



July 7, 2022

To: Lees Summit Fire Department

RE: Fire Alarm Installation

Customer: Macadoodles

Address: 1499 Market Street

Lee's Summit, MO 64063

To Whom It May Concern:

I propose to install and reconfigure the existing fire alarm system per NFPA 72 codes and standards based upon floor plan blueprints received from the customer.

- 1- Gem-C Fire Alarm Panel (*pre-existing*)
- 1- Napco FK-1 Fire Keypad
- 1- 7-Amp Hardwired Power Supply (*pre-existing*)
- 1- Napco U.L. Fire Cellular Communicator (*pre-existing*)
- 1- System Sensor Conventional Smoke Detector (*pre-existing*)
- 5- P2R System Sensor Fire Horn/Strobe Sounders
- 2- SR System Sensor Strobe Lights
- 5- BG12 Fire Pull Stations
- 1- Sprinkler Tamper Hook-up (*pre-existing*)
- 1- Water Flow Sensor Hook-up (*pre-existing*)
- 7- Duct Detector Hook-ups
 - All wiring shall be standard fire wire

Please let me know if there will be any additional documentation or devices required. Thank you

Sincerely,

Bill Malott
SecurityOne Services, Inc



GEMC FIRE STANDBY CALCULATION CHART

Date: 7-Jul-22
Project Name: Macadoodles
Location: Lees Summit
Prepared By: Bill
Panel Model #: GemC32

MODULE	DESCRIPTION	12V standby Current	12V Alarm Current (mA)	24V Standby Current mA	24V Alarm Current mA	QTY	TOTAL STANDBY CURRENT (mA)	TOTAL ALARM CURRENT (mA)
Fire Alarm Current Chart								
GEMC-CONTROL PANEL	Control Panel			96	96	1	96	96
	Fire Aux Relay Normally Energized			35	35	1	35	35
GEMC-F8ZCPIM	Conventional (8)zone 2-wire fire input module.	120		72	72	1	72	72
	# of Zones Used	5		3	24	8	24	192
	Devices powered by GEMC-F8ZCPIM AUX PWR	71	200			1	43	120
	Devices powered by GEMC-F8ZCPIM RST PWR	70	70			1	42	42
GEMC-FK1	LCD Fire Keypad for GEM-C Combo System, Red	110		66	66	1	66	66
GEMC-RECV	Commercial Fire Wireless Receiver (Fire Bus Only)	70		42	42			
GEMC-EZM8	8 Point Expansion Module	60		36	36			
GEMC-FPRINT	Printer Module	90		54	54			
GEMC-RM3008	Relay Output Module (Fire Bus Only)	22		13	13			
	# of Relays Normally Energized	12		7				
	# of Relays Energized on Alarm	12		-	7			
GEMC-NL-MOD	Internet Reporting Module	85		51	51			
GEMC-RS232	RS232 Adaptor	60		36	36			
GEMC-OUT8	PGM Output Module	35		21	21			
GEMC-FW-SLC	Addressable SLC Fire Module			70	140			
FWC-FSLC-SMK	Addressable SLC Photo Smoke Detector			0.68	1.40			
FWC-FSLC-HEAT	Addressable SLC Heat Detector			0.61	0.88			
FWC-FSLC-DUCT	Addressable SLC Photo Duct Smoke Detector			10.68	0.95			
FWC-FSLC-EZM2	Addressable SLC 2 Zone Conv. Input Module			1.05	1.26			
FWC-FSLC-EZM1	Addressable SLC Single Input Conv. Input Module.			0.96	1.16			
FWC-FSLC-CZM	Addressable SLC Conv Single Module			2.17	1.26			
FWC-FSLC-RM2	Addressable SLC Dual Relay Module			0.68	0.70			
FWC-FSLC-ISO	Addressable SLC Fire Isolation Module			0.47	0.47			
FWC-FSLC-SOM1	Addressable SLC Fire Supervised Output Module			1.39	0.28			
FWC-FSLC-PULL	Addressable SLC Fire Pull Station			0.96	1.14			
GEMC-NAC7S	Remote NAC Extender.	8		5	5			
GEMC-12V2APS-CF	Remote Supervised 12VDC Power Supply	8		5	5			
GEMC-24VR	Add On 24V Regulator							
NAC A	On Board NAC Circuit A			N/A	121	4		484
NAC B	On Board NAC Circuit B			N/A				
NAC C	On Board NAC Circuit C			N/A				
NAC D (set to 24V)	On Board NAC Circuit D			N/A	121	3		363
NAC D (set to 12V)	On Board NAC Circuit D			N/A				
Mother Board AUX PWR								
Mother Board RLY PWR	(only if configured for wet operation)							

