



PSN-106
Battery & Voltage Drop
Calculations

Project Name:	Sonnys	Standby Hours:	24
Installed By:	Fire Alarm Solutions	Alarm Mins:	5
Designed By:	Fire Alarm Solutions	Batt Efficiency %:	80%
Date:	8/20/2025	NAC Source Voltage:	24

Model #: PSN-106

Max Panel Current (amps): 10

Panel ID:

Location: Warehouse

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	Notification		Class B	0.00000	0.25400	
2	Notification		Class B	0.00000	0.62800	
3	Notification		Class B	0.00000	0.33100	
4	Notification		Class B	0.00000	0.22700	
5	Notification		Class B	0.00000	0.31400	
6			Class B	0.00000	0.00000	
AUX				0.00000	0.00000	
NAC Standby:				0.00000	NAC Alarm:	1.75400

Battery Calculation Summary			Standby (amps)		Alarm (amps)	
Panel Current:				0.07500		0.07500
NAC Circuit Current:				0.00000		1.75400
Total Standby:				0.075000	Total Alarm:	1.82900
Standby Hours:				24	Alarm Mins:	5
AH Required:				1.80	AH Required:	0.16
Total Combined Standby & Alarm AmpHours Required:						1.96
					Efficiency Factor:	80%
Required Battery AmpHours:						2.45
Battery AmpHours Provided:						7ah



08/25/2025

NAC Circuit Configuration & Voltage Drop

Sonnys

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NAC 1			MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 24
Class:	Class B	Usage:	Notification	Description:

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	2.5	100	0.500	0.254	23.87	16

Circuit Devices			Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Description	Each	Total	Each	Total
2	User Defined	System Sensor SL (15cd)	0.000000	0.000000	0.018000	0.036000
2	User Defined	System Sensor SL (30cd)	0.000000	0.000000	0.022000	0.044000
2	User Defined	System Sensor P2L (75cd)	0.000000	0.000000	0.087000	0.174000
Total Standby:			0.00000	0.00000	Total Alarm:	0.25400

NAC 2			MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 24
Class:	Class B	Usage:	Notification	Description:

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	2.5	400	2.000	0.628	22.74	16

Circuit Devices			Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Description	Each	Total	Each	Total
4	User Defined	System Sensor SL (75cd)	0.000000	0.000000	0.070000	0.280000
4	User Defined	System Sensor P2L (75cd)	0.000000	0.000000	0.087000	0.348000
Total Standby:			0.00000	0.00000	Total Alarm:	0.62800

NAC Circuit Configuration & Voltage Drop (cont'd)

Sonnys

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NAC 3			MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 24
Class:	Class B	Usage:	Notification	Description:

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	2.5	240	1.200	0.331	23.60	16

Circuit Devices			Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Description	Each	Total	Each	Total
1	User Defined	System Sensor SL (75cd)	0.000000	0.000000	0.070000	0.070000
3	User Defined	System Sensor P2L (75cd)	0.000000	0.000000	0.087000	0.261000
Total Standby:			0.00000	0.00000	Total Alarm:	0.33100

NAC 4			MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 24
Class:	Class B	Usage:	Notification	Description:

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	2.5	130	0.650	0.227	23.85	16

Circuit Devices			Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Description	Each	Total	Each	Total
2	User Defined	System Sensor SL (75cd)	0.000000	0.000000	0.070000	0.140000
1	User Defined	System Sensor P2L (75cd)	0.000000	0.000000	0.087000	0.087000
Total Standby:			0.00000	0.00000	Total Alarm:	0.22700

Total Standby:				0.00000	Total Alarm:
				0.00000	