NOTIFIER by Honeywell

Standby Battery Calculation
NFS-320 Fire Alarm Control Panel

Protected Premises: CFVH - Harnett Core & Shell **Date:** 10/30/2023

Address: 225 Brightwater Drive

City: Lillington **State:** NC **Zip:** 27546

Panel ID: FACP **Location:** Main Elec. 107

System Device	Qty	Standby Current Draw		Alarm Current Draw	
		Draw	Standby	Draw	Alarm
CPU-320 Main Board	1	0.250000	0.250000	0.250000	0.250000
# NACs in use	1	0.035000	0.035000	0.035000	0.035000
KDM-R2 Display (Backlight on)	1	0.100000	0.100000	0.100000	0.100000
LCD2-80 LCD Remote Annunciator	1	0.045000	0.045000	0.098000	0.098000
HW-AV-LTE Communicator	1	0.060000	0.060000	0.200000	0.200000
FSP-951 Photoelectric Detector	17	0.000200	0.003400	0.004500	0.076500
FST-851R Thermal Detector-135 w/ ROR	2	0.000200	0.000400	0.004500	0.009000
NBG-12LX Manual Pull Station	14	0.000375	0.005250	0.005000	0.070000
DNR Duct Detector w/FSP-951R	10	0.000200	0.002000	0.004500	0.045000
RTS151KEY	10	0.000000	0.000000	0.012000	0.120000
FMM-1 Monitor Module	15	0.000375	0.005625	0.005000	0.075000
FRM-1 Relay Module	19	0.000255	0.004845	0.006500	0.123500
XP10-M Ten Input Monitor Module	1	0.003500	0.003500	0.055000	0.055000
HPF-PS10B Trigger	3	0.000000	0.000000	0.020000	0.060000
		Total Standby:	**0.515**	**Total Alarm:**	**1.317**

Secondary Load Requirements **14.97** Amp Hours

Total Secondary Load from the calculation table below.

Current Draw (Amps)		Time (Hours)	Total (AH)
Secondary Standby Load		Required Standby Time	
0.515		24	12.36
Secondary Alarm Load		Required Alarm Time	
1.317		0.084	0.11
		Total Secondary Load	12.47
		Derating Factor	1.2
		Secondary Load Requirements	**14.97**

Battery Selection **18** Amp Hours

NOTIFIER® by Honeywell

Standby Battery Calculation
HPF-PS10B Remote Power Supply

Protected Premises: CFVH Harnett MOB Core & Shell **Date:** 10/30/2023

Address: 225 Brightwater Drive

City: Lillington **State:** NC **Zip:** 27546

Panel ID: PS1 **Location:** Elec. 103

System Device	Qty	Standby Current Draw		Alarm Current Draw	
		Draw	Standby	Draw	Alarm
HPF-PS1010 Main Board	1	0.156000	0.156000	0.176000	0.176000
PC2WLED30	6	0.000000	0.000000	0.038000	0.228000
PC2WLED115	12	0.000000	0.000000	0.120000	1.440000
SCWLED30	1	0.000000	0.000000	0.022000	0.022000
		Total Standby:	**0.156**	**Total Alarm:**	**1.866**

Secondary Load Requirements **4.68** **Amp Hours**

Total Secondary Load from the calculation table below.

Current Draw (Amps)		Time (Hours)	Total (AH)
Secondary Standby Load		Required Standby Time	
0.156		24	3.74
Secondary Alarm Load		Required Alarm Time	
1.866		0.084	0.16
		Total Secondary Load	3.90
		Derating Factor	1.2
		Secondary Load Requirements	**4.68**

Battery Selection **7** **Amp Hours**

Point to Point Voltage Drop Analysis
HPF-PS10B Remote Power Supply
Source Voltage: 20.4 Nominal System Voltage

Project Name: CFVH Harnett MOB
Date: 10/30/2023
Circuit No: PS1-1
Minimum Voltage: 16
Area Covered: 1st Floor
Wire Gauge: 14
Ohm's per 1,000 ft.: 3.14

