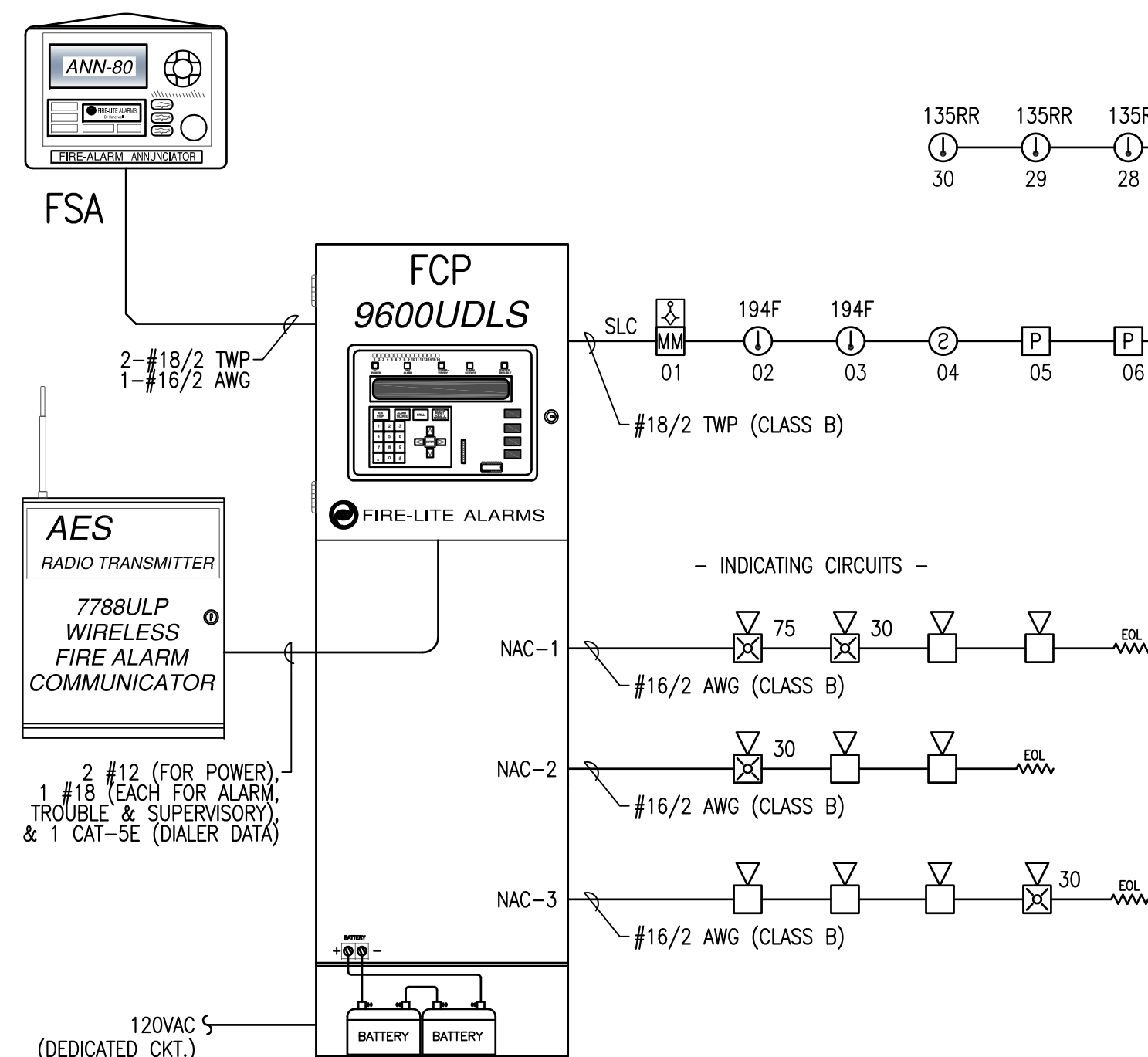


MS-9600UDLS Battery Calculation					
Secondary Power Source Requirements					
Device Type	Qty	Standby Current (amps)		Secondary Alarm Current (amps)	
		Current Draw	Total	Current Draw	Total
Main Circuit Board	1	x	0.103000	=	0.103000
DACT-UD2	1	x	0.017000	=	0.017000
ANN-BUS Devices					
ANN-80(-W)	1	x	0.015000	=	0.015000
Addressable Devices					
SD355	2	x	0.000300	=	0.000600
H355R	12	x	0.000300	=	0.003600
H355HT	9	x	0.000300	=	0.002700
BG-12LX	6	x	0.000300	=	0.001800
W-GATE	1	x	0.024000	=	0.024000
Maximum alarm draw for Addressable devices (SLC 1)			0.40000		
Output Circuits					
NAC/Output #1			0.000000	=	0.402000
