

### Isometric View

Event	Burning Man 2020	Project	Imbalance
Designer	Kerry Veenstra	Scale	1" = 1'
		Revision	B

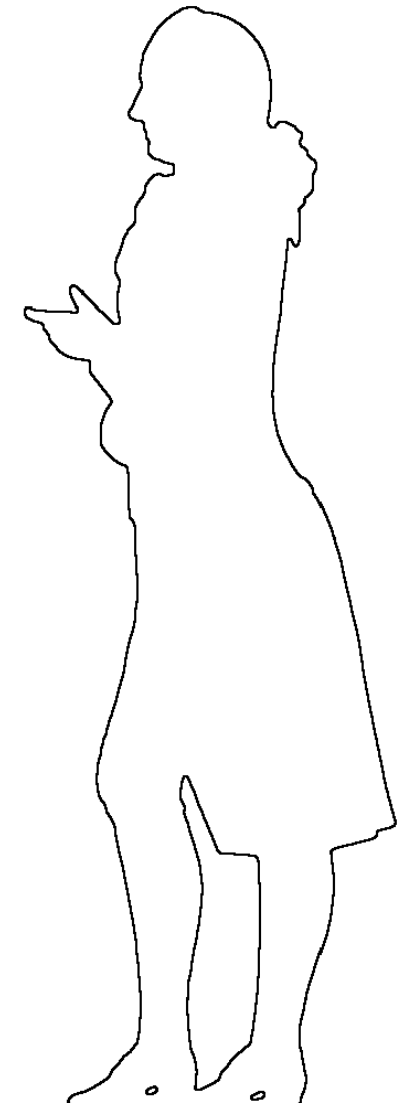
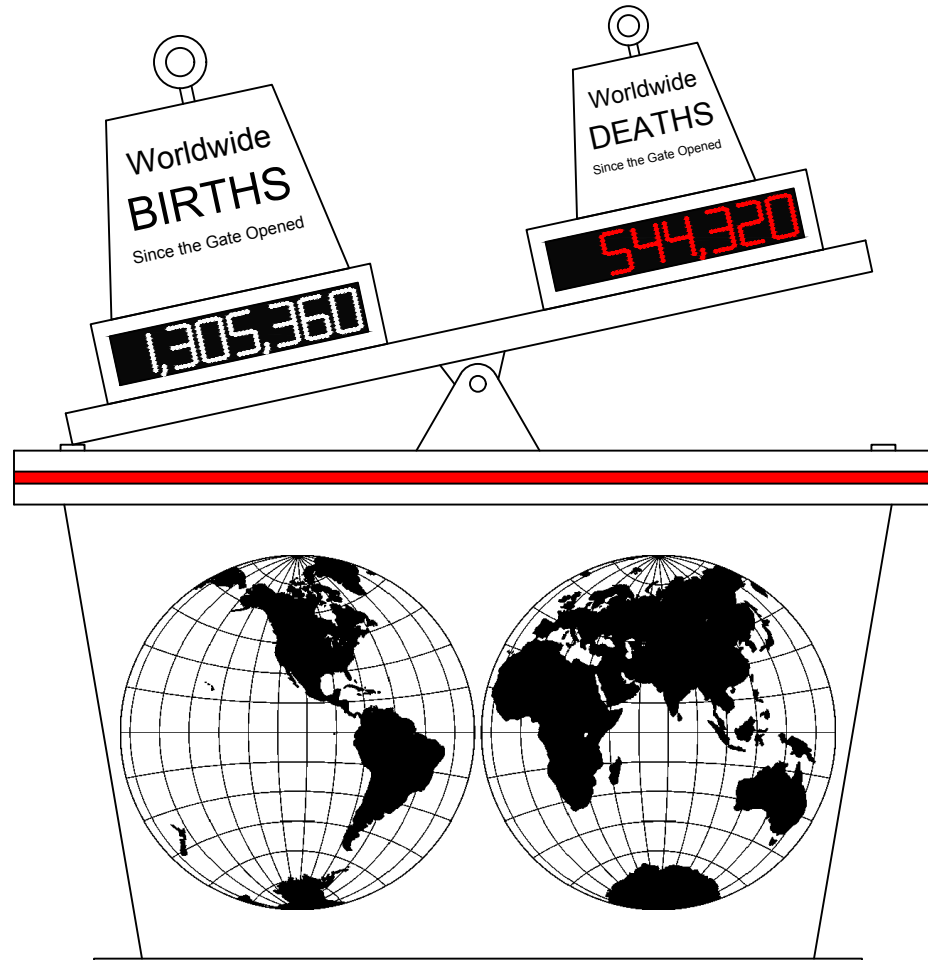
Each hollow weight is constructed from welded 10-gauge steel sheet with a screw eye bolted to the top. The words are painted on front.

