

DC POWER SUPPLY

Catalog No. NLPS-312, NLPS-312M

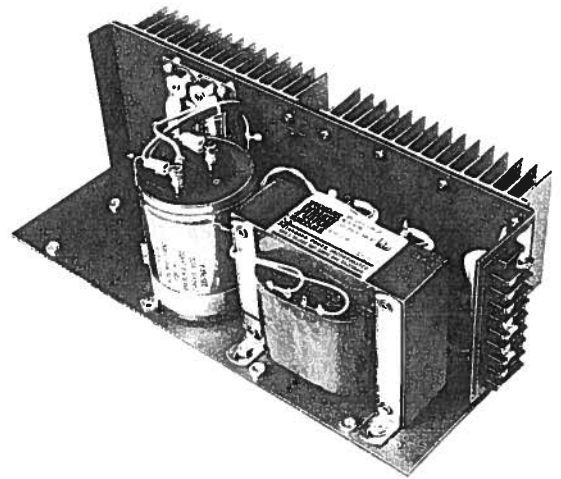
DESCRIPTION

NLPS-312 output: +5.7 VDC to 6.3 VDC at 12 amps.

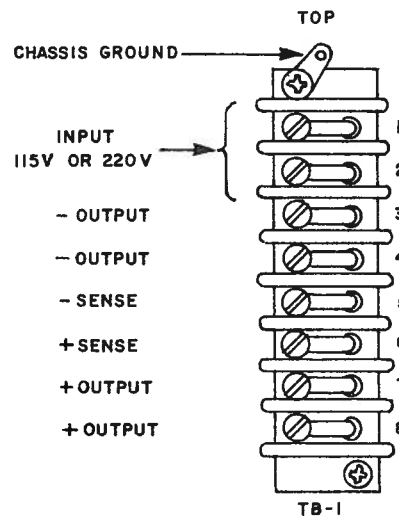
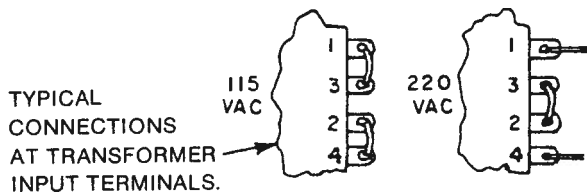
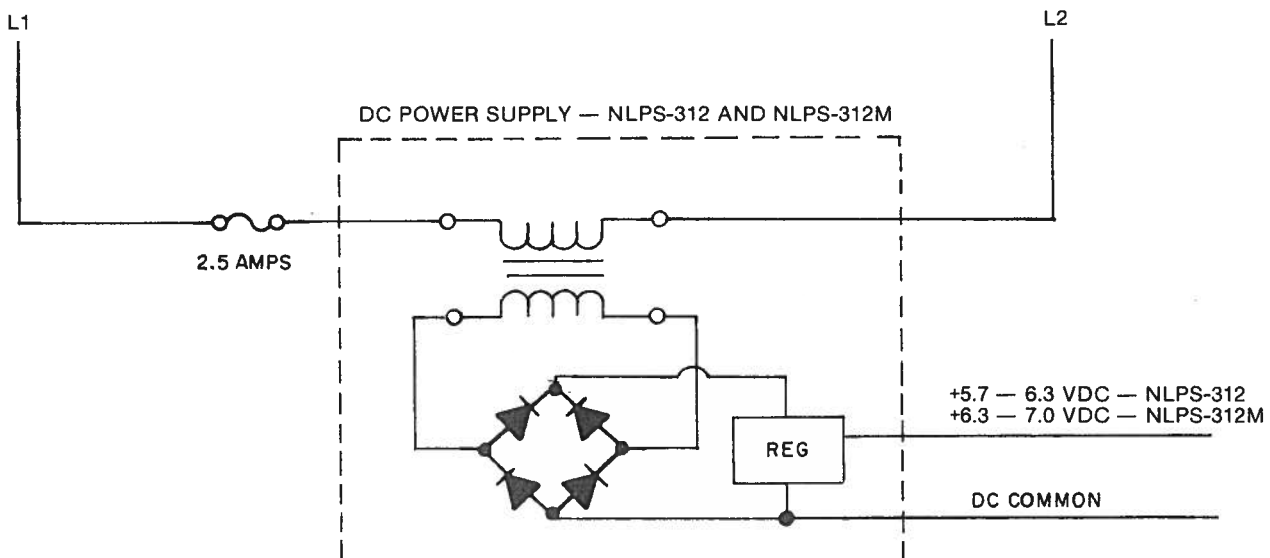
NLPS-312M output: +6.3-7.0 VDC at 12 amps. Used for systems requiring a second power supply for back-up.