Device Number	Part Number	Current (amps)	Distance (Feet)		Voltage at Device
			Between	Total	
1	PC2WLED30	0.038	30	30	20.33
2	SCWLED30	0.022	20	50	20.29
3	PC2WLED115	0.120	55	105	20.18
4	PC2WLED30	0.038	65	170	20.10
5	PC2WLED30	0.038	30	200	20.08
6	PC2WLED30	0.038	65	265	20.03
7	PC2WLED30	0.038	25	290	20.02
8	PC2WLED30	0.038	30	320	20.01
	Total Power:	**0.370**	**% Voltage Drop:**		**-1.91%**

Go

NOTE: These calculations double the wire length indicated to account for the total wire resistance of the circuit. DC resistance at 75°C/167°F per NFPA 70, Ch. 9, Table 8.

Point to Point Voltage Drop Analysis
HPF-PS10B Remote Power Supply
Source Voltage: 20.4 Nominal System Voltage

Project Name: CFVH Harnett MOB
Date: 10/30/2023
Circuit No: PS1-2
Minimum Voltage: 16
Area Covered: 1st Floor
Wire Gauge: 14
Ohm's per 1,000 ft.: 3.14

Device Number	Part Number	Current (amps)	Distance (Feet)		Voltage at Device
			Between	Total	
1	PC2WLED115	0.120	50	50	20.17
2	PC2WLED115	0.120	60	110	19.95
3	PC2WLED115	0.120	40	150	19.83
4	PC2WLED115	0.120	65	215	19.68
5	PC2WLED115	0.120	40	255	19.62
6	PC2WLED115	0.120	95	350	19.55
	Total Power:	**0.720**	**% Voltage Drop:**		**-4.17%**
					Go

NOTE: These calculations double the wire length indicated to account for the total wire resistance of the circuit. DC resistance at 75°C/167°F per NFPA 70, Ch. 9, Table 8.

Point to Point Voltage Drop Analysis
HPF-PS10B Remote Power Supply
Source Voltage: 20.4 Nominal System Voltage

Project Name: CFVH Harnett MOB
Date: 10/30/2023
Circuit No: PS1-3
Minimum Voltage: 16
Area Covered: 1st Floor
Wire Gauge: 14
Ohm's per 1,000 ft.: 3.14

Device Number	Part Number	Current (amps)	Distance (Feet)		Voltage at Device
			Between	Total	
1	PC2WLED115	0.120	85	85	20.08
2	PC2WLED115	0.120	65	150	19.88
3	PC2WLED115	0.120	65	215	19.74
4	PC2WLED115	0.120	65	280	19.64
5	PC2WLED115	0.120	45	325	19.60
	Total Power:	**0.600**	**% Voltage Drop:**		**-3.90%**

Go

NOTE: These calculations double the wire length indicated to account for the total wire resistance of the circuit. DC resistance at 75°C/167°F per NFPA 70, Ch. 9, Table 8.

NOTIFIER® by Honeywell

Standby Battery Calculation
HPF-PS10B Remote Power Supply

Protected Premises: CFVH Harnett MOB Core & Shell **Date:** 10/30/2023

Address: 225 Brightwater Drive

City: Lillington **State:** NC **Zip:** 27546

Panel ID: PS2 **Location:** Elec. 203

System Device	Qty	Standby Current Draw		Alarm Current Draw	
		Draw	Standby	Draw	Alarm
HPF-PS1010 Main Board	1	0.156000	0.156000	0.176000	0.176000
PC2WLED30	3	0.000000	0.000000	0.038000	0.114000
PC2WLED75	1	0.000000	0.000000	0.087000	0.087000
PC2WLED115	11	0.000000	0.000000	0.120000	1.320000
SCWLED30	1	0.000000	0.000000	0.022000	0.022000
		Total Standby:	**0.156**	**Total Alarm:**	**1.719**

Secondary Load Requirements **4.67** **Amp Hours**

Total Secondary Load from the calculation table below.