LED counters are housed in wooden boxes and assembled using traffic-light LEDs so that they are visible during the day. These counters are repurposed spares from Bluster (2018).

The "see-saw" balance is constructed from a wooden plank. Although it appears to be a functional balance, the left end is bolted to the table to prevent the see-saw from being tilted.

The table is constructed from a steel internal frame and a plywood skin. A  $\frac{3}{4}$ " slit along the edge is illuminated using a 5-meter long LED strip.

Countries of the map that are experiencing population growth (most of the world, to varying degrees) are painted white. Countries that are experiencing population reduction (most of eastern Europe) are painted red.



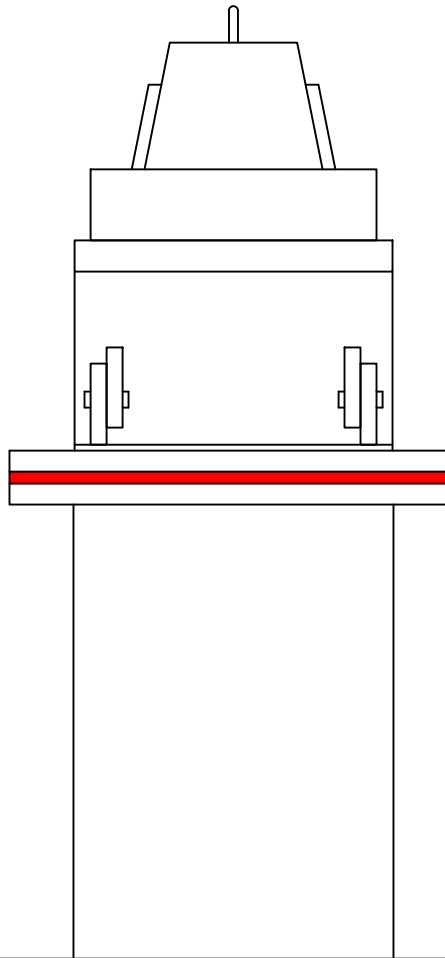
Front View			
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The somewhat narrow table is bolted to a 4-foot square  $\frac{1}{4}$ "-thick steel plate that weighs 130 pounds. The steel plate is anchored to the plays using four 42"-long stakes.

These stakes are the same as have been used successfully to anchor our frame tent in camp and to anchor the bearing plate of Bluster (2018).

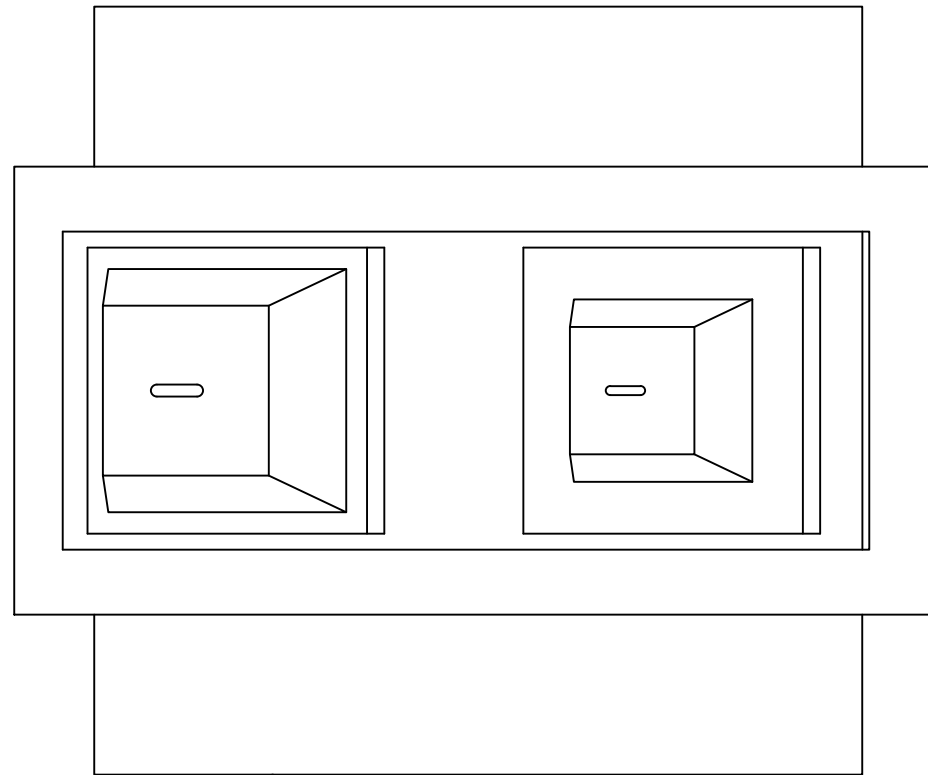
Wind-load calculations show that each anchor must resist only 12 pounds of uplift force in a 100-MPH wind.

