless and deadly gas that is virtually impossible to detect with the human senses. Because the potential exists for dangerous levels of CO to accumulate in almost any building, legislation mandating the use of CO detection in commercial spaces continues to grow.

B200S series intelligent sounder bases are recommended for use with SD365CO. These bases can generate either a Temp 3 pattern for fire or a Temp 4 pattern for CO alarm indication. The B200S series bases recognize the System Sensor synchronization protocol, for use as a component of the general evacuation signal — along with other System Sensor horns, horn strobes, and chimes — when connected to a power supply or Fire Alarm Control Panel (FACP) output capable of generating the System Sensor synchronization pulses.

Features

- Unique ability to detect all four major elements of a fire
- Separate CO detection signal
- Highest nuisance alarm immunity
- Automatic drift compensation for smoke and CO sensors
- Uses only one address on the SLC
- RealTest® CO testing capability
- UL 268 7th edition, UL 521, and UL 2075 listed
- Separate audible signal for fire or CO alarm when used with a B200S series base
- 10-year CO cell with end-of-life warning
- New modern profile
- Expanded color options



SD365CO Multi-Criteria Fire/CO Detector installed in B200S-LF-WH sounder base

Specifications

PHYSICAL

- Height: 2.7" (69 mm) installed in B200S series sounder base
- Diameter: 6.875" (175 mm) installed in B200S series sounder base
- Weight: 3.4 oz. (95 g)
- Color: White
- Operating Humidity Range: 15% to 90% Relative Humidity, Non-condensing
- Operating Temperature Range: 32°F to 100°F (0°C to 38°C)
- Air Velocity: 0 to 4000 ft/min. (0 to 1219.2 m/min.)

ELECTRICAL SPECIFICATIONS

- Operating Voltage Range: 15 to 32 VDC
- Operating Current @ 24 VDC: 200 uA (one communication every 5 seconds with green LED blink on communication)
- Maximum Alarm Current: 2 mA @ 24 VDC (one communication every 5 seconds with red LED solid on)
- Maximum Current: 4.5 mA @ 24 VDC (one communication every 5 seconds with amber LED solid on)
- Isolator Load Rating: 0.0063

CO MONITORING UL STANDARD REFERENCE

Alarm thresholds are as follows:

Parts Per Million	Detector Response Time
70 ± 5ppm	60 – 240 min.
150 ± 5ppm	10 – 50 min.
400 ± 10ppm	4 – 15 min.

Standards

Per UL standard 2075, the SD365CO has been tested to the sensitivity limits defined in UL Standard 2034.

UL Standard: UL 268 7th Edition

Agency Listings and Approvals

The listings and approvals below apply to the SD365CO. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult the factory for the latest listing status.

UL: S1059

FM Approved

CSFM: 7272-0075:0507

Ordering Information

SD365CO: Advanced multi-criteria fire/CO detector, LiteSpeed®, white

BASES

B501-WHITE: 4" Mounting base, white

B501-WHITE-BP: 4" mounting base, white, 10-pack

B501-IV: 4" Mounting base, ivory

B501-BL: 4" Mounting base, black

B300-6: 6" Flanged mounting base, white

B300-6-BP: 6" Flanged mounting base, white, 10-pack

B300-6-IV: 6" Flanged mounting base, ivory

B200S-WH: Intelligent addressable sounder base, white

B200S-IV: Intelligent addressable sounder base, ivory

B200S-LF-WH: Intelligent addressable sounder base, low-frequency, white

B200S-LF-IV: Intelligent addressable sounder base, low-frequency, ivory

B224BI-WH: Isolator base, white

B224BI-IV: Isolator base, ivory

B224RB-WH: Relay base, white

B224RB-IV: Relay base, ivory

ACCESSORIES

SMB600: Surface mounting kit (flanged)

TR300: Trim ring, white

TR300-IV: Trim ring, ivory

CK300-IR: IR color kit (includes cover and trim ring), white, 10-pack

CK300-IR-IV: IR color kit (includes cover and trim ring), ivory, 10-pack

CK300-IR-BL: IR color kit (includes cover and trim ring), black, 10-pack.

RA100Z: Remote LED annunciator

M02-04-00: Detector test magnet

M02-09-00: Telescoping test magnet

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

Country of Origin: Mexico

ACEBOX BY SPACE AGE ELECTRONICS

FAD/SRD ACE-11

Document Boxes

Store important system documents in a secure location with a cabinet built specifically to meet the requirements of NFPA72 7.7.2.1, NFPA72 7.7.2.3, NFPA72 7.7.2.5, and NFPA72 23.2.2.1.