FIRE STANDBY CURRENT DRAW	378 mA
REQUIRED FIRE STANDBY TIME	24 Hours
REQUIRED FIRE STANDBY BATTERY CAPACITY	9.1 AH
TOTAL FIRE ALARM CURRENT DRAW	1470 mA
REQUIRED FIRE ALARM STANDBY TIME	5 Min
REQUIRED FIRE ALARM BATTERY CAPACITY	0.1 AH
BATTERY DERATING FACTOR	20 %
TOTAL REQUIRED STANDBY BATTERY CAPACITY	11.5 AH
INSTALLED BATTERY CAPACITY	QTY: 2 AH: 7 14.0 AH

NAPCO GEM-C NAC A DEVICE VOLTAGE CALCULATOR

PROJECT: Macadoodles DATE: 7-6-22

- 1-Select your WIRE GAUGE
- 2-Select your DEVICES types 1>30
- 3-Determine the wire length distance for each DEVICE from the previous DEVICE in FEET
- 4-The Voltage at each device will appear far right, if any voltage cell color appears as RED you must use the next higher wire GAUGE

Select Wire Gauge		Wire Pair Ohms Per Foot		Device Distance (FEET) From Previous Device/ Panel		Voltage at Each Device	
18 Gauge		0.013					
Dev. Num	Device Type-Part Number	Part Number	Device Alarm Current Amps	Min Device Voltage	Device Distance (FEET) From Previous Device/ Panel	Voltage at Each Device	
1	1302-MFG=System Sensor, Prod=SR, Voltage=24VDC (Red Indoor Wall Strobe, Cnd1=15, Vol=, Tone=)	SR	0.300	20.2	30.0	24.62	
2	1302-MFG=System Sensor, Prod=SR, Voltage=24VDC (Red Indoor Wall Strobe, Cnd1=15, Vol=, Tone=)	SR	0.300	20.2	40.0	24.26	
3	199-MFG=System Sensor, Prod=P2R, Voltage=24VDC (Red Indoor Wall Horn/Strobe, Cnd1=75, Vol=High, Tone=Temporal)	P2R	0.200	20.2	80.0	23.85	
4	199-MFG=System Sensor, Prod=P2R, Voltage=24VDC (Red Indoor Wall Horn/Strobe, Cnd1=75, Vol=High, Tone=Temporal)	P2R	0.200	20.2	150.0	23.46	
5	None - Click here to select device from dropdown	None	0.000	0.0		0.00	
6	None - Click here to select device from dropdown	None	0.000	0.0		0.00	
7	None - Click here to select device from dropdown	None	0.000	0.0		0.00	
8	None - Click here to select device from dropdown	None	0.000	0.0		0.00	
9	None - Click here to select device from dropdown	None	0.000	0.0		0.00	
10	None - Click here to select device from dropdown	None	0.000	0.0		0.00	
11	None - Click here to select device from dropdown	None	0.000	0.0		0.00	
12	None - Click here to select device from dropdown	None	0.000	0.0		0.00	
13	None - Click here to select device from dropdown	None	0.000	0.0		0.00	
14	None - Click here to select device from dropdown	None	0.000	0.0		0.00	
15	None - Click here to select device from dropdown	None	0.000	0.0		0.00	
16	None - Click here to select device from dropdown	None	0.000	0.0		0.00	
17	None - Click here to select device from dropdown	None	0.000	0.0		0.00	
18	None - Click here to select device from dropdown	None	0.000	0.0		0.00	
19	None - Click here to select device from dropdown	None	0.000	0.0		0.00	
20	None - Click here to select device from dropdown	None	0.000	0.0		0.00	
21	None - Click here to select device from dropdown	None	0.000	0.0		0.00	
22	None - Click here to select device from dropdown	None	0.000	0.0		0.00	
23	None - Click here to select device from dropdown	None	0.000	0.0		0.00	
24	None - Click here to select device from dropdown	None	0.000	0.0		0.00	
25	None - Click here to select device from dropdown	None	0.000	0.0		0.00	
26	None - Click here to select device from dropdown	None	0.000	0.0		0.00	
27	None - Click here to select device from dropdown	None	0.000	0.0		0.00	
28	None - Click here to select device from dropdown	None	0.000	0.0		0.00	
29	None - Click here to select device from dropdown	None	0.000	0.0		0.00	
30	None - Click here to select device from dropdown	None	0.000	0.0		0.00	
Total Current (Amps)			1.000				

Need Assistance Selecting a device?
Click on the Device List Worksheet
tab to find your NAC Device.

