



Voltage Drop Analysis

MS-9200UDLS Control Panel w/XRM-24B (2.5-amp circuit)

Notification Appliances - NAC #4

Source Voltage: 19.18 VDC Terminal Voltage

Protected Premises: <u>Maine Historical Society</u>		Date: <u>2/6/14</u>	
Address: <u>1000 Riverside St</u>		City: <u>Portland</u>	
State: <u>ME</u>	Zip: <u>04103</u>	Note: <u>Storage for MHS/PPL</u>	
Prepared By: <u>Timothy Parent</u>		Phone: <u>(207)576-9255</u>	
Address: <u>187 Washington St</u>		City: <u>Auburn</u>	
State: <u>ME</u>	Zip: <u>04211</u>		

Device #	Part Number	Current (amps)	Distance (Feet)		Circuit Voltage @ Each Device			
			Between	Total			14 AWG	
1	P2R110	0.2210	223	223			17.33	
2	P2R110	0.2210	26	249			17.15	
3	PC2R110	0.2210	51	300			16.86	
4	P2R110	0.2210	65	365			16.59	
5	PC2RH150	0.2700	15	380			16.55	
6	SR15	0.0660	5	385			16.54	
7	SR15	0.0660	7	392			16.53	
8	SR15	0.0660	7	399			16.53	
Total Current:		1.3520	% Voltage Drop:				13.81	
							Go	

~~Strikethrough~~ indicates a value below the device's minimum voltage at indicated location and wire gauge.

These calculations assume a worst-case source voltage as measured by UL with the batteries depleted to 20.4 volts. Under AC power and for most of the drain cycle of the batteries, the circuit voltages will be substantially higher and thus, would support a greater number of devices. A device's minimum operating voltage is derived from the UL-requirement that it operate within a Regulated Voltage Range (16VDC - 33VDC).