



PSN-106
Battery & Voltage Drop
Calculations

Project Name: PHS GYM POOL
Installed By: RED HAWK FIRE PROTECTION
Designed By: RED HAWK FIRE PROTECTION
Date: 11/11/2025

Standby Hours: 24
Alarm Mins: 5
Efficiency Factor: 20%
NAC Source Voltage: 20.4



Model #: PSN-106

Max Panel Current (amps): 10

Panel ID:

Location: AT FACP

User assumes all responsibility to ensure the quantities and current draw values in this worksheet are accurate prior to submittal.

Qty	Panel Part #	Description	Standby (amps)		Alarm (amps)	
			Each	Total	Each	Total
1	PSN-106	NAC Power Expander	0.075	0.075	0.075	0.075
Panel Standby:				0.075	Panel Alarm:	0.075

NAC Circuits (See NAC Configuration below)				Standby (amps)		Alarm (amps)	
Ckt	Use	Description	Class	Total		Total	
1	Aux Power	SMOKE BEAM POWER	Class B	0.00000		0.00000	
2			Class B	0.00000		0.00000	
3			Class B	0.00000		0.00000	
4			Class B	0.00000		0.00000	
5			Class B	0.00000		0.00000	
6			Class B	0.00000		0.00000	
AUX	Aux Power	SMOKE BEAM POWER		0.08800		0.12000	
NAC Standby:				0.08800		NAC Alarm:	0.12000

Battery Calculation Summary			Standby (amps)		Alarm (amps)	
Panel Current:			0.07500		0.07500	
NAC Circuit Current:			0.08800		0.12000	
Total Standby:			0.163000		Total Alarm:	0.19500
Standby Hours:			24		Alarm Mins:	5
AH Required:			3.92		AH Required:	0.02
Total Combined Standby & Alarm AmpHours Required:					3.94	
					Efficiency Factor:	20%
					Required Battery AmpHours:	4.73
					Battery AmpHours Provided:	8

NAC 1		MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 20.4
Class:	Class B	Usage:	Aux Power
		Description:	SMOKE BEAM POWER

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#12 Solid	2.01		0.000	0.000	20.40	16

Circuit Devices			Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Description	Each	Total	Each	Total
Total Standby:				0.00000	Total Alarm:	0.00000

NAC 2		MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 20.4
Class:	Class B	Usage:	
		Description:	

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#12 Solid	2.01		0.000	0.000	20.40	16

Circuit Devices			Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Description	Each	Total	Each	Total
		User can add devices on the fly				
		to these bottom 5 rows				
		(No lookup function)				
Total Standby:				0.00000	Total Alarm:	0.00000

NAC Circuit Configuration & Voltage Drop (cont'd)

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NAC 3		MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 20.4
Class:	Class B	Usage:	

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#12 Solid	2.01		0.000	0.000	20.40	16

Circuit Devices			Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Description	Each	Total	Each	Total
		User can add devices on the fly				
		to these bottom 5 rows				
		(No lookup function)				
			Total Standby:	0.00000	Total Alarm:	0.00000

NAC 4		MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 20.4
Class:	Class B	Usage:	

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#12 Solid	2.01		0.000	0.000	20.40	16

Circuit Devices			Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Description	Each	Total	Each	Total
		User can add devices on the fly				
		to these bottom 5 rows				
		(No lookup function)				
			Total Standby:	0.00000	Total Alarm:	0.00000

NAC Circuit Configuration & Voltage Drop (cont'd)

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NAC 5		MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 20.4
Class:	Class B	Usage:	
Description:			

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#12 Solid	2.01		0.000	0.000	20.40	16

Circuit Devices			Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Description	Each	Total	Each	Total
		User can add devices on the fly				
		to these bottom 5 rows				
		(No lookup function)				
Total Standby:				0.00000	Total Alarm:	0.00000

NAC 6		MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 20.4
Class:	Class B	Usage:	
Description:			

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#12 Solid	2.01		0.000	0.000	20.40	16

Circuit Devices			Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Description	Each	Total	Each	Total
		User can add devices on the fly				
		to these bottom 5 rows				
		(No lookup function)				
Total Standby:				0.00000	Total Alarm:	0.00000

AUX Power		MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 20.4
Usage:	Aux Power	Description:	SMOKE BEAM POWER

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ Last Device	Min Volts Req'd
#16 Stranded	5.29		0.000	0.120	20.40	16

Circuit Devices			Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Description	Each	Total	Each	Total
8	OSI-R-SS	SMOKE BEAM	0.011000	0.088000	0.015000	0.120000
Total Standby:				0.08800	Total Alarm:	0.12000