Current Draw (Amps)		Time (Hours)	Total (AH)
Secondary Standby Load		Required Standby Time	
0.156		24	3.74
Secondary Alarm Load		Required Alarm Time	
1.719		0.084	0.14
		Total Secondary Load	3.89
		Derating Factor	1.2
		Secondary Load Requirements	**4.67**

Battery Selection **7** **Amp Hours**

Point to Point Voltage Drop Analysis
HPF-PS10B Remote Power Supply
Source Voltage: 20.4 Nominal System Voltage

Project Name: CFVH Harnett MOB
Date: 10/30/2023
Circuit No: PS2-1
Minimum Voltage: 16
Area Covered: 2nd Floor
Wire Gauge: 14
Ohm's per 1,000 ft.: 3.14

Device Number	Part Number	Current (amps)	Distance (Feet)		Voltage at Device
			Between	Total	
1	PC2WLED30	0.038	30	30	20.36
2	PC2WLED30	0.038	20	50	20.33
3	PC2WLED30	0.038	25	75	20.31
4	SCWLED30	0.022	30	105	20.29
5	PC2WLED75	0.087	45	150	20.27
	Total Power:	**0.223**	**% Voltage Drop:**		**-0.65%**

Go

NOTE: These calculations double the wire length indicated to account for the total wire resistance of the circuit. DC resistance at 75°C/167°F per NFPA 70, Ch. 9, Table 8.

Point to Point Voltage Drop Analysis
HPF-PS10B Remote Power Supply
Source Voltage: 20.4 Nominal System Voltage

Project Name: CFVH Harnett MOB
Date: 10/30/2023
Circuit No: PS2-2
Minimum Voltage: 16
Area Covered: 2nd Floor
Wire Gauge: 14
Ohm's per 1,000 ft.: 3.14

Device Number	Part Number	Current (amps)	Distance (Feet)		Voltage at Device
			Between	Total	
1	PC2WLED115	0.120	40	40	20.19
2	PC2WLED115	0.120	65	105	19.90
3	PC2WLED115	0.120	65	170	19.65
4	PC2WLED115	0.120	65	235	19.45
5	PC2WLED115	0.120	45	280	19.35
6	PC2WLED115	0.120	65	345	19.25
7	PC2WLED115	0.120	65	410	19.21
	Total Power:	**0.840**	**% Voltage Drop:**		**-5.86%**
					Go

NOTE: These calculations double the wire length indicated to account for the total wire resistance of the circuit. DC resistance at 75°C/167°F per NFPA 70, Ch. 9, Table 8.

Point to Point Voltage Drop Analysis
HPF-PS10B Remote Power Supply
Source Voltage: 20.4 Nominal System Voltage

Project Name: CFVH Harnett MOB
Date: 10/30/2023
Circuit No: PS2-3
Minimum Voltage: 16
Area Covered: 2nd Floor
Wire Gauge: 14
Ohm's per 1,000 ft.: 3.14

Device Number	Part Number	Current (amps)	Distance (Feet)		Voltage at Device
			Between	Total	
1	PC2WLED115	0.120	80	80	20.16
2	PC2WLED115	0.120	65	145	20.01
3	PC2WLED115	0.120	65	210	19.91
4	PC2WLED115	0.120	65	275	19.86
	Total Power:	**0.480**	**% Voltage Drop:**		**-2.62%**

Go

NOTE: These calculations double the wire length indicated to account for the total wire resistance of the circuit. DC resistance at 75°C/167°F per NFPA 70, Ch. 9, Table 8.

NOTIFIER® by Honeywell

Standby Battery Calculation
HPF-PS10B Remote Power Supply

Protected Premises: CFVH Harnett MOB Core & Shell **Date:** 10/30/2023

Address: 225 Brightwater Drive

City: Lillington **State:** NC **Zip:** 27546

Panel ID: PS3 **Location:** Elec. 303

System Device	Qty	Standby Current Draw		Alarm Current Draw	
		Draw	Standby	Draw	Alarm
HPF-PS1010 Main Board	1	0.156000	0.156000	0.176000	0.176000
PC2WLED15	1	0.000000	0.000000	0.035000	0.035000
PC2WLED30	3	0.000000	0.000000	0.038000	0.114000
PC2WLED75	1	0.000000	0.000000	0.087000	0.087000
PC2WLED115	11	0.000000	0.000000	0.120000	1.320000
SCWLED30	1	0.000000	0.000000	0.022000	0.022000
		Total Standby:	**0.156**	**Total Alarm:**	**1.754**

Secondary Load Requirements **4.67** **Amp Hours**

Total Secondary Load from the calculation table below.

