Honeywell Security
Battery & Power Budget Calculator

Facility Information

Location:	128 GLENWOOD AVENUE
Account #:	
Model:	Vista-128FBP
Engineer:	
Date:	3/6/2015

Standby and Alarm Times

		Battery Contigency Factor
Battery Standby (hours):	24	10%
Alarm Duration (minutes):	5	
Recommended Battery (AH)	12.2	

Recommended Battery Capacity OK for 48-Hr Recharge

SELECTED PANEL MAXIMUM OUTPUT RATINGS

PANEL:	Polling Loop (mA)	Standby Auxiliary Power (mA)	Alarm Auxiliary Power (mA)	Panel Standby (mA)	Panel Alarm (mA)	Bell #1 Output (mA)	Bell #2 Output (If Used: mA)	Maximum Panel Standby Output	Maximum Panel Alarm Output	Max. Battery Supported By Panel
Vista-128FBP	128	1000	1700	300	470	1700	1700	1300	2800	34.4
								Total Standby	Total Alarm	
Calculated Current Draw	8.8	125	240	Calculated Bell Draw		0	0	134	249	
								Standby Budget	Alarm Budget	
Power Budget	119.2	875.0	1460.0	Bell Power Budget		1700.0	1700.0	1166.2	2551.2	
	Current OK	Current OK	Current OK			Current OK		Current OK	Current OK	
			External	Bell Power Req'd (mA):		0.0		Ext. UL Power Req'd (mA):		0.0

KEYPADS/INTERFACE	Enter Quantity	How many powered by 4297?	Standby (aux pwr)	Alarm Current (aux)	Polling Loop	Total Polling Loop	Total Standby Current	Total Alarm Current	Total External Current Required
6160CR2 (ANNUNCIATOR)	1	0	45	160			45	150	

AUXILIARY POWERED DEVICES	Enter Quantity	How many powered by 4297?	Standby (aux pwr)	Alarm Current (aux)	Polling Loop	Total Polling Loop	Total Standby Current	Total Alarm Current	Total External Current Required
5881 EN RECEIVER	1	0	80	80			80	80	
COMMUNICATORS									
IPGSM-4G	1	0	0	0			0	0	

POLLING LOOP DEVICES	Enter Quantity	How many powered by 4297?	Standby (aux pwr)	Alarm Current (aux)	Polling Loop	Total Polling Loop	Total Standby Current	Total Alarm Current	Total External Current Required
4193SN TWO ZONE SIM	4	0			1.5	6			
5192SD SMOKE DETECTOR	1	0			2.8	2.8			

FPS1 Battery Calculation

3/5/2015

PROJECT NAME: 128 GLENWOOD AVENUE
Required Standby Time: 24 Hours
Required Alarm Time: 5 Minutes

Regulated Load in Standby

Device Type	Number of Devices		Current (Amps)		Total Current (Amps)
AL602ULADA Main Board	1	X	0.09000	=	0.09000
TOTAL STANDBY LOAD					0.09000

Regulated Load in ALARM

Device Type	Number of Devices		Current (Amps)		Total Current (Amps)
AL602ULADA Main Board	1	X	0.17500	=	0.17500
FPS1-1 (See voltage drop calc for device quantity)	1	X	0.45500	=	0.45500
TOTAL ALARM LOAD					0.63000

Battery Requirements

Standby Load			Required Standby Time in Hours		
Current (Amps)	0.09000	X	24.00000	=	2.16000
Alarm Load			Required Alarm Time in Hours		
Current (Amps)	0.63000	X	0.08333	=	0.05250
Total Ampere Hours (before derating factor)					2.21250
Derating Factor				X	1.2
TOTAL AMPERE HOURS REQUIRED				=	2.65500
BATTERIES TO BE PROVIDED (2 – 12v)					**7 AH**

