



# System Power Requirements

## NFW2-100 Fire Alarm Control Panel

Protected Premises: <u>Nathan Clifford School Redevelopment</u>	Date: <u>3/27/2014</u>
Address: <u>180 Falmouth Street</u>	
City: <u>Portland</u> State: <u>Maine</u>	Zip: <u>04101</u>
Prepared By: <u>BK Systems, Inc.</u>	Phone: <u>603-647-8775</u>
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City: <u>Goffstown</u> State: <u>New Hampshire</u>	Zip: <u>03045</u>

**AC Branch Current Requirements** 3.00 AMPS @ 120 VAC

Current required by source to power the fire alarm system.

**Primary Standby Load** 0.11 Amps

Current load on the primary power supply during non-alarm conditions.

**Primary Alarm Load** 3.66 Amps

Current load on the primary power supply during alarm conditions.

**Secondary Load Requirements** 16.30 Amp Hours

Total Secondary Load from the calculation table below.

Current Draw		Time (hours)	Total (AH)
Secondary Standby Load 0.215 A	x	Required Standby Time	
		60 hours	12.93
Secondary Alarm Load 3.934 A	x	Required Alarm Time (hours)	
		0.167 hours	0.66
Total Secondary Load			13.58
Derating factor			x 1.2
<b>Secondary Load Requirements</b>			<b>16.30</b> AH

**Battery Selection** 18 Amp Hours

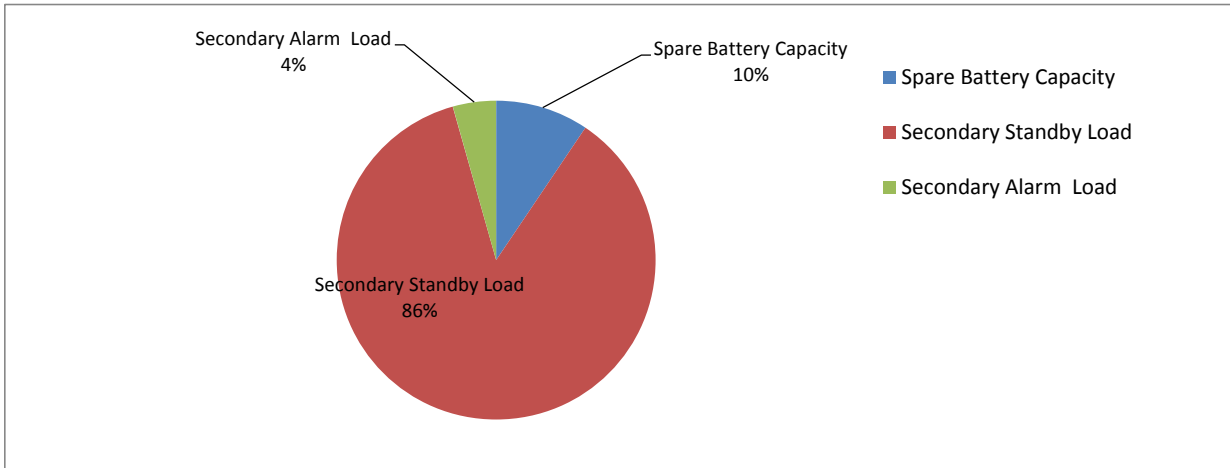
Select batteries from the list below.

18 AH BAT-12180 Battery (12 volt)

- Two
- Four (two 12VDC sets in parallel)

### Battery Distribution Chart

Shows amp-hour distribution of your selections.



### Comments

1. Batteries will fit in the FACP cabinet.
2. Selected battery size meets secondary load requirements.
3. The selected batteries (18AH) are within the charger range of this power supply (7-18AH).

Spare Battery Capacity	1.70	Battery Selection (AH) - Secondary Load Requirements (AH)
Secondary Standby Load	15.51	Secondary Standby Load (AH) * Derating Factor
Secondary Alarm Load	0.79	Secondary Alarm Load (AH) * Derating Factor



## Device Current Draw

### NFW2-100 Fire Alarm Control Panel

Quantity x [device current draw] = total current draw per device (in amps)

Part Number	Qty	Primary Non-Alarm	Primary Alarm	Secondary Non-Alarm
Main Circuit Board	1	x [0.00000] = 0.00000	x [0.00000] = 0.00000	x [0.14500] = 0.14500
XRM-24B	1	x [0.00000] = 0.00000	x [0.00000] = 0.00000	x [0.00000] = 0.00000
N-ANN-RLY	1	x [0.01500] = 0.01500	x [0.07500] = 0.07500	x [0.01500] = 0.01500
FDU-80	1	x [0.06400] = 0.06400	x [0.06400] = 0.06400	x [0.02500] = 0.02500
NP-100	45	x [0.00030] = 0.01350	x [0.00000] = 0.00000	x [0.00030] = 0.01350
NH-100	3	x [0.00030] = 0.00090	x [0.00000] = 0.00000	x [0.00030] = 0.00090
NMM-100	12	x [0.00040] = 0.00480	x [0.00000] = 0.00000	x [0.00040] = 0.00480
NMM-100P	6	x [0.00038] = 0.00225	x [0.00000] = 0.00000	x [0.00038] = 0.00225
N100-ISO	6	x [0.00045] = 0.00270	x [0.00000] = 0.00000	x [0.00045] = 0.00270
NOT-BG12LX	15	x [0.00023] = 0.00345	x [0.00000] = 0.00000	x [0.00023] = 0.00345
NC-100	1	x [0.00039] = 0.00039	x [0.00000] = 0.00000	x [0.00039] = 0.00039
NC-100R	9	x [0.00027] = 0.00243	x [0.00000] = 0.00000	x [0.00027] = 0.00243
Max Alarm Draw - All Addressable Devic	1	x [0.00000] = 0.00000	x [0.40000] = 0.40000	x [0.00000] = 0.00000
<b>Total (Amperes):</b>		<b>0.1094 A</b>	<b>3.6590 A</b>	<b>0.2154 A</b>

Part Number	Qty	Secondary Alarm
Total Primary Alarm Load - C2	1	x [3.65900] = 3.65900
Main Circuit Board	1	x [0.27500] = 0.27500
<b>Total (Amperes):</b>		<b>3.9340 A</b>