Jobsite Information: LOT 10 2601 McBaine Drive Lees Summit Mo

FCPS-24FS6 / 8 Battery Calculation

Entries only to be made in the Yellow cell locations

Regulated Load in Standby

Device Type	Number of Devices		Current (Amps)		Total Current (Amps)
Main PC Board	1	X	0.065	=	0.065
Power Supervision Relays	0	X	0.025	=	0
Auxiliary Current Draw from TB4 Terminals 9 & 10	0	X		=	0
			STANDBY LOAD	=	0.065

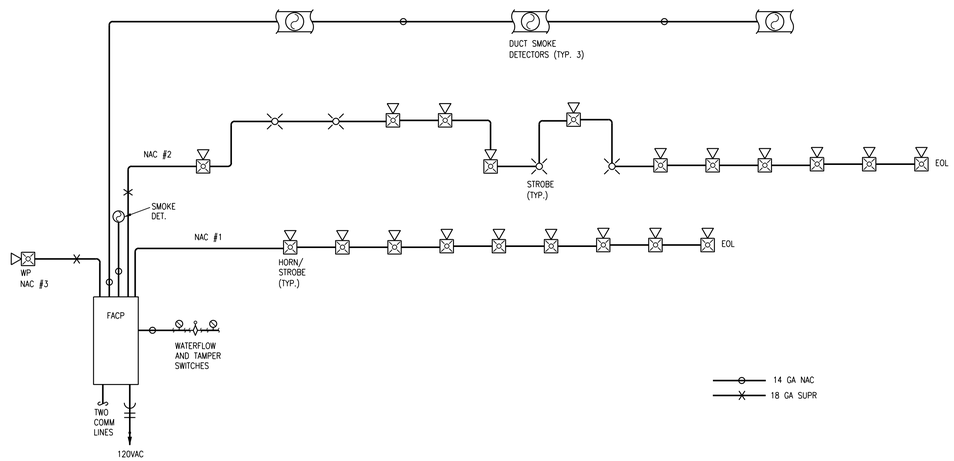
Regulated Load in ALARM

Device Type	Number of Devices		Current (Amps)		Total Current (Amps)
Main PC Board without AC	1	X	0.145	=	0.145
Power Supervision Relays	0	X	0.025	=	0
Auxiliary Current Draw from TB4 Terminals 9 & 10	0	X	0	=	0
NAC / Output # 1	5	X	0.08	=	0.4
Wall H/S					
NAC / Output # 2	4	X	0.077	=	0.308
Wall Strobe					
NAC / Output # 3	16	X	0.08	=	1.28
CEILING MOUNT H/S					
NAC / Output # 4		X		=	0
			ALARM LOAD	=	2.133

Battery Amp Hour Calculation

Standby Load Current (Amps)	0.065	X	Required Standby Time (Typically 24 or 60 Hours) 24	=	1.56 AH
Alarm Load Current (Amps)	2.133	X	Required Alarm Time (Typically 5 or 10 Minutes) 10	=	0.36 AH
			Sub Total Standby / Alarm Amp Hours		1.92 AH
			Multiply by the Derating Factor	X	1.2 *
			Total Ampere Hours Required	=	**3 AH**

* Derating Factor required to compensate for the non-linear discharge characteristic of a battery.



2 FIRE ALARM RISER

NONE — FIRE ALARM

NOTES:

