

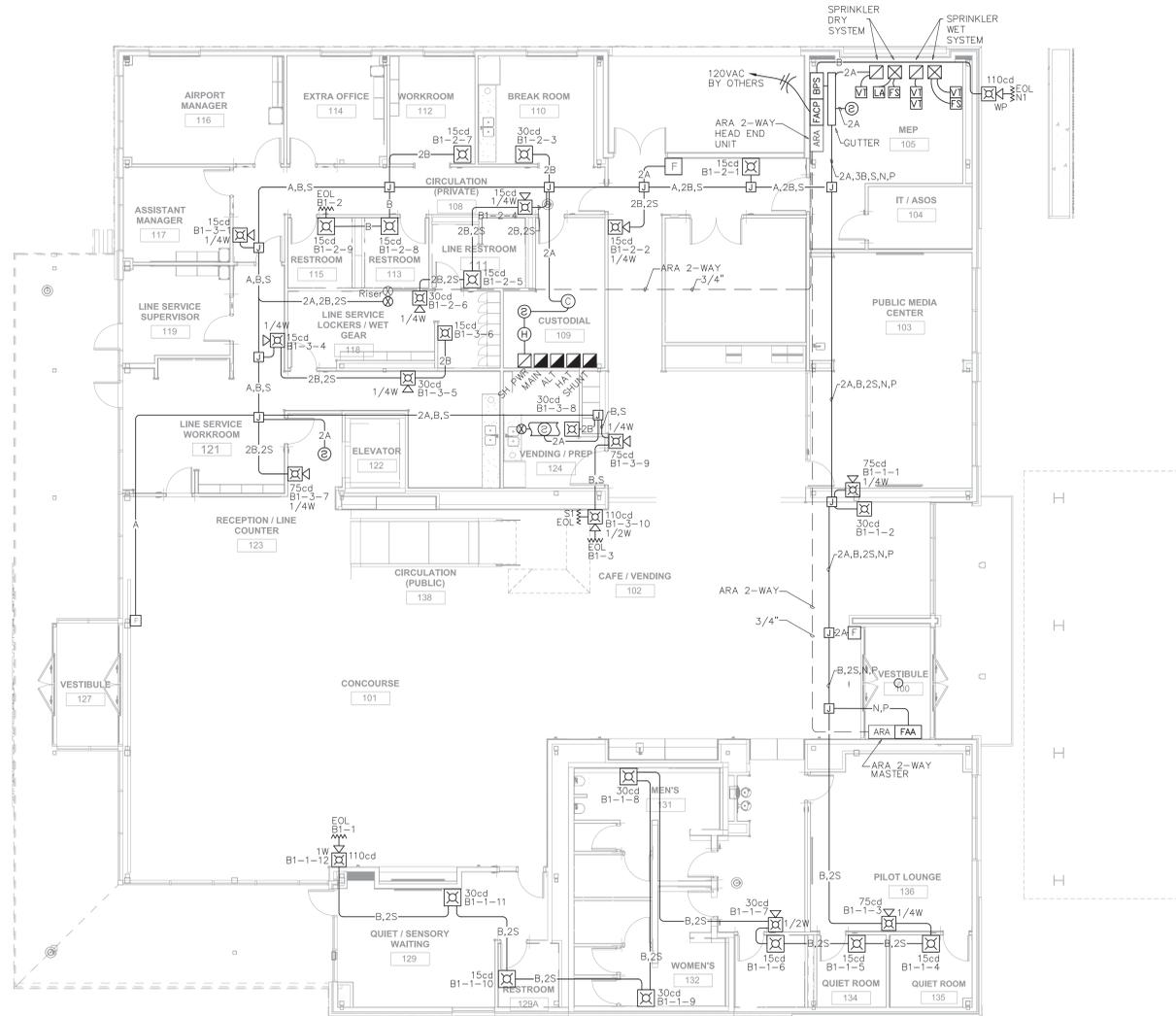
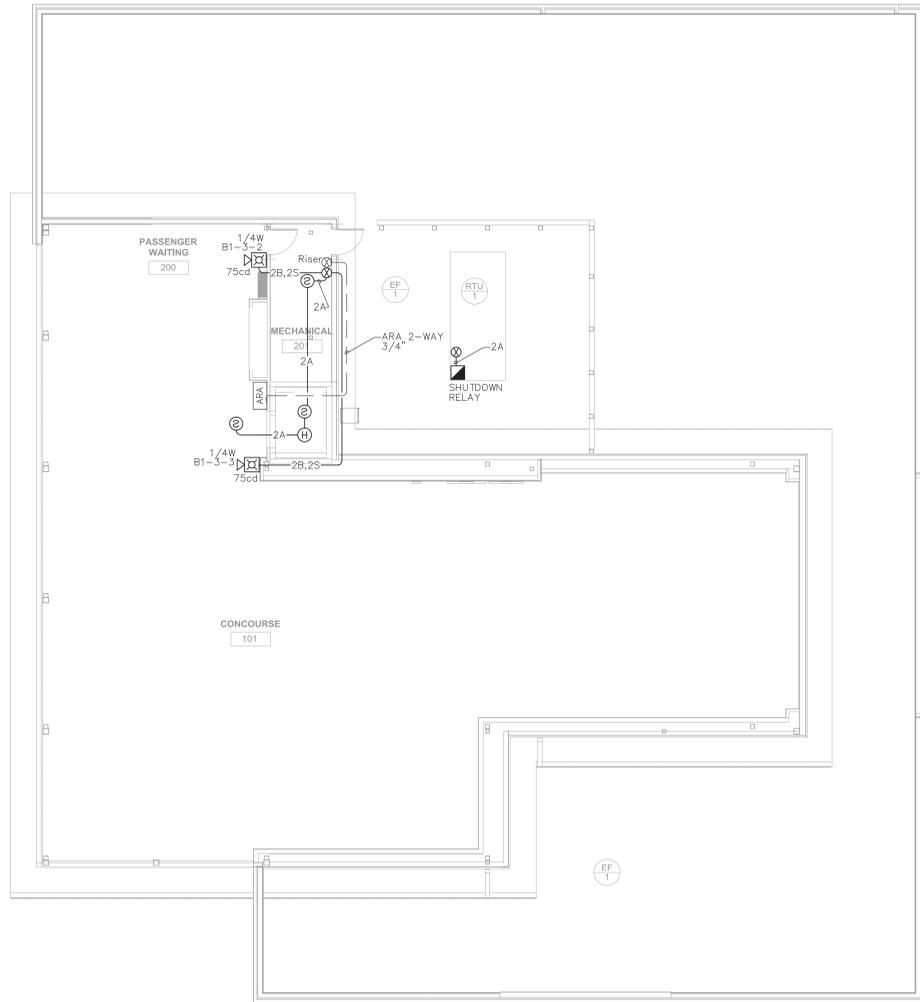


