



PSN-106

Battery & Voltage Drop

Calculations

Project Name: Johnson TI-3

Standby Hours: 24

Alarm Mins: 5

Installed By: Fire Alarm Solutions

Batt Efficiency %: 80%

Designed By: Fire Alarm Solutions

Date: 8/14/2024

NAC Source Voltage: 24

Model #: PSN-106

Max Panel Current (amps): 10

Panel ID:

Location: Outside Office Wall

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

Ckt	NAC Circuits (See NAC Configuration below) Use	Description	Class	Standby (amps)		Alarm (amps)	
				Total		Total	
1	Notification		Class B	0.00000		0.09600	
2	Notification		Class B	0.00000		0.54000	
3	Notification		Class B	0.00000		0.38400	
4	Notification		Class B	0.00000		0.42000	
5	Notification		Class B	0.00000		0.42000	
6	Notification		Class B	0.00000		0.75000	
AUX				0.00000		0.00000	
NAC Standby:				0.00000	NAC Alarm:	2.61000	

Battery Calculation Summary			Standby (amps)		Alarm (amps)	
Panel Current:			0.07500		0.07500	
NAC Circuit Current:			0.00000		2.61000	
Total Standby:			0.075000	Total Alarm:	2.68500	
Standby Hours:			24	Alarm Mins:	5	
AH Required:			1.80	AH Required:	0.23	
Total Combined Standby & Alarm AmpHours Required:					2.03	
				Efficiency Factor:	80%	
Required Battery AmpHours:					2.54	
Battery AmpHours Provided:					7ah	

NAC Circuit Configuration & Voltage Drop

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	0.096	23.95	16

Qty	Lookup Type	Circuit Devices Description	Standby (amps)		Alarm (amps)	
			Each	Total	Each	Total
1	User Defined	System Sensor PC2L (30cd)	0.000000	0.000000	0.038000	0.038000
2	User Defined	System Sensor SCL (15cd)	0.000000	0.000000	0.018000	0.036000
1	User Defined	System Sensor SCL (30cd)	0.000000	0.000000	0.022000	0.022000
Total Standby:				0.00000	Total Alarm:	0.09600

NAC 2		MAX Circuit Current (amps): 3		Source Voltage Used (VDC): 24	
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Class:	Class B	Usage:	Notification	Description:	
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Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	2.5	330	1.650	0.540	23.11	16

Circuit Devices			Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Description	Each	Total	Each	Total
2	User Defined	System Sensor SCL (115cd)	0.000000	0.000000	0.090000	0.180000
3	User Defined	System Sensor PC2L (115cd)	0.000000	0.000000	0.120000	0.360000
Total Standby:				0.00000	Total Alarm:	0.54000

NAC 3		MAX Circuit Current (amps): 3		Source Voltage Used (VDC): 24	
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Class:	Class B	Usage:	Notification	Description:	
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Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	2.5	250	1.250	0.384	23.52	16

Circuit Devices			Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Description	Each	Total	Each	Total
2	User Defined	System Sensor PC2L (75cd)	0.000000	0.000000	0.087000	0.174000
3	User Defined	System Sensor SCL (75cd)	0.000000	0.000000	0.070000	0.210000
Total Standby:				0.00000	Total Alarm:	0.38400

NAC 4		MAX Circuit Current (amps): 3		Source Voltage Used (VDC): 24	
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Class:	Class B	Usage:	Notification	Description:	
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Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	2.5	250	1.250	0.420	23.48	16

Circuit Devices			Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Description	Each	Total	Each	Total
2	User Defined	System Sensor SCL (115cd)	0.000000	0.000000	0.090000	0.180000
2	User Defined	System Sensor PC2L (115cd)	0.000000	0.000000	0.120000	0.240000
Total Standby:				0.00000	Total Alarm:	0.42000

NAC 5

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	330	1.650	0.420	23.31	16

Circuit Devices			Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Description	Each	Total	Each	Total
2	User Defined	System Sensor SCL (115cd)	0.000000	0.000000	0.090000	0.180000
2	User Defined	System Sensor PC2L (115cd)	0.000000	0.000000	0.120000	0.240000
Total Standby:				0.000000	Total Alarm:	0.420000

NAC 6

MAX Circuit Current (amps): 3

Source Voltage Used (VDC): 24

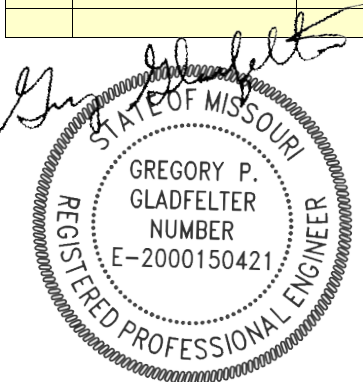
Class: Class B

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	330	1.650	0.750	22.76	16

Circuit Devices			Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Description	Each	Total	Each	Total
3	User Defined	System Sensor SCL (115cd)	0.000000	0.000000	0.090000	0.270000
4	User Defined	System Sensor PC2L (115cd)	0.000000	0.000000	0.120000	0.480000
Total Standby:				0.000000	Total Alarm:	0.750000



08/14/2024