NAC/Output #2			0.000000	=	0.186000
NAC/Output #3			0.000000	=	0.203000
NAC/Output #4			0.000000	=	0.000000
Current Draw from TB3 (non-alarm)			0.000000	=	0.000000
Sum each column for totals	Total Standby Current		0.18770	Total Alarm Current	1.51300

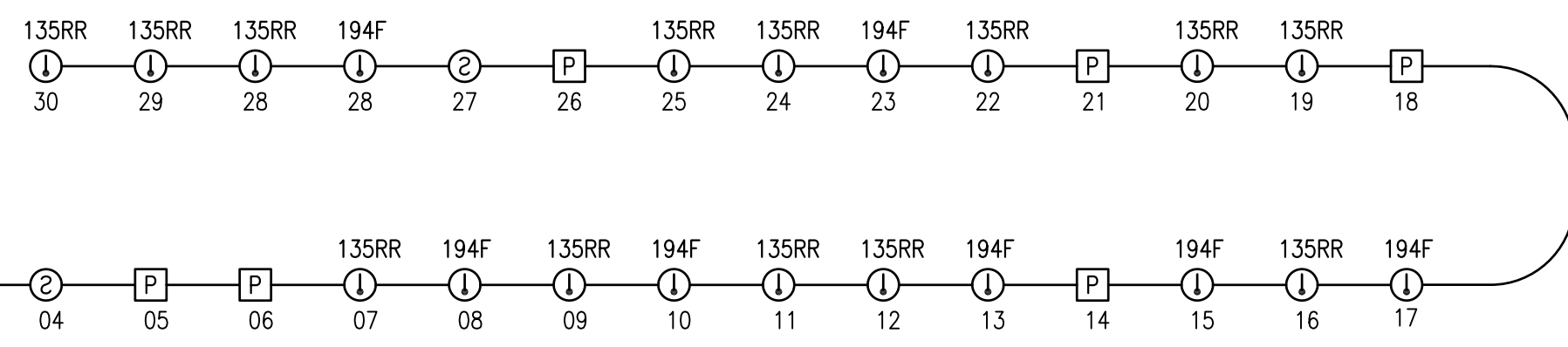
MS-9600UDLS Battery Calculation			
Calculation in Total Sheet			
Standby Load Current (Amps)	0.18770 Amps	Required Standby Time in Hours	24 Hours
Alarm Load Current (Amps)	1.51300 Amps	Required Alarm Time in Hours	5 Minutes
Standby and Alarm Load Subtotal			4.152 AH
Derating Factor			x 1.2
Total Ampere Hours Required			4.982 AH
Recommended Batteries:	BAT-12120 - 12AH Batteries		