P.O. BOX 815  
 BLUE SPRINGS, MO 64013  
 PHONE:  
 816-220-0665  
 FAX:  
 816-228-0660

REVISION:

FIRE ALARM PLAN  
 KC - LEE'S SUMMIT REGIONAL  
 GENERAL AVIATION TERMINAL - CITY PROJECT - 17932172  
 LEE'S SUMMIT, MISSOURI

2720 NE Hagan Rd  
 Lee's Summit, MO 64064



**FIRE ALARM PLAN**  
 SCALE: 1/8" = 1'-0"

SEAL



02/16/26

DRAWN BY: KGCAD DATE: 02-13-2026

REVIEWED BY: DATE:

SHEET NUMBER: FA 01

CODE COMPLIANCE:  
 2018 EDITION IBC  
 2016 EDITION NFPA72

SYMBOL LEGEND- EST 4

SYMBOL	PART NO.	DESCRIPTION	BACK BOX	MOUNTING HGT
FACP	EST4	EST 4 FIRE ALARM PANEL W/VOICE	INCLUDED	72" AFF TO TOP
BPS	BPS6	NAC POWER SUPPLY	INCLUDED	N/A
FAA	4-ANN	REMOTE ANNUNCIATOR	CUSTOM BACK BOX	TBD
⊙	SIGA-OSD	SMOKE DETECTOR	4" OCTAGON	CEILING
⊕	SIGA-HFS	HEAT DETECTOR	4" OCTAGON	CEILING
⊙ <sub>R</sub>	SIGA-SD	DUCT DETECTOR R=RETURN S=SUPPLY	N/A	N/A
⊕	SIGA-27B	MANUAL PULL STATION	SINGLE GANG x 2-1/2" DEEP	BOTTOM OF J-BOX 44" AFF
⊕	SIGA-COD	CARBON MONOXIDE DETECTOR	4" SQUARE x 2-1/8" DEEP	CEILING
S# W	G4SVWF	MULTI CANDELA WALL SPEAKER/STROBE W = WATTAGE S# = SPEAKER CIRCUIT	4" SQUARE x 2-1/8" DEEP	BOTTOM OF J-BOX 82" AFF
S# W	G4SWF	SPEAKER - WALL MOUNT HIGH FIDELITY S# = SPEAKER CIRCUIT W = WATTAGE	4" SQUARE x 2-1/8" DEEP	BOTTOM OF J-BOX 82" AFF
15	G1VWF	MULTI CANDELA STROBE - WHITE-LED	SINGLE GANG x 2-1/2" DEEP	BOTTOM OF J-BOX 82" AFF
WF	WG4RF-HVMC	WALL MOUNT HORN / STROBE WEATHERPROOF	4" SQUARE WP CUSTOM	BOTTOM OF J-BOX 82" AFF
110	G4VWF	MULTI CANDELA STROBE - WHITE-LED	SINGLE GANG x 2-1/2" DEEP	BOTTOM OF J-BOX 82" AFF
⊕	SIGA-CC1S	RISER CONTROL MODULE	DOUBLE GANG x 2-1/2" DEEP	B.O.
FS	BY OTHERS	WATERFLOW SWITCH	B.O.	B.O.
MT	BY OTHERS	TAMPER SWITCH	B.O.	B.O.
RT	SD-TRK	REMOTE TEST / RESET SWITCH	SINGLE GANG	
⊕	SIGA-CT1	MONITOR MODULE	4" SQUARE 1 GANG RING	N/A
⊕	SIGA-CR	ADDRESSABLE RELAY	4" SQUARE 1 GANG RING	N/A
⊕	SIGA-WTM	WATERFLOW AND TAMPER DUAL INPUT MONITOR MODULE	4" SQUARE 1 GANG RING	N/A
⊕	SIGA-CT2	DUAL INPUT MONITOR MODULE	4" SQUARE 1 GANG RING	N/A
⊕	SIGA-CRH	ADDRESSABLE RELAY - HIGH CAPACITY	4" SQUARE x 2-1/8" DEEP	N/A