SPECIFICATIONS

Input voltage	115 VAC \pm 10%, 47-440 Hz
Line regulation	\pm 0.25%
Load regulation	\pm 0.25%
Ripple	0.01%
Short circuit protection	Foldback type adjustable from 20% to full load
Drift	Typically 20 mV max
Temperature rating	0° to 85°C

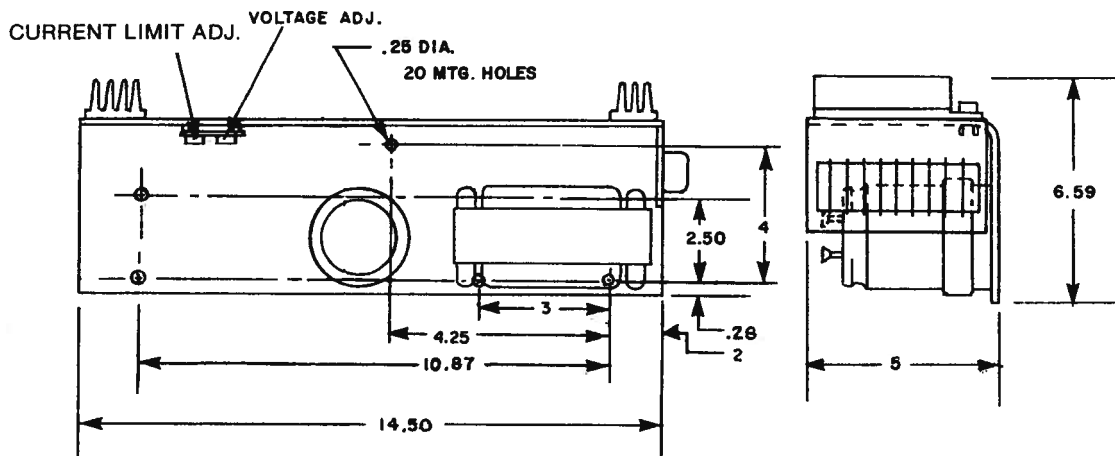


TYPICAL HOOK-UP 115 VAC



DC POWER SUPPLY

DIMENSIONS in inches



Operating Procedure

Connect 115 VAC, 47-440 Hz starting at the top of the terminal strip to terminals 1 and 2. Suggest twisted AC input wires if electrical noise reduction is prime concern.

For 220 VAC input, remove jumpers between 1 & 3 and 2 & 4 on transformer. Then jumper terminals 2 and 3 together and connect 220 VAC to terminals 1 and 2 on terminal strip. Do not move input wires.

Output terminals 3 and 4 are negative; terminal 5 is negative S sense; terminal 6 is positive S sense; terminals 7 & 8 are positive. Connect load to these terminals, using the proper size wire (12 or 14 gauge stranded) and making sure that the electrical connections are solid, in order to achieve the best results. The positive and positive sense lines and the negative and negative sense lines are jumpered by factory prior to delivery. Chassis ground and shield terminal are attached to terminal screw. Place the power supply AS CLOSE to the racks AS POSSIBLE to reduce the resistance drop.

Suggested Test Procedure

Connect AC input power as outlined in operating procedure. Place a variac between VAC source and input to power supply. Place an AC voltmeter across input terminals 1 and 2. Set input voltage for nominal 115 VAC with variac.

Place resistive load across output, check VDC output specifications. DC voltmeter must be connected directly across output terminals. DC voltmeter leads should be kept short, to reduce AC pickup, and connections as solid as possible. Resistive drops in test leads cause regulation errors. Output voltage may require adjustment using the voltage adjust pot. **CAUTION:** After installation measure the power supply voltage at a midpoint in the rack and adjust the voltage to +5.7 VDC.

Line Regulation

With output voltage properly set (depending on model), reduce input VAC to 105 volts and record or note voltage. Then increase input VAC to 129 VAC and note output voltage. Total output voltage change should not exceed 0.5% or $\pm 0.25\%$.

Load Regulation

Set AC input voltage to 117 VAC. Place DC voltmeter across output terminals. A load resistor, equal to the rated load of this supply at selected DC voltage setting, is then applied to output terminals. The voltage change should be noted. This differential change should not exceed 0.5% of DC output voltage. Output current adjust is accomplished by placing a load resistor of the desired value across output; adjust current limit pot until voltage starts to drop. This is the foldback point of current limiting, usually set 20% above full load current desired.

Remote Sense

Remote sense provides a means of compensating for losses in load wires or cables. The load leads should be as heavy as practical to reduce loss. A sense wire (typical size #16 or #18) should be connected in parallel between the positive load connection back to the positive sense terminal, and the negative load connection back to the negative sense terminal. Voltage is then adjusted to provide proper voltage at load. **CAUTION:** Differential voltage between power supply output terminal and sense should not exceed 0.25 volts. If this voltage is exceeded, the load wire size should be increased. Be sure to remove sense jumpers.

Ripple

With voltage set at 115 VAC and full load across DC output terminals, the measurable AC voltage on output should not exceed 0.1%.

Suggested Practices

While it is not required, chassis should be attached to other heat dissipating surfaces if full power over extended periods is desired.

Loads generating high back EMF voltages should be checked with zener or series diode to reduce detrimental effects on pass elements.



