

BATTERY CALCULATION									
SECONDARY POWER SOURCE REQUIREMENTS									
PANEL COMPONENTS	QTY	PART NO	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL (A)
1	VISTA-128BPT	1	128BPT Main Board	1 x 0.30	= 0.30	1 x 0.47	= 0.47		
2	4204CF	1	Relay Board	1 x 0.025	= 0.025	1 x 0.105	= 0.105		
3	616DCR-2	1	32-channel LCD Monitor	3 x 0.045	= 0.135	3 x 0.16	= 0.48		
4	LTE-CV	1	Single or Dual Path Cellular Modem	1 x 0.09	= 0.09	1 x 0.105	= 0.105		
5	4193B	2	Micro-Processor Adapter	2 x 0.0015	= 0.003	2 x 0.0015	= 0.003		
6	8 Zone RPI	3	8 Zone RPI	3 x 0.033	= 0.099	3 x 0.033	= 0.099		
7	5193SD	1	On-Board Photoelectric Smoke Detector	2 x 0.0012	= 0.0024	2 x 0.0028	= 0.0056		
8	5601P/4193	1	120 F (57 °C) fire and rate-of-rise with 4193 module	2 x 0.0015	= 0.003	5 x 0.0015	= 0.0075		
9	BC-12/4193	2	Manual Pull Station	2 x 0.0015	= 0.003	2 x 0.0015	= 0.003		
10	4193S	6	Host System Monitor/4193 SW	6 x 0.0015	= 0.009	6 x 0.0015	= 0.009		
TOTAL				0.6739		1.8014			
REQUIRED STANDBY TIME = 24.00 HOURS									
REQUIRED ALARM TIME = 5 MINUTES									
STANDBY AND ALARM LOAD SUBTOTAL				0.6739		1.8014			
DERATING FACTOR				x 0.8333		x 0.8333			
STANDBY AND ALARM LOAD SUBTOTAL				16.3241 AH		x 1.20			
SECONDARY LOAD REQUIREMENTS (AMP HOURS)				19.589 AH					
PROVIDE (2) 12V 12AH BATTERIES @ 24VDC									

PANEL NAC PWR SUP 2 (HPFF8) BATTERY CALCULATION									
SECONDARY POWER SOURCE REQUIREMENTS									
PANEL COMPONENTS	QTY	PART NO	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL (A)
1	HPFF8 Main Board	1	HPFF8 Main Board	1 x 0.00	= 0.00	1 x 0.00	= 0.00		
2	PCZML	3	2-Wire, Horn Stroke, White 15cd	3 x 0.00	= 0.00	3 x 0.074	= 0.222		
3	PCZML	2	2-Wire, Horn Stroke, White 30cd	2 x 0.00	= 0.00	2 x 0.121	= 0.242		
4	PCZML	2	2-Wire, Horn Stroke, White 75cd	2 x 0.00	= 0.00	2 x 0.063	= 0.126		
5	PCZML	1	2-Wire, Horn Stroke, White 15cd	1 x 0.00	= 0.00	1 x 0.176	= 0.176		
6	PCZML	1	2-Wire, Horn Stroke, White 15cd	1 x 0.00	= 0.00	1 x 0.054	= 0.054		
7	PCZML	5	2-Wire, Horn Stroke, White 15cd	5 x 0.00	= 0.00	5 x 0.143	= 0.715		
8	PCZML	1	2-Wire, Horn Stroke, White 15cd	1 x 0.00	= 0.00	1 x 0.165	= 0.165		
9	PCZML	8	2-Wire, Horn Stroke, White 15cd	8 x 0.00	= 0.00	8 x 0.058	= 0.464		
10	PCZML	2	2-Wire, Horn Stroke, White 15cd	2 x 0.00	= 0.00	2 x 0.058	= 0.116		
11	PCZML	1	2-Wire, Horn Stroke, White 15cd	1 x 0.00	= 0.00	1 x 0.142	= 0.142		
12	PCZML	1	2-Wire, Horn Stroke, White 15cd	1 x 0.00	= 0.00	1 x 0.196	= 0.196		
13	PCZML	1	2-Wire, Horn Stroke, White 15cd	1 x 0.00	= 0.00	1 x 0.09	= 0.09		
14	PCZML	2	2-Wire, Horn Stroke, White 15cd	2 x 0.00	= 0.00	2 x 0.043	= 0.086		
TOTAL				0.00		3.096			
STANDBY (A)				0.00					
REQUIRED STANDBY TIME = 24.00 HOURS									
REQUIRED ALARM TIME = 5 MINUTES									
STANDBY AND ALARM LOAD SUBTOTAL				0.00		3.096			
DERATING FACTOR				x 0.8333		x 0.8333			
STANDBY AND ALARM LOAD SUBTOTAL				16.3241 AH		x 1.20			
SECONDARY LOAD REQUIREMENTS (AMP HOURS)				19.589 AH					
PROVIDE (2) 12V 7AH BATTERIES @ 24VDC									