Current Draw (Amps)		Time (Hours)	Total (AH)
Secondary Standby Load		Required Standby Time	
0.156		24	3.74
Secondary Alarm Load		Required Alarm Time	
1.754		0.084	0.15
		Total Secondary Load	3.89
		Derating Factor	1.2
		Secondary Load Requirements	**4.67**

Battery Selection **7** **Amp Hours**

Point to Point Voltage Drop Analysis
HPF-PS10B Remote Power Supply
Source Voltage: 20.4 Nominal System Voltage

Project Name: CFVH Harnett MOB
Date: 10/30/2023
Circuit No: PS3-1
Minimum Voltage: 16
Area Covered: 3rd Floor
Wire Gauge: 14
Ohm's per 1,000 ft.: 3.14

Device Number	Part Number	Current (amps)	Distance (Feet)		Voltage at Device
			Between	Total	
1	PC2WLED30	0.038	30	30	20.35
2	PC2WLED30	0.038	30	60	20.31
3	PC2WLED30	0.038	25	85	20.28
4	SCWLED30	0.022	35	120	20.25
5	PC2WLED75	0.087	45	165	20.22
6	PC2WLED15	0.035	40	205	20.21
	Total Power:	**0.258**	**% Voltage Drop:**		**-0.95%**
					Go

NOTE: These calculations double the wire length indicated to account for the total wire resistance of the circuit. DC resistance at 75°C/167°F per NFPA 70, Ch. 9, Table 8.

Point to Point Voltage Drop Analysis
HPF-PS10B Remote Power Supply
Source Voltage: 20.4 Nominal System Voltage

Project Name: CFVH Harnett MOB
Date: 10/30/2023
Circuit No: PS3-2
Minimum Voltage: 16
Area Covered: 3rd Floor
Wire Gauge: 14
Ohm's per 1,000 ft.: 3.14

Device Number	Part Number	Current (amps)	Distance (Feet)		Voltage at Device
			Between	Total	
1	PC2WLED115	0.120	40	40	20.19
2	PC2WLED115	0.120	65	105	19.90
3	PC2WLED115	0.120	65	170	19.65
4	PC2WLED115	0.120	65	235	19.45
5	PC2WLED115	0.120	45	280	19.35
6	PC2WLED115	0.120	65	345	19.25
7	PC2WLED115	0.120	65	410	19.21
	Total Power:	**0.840**	**% Voltage Drop:**		**-5.86%**

Go

NOTE: These calculations double the wire length indicated to account for the total wire resistance of the circuit. DC resistance at 75°C/167°F per NFPA 70, Ch. 9, Table 8.

Point to Point Voltage Drop Analysis
HPF-PS10B Remote Power Supply
Source Voltage: 20.4 Nominal System Voltage

Project Name: CFVH Harnett MOB
Date: 10/30/2023
Circuit No: PS3-3
Minimum Voltage: 16
Area Covered: 3rd Floor
Wire Gauge: 14
Ohm's per 1,000 ft.: 3.14

Device Number	Part Number	Current (amps)	Distance (Feet)		Voltage at Device
			Between	Total	
1	PC2WLED115	0.120	80	80	20.16
2	PC2WLED115	0.120	65	145	20.01
3	PC2WLED115	0.120	65	210	19.91
4	PC2WLED115	0.120	65	275	19.86
	Total Power:	**0.480**	**% Voltage Drop:**		**-2.62%**

Go

NOTE: These calculations double the wire length indicated to account for the total wire resistance of the circuit. DC resistance at 75°C/167°F per NFPA 70, Ch. 9, Table 8.