The LED counters and nighttime lighting are powered by batteries that are charged in camp using a gasoline generator. This strategy was used successfully in Bluster (2018). Sets of batteries will be swapped twice a day.



### Side View

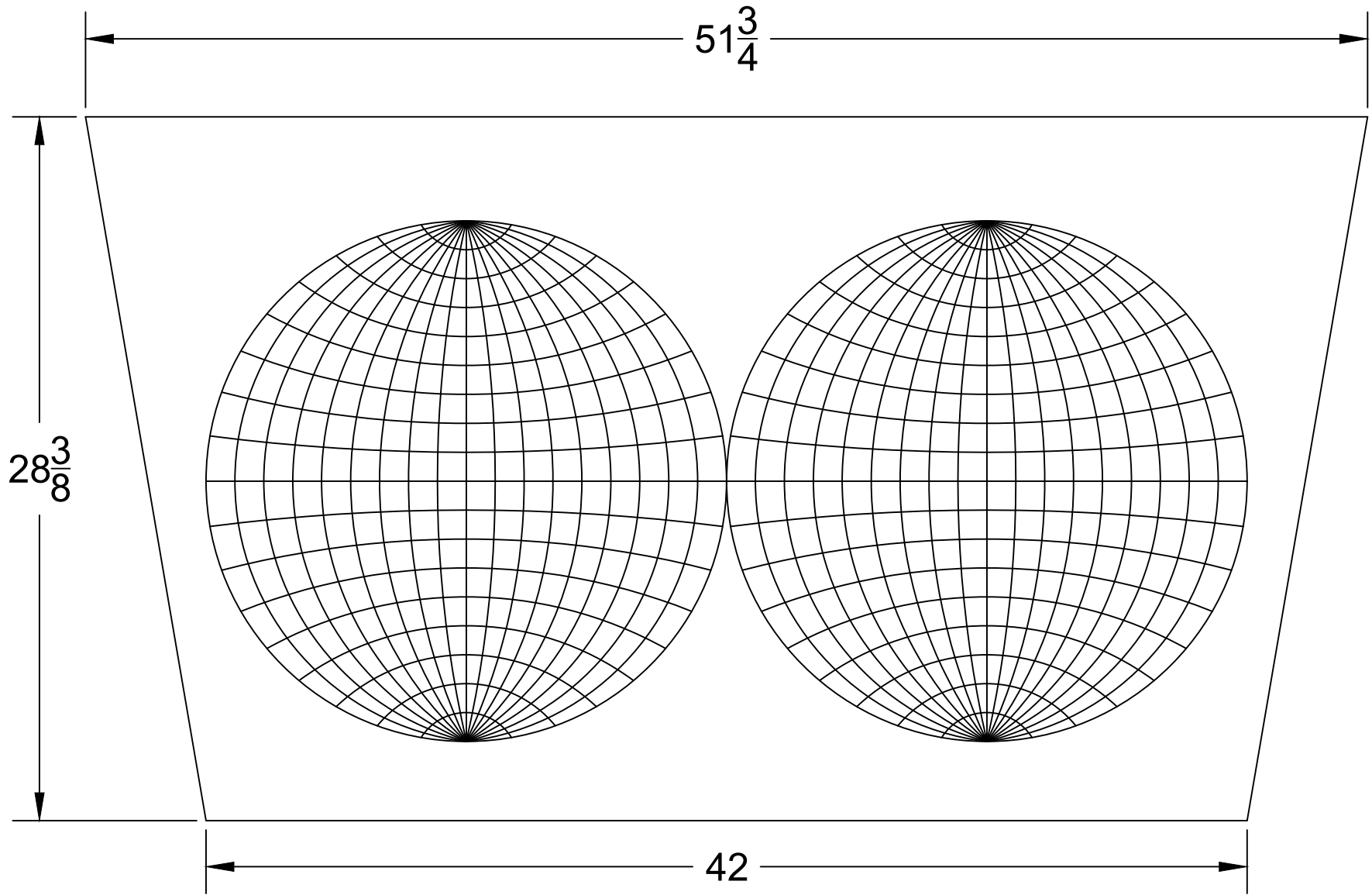
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4-foot by 4-foot  
bearing plate

Nothing extends beyond the edge of the table. The bearing plate is anchored by 42"-long stakes with short heads, as were used in Bluster (2018).