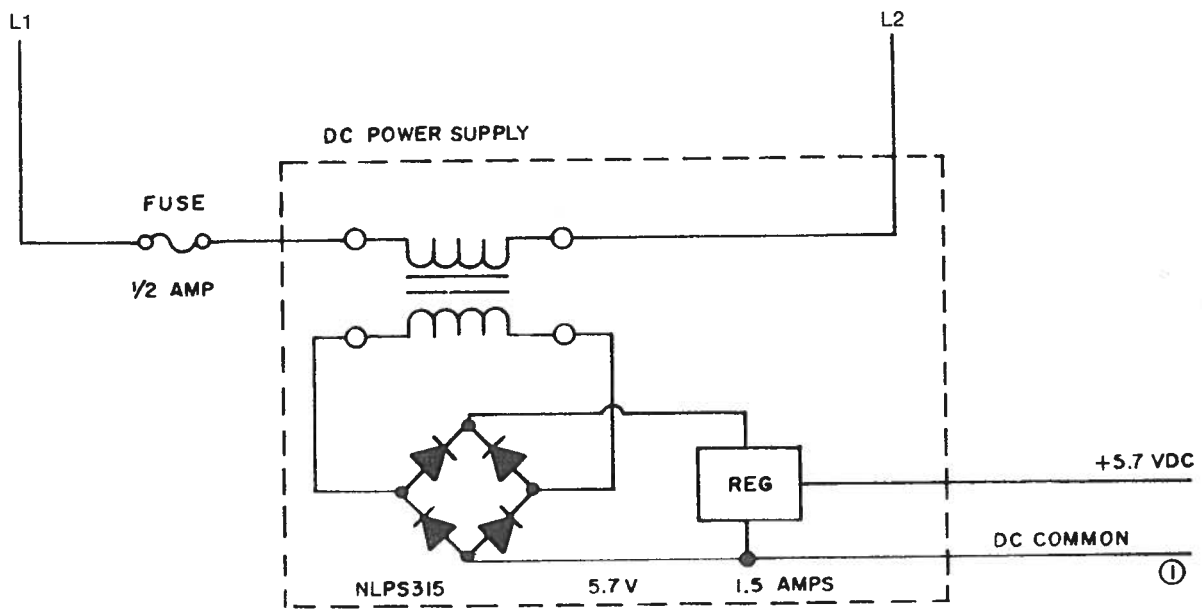
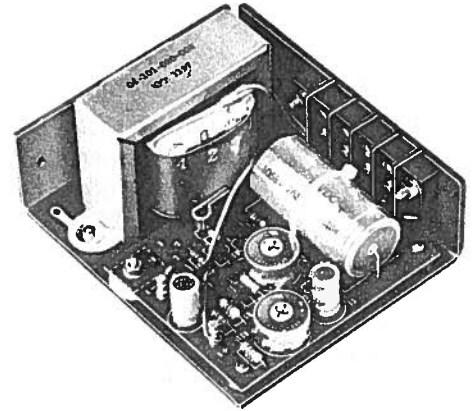
DC POWER SUPPLY Catalog No. NLPS-315

DESCRIPTION

Output: +5.7 VDC to 6.1 VDC at 1.5 amps.

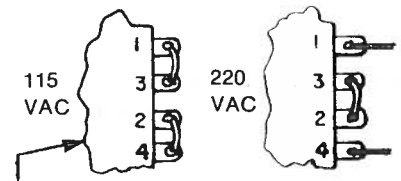
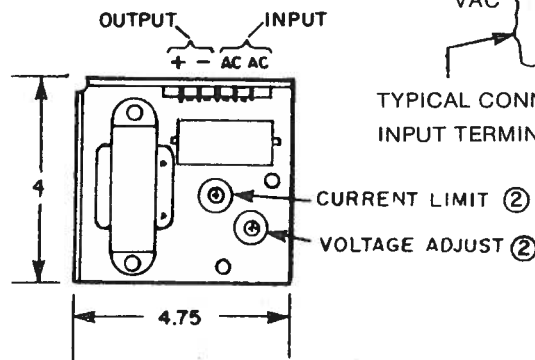
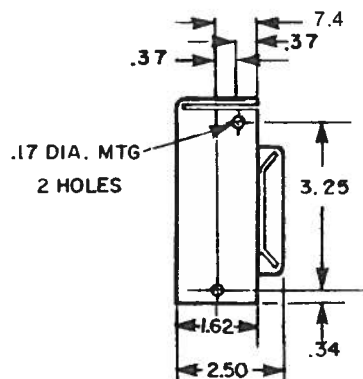
SPECIFICATIONS

Input voltage	115 VAC \pm 10%, 47-440 Hz
Line regulation	\pm 0.25%
Load regulation	\pm 0.25%
Ripple	0.1%
Short circuit protection	Foldback type adjustable from 20% to full load
Temperature rating	0° to 85° C
Drift	Typically 20 mV max



① DO NOT TIE DC COMMON TO PANEL, EARTH GROUND, OR L2

DIMENSIONS IN INCHES WEIGHT; 2.3 LBS.



TYPICAL CONNECTIONS AT TRANSFORMER INPUT TERMINALS

② TO INCREASE CURRENT OR VOLTAGE, TURN POT CW

DC POWER SUPPLY

Operating Procedure

Connect 115 VAC, 47-440 Hz to terminals 1 and 4 of transformer (AC input terminals on terminal block).

For 220 VAC input, remove jumpers between 1 & 3 and 2 & 4. Then jumper terminals 2 and 3 together and connect 220 VAC to terminals 1 and 4. Suggest twisted AC input wires if electrical noise reduction is prime concern.

Output terminals are located on the side of the power supply and are marked positive (+) and negative (-). Connect the load to these terminals, using the proper wire size (18 gauge stranded) and making sure that the electrical connections are solid, in order to achieve the best results. Place the power supply AS CLOSE to the rack AS POSSIBLE to reduce the resistance drop.

