# PS12-5 POWER SUPPLY
*Installation Guide*

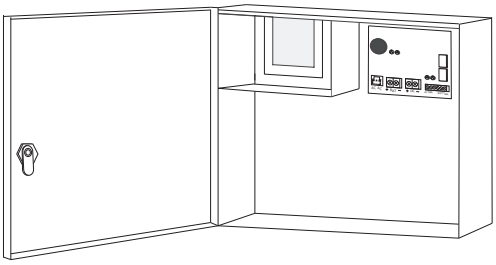


**Figure 1: PS12-5 Power Supply**

## DESCRIPTION

The DMP PS12-5 Power Supply is a special application, power limited, Class B switching power supply. The PS12-5 is rated for 12 VDC at 5 Amps maximum.

The power supply also includes:

- AC input LED indicator
- Standby battery LED indicator
- AC trouble relay
- Battery trouble relay
- On-board transient protection for AC input and DC output

### What is Included?

- One PS12-5 PCB Mounted in Enclosure
- One Wire-in Transformer
- Battery Leads (One Pair)

## 1 MOUNT 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 PCB or transformer when installing the enclosure.

### Mount Optional NAC Modules

The power supply enclosure can accommodate one NAC module 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 3-hole mounting configuration. Plastic standoffs are provided with each module that attach to the enclosure.

To mount a NAC module in a DMP enclosure, complete the following steps:

1. Mount the plastic standoffs to the enclosure using the three included Phillips head screws.
2. Insert the screws through the holes on the enclosure exterior side and into the plastic standoffs which mount on the enclosure inside. Tighten the screws into place and snap the NAC module onto the standoffs.

## 2 WIRE THE POWER SUPPLY

Refer to Figure 2 for wiring details.

**Caution:** Be sure to observe polarity when connecting wires to avoid risk of personal injury and equipment damage.

### Connect AC Power

Connect the transformer to a dedicated, unswitched 120 VAC 60 Hz power source. Start by connecting AC power to the black and white transformer leads.

### Connect Batteries

Connect the black battery lead to the negative battery terminal and the red battery lead to the positive battery terminal. Only use sealed lead-acid batteries and replace every 3 to 5 years. For information about calculating standby battery power, refer to Additional Information.

### Connect AC and Battery Trouble Relays

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.

### Connect DC Output

Measure and verify output voltage before connecting devices to ensure proper equipment operation. Connect devices that require power to output terminals marked - DC +.

## NAC Module Connections

To wire NAC Modules, refer to the 865 Notification Module Installation Sheet (LT-0179), 866 Notification Module Installation Sheet (LT-0059), or 867 Notification Module Installation Sheet (LT-0178).

## Tamper Switch Connection

To connect a tamper switch to the enclosure, connect a 2-pin tamper wire connector from the switch to the TAMPER zone on the control panel system.