Top View			
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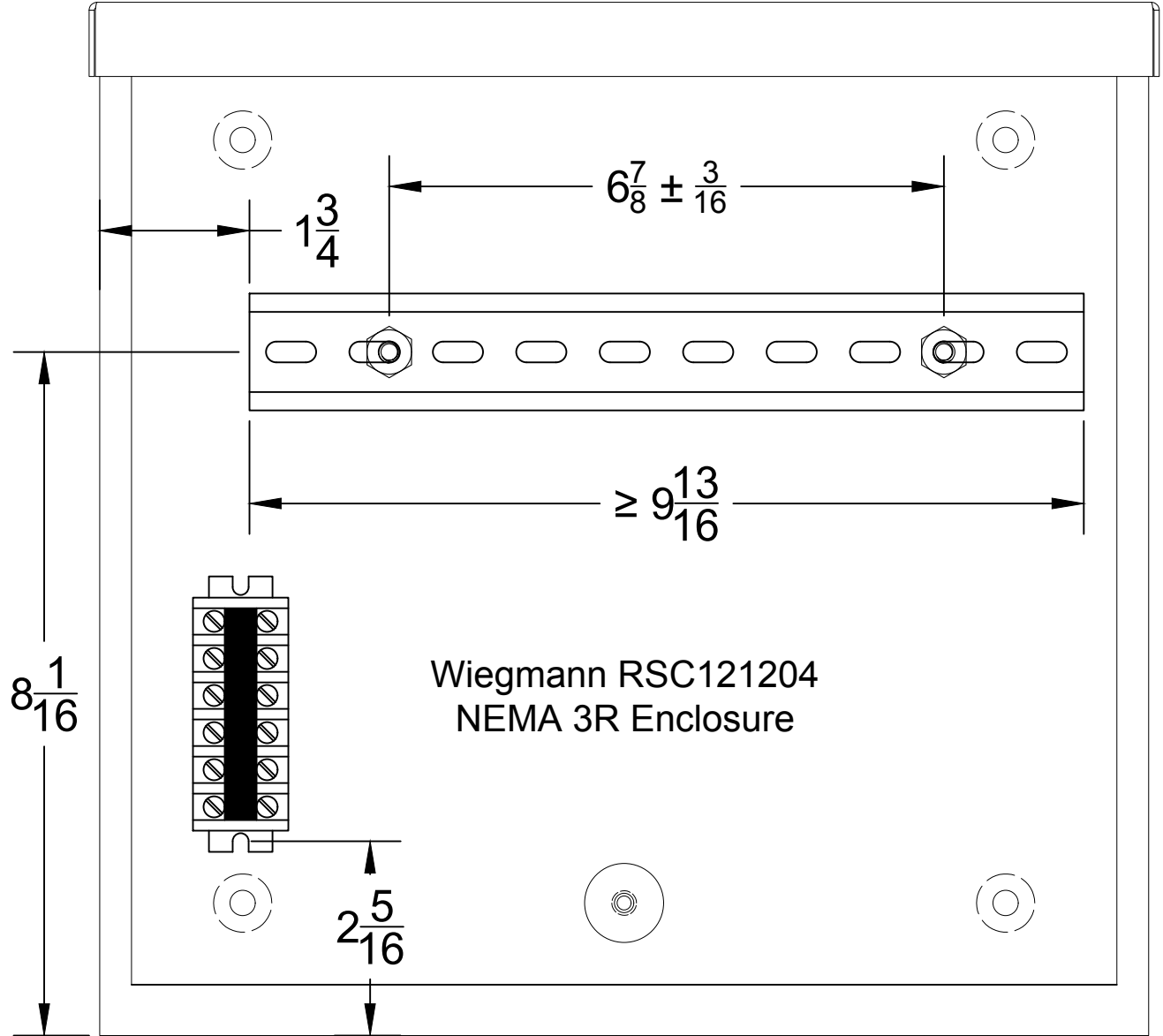
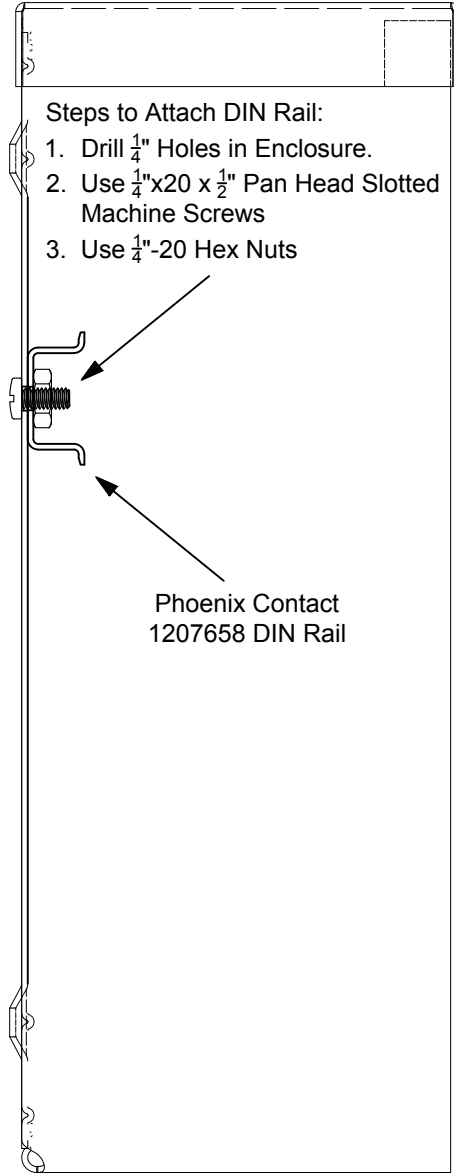


The world map will use a double-hemisphere projection.  
 Countries with growing populations will be white, and  
 countries with shrinking populations will be red.