NAC Circuit Voltage Drop Calculation — 3/5/2015

Project Name: 128 GLENWOOD AVENUE
Circuit Number: FPS1-1

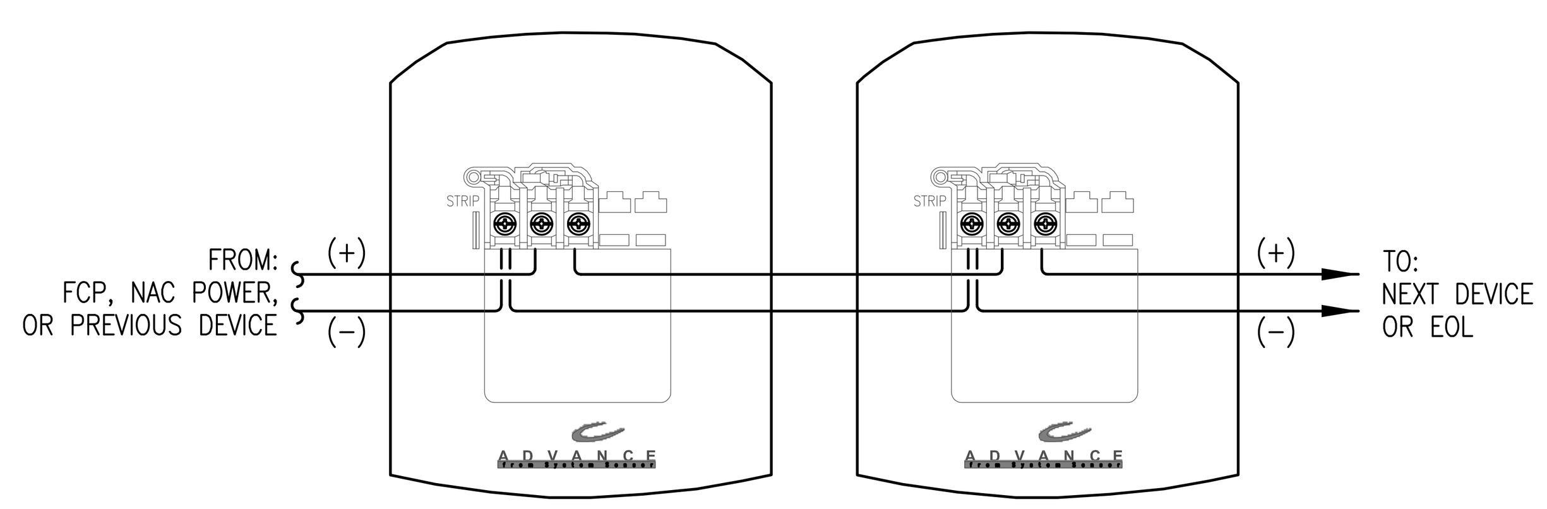
Nominal System Voltage: 20.4 volts
Minimum Device Voltage: 16 volts
Distance from source to 1st device: 50
Wire Gauge for balance of circuit

Wire Gauge	Resistance Per 1000
14	6.14
14	6.14

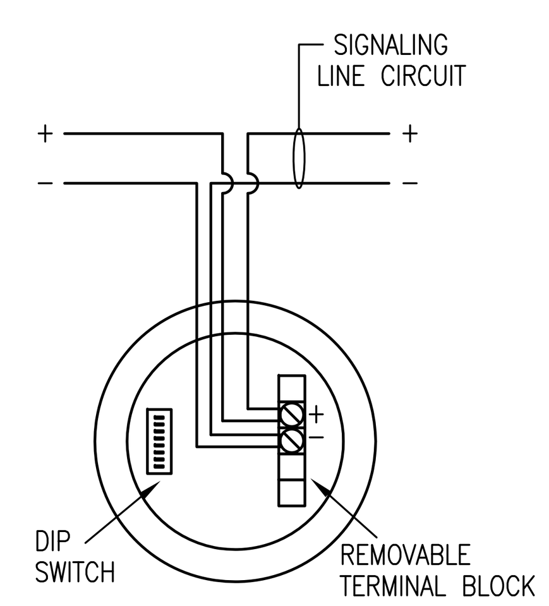
Max Output Current: 1.5 amps
Total Circuit Current: 0.455 amps

