Description
The DMP 505-12 Series Power Supplies are regulated, power limited, switching power supplies. The 505 Series are rated for 12 VDC @ 5 Amps maximum. Each power supply includes a transformer, battery leads and is mounted in an enclosure. Each power supply provides connections for AC input, DC output, and a standby battery. Also included are a low AC input LED indicator, a low standby battery LED indicator, AC trouble and battery trouble relays, and on-board transient protection for the AC input and the DC output. The 505-12LX includes two Model 867 Style W Notification Modules.

Mounting the Enclosure
Mount the power supply metal enclosure in a secure, dry location to protect the unit from damage due to tampering or the elements. It is not necessary to remove the PC board or transformer when installing the enclosure.

<table>
<thead>
<tr>
<th>Enclosure</th>
<th>Material</th>
<th>Colors</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>505-12/505-12LX</td>
<td>20-gauge, cold-rolled steel</td>
<td>Gray (G) or Red (R)</td>
<td>15.75” H x 12.5” W x 4.75” D</td>
</tr>
<tr>
<td>505-12L</td>
<td>18-gauge, cold-rolled steel</td>
<td>Gray (G) or Red (R)</td>
<td>17.5” W x 13.5” H x 3.5” D</td>
</tr>
<tr>
<td>505-12A</td>
<td>18-gauge with 16-gauge door</td>
<td>Gray (G)</td>
<td>17.5” W x 13.5” H x 3.75” D</td>
</tr>
</tbody>
</table>

Mounting Optional NAC Modules
The power supply enclosure can accommodate the addition of two NAC modules for powering various listed notification appliances. Use either the DMP Model 865 conventional Class A NAC module, the Model 866 conventional Class B NAC module, or the Model 867 LX-Bus NAC module. Install any of the modules inside the enclosure using the three hole mounting configuration. Plastic standoffs are provided with each module that attach to the enclosure. See Figures 1 and 2.

Figure 1: 505-12, 505-12LX Wiring Diagram
Figure 2: 505-12L and 505-12A Wiring Diagram

Wiring

AC Connection

Connect the transformer to an unswitched 120 VAC 60 Hz power source with at least 1.5 Amps of available current. In Figure 1, connect AC power to the transformer Black and White flying leads. In Figure 2, connect AC power to the terminal block. Always secure the green wire lead to earth ground.

Note: Use 18 AWG or larger for all power connections. Ensure there is a minimum 0.25” space to keep power limited wiring separate from non-power limited wiring (120 VAC/60 Hz input, battery wires). The power supplies must be properly grounded before connecting any devices or applying power to the unit. Proper grounding protects against electrostatic discharge (ESD) that can damage components.
Battery Connection (J3)
Connect the black battery lead to the battery negative terminal. Connect the red battery lead to the positive battery terminal. Only use sealed lead-acid batteries and replace every 3 to 5 years.

Note: Observe polarity when connecting the battery. Only use sealed lead-acid batteries and replace every 3 to 5 years.

AC and Battery Trouble Relay Connections (J4)
Connect AC TRBL and BATT TRBL supervisory relay outputs marked NC (normally closed) and C (common) to a control panel or an 867 NAC zone. Relays are form C with the contacts rated at 30 VDC. When an AC trouble or Battery trouble occurs, the relay contacts switch from the NC (normally closed) to the NO (normally open) position. When connected to a panel, an alarm sounds. When connected to an 867 NAC the LEDs turn off as listed in the table below.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Voltage</th>
<th>LED</th>
<th>Status</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC Trouble</td>
<td>Approximately 102 VAC</td>
<td>AC LED (GRN)</td>
<td>ON</td>
<td>AC Good</td>
</tr>
<tr>
<td>Battery Trouble</td>
<td>Below 11.8 VDC</td>
<td>AC LED (GRN)</td>
<td>OFF</td>
<td>AC Bad</td>
</tr>
<tr>
<td>Battery Restoral</td>
<td>Above 12.4 VDC</td>
<td>DC LED (RED)</td>
<td>ON</td>
<td>AC Good, Battery Good</td>
</tr>
<tr>
<td>Battery Cutoff</td>
<td>Below 10.2 VDC</td>
<td>DC LED (RED)</td>
<td>OFF</td>
<td>AC Good, Battery Bad</td>
</tr>
</tbody>
</table>

DC Output (J6)
Connect devices that require power to output terminals marked — DC +.