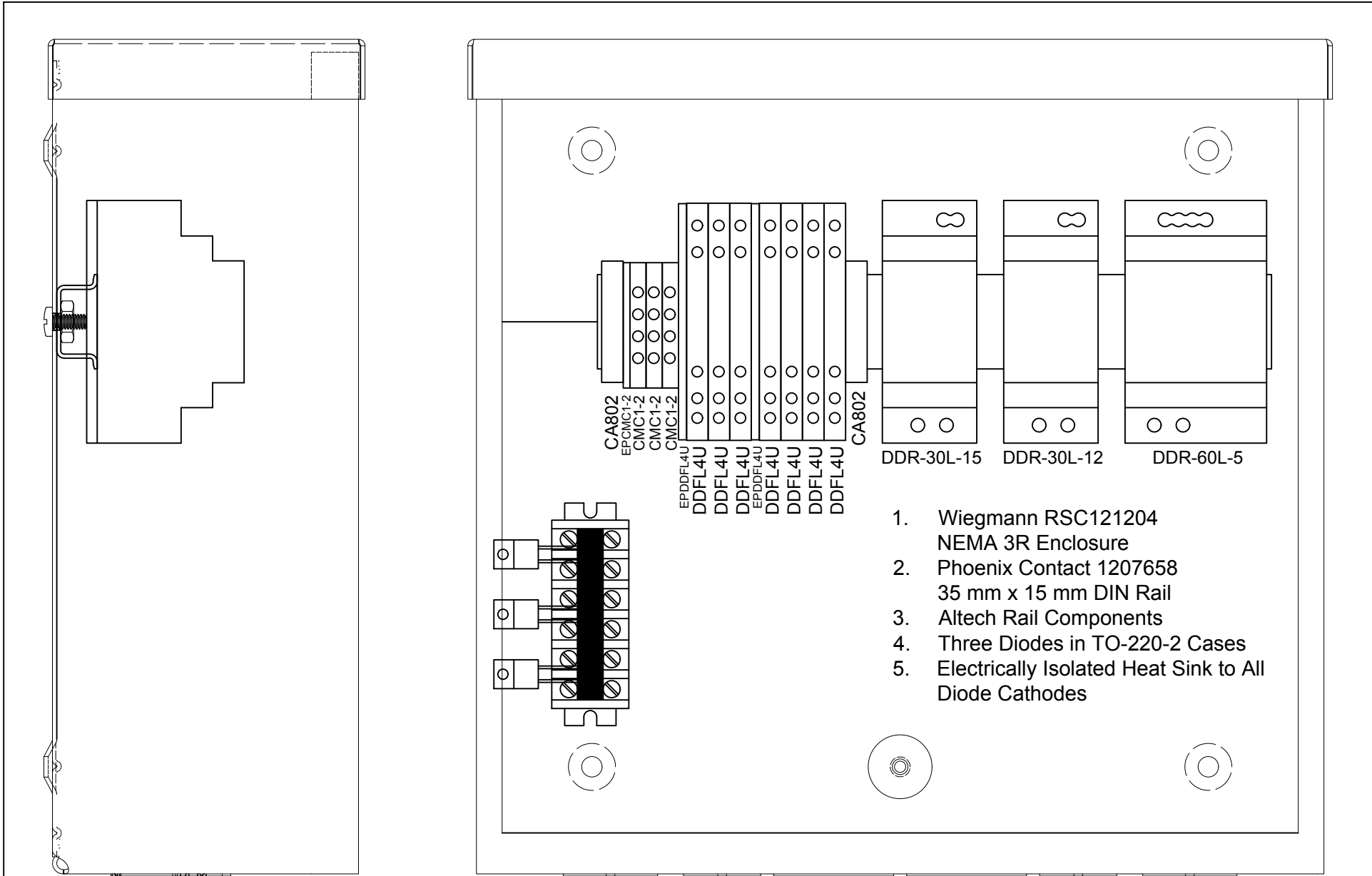
Map Panels			
Event	Burning Man 2020	Project	Imbalance
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Steps to Attach DIN Rail:

1. Drill  $\frac{1}{4}$ " Holes in Enclosure.
2. Use  $\frac{1}{4}$ "x20 x  $\frac{1}{2}$ " Pan Head Slotted Machine Screws
3. Use  $\frac{1}{4}$ "-20 Hex Nuts



