



## Power Systems Group

# PS505

## 500 VA AC - AC Electroluminescent Light Dimmer



500 VA, AC - AC electroluminescent light dimmer

The PS505 was designed to provide adjustable 0 to 115 VAC, single phase, 400 Hz electrical power for electroluminescent lighting applications.

This Power Systems Group unit incorporates the latest advances in solid-state power conversion to provide a low-cost, lightweight, efficient solution to fixed- and rotary-winged aircraft lighting needs.

The output voltage is adjustable by means of a remote 0 to 28 VDC signal on the control input to the light dimmer. The corresponding output of the PS505 is 0 to 115 VAC variable.

The PS505 light-dimmer output is regulated for normal input voltage ranges, per MIL-STD-704 aircraft electrical power. This provides constant electrical power to the electroluminescent lighting, which eliminates light intensity changes due to input voltage changes.

Electroluminescent lighting is capacitive. This can cause high electrical stresses on the light dimmers — as well as the aircraft electrical systems —

charging up the load capacitance on turn-on. Addressing this problem, the PS505 AC-AC dimmer was designed to soft-start on turn-on, ramping up the output from 0 to 115 VAC, providing a smooth and controlled turn-on by minimizing semiconductor, aircraft and load stresses.

The PS505 light dimmer is pulse-by-pulse current limited to protect the light dimmer in case of load faults. Under overload conditions, the output current is sensed and automatically reduced, going into a constant power mode, protecting the light dimmer and the aircraft electrical system.

The electroluminescent light dimmer provides a low distortion sinewave output meeting the requirement of MIL-STD-461 EMI which makes it compatible with today's sensitive avionics equipment.

### Standard Features:

- 115 VAC input (MIL-STD-704)
- Output adjustable (0 - 115 VAC) 500 VA
- Output overload and short circuit protection
- Qualified for operation from -54°C to 71°C temp range, with a maximum case temperature of 110°C
- Qualified to MIL-STD-461C EMI

### Applications:

- Fixed- and rotary-winged aircraft
- Electroluminescent instrumentation lighting
- Cockpit lighting

# Basic Specifications

## Electrical Characteristics:

Input  
 Voltage ..... 115 VAC nominal, single phase  
 400 Hz MIL-STD-704D

Output  
 Voltage ..... 115 VAC nominal, single phase  
 Power ..... 500 VA  
 Control ..... 0 - 28 VDC applied to pin D shall  
 correspond to 0 - 115 VAC

Protection ..... Overload and short circuit

Weight ..... 5 lbs.

## Environmental Characteristics:

Electromagnetic  
 Interference ..... MIL-STD-461C, Class A1B, CE03,  
 RE02, and RS03

Temperature Range ..... -54°C to 71°C

Vibration ..... MIL-STD-810C, Method 514.2,  
 Equipment Category B1

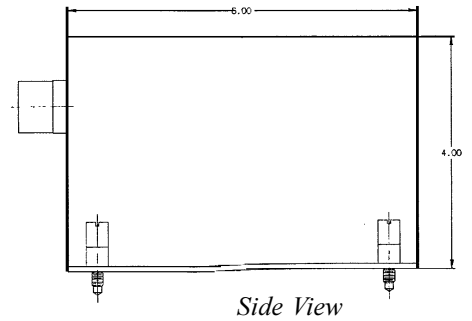
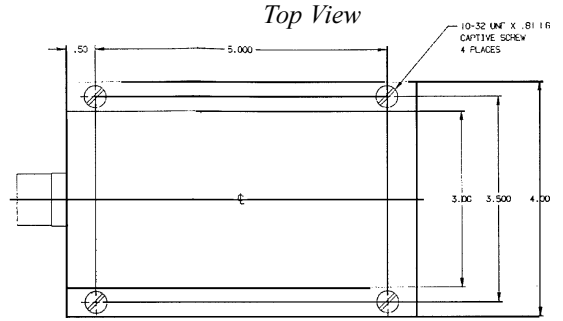
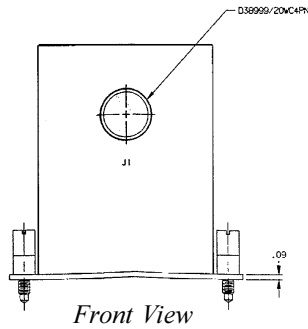
Shock ..... MIL-STD-810C, Method 516.2,  
 Figure 516.2, Procedure I

Altitude ..... MIL-STD-810C, Procedure I,  
 Method 500.3, 50,000 ft.

Specifications subject to change without notice.

## Model Diagram

J1 PIN ASSIGNMENTS	
PIN	DESCRIPTION
A	115 VAC INPUT
B	115 VAC OUTPUT
C	GROUND
D	OUTPUT CONTROL



**communications**

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