Note: Measure and verify output voltage before connecting devices to ensure proper equipment operation.

Standby Battery Power Calculations
The following calculation defines the total number of Amp-hours required. From this calculation, assemble the appropriate number of batteries to slightly exceed the calculated total Amp-hour requirement.

1. Add all standby current values including the power supply operating current.
2. Multiply the total standby current by the number of standby hours needed.
3. Add all alarm current values and multiply by 0.25.
4. Add the total alarm mA-hour with the total standby mA-hour and then multiply this number by 0.001.

<table>
<thead>
<tr>
<th>Power Supply Operating Current</th>
<th>200 mA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Standby Current</td>
<td>+ _____ mA</td>
</tr>
<tr>
<td>Total Standby Current</td>
<td>= _____ mA</td>
</tr>
<tr>
<td>Number of Standby Hours Required</td>
<td>x _____ hr</td>
</tr>
<tr>
<td>Total Standby mA-Hours Required</td>
<td>= _____ mA-hr</td>
</tr>
<tr>
<td>Total alarm current x .25</td>
<td>= _____ mA</td>
</tr>
<tr>
<td>(0.25 = 15 minute alarm)</td>
<td></td>
</tr>
<tr>
<td>Total Standby Required</td>
<td>+ _____ mA-hr</td>
</tr>
<tr>
<td>Total</td>
<td>= _____ mA-hr</td>
</tr>
<tr>
<td>x 0.001</td>
<td></td>
</tr>
<tr>
<td>4. Total Required Amp-hours</td>
<td>= _____</td>
</tr>
</tbody>
</table>
Specifications
Voltage/Current Input
- 505 Series 120 VAC @ 1.5 Amps max.

Voltage/Current Output
- 505 Series 12 VDC @ 5 Amps max.
- Internal Current Draw 200 mA
- Secondary (Battery) Power Charge Current 1.5 Amps max.

Enclosure
- 505-12/505-12LX
- Material 20-gauge, cold-rolled steel
- Colors Gray (G) or Red (R)
- Dimensions 15.75” H x 12.5” W x 4.75” D

- 505-12L
- Material 18-gauge, cold-rolled steel
- Colors Gray (G) or Red (R)
- Dimensions 17.5” W x 13.5” H x 3.5” D

- 505-12A
- Material 18-gauge with 16-gauge door
- Colors Gray (G)
- Dimensions 17.5” W x 13.5” H x 3.75” D

Certifications
- California State Fire Marshal (CSFM)
- FCC Part 15
- National Fire Protection Association (NFPA)
- New York City (FDNY COA #6167)
- ANSI/UL 1481 Power Supplies for Fire Protective Signaling
- ANSI/UL 603 Power Supplies for Burglary Alarm Systems
- ANSI/UL 294 Power Supplies for Access Control System Units
- Level I Destructive Attack and Line Security
- Level IV Endurance and Standby Power

Compatibility
All DMP Control Panels

FCC Information
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user is required to correct the interference at their own expense.

Compliance Listing Specifications
For UL 1481 Power Supplies for Fire Protective Signaling, apply the following maximum battery standby Ampere Hours to reach 24 hours battery backup.

<table>
<thead>
<tr>
<th>Battery Standby</th>
<th>Maximum 38.5 Ah</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output Voltage</td>
<td>12 VDC</td>
</tr>
<tr>
<td>Output Current</td>
<td>1.25 A Standby, 5 A Alarm</td>
</tr>
</tbody>
</table>

A maximum of 38.5 Ah is approximately equal to six 7.0 Ah Batteries and a maximum of 49.2 Ah is approximately equal to seven 7.0 Ah Batteries.

For UL 603 Power Supplies for Burglary Alarm System applications and UL 294 Power Supplies for Access Control System applications, the 505 Series Power Supply has a voltage range of 10.76 to 12.36.

For UL 294 Access Control Applications install the Model 307, 307-S, or 3012 Tamper Switch.

NAC Modules Compatibility
The Model 505-12 Series is compatible with the Wheelock MT-12/24 Multi-tone horn at 12 VDC.

Power Limited
All circuits on the Model 505-12 Series comply with the requirements for inherent power limitation and are Class 2 except the red battery wire.