1. ALL FIRE ALARM WIRING MUST BE IN STRICT COMPLIANCE WITH APPLICABLE SECTIONS OF THE NATIONAL ELECTRICAL CODE (ARTICLE 760) AND ALL APPLICABLE NFPA STANDARDS. INCLUDING CHAPTER 72.
2. INSTALLATION MUST COMPLY WITH ALL APPLICABLE FEDERAL, STATE, OR LOCAL LAWS, REGULATIONS, CODES, AND SPECIFICATIONS.
3. ALL INSTALLATIONS MUST BE APPROVED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
4. WHERE CONDUCTORS ARE RUN IN CONDUIT USE ONLY APPROVED CABLE WITHIN RACEWAYS, PIPES, OR CONDUITS. ALL SHIELDS SHALL TERMINATE AT THE FIRE ALARM CONTROL PANEL (FACP) ONLY.
5. TO AVOID CONTAMINATION AND DUST ACCUMULATION IN THE SMOKE DETECTORS, IT IS RECOMMENDED THAT THE SMOKE DETECTORS BE COVERED UNTIL AFTER CONSTRUCTION IS COMPLETED AND THE SUBJECT AREA HAS BEEN CLEANED. WHEN PROJECT IS CLEAN PROTECTIVE COVERS SHALL BE REMOVED BY AUTHORIZED SERVICE PERSONNEL.
6. ALL FIRE ALARM SYSTEM WIRING SHALL BE CLEAR FROM SHORTS, OPENS, AND GROUNDS. A SMOKE DETECTOR MUST BE LOCATED WITHIN FIVE FEET HORIZONTALLY OF THE FIRE ALARM CONTROL PANEL.
7. SYSTEMS SHALL BE TESTED AND CERTIFIED IN PRESENCE OF CITY INSPECTOR PRIOR TO OCCUPANCY.
8. SYSTEM IS AN ADDRESSABLE SUPERVISED PROTECTED PREMISES SYSTEM.
9. ALL HORN/STROBES ARE 75 CANDELA UNLESS NOTED OTHERWISE.

NFPA SYMBOLS LEGEND

R	RELAY
FCP	FIRE ALARM CONTROL PANEL
FAA	REMOTE FIRE ALARM ANNUNCIATOR
	HEAT DETECTOR
	DUCT DETECTOR
	DOOR HOLDER
	MANUAL PULL STATION AT 48"
CO	SMOKE DETECTOR WITH CARBON MONOXIDE SENSOR
	SMOKE DETECTOR
	HORN AT 80" – LOW FREQUENCY
	AUDIO VISUAL, 15 CANDELA UNLESS NOTED OTHERWISE
110	AUDIO VISUAL, 110 CANDELA AT 80" WALL MOUNTED
CO	CEILING MOUNTED CARBON MONOXIDE SENSOR
	STROBE AT 80" 15 CANDELA UNLESS NOTED OTHERWISE
	FLOW DETECTOR/SWITCH
	TAMPER DETECTOR
WP	WEATHER PROOF
	18/2 CABLE SLC LOOP
	14/2 OR 16/2 AS REQUIRED, CABLE NAC LOOP
EOL	END–OF–LINE RESISTOR
A	AIR PRESSURE DETECTOR