GENERAL NOTES

- ELECTRICAL CONDUIT AND WIRING SHALL BE INSTALLED IN ACCORDANCE WITH APPLICABLE NATIONAL ELECTRIC CODE, NFPA STANDARD, STATE AND LOCAL BUILDING REQUIREMENTS.
- REFER TO THE WIRE LEGEND FOR APPLICABLE CONDUCTOR TYPE AND SIZE.
- SIGNALING LINE CIRCUITS MAY BE "TEE-TAPPED" ONLY WHERE SHOWN ON DRAWING OR APPROVED BY SYSTEM ENGINEER. NOTIFICATION CIRCUITS, NO "TEE-TAPPING" IS ALLOWED.
- POWER LIMITED CIRCUITS SHALL BE ISOLATED FROM NON-POWER LIMITED CIRCUITS, ELECTRIC LIGHTS, OR POWER CIRCUITS BY A MINIMUM OF 2 INCHES. POWER LIMITED CIRCUITS SHALL NOT BE PLACED IN THE SAME CONDUIT, ENCLOSURE, RACEWAY, ETC., WITH NON-POWER LIMITED CIRCUITS.
- ALL FIRE RATED WALL AND/OR FLOOR PENETRATIONS SHALL BE SEALED WITH AN APPROVED FIRE STOPPING COMPOUND.
- ALL FIRE ALARM JUNCTION BOX COVERS SHALL BE PAINTED RED OR LABELED FOR DISTINCT IDENTIFICATION.
- ALL FIRE ALARM CONDUIT SHALL BE SIZED PER NEC, 3/4" MINIMUM.
- FACP MONITORING - LOOP START PHONE LINES TO FIRE ALARM PANEL DACT OR APPROVED ALTERNATE COMMUNICATION METHOD SHALL BE PER 2016 EDITION OF NFPA 72
- ALL FIRE ALARM CONTROL PANELS REQUIRE A DEDICATED 120VAC CIRCUIT. CONNECT A 12AWG COPPER GROUND WIRE FROM SAFETY GROUND IN THE ELECTRICAL DISTRIBUTION PANEL TO ALL FIRE ALARM CONTROL PANELS.
- INSTALL WALL MOUNT NOTIFICATION APPLIANCES 80" AFF OR 6" BELOW CEILING, WHICHEVER IS LOWER. THE ENTIRE LENS OF ALL STROBES MUST BE WITHIN THIS AREA UNLESS OTHERWISE NOTED. CEILING DEVICES SHALL BE MOUNTED SO THAT STROBE IS VIEWABLE FROM ALL DIRECTIONS. FOR HIGH CEILINGS, DEVICES SHALL BE PENDANT MOUNTED NO HIGHER THAN 30' AFF.
- ALL SMOKE DETECTORS SHALL BE MOUNTED NO CLOSER THAN 3 FEET FROM ANY SUPPLY OR RETURN AIR OPENING.
- HVAC SHUTDOWN WIRING FROM RELAY TO UNIT CONTROLS BY OTHERS
- PER NFPA 72, SMOKE DETECTORS SHALL NOT BE INSTALLED UNTIL AFTER FINAL CLEAN UP, UNLESS AUTHORIZED BY THOSE TAKING RESPONSIBILITY FOR DIRTY DETECTORS.
- SYSTEM DESIGN BASED ON COMPLIANCE WITH 2016 EDITION OF NFPA 72 & 2018 EDITION OF IBC.

