### Battery Calculations

**FP-70A Fire Alarm System**

<table>
<thead>
<tr>
<th>Part</th>
<th>Quantity</th>
<th>Description</th>
<th>Voltage</th>
<th>Current</th>
<th>Power (W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10</td>
<td><strong>Battery</strong></td>
<td>12V</td>
<td>10A</td>
<td>120W</td>
</tr>
</tbody>
</table>

**System Event**

- **Pre-Alarm Condition**: Pre-alarm condition (95% of system voltage)
- **Alarm Condition**: Alarm condition (85% of system voltage)
- **Exit Condition**: Exit condition (75% of system voltage)
- **Exit Condition with Smoke**: Exit condition with smoke (65% of system voltage)
- **Exit Condition with Fire**: Exit condition with fire (55% of system voltage)
- **Exit Condition with Smoke and Fire**: Exit condition with smoke and fire (45% of system voltage)

**NOTIFICATION APPLIANCE CIRCUIT**

#### Voltage Drop & Power Requirements

**Cable Type & Run**:

- **Type**: stranded copper
- **Run**: 1000 ft

**Cable Characteristics**:

- **Crossover**: 0.0265 ohms/m
- **Conductor**: 14 AWG
- **Conductor Resistance**: 0.096 ohms/m

**Voltage Drop Calculation**:

- **Total Voltage**: 120V
- **Total Current**: 10A
- **Total Power**: 1200W
- **Vr** = PT x PD / (R x L)
- **R** = 0.096 ohms/m (conductor resistance)
- **L** = 1000 ft (run)

**System Event**

- **Pre-Alarm Condition**: Pre-alarm condition (95% of system voltage)
- **Alarm Condition**: Alarm condition (85% of system voltage)
- **Exit Condition**: Exit condition (75% of system voltage)
- **Exit Condition with Smoke**: Exit condition with smoke (65% of system voltage)
- **Exit Condition with Fire**: Exit condition with fire (55% of system voltage)
- **Exit Condition with Smoke and Fire**: Exit condition with smoke and fire (45% of system voltage)

**NOTIFICATION APPLIANCE CIRCUIT CURRENT**

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**NOTIFICATION APPLIANCE CIRCUIT POWER**

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**NOTIFICATION APPLIANCE CIRCUIT CURRENTS**

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