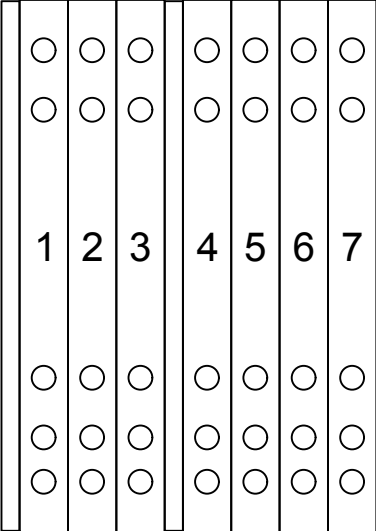
<b>Power Supply DIN Rail</b>			
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1. Wiegmann RSC121204
2. Phoenix Contact 1207658  
35 mm x 15 mm DIN Rail
3. Altech Rail Components
4. Three Diodes in TO-220-2 Cases
5. Electrically Isolated Heat Sink to All Diode Cathodes

$\frac{1}{2}$ " to  $\frac{3}{4}$ "  
 Knockout  
 & Grommet

<b>Power Supply Components</b>			
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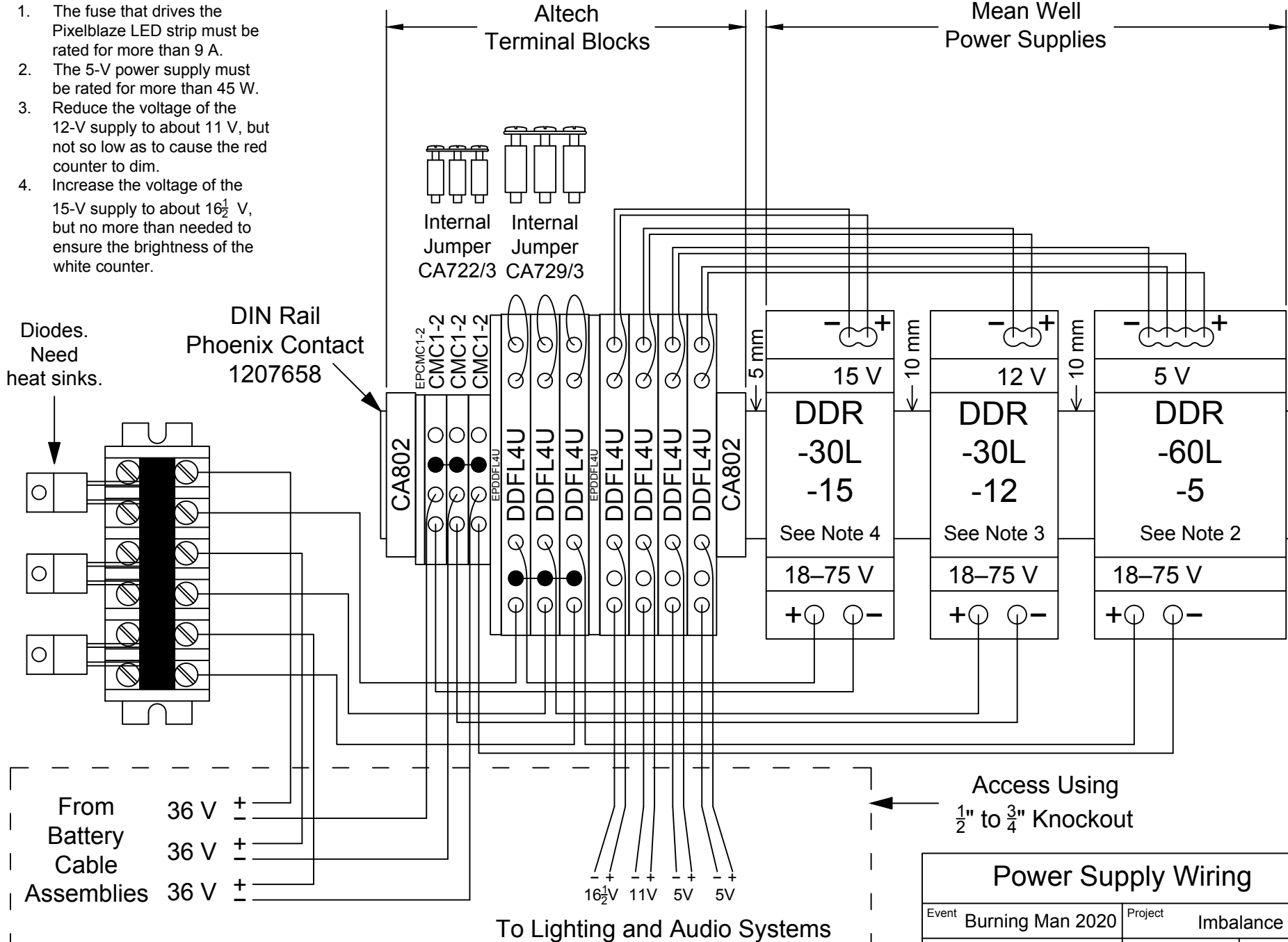
Fuse Positions	Fuse	Rating	Comment
	1. 2. 3. 4. 5. 6.	1A 1A 4A 2A 2A 15A	Input of 15-V DC-to-DC Converter Input of 12-V DC-to-DC Converter Input of 5-V DC-to-DC Converter Output of 15-V DC-to-DC Converter Output of 12-V DC-to-DC Converter Output of 5-V DC-to-DC Converter for the Lighting System (One meter of LED strip can use up to 1.8 A of current (20 mA × 3 LEDs/pixel × 30 pixels/meter). Then a 5-meter LED strip will use 9 A.) Output of 5-V DC-to-DC Converter for the Audio System
	<p>Notes:</p> <p>Littelfuse 217 Series has the following standard amp ratings: 1, 1.25, 1.6, 2, 2.5, 3.15, 4, 5, 6.3, 8, 10, and 15. Part number format is 02170xx.MXP .</p> <p>Littelfuse 617 Series has the following standard amp ratings: 1, 1.25, 1.6, 2, 2.5, 3.15, 4, 5, 6.3, 8, 10. Part number format is 06170xx.MXP .</p>		