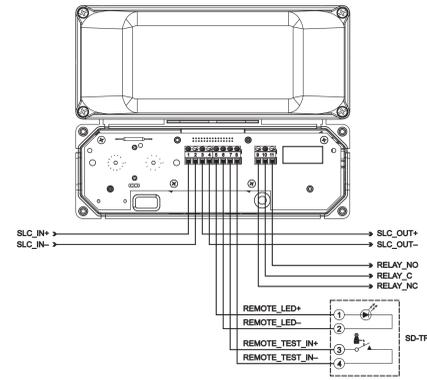
EST 4 STANDARD WIRE LEGEND

A	SIGNATURE DEVICE CIRCUIT - SLC 18AWG SOLID, 2 CONDUCTOR, TWSTD. CABLE
B	NOTIFICATION APPLIANCE CIRCUIT 14AWG SOLID, 2 CONDUCTOR, TWSTD. CABLE
N	FACP NETWORK COMMUNICATIONS CIRCUIT - RS485 18AWG SOLID, 2 CONDUCTOR, TWSTD. CABLE
P	24VDC POWER CIRCUIT 14AWG SOLID, 2 CONDUCTOR, TWSTD. CABLE
S	VOICE NOTIFICATION APPLIANCE CIRCUIT 16AWG SOLID, 2 CONDUCTOR, TWSTD

RECOMMENDED CONDUIT SIZING CHART

NO. OF CABLES	CONDUIT SIZE
4 OR LESS	3/4"
5 TO 7	1"
8 TO 12	1-1/4"
13 TO 16	1-1/2"
17 TO 27	2"

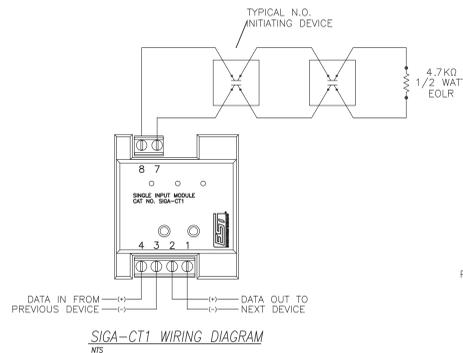
SIZING IS BASED ON EACH CABLES MAXIMUM OVERALL DIAMETER OF .215 AT 75% MAXIMUM LISTED FILL



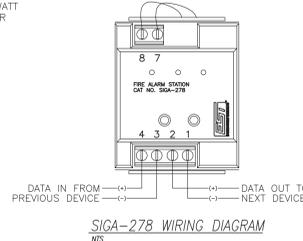
SIGA-DDOS WIRING DIAGRAM

SYSTEM INPUTS	ALARM	SUPERVISORY	PROBLE	REPORT TO FIRE ALARM CONTROL PANEL	SIGNAL TO SUPERVISORY STATION	ACTIVATE GENERAL FIRE ALARM	ACTIVATE FIRE NOTIFICATION APPLIANCE	SHUTDOWN INDIVIDUAL FAN POWERED MECHANICAL AIR HANDLING EQUIPMENT AND DAMPER(S)	SHUTDOWN ALL FAN POWERED MECHANICAL AIR HANDLING EQUIPMENT AND DAMPER(S)	WHITE ELEVATOR RECALL TO PRIMARY FLOOR	WHITE ELEVATOR RECALL TO ALTERNATE FLOOR	WHITE ELEVATOR RECALL TRIP
SIGNALING LINE OR NOTIFICATION APPLIANCE CIRCUIT - OPEN	•	•	•	•	•	•	•	•	•	•	•	•
SIGNALING LINE OR NOTIFICATION APPLIANCE CIRCUIT - SHORT	•	•	•	•	•	•	•	•	•	•	•	•
SIGNALING LINE OR NOTIFICATION APPLIANCE CIRCUIT - GROUND	•	•	•	•	•	•	•	•	•	•	•	•
FIRE ALARM CONTROL PANEL LOSS OF POWER	•	•	•	•	•	•	•	•	•	•	•	•
MANUAL PULL STATION	•	•	•	•	•	•	•	•	•	•	•	•
SMOKE DETECTOR - SPOT TYPE	•	•	•	•	•	•	•	•	•	•	•	•
SMOKE DETECTOR - DUCT MOUNTED	•	•	•	•	•	•	•	•	•	•	•	•
HEAT DETECTOR - SPOT TYPE	•	•	•	•	•	•	•	•	•	•	•	•
WATERFLOW ALARM SWITCH	•	•	•	•	•	•	•	•	•	•	•	•
VALVE TAMPER SWITCH	•	•	•	•	•	•	•	•	•	•	•	•
DRY SYSTEM LOW AIR	•	•	•	•	•	•	•	•	•	•	•	•
SMOKE DETECTOR - ELEVATOR LOBBY - PRIMARY FLOOR	•	•	•	•	•	•	•	•	•	•	•	•
SMOKE DETECTOR - ELEVATOR LOBBY - ALTERNATE FLOOR(S)	•	•	•	•	•	•	•	•	•	•	•	•
SMOKE DETECTOR - HOISTWAY (IF DEVICE USED)	•	•	•	•	•	•	•	•	•	•	•	•
HEAT DETECTOR - ABOVE ELEVATOR CONTROLLER	•	•	•	•	•	•	•	•	•	•	•	•