PANEL 24V AUX PWR SUP (AL-300-ULMR) BATTERY CALCULATION									
SECONDARY POWER SOURCE REQUIREMENTS									
PANEL COMPONENTS	QTY	PART NO	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL (A)
1	AL-300-ULMR	1	Main Board	1 x 0.00	= 0.00	1 x 0.00	= 0.00		
2	4204CF	1	Relay Board	1 x 0.002	= 0.002	1 x 0.181	= 0.181		
3	D4120	16	4-Wire Photoelectric Dual Stroke Detector	16 x 0.021	= 0.336	16 x 0.00	= 0.00		
TOTAL				0.338		0.181			
REQUIRED STANDBY TIME = 24.00 HOURS									
REQUIRED ALARM TIME = 5 MINUTES									
STANDBY AND ALARM LOAD SUBTOTAL				0.338		0.181			
DERATING FACTOR				x 0.8333		x 0.8333			
STANDBY AND ALARM LOAD SUBTOTAL				8.7225 AH		x 1.20			
SECONDARY LOAD REQUIREMENTS (AMP HOURS)				10.467 AH					
PROVIDE (2) 12V 12AH BATTERIES @ 24VDC									

PANEL NAC PWR SUP 1 (HPFF8) BATTERY CALCULATION									
SECONDARY POWER SOURCE REQUIREMENTS									
PANEL COMPONENTS	QTY	PART NO	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL (A)
1	HPFF8 Main Board	1	HPFF8 Main Board	1 x 0.00	= 0.00	1 x 0.00	= 0.00		
2	PCZML	7	2-Wire, Horn Stroke, White 15cd	7 x 0.00	= 0.00	7 x 0.165	= 1.155		
3	PCZML	1	2-Wire, Horn Stroke, White 30cd	1 x 0.00	= 0.00	1 x 0.043	= 0.043		
4	PCZML	4	2-Wire, Horn Stroke, White 15cd	4 x 0.00	= 0.00	4 x 0.074	= 0.296		
5	PCZML	1	2-Wire, Horn Stroke, White 15cd	1 x 0.00	= 0.00	1 x 0.121	= 0.121		
6	PCZML	1	2-Wire, Horn Stroke, White 15cd	1 x 0.00	= 0.00	1 x 0.143	= 0.143		
7	PCZML	2	2-Wire, Horn Stroke, White 15cd	2 x 0.00	= 0.00	2 x 0.165	= 0.33		
8	PCZML	2	2-Wire, Horn Stroke, White 15cd	2 x 0.00	= 0.00	2 x 0.074	= 0.148		
9	PCZML	11	2-Wire, Horn Stroke, White 15cd	11 x 0.00	= 0.00	11 x 0.043	= 0.473		
10	PCZML	1	2-Wire, Horn Stroke, White 15cd	1 x 0.00	= 0.00	1 x 0.054	= 0.054		
11	PCZML	2	2-Wire, Horn Stroke, White 15cd	2 x 0.00	= 0.00	2 x 0.176	= 0.352		
12	PCZML	2	2-Wire, Horn Stroke, White 15cd	2 x 0.00	= 0.00	2 x 0.187	= 0.374		
TOTAL				0.00		3.456			
STANDBY (A)				0.00		3.456			
REQUIRED STANDBY TIME = 24.00 HOURS									
REQUIRED ALARM TIME = 5 MINUTES									
STANDBY AND ALARM LOAD SUBTOTAL				0.00		3.456			
DERATING FACTOR				x 0.8333		x 0.8333			
STANDBY AND ALARM LOAD SUBTOTAL				16.3241 AH		x 1.20			
SECONDARY LOAD REQUIREMENTS (AMP HOURS)				19.589 AH					
PROVIDE (2) 12V 7AH BATTERIES @ 24VDC									

