

505 SERIES POWER SUPPLY

Installation Guide

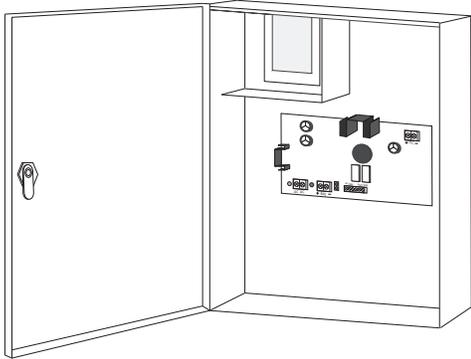


Figure 1: 505 Series Power Supply

DESCRIPTION

The DMP 505 Series Power Supplies are regulated, power limited, switching power supplies. They are rated for 12 VDC at 5 Amps maximum.

Each power supply includes a transformer, battery leads and is mounted in an enclosure. The 505 Series power supply also provides connections for AC input, DC output, and a standby battery. Each power supply also includes 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.

Compatibility

All DMP control panels

What is Included?

- One 505 Series PCB Mounted in Enclosure
- One Wire-in Transformer
- Battery Leads (One Pair)
- 505-12LX Only: Two Model 867 NAC Modules



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 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 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 505 SERIES POWER SUPPLY

Refer to Figure 2, 3, and 4 for wiring details. Refer to 505 Series standalone wiring diagrams LT-0454 and LT-0849 for specific wiring applications.

⚡ 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 an unswitched 120 VAC 60 Hz power source with at least 1.5 Amps of available current. Start by connecting AC power to the black and white transformer leads, then connect AC power to the terminal block. Be sure to secure the green wire lead to an earth ground.

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 +.