MS-9600UDLS Circuit Detail					
NAC 1					
Device	Qty	Non-Alarm Draw	Total	Qty	Alarm Draw
Basement Horn/strobe 75cd	1	x 0.000000	= 0.000000	1	x 0.216000
1st Floor Horn/strobes cd 30	1	x 0.000000	= 0.000000	1	x 0.152000
1st Floor Mini Horns	2	x 0.000000	= 0.000000	2	x 0.017000
Total Standby Load		0.000000	Total Alarm Load	0.402000	
NAC 2					
Device	Qty	Non-Alarm Draw	Total	Qty	Alarm Draw
2nd Floor Horn/strobe cd 30	1	x 0.000000	= 0.000000	1	x 0.152000
3rd Floor Mini Sounders	2	x 0.000000	= 0.000000	2	x 0.017000
Total Standby Load		0.000000	Total Alarm Load	0.186000	
NAC 3					
Device	Qty	Non-Alarm Draw	Total	Qty	Alarm Draw
4th Floor Mini Sounders	2	x 0.000000	= 0.000000	2	x 0.017000
5th Floor Mini Sounders	1	x 0.000000	= 0.000000	1	x 0.017000
5th Floor Horn/Strobe cd 30	1	x 0.000000	= 0.000000	1	x 0.152000
Total Standby Load		0.000000	Total Alarm Load	0.203000	

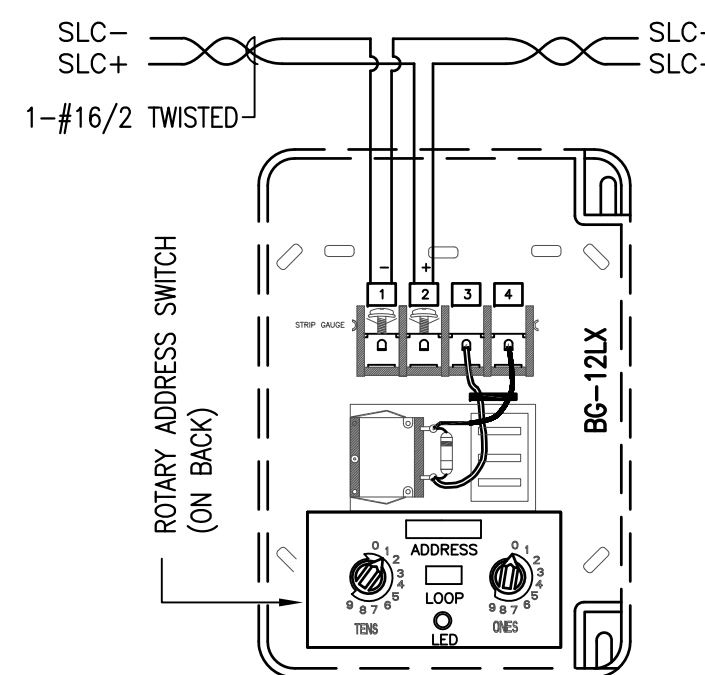
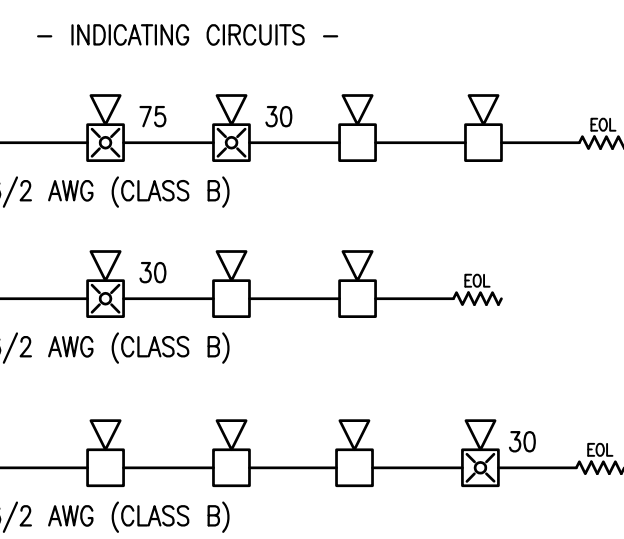


FIRE ALARM RISER DIAGRAM
SCHEMATIC: NO SCALE

- ADDRESSABLE (SIGNALLING LINE) CIRCUIT -



WIRE NOTE:
VERIFY EXACT WIRE TYPE WITH FIRE ALARM
CONTRACTOR BEFORE ORDERING.



