CITY OF PORTLAND, MAINE
RESURGAM
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 09/26/16

Battery Circuit Calculations

Before selecting the battery, it is important to determine the minimum size batteries for standby and alarm times desired for each application. If the wrong batteries are installed in a specific application or incorrect current draw used, the proper standby and minimum alarm time will not be present.

The battery circuit is rated for 8 to 18 AH batteries and swill operate the panel alarm for at least 24 hours and 5 minutes. The cabinet will house up to two (2) 8 AH or two (2) 18 AH batteries.

Please use the worksheet shown below to calculate the battery size and current draw required for each application:

Battery Calculation Worksheet

Description	Quantity	Standby (mA)	Total Standby (mA)	Alarm (mA)	Total Alarm (mA)
Main board (PFC-6006)	1	105	105	160	160
LCD Remote RA-6075 or RA-6006		20		25	
Input Circuit #1					
Input Circuit #2					
Input Circuit #3					
Input Circuit #4					
Input Circuit #5					
Input Circuit #6					
NAC 1	1				1000
		Total (ma)	105	Total (ma)	1160
		Convert to Amps	x 0.001	Convert to Amps	x 0.001
		(*Refer to maximum allowable standby current) Total A:	.105	Total A:	1.16
		Multiply by standby hours	x24	60 minutes per hour Alarm time (minutes) *Example:* 5 minute alarm: enter 12	÷12
		Total Standby AH	2.52	Total Alarm AH	0.10
				+Total Standby AH	2.52
				Total AH	2.62
				Efficiency Factor	÷ 0.85
				Required AH	3.08

*Maximum Allowable Standby Current (UL 24-Hour standby time) 7 AH .244 A 12 AH .421 A 18 AH .634 A	**Important Notes:** 1) FACP enclosure can house up to two (2) 18 AH batteries. 2) NFPA 72 requires 24 hours of standby power followed by 5 minutes of alarm activation. 3) Door holder circuits configured to disconnect upon AC loss need not be included in the battery standby calculation since they will not draw power during that time. Door holders will contribute to standby current draw when AC is present. 4) Total current must not exceed power supply rating (2A on PFC-6006). 5) LED/Relay current must be accounted for in the battery calculation for the supplying source.