Door Controls International

Rev. 121219

PSL17
Power Supply Installation Instructions

The DCI PSL17 is a power-limited power supply that converts a 115 VAC/60Hz input into two individual PTC protected 12VDC or 24VDC outputs (*refer to specifications*). It is intended for use in applications requiring UL Listing for Access Controls (UL294) and applications requiring an interface with Fire Alarm Control Panels. It must be installed in accordance with National and Local Electrical Codes and Regulations.

Specifications:

- UL Listed for Access Control System Units (UL 294*).
  * ANSI/UL 294 7th Ed. Access Control Performance Levels:
    Destructive Attack - I; Endurance - N/A; Line Security - I; Stand-by Power - I, IV.
- Switch selectable 12VDC or 24VDC power-limited output.
- Input 115VAC/60Hz, 0.6 amp.
- 1.75 amp continuous supply current @ 12VDC or 24VDC.
- Filtered and electronically regulated output.
- "Normal DC" Output relay: (Form "C", 1 A @ 28VDC).
- "AC Fail" output relay (Form "C", 1 A @ 28VDC).
- Keyed enclosure lock.

Enclosure Dimensions: 13"H x 13.5"W x 3.5"D.

Power Supply Output Specifications:

Output VDC	Switch Position	Max. Load DC
12VDC	SW1 ON	1.75 amp
24VDC	SW1 OFF	1.75 amp

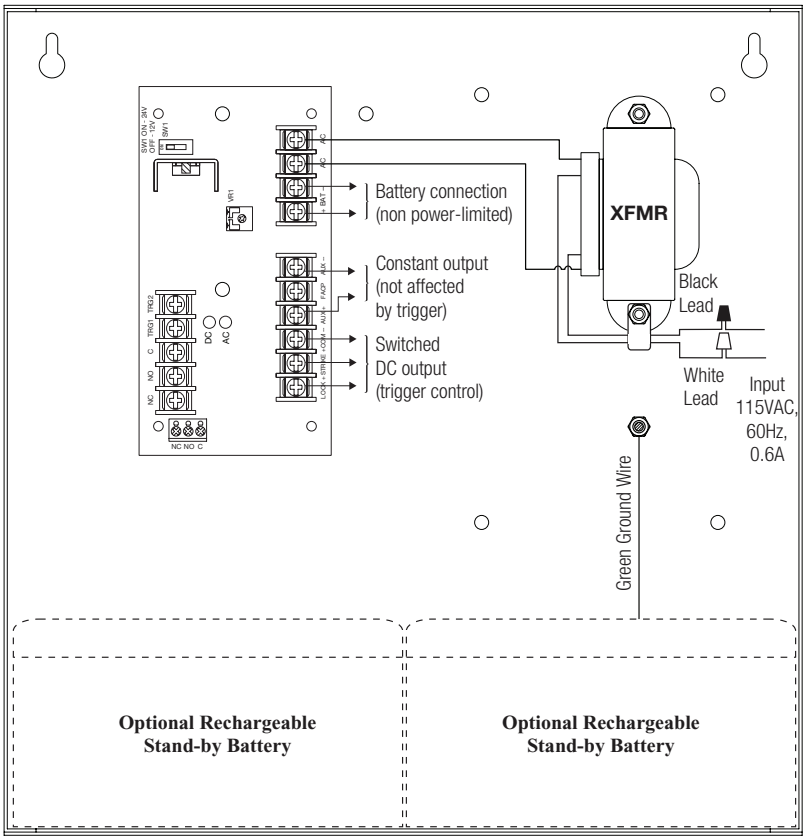
Installation Instructions:

The PSL17 should be installed in accordance with the National Electrical Code and all applicable Local Regulations.
See ***Terminal Identification Chart*** on *Page 3* for a description of each terminal function.