Fuse Schedule			
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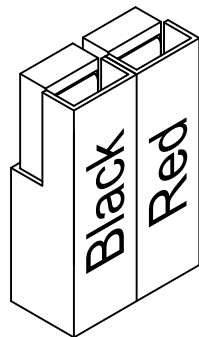
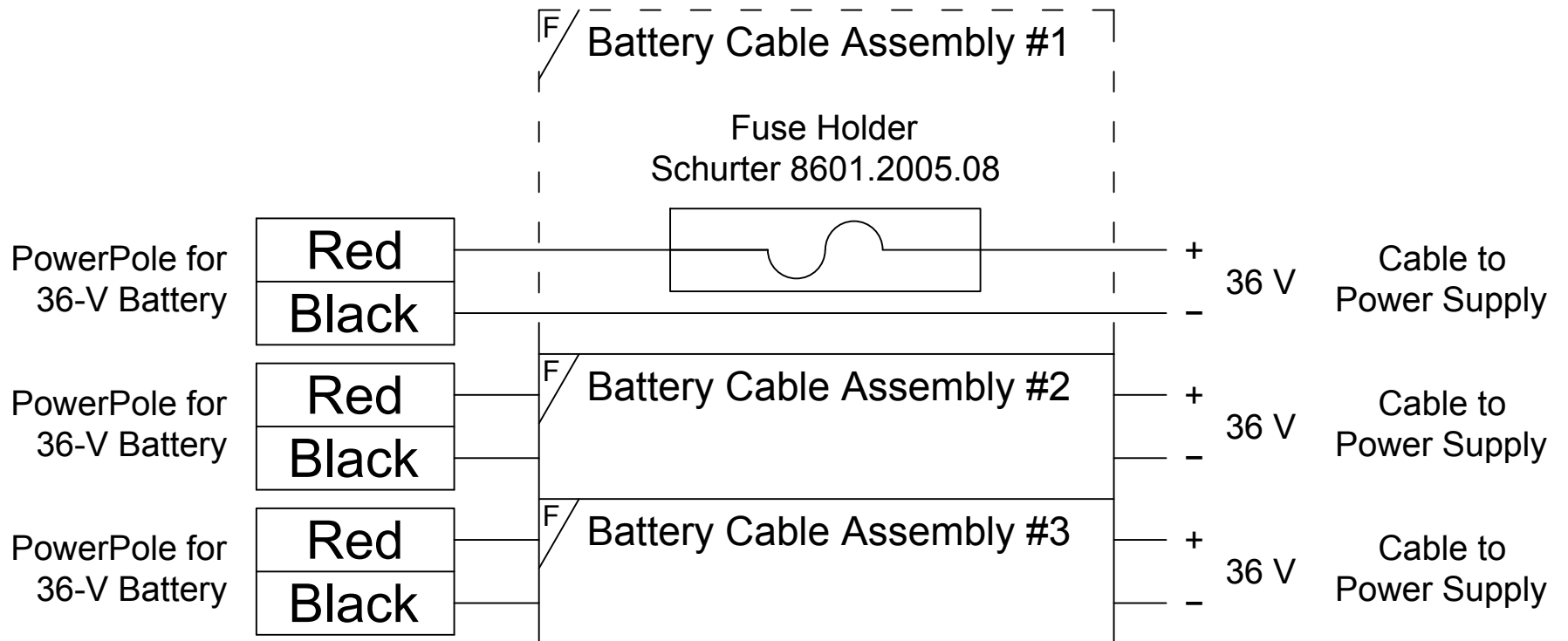


Notes:

1. The fuse that drives the Pixelblaze LED strip must be rated for more than 9 A.
2. The 5-V power supply must be rated for more than 45 W.
3. Reduce the voltage of the 12-V supply to about 11 V, but not so low as to cause the red counter to dim.
4. Increase the voltage of the 15-V supply to about 16½ V, but no more than needed to ensure the brightness of the white counter.