Select models include our innovative 8GB flash drive slide tab that allows the user to select a USB-C or Micro USB connector to access records electronically per NFPA72 7.5.6.7.1 and NFPA72 7.5.6.7.2.



FEATURES

- 18 gauge cold rolled steel construction with red or black powder coat and white lettering
- Dimensions are 12" wide x 13" tall and 3" deep
- Liftaway hinge
- Removable document holder with two key ring hooks and business card bracket
- Slide tab allows user to select USB-C or Micro USB connector to download from 8GB digital flash memory

SPECIFICATIONS

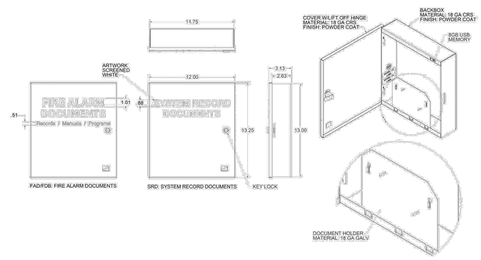
The FAD and SRD Documents Box shall be UL Listed, constructed of 18 gauge cold rolled steel. It shall have a powder coat finish. The cover shall be permanently screened with 1" high lettering "FIRE ALARM DOCUMENTS" or "SYSTEM RECORD DOCUMENTS" with white indelible ink. The access door shall be locked with a 3/4" barrel lock and there will be a liftaway hinge. Models with digital storage will have a minimum of 8 gigabyte digital flash memory drive with a slide tab that allows user to select USB-C or Micro USB connector for uploading and downloading information. The enclosure will supply 4 mounting holes. Inside will accommodate standard 8 1/2" x 11" manuals, three-ring binders, and document records. The enclosure shall also provide 2 key ring holders with a location to mount standard business cards for key contact personnel.

CUSTOM BRANDING AVAILABLE



ACEBOX

DIMENSIONS



ORDERING INFORMATION

P/N#	Cover Text	Color	Custom Screening	USB Storage
SSU00672	Fire Alarm Documents	Red	No	No
SSU00673	Fire Alarm Documents	Red	Yes	No
SSU00685	Fire Alarm Documents	Red	No	Yes
SSU00686	Fire Alarm Documents	Red	Yes	Yes
SSU00689	System Record Documents	Red	No	Yes
SSU00690	System Record Documents	Red	Yes	Yes
SSU01672C	Fire Alarm Documents	Black	Yes	No
SSU01689	System Record Documents	Black	No	Yes
SSU01690	System Record Documents	Black	Yes	Yes

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REV.	DATE	DESCRIPTION
	11/13/26	REMOVED CO IN PARKING GARAGE
	7/02/26	REVISED AS PER COMMENTS
	5/01/26	ISSUED FOR FILING

REVISIONS:

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Reason: your signing reason here
Location: your signing location here
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MIRAGE ENGINEERING LLC
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SYSTEM SENSOR

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



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.

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 86+ dBA at 16 volts
- Rotary switch for horn tone and two volume selections
- 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
- Strobes and Horn Strobes listed for wall mounting only
- Horns listed for wall or ceiling use

Agency Listings

SIGNALING UL LISTED S3215 S4011

FM APPROVED — FM approved except for ALERT models 3057360, 3057370

7135-1653SMK 7135-1653SWK

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, standard and compact devices, and plain, FIRE, and FUEGO-printed devices, System Sensor L-Series can meet virtually any application requirement.

The L-Series 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, the L-Series utilizes a universal mounting plate for all 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.

L-Series Specifications

Architect/Engineer Specifications

General

L-Series standard horns, strobes, and horn strobes shall mount to a standard 2 x 4 x 1½-inch back box, 4 x 4 x 1½-inch back box, 4-inch octagon back box, or double-gang back box. L-Series compact products shall 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 for all standard models and a separate universal mounting plate shall be used for mounting wall compact 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 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. 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 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. 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.

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 on 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 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 in × 4 11/16 in × 2 1/8-in 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 12 DC or regulated 24 DC/FWR[1]
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 1.91" D (143 mm L x 119 mm W x 49 mm D)
Compact Wall-Mount Dimensions (including lens)	5.26" L x 3.46" W x 1.91" 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	5.25" L x 3.45" W x 1.25" D (133 mm L x 88 mm W x 32 mm D)

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. Strobe products will operate at 12 V nominal only for 15 cd and 30 cd.