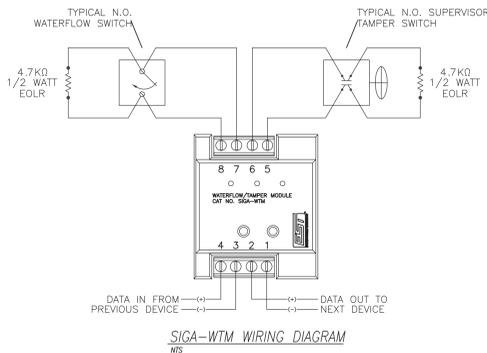
SYSTEM OPERATIONAL MATRIX



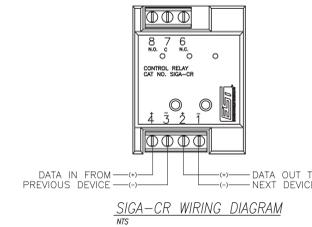
SIGA-CT1 WIRING DIAGRAM



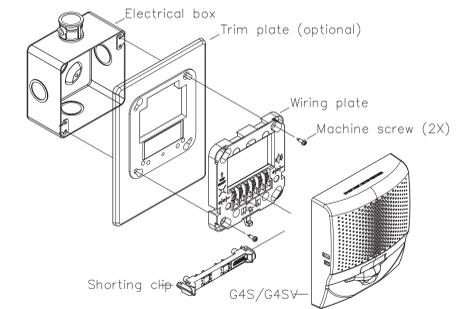
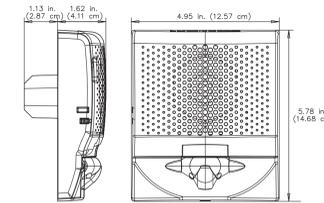
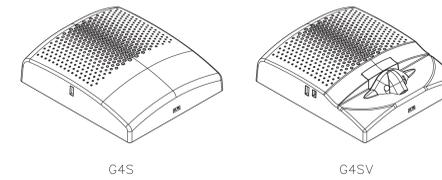
SIGA-27B WIRING DIAGRAM



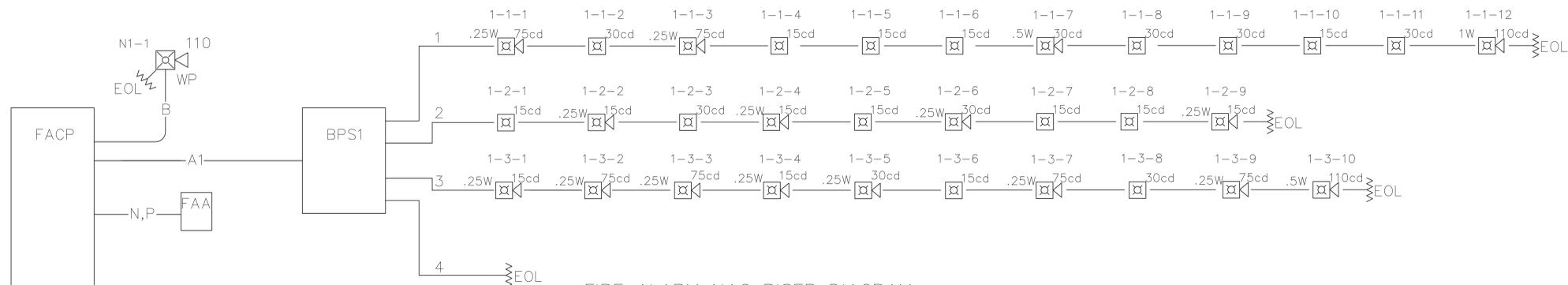
SIGA-WTM WIRING DIAGRAM



SIGA-CR WIRING DIAGRAM



G4S/G4SV



FIRE ALARM NAC RISER DIAGRAM



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FAX:  
816-228-0660

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 BLUE SPRINGS, MO 64013  
 PHONE:  
 816-220-0665  
 FAX:  
 816-228-0660

