

ROUTE 145, WINTHROP ROAD  
CHESTER, CONNECTICUT 06412-0684  
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**SPECIFICATIONS**

- INPUT VOLTAGE:** .....10-16 VDC.
- INPUT CURRENT:** ..... 14 AMPS MAXIMUM.
- FLASHRATE:** ..... 150 COMET FLASHES PER MINUTE.
- JOULES PER OUTLET (HIGH POWER):** ..... 5 / 3 / 3 / 3 MIN.
- JOULES PER OUTLET (LOW POWER):** ..... 2 / 2 / 2 / 2 MIN.
- TOTAL OUTPUT POWER:** ..... 140 WATTS MAXIMUM.
- AMBIENT TEMPERATURE:** .....-30 TO +60 DEGREES C.

**INTRODUCTION**

Whelen's UPS148C is the first remote strobe power supply with complete switching control of all outlets (see pages 2 and 3) as well as full diagnostic capability. The outputs are regulated to prevent over driving the strobe tubes when using only two outputs. Each output will receive the full power, regardless of how many outlets are used. This design feature insures consistent light output and maximum strobe tube longevity. The UPS148C has a low strobe intensity mode for reducing the light output and current consumption.

The self-diagnostic feature provides the operator real time indication of the condition of the strobe light system while in operation.

All switching function are via low current circuitry to reduce the physical size of switches and wiring required for a proper installation. Four single pole single throw (SPST) switches are all that is required for the most sophisticated operating scheme (see pages 2 and 3).

**MOUNTING**

When choosing a mounting location for the UPS148C keep in mind the following concerns. The power supply is not waterproof and should be mounted in a dry location, protected from spray and mechanical damage. The location should allow easy access for wiring installation and service. Allow approximately 2 inches clearance beyond the rear of the power supply for air flow for the fan. A metal mounting surface is recommended for superior heat dissipation.

Trace the outline of the notches onto the mounting surface. Note that the notches will accommodate the supplied 8 x 5/8 inch stainless steel machine screws. Mark the center of the notch onto the mounting surface. Prior to drilling the mounting holes, examine the back-side of the mounting surface for wires, cables, fuel lines, etc. that may be damaged by the drilling operation. Drill the mounting holes and vacuum any metal shavings from the mounting area. Mount the power supply, using the supplied hardware.

**OPERATION**

It is necessary to understand how the UPS148C operates in order to properly install the switching system and interconnect the strobe

lighthoods. It is strongly recommended to make a sketch of the placement of the strobe lighthoods and the wires that control the circuits prior to running wires and installing switches.

The **yellow** wire controls outlets #1 and #2 in an alternating flash pattern. The **green** wire controls outlets #3 and #4 in an alternating flash pattern. The **blue** wire controls outlets #5, #6, #7, and #8. Outlets #5 and #7 flash simultaneously and alternate with outlets #6 and #8 which flash simultaneously. Even numbered outlets flash simultaneously and alternate with odd numbered outlets which also flash simultaneously. The **yellow, green and blue** control wires may be switched separately or in any combination. The Low Power feature will reduce the intensity of all lights to approximately 15% of their High Power intensity.

**ELECTRICAL INSTALLATION**

**IMPORTANT NOTE: The vehicle battery should be disconnected before attempting any electrical installation. Before making any power connections, make sure all control switches are in the OFF position.**

Any switch(es) with a 3 amp rating may be used on the control lines. Mount the appropriate switch(es) in an area convenient to the operator. Remember, the vehicle operator **must** be able to operate their vehicle without taking their eyes off of the road! Make the UPS148C switching installation as easy to use as possible. All switching is done from a +12 VDC source. This source should be fused at 3 amps. The control lines are reverse polarity protected. The function will not work, however the circuit will sustain no damage. Any control wires not used should be secured out of the way and the end insulated with electrical tape or heat shrink tubing.