UL Current Draw Data

UL Max. Strobe Current Draw (mA RMS)

		8–17.5 Volts	16–33 Volts	
	Candela	**DC**	**DC**	**FWR**
Candela Range	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)

		8–17.5 Volts	16–33 Volts	
Sound Pattern	**dB**	**DC**	**DC**	**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), Wall Horn Strobe, Candela Range (15–185 cd)

	8–17.5 Volts							
DC Input	**15cd**	**30cd**	**15cd**	**30cd**	**75cd**	**95cd**	**110cd**	**135cd**	**185cd**
Temporal High	98	158	54	74	121	142	162	196	245
Temporal Low	93	154	44	65	111	133	157	184	235
Non-Temporal High	106	166	73	94	139	160	182	211	262
Non-Temporal Low	93	156	51	71	119	139	162	190	239
3.1K Temporal High	93	156	53	73	119	140	164	190	242
3.1K Temporal Low	91	154	45	66	112	133	160	185	235
3.1K Non-Temporal High	99	162	69	90	135	157	175	208	261
3.1K Non-Temporal Low	93	156	52	72	119	138	162	192	242
	16–33 Volts							
FWR Input	**15cd**	**30cd**	**75cd**	**95cd**	**110cd**	**135cd**	**185cd**		
Temporal High	83	107	156	177	198	234	287		
Temporal Low	68	91	145	165	185	223	271		
Non-Temporal High	111	135	185	207	230	264	316		
Non-Temporal Low	79	104	157	175	197	235	283		
3.1K Temporal High	81	105	155	177	196	234	284		
3.1K Temporal Low	68	90	145	166	186	222	276		
3.1K Non-Temporal High	104	131	177	204	230	264	326		
3.1K Non-Temporal Low	77	102	156	177	199	234	291		

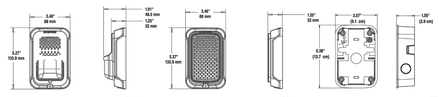
Horn Tones and Sound Output Data

Horn and Horn Strobe Output (dBA)

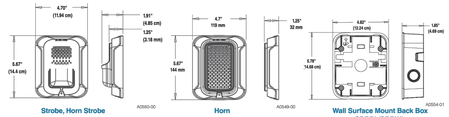
			8–17.5 Volts	16–33 Volts	
Switch Position	**Sound Pattern**	**dB**	**DC**	**DC**	**FWR**
1	Temporal	High	84	89	89
2	Temporal	Low	75	83	83
3	Non-Temporal	High	85	90	90
4	Non-Temporal	Low	76	84	84
5	3.1 KHz Temporal	High	83	88	88
6	3.1 KHz Temporal	Low	76	82	82
7	3.1 KHz Non-Temporal	High	84	89	89
8	3.1 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 2-wire horn strobes. Temporal coding must be provided by the NAC. If the NAC voltage is held constant, the horn output remains constantly on.

L-Series Dimensions



Compact Strobe, Horn Strobe — Compact Horn — Compact Wall Surface Mount Back Box SBBGRL, SBBGWL



Strobe, Horn Strobe — Horn — Wall Surface Mount Back Box SBBRL/SBBWL

L-Series Ordering Information

Model	Description
Wall Horn Strobes	
P2RL	2-Wire, Horn Strobe, Red
P2WL	2-Wire, Horn Strobe, White
P2GRL	2-Wire, Compact Horn Strobe, Red
P2GWL	2-Wire, Comp 2 fils act Horn Strobe, White
P2RL-P	2-Wire, Horn Strobe, Red, Plain
P2WL-P	2-Wire, Horn Strobe, White, Plain
P2RL-SP	2-Wire, Horn Strobe, Red, FUEGO
P2WL-SP	2-Wire, Horn Strobe, White, FUEGO
P4RL	4-Wire, Horn Strobe, Red
P4WL	4-Wire, Horn Strobe, White
Wall Strobes	
SRL	Strobe, Red
SWL	Strobe, White
SGRL	Compact Strobe, Red
SGWL	Compact Strobe, White
SRL-P	Strobe, Red. Plain
SWL-P	Strobe, White, Plain
SRL-SP	Strobe, Red, FUEGO
SWL-CLR-ALERT	Strobe, White, ALERT