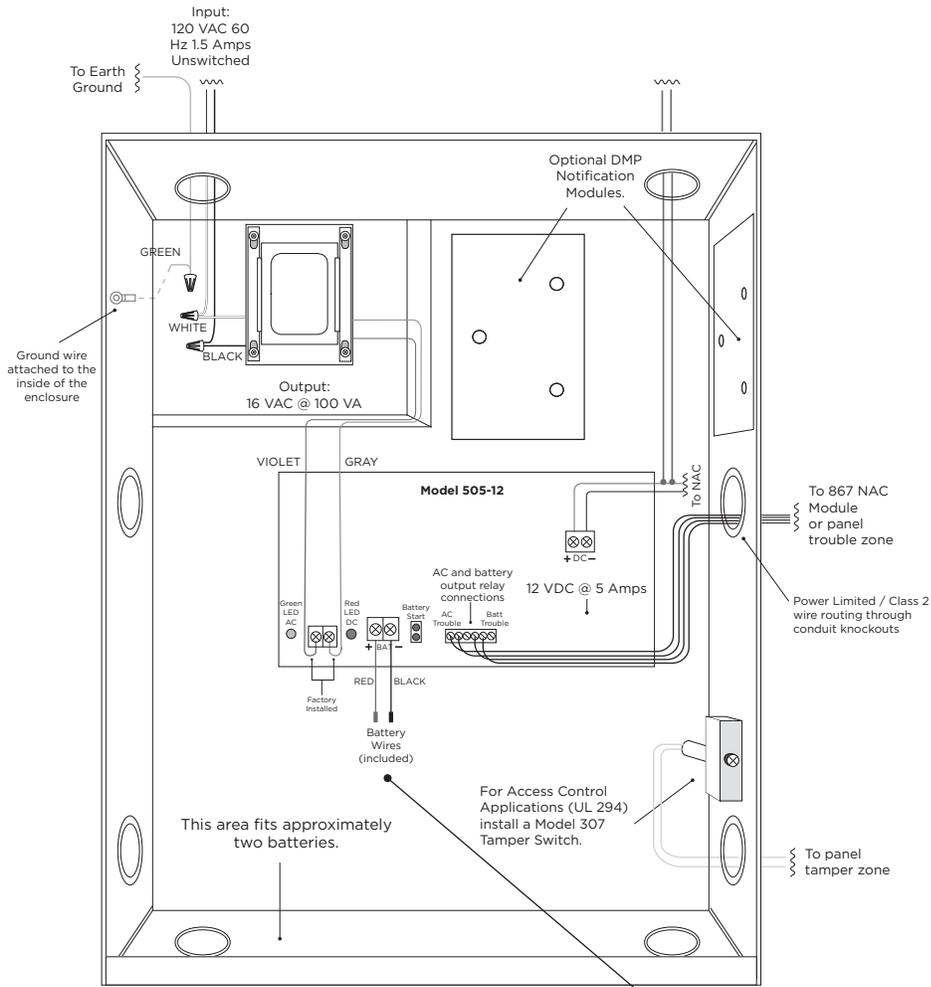


Figure 2: 505-12/505-12LX Wiring

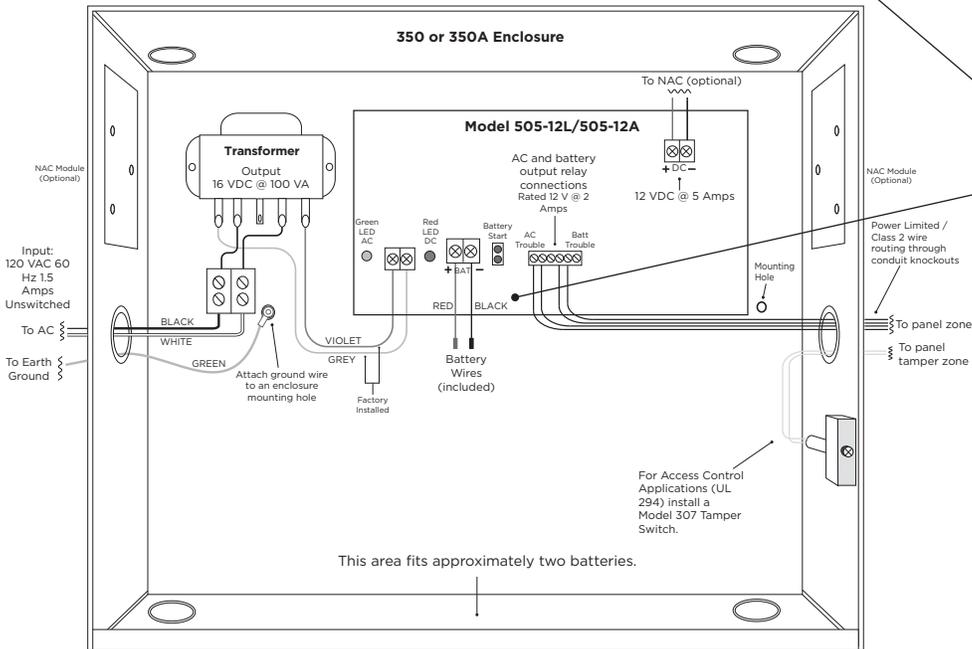


Figure 3: 505-12L/505-12A Wiring

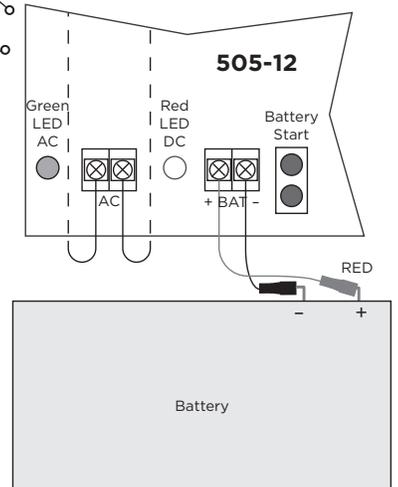


Figure 4: Battery Harness Wiring

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 a 505 Series enclosure, connect a 2-pin tamper wire connector from the switch to the TAMPER header on the panel.

ADDITIONAL INFORMATION

Wiring Specifications

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). Properly ground the power supply before connecting any devices or applying power to the unit.

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.

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.

_____	200	mA	Power supply 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

Table 1: Standby Battery Calculation

AC and Battery Relay Status

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 Table 2.

Condition	Voltage
AC Trouble	Approx. 102 VAC
Battery Trouble	Below 11.8 VDC
Battery Restoral	Above 12.4 VDC
Battery Cutoff	Below 10.2 VDC

Table 2: Condition Based on Voltage

LED	Status	Condition
AC LED (GRN)	ON	AC Good
AC LED (GRN)	OFF	AC Bad
DC LED (RED)	ON	AC Good, Battery Good
DC LED (RED)	OFF	AC Good, Battery Bad

Table 3: LED Status

NAC Modules Compatibility

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

Power Limited

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

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.

Battery Standby	Maximum 38.5 Ah
Output Voltage	12 VDC
Output Current	1.25 Amp Standby, 5 Amp Alarm

 **Note:** A maximum of 38.5 Ah is approximately equal to six 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 V to 12.36 V. For UL 294 Access Control Applications install the Model 307, 307-S, or 3012 Tamper Switch.

FCC INFORMATION

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

The antenna used for this transmitter must be installed to provide a separation distance of at least 20 cm (7.874 in.) from all persons. It must not be located or operated in conjunction with any other antenna or transmitter.

Changes or modifications made by the user and not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

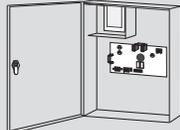
 **Note:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

505-12 POWER SUPPLY

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 Power	Battery
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
Enclosure	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
Enclosure	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)	
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



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