



# CONCORD NATIONAL GUARD CONCORD, NORTH CAROLINA FIRE ALARM AND DETECTION SYSTEM

DRAWING INDEX		
DRAWING No.	DESCRIPTION	REVISION
FA-1	TITLE SHEET, SYMBOL LEGEND, DRAWING INDEX, CABLE SCHEDULE AND GENERAL NOTES	0
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FA-3	FIRE ALARM AND DETECTION SYSTEM, RISER DIAGRAM AND INPUT/OUTPUT MATRIX	0
FA-4	FIRE ALARM CONTROL PANEL AND REMOTE POWER SUPPLY, ENCLOSURE DETAILS, INTERNAL WIRING DIAGRAM AND DEVICE WIRING DETAILS	0

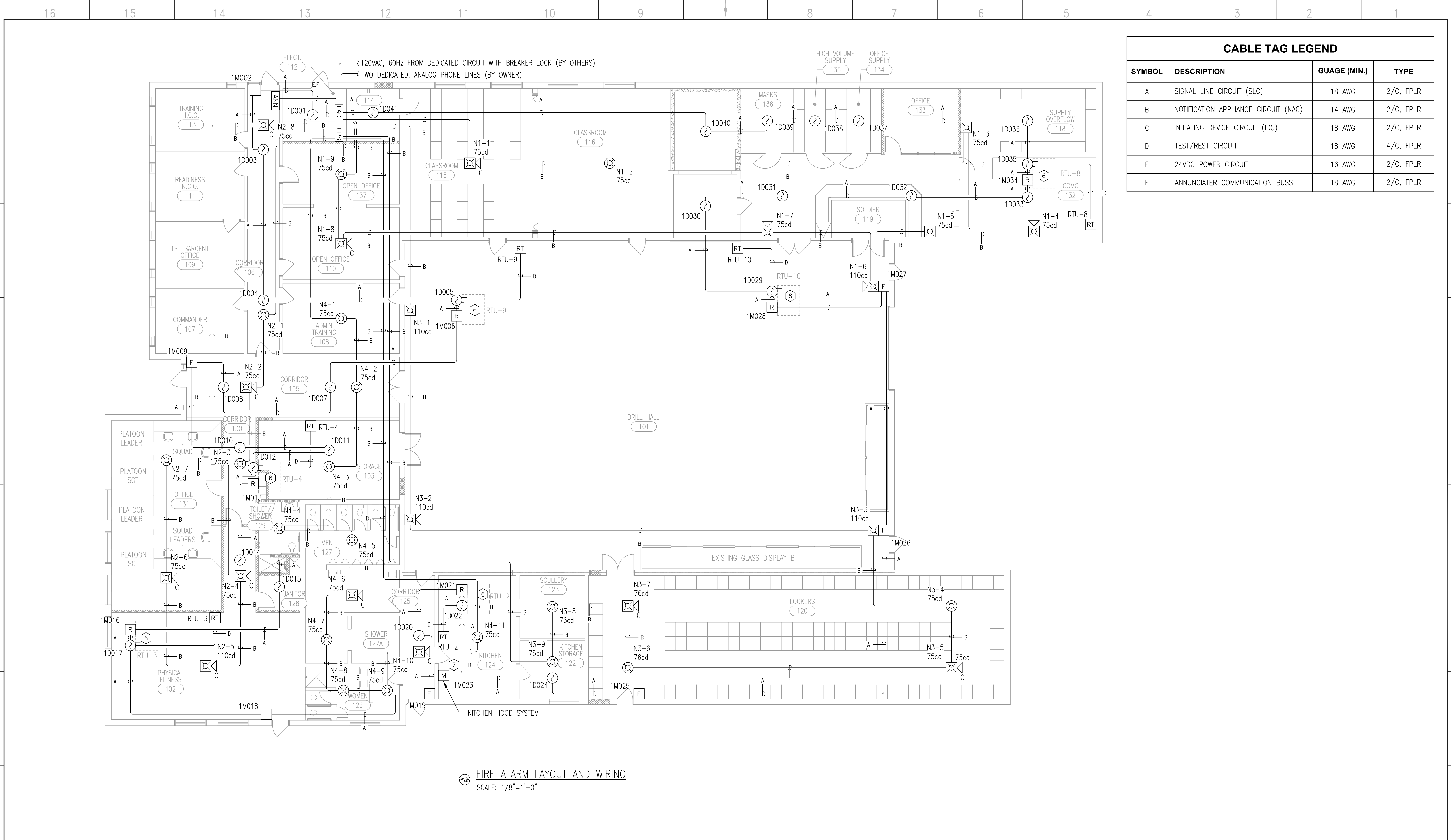
GENERAL NOTES
<ol style="list-style-type: none"> <li>1. ALL WIRING AND CONDUIT SHALL BE INSTALLED IN ACCORDANCE WITH THE CURRENT REQUIREMENTS OF THE NATIONAL ELECTRIC CODE (NFPA 70), NATIONAL FIRE ALARM CODE (NFPA 72), LOCAL AUTHORITIES HAVING JURISDICTION (AHJ) AND PROJECT SPECIFICATIONS.</li> <li>2. THE FOLLOWING GUIDELINES APPLY TO THE SIGNALING LINE CIRCUIT (SLC) BETWEEN FIRE ALARM CONTROL PANELS AND INTELLIGENT DEVICES. THESE GUIDELINES SHOULD BE FOLLOWED IN ORDER TO PREVENT SYSTEM COMMUNICATION PROBLEMS AND/OR FAILURES:               <ol style="list-style-type: none"> <li>A. POWER LIMITED (PL) OR NON-POWER (NPL) LIMITED CABLE MAY BE UTILIZED FOR THE ADDRESSABLE COMMUNICATION WIRING BETWEEN PANELS AND INTELLIGENT DEVICES (E.G. SMOKE DETECTORS, PULL STATIONS, ETC.).</li> <li>B. TWISTED, UNSHIELDED CABLE TO BE USED PER THE RECOMMENDATIONS OF THE FIRE ALARM SYSTEM MANUFACTURER.</li> <li>C. UTILIZE A CABLE THAT IS APPROVED FOR USE IN THE ENVIRONMENT (I.E., DUCT BANK, CONDUIT, CABLE TRAY) IN WHICH IT WILL BE RUN.</li> <li>D. CIRCUIT STYLE TO BE CLASS A PER NFPA 72.</li> </ol> </li> <li>3. INITIATING DEVICE CIRCUITS (IDC) AND NOTIFICATION APPLIANCE CIRCUITS (NAC) TO BE CLASS A PER NFPA 72.</li> <li>4. ALL WIRE AND CABLING MUST BE IN EMT (3/4" MINIMUM). ENCLOSURE AND BACKBOX PENETRATIONS ARE BY FACTORY KNOCKOUTS ONLY. USE 1/2" FLEXIBLE CONDUIT AS NEEDED, NOT TO EXCEED 6 FEET IN LENGTH, AND DO NOT MODIFY FACTORY KNOCKOUTS.</li> <li>5. WIRE AND CABLE RUNS TO BE CONTINUOUS AND NOT CONTAIN SPLICES OR WIRE NUTS.</li> <li>6. EXISTING CONDUIT, WIRE OR CABLE NOT BEING USED SHALL BE REMOVED.</li> <li>7. FIRE ALARM PANELS SHALL HAVE DEDICATED A/C CIRCUIT, OVERCURRENT DEVICE SHALL BE PROTECTED FROM UNAUTHORIZED USE AND BE LABELED IN RED "FIRE ALARM CIRCUIT".</li> <li>8. THE FIRE ALARM CONTROL PANEL (FACP) AND REMOTE POWER SUPPLY (FCPS) SHOULD BE MOUNTED WITH TOP OF ENCLOSURE AT APPROXIMATELY 72" ABOVE WALKING SURFACE FOR ACCESSIBILITY.</li> <li>9. THE OPERABLE PART OF FIRE ALARM PULL STATIONS SHALL BE MOUNTED BETWEEN 42" AND 54" ABOVE THE WALKING SURFACE.</li> <li>10. WALL-MOUNTED HORN/STROBES AND STROBES SHOULD BE INSTALLED SO THAT THE ENTIRE LENS IS BETWEEN 80" AND 96" ABOVE WALKING SURFACE AND SYNCHRONIZED.</li> <li>11. RELAYS TO BE LOCATED WITHIN 3 FEET OF THE EQUIPMENT CONTROLLED.</li> <li>12. SMOKE DETECTORS SHOULD NOT BE LOCATED IN A DIRECT AIR FLOW NOR CLOSER THAN 3 FEET TO AN AIR SUPPLY DIFFUSER OR RETURN AIR OPENING.</li> <li>13. DUCT SMOKE DETECTORS TO BE PROVIDED BY FIRE ALARM CONTRACTOR AND INSTALLED BY MECHANICAL CONTRACTOR. WIRING TO FIRE ALARM RELAY FROM HVAC UNIT FOR SHUTDOWN TO BE BY MECHANICAL CONTRACTOR.</li> <li>14. KITCHEN HOOD SYSTEM TO BE MONITORED BY FIRE ALARM SYSTEM. FIRE ALARM CONTRACTOR TO PROVIDE MODULE AND COORDINATE LOCATION WITH HOOD INSTALLER. WIRING TO FIRE ALARM MODULE TO HOOD SYSTEM TO BE BY OTHERS.</li> <li>15. BUILDING DOES NOT HAVE A FIRE SPRINKLER SYSTEM.</li> <li>16. NOTIFICATION APPLIANCE REQUIREMENTS SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT (ADA).</li> </ol>

LEGEND			
SYMBOL	DESCRIPTION	MANUFACTURER	PART NUMBER
☉	PHOTOELECTRIC SMOKE DETECTOR, ADDRESSABLE	FIRELITE	SD355(A)
☉-	PHOTOELECTRIC DUCT SMOKE DETECTOR, ADDRESSABLE	FIRELITE	D355PL
F	PULL STATION, DUAL ACTION, ADDRESSABLE	FIRELITE	BG-12LX
RT	REMOTE TEST (RESET) SWITCH, DUCT DETECTOR, KEY OPERATED	FIRELITE	RTS151KEY
M	INPUT MODULE, SINGLE, ADDRESSABLE	FIRELITE	MMF-300
R	RELAY MODULE, ADDRESSABLE	FIRELITE	CRF-300
☒ <sub>x</sub>	HORN/STROBE, WALL-MOUNT, INDOOR (X - CANDELA INDICATED ON DRAWINGS)	FIRELITE	P2R
☒ <sub>c</sub>	HORN/STROBE, CEILING-MOUNT, INDOOR (X - CANDELA INDICATED ON DRAWINGS)	FIRELITE	PC2R
☒ <sub>x</sub>	STROBE WALL-MOUNT, INDOOR, (X - CANDELA INDICATED ON DRAWINGS)	FIRELITE	SR
☉ <sub>x</sub>	STROBE, CEILING-MOUNT, INDOOR (X - CANDELA INDICATED ON DRAWINGS)	FIRELITE	SCR
⚡ <sub>x</sub>	END-OF-LINE RESISTOR (X - OHM VALUE INDICATED ON DRAWINGS)	FIRELITE	-
FACP	FIRE ALARM CONTROL PANEL, ANALOG/ADDRESSABLE	FIRELITE	MS-9200UD
FCPS	FIRE ALARM REMOTE POWER SUPPLY	FIRELITE	FCPS-24FS6
ANN	FIRE ALARM REMOTE ANNUNCIATOR	FIRELITE	ANN-80

CABLE TAG LEGEND			
SYMBOL	DESCRIPTION	GAUGE (MIN.)	TYPE
A	SIGNAL LINE CIRCUIT (SLC)	2/C, 18 AWG	FPLR
B	NOTIFICATION APPLIANCE CIRCUIT (NAC)	2/C, 14 AWG	FPLR
C	INITIATING DEVICE CIRCUIT (IDC)	2/C, 18 AWG	FPLR
D	TEST/REST CIRCUIT	4/C, 18 AWG	FPLR
E	24VDC POWER CIRCUIT	2/C, 16 AWG	FPLR
F	ANNUNCIATOR COMMUNICATION BUSS	2/C, 18 AWG	FPLR

PAUL J. INFERRERA, SET  
NICET CERTIFICATION ID 121316  
FIRE ALARM SYSTEMS LEVEL IV  
SPECIAL HAZARD SUPPRESSION SYSTEMS LEVEL I  
VALID THROUGH 1/1/2017

REVISIONS					PREPARED FOR:	PROJECT:	DRAWN:	ISSUE DATE:
REVISION	DESCRIPTION	BY:	CHK:	DATE	STELCO ELECTRIC LLC 2839 GRAY FOX ROAD MONROE, NC 28110	CONCORD NATIONAL GUARD 1501 OLD CHARLOTTE ROAD CONCORD, NC 28027	Paul J. Inferrera	6/30/2016
0	ORIGINAL ISSUE	PJI	AC	6/30/16			DESIGNED Paul J. Inferrera	PROJECT No. 1079
							APPROVED Andrew Cichocki	SCALE NONE
					DRAWING TITLE: TITLE SHEET, SYMBOL LEGEND, DRAWING INDEX, CABLE SCHEDULE AND GENERAL NOTES		 2013 OLDE REGENT WAY, SUITE 150-207 LELAND, NORTH CAROLINA 28451 PH 910.465.4054   FX 910.271.5347 www.DrawFireLLC.COM	
					DRAWING NO. FA-1	SIZE ARCH D	REVISION 0	



CABLE TAG LEGEND			
SYMBOL	DESCRIPTION	GAUGE (MIN.)	TYPE
A	SIGNAL LINE CIRCUIT (SLC)	18 AWG	2/C, FPLR
B	NOTIFICATION APPLIANCE CIRCUIT (NAC)	14 AWG	2/C, FPLR
C	INITIATING DEVICE CIRCUIT (IDC)	18 AWG	2/C, FPLR
D	TEST/REST CIRCUIT	18 AWG	4/C, FPLR
E	24VDC POWER CIRCUIT	16 AWG	2/C, FPLR
F	ANNUNCIATOR COMMUNICATION BUSS	18 AWG	2/C, FPLR

FIRE ALARM LAYOUT AND WIRING  
SCALE: 1/8"=1'-0"

GENERAL NOTES

- REFER TO FIRELITE INTELLIGENT CONTROL PANEL SLC WIRING MANUAL FOR DEVICE WIRING EXAMPLES AND TROUBLESHOOTING GUIDELINES.
- THE FIRE ALARM CONTROL PANEL (FACP) AND REMOTE POWER SUPPLY (FCPS) SHOULD BE MOUNTED WITH TOP OF ENCLOSURE AT APPROXIMATELY 72" ABOVE WALKING SURFACE FOR ACCESSIBILITY.
- THE OPERABLE PART OF FIRE ALARM PULL STATIONS SHALL BE MOUNTED BETWEEN 42" AND 54" ABOVE THE WALKING SURFACE.
- WALL-MOUNT HORN/STROBES AND STROBES SHOULD BE MOUNTED BETWEEN 80" AND 96" ABOVE WALKING SURFACE AND SYNCHRONIZED.
- SMOKE DETECTORS, SHOULD NOT BE LOCATED IN A DIRECT AIR FLOW NOR CLOSER THAN 3 FEET TO AN AIR SUPPLY DIFFUSER OR RETURN AIR OPENING.
- COORDINATE LOCATION OF DUCT SMOKE DETECTOR WITH MECHANICAL CONTRACTOR. SHUTDOWN WIRING BY OTHERS.
- VERIFY KITCHEN HOOD SYSTEM LOCATION WITH MECHANICAL CONTRACTOR. WIRING TO FIRE ALARM BY OTHERS.
- SEE DRAWING No. FA-1 GENERAL NOTES, SYMBOL LEGEND, CABLE TAG IDENTIFICATION AND INDEX OF DRAWINGS.
- SEE DRAWING No. FA-3 FOR INPUT/OUTPUT MATRIX AND RISER DIAGRAM AND FA-4 FOR EQUIPMENT ENCLOSURE AND LAYOUTS AND DEVICE WIRING DETAILS.

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REVISIONS

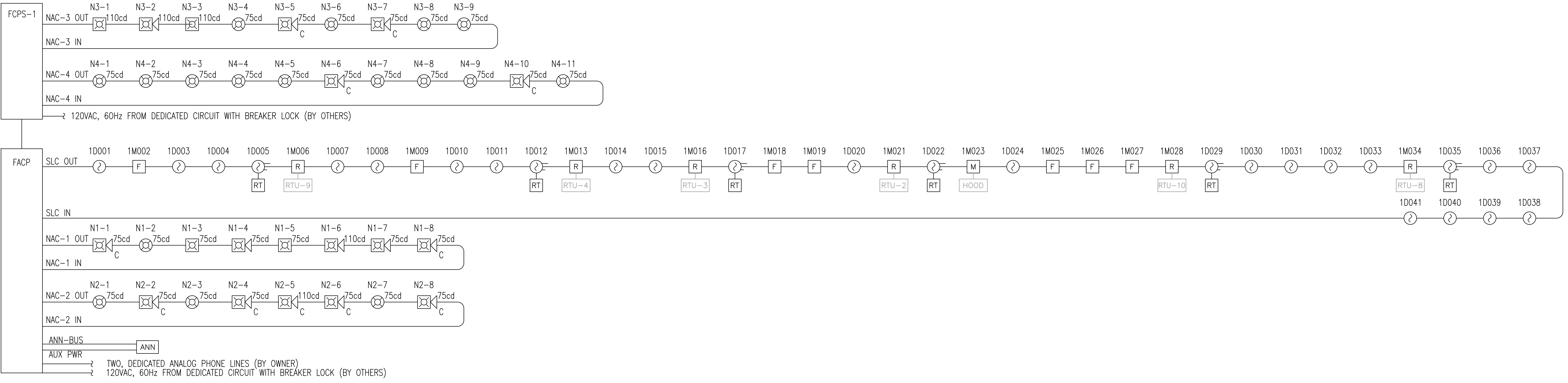
REVISION	DESCRIPTION	BY:	CHK:	DATE
0	ORIGINAL ISSUE	PJI	AJC	7/7/16

PREPARED FOR: STELCO ELECTRIC LLC 2839 GRAY FOX ROAD MONROE, NC 28110	PROJECT: CONCORD NATIONAL GUARD 1501 OLD CHARLOTTE ROAD CONCORD, NC 28027	DRAWN <i>Paul J. Inferrera</i>	ISSUE DATE 7/7/2016
DRAWING TITLE: FIRE ALARM AND DETECTION SYSTEM PLAN AND DEVICE LAYOUT		DESIGNED <i>Paul J. Inferrera</i>	PROJECT No. 1079
DRAWING NO. FA-2		APPROVED <i>Andrew J. Ciochoki</i>	SCALE 1/8"=1'-0"
SIZE ARCH D	REVISION 0	 2013 OLDE REGENT WAY, SUITE 150-207 LELAND, NORTH CAROLINA 28451 PH 910.465.4054   FX 910.271.5347 www.DrawFireLLC.COM	

		SYSTEM OUTPUTS												
		SUPERVISING STATION			FACP				NOTIFICATION				SUPPLEMENTAL	
		ALARM SIGNAL	SUPERV SIGNAL	TROUBLE SIGNAL	ALARM LED	SUPERV LED	TROUBLE LED	PIEZO	NAC 1	NAC 2	NAC 3	NAC 4	HVAC SHUTDOWN	
SYSTEM INPUTS	MANUAL	PULL STATION	•			•			•	•	•	•	•	
	AUTOMATIC	SMOKE DETECTOR	•			•			•	•	•	•	•	•
		DUCT SMOKE DETECTOR*		•			•		•	•	•	•	•	•*
KITCHEN HOOD SYSTEM		•			•			•	•	•	•	•		
SYSTEM	AC FAIL				•									
	GROUND FAULT				•									
	LOW BATTERY				•									
	OPEN CIRCUIT				•									
	SHORT CIRCUIT				•									

\* - SIGNAL FROM DUCT SMOKE DETECTOR SHALL SHUTDOWN AFFECTED HVAC UNIT ONLY.

INPUT/OUTPUT MATRIX (SEQUENCE OF OPERATION)



RISER DIAGRAM  
SCALE: NOT TO SCALE

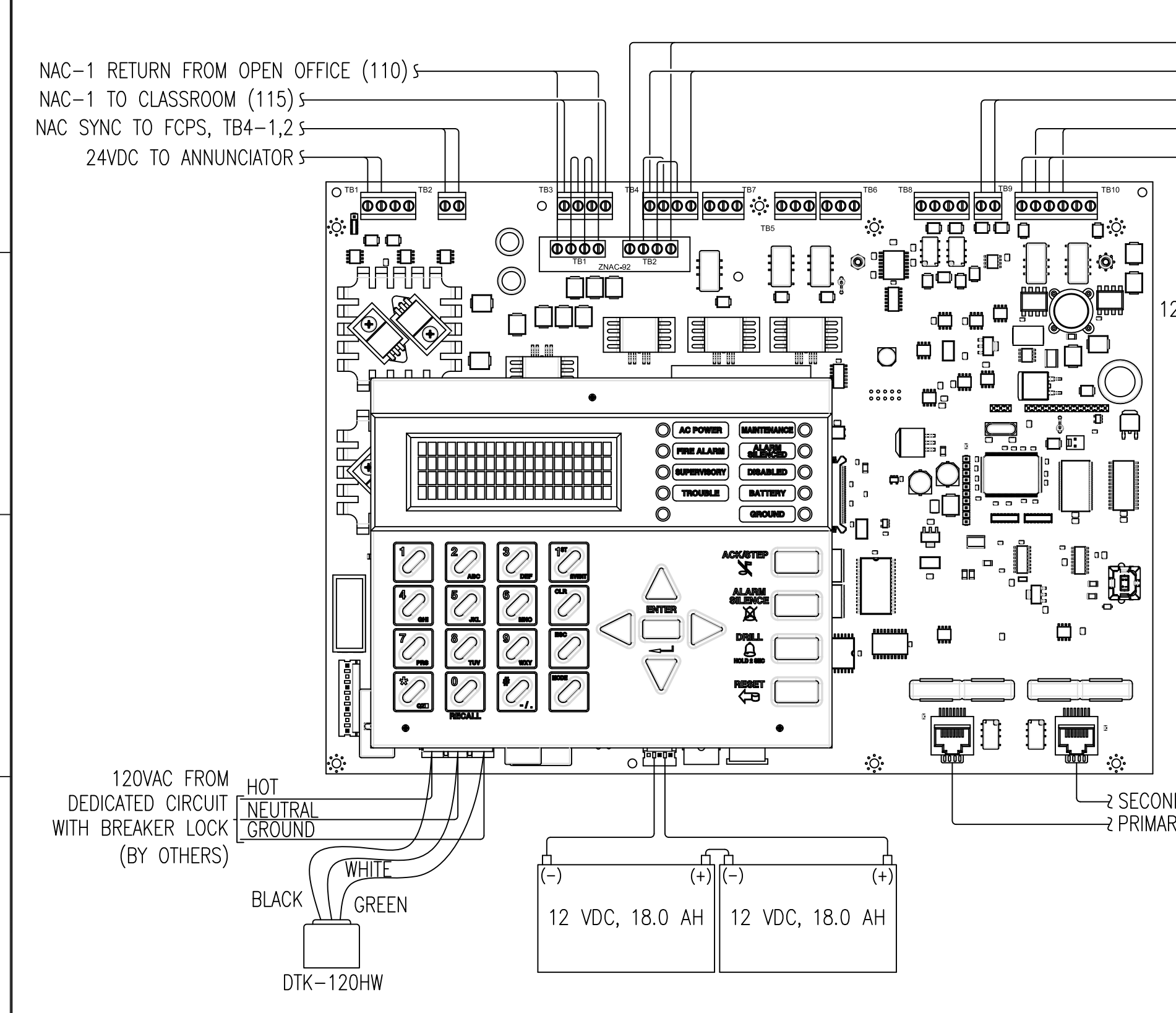
GENERAL NOTES

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- RELAYS TO BE LOCATED WITHIN 3 FEET OF THE EQUIPMENT CONTROLLED.
- SEE DRAWING No. FA-1 FOR GENERAL NOTES, SYMBOL LEGEND, CABLE TAG IDENTIFICATION AND INDEX OF DRAWINGS.
- SEE DRAWING No. FA-2 FOR EQUIPMENT AND DEVICE WIRING AND LAYOUT PLAN.
- SEE DRAWING No. FA-4 FOR EQUIPMENT AND DEVICE WIRING AND ENCLOSURE DETAILS.

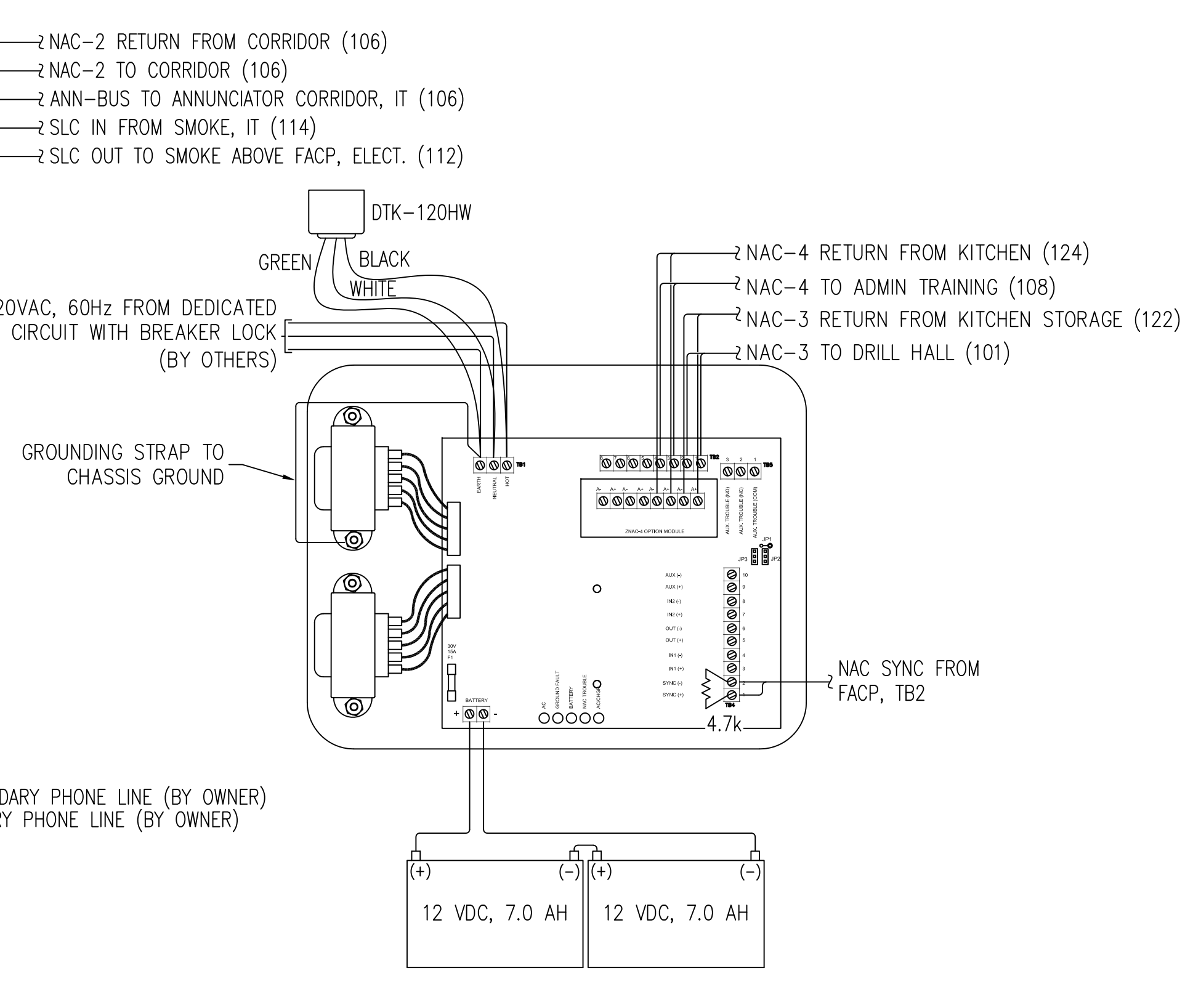
PAUL J. INFERRERA, SET  
NICET CERTIFICATION ID 121316  
FIRE ALARM SYSTEMS LEVEL IV  
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0	ORIGINAL ISSUE	PJI	AJC	7/7/16

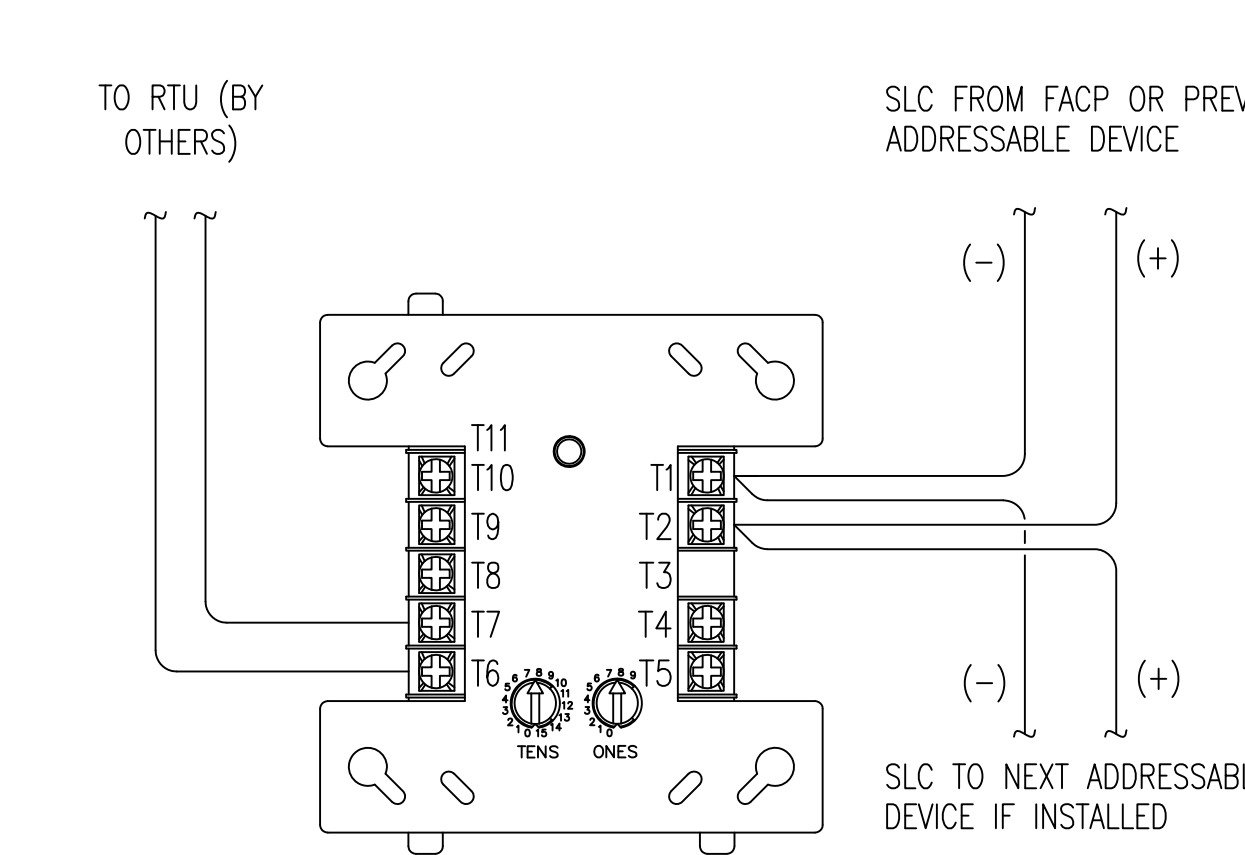
PREPARED FOR: STELCO ELECTRIC LLC 2839 GRAY FOX ROAD MONROE, NC 28110	PROJECT: CONCORD NATIONAL GUARD 1501 OLD CHARLOTTE ROAD CONCORD, NC 28027	DRAWN <i>Paul J. Inferrera</i>	ISSUE DATE 7/7/2016
DRAWING TITLE: FIRE ALARM AND DETECTION SYSTEM INPUT/OUTPUT MATRIX AND RISER DIAGRAM		DESIGNED <i>Paul J. Inferrera</i>	PROJECT No. 1079
DRAWING NO. FA-3		APPROVED <i>Andrew J. Cichocki</i>	SCALE NONE
SIZE ARCH D		 2013 OLDE REGENT WAY, SUITE 150-207 LELAND, NORTH CAROLINA 28451 PH 910.465.4054   FX 910.271.5347 www.DrawFireLLC.COM	



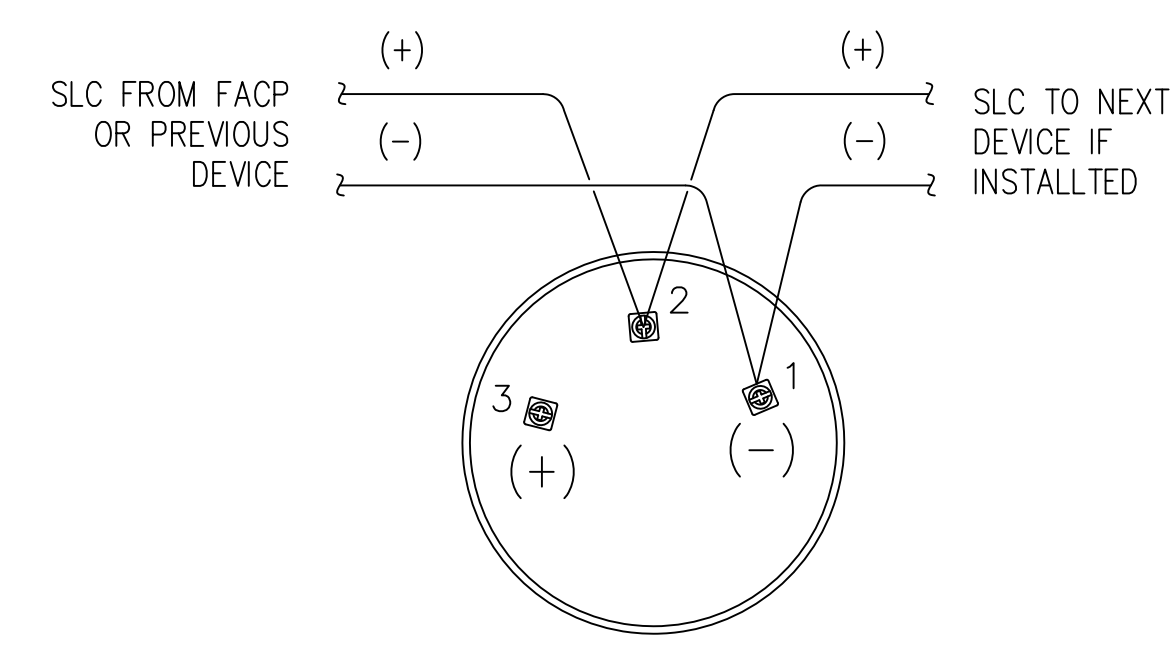
INTERNAL WIRING DIAGRAM (FACP)  
NOT TO SCALE



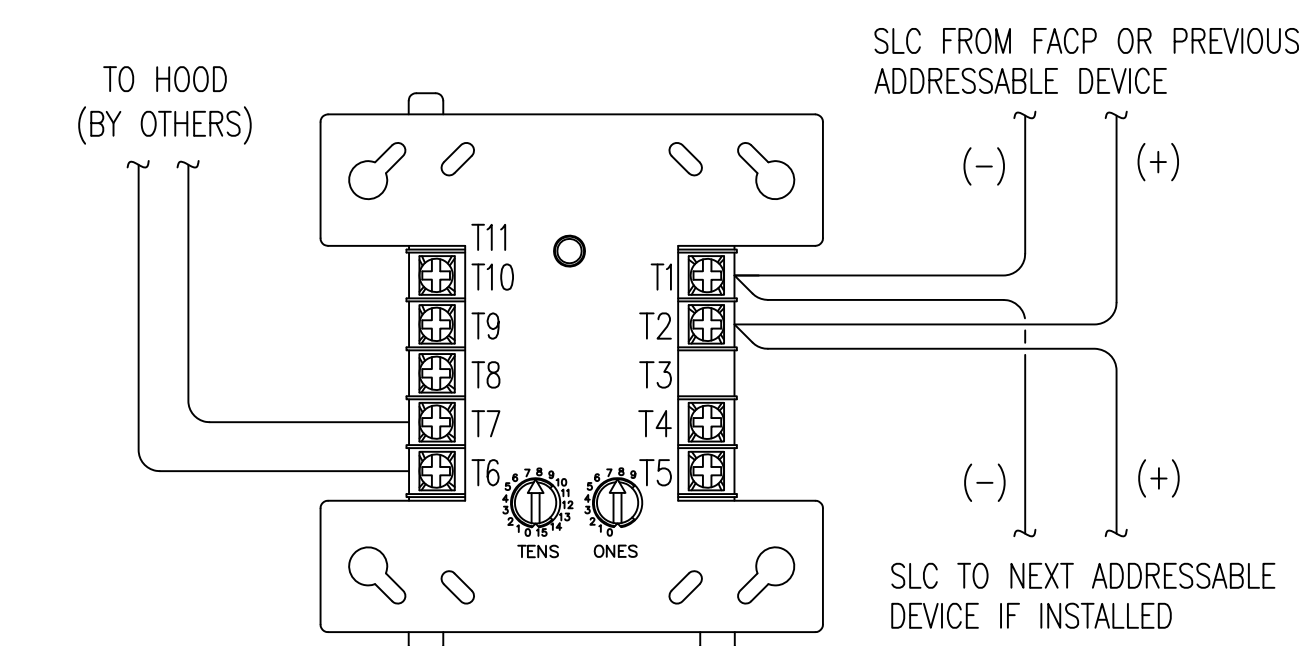
INTERNAL WIRING DIAGRAM (FCPS)  
NOT TO SCALE



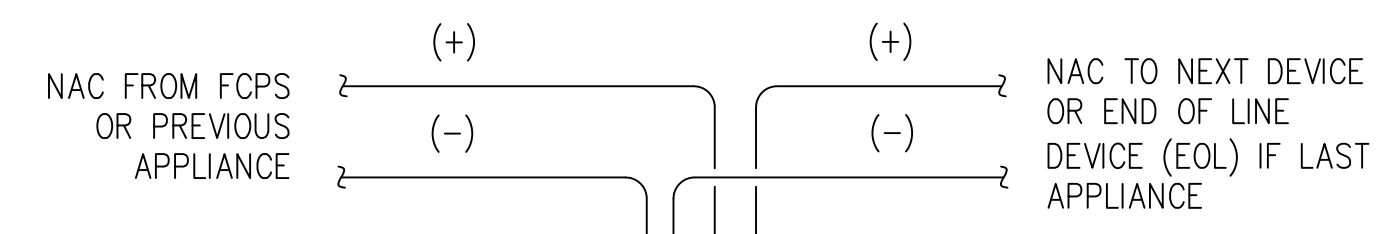
ADDRESSABLE RELAY MODULE  
(CRF-300)



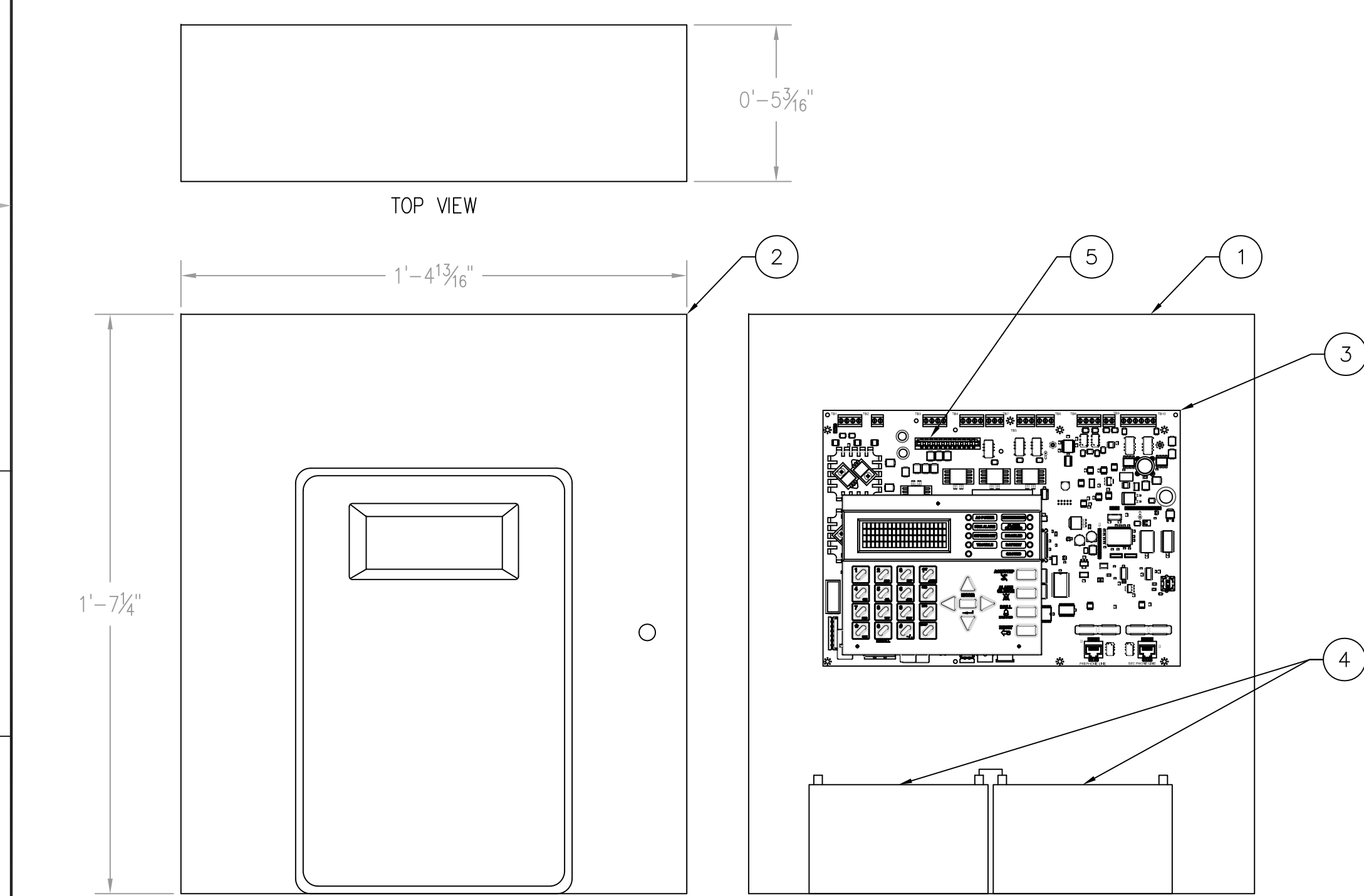
B210LP(A) INTELLIGENT BASE  
ADDRESSABLE SMOKE DETECTOR  
(SD355)



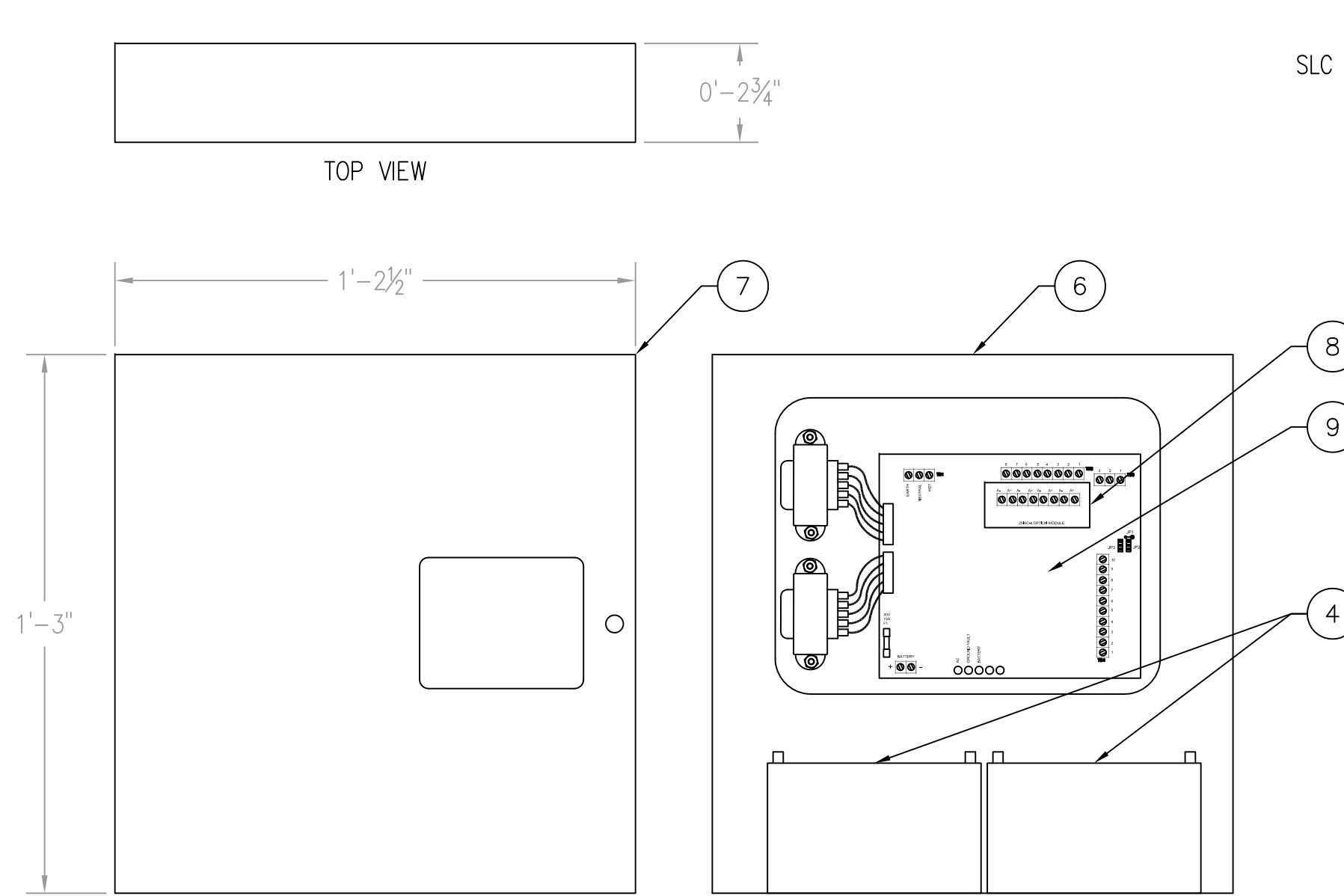
ADDRESSABLE MONITOR MODULE  
(MMF-300)



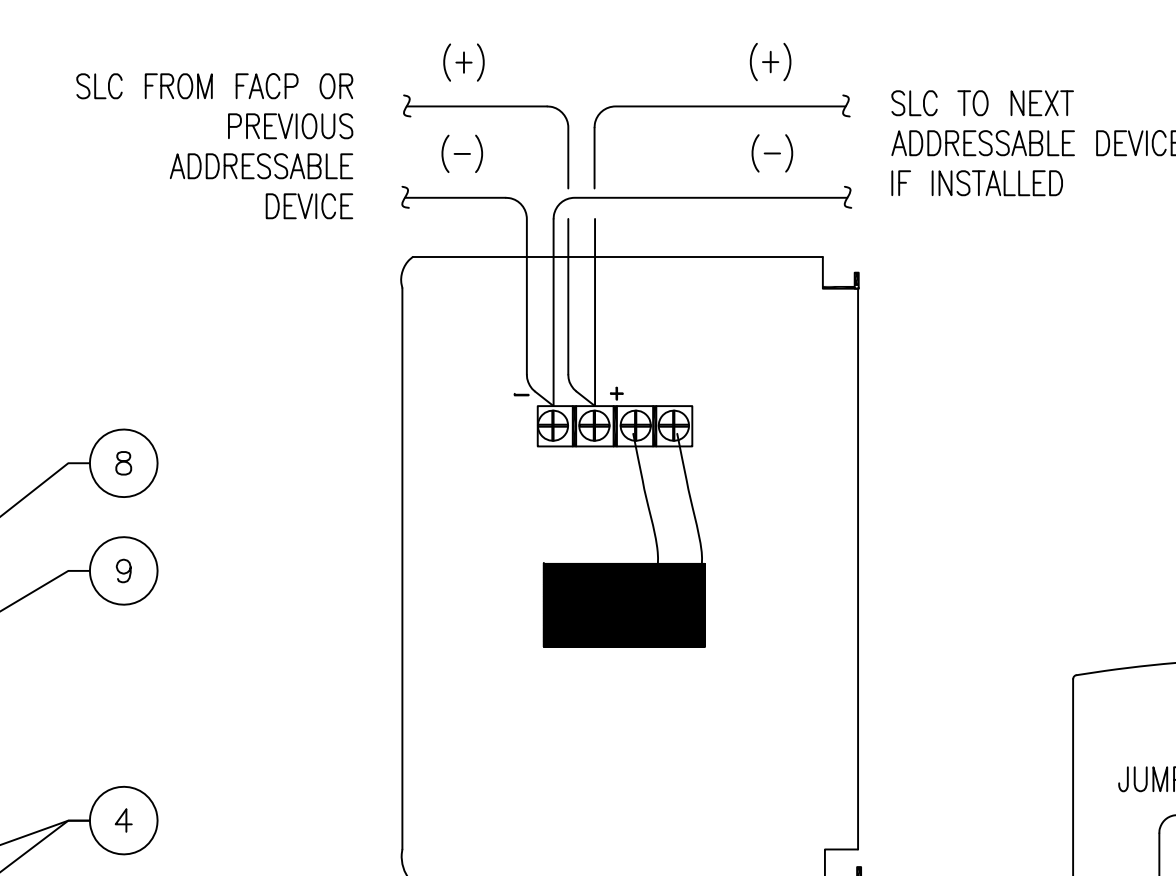
SYSTEM SENSOR STROBE, HORN/STROBE  
(SR, SCR, P2R, PC2R)



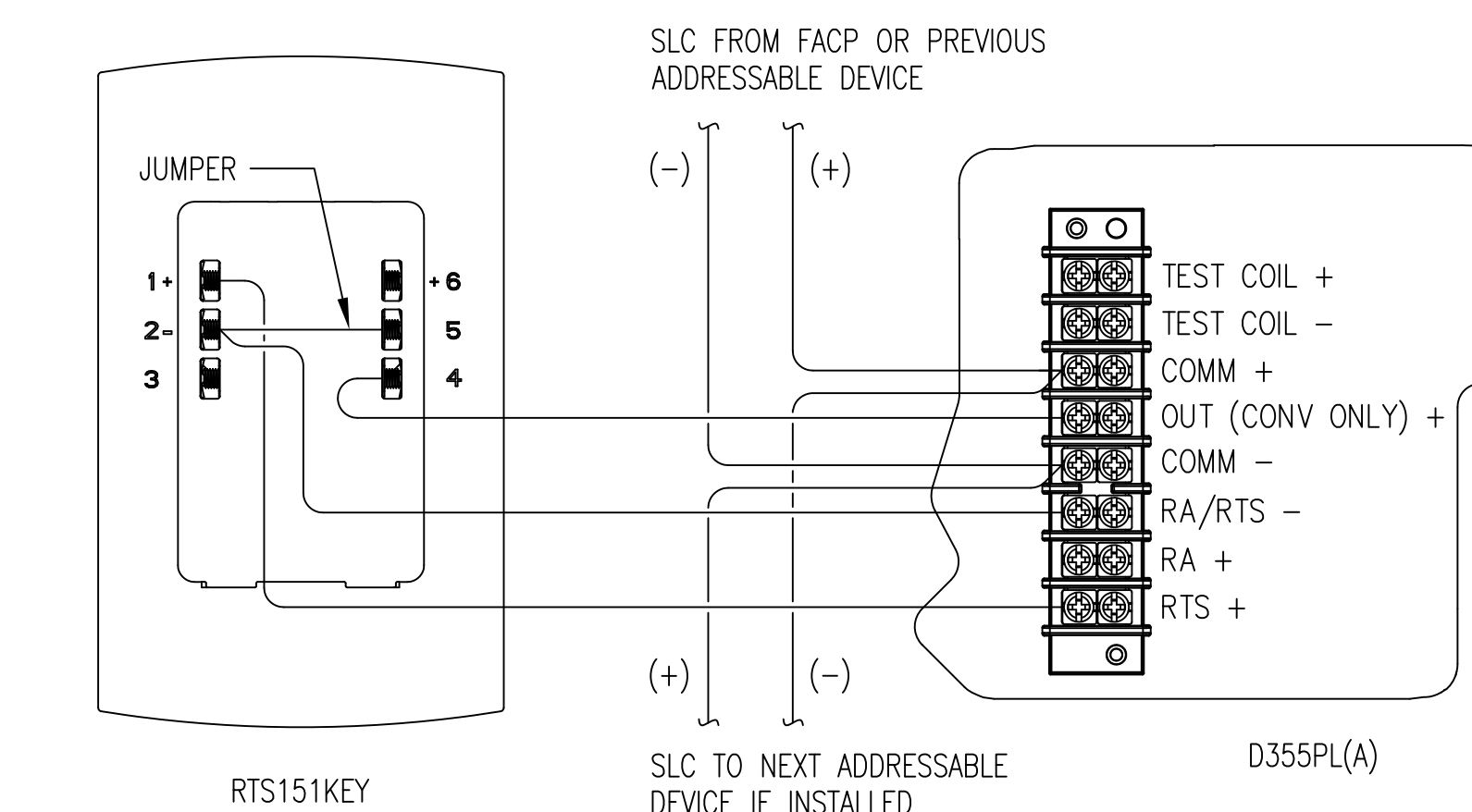
ENCLOSURE DETAILS (FACP)  
3"=1'-0"



ENCLOSURE DETAILS (FCPS)  
3"=1'-0"



ADDRESSABLE PULL STATION  
(BG-12LX)



ADDRESSABLE DUCT SMOKE DETECTOR WITH REMOTE STATION

BILL OF MATERIAL									
ITEM	DESCRIPTION	MANUFACTURER	QTY	NOTES	ITEM	DESCRIPTION	MANUFACTURER	QTY	NOTES
1	ENCLOSURE 16.65"Wx19"Hx5.21"D	FIRELITE	1		6	ENCLOSURE 15"Hx14.5"Wx2.75"D	FIRELITE	1	
2	DOOR	FIRELITE	1		7	DOOR	FIRELITE	1	
3	CPU	FIRELITE	1	MS-9200UD	8	ZNAC-4 CLASS A OPTION MODULE	FIRELITE	1	MOUNT ON BOARD
4	BATTERY, 12 VDC	POWERSONIC	2	SEE WIRING FOR AMP-HOUR	9	MOTHERBOARD	FIRELITE	1	FCPS-24FS6
5	ZNAC-92 (CLASS A MODULE)	FIRELITE	1	MOUNT ON BOARD	-	SURGE SUPPRESSOR (DTK-120HW)	DITEK	1	

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- SEE DRAWING No. FA-2 FOR PLAN AND DEVICE LAYOUT.
- SEE DRAWING No. FA-3 FOR INPUT/OUTPUT MATRIX AND RISER DIAGRAM.

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FIRE ALARM SYSTEMS LEVEL IV  
SPECIAL HAZARD SUPPRESSION SYSTEMS LEVEL I  
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0	ORIGINAL ISSUE	PJI	AJC	7/7/16

PREPARED FOR: STELCO ELECTRIC LLC  
2839 GRAY FOX ROAD  
MONROE, NC 28110

PROJECT: CONCORD NATIONAL GUARD  
1501 OLD CHARLOTTE ROAD  
CONCORD, NC 28027

DRAWN: Paul J. Inferrera  
DESIGNED: Paul J. Inferrera  
APPROVED: Andrew J. Ciochoki

ISSUE DATE: 7/7/2016  
PROJECT No: 1079  
SCALE: NONE

DRAWING TITLE: FIRE ALARM AND DETECTION SYSTEM  
ENCLOSURE DETAILS, INTERNAL WIRING  
DIAGRAMS AND DEVICE WIRING DETAILS

DRAWING No. FA-4  
SIZE ARCH D  
REVISION 0

**DrawFire, LLC**  
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LELAND, NORTH CAROLINA 28451  
PH 910.465.4054 | FX 910.271.5347  
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