Model	Description
Horns*	
HRL*	Horn, Red
HWL*	Horn, White
HGRL*	Compact Horn, Red
HGWL*	Compact Horn, White
Accessories	
TR-2	Universal Wall Trim Ring Red
TR-2W	Universal Wall Trim Ring White
SBBRL	Wall Surface Mount Back Box, Red
SBBWL	Wall Surface Mount Back Box, White
SBBGRL	Compact Wall Surface Mount Back Box, Red
SBBGWL	Compact Wall Surface Mount Back Box, White

Notes:
All -P models have a plain housing (no "FIRE" marking on cover).
All -SP models have "FUEGO" marking on cover.
All -ALERT models have "ALERT" marking on cover.
*Horn-only models are listed for wall or ceiling use.

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AVDS965-05 • 2/22/2018

StarLink FIRE MAX 2

StarLink Fire MAX 2: SLE-MAX2-Series
The Power of 2: Dual SIM, Dual Path by Napco

- **Dual SIM, Dual Path** Universal full data 5G LTE-M cellular &/or IP commercial fire alarm reporting from any panel brand, virtually anywhere nationwide
- **One Model to Stock: Provides both Verizon® & AT&T® Cell Networks plus either sole or dual path cell/IP reporting (selectable by plan)**
- **Auto-Network Select by Site - Upon power up, the signal-strength provided by each cell carrier is analyzed at the site, and the unit will lock-in the best carrier automatically, ie., AT&T or Verizon. Thereafter, it's periodically reviewed and dynamically swapped when needed.**
- **EZ Cell-Network ID- Red or Blue Indicators -** Inside the unit, the Carrier Indicators will light Blue for AT&T or Red for Verizon connection (also test button indicates signal strength on each for manual check)
- **See /Set SIM Status Remotely - using a PC or smart device, the StarLink Network Operations Center (NOC), in Napco Headquarters, NY, can be accessed allowing you used to set parameters or view current status, Dual SIM status of accounts**
- **Supports 12V/24V FACUs,** No Panel Reprogramming with those that communicate using Contact ID and 4/2 (such as on legacy panels), as primary or backup.
- **UL & NFPA Code-compliant, replaces 2 POTs lines per FACU** saves thousands of dollars per year over the leased landlines. (Show accounts savings -Free Sales Tool /Calculator App left)
- **Proven StarLink Reliability & Best 5G LTE-M Performance - Works where others can't -** Signal Boost™ Circuitry & unique dual-diversity twin antennas, maximizing signal acquisition and eliminating the multiphase-effect signal-clash/drop-outs single-antenna units are prone to.

DUAL SIM/DUAL PATH
AT&T and VERIZON
Cell &/or IP UNIVERSAL 5G
COMMERCIAL FIRE LTE-M COMMUNICATORS

AT&T + verizon NAPCO

- **Easiest installation, powered by panel, NO extra power supply, NO extra conduit.** (Excludes Metal Direct AC Powered Model, shown below.)
- **Labor-Saving Supervision Features Save Time & Money** - Uniquely including 4 supervised, programmable EOL/R zone inputs; 2 Form C Relay outputs (no extra supervision modules to buy or install); plus, 2 telephone style jacks for easy FACU connection. Self-supervised on 4 wires.
- ***Easy-Repeat* Account Templates** - Save your typical account setup and reuse for goof-proof communicator programming & fast deployment.
- **Free StarLink FACU-Saver App** - Smartphone Pro sales tool for calculating/demonstrating account's cellular cost-savings with dealer by number of lines & locations vs. copper POTs lines leased from phone co. *FREE download* on Apple Store or Google Play.
- **Pro Incentive Instant Rebate Program** - Dealers save on new and retrofit installations, replacing POTs, old radios, sunset networks and even new installations. (Nothing to mail in/fill out: Service credit automatically applied upon valid plan activation. See details online; scan QR code on back)
- **UL & NFPA 72 Fire Code-Compliant,** the StarLink Max2 Fire Series Wireless Commercial Fire Alarm Sole Path & Dual Path Communicators provide universal support for any brand 12V to 24V fire alarm control panel (FACU), reporting in Contact ID and 4/2. With broadest nationwide coverage footprint, Verizon or AT&T, using proven StarLink circuitry, they are also available in locking metal models.
- **Over-the-Air Upgradeable Firmware** for updates without a truck-roll.