1. Mount the PSL17 in desired location.
2. Connect 115VAC to the black and white flying leads of the transformer. Secure green AC ground wire to grounding screw in cabinet.
   Use 18 AWG for all power connections (relay DC outputs). Use 22, 20, or 18 AWG for power-limited circuits (trigger inputs, dry outputs).
   Keep power-limited wiring separate from non power-limited wiring (115VAC / 60Hz Input, Battery Wires). Minimum 0.25" spacing must be provided.
   CAUTION: Do not touch exposed metal parts. Shut branch circuit power before installing or servicing equipment. There are no user serviceable parts inside. Refer installation and servicing to qualified service personnel.
   The 115VAC input must enter enclosure through its own (AC only) knockout hole.
   Other wiring may be grouped in one or more other knockout holes.
3. Turn the SW1 ON for 12VDC output. Turn the SW1 OFF for 24VDC.
4. Measure output voltage before connecting. This helps avoiding potential damage.
5. Jumper TRG1 and TRG2 unless continuity is provided through a fire alarm circuit as shown on *Page 3*.
6. It is required to connect appropriate signaling notification devices to "AC Fail" supervisory outputs marked NC, C, NO use of "Lock+" supervisory outputs NC, NO, C are optional.
7. Access control wiring suggestions and fire alarm interface connections are shown in ***Applications Diagrams*** *(Page 4)* and ***Terminal Identification Chart*** *(Page 3)*.
8. For Access Control applications batteries are optional. When batteries are not used, a loss of AC will result in the loss of output voltage. When the use of stand-by batteries is desired, they must be lead acid or gel type. Connect battery to terminals marked [+ BAT –] *(Fig. 1)*. Use two (2) 12VDC batteries connected in series for 24VDC operation (battery leads included).

Fig. 1

CAUTION: De-energize unit prior to servicing.
For continued protection against fire hazard replace fuses with the same type and rating.
Do not expose to rain or moisture.



CAUTION: Optional rechargeable stand-by batteries must match the power supply output voltage setting.
Keep power-limited wiring separate from non power-limited. Use minimum 0.25" spacing.

Battery Backup (optional):

Enclosure is sized to hold one or two 12 volt 7Ah sealed lead-acid batteries.
For 12 volts one battery is required. For 24 volts two batteries in series are required.
Note: Maximum charging current under discharges is 0.40 amp.
Note: Expected battery life is 5 years, however it is recommended changing batteries in 4 years or less if needed.

Backup Time:

Approx. Hours of Backup Time for 1.25A Draw	
Voltage	**7Ah Battery**
12VDC	4 hours
24VDC	4 hours

Battery charging: When batteries are installed they are automatically trickle-charged at all times with a nominal 13.6 volts when SW1 is ON for 12 volt output, and at a nominal 27.2 volts when SW1 is OFF for 24 volt output.

LED Diagnostics:

RED (DC)	**GREEN (AC)**	**POWER SUPPLY STATUS**
ON	ON	Normal function.
OFF	ON	No DC output.
ON	OFF	No AC in, battery operation.
OFF	OFF	System Off. No AC in, no batteries.

Maintenance:

Unit should be tested at least once a year for the proper operation as follows:

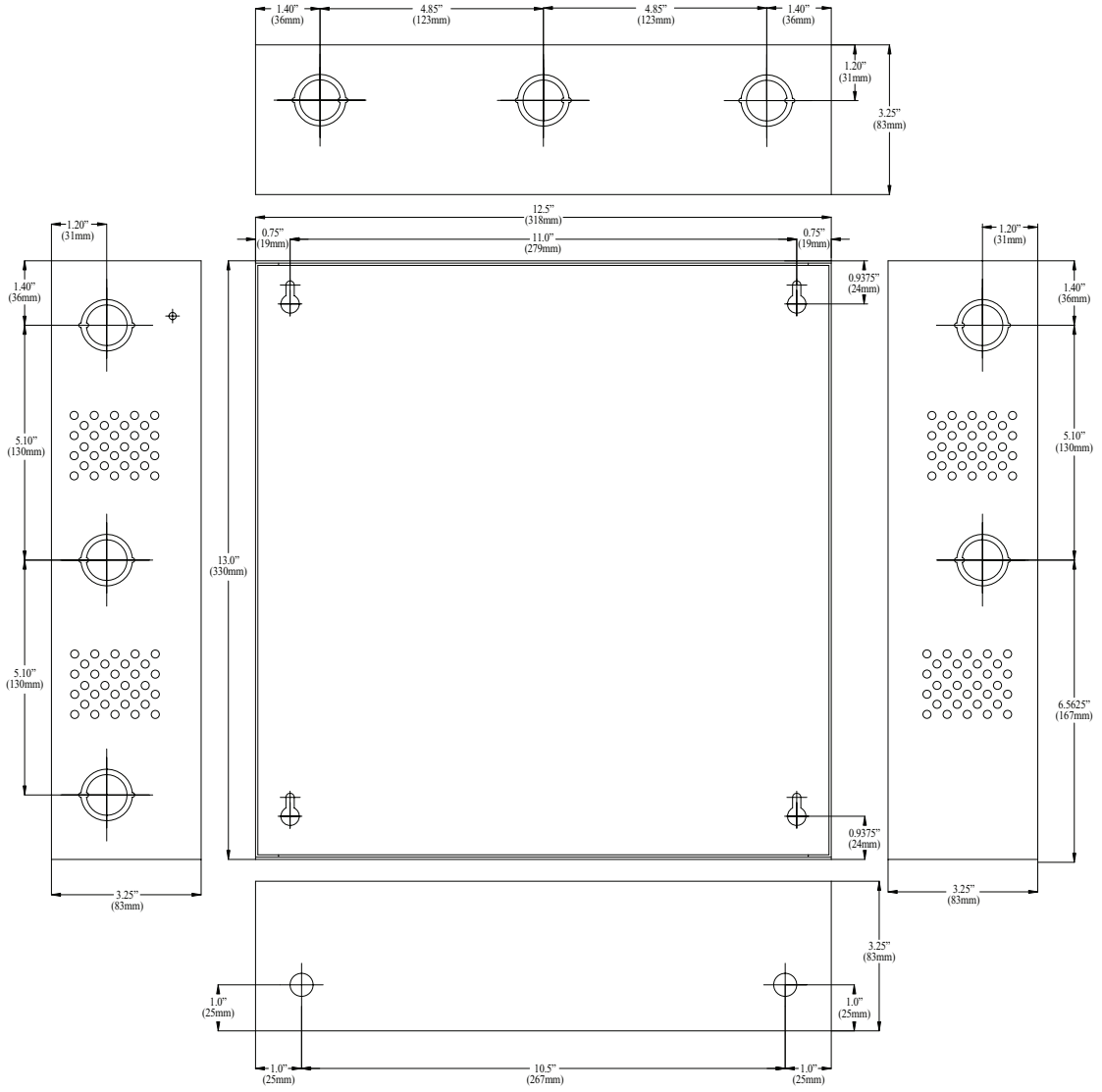
Output Voltage Test: Under normal load conditions, the DC output voltage should be Checked for proper voltage Level (see ***Power Supply Output Specifications*** chart, *Page 1*).