NAPCO GEM-C NAC D DEVICE VOLTAGE CALCULATOR

PROJECT: Macadoodles DATE: 7-6-22

- 1-Select your WIRE GAUGE
- 2-Select your DEVICES types 1>30
- 3-Determine the wire length distance for each DEVICE from the previous DEVICE in FEET
- 4-The Voltage at each device will appear far right, if any voltage cell color appears as RED you must use the next higher wire GAUGE

Select Wire Gauge		Wire Pair Ohms Per Foot		Device Distance (FEET) From Previous Device/ Panel		Voltage at Each Device	
18 Gauge		0.0128					
Need Assistance Selecting a device? Click on the Device List Worksheet tab to find your NAC Device.							
Dev. Num	Device Type-Part Number	Part Number	Device Alarm Current AMPS	Min Device Voltage	Device Distance (FEET) From Previous Device/ Panel	Voltage at Each Device	
1	199-MF-G=System Sensor, Prod=P2R, Voltage=24VDC (Red Indoor Wall Horn/Strobe, CndI=75, Vol=High, Tone=Temporal)	P2R	0.200	20.20	140.0	23.92	
2	199-MF-G=System Sensor, Prod=P2R, Voltage=24VDC (Red Indoor Wall Horn/Strobe, CndI=75, Vol=High, Tone=Temporal)	P2R	0.200	20.20	60.0	23.62	
3	199-MF-G=System Sensor, Prod=P2R, Voltage=24VDC (Red Indoor Wall Horn/Strobe, CndI=75, Vol=High, Tone=Temporal)	P2R	0.200	20.20	100.0	23.36	
4	None - Click here to select device from dropdown	None	0.000	0.00	0.0	0.00	
5	None - Click here to select device from dropdown	None	0.000	0.00	0.0	0.00	
6	None - Click here to select device from dropdown	None	0.000	0.00	0.0	0.00	
7	None - Click here to select device from dropdown	None	0.000	0.00	0.0	0.00	
8	None - Click here to select device from dropdown	None	0.000	0.00	0.0	0.00	
9	None - Click here to select device from dropdown	None	0.000	0.00	0.0	0.00	
10	None - Click here to select device from dropdown	None	0.000	0.00	0.0	0.00	
11	None - Click here to select device from dropdown	None	0.000	0.00	0.0	0.00	
12	None - Click here to select device from dropdown	None	0.000	0.00	0.0	0.00	
13	None - Click here to select device from dropdown	None	0.000	0.00	0.0	0.00	
14	None - Click here to select device from dropdown	None	0.000	0.00	0.0	0.00	
15	None - Click here to select device from dropdown	None	0.000	0.00	0.0	0.00	
16	None - Click here to select device from dropdown	None	0.000	0.00	0.0	0.00	
17	None - Click here to select device from dropdown	None	0.000	0.00	0.0	0.00	
18	None - Click here to select device from dropdown	None	0.000	0.00	0.0	0.00	
19	None - Click here to select device from dropdown	None	0.000	0.00	0.0	0.00	
20	None - Click here to select device from dropdown	None	0.000	0.00	0.0	0.00	
21	None - Click here to select device from dropdown	None	0.000	0.00	0.0	0.00	
22	None - Click here to select device from dropdown	None	0.000	0.00	0.0	0.00	
23	None - Click here to select device from dropdown	None	0.000	0.00	0.0	0.00	
24	None - Click here to select device from dropdown	None	0.000	0.00	0.0	0.00	
25	None - Click here to select device from dropdown	None	0.000	0.00	0.0	0.00	
26	None - Click here to select device from dropdown	None	0.000	0.00	0.0	0.00	
27	None - Click here to select device from dropdown	None	0.000	0.00	0.0	0.00	
28	None - Click here to select device from dropdown	None	0.000	0.00	0.0	0.00	
29	None - Click here to select device from dropdown	None	0.000	0.00	0.0	0.00	
30	None - Click here to select device from dropdown	None	0.000	0.00	0.0	0.00	
Total Current (Amps)		0.6000				0.00	

Need Assistance Selecting a device?
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tab to find your NAC Device.