Circuit is within limits

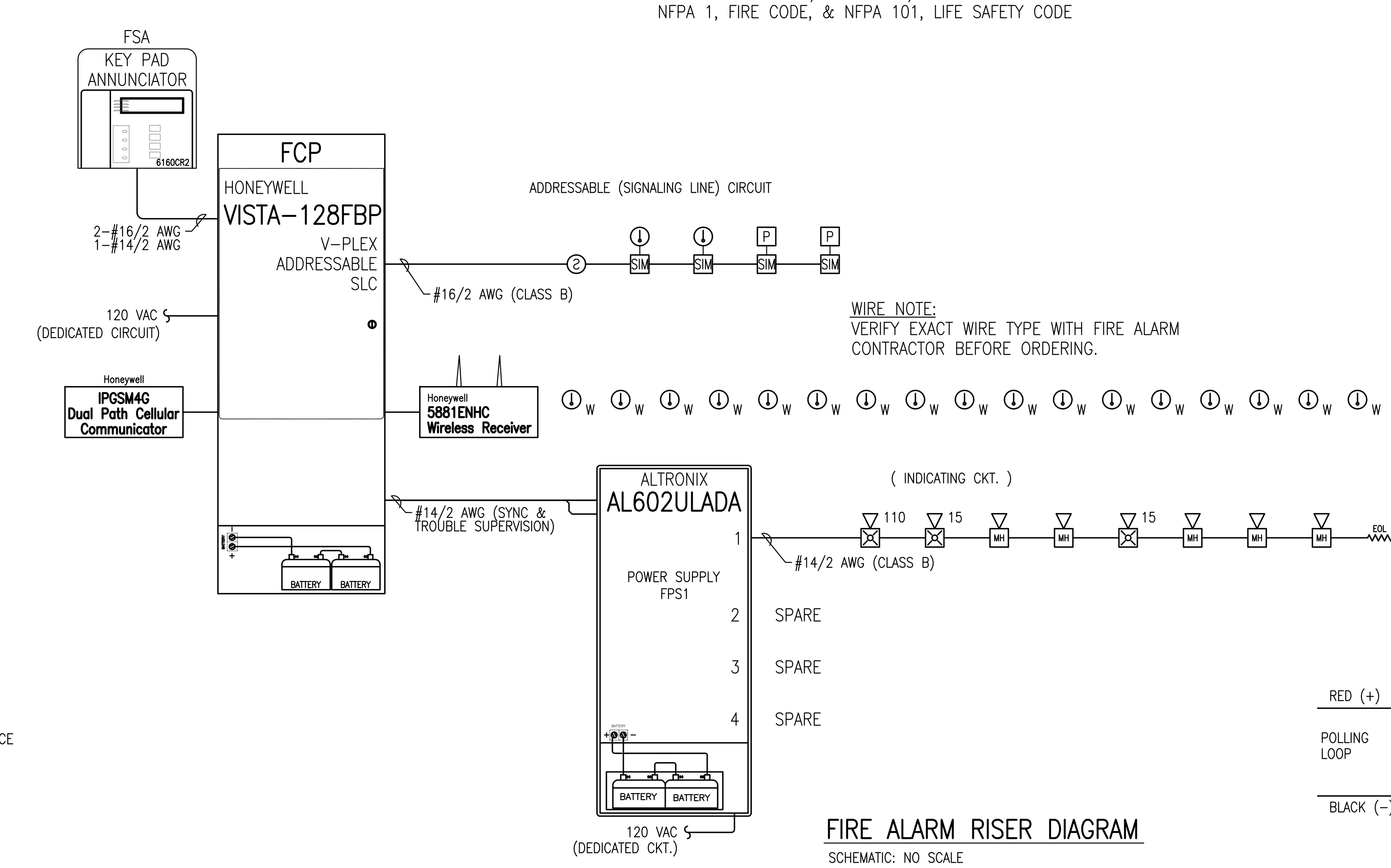
	Device Current	Distance previous device	Voltage at Device	Drop from source	Percent Drop
Device 1	0.212		20.26	0.14	1%
Device 2	0.079	20	20.23	0.17	1%
Device 3	0.017	11	20.22	0.18	1%
Device 4	0.017	22	20.20	0.20	1%
Device 5	0.079	36	20.17	0.23	1%
Device 6	0.017	46	20.16	0.24	1%
Device 7	0.017	30	20.15	0.25	1%
Device 8	0.017	15	20.15	0.25	1%
Totals	0.455	230			



TYPICAL 2 WIRE STROBE WIRING DETAIL
SCHEMATIC: NO SCALE



5192SD SMOKE DETECTOR WIRING DETAIL
SCHEMATIC: NO SCALE



FIRE ALARM RISER DIAGRAM
SCHEMATIC: NO SCALE

GENERAL NOTES:

1. THESE DRAWINGS ARE DIAGRAMMATIC. REFER TO THE ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS.
2. INSTALLATION SHALL COMPLY WITH NEC, NFPA 72 AND ALL OTHER APPLICABLE CODES AS REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
3. WIRING DEPICTED ON THESE PLANS IS SCHEMATIC – ACTUAL WIRE LOCATIONS MAY DIFFER FROM THESE PLANS. WIRING SHALL BE PERFORMED AS ACTUAL BUILDING CONSTRUCTION CONDITIONS ALLOW AND TO MINIMIZE PENETRATIONS THROUGH AREA SEPARATION WALLS AND FIRE WALLS. THE USE OF A RACEWAY IS PERMITTED AS LONG AS NO 110V OR HIGHER VOLTAGE CABLES ARE IN THE SAME RACEWAY.
4. FIRE RATINGS SHALL BE MAINTAINED FOR ALL PENETRATIONS THROUGH FIRE-RATED CONSTRUCTION.
5. POWER FOR ALL FIRE ALARM PANELS AND FIRE ALARM POWER SUPPLIES MUST BE PROVIDED BY A DEDICATED AC BRANCH CIRCUIT.
6. POWER-LIMITED AND NONPOWER-LIMITED CIRCUIT WIRING MUST REMAIN SEPARATED IN CABINET. ALL POWER-LIMITED CIRCUIT WIRING MUST REMAIN AT LEAST 0.25" AWAY FROM ANY NONPOWER-LIMITED CIRCUIT WIRING. FURTHERMORE, ALL POWER-LIMITED AND NONPOWER-LIMITED CIRCUIT WIRING MUST ENTER AND EXIT THE CABINET THROUGH DIFFERENT KNOCK OUTS AND/OR SEPARATE CONDUITS.
7. WHEN UTILIZING CLASS "A" CIRCUITS, SEPARATE OUTGOING AND RETURN CONDUCTORS OF CLASS "A" CIRCUITS BY A MINIMUM OF 12" WHERE RUN VERTICALLY AND 48" WHERE RUN HORIZONTALLY.
8. WHEN UTILIZING SHIELDED CABLE TIE SHIELDS THROUGH AND INSULATE AT EACH JUNCTION BOX. INSULATE AND TAPE BACK AT END.
9. ALL FIRE ALARM CABLING SHALL BE ACCEPTABLE TO THE FIRE ALARM EQUIPMENT MANUFACTURER FOR THE INTENDED PURPOSE.
10. SMOKE DETECTORS SHALL NOT BE INSTALLED UNTIL AFTER CONSTRUCTION CLEAN-UP IS COMPLETED AND FINAL.
11. LOCATE SMOKE DETECTORS A MINIMUM OF THREE (3) FEET FROM MECHANICAL DIFFUSERS. WALL-MOUNTED SMOKE DETECTORS SHALL BE LOCATED A MINIMUM OF 4" AND A MAXIMUM OF 12" FROM CEILING. CEILING-MOUNTED SMOKE DETECTORS SHALL BE MOUNTED ON CEILINGS AND NOT ON THE BOTTOMS OF BEAMS OR JOISTS.
12. PROVIDE SYNCHRONIZATION OF ALL VISUAL NOTIFICATION APPLIANCE CIRCUITS. PROVIDE ALL REQUIRED SYNC MODULES. PROVIDE A MULTI-SYNC MODE SLAVE CONNECTION BETWEEN ALL SYNC MODULES.
13. VERIFY ALL FIELD SELECTABLE AUDIBILITY SETTINGS OF NOTIFICATION APPLIANCES WITH FIRE ALARM CONTRACTOR.
14. UPON COMPLETION OF THE FIRE ALARM SYSTEM INSTALLATION AND PROGRAMMING, THE INSTALLING CONTRACTOR SHALL PERFORM FINAL TESTING OF THE ENTIRE SYSTEM, PER ALL APPLICABLE CODES, AND SHALL COORDINATE AND PERFORM A FINAL FIRE ALARM SYSTEM INSPECTION.
15. PROVIDE OFF-SITE MONITORING AS REQUIRED BY THE INTERNATIONAL FIRE CODE, SECTION 907.15 AND THE LOCAL AUTHORITY HAVING JURISDICTION.
16. INSTALLING CONTRACTOR SHALL, PHYSICALLY, LABEL ALL INITIATING DEVICES AND NOTIFICATION APPLIANCE CIRCUIT END OF LINE (WHEN WIRING CLASS "B"). THESE LABELS SHALL BE IN PLACE PRIOR TO START-UP AND TESTING.

APPLICABLE CODES:

MAINE UNIFORM ENERGY & BUILDING CODE
PORTLAND CITY CODE, CHAPTER10, FIRE PREVENTION & PROTECTION
NFPA 1, FIRE CODE, & NFPA 101, LIFE SAFETY CODE

