

## INSTALLATION INSTRUCTIONS FOR MODEL SPS4 (SERIES B) STROBE POWER SUPPLY

### SAFETY MESSAGE TO INSTALLERS

People's lives depend on your safe installation of our products. It is important to read, understand and follow all instructions shipped with the products. In addition, listed below are some other important safety instructions and precautions you should follow:

- To properly install this unit: you must have a good understanding of automotive electrical procedures and systems, along with proficiency in the installation and use of safety warning equipment.
- When drilling into a vehicle structure, be sure that both sides of the surface are clear of anything that could be damaged.
- Do not drill any holes in the power supply housing.
- Locate light control so the VEHICLE and CONTROL can be operated safely under all driving conditions.
- File these instructions in a safe place and refer to them when maintaining and/or re-installing the product.

Failure to follow all safety precautions and instructions may result in property damage, serious injury, or death to you or others.

### WARNING

This power supply is designed to power various strobe heads designed by Federal Signal. Consult local codes and regulations to determine if the power supply/strobe head combination complies.

### I. GENERAL.

The Federal Model SPS4 power supply is designed to operate on 11 to 16-volts DC (13.6Vdc nominal). It is designed to power Federal Models CS1, DS1, DS2, MS1, MS2, TMS1, TMS2, GS1, GS2, 141SH, and 131SH strobe units. This power supply will provide 72 double strobe flashes with flash energy of 11 joules per double flash.

### NOTE

This power supply is designed to operate with at least three strobe tubes. If operated with fewer than three strobe tubes, improper operation may occur.

### II. SPECIFICATIONS.

Input Voltage	11Vdc to 16Vdc (13.6Vdc nominal).
Input Current	4.6 amperes average @ 13.6Vdc.
Fuse	10 amperes.
Flash Energy	11.3 joules per double flash.
Per Head (nominal)	6.4 joules-1st flash. 4.9 joules-2nd flash.
Flash Rate (nominal)	72 double flashes per minute, per head.
Power Per Head	13.5 watts.
Dimensions:	
Length	7.25" (18.4cm)
Width	4.44" (11.3cm)
Depth	1.97" (5.0cm)
Shipping Weight	1.75 lbs. (0.8kg).

### III. INSTALLATION.

#### CAUTION

The power supply housing is NOT waterproof. It must be mounted in a location which is sheltered from falling rain, snow, standing water, etc. Also, it must be installed in an adequately ventilated area. Never install near heater ducts.

Do not mount the power supply unit under the vehicle's hood.

When selecting a mounting location for the power supply unit, it is necessary to keep in mind that the cables are available in either a 16-foot length (SPC16) or a 30-foot length (SPC30). Plan all wiring and cable routing before performing any installation.

#### A. Mechanical.

1. Use the power supply as a template and scribe four drill positioning marks at the selected mounting location.

## CAUTION

Before drilling holes in ANY part of a vehicle, be sure that both sides of the mounting surface are clear of parts that could be damaged; such as brake lines, fuel lines, electrical wiring or other vital parts.

## WARNING

**DO NOT** drill holes in ANY part of the power supply chassis or cover. Damage to the unit, serious injury or death to you or others may result.

2. Drill four mounting holes at the position marks.
3. Secure the power supply to the mounting surface.
4. Install the strobe unit(s) as described in the instructions packed with the unit(s).

### B. Electrical Connections.

## WARNING

Failure to observe this WARNING may result in fire, burns or blindness.

If shorted to vehicle frame, high current conductors can cause hazardous sparks resulting in electrical fires or molten metal.

**DO NOT** connect this system to vehicle battery until ALL other electrical connections are made and mounting of all components is complete.

Verify that no short circuits exist, before making connection to the vehicle battery.

1. Disconnect vehicle battery. Ensure that power is disconnected from all vehicle lighting control systems.
2. Ensure that the power supply chassis is grounded to the vehicle chassis. If necessary, connect a wire from the power supply chassis (mounting screw) to a known good vehicle chassis ground.

## IMPORTANT

Refer to figure 1 while completing the electrical connections.

3. Connect the user-supplied 14AWG black wire to the power supply's -/BLK terminal. Note that the quick-connect terminal for the black wire is wider than the terminal for the red wire. Dress the wire

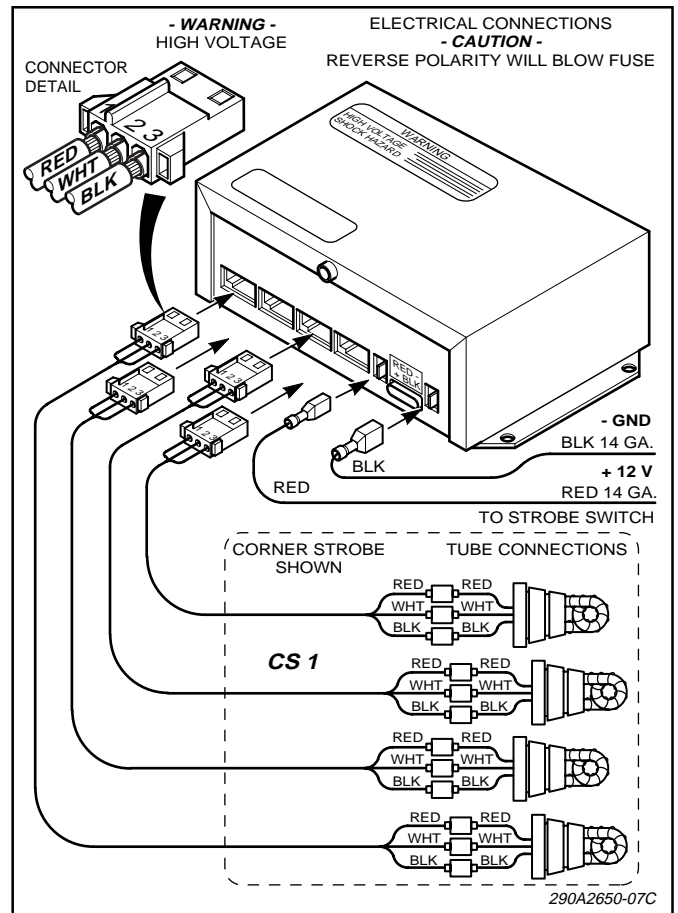


Figure 1.

neatly, allowing for a drain loop and maintenance. Connect it to a known good vehicle chassis ground.

4. Connect the strobe tube cables to the power supply. Refer to the instructions supplied with the strobe head unit, or cable kit, for additional wiring instructions. Route the cables to the strobe tube unit(s). Allow for a drain loop and maintenance.

5. Connect the user-supplied 14AWG red wire to the power supply's RED/+ terminal. Note that the quick-connect terminal for the red wire is narrower than the terminal for the black wire. Dress the wire neatly, allowing for a drain loop, maintenance, and access to the fuse. Connect it to a 12 volt power source (switch, relay, or vehicle lighting controller) capable of supplying a minimum of 5 amperes.

6. Check all connections and wiring. Ensure that there are no short circuits and that all wires are protected from any sharp edges. Reconnect the vehicle battery. Test for proper operation of the strobe system.

7. This power supply is designed to operate four strobe heads. If fewer than four strobe heads are used, ensure that outlets #2 and #4 are connected to the strobe heads. Outlet(s) #1 and/or #3 may remain unconnected. Cover the unused outlet(s) with electrical tape.

#### IV. OPERATION.

##### **SAFETY MESSAGE TO OPERATORS**

Peoples' lives depend on your safe use of our products. Listed below are some important safety instructions and precautions you should follow:

- Do not attempt to activate or deactivate light control while driving in a hazardous situation.
- Although your warning system is operating properly, it may not be completely effective. People may not see or heed your warning signal. You must recognize this fact and continue driving cautiously.
- Also, situations may occur which obstruct your warning signal when natural or man-made objects are between your vehicle and others, such as: raising your hood or trunk lid. If these situations occur, be especially careful.
- At the start of your shift, you should ensure that the light is securely attached and all lamps are operating properly.
- If a selected function does not perform properly or if any of the lamps remain illuminated when the control is off, disconnect the power connector from the control unit and contact the nearest service center.

Failure to follow these safety precautions may result in property damage, serious injury, or death to you, to passengers, or to others.

##### **RETAIN AND REFER TO THIS MESSAGE**

To activate the alternating double flash (72FPM) warning signal, operate the user-supplied switch, relay, or vehicle lighting controller.

#### V. SERVICE.

##### **WARNING**

High voltages are present in a strobe light system. Wait at least five (5) minutes, after shutting off power, before servicing the unit. Failure to do so may result in property damage, serious injury, or death to you and others.

Servicing should be performed by a qualified Federal Signal service center. If the power supply is not working properly, disconnect power and ground to the unit. Next, disconnect the electrical connections to the strobe tubes. Remove the power supply from the vehicle. Send the unit to the nearest authorized service center or to the Federal Signal service department.

Communication and shipments should be addressed to:

Service Department  
Federal Signal Corporation  
2645 Federal Signal Drive  
University Park, IL 60466

1-800-433-9132  
(In Illinois) 708-534-3400

##### **WARNING**

The fuse **MUST** be replaced with an exact replacement only.

After servicing is complete, perform a test to ensure the power supply is operating properly.

#### VI. REPLACEMENT PARTS.

Description	Part No.
Fuse, 10 Ampere	148A142A-05
Printed Circuit Board Assy.	2001240-01
Power Supply Unit	8575020B-01
Terminal, Wide	224A216-04
Terminal, Narrow	224A215-04