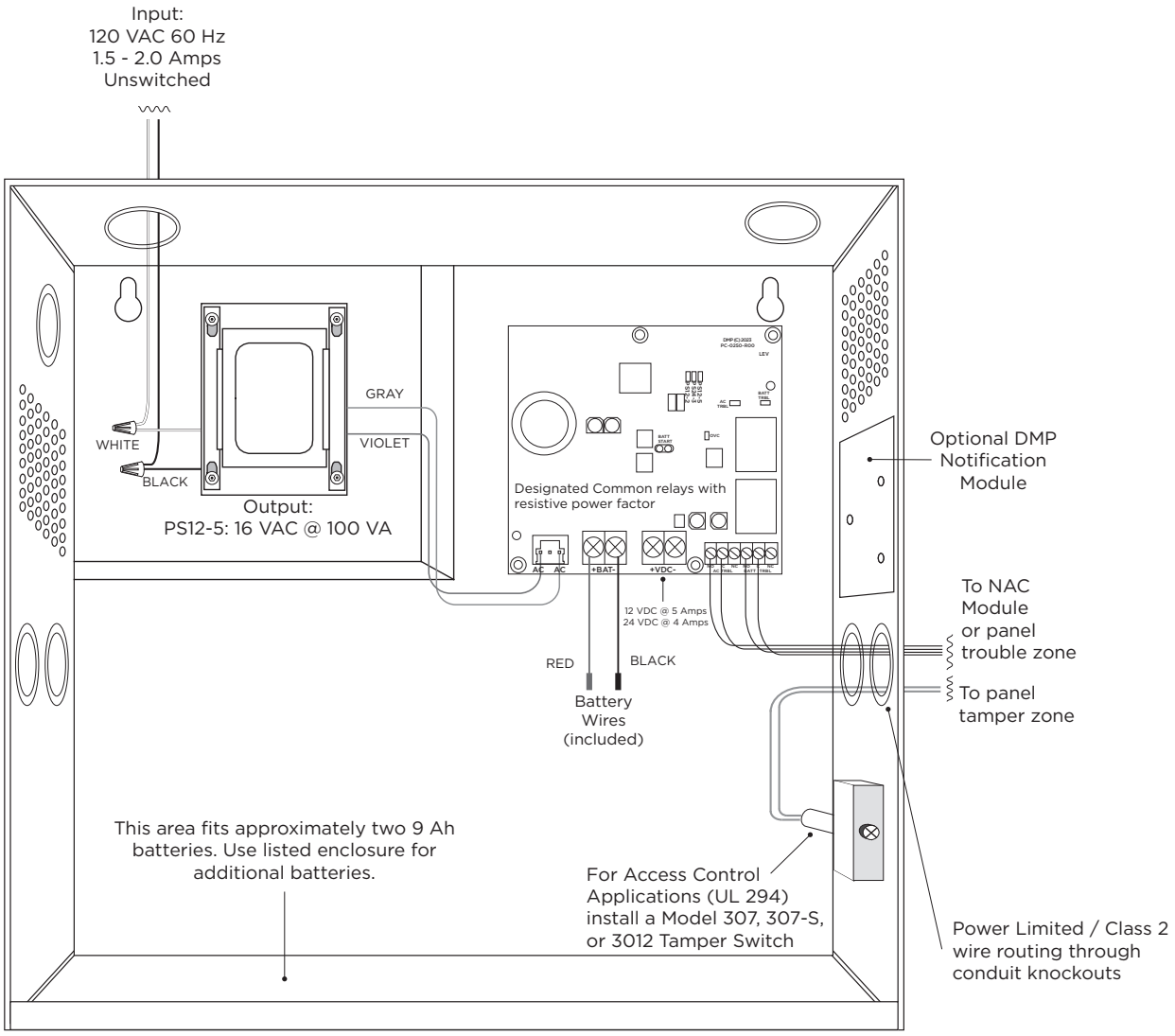



**Figure 2: PS Series Power Supply Wiring**

# ADDITIONAL INFORMATION

## Wiring Specifications

Use 18 AWG or larger for all connections to VDC power. 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).

## Standby Battery Power Calculations

The following calculation defines the total number of amp-hours required for standby battery power. After calculating the total required amp-hours, install the appropriate number of batteries that slightly exceeds the total. Refer to Table 1. For additional batteries, use the Model 350 or Model 352 enclosure connected by conduit.

1. Add the power supply operating current to all other standby current values to obtain the total standby current.
2. Multiply the total standby current by the number of standby hours required to obtain the total standby milliamp-hours required.
3. Multiply the total alarm current by 0.25 (0.25 = 15 minute alarm), then add the product to the total standby milliamp-hours required to obtain the total required milliamp-hours.
4. Multiply the total required milliamp-hours by 0.001 to convert the value to total required amp-hours.

| | | | |
|---|---|---|---|
| | 65 | mA | PS12-5 operating current |
| + | | mA | Other standby current |
| = | | mA | Total standby current |
| x | | h | Number of standby hours required |
| = | | mAh | Total standby milliamp-hours required |
| + | | mAh | (Total alarm current x 0.25 h) |
| = | | mAh | Total required milliamp-hours |
| x | 0.001 | | |
| = | | Ah | Total required amp-hours* |
| = | | Ah | Add 20% for battery derating |

**Example:** If using 12 VDC 9 Ah batteries and 72 hours of standby amp-hours are required, you would need 16 batteries. 72 / 9 x 2 = 16

**Table 1: Standby Battery Calculation**

## AC and Battery Relay Status

Relays are 8 Amp form C with the contacts rated at 28 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, a trouble sounds. When connected to an 867 NAC, the LEDs turn off as listed in Table 2.

| Condition | Voltage |
|---|---|
| AC Trouble | Approx. 102 VAC |
| Battery Trouble | Below 11.7 VDC |
| Battery Restoral | Above 12.3 VDC |
| Battery Cutoff | Below 9.8 VDC |

**Table 2: PS12-5 Condition Based on Voltage**

| LED | Status | Condition |
|---|---|---|
| AC LED (GRN) | ON | AC Good |
| AC LED (GRN) | OFF | AC Bad |
| BATT LED (RED) | ON | Battery Good |
| BATT LED (RED) | OFF | Battery Bad |

**Table 3: LED Satus**

## Power Limited

All circuits comply with the requirements for inherent power limitation and are Class 2 except the red battery and AC wires.

## COMPLIANCE LISTING SPECIFICATIONS

For UL 864 10th Edition Power Supplies for Fire Protective Signaling, apply the following maximum battery standby Ampere Hours to reach 24 hours battery backup.

| | |
|---|---|
| **Battery Standby** | Maximum 94 Ah |
| **Output Voltage** | 12 VDC |
| **Output Current** | 3 Amp Standby, 5 Amp Alarm |

**Table 4: PS12-5 Battery Standby**

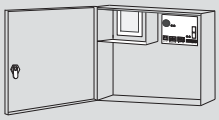
For UL 864 10th Edition, ground fault detection is required at the control panel. Refer to the XF6 Compliance Guide (LT-2779) or 271 Ground Fault Detection Module Installation Guide (LT-2660) for more information.

For UL 2610, a keypad or LED must be installed adjacent to the power supply to visually indicate a power failure.

## 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.

## PS SERIES POWER SUPPLY



### Specifications

**PS12-5**

| | |
|---|---|
| Voltage/Current Input | |
| PS12-5 | 120 VAC @ 1.5 Amps |
| Voltage/Current Output | |
| PS12-5 | 12 VDC @ 5 Amps max. |
| Secondary Power | Battery |
| Charge Current | 3.69 Amps max. |
| Voltage Range | 9.8 to 14.13 VDC |

**Enclosure**

| | |
|---|---|
| Material | 20-gauge, cold-rolled steel |
| Colors | Gray (G) or Red (R) |
| Dimensions | 12.25” H x 12.5” W x 3.5” D |

### Certifications

California State Fire Marshal (CSFM)
New York City (FDNY)
FCC Part 15

**PS12-5**

| | |
|---|---|
| ANSI/UL 294 | Access Control System Units |
| Level I | Destructive Attack and Line Security |
| Level IV | Endurance and Standby Power |
| ANSI/UL 864 | Fire Protective Signaling Systems 10th Edition |
| ANSI/UL 985 | Household Fire Warning |
| ANSI/UL 2610 | Central Station Burglar |

### Compatibility

All DMP Control Panels

Designed, engineered, and manufactured in Springfield, Missouri using U.S. and global components.



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