FIRE ALARM SYMBOL LEGEND

NOTE: ALL SYMBOLS MAY NOT BE USED ON THIS PROJECT

SYMBOL	DESCRIPTION	MOUNTING
FCP	FIRE ALARM CONTROL PANEL	WALL-TOP @ 66"
FPS	FIRE ALARM POWER SUPPLY	FIELD VERIFY
FSA	FIRE SYSTEM ANNUNCIATOR	WALL-TOP @ 66"
FSD	FIRE/SMOKE DAMPER	BY OTHERS
	SMOKE DETECTOR	CEILING
	DUCT SMOKE DETECTOR	BY OTHERS
	HEAT DETECTOR	CEILING
CM	ADDRESSABLE CONTROL MODULE	FIELD VERIFY
MM	ADDRESSABLE MONITOR MODULE	FIELD VERIFY
P	MANUAL PULL STATION	WALL @ 48"
R	CONTROL RELAY (MULTI-VOLTAGE)	FIELD VERIFY
RM	ADDRESSABLE RELAY MODULE	FIELD VERIFY
SIM	SERIAL INTERFACE MODULE	FIELD VERIFY
	WATER FLOW SWITCH	BY OTHERS
	VALVE TAMPER SWITCH	BY OTHERS
	BELL	BY OTHERS
	CEILING MOUNT STROBE	FIELD VERIFY
H	CEILING MOUNT HORN / STROBE	FIELD VERIFY
S	CEILING MOUNT SPEAKER / STROBE	FIELD VERIFY
	HORN	WALL @ 10'-0
	HORN / STROBE	WALL 80"-96"
SS	SPEAKER / STROBE	WALL 80"-96"
SP	SPEAKER	WALL @ 90"
	STROBE	WALL 80"-96"

ABBREVIATION	DESCRIPTION
E	EXISTING
G	WITH GUARD
P	PENDENT MOUNT
R	RESIDENTIAL (110V)
S	SOUNDER BASE
WP	WEATHER PROOF
EOL	END OF LINE RESISTOR
EOLR	END OF LINE RELAY
AWG	AMERICAN WIRE GAUGE
TWP	TWISTED PAIR
TWSP	TWISTED SHIELDED PAIR
FPLP	FIRE POWER LIMITED PLENUM
FPLR	FIRE POWER LIMITED RISER

SPEAKER WATTAGE (¼W) 75 STROBE CANDELA 30

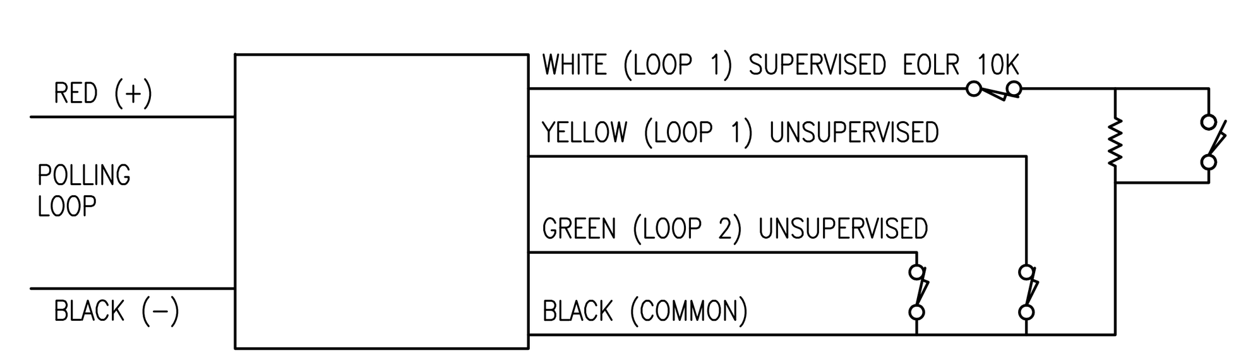
DEVICE ADDRESS: L1D001 OR D01 (L – DENOTES LOOP #) (D or M – DENOTES DETECTOR OR MODULE #)

1-#16/2 TWP: WIRE TYPE ABBREVIATED; CONDUCTOR COUNT; WIRE SIZE; # OF CABLES (IF OMITTED ONLY 1 CABLE NEEDED)

RESERVED FOR CITY STAMP

OPERATIONS MATRIX

FIRE ALARM INPUT \ FIRE ALARM OUTPUT	ACTIVATE ALARM INDICATOR	ACTIVATE AUDIBLE ALARM	ACTIVATE TROUBLE INDICATOR	ACTIVATE AUDIBLE TROUBLE INDICATOR	TRANSMIT ALARM SIGNAL	TRANSMIT TROUBLE SIGNAL
SMOKE DETECTORS	●	●			●	
HEAT DETECTORS	●	●			●	
PULL STATIONS	●	●			●	
FIRE ALARM AC POWER FAIL			●	●		●
FIRE ALARM LOW BATTERY			●	●		●
OPEN CIRCUIT			●	●		●
GROUND FAULT			●	●		●
NAC SHORT CIRCUIT			●	●		●
LOSS OF AC TO BUILDING			●	●		●



4193SN TWO ZONE SIM WIRING DETAIL
SCHEMATIC: NO SCALE

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SCALE	NONE

FA-1

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REVISION	DESCRIPTION	DATE
0	ISSUED FOR REVIEW & APPROVAL	3/6/2015