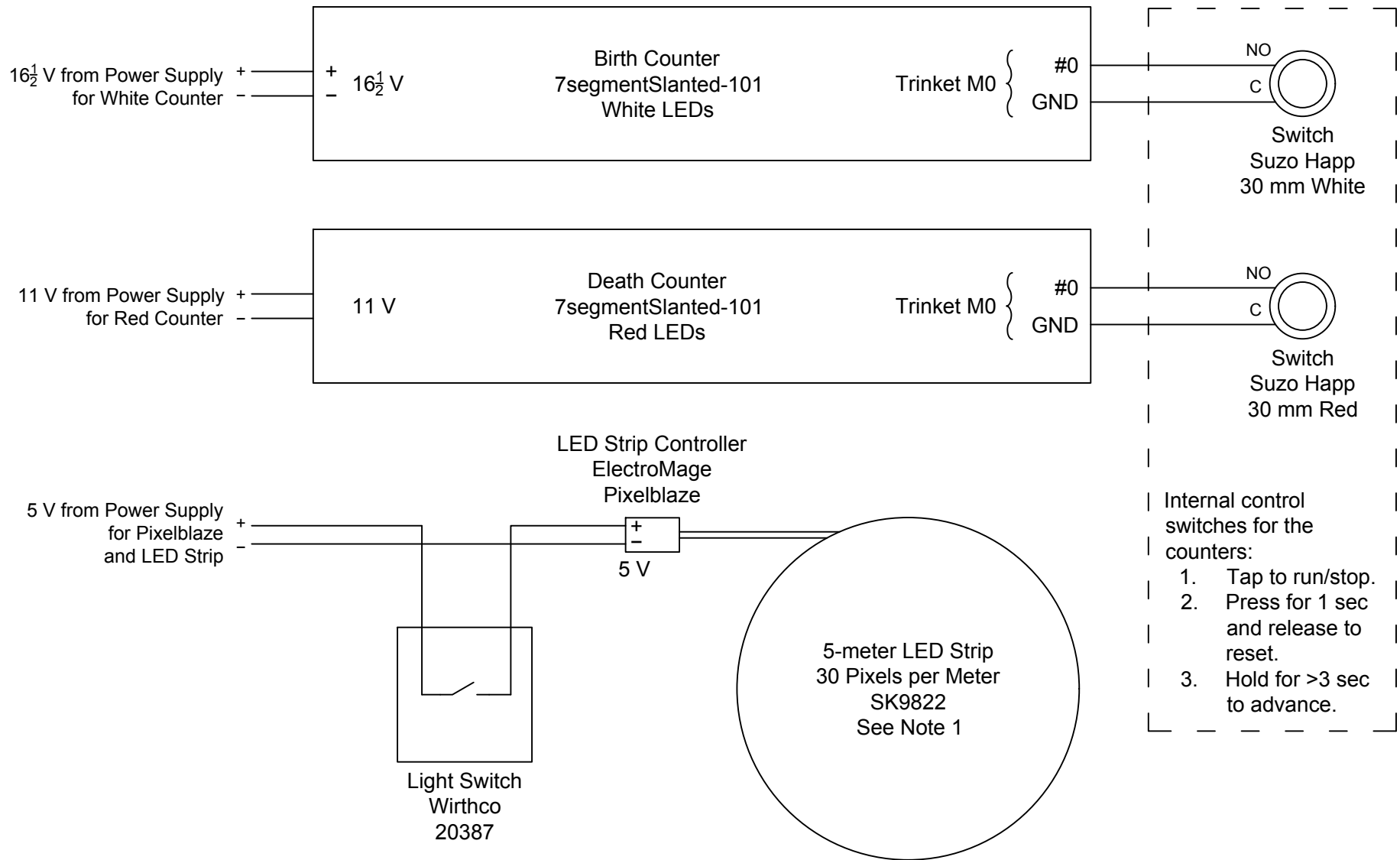


Power Supply Wiring			
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Orientation of PowerPole housings

<b>Battery Cable Assemblies</b>			
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**Notes:**

1. To prevent color shift, the LED strip must be directly powered at both ends and probably also at its midpoint.

Lighting System			
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