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UPS69024 Strobe Light Power Supply Installation Guide

Notice: This UPS69024 strobe power supply, like all *WHELEN* components, can be installed in many different types of vehicles. The guidelines for the installation of this product are written so that no matter what vehicle is being used, the installation and operation of the UPS69024 will be simple and straight forward.

Selecting a Mounting Location:

The most common choice for a mounting area would be a trunk or similar compartment. However, due to the wide variety of vehicles onto which the UPS69024 could be installed, this is not always possible. The following guidelines will help the installer select an acceptable alternative:

A) The UPS69024 should be mounted on a metal surface to aid heat dissipation. Be sure that this surface is not one that either generates or is exposed to excessive heat during normal operation of the vehicle.

B) Do not select a location where the UPS69024 will be exposed to potential damage from any unsecured or loose equipment in the vehicle.

C) Be sure the area selected will not allow the UPS69024 to be exposed to water.

D) When routing the UPS69024's wires, it is important to choose a path that will keep these wires away from excessive heat and from any vehicle equipment that could compromise the integrity of the wires (ex. trunk lids, door jams, etc.).

E) When the best mounting location has been determined, securely fasten the UPS69024 to it's mounting surface using the supplied hardware.

WARNING: The Strobe Light Power Supply is a high voltage device. Do not touch or remove tube assembly in strobe light head assemblies while in operation. Wait 10 minutes after disconnecting the unit from its power source before starting work or troubleshooting on power supply or system.

Caution: As it will be necessary to drill holes into the mounting surface, the installer MUST be sure that no vehicle components or other vital parts could be damaged by the drilling process. Check both sides of the mounting surface before drilling begins.

Mounting your UPS69024:

1. Position the UPS69024 in its proposed mounting location to ensure that it fits properly. With the UPS69024 in place, insert an awl or other suitable tool into the mounting screw area of the power supply and scribe the areas that are to be drilled.

2. Remove the UPS69024 from its mounting area and, using a drill bit sized for a #10 sheet metal screw, drill a hole in each of the areas scribed in the previous step.

3. Return the UPS69024 to its mounting location and using the supplied #10 sheet metal screws, mount onto its mounting surface.

Wiring your UPS69024:

1. Locate the 10 position *Input Connector* included with your UPS69024 and plug it into the port indicated in Fig. 1. Extend the BLACK and RED wires from the *Input Connector* towards the battery.

WARNING: All customer supplied wires, that connect to the positive (+) terminal of the battery, must be sized to supply at least 125% of the maximum operating current, and fused "at the battery" to carry the load.

2. Connect the RED wire to a fuse block (customer supplied) and then to the POSITIVE terminal on the battery.

NOTE: Although a 7.5 amp fuse (customer supplied) is required to be used in the fuse block, do not install the fuse until *all* of the wire connections are completed.

3. Connect the BLACK wire to the factory chassis ground adjacent to the battery.

4. Refer to Fig. 2 for wiring information for the remaining **Switch Control Wires** and **Pattern Control Wires**.

5. As indicated in Fig. 2, there is a provision in the **Input Connector** for a wire (VIOLET) to activate Hi Power/Low Power strobe operation. If this feature is desired, locate the VIOLET wire included with your power supply and, with the **Input Connector** disconnected from the power supply, insert the pinned end of the VIOLET wire into position 4 of the **Input Connector**. Refer to the Wiring Diagram on page 3 for wiring information.

Configuring your UPS69024:

Although the wiring diagram illustrates the proper switch connections for the UPS69024, an explanation of how the switches are configured is necessary. It is also necessary to understand how the dip switch positions will impact the operation of the UPS69024. The following section will explain switch functionality in the DEFAULT configuration (all dip switches in the OFF position and all strobe switches wired as illustrated).

Strobe Switches:

Switch #1 (SW1) - In the default configuration, switch 1 controls outlets 1 & 2. The control wire for switch 1 is the BLUE wire.
Switch #2 (SW2) - In the default configuration, switch 2 controls outlets 3 & 4. The control wire for switch 2 is the GREEN wire.

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Switch #3 (SW3) - In the default configuration, switch 3 controls outlets 5 & 6. The control wire for switch 3 is the YELLOW wire.

Dip Switches:

Dip Switch #1 (Progressive Outlet Control)-

OFF (Default position) - In this position, the strobe switches are configured as indicated in the “Strobe Switches” section above.

for Example:

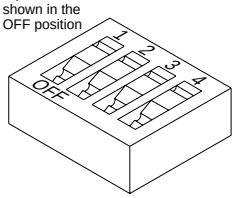
SW1 = Enables outlets 1 & 2
SW2 = Enables outlets 3 & 4
SW3 = Enables outlets 5 & 6

ON - In this position, Progressive Outlet Control is enabled.

for Example:

SW1 = Enables outlets 1 & 2
SW2 = Enables outlets 1, 2, 3 & 4
SW3 = Enables outlets 1, 2, 3, 4, 5 & 6

Dip switches shown in the OFF position



Dip Switch #2 (Alternating vs.Simultaneous)-

OFF (Default position) - In this position, the strobe switches are configured as follows

for Example:

SW1 = Outlets 1 & 2 alternate flashing
SW2 = Outlets 3 & 4 alternate flashing
SW3 = Outlets 5 & 6 alternate flashing

ON - In this position, Simultaneous Outlet Control is enabled.

for Example:

SW1 = Outlets 1 & 3 flash simultaneously
SW2 = Outlets 2 & 4 flash simultaneously
SW3 = Outlets 5 & 6 alternate flashing (no change)

Dip Switch #3 (Hi/Lo Control)-

OFF (Default position) - In this position, when the Hi/Low switch is activated, the power supply “latches” into Lo power operation. To restore normal, Hi power operation, it is necessary to turn the power supply off and then on again. In this configuration, a momentary switch is recommended for Hi/Lo activation.

ON - In this position, Hi/Lo power operation is “toggled” between Hi and Lo and it is no longer necessary to turn the power supply off to restore Hi power operation. In this configuration, a toggle switch (non-momentary) is recommended for Hi/Lo power selection.

Dip Switch #4 - This dip switch has no function and should be left in its default, OFF position.

Flash Patterns:

The UPS69024 can produce a variety of different flash patterns. They include:

Comet Flash - A burst of 4 strobe flashes.

Double Flash - A burst of 2 strobe flashes.

Rapid Random - A pattern of strobe flashes at a rate of 240 RRFPM (Rapid Random Flash Per Minute).

Action - A mix of three Comet Flash bursts, followed by 6 Rapid Random flashes.

Modu-Flash - With this pattern, impulse rate and energy are modulated to produce a sweeping (rising and falling) effect. In one full cycle, the impulse rate and energy change inversely from 150 fpm to 400 fpm and back to 150 fpm.]

Micro-Burst II - Two, consecutive, Double Flash bursts.

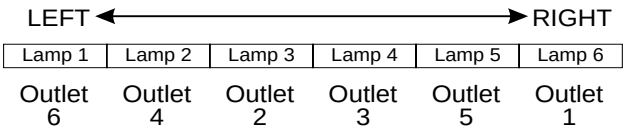
Micro-Burst III - Two, consecutive, triple flash bursts.

Traffic Advisor - See Traffic Advisor Section.

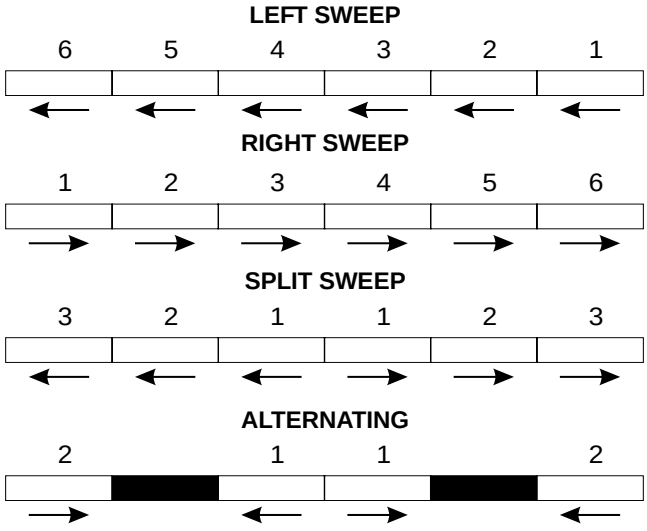
For information on enabling these patterns, please refer to Table 1.

Traffic Advisor:

IMPORTANT: In order for the Traffic Advisor patterns to flash properly, it is necessary for the lamps to be connected to the UPS69024 in the following pattern:



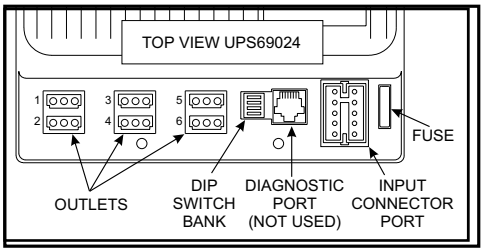
The Traffic Advisor (or T/A) mode is comprised of 4, traffic control-oriented flash patterns:



The T/A pattern mode is enabled as indicated in Table 2.

TABLE 1		OUTLETS 1 & 2	OUTLETS 3 & 4	OUTLETS 5 & 6
SWITCH CONTROL WIRES	BLUE	✓		
	GREEN		✓	
	YELLOW			✓
PATTERN CONTROL WIRES	NO PATTERN WIRES	COMET FLASH	COMET FLASH	COMET FLASH
	BROWN	DOUBLE FLASH	DOUBLE FLASH	DOUBLE FLASH
	WHITE	RAPID RANDOM	RAPID RANDOM	RAPID RANDOM
	BROWN & WHITE	ACTION FLASH	ACTION FLASH	ACTION FLASH
	GREY	MODU-FLASH	MODU-FLASH	MODU-FLASH
	BROWN & GREY	MICRO-BURST II	MICRO-BURST II	MICRO-BURST II
	WHITE & GREY	MICRO-BURST III	MICRO-BURST III	MICRO-BURST III
	BROWN & WHITE & GREY	TRAFFIC ADVISOR	TRAFFIC ADVISOR	TRAFFIC ADVISOR

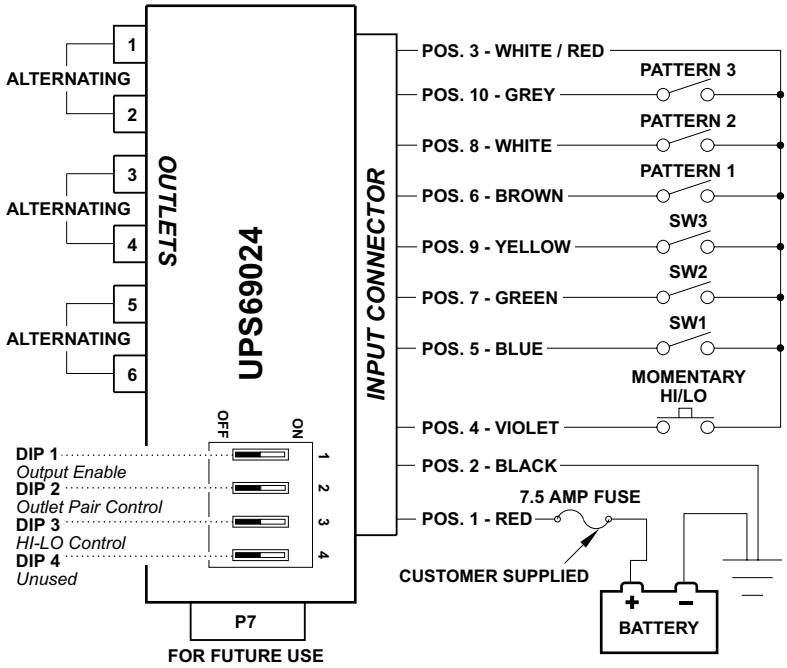
TABLE 2		BLUE	GREEN	YELLOW
TRAFFIC ADVISOR	ALL PATTERN WIRES	LEFT SWEEP		
	ALL PATTERN WIRES		RIGHT SWEEP	
	ALL PATTERN WIRES	SPLIT SWEEP		
	ALL PATTERN WIRES			ALTERNATING



UPS69024 ELECTRONIC SPECIFICATIONS:

INPUT VOLTAGE ..... 25.6 VDC ± 20%
INPUT CURRENT
@30 WATTS .....1.5 AMPS
@60 WATTS .....3 AMPS
@90 WATTS .....4.5 AMPS
INPUT POWER.....40/80/120 WATTS
OUTPUT POWER.....30/60/90 WATTS
FLASH PATTERNS ..... COMET FLASH
.....DOUBLE FLASH
..... RAPID RANDOM FLASH
.....ACTION FLASH
..... MODU-FLASH
.....MICRO-BURST II
.....MICRO-BURST III
.....TRAFFIC ADVISOR
ANODE VOLTAGE (HI POWER)..... .425 VDC (MAX)
ANODE VOLTAGE (LO POWER) ..... .225 VDC (MIN)
CAPACITANCE (PER CHANNEL) ..... .75uF @450 VDC
TRIGGER VOLTAGE..... 220 VDC ± 5%
V (OUTLET ENABLE) ..... 20 VDC (MIN)
I (OUTLET ENABLE).....20mA (TYP) @ 25.6 VDC
V (PATTERN CONTROL) ..... 20 VDC (MIN)
I (PATTERN CONTROL) .....20mA (TYP) @ 25.6 VDC
V (HI/LO)..... 20 VDC (MIN)
I (HI/LO) .....20mA (TYP) @ 25.6 VDC

WIRING DIAGRAM



WARNING: All customer supplied wires, that connect to the positive terminal of the battery, must be sized to supply at least 125% of the maximum operating current, & fused at the battery to carry that load.

NOTE: The WHITE / RED wire in the Pattern Selection Connector provides positive voltage designed to be used to supply power to your switches. This wire is internally protected to 250 ma. If a short circuit occurs, the circuit will interrupt current flow until the short has been removed.