Terminal Identification:

Terminal Legend	Function/Description
TRG1 and TRG2	These input terminals are designed to connect to the closed C and N.O. terminals of an access control or fire alarm relay. These must be jumped otherwise. These terminals control LOCK+, and STRIKE+, as well as PSL17 output relay contacts N.C., N.O., C.
LOCK+	This terminal provides DC output voltage when TRG1 and TRG2 are shorted together and are typically used to power electromagnetic locks. Two locks may be connected in parallel on LOCK + and COM –.
STRIKE+	This terminal provides DC output voltage when TRG1 and TRG2 are unshorted and is typically used to power Electric Strikes.
N.C., N.O., C	Isolated dry Form "C" contacts. Shorting TRG1 and TRG2 together causes these contacts to switch. They are typically used for controlling multiple power supplies with fire alarm tie-in *(Fig. 4 and Fig. 5, page 4)*.
AUX +	Continuous positive (+) DC power output voltage. It is not affected by TRG1, TRG2 operation.
COM –	Common negative (–) output (ground).
FACP	Spare wiring terminal used for fire alarm tie-in application *(Fig. 3, page 4)*.
BAT +, BAT –	Stand-by battery backup connections. Apply proper voltage SLA batteries. Batteries are trickle charged with 13.6 or 27.2 volts.

Enclosure Dimensions:

13"H x 13.5"W x 3.5"D



Application Diagrams:

Fig. 2 - Typical single mag lock or door strike installation with fire alarm tie-in using trigger controlled output:

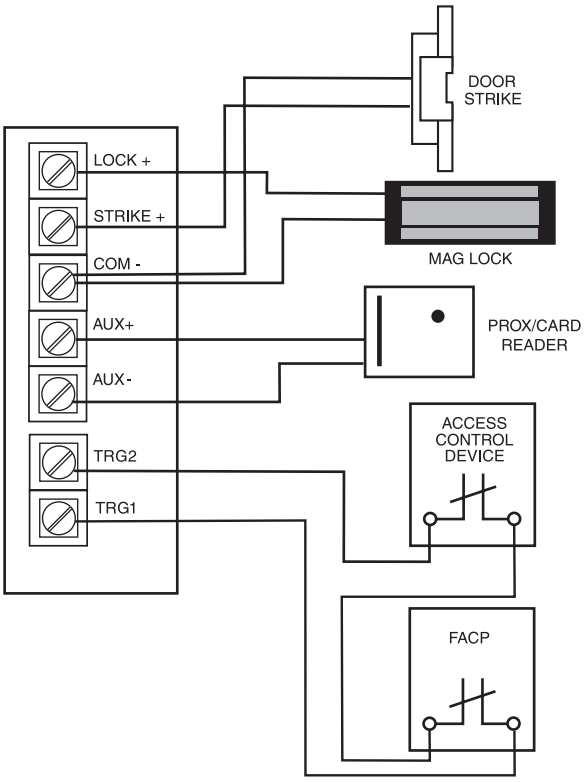


Fig. 3 - Typical dual mag lock installation with fire alarm tie-in using trigger controlled outputs:

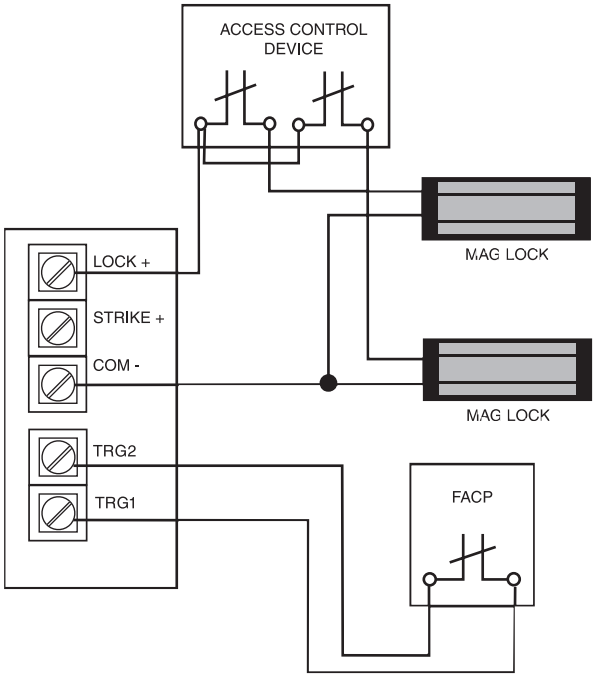


Fig. 4 - Typical mag lock with fire alarm tie-in using aux output installation:

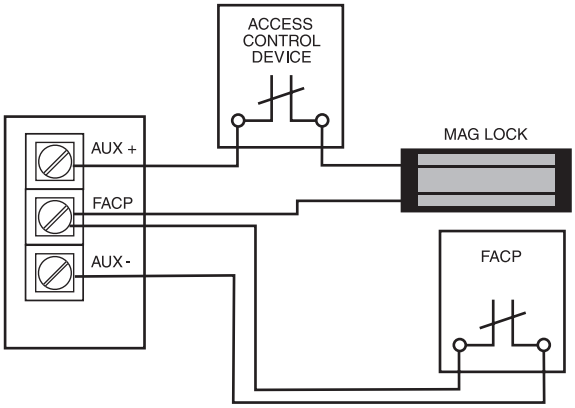


Fig. 5 - Latching fire alarm tie-in with manual reset:

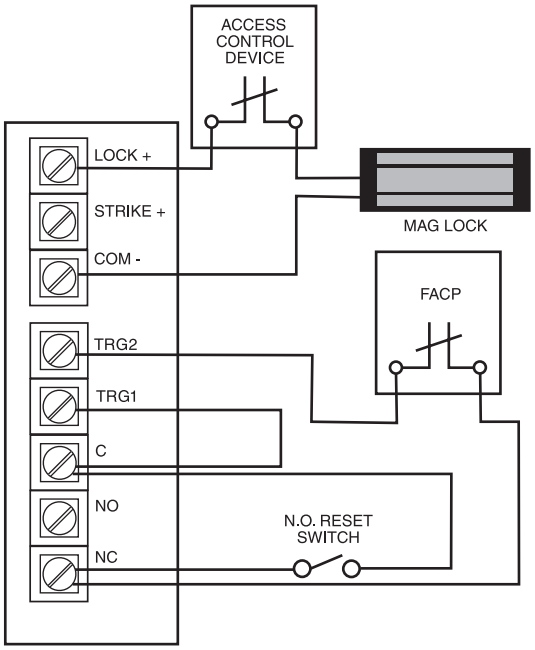
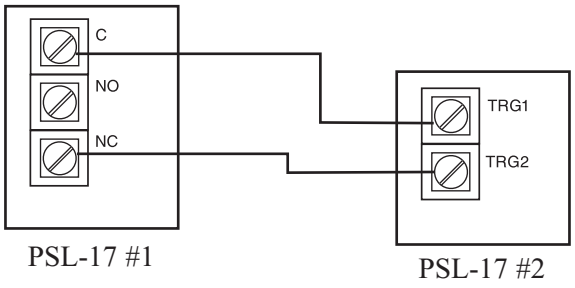


Fig. 6 - Multiple PSL-17s power supply connections:



Door Controls International is not responsible for any typographical errors.

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