Suggested Test Procedure

Connect AC input power as outlined in Operating Procedure. Place a variac between VAC source and input to transformer. Place an AC voltmeter across transformer input terminals 1 and 4. Set input voltage for nominal 115 VAC with variac.

Place resistive load across output, check VDC output specifications. DC voltmeter should be connected directly across output terminals. DC voltmeter leads must be kept short and connections must be as solid as possible. Resistive drops in test leads cause regulation errors. Output voltage may require adjustment. This can be accomplished with the voltage adjust pot. **CAUTION:** After installation measure the power supply voltage at a midpoint in the rack and adjust the voltage to +5.7 VDC.

Line Regulation

With output voltage properly set (depending on model), reduce input VAC to 105 volts and record or note output voltage. Then increase input VAC to 129 VAC and note output voltage. Total output voltage change should not exceed 0.5% or $\pm 0.25\%$.

Load Regulation

Set AC input voltage to 117 VAC. Place DC voltmeter across output terminals. A load resistor, equal to the rated load of this supply at selected DC voltage setting, is then applied to output terminals. The voltage change should be noted. This differential change should not exceed 0.5% of DC output voltage. Output current adjust is accomplished by placing a load resistor of the desired value across output terminal; adjust current limit pot until voltage starts to drop. This is the foldback point of current limiting, usually set 20% above full load current desired.

Ripple

With voltage set at 115 VAC and full load across DC output terminals, the measurable AC voltage on output should not exceed 0.1% .

Suggested Practices

While it is not required, chassis should be attached to other heat dissipating surfaces if full power over extended periods is desired.

Loads generating high back EMF voltages should be checked with zener or series diode to reduce detrimental effects on pass elements.

DC POWER SUPPLY

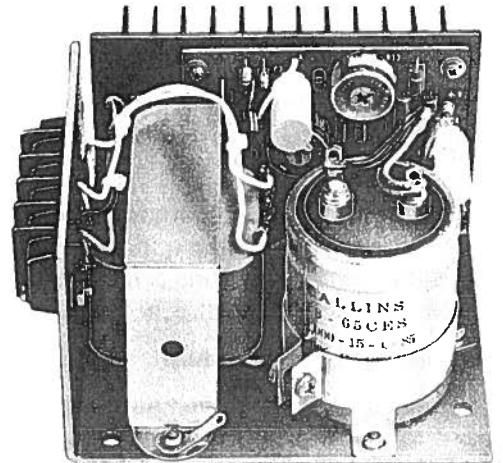
Catalog No. NLPS-325

DESCRIPTION

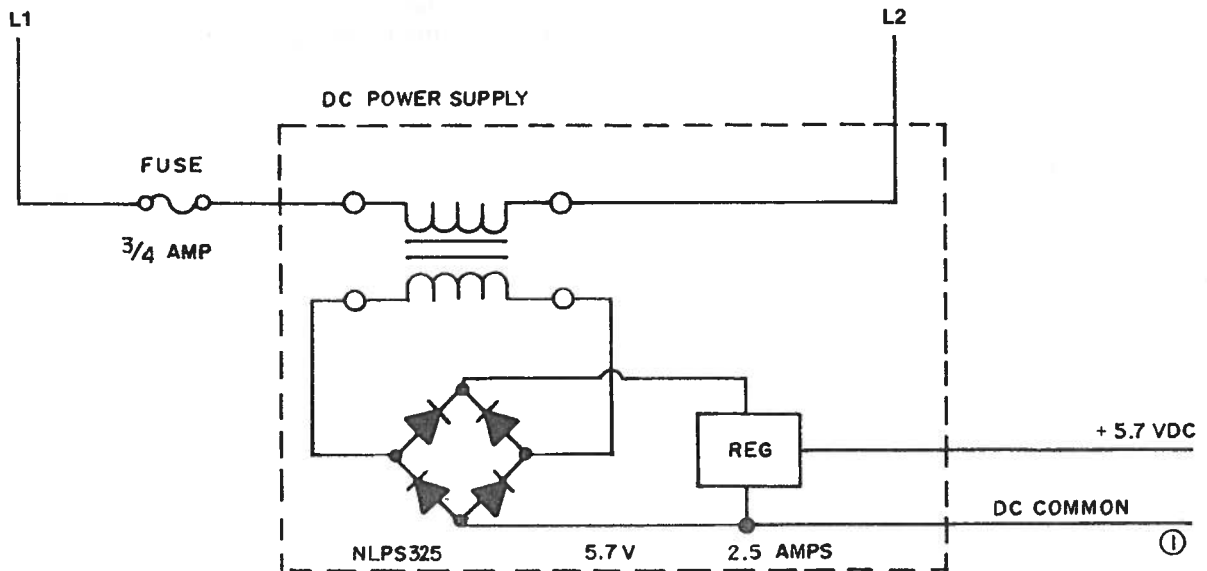
Output: + 5.7 VDC to 6.1 VDC at 2.5 amps.

SPECIFICATIONS

Input voltage	115 VAC \pm 10%, 47-440 Hz
Line regulation	\pm 0.25%
Load regulation	\pm 0.25%
Ripple	0.1%
Short circuit protection	Foldback type adjustable from 20% to full load
Temperature rating	0° to 85°C
Drift	Typically 20 mV max.



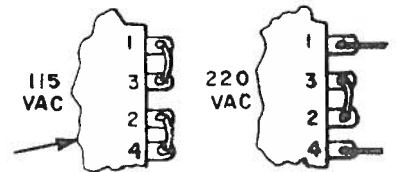
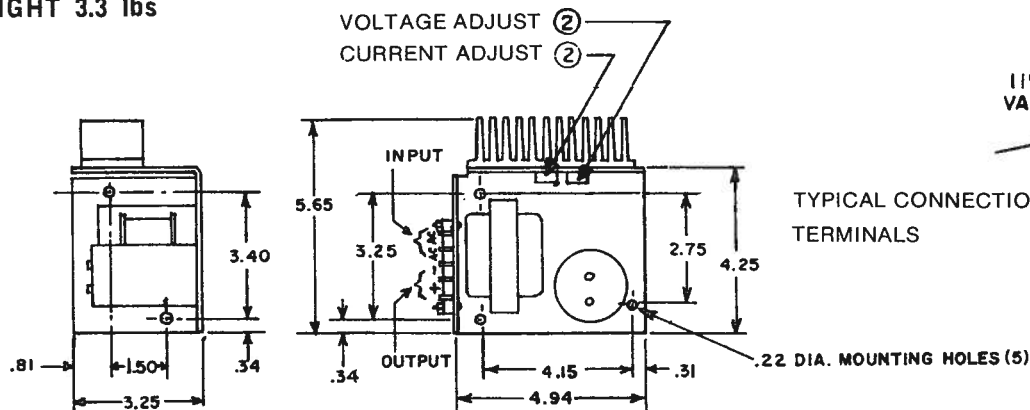
TYPICAL HOOK-UP 115 VAC



① DO NOT TIE DC COMMON TO PANEL, EARTH GROUND, OR L2

DIMENSIONS in inches

WEIGHT 3.3 lbs



TYPICAL CONNECTIONS AT TRANSFORMER INPUT TERMINALS

② TO INCREASE CURRENT OR VOLTAGE, TURN POT CW



DC POWER SUPPLY

Operating Procedure

Connect 115 VAC, 47-440 Hz to terminals 1 and 4 of transformer (AC input terminals on terminal block).

For 220 VAC input, remove jumpers between 1 & 3 and 2 & 4. Then jumper terminals 2 and 3 together and connect 220 VAC to terminals 1 and 4. Suggest twisted AC input wires if electrical noise reduction is prime concern.

Output terminals are located on the side of the power supply and are marked positive (+) and negative (-). Connect the load to these terminals using the proper size wire (18 gauge stranded) and making sure that the electrical connections are solid, in order to achieve the best results. Place the power supply AS CLOSE to the rack AS POSSIBLE to reduce the resistance drop.

Suggested Test Procedure

Connect AC input power as outlined in Operating Procedure. Place a variac between VAC source and input to transformer. Place an AC voltmeter across transformer input terminals 1 and 4. Set input voltage for 115 VAC (nominal) with variac.

Place resistive load across output, check VDC output specifications. DC voltmeter should be connected directly across output terminals. DC voltmeter leads must be kept short and connections must be as solid as possible. Resistive drops in test leads cause regulation errors. Output voltage may require adjustment using the voltage adjust pot. **CAUTION:** After installation measure the power supply voltage at a midpoint in the rack and adjust the voltage to +5.7 VDC.

Line Regulation

With output voltage properly set (depending on model), reduce input VAC to 105 volts and record or note output voltage. Then increase input VAC to 129 VAC and note output voltage. Total output voltage change should not exceed 0.5% or $\pm 0.25\%$.

Load Regulation

Set AC input voltage to 117 VAC. Place DC voltmeter across output terminals. A load resistor, equal to the rated load of this supply at selected DC voltage setting, is then applied to output terminals. The voltage change should be noted. This differential change should not exceed 0.5% of DC output voltage. Output current adjust is accomplished by placing a load resistor of the desired value across output terminal; adjust current limit pot until voltage starts to drop. This is the foldback point of current limiting, usually set 20% above full load current desired.

Ripple

With voltage set at 115 VAC and full load across DC output terminals, the measurable AC voltage on output should not exceed 0.1%.

Suggested Practices

While it is not required, chassis should be attached to other heat dissipating surfaces if full power over extended periods is desired.

Loads generating high back EMF voltages should be checked with zener or series diode to reduce detrimental effects on pass elements.



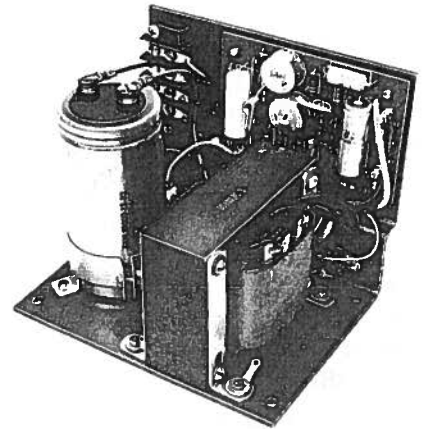
DC POWER SUPPLY Catalog No. NLPS-330

DESCRIPTION

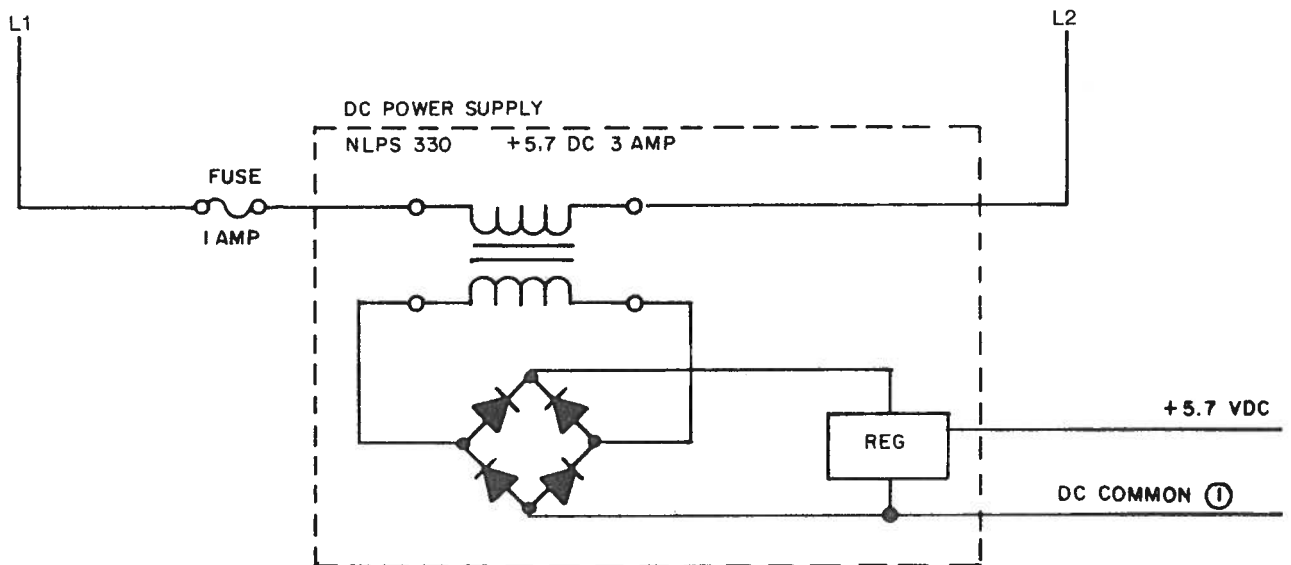
Output: +5.7 VDC to 6.1 VDC at 3 amps.

SPECIFICATIONS

Input voltage	115 VAC \pm 10%, 47-440 Hz
Line regulation	\pm 0.25%
Load regulation	\pm 0.25%
Ripple	0.1%
Short circuit protection	Foldback type adjustable from 20% to full load
Drift	Typically 20 mV max
Temperature rating	0° to 85° C

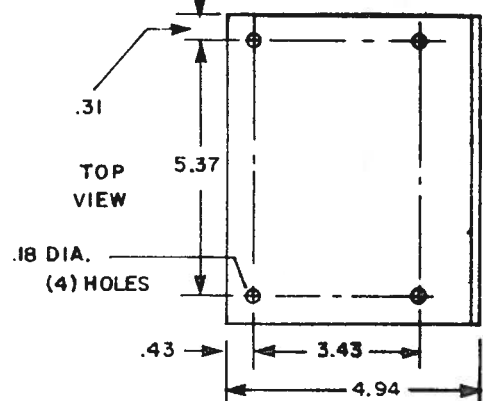
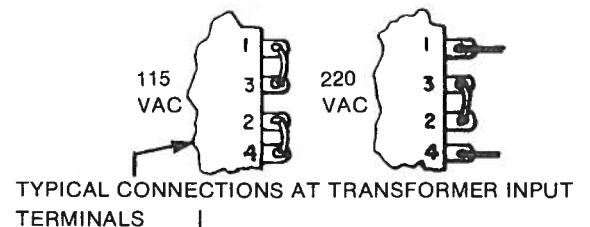
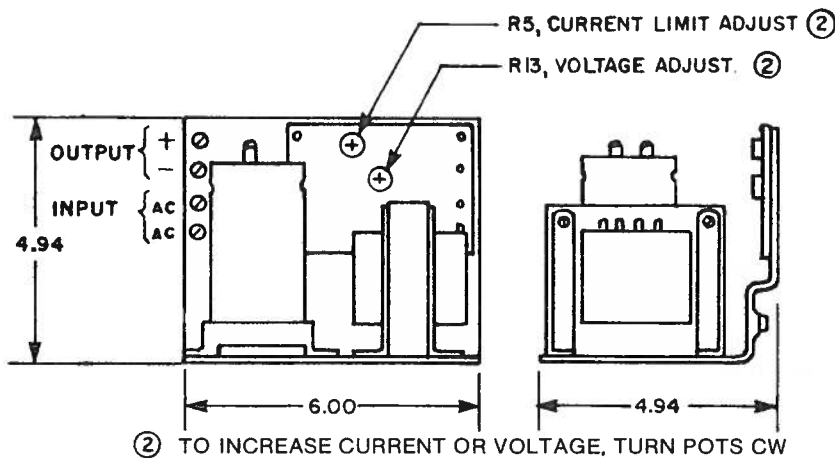


TYPICAL HOOK-UP 115 VAC



(1) DO NOT TIE DC COMMON TO PANEL, EARTH GROUND, OR L2

DIMENSIONS IN INCHES WEIGHT 6 LBS.



DC POWER SUPPLY

Operating Procedure

Connect 115 VAC, 47-440 Hz to terminals 1 and 4 of transformer (AC input terminals on terminal block).

For 220 VAC input, remove jumpers between 1 & 3 and 2 & 4. Then jumper terminals 2 and 3 together and connect 220 VAC to terminals 1 and 4. Suggest twisted AC input wires if electrical noise reduction is prime concern.

Output terminals are located on the side of the power supply and are marked positive (+) and negative (-). Connect the load to these terminals, using the proper size wire (16 or 18 gauge stranded) and making sure that the electrical connections are solid, in order to achieve the best results. Place the power supply AS CLOSE to the rack AS POSSIBLE to reduce the resistance drop.

Suggested Test Procedure

Connect AC input power as outlined in Operating Procedure. Place a variac between VAC source and input to transformer. Place an AC voltmeter across transformer input terminals 1 and 4. Set input voltage for 115 VAC (nominal) with variac.

Place resistive load across output, check VDC output specifications. DC voltmeter should be connected directly across output terminals. DC voltmeter leads must be kept short and connections must be as solid as possible. Resistive drops in test leads cause regulation errors. Output voltage may require adjustment using the voltage adjust pot. **CAUTION:** After installation measure the power supply voltage at a midpoint in the rack and adjust the voltage to +5.7 VDC.

Line Regulation

With output voltage properly set (depending on model), reduce input VAC to 105 volts and record or note output voltage. Then increase input VAC to 129 VAC and note output voltage. Total output voltage change should not exceed 0.5% or $\pm 0.25\%$.

Load Regulation

Set AC input voltage to 117 VAC. Place DC voltmeter across output terminals. A load resistor, equal to the rated load of this supply at selected DC voltage setting, is then applied to output terminals. The voltage change should be noted. This differential change should not exceed 0.5% of DC output voltage. Output current adjust is accomplished by placing a load resistor of the desired value across output terminal; adjust current limit pot until voltage starts to drop. This is the foldback point of current limiting, usually set 20% above full load current desired.

Ripple

With voltage set at 115 VAC and full load across DC output terminals, the measurable AC voltage on output should not exceed 0.1%.

Suggested Practices

While it is not required, chassis should be attached to other heat dissipating surfaces if full power over extended periods is desired.

Loads generating high back EMF voltages should be checked with zener or series diode to reduce detrimental effects on pass elements.



DC POWER SUPPLY

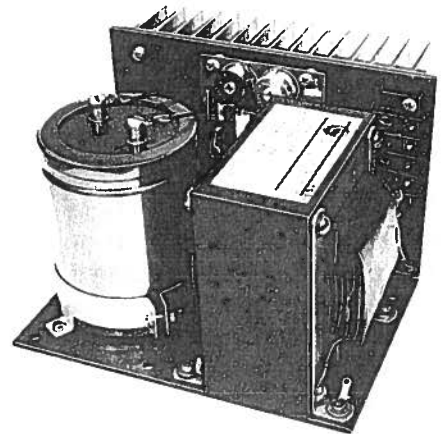
Catalog No. NLPS-360

DESCRIPTION

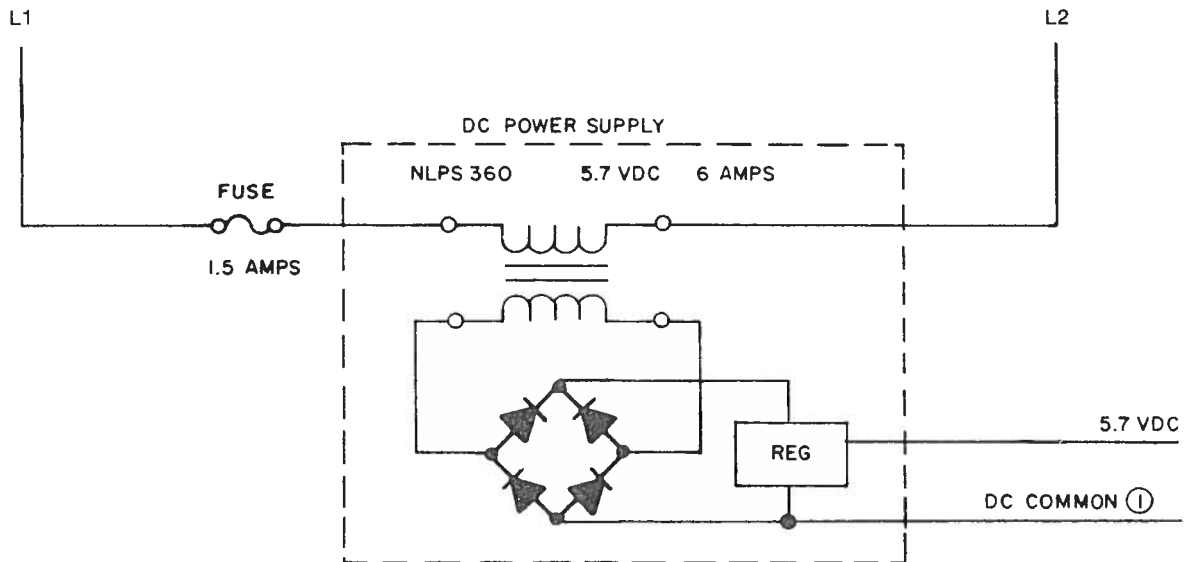
Output: +5.7 VDC to 6.1 VDC at 6 amps.

SPECIFICATIONS

Input voltage	115 VAC \pm 10%, 47-440 Hz
Line regulation	\pm 0.25%
Load regulation	\pm 0.25%
Ripple	0.1%
Short circuit protection	Foldback type adjustable from 20% to full load
Drift	Typically 20 mV max
Temperature rating	0° to 85° C



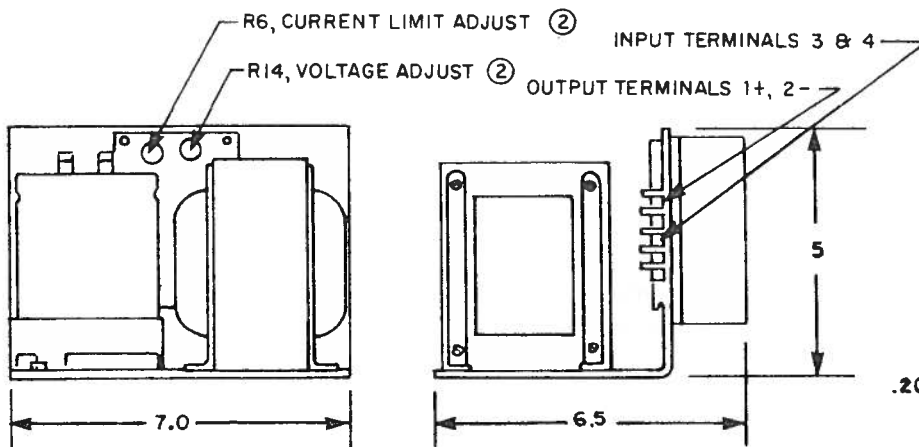
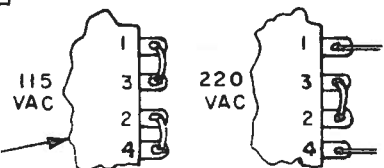
TYPICAL HOOK-UP 115 VAC



① DO NOT TIE DC COMMON TO PANEL, EARTH GROUND, OR L2

DIMENSIONS IN INCHES
WEIGHT 13 LBS.

TYPICAL CONNECTIONS AT INPUT TERMINALS



② TO INCREASE CURRENT OR VOLTAGE, TURN POTS CW.



DC POWER SUPPLY

Operating Procedure

Connect 115 VAC, 47-440 Hz to terminals 1 and 4 of transformer. (AC input terminals on terminal block).

For 220 VAC input, remove jumpers between 1 & 3 and 2 & 4. Then jumper terminals 2 and 3 together and connect 220 VAC to terminals 1 and 4. Suggest twisted AC input wires if electrical noise reduction is prime concern.

Output terminals are located on the side of the power supply and are marked positive (+) and negative (-). Connect the load to these terminals, using the proper size wire (14 gauge stranded) and making sure that the electrical connections are solid, in order to achieve the best results. Place the power supply AS CLOSE to the rack AS POSSIBLE to reduce resistance drop.

Suggested Test Procedure

Connect AC input power as outlined in Operating Procedure. Place a variac between VAC source and input to transformer. Place an AC voltmeter across the transformer input terminals 1 and 4. Set input voltage for nominal 115 VAC with variac.

Place resistive load across output, check VDC output specifications. DC voltmeter should be connected directly across output terminals. DC voltmeter leads must be kept short and connections as solid as possible. Resistive drops in test leads cause regulation errors. Output voltage may require adjustment using the voltage adjust pot. **CAUTION:** After installation measure the power supply voltage at a midpoint in the rack and adjust the voltage to +5.7 VDC.

Line Regulation

With output voltage properly set (depending on model), reduce input VAC to 105 volts and record or note output voltage. Then increase input VAC to 129 VAC and note output voltage. Total output voltage change should not exceed 0.5% or $\pm 0.25\%$.

Load Regulation

Set AC input voltage to 117 VAC. Place DC voltmeter across output terminals. A load resistor, equal to the rated load of this supply at selected DC voltage setting, is then applied to output terminals. The voltage change should be noted. This differential change should not exceed 0.5% of DC output voltage. Output current adjust is accomplished by placing a load resistor of the desired value across output terminal; adjust current limit pot until voltage starts to drop. This is the foldback point of current limiting, usually set 20% above full load current desired.

Ripple

With voltage set at 115 VAC and full load across DC output terminals, the measurable AC voltage on output should not exceed 0.1%.

Suggested Practices

While it is not required, chassis should be attached to other heat dissipating surfaces if full power over extended periods is desired.

Loads generating high back EMF voltages should be checked with zener or series diode to reduce detrimental effects on pass elements.

DC POWER SUPPLY

APPLICATION NOTES

1. Simplified wiring diagram for connecting two NLPS-312M's in a redundant configuration. Should one NLPS-312M fail, the other will supply the power to the system.