Mount the Diagnostic Indicator Panel into a 1.45 inch high x 0.80 inch wide cutout near the control switches. Connect the black wire to a good chassis ground. Plug the "telephone" style cable into the socket on the rear of the Diagnostic Indicator Panel and route the cable to the UPS148C power supply. Plug the cable into the socket labeled "**DIAGNOSTIC INDICATOR**".

Connect cables and wires to the power supply in the following order. Before attaching wires to the control switches, make sure they are in the OFF position.

**OUTLETS #1-#8.** Connect Whelen 3 conductor strobe extension cables into the outlets and route them to the appropriate strobe lighthouse. **DO NOT SUBSTITUTE** non-Whelen cable. The white nylon connectors are indexed to be mated only one way. Before plugging the cables into the power supply verify that the red wire is in position #1 of the connector, the black wire is in the center (#2) position, and the white wire is in position #3.

**DIAGNOSTIC INDICATOR.** Plug the "telephone" style cable into the connector on the power supply labeled "DIAGNOSTIC INDICATOR", and the other end into the "DIAGNOSTIC INDICATOR PANEL" mounted in a previous step.

**CONTROL HARNESS.** The control harness handles all switching functions from a low current +12 VDC power source. This power source should be fused at 3 amps. Connect the wires as follows:

**YELLOW WIRE:** +12 VDC for the control of outlets #1 and #2. This wire may be extended with 18 AWG wire.

**GREEN WIRE:** +12 VDC for the control of outlets #3 and #4. This wire may be extended with 18 AWG wire.

**BLUE WIRE:** +12 VDC for the control of outlets #5-#8. This wire may be extended with 18 AWG wire.

**VIOLET WIRE:** +12VDC for low strobe light intensity. This wire may be extended with 18 AWG wire.

**POWER HARNESS.** The power harness supplies the UPS148C strobe light power supply with electrical current from the vehicle's battery. Recommended wire sizes must be followed carefully as the power requirements are significant. The use of smaller than recommended wire may cause unsatisfactory performance or premature failure. Due to the high current requirements of the strobe light power supply, the power leads should be connected directly to the vehicle battery or to a high

current power buss.