PANEL NAC PWR SUP 1									
SECONDARY POWER SOURCE REQUIREMENTS									
PANEL COMPONENTS	QTY	PART NO	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL (A)
1	HPFF8 Main Board	1	HPFF8 Main Board	1 x 0.00	= 0.00	1 x 0.00	= 0.00		
2	PCZML	7	2-Wire, Horn Stroke, White 15cd	7 x 0.00	= 0.00	7 x 0.165	= 1.155		
3	PCZML	1	2-Wire, Horn Stroke, White 30cd	1 x 0.00	= 0.00	1 x 0.043	= 0.043		
4	PCZML	4	2-Wire, Horn Stroke, White 15cd	4 x 0.00	= 0.00	4 x 0.074	= 0.296		
5	PCZML	1	2-Wire, Horn Stroke, White 15cd	1 x 0.00	= 0.00	1 x 0.121	= 0.121		
6	PCZML	1	2-Wire, Horn Stroke, White 15cd	1 x 0.00	= 0.00	1 x 0.143	= 0.143		
7	PCZML	2	2-Wire, Horn Stroke, White 15cd	2 x 0.00	= 0.00	2 x 0.165	= 0.33		
8	PCZML	2	2-Wire, Horn Stroke, White 15cd	2 x 0.00	= 0.00	2 x 0.074	= 0.148		
9	PCZML	11	2-Wire, Horn Stroke, White 15cd	11 x 0.00	= 0.00	11 x 0.043	= 0.473		
10	PCZML	1	2-Wire, Horn Stroke, White 15cd	1 x 0.00	= 0.00	1 x 0.054	= 0.054		
11	PCZML	2	2-Wire, Horn Stroke, White 15cd	2 x 0.00	= 0.00	2 x 0.176	= 0.352		
12	PCZML	2	2-Wire, Horn Stroke, White 15cd	2 x 0.00	= 0.00	2 x 0.187	= 0.374		
TOTAL				0.00		3.456			
STANDBY (A)				0.00		3.456			
REQUIRED STANDBY TIME = 24.00 HOURS									
REQUIRED ALARM TIME = 5 MINUTES									
STANDBY AND ALARM LOAD SUBTOTAL				0.00		3.456			
DERATING FACTOR				x 0.8333		x 0.8333			
STANDBY AND ALARM LOAD SUBTOTAL				16.3241 AH		x 1.20			
SECONDARY LOAD REQUIREMENTS (AMP HOURS)				19.589 AH					
PROVIDE (2) 12V 7AH BATTERIES @ 24VDC									

Panel NAC PWR SUP 2									
Total Used Current: (All Circuits)							3.0960A		
Point-to-Point Voltage Drop Calculation for Panel NAC PWR SUP 2 Circuit N1									
Starting Calculation Voltage: 120.000V Minimum Operating Voltage: 105.000V									
Total Circuit Current: 0.4444A Total Distance: 325.000V									
Voltage Drop: 0.8207V Voltage Drop: 18.830V									
Percent Drop: 0.6840% Percent Drop: 15.7143%									
Distance measured using draw current lengths with 10.00 A positional length calculated									
Device Label	Part No.	Description	Current Draw (A)	Distance From Source (ft)	Voltage Drop (V)	Voltage Drop (V)	Voltage Drop (V)	Voltage Drop (V)	Voltage Drop (V)
NAC PWR SUP 24H1000	PCZWL	2-Wire, Horn Stroke, White 15cd	0.1210A	20.000V	0.3039V	0.0791V	0.39		
NAC PWR SUP 24H1000	PCZWL	2-Wire, Horn Stroke, White 15cd	0.0740A	45.000V	0.2017A	0.235V	1.10		
NAC PWR SUP 24H1000	PCZWL	2-Wire, Horn Stroke, White 15cd	0.0740A	35.000V	0.2079V	0.30V	1.51		
NAC PWR SUP 24H1000	PCZWL	2-Wire, Horn Stroke, White 30cd	0.0630A	80.000V	0.19879V	0.412V	2.02		
NAC PWR SUP 24H1000	PCZWL	2-Wire, Horn Stroke, White 15cd	0.1210A	5.000V	0.19782V	0.480A	2.07		
NAC PWR SUP 24H1000	PCZWL	2-Wire, Horn Stroke, White 15cd	0.0540A	50.000V	0.19196V	0.424A	2.35		
NAC PWR SUP 24H1000	PCZWL	2-Wire, Horn Stroke, White 15cd	0.0740A	80.000V	0.18523V	0.547V	2.68		
NAC PWR SUP 24H1000	PCZWL	2-Wire, Horn Stroke, White 30cd	0.0630A	10.000V	0.18330V	0.5670V	2.78		
Point-to-Point Voltage Drop Calculation for Panel NAC PWR SUP 2 Circuit N2(6)									
Starting Calculation Voltage: 120.000V Minimum Operating Voltage: 105.000V									
Total Circuit Current: 1.1100A Total Distance: 535.000V									
Voltage Drop: 1.4744V Voltage Drop: 12.2857V									
Percent Drop: 1.2287% Percent Drop: 10.2429%									
Distance measured using draw current lengths with 10.00 A positional length calculated									
Device Label	Part No.	Description	Current Draw (A)	Distance From Source (ft)	Voltage Drop (V)	Voltage Drop (V)	Voltage Drop (V)	Voltage Drop (V)	Voltage Drop (V)
NAC PWR SUP 24H2000	PCZWL	2-Wire, Horn Stroke, White 15cd	0.1430A	165.000V	0.1275V	1.142V	5.51		
NAC PWR SUP 24H2000	PCZWL	2-Wire, Horn Stroke, White 15cd	0.1650A	45.000V	0.19003V	1.391V	6.82		
NAC PWR SUP 24H2000	PCZWL	2-Wire, Horn Stroke, White 15cd	0.1430A	58.000V	0.18774V	1.662V	8.15		