* ALL SYMBOLS SHOWN ABOVE MAY NOT APPEAR ON PLANS

NAC CIRCUIT VOLTAGE DROP

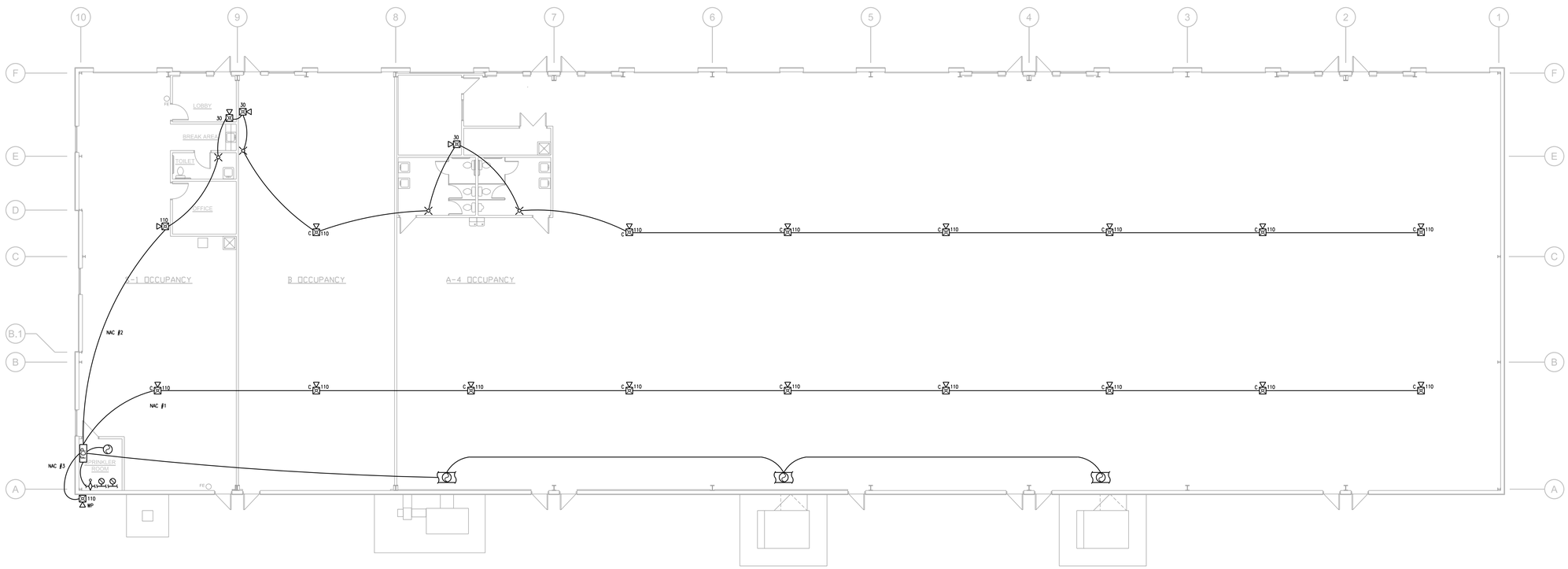
SECTION A - NAC Ckt #1			
APPLIANCE	QTY	AMPS EACH	TOTAL AMPS
HORN/STROBE - 110	1	0.2	0.2
STROBE - 15/75		0.077	0
TOTAL			0.2
LOOP LENGTH	10	WIRE SIZE	#14
NOM. VOLTS	LOSS	FINAL VOLTS	MIN. VOLTS
24	0.01	23.99	16

NAC CIRCUIT VOLTAGE DROP

SECTION A - NAC CKT #2			
APPLIANCE	QTY	AMPS EACH	TOTAL AMPS
HORN/STROBE - 110	9	0.2	1.8
STROBE - 15/75		0.077	0
TOTAL			1.8
LOOP LENGTH	280	WIRE SIZE	#14
NOM. VOLTS	LOSS	FINAL VOLTS	MIN. VOLTS
24	2.57	21.43	16

NAC CIRCUIT VOLTAGE DROP

SECTION A - NAC Ckt #3			
APPLIANCE	QTY	AMPS EACH	TOTAL AMPS
HORN/STROBE - 15/75	3	0.08	0.24
STROBE - 15/75	4	0.077	0.308
HORN/STROBE - 110	8	0.02	0.16
TOTAL			0.708
LOOP LENGTH	350	WIRE SIZE	#14
NOM. VOLTS	LOSS	FINAL VOLTS	MIN. VOLTS
24	1.26	22.74	16



1 FLOOR PLAN

3/32"=1'-0" — FIRE ALARM

NORTH

STATE OF MISSOURI — RICHARD R. BEADMORE — NUMBER — PROFESSIONAL ENGINEER

10/25/2022

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LOT 10, FIRE ALARM

2601 NE McBAINE DRIVE
LEE'S SUMMIT, MISSOURI

REVISIONS

NO.	DESCRIPTION	DATE

DATE: 10/21/2022

LSA PROJECT NO.: 2204078

SHEET DESCRIPTION: FLOOR PLAN - FIRE ALARM

SHEET NO.: FA101