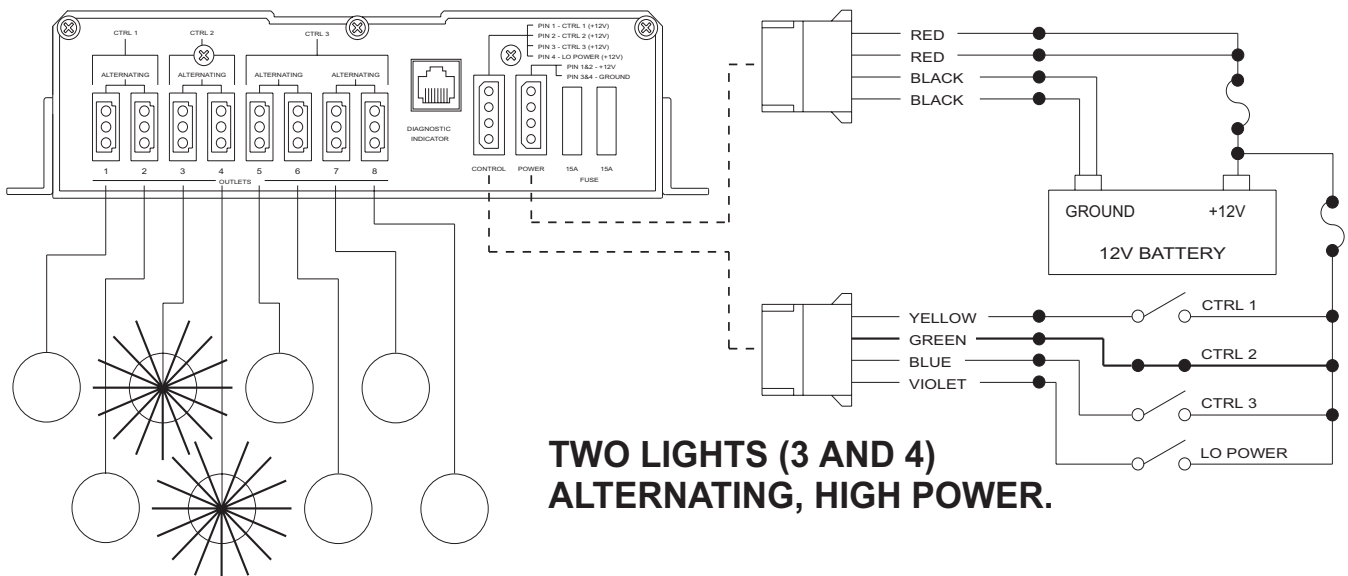
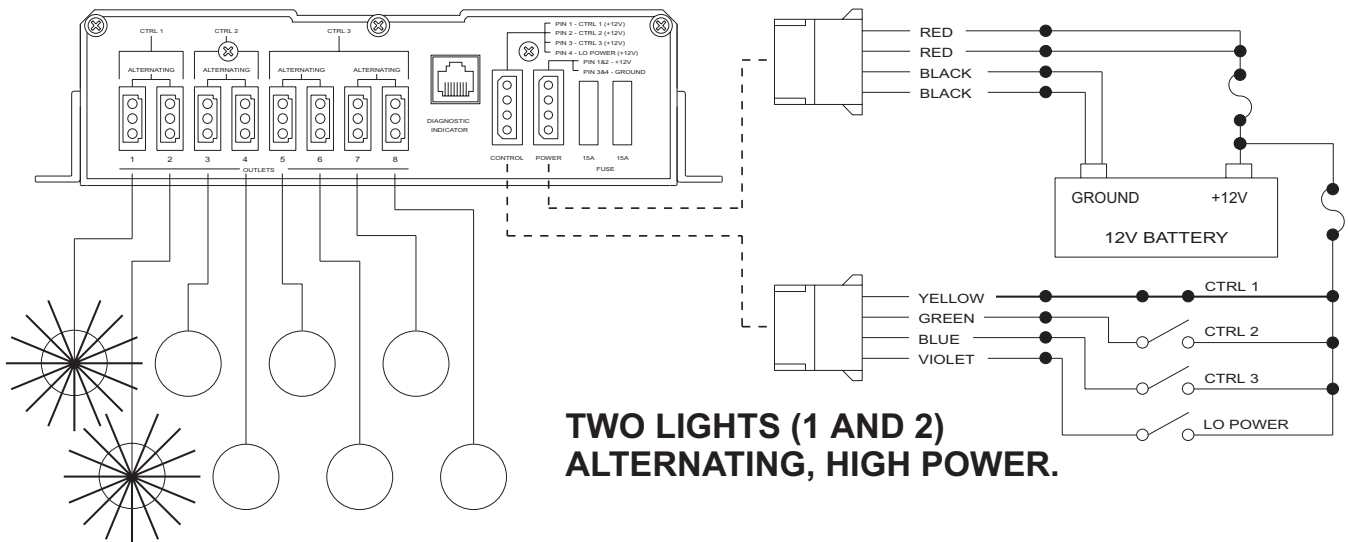
**BLACK WIRES (2):** Both wires **MUST** be used. Connect to either the battery negative (-) connection or a good chassis ground. Wires may be extended with a 14 AWG or larger wire.

**RED WIRES:** Both wires **MUST** be used. Connect to either the battery positive (+) terminal or a high current power buss. The wires may be extended with a 14 AWG or larger wire. Reconnect the vehicle battery.

**WARNING! THE STROBE LIGHT POWER SUPPLY IS A HIGH VOLTAGE DEVICE. DO NOT REMOVE STROBE TUBES OR DISMANTLE STROBE LIGHT HEAD ASSEMBLIES WHILE IN OPERATION. WAIT 10 MINUTES AFTER TURNING OFF POWER BEFORE STARTING WORK OR ANY TROUBLE SHOOTING OF SYSTEM.**

## SWITCHING CONTROLS WITH ON/OFF (SPST) SWITCHES

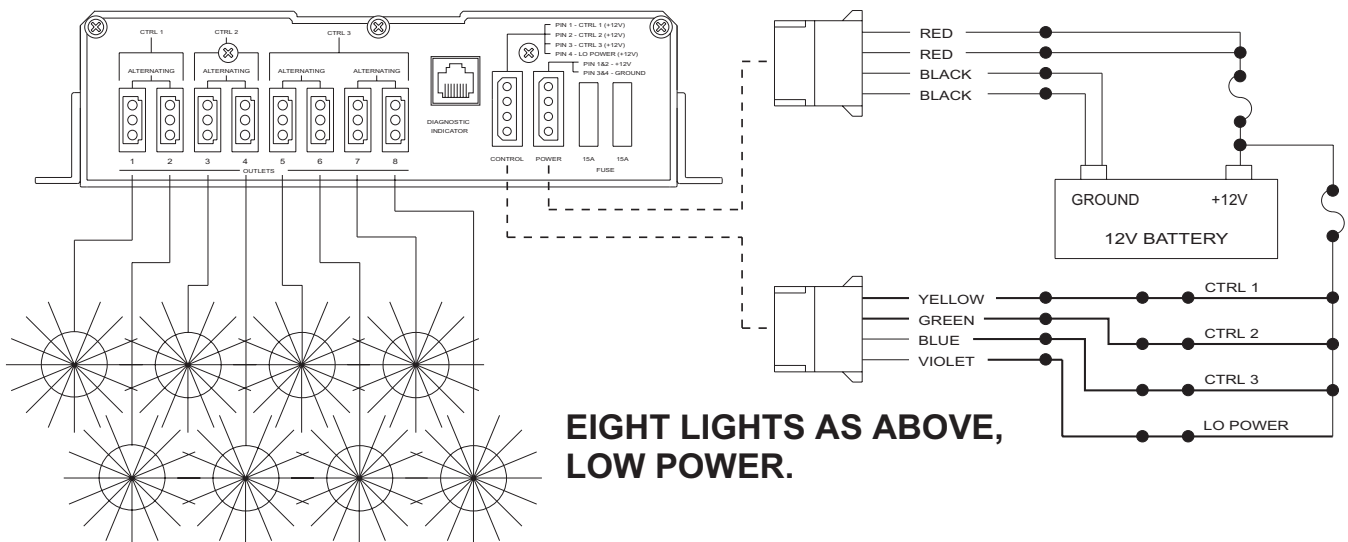
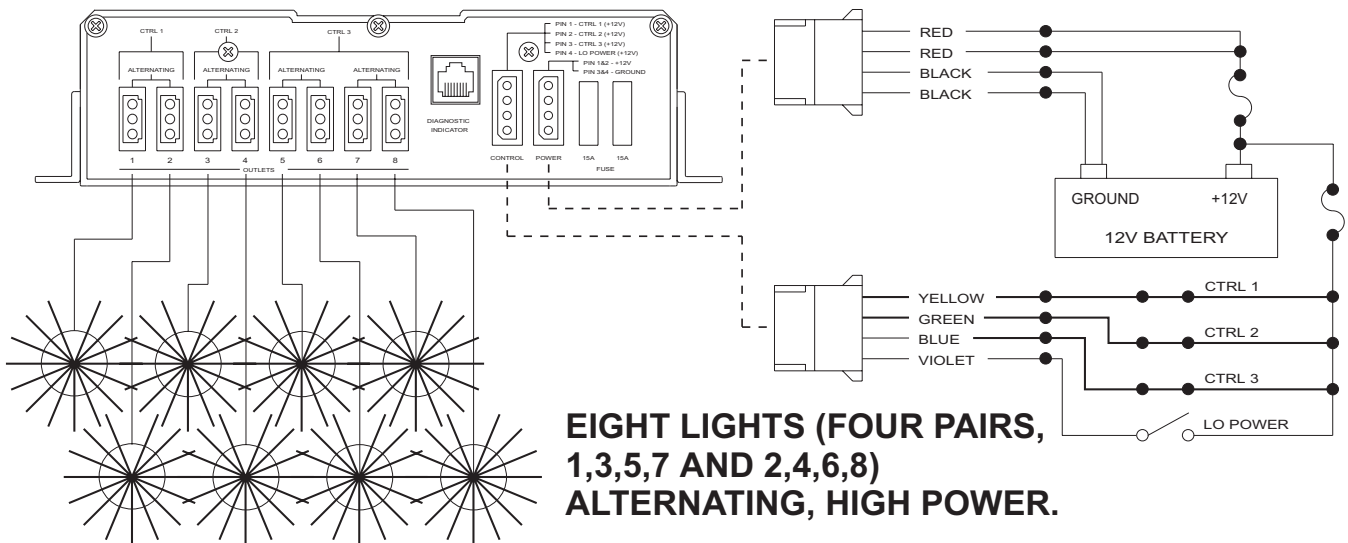
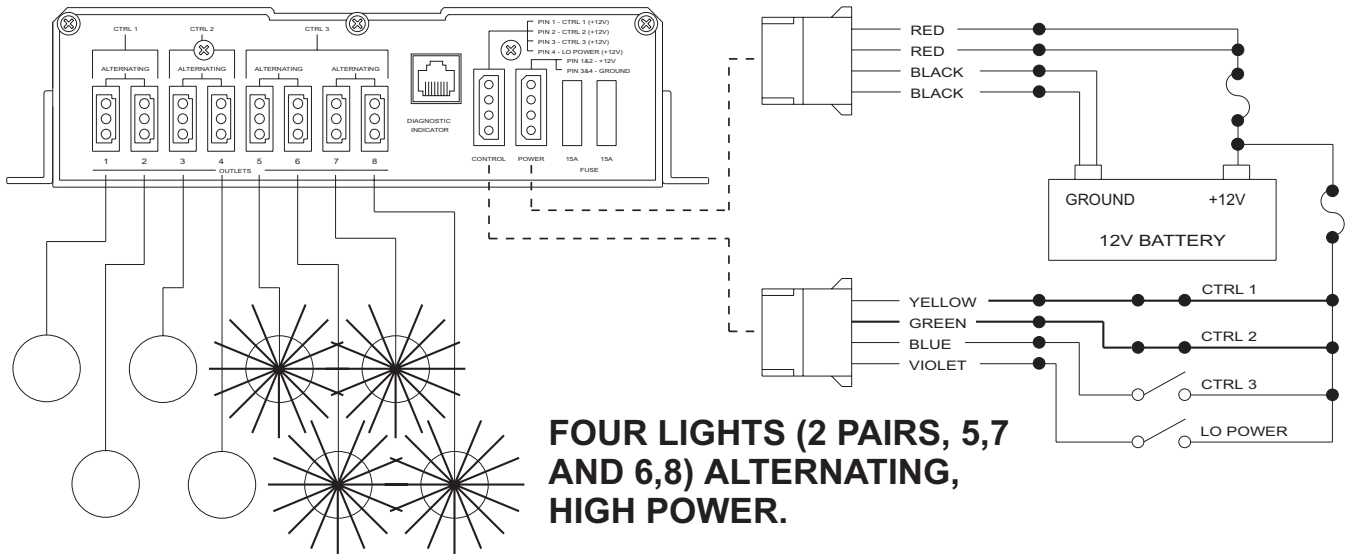
**NOTE:** ALL SWITCHES ARE CUSTOMER SUPPLIED.



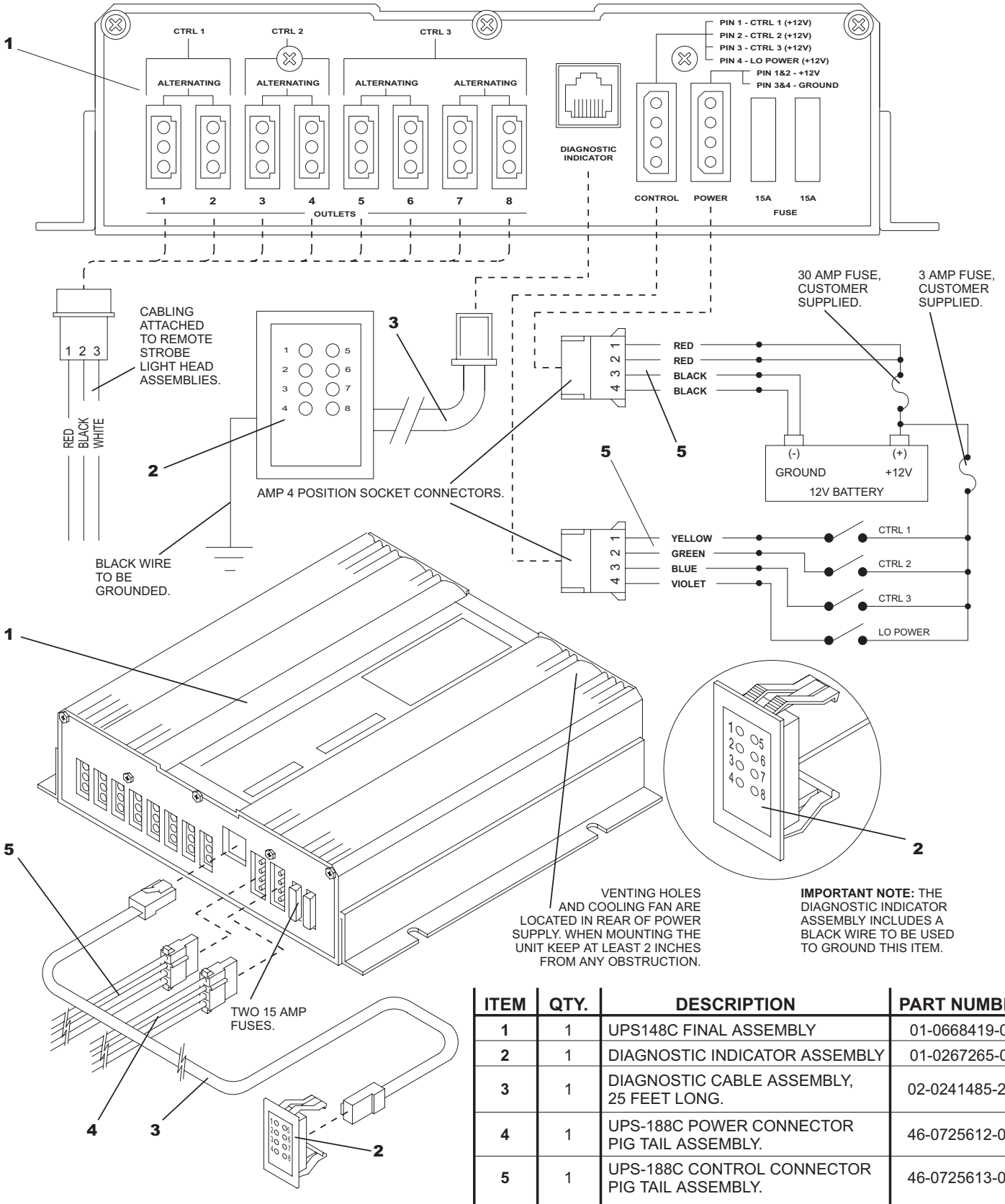
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CONTINUED FROM PRECEEDING PAGE.



# WIRING DIAGRAM AND PARTS LISTING



ITEM	QTY.	DESCRIPTION	PART NUMBER
1	1	UPS148C FINAL ASSEMBLY	01-0668419-00
2	1	DIAGNOSTIC INDICATOR ASSEMBLY	01-0267265-00
3	1	DIAGNOSTIC CABLE ASSEMBLY, 25 FEET LONG.	02-0241485-25
4	1	UPS-188C POWER CONNECTOR PIG TAIL ASSEMBLY.	46-0725612-00
5	1	UPS-188C CONTROL CONNECTOR PIG TAIL ASSEMBLY.	46-0725613-00