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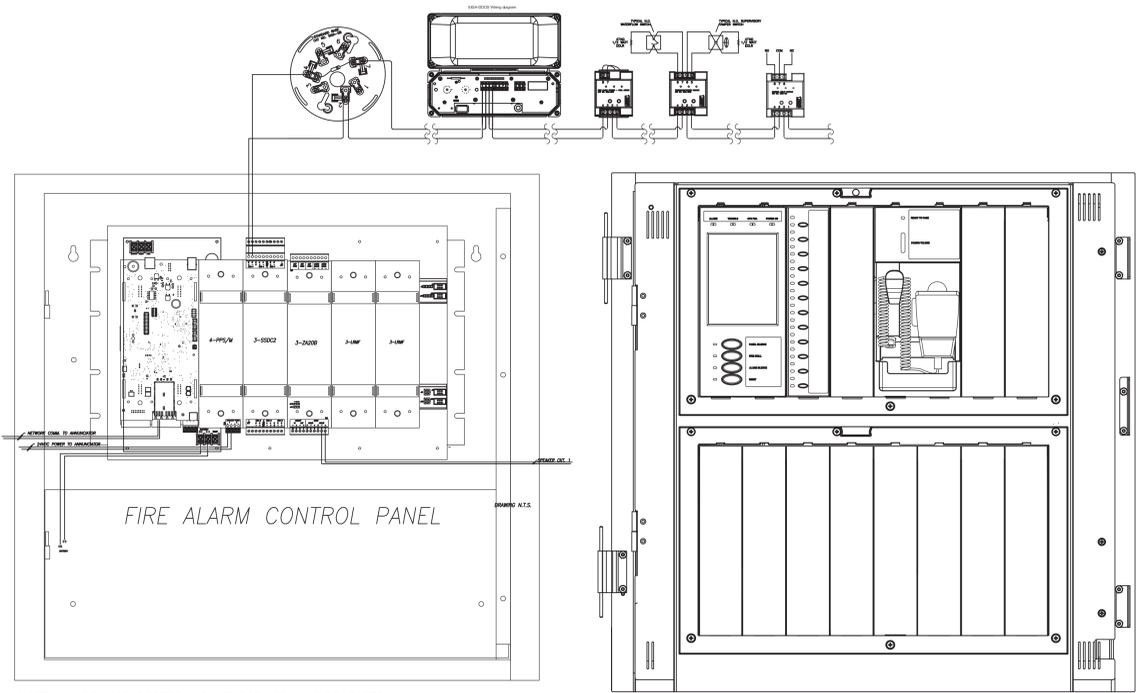
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Edwards System Builder							
EST4 Node (Copy for Additional Nodes)							
Job Name:	LXT Terminal	15	User Entries Count On This Sheet	1	Node Counter		
Node No.:		1	Total SIGA loops this node	1.2	Battery DeRating Factor		
Node Name:		0	Total analog loop this node				
		1	Serial ports used this node				
Battery Calculations							
Battery Periods:	24	Battery standby supervision period in hours					
	15	Battery fire alarm period in minutes					
Enter all external current loads for THIS CABINET only in mA			Ok				
387	Enter Remote Annunciator Standby Current		DoubleClick R16 or R17 to assign annunciator current				
476	Enter Remote Annunciator Alarm Current						
EST4 System Components							
Local Rail & Communication Modules							
1	4-CPU	Main CPU	Ok				
2	4-NET-TP	Twisted Pair SFP network controller		230	230	230	230
1	3-SSDC2	Signature Single Driver Controller (LRM)		54	54	54	27
1	3-MODCOM	Modem Communicator and Dialer		144	204	204	204
1	3-2A2A	20 Watt Zoned Amplifier, Class A, 25 or 70Vrms		60	95	95	60
				62	62	1120	1
Amplifier Loading Detail							
16	Amplifier #1	3-2A20 Amplifier			924	924	1120
1	4-USBHUB	Multi-port USB Hub Module					Ok
External Connection and Safety Connectivity Support							
User Interface Modules							
1	4-LCDLE	DISPLAY MAIN LCD MODULE		40	93	93	40
1	4-24L12S	CNTRL.DISPLAY,24 LED,12 SWITCH		3	5.6	5.6	3
1	4-COMREL	COMMON RELAY MODULE		0	8	8	0
Audio & Telephone Common Controls							
1	4-AUDTELS	Audio IO and Telephone Riser Source Module		85	101	101	85
1	4-MIC	Paging Microphone		8	38	38	8
Power Supplies							
1	4-PPSM	Primary Power Supply 120V		70	70	70	70
Battery Calculations							
		Fire Total Standby & Alarm Currents in mA		1272	2427.6	2427.6	
		CO Total Standby & Alarm Currents in mA		0	0	0	
		Amper Hour Calculation assigned from Door Sheets		0			
		1.2*(Supervisory Hours*Standby Current) + 1.2*(Alarm Hours*Alarm Current) + AC Amps		37.4	Calculated Battery Ampere Hours for Fire		
		0.0	Calculated Battery Ampere Hours for Carbon Monoxide - Doors				
Battery	2	12V40A	40 AH Battery				