Universal Panel-Powered Commercial Fire FACU Communicator: Dual SIM for 2 Networks; Dual Path Cell or Cell/IP all in One Model

verizon AT&T



Dual SIM/Dual Path StarLink Fire MAX 2 also available in Metal enclosures with or without power supply

verizon AT&T

One Dual SIM Dual Path Model is Both Verizon and AT&T and Sole or Dual Path with Cellular + Internet Option. StarLink Fire provides full data reporting, in sole & dual path, as a primary or backup, to any central station of your choice, w/o requiring any special equipment on premises. The units are very easily activated, plans for dual or sole path & check-in periods are selected, and 24/7 account management is provided all through www.napcocommet.com.

Easy, Universal Installation at Every Application; standardly w/ Panel- Powered Technology™ or metal units with choice of power source. StarLink Fire Communicators are easily connected to any 12V to 24V panel or Fire Alarm Control Panel (FACU) using easy Quick Connect RACP modular jacks. For any application, StarLink Max Fire 2 Series comes in standard, ABS plastic Panel-Powered Technology™ (powered by the panel), models, or in metal housings w/ or w/o & choice of power options, i.e., direct-connect 120VAC or Plug-in transformer. ***Quick Tip: Using StarLink Fire Max 2 with Power Supply models (suffix -PS) eliminates the need to do recalculations on the fire system being retrofitted as well.***

StarLink Fire is End-to-End UL 864 Listed to protect signal reliability, speed & performance for critical life and safety alarm reports for maximum life-safety & liability protection. **UL-Listed from the UL 864 StarLink Fire Max 2 communicator, to Napco's NY UL 864 Network Operations Center** (shown below in map), **to any Central Station's UL Listed Receiver.** (It is also backed by Disaster Recovery NOC in PA for immediate, mirrored emergency switchover.)

STARLINK: ALL SIGNALS, ALWAYS IN THE USA



StarLink FIRE MAX 2

SLE-MAX2 SERIES Fire Dual SIM/Dual Path Commercial Fire Alarm Cell Communicators

- **Dual SIM models auto-select optimal cell carrier - and Red or Blue LED Indicators inside signal Verizon or AT&T respectively, shown right.**
- **LED Status /Trouble Indicators** 3 Radio Status LED Indicators (visible from outside standard model housing) - Green, Signal Strength; Amber- Busy/Activation; Red-Trouble. (Additional internal LEDs, not visible with cover closed, i.e., for troubleshooting and for AT&T or Verizon network selection, status) Power LED indicator viewable on outer metal enclosure models.
- **Sole or Dual Path 5G LTE-M Cell Commercial Fire Alarm Communicator in One -** Simply select Cell or Cell/IP Service Plan & check-in period: 5 minutes, 60 minutes, 6 hours or 24 hours.
- **Signal Boost and Patented Switching Dual Diversity Antenna** for maximum signal acquisition & null /signal-clash avoidance, receiving signals on both antennas (2 supplied, nothing extra to buy.)
- **"Return Receipt" Fully-Supervised Communication Path** between premise & central station, keeping channel open until *kiss-off* is received from Central Station receiver



SPECIFICATIONS: (Apply to all models unless otherwise stated)
SLE-MAX2-FIRE & SLE-MAX2-CFB:
Electrical Ratings for +12V / 24V (Models w/o Power Supply)
- Input Voltage: 10-24VDC regulated (power-limited output from UL Certified FACU/panel Aux/Remote Fire Power).
- Input Current: 24VDC standby: 85mA

SLE-MAX2-CFBPS:
Electrical Ratings for 120VAC, 60Hz (Models with Power Supply)
- Input Voltage: 120VAC nominal
- Input Current: 200mA maximum
- Maximum Charging Current: 200mA

Electrical Ratings Fire Input 1:
- Input Voltage: 9-25VDC
- Max Input Current: Up to 2mA from FACU NAC circuit

Electrical Ratings for Inputs 2 to 5 (Class B):
- Maximum Loop Voltage: 25VDC
- Maximum Loop Current: 1.2mA (metal models); 1.7mA (plastic)
- End of Line Resistor (EOLR) Value: 10K

Electrical Ratings for PGM3 Output:
- Open Collector Output: Max Voltage 3V when active; 25V max. when not.
- PGM Max Sink Current: 50mA (up to 15VDC), 25mA (15.1VDC -25VDC)

Physical & Environmental
- Plastic Housing: 8 x 5½ x 1⅞ "(WHD) + antennas (2ea, supplied) 8¼" H
- Metal Housing: 11½ x 9¼ x 3½"(WHD) + antennas (2ea, supplied) 8¼" H
- Housings: 2 Keyholes for wall mount
- Operating Temp. 32 to 120°F , 93% Humidity Max.