MANUAL PULL STATION WIRING DETAIL
SCHEMATIC: NO SCALE

GENERAL NOTES:

- THESE DRAWINGS ARE DIAGRAMMATIC. REFER TO THE ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS.
- INSTALLATION SHALL COMPLY WITH NEC, NFPA 72 AND ALL OTHER APPLICABLE CODES AS REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
- 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.
- FIRE RATINGS SHALL BE MAINTAINED FOR ALL PENETRATIONS THROUGH FIRE-RATED CONSTRUCTION.
- POWER FOR ALL FIRE ALARM PANELS AND FIRE ALARM POWER SUPPLIES MUST BE PROVIDED BY A DEDICATED AC BRANCH CIRCUIT.
- 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.
- 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.
- WHEN UTILIZING SHIELDED CABLE TIE SHIELDS THROUGH AND INSULATE AT EACH JUNCTION BOX. INSULATE AND TAPE BACK AT END.
- ALL FIRE ALARM CABLING SHALL BE ACCEPTABLE TO THE FIRE ALARM EQUIPMENT MANUFACTURER FOR THE INTENDED PURPOSE.
- SMOKE DETECTORS SHALL NOT BE INSTALLED UNTIL AFTER CONSTRUCTION CLEAN-UP IS COMPLETED AND FINAL.
- 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.
- PROVIDE SYNCHRONIZATION OF ALL VISUAL NOTIFICATION APPLIANCE CIRCUITS. PROVIDE ALL REQUIRED SYNC MODULES. PROVIDE A MULTI-SYNC MODE SLAVE CONNECTION BETWEEN ALL SYNC MODULES.
- VERIFY ALL FIELD SELECTABLE AUDIBILITY SETTINGS OF NOTIFICATION APPLIANCES WITH FIRE ALARM CONTRACTOR.
- 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.
- PROVIDE OFF-SITE MONITORING AS REQUIRED BY THE INTERNATIONAL FIRE CODE, SECTION 907.15 AND THE LOCAL AUTHORITY HAVING JURISDICTION.
- 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.

FIRE ALARM SYMBOL LEGEND

SYMBOL	DESCRIPTION	MOUNTING
FCP	FIRE ALARM CONTROL PANEL	WALL-TOP @ 66"
AES	AES RADIO	FIELD VERIFY
FPS	FIRE ALARM POWER SUPPLY	FIELD VERIFY
FSA	FIRE SYSTEM ANNUCIATOR	WALL-TOP @ 66"
⊙	SMOKE DETECTOR	CEILING
⊙-	DUCT SMOKE DETECTOR	BY OTHERS
⊙ 135RR	HEAT DETECTOR - RATE OF RISE	CEILING
⊙ 194F	HEAT DETECTOR - HIGH TEMPERATURE FIXED	CEILING
⊙ R	RESIDENTIAL SMOKE DETECTOR, NOT PART OF SYSTEM	BY OTHERS
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
KX	KNOX BOX	FIELD VERIFY
KH	KITCHEN HOOD	BY OTHERS
⊙	MAGNETIC DOOR HOLDER	FIELD VERIFY
⊙	WATER FLOW SWITCH	BY OTHERS
⊙	VALVE TAMPER SWITCH	BY OTHERS
⊙	CEILING MOUNT STROBE	FIELD VERIFY
⊙	CEILING MOUNT HORN / STROBE	FIELD VERIFY
⊙	CEILING MOUNT SPEAKER / STROBE	FIELD VERIFY
⊙	HORN / MINI-SOUNDER	WALL 80"-96"
⊙	HORN / STROBE	WALL 80"-96"
⊙	SPEAKER / STROBE	WALL 80"-96"
⊙	SPEAKER	WALL @ 90"
⊙	STROBE	WALL 80"-96"

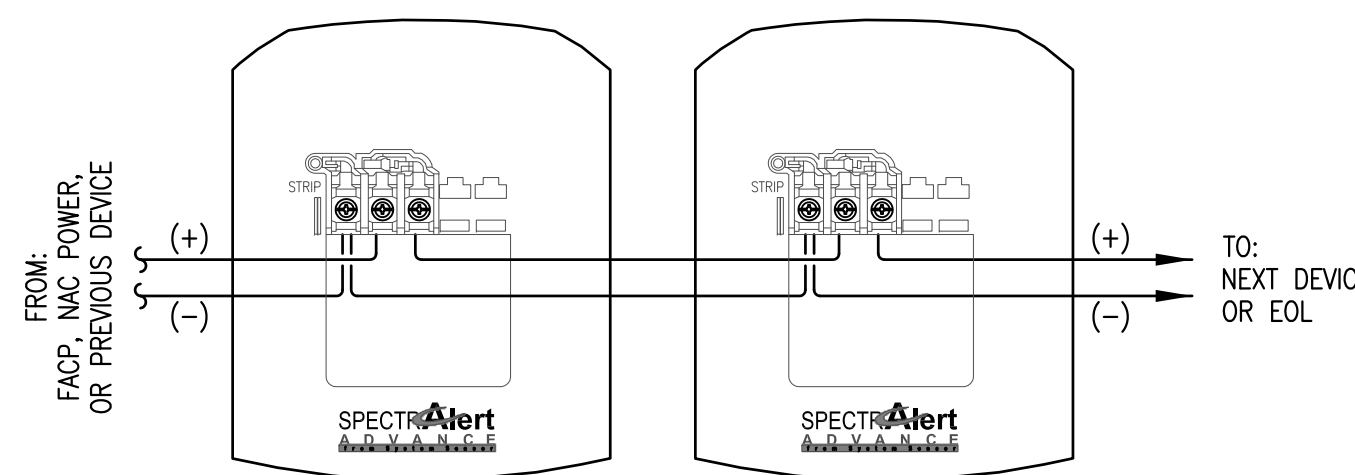
ABBREVIATION	DESCRIPTION
E	EXISTING
G	WITH GUARD
P	PENDENT MOUNT
R	RESIDENTIAL (110V)
S	SOUNDER BASE
WP	WEATHER PROOF
EOL	END OF LINE RESISTOR
EOLR	END OF LINE RELAY
AWG	AMERICAN WIRE GAUGE
TWP	TWISTED PAIR
TWSP	TWISTED SHIELDED PAIR
FPLP	FIRE POWER LIMITED PLENUM
FPLR	FIRE POWER LIMITED RISER

SYMBOL	DESCRIPTION
⊙	DEVICE ADDRESS
L10001 OR D01	(L - DENOTES LOOP #)
(D or M - DENOTES DETECTOR OR MODULE #)	

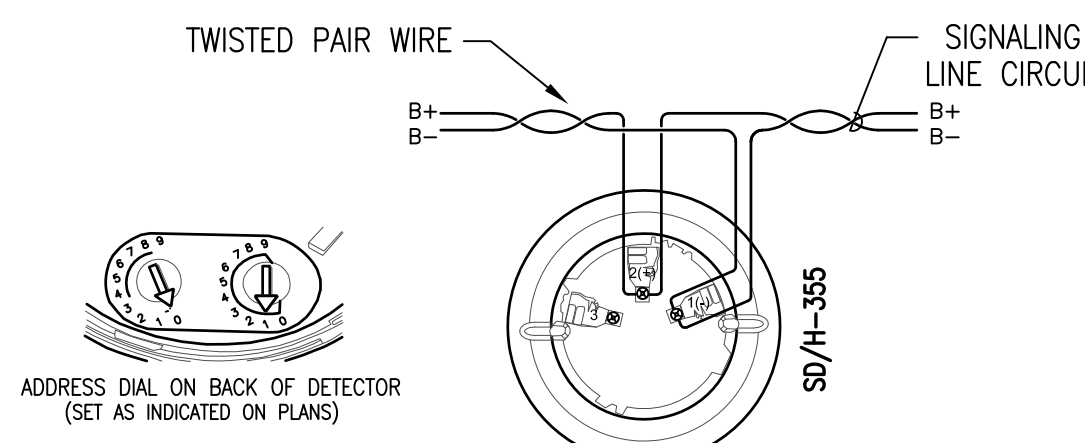
SYMBOL	DESCRIPTION
1-#16/2 TWP	WIRE TYPE ABBREVIATED CONDUCTOR COUNT WIRE SIZE # OF CABLES (IF OMITTED ONLY 1 CABLE NEEDED)

APPLICABLE CODES:

MAINE UNIFORM ENERGY & BUILDING CODE
PORTLAND CITY CODE, CHAPTER 10, FIRE PREVENTION & PROTECTION
NFPA 1, FIRE CODE, & NFPA 101, LIFE SAFETY CODE



TYPICAL 2 WIRE HORN/STROBE WIRING DETAIL
SCHEMATIC: NO SCALE



ADDRESSABLE SMOKE DETECTOR WIRING DETAIL
SCHEMATIC: NO SCALE

OPERATIONS MATRIX	FIRE ALARM OUTPUT										
	FIRE ALARM OUTPUT	ACTIVATE ALARM INDICATOR	ACTIVATE AUDIBLE ALARM	ACTIVATE SUPERVISORY INDICATOR	ACTIVATE AUDIBLE SUPERVISORY SIGNAL	ACTIVATE TROUBLE INDICATOR	ACTIVATE AUDIBLE TROUBLE INDICATOR	TRANSMIT ALARM SIGNAL	TRANSMIT SUPERVISORY SIGNAL	TRANSMIT TROUBLE SIGNAL	RELEASE EGRESS MAGLOCKS/UNLOCK EXITS
FIRE ALARM INPUT											
SMOKE DETECTORS	●	●	●	●	●	●	●	●	●	●	●
PULL STATIONS	●	●	●	●	●	●	●	●	●	●	●
HEAT DETECTORS	●	●	●	●	●	●	●	●	●	●	●
WATERFLOW SWITCHES	●	●	●	●	●	●	●	●	●	●	●
VALVE TAMPER SWITCHES	●	●	●	●	●	●	●	●	●	●	●
FIRE ALARM AC POWER FAIL											
FIRE ALARM LOW BATTERY											
OPEN CIRCUIT	●	●	●	●	●	●	●	●	●	●	●
GROUND FAULT	●	●	●	●	●	●	●	●	●	●	●
NAC SHORT CIRCUIT	●	●	●	●	●	●	●	●	●	●	●
LOSS OF AC TO BUILDING	●	●	●	●	●	●	●	●	●	●	●

NICET IV
Fire Alarm Systems
Wayne B. Haws / Signature
Date: 6/17/2015
Fire Protection Engineering
Technology
Fire Alarm Systems
Cert. No. 90496

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Fire Alarm Design & Drafting Services

REVISION	DESCRIPTION	DATE
0	ISSUED FOR REVIEW & APPROVAL	6/17/2015

SEACOAST SECURITY
4 Summer Street - Freeport, Maine 04032
Office: (207) 706-3369 - Fax: (207) 865-0852

112 PARK STREET LLC
APARTMENTS
PORTLAND, MAINE
CALCS, DETAILS, LEGEND, MATRIX, NOTES

DRAWN	TEC UNICAD JOB #15349
CHECKED	WAYNE B. HAWS NICET IV 90496
DATE	5/22/2015
REVISION	0
SCALE	1/4" = 1'-0"

FA-1