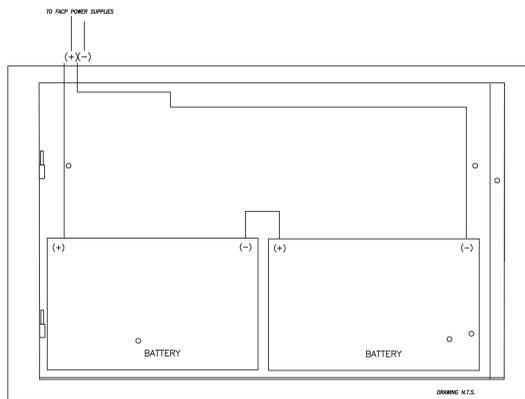
Edwards System Builder							
Booster Power Supplies							
All current values are in mA							
Battery Calculations							
Supply Voltage & Battery Periods:	120	Vac Supply Voltage		0	Seismic hardening		
	24	Standby Hours from EST4		7	Entries this sheet		
	15	Fire Alarm Minutes from EST4		0	Module Addresses this sheet		
	0	CO Alarm Minutes from EST4					
Remote Booster Supplies							
Remote Booster Power Supply Specification # 1							
24	Standby Hours			24	Battery Standby Hours Override, this booster spec only		
15	Alarm Minutes			15	Battery Standby Fire Alarm Minutes Override, this booster spec only		
1200	Enter NAC #1 Signal Appliance Alarm Current			1200	Ok		
1200	Enter NAC #2 Signal Appliance Alarm Current			1200	Ok		
1200	Enter NAC #3 Signal Appliance Alarm Current			1200	Ok		
1200	Enter NAC #4 Signal Appliance Alarm Current			1200	Ok		
1	Enter Quantity Required for Multiple Power Supplies with above Ratings						
Booster Supply Specification # 1							
1	BPS6A	Remote Booster Power Supply, 6.5A, 120V ac, Red		70	270	70	270
Battery, Booster Power Supply Specification # 1							
		Battery AH = De-rating Factor*Supervisory Hours*Standby Current + De-rating Factor*Alarm Minutes*60*Alarm Current					
		1.20 Battery De-rating Factor					
		3.87 Calculated Battery Ampere Hours		70	6168.62		
Battery	2	12V6A5	7.2 AH Battery				

Edwards System Builder										
EST4 REMOTE Annunciators (Copy for Additional Annunciators)										
Job Name:	LXT Terminal	5	Entries on this sheet						1	Node Counter
Location Name:									0	UL
EST4 Network Annunciator										
Qty	Cat No	Description	Ext'd SmA	Ext'd PAlmA	Ext'd AXmA	SmA	AmA	ALmA	ParSp	
1	4-LCDANN	Liquid Crystal Display Module	387	476		40	93	2	40	93
1	4-24L12S	CNTRL.DISPLAY,24 LED,12 SWITCH	4	10	1	4	10	1	4	10
1	4-6ANN	ANNUNCIATOR 6 SPACE	205	205	0	205	205			
1	4-ANNAUDTEL	ANN.AUDTEL INTERFACE MODULE	98	98	0	98	98			
1	4-MIC	PAGING MICROPHONE	8	38	0	8	38			
1	4-NET-TP	SFP CNTRL.2Mbps SHARED TX/RX	32	32	0	32	32			

NAC VOLTAGE DROP CALCS										
NAC CIRCUIT	DESCRIPTION	DEVICE PART #	DEVICE QTY	LOAD PER	TOTAL LOAD (AMPS)	WIRE LENGTH (FEET)	WIRE SIZE (AWG)	RESISTANCE MAX (OHMS)	MAXIMUM LENGTH (FEET)	VOLTAGE DROP (0.7V MAX)
1-1	BPS-1	GVWF	4	0.028	0.304	445	14	12.17	1982	0.83
		GVWF	8	0.024						
			0	0.050						
1-2	BPS-1	GVWF	3	0.028	0.228	289	14	16.23	2643	0.40
		GVWF	6	0.024						
			0	0.024						
1-3	BPS-1	GVWF	8	0.028	0.272	498	14	13.60	2215	0.83
		GVWF	2	0.024						
			0	0.000						
1-4	BPS-1	SPARE	0	0.000	0.000	0	14	0.00	0	0.00
			0	0.000						
			0	0.000						
N1	FACP AMP 1 NAC	WGRR-HVLC	1	0.356	0.356	50	14	10.39	1693	0.11
			0	0.000						
			0	0.000						

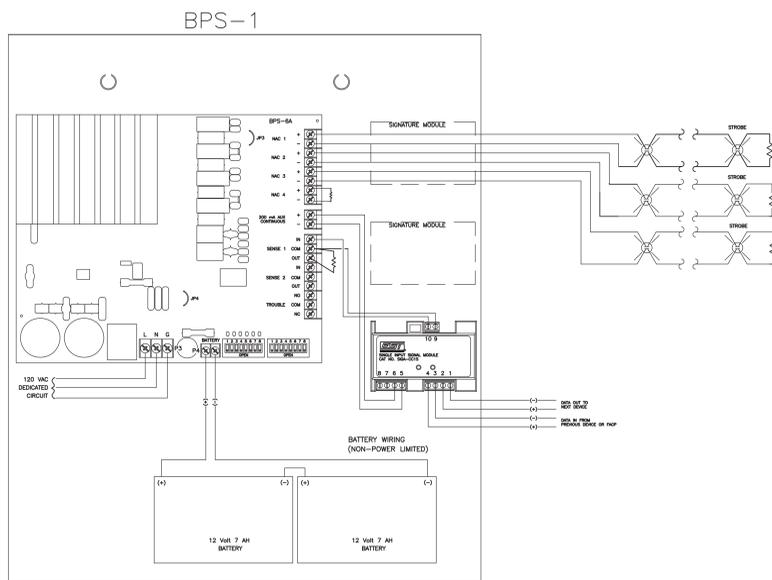


NOTE: DO NOT RECESS MOUNT CABINET IN FIRE-RATED WALL.

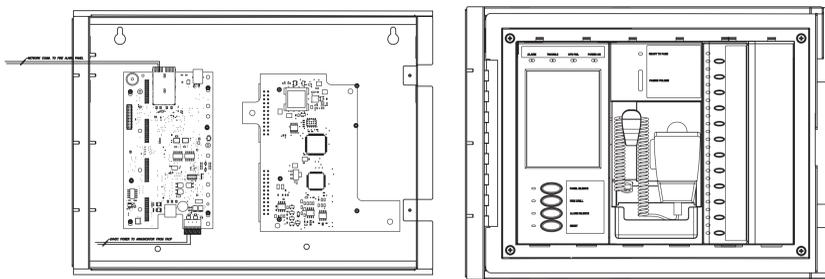


FIRE ALARM BATTERY CABINET

NOTE: DO NOT RECESS MOUNT CABINET IN FIRE-RATED WALL.



TYPICAL SINGLE STROBE BPS - SYNC

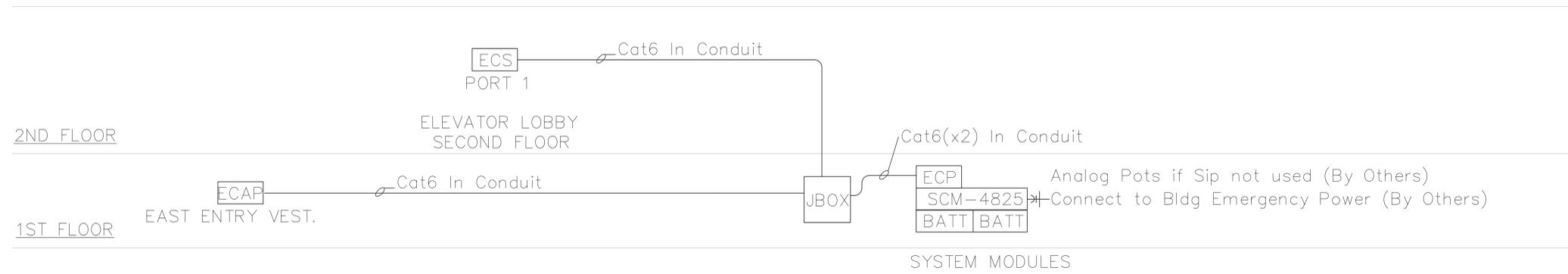


REMOTE ANNUNCIATOR



P.O. BOX 815  
 BLUE SPRINGS, MO 64013  
 PHONE:  
 816-220-0665  
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REVISION:



LOCATE **AR** STATION IN ELEVATOR LOBBY ON SECOND FLOOR

ELEVATOR TWO-WAY COMMUNICATION SYSTEM SCHEDULE				
MARK	MANUFACTURER	MODEL NUMBER	DESCRIPTION	REMARKS
<b>ECAP</b>	CORNELL	A4800-BS	ELEVATOR 2-WAY COMMUNICATIONS MASTER	2
<b>ECS</b>	CORNELL	4800-VS3	ELEVATOR 2-WAY COMMUNICATION STATION	2
<b>SCM-4825</b>	CORNELL	SCM-4825	SYSTEM CONTROL UNIT - SENTINEL V2	2
				1,2
<b>BATT</b>		7710-065	SYSTEM POWER BACKUP	

REMARKS:

- 1 - 120VAC BY ELECTRICAL
- 2 - ELECTRICAL CONTRACTOR SHALL MOUNT DEVICE BACKBOX.

AREA RESCUE - EMERGENCY 2-WAY COMMUNICATION  
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