COMPLIANCES:
NFPA 72 Eds: 2022, 2019, 2016, 2013, 2010; UL 2610, UL 985, UL1023, UL864 10th Ed., CSFM, NYC FD, LAFD Napco US Network Operations Center (NOC) UL 864 10th Ed. UL 1610, UL 1635

ORDERING INFORMATION

Model	Description	Dual SIM/ Dual Path	Verizon	AT&T	Sole Path Cell	Dual Path Cell/IP	Low Current Draw, Standby (@24V)	Current Draw, Peak (@24V)
SLE-MAX2-FIRE	Universal Fire Communicator, Dual SIM, Dual Path, Panel-Powered Technology; ABS Plastic Housing	✓	✓	✓	✓	✓	85mA	325mA
SLE-MAX2-CFB	Universal Fire Communicator, Dual SIM, Dual Path, Panel-Powered Technology	✓	✓	✓	✓	✓	85mA	325mA
SLE-MAX2-CFBPS	Universal Fire Communicator, Dual SIM, Dual Path, Direct AC Power 120VAC Metal Housing w/ Provision, For Plug-in TRF12 XFormer, 16VAC, 20VA, (w/ provision for backup battery)	✓	✓	✓	✓	✓	200mA	200mA

OPTIONS/ACCESSORIES:
SLE-WIFI-MODULE: Optionally connects supported dual path models to Internet via WiFi, eliminating Ethernet cable connection. Requires 7AH battery. (see WIZ191)
SLE-ANTEXT30: StarLink Omni-X Optional Extended Range Marine-Grade Complete Antenna Kit, w/ 30' of ultra low-noise LMR 300 cable, all hardware & ground fault isolator plate.
SLE-ANTEXT50: as above, 50' cable
SLE-ANTEXT75: as above, 75' cable
SLE-ANTEXT100: as above, 100' cable
SLE-ANTEXT04: as above, 4' cable
SLE-FIRE-VR: FACU Voltage Drop Kit, maintains safe input voltage < 27.5VDC
TRF12: Plug in AC Transformer, used w/ SLE-MAX2-CFBPS model, 16.5V / 20VA (use subject to local code).
GEM-TAMPERKIT: Tamper switches and screws to protect metal housing where required.
SLE-ULPS-R: Power Supply, for installations where FACU cannot provide Aux Power.
SLE-FMBB: Opt.Metal Cable Management Backbox for surface mounting plastic StarLink communicator models adjacent to FACUs on same plane. Radio easily snaps in on 4 stand-offs, no rewiring. Red metal enclosure w/ ¾" cable knockouts; 2 Connectors & 4" Conduit, supplied.
Also See FireLink FACUs with built-in StarLink Communicators & LCD Touchpads on Door, addressable & conventional, cloud-programmable.



verizon AT&T *Coming soon for Canada*

NAPCO www.StarLinkFire.com

Addressable, Conventional Fire Alarm Systems & Leading Commercial Fire Cellular Communications

FOR MORE



For Compliance, Always Consult with AHJ & Not-Yet-In-Model i.e., SLE-MAX2-FIRE (Panel) (WD)(APU) SLE-MAX2-CFBPS, -CFB (Dual Path Metal) WARRANTY StarLink & SecureWARE Fire are trademarks of NAPCO. Android, Behemoth, Google, GPlay, Marshmallow, names, intellectual property of their respective companies. Preliminary data & promotions subject to change without notice. © NAPCO 2024.1 AB12

REV.	DATE	DESCRIPTION
	11/13/26	REMOVED CO IN PARKING GARAGE
	7/02/26	REVISED AS PER COMMENTS
	5/01/26	ISSUED FOR FILING

REVISIONS:

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Reason: your signing reason here
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TITLE:
FIRE ALARM CUTSHEET

STAMP:

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JOB #: F302
DRAWN BY: GL/AF
SCALE: AS SHOWN

DRAWING NO:
FA-203.00

FILE No. :

SHEET: