150 WATT Universal Input SVPS15 AC/DC Power Supply

INSTRUCTION MANUAL
SVPS 15 SERIES

General Description:

The SVPS15 Series consists of 150 Watt AC to DC power supplies providing DC regulated outputs of 5V, 12V and 24V. Standard features include automatic AC mains select, class "B" VDE and FCC EMI filtering, Remote Voltage Sensing and Short Circuit Protection. Optional features include a Safety Cover, Input Good / Output Good Signals and jumper AC mains select.

Electrical specification

Output specification:

Model	Voltage range			Maximum current at ambient temperature		Output ripple	Total Regulation Line and Load
	Min	Nom	Max	50°C	60°C	mV pk-pk	mV
SVPS15-5	4.75V	5V	5.25V	30A	25.5A	100	50
SVPS15-12	11.4V	12V	12.6V	12.5A	10.6A	150	120
SVPS15-24	22.8V	24V	25.2V	6.25A	5.3A	200	240

Harmonics - Meets IEC 555-2 AC line harmonics requirement.

Overshoot - No overshoot at turn on, turn off, power failure or removal of a short circuit.

Start-up time - 1.2 sec at input voltage 115VAC

Hold-up time -Typically 12 msec min at full output power and at input voltage 85VAC

Temperature Coefficient - 0.03%/°C

AC input:

Line*.....85-132V AC,180-265V AC (auto-selecting input) 47-63 Hz
115/230V AC jumper select input is available as an option (option code "A")
*Operation of unit between input voltage of 132VAC to 180VAC may result in failure of unit.

Efficiency(typical)..... 73% for 5V model; 76% for 12V and 76% for 24V models.

Inrush Current..... 75A typical for cold startup at 25ºC

Input Current .....4A RMS max

Input Power (typical).....205W for 5V model, 197W for 12V and 197W for 24V models.

EMI.....Conducted EMI conforms to FCC Part 15, Subpart J, Class B and VDE 0871, Curve B

Input Surge Protection.....Meets IEC801,-2,-4,-5 level 3; IEEE C62.41-1991 Location Category A2,

(A3 with external MOV's)

Overcurrent protection- Limits output current to a maximum 125% (typical) of rated load current. Sustained overloads or short circuits for more than 30 seconds may cause power supply damage.

Overvoltage protection - Overvoltage (OV) protection is standard on all models. Input power must be interrupted
to reestablish output after OV condition has been removed.

Fusing .....Fuse F1, 5A/250VAC, normal blo. Overload of power supply does not cause fuse failure. Replace only with the same type and rating.

Isolation Voltage..... 3000VAC from input to output and input to signal connectors.
1500VAC input to chassis.
500VAC output to chassis and signal connectors to chassis.

Safety Agency Compliance..Designed to meet UL1950, CSA22.2#234-M90, EN60950, IEC950, EN410003.

Leakage Current (AC line to chassis ground) - Less than 3.5mA

DC output controls - Simple screw driver adjustment provides ±5% setting over entire voltage range.

Remote Voltage Sensing - Remote sense capability is provided on all models. Max allowed load cable voltage drop must be less than 0.2V.

AC Good Signal - 1 mA conductance signal which indicates that adequate input capacitor energy storage to meet hold-up specification. DC Output will stay within regulation specifications for 10 msec after AC Good Signal ceases to conduct. AC Good Signal is initiated approximately 1.2 seconds after input power is applied.

Output Good Alarm Signal - 1 mA conductance signal which indicates that delivered output voltage, as measured at the +V and -V terminals, is above 90% of nominal value.

Remote on/off: J6 is a primary referenced connector located on the top of the unit.
Short J6 terminals = unit off, open J6 terminals = unit on
Note: This is a primary referenced circuit and requires proper agency clearances.
The use of an opto isolator is recommended.

Ambient operating temperature and cooling - Convection cooled. No fans or blowers needed for continuous operation from 0ºC to 60ºC with 15% derating above 50ºC

Storage temperature - -30° to +85º C

Physical Data

Size..... 4.75"x1.77"x8.5"
Weight..... 5 lbs.net

Mounting - Two mounting positions, two mounting surfaces. Threaded inserts in chassis for mounting

accept M4 screws. Customer mounting screws must not protrude into power supply by more than 1/4 inch .

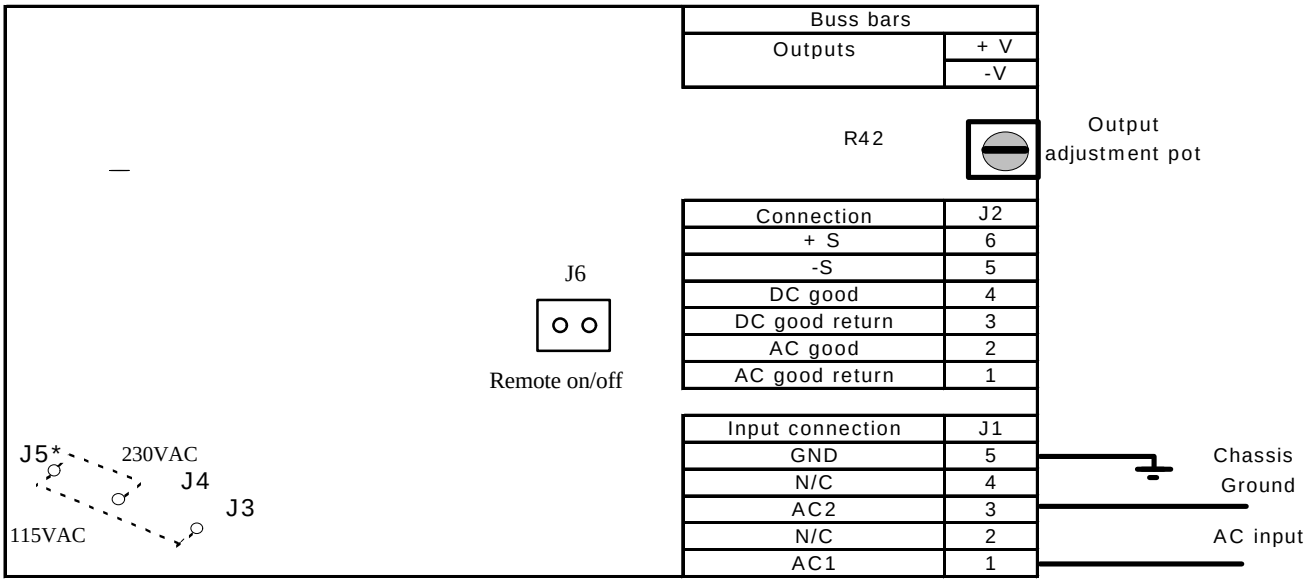
Vibration - The SV Series meets MIL-STD-810E specification for transportation.
Input connections - Molex Connectors (0.156 inch spacing) (mating connector p/n 09-50-8051 or equivalent)
* Note: Molex Connector requires Crimp Terminals p/n 08-50-0106
Signal Connection - Molex Connectors (0.100 inch spacing) (mating connector p/n 22-01-2067 or equivalent)

Output connections - Heavy duty bussbars.

Superior Value Options - The following features are optional and provide the opportunity to optimize the power supply for cost driven applications.

Option Code:	**Description:**
L	No monitoring signals
A	Jumper select 115/230V AC input
Z	Fully enclosed unit (output power must be derated by 10%)

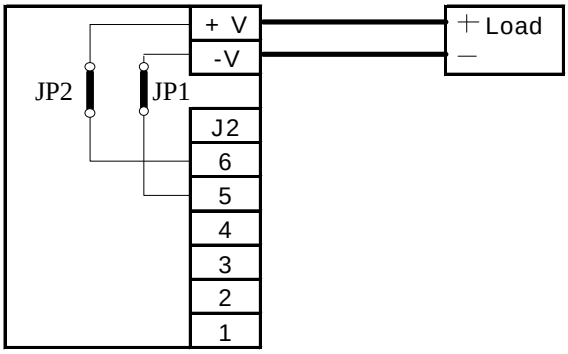
Warranty- One year warranty includes labor as well as parts

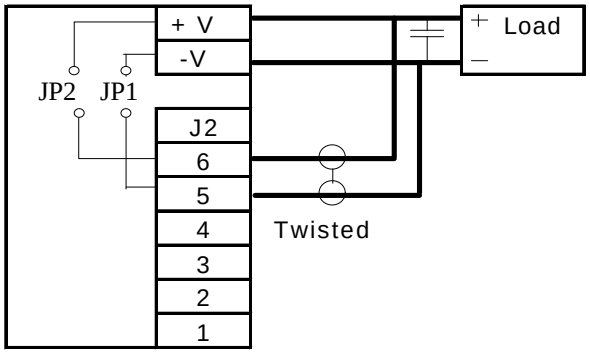


Notes:

1. N/C - no connection
2. *Jumper location for (A option). Connect J5 to J3 for 115VAC operation or J5 to J4 for 230 VAC operation.
3. The output voltage may be adjusted using the adjustment potentiometer shown.

Fig.1 Input/output Connection





Suitable decoupling capacitor (0.1uf, or greater) may be required at load

Fig.2 Local sense connection **Fig.3 Remote sense connection**

4. Unit meets drop test in the Lambda shipping container.

Note: Remote sense minimizes the effects of distribution losses by regulating the voltage at the remote sense connections. For remote sensing disconnect jumpers JP1 and JP2. Good layout techniques, such as close proximity and directness, should be observed for noise immunity.

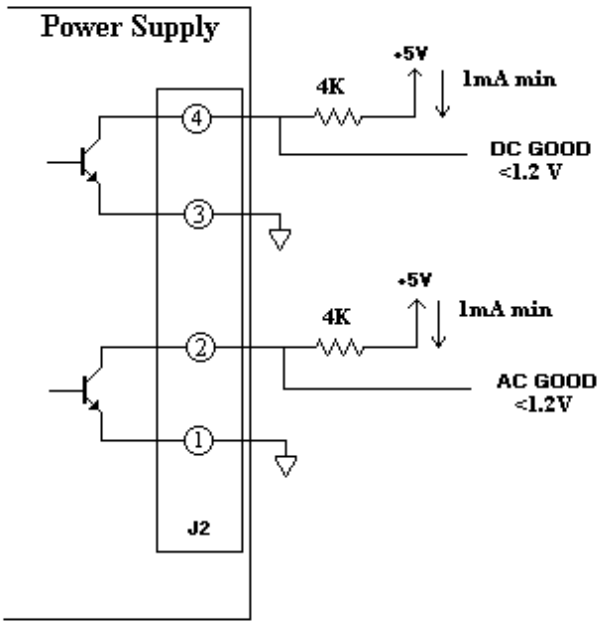


Fig. 4 Connection diagram for output signals.

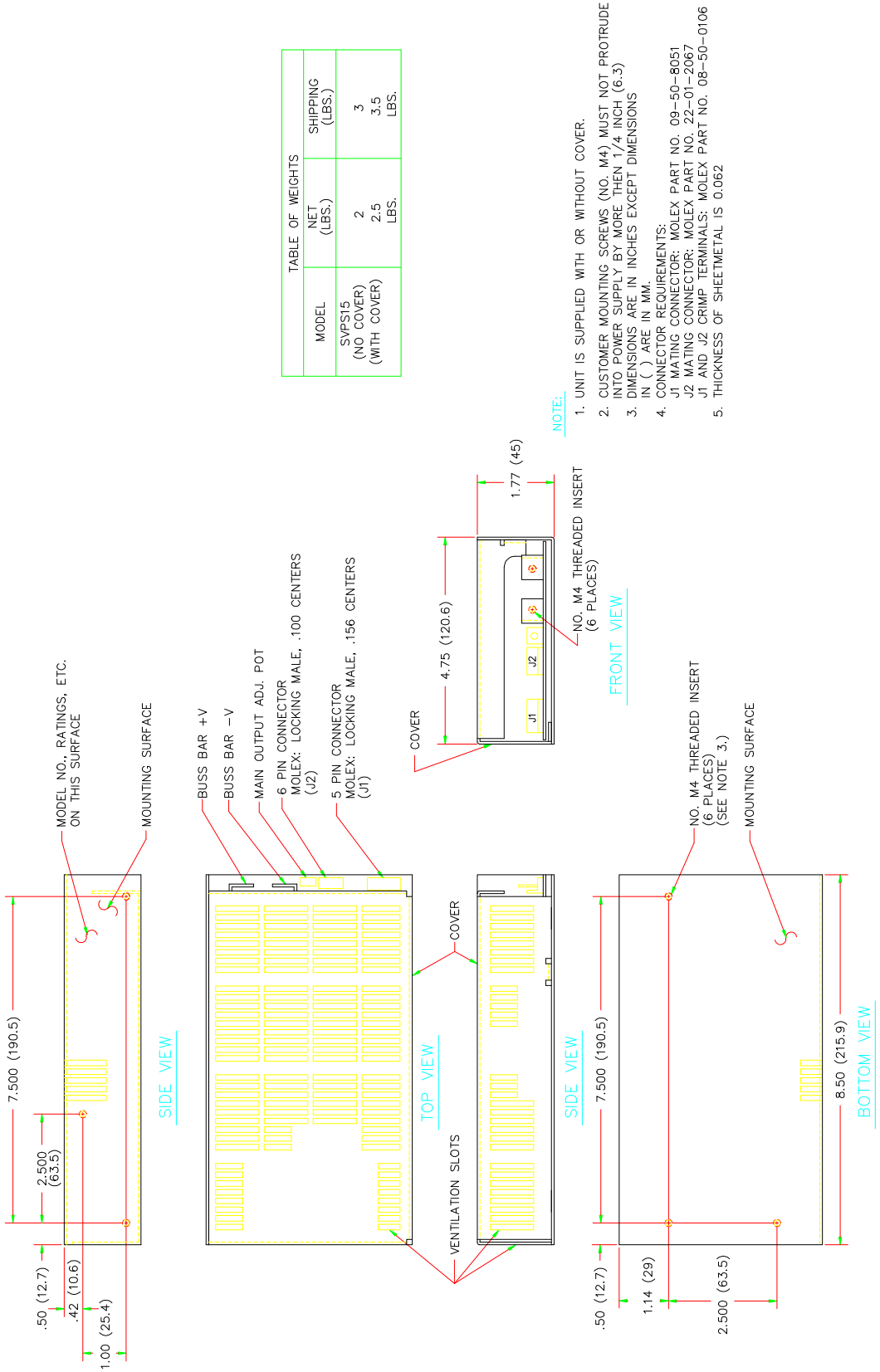


TABLE OF WEIGHTS
MODEL
NET (LBS.)
SHIPPING (LBS.)
SVPS15 (NO COVER) (WITH COVER)
2 2.5 LBS.
3 3.5 LBS.
NOTE:
1. UNIT IS SUPPLIED WITH OR WITHOUT COVER.
2. CUSTOMER MOUNTING SCREWS (NO. M4) MUST NOT PROTRUDE INTO POWER SUPPLY BY MORE THEN 1/4 INCH (6.3)
3. DIMENSIONS ARE IN INCHES EXCEPT DIMENSIONS IN ( ) ARE IN MM.
4. CONNECTOR REQUIREMENTS:
J1 MATING CONNECTOR: MOLEX PART NO. 09-50-8051
J2 MATING CONNECTOR: MOLEX PART NO. 22-01-2067
J1 AND J2 CRIMP TERMINALS: MOLEX PART NO. 08-50-0106
5. THICKNESS OF SHEETMETAL IS 0.062
MODEL NO., RATINGS, ETC. ON THIS SURFACE
MOUNTING SURFACE
7.500 (190.5)
2.500 (63.5)
.50 (12.7)
.42 (10.6)
1.00 (25.4)
SIDE VIEW
BUSS BAR +V
BUSS BAR -V
MAIN OUTPUT ADJ. POT
6 PIN CONNECTOR MOLEX: LOCKING MALE, .100 CENTERS (J2)
5 PIN CONNECTOR MOLEX: LOCKING MALE, .156 CENTERS (J1)
VENTILATION SLOTS
COVER
TOP VIEW
COVER
4.75 (120.6)
1.77 (45)
J1
J2
NO. M4 THREADED INSERT (6 PLACES)
FRONT VIEW
SIDE VIEW
7.500 (190.5)
.50 (12.7)
NO. M4 THREADED INSERT (6 PLACES) (SEE NOTE 3.)
MOUNTING SURFACE
1.14 (29)
2.500 (63.5)
8.50 (215.9)
BOTTOM VIEW