

HEBER

Pluto PSU User Manual

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1 INTRODUCTION

The Pluto PSU has been designed to support the demands of spin reel based AWP machines. A wide range mains input is coupled with a high voltage DC power rail for multiplexed lamps. Utilising experience of Sanken designs the power supply has been designed for reliability and long life. Over current and voltage protection is provide along with a high peak current capability to handle stalled motor currents.

1.1 Specification

1.1.1 Input Characteristics

Input Voltage	AC115 - AC230V
Allowable Input Range	AC110 - AC264V (110-132V, 185-264V)
Input Current (typ)	2A max at nominal input voltage and load (including AC output)
Rated Frequency	50 / 60Hz
Frequency Range	47 - 63Hz
Power factor (typ)	90% 115V 0.99/203V 0.09 Input voltage
Efficiency (typ)	77%
Inrush Current (max)	40A peak, cold start
Leakage Current (max)	Less than 3.5mA @ 230V

Table 1 - Input Characteristics

1.1.2 Fixed Output Characteristics

Output Voltage	+5.1V	+13V	-12V	+24V	AC Outputs	AC Power Fail
Rated Output Current	3A	6.5A	0.15A	2A	1A (120V) / 2A (230V)	12V Square Wave
Peak Current	3A	10A (2 Sec)	0.15A	7A (150mS)		0.5mA
Rated Power	15.3W	84W	1.8W	48W		
Voltage Accuracy	+ - 4%	+ - 10%	+ - 20%	+ - 5%		
Output Hold Up Time	>20mS @ 120V					

Table 2 - Fixed Output Voltage Characteristics

1.1.3 Variable Output Characteristics

Output Voltage	+34V	+36V	+44V	+48V
Rated Output Current	4.8A	4.8A	3.2A	3.2A
Peak Current	9.1A (20mS)	9.6A (20mS)	6.4A (20mS)	6.4A (20mS)
Rated Power	163W	173W	141W	154W
Voltage Accuracy	+ - 4%	+ - 4%	+ - 4%	+ - 4%
Output Hold Up Time	>20mS @ 120V			

Table 3 - Variable Output Voltage Characteristics

1.1.4 Protection

Over Current	Yes, All outputs 34-48V > 11A, other fold back with > peak load
Over Voltage	Yes, Bounce-mode with auto recovery
Over Heating	Yes, Thermostat fitted to prevent damage in event of fan failure

Table 4 - Protection

1.1.5 Environmental

Operating Temperature	0 °C ~ 50 °C
Storage Temperature	-10 °C ~ +70 °C
Operating Humidity Range	5% ~ 84% non-condensing
Cooling Fan	Internal variable speed fan

Table 5 - Environmental

1.2 High Voltage Selection

The Pluto PSU is shipped with the high voltage selected as +48V. The voltage selection is accessed via a small slot on the side (opposite face to AC output) of the case as indicated (red circle) in Figure 1.

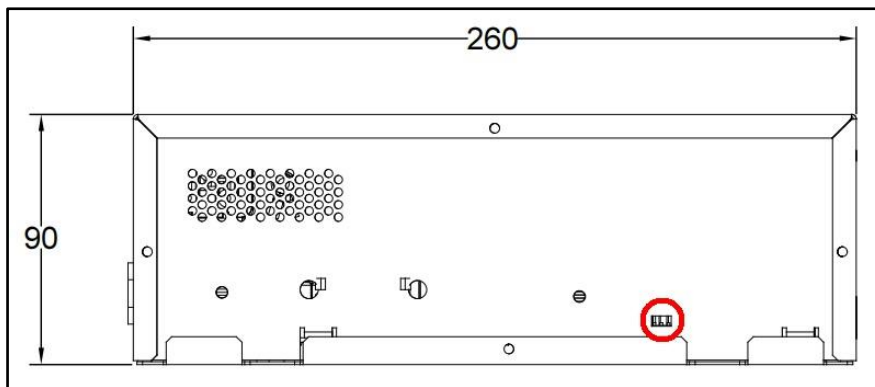
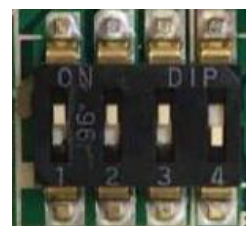
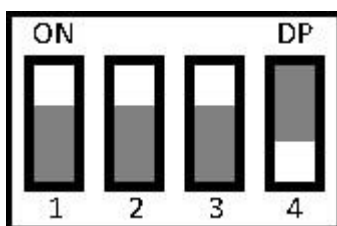


Figure 1 - Voltage selection slot access

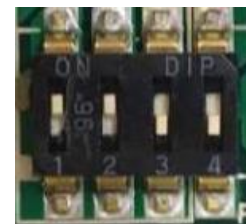
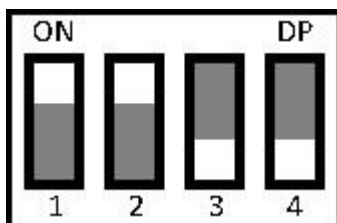
A three or four way, DIP switch could be fitted to the PCB, switches 1 to 4 are the only switches that effect operation. A switch is in the off position when nearest the case and on when pushed in.

1.2.1 48V - Switches 1 2 and 3 On (Shipping Default)



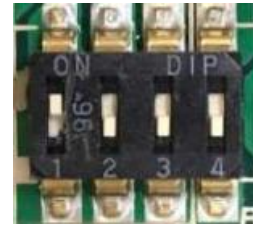
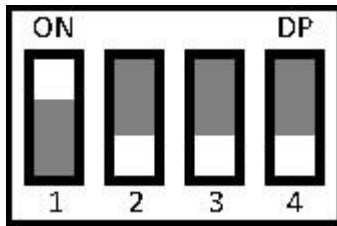
For 48V (Default), switches 1, 2 and 3 should be in the on positions all other switches should be off.

1.2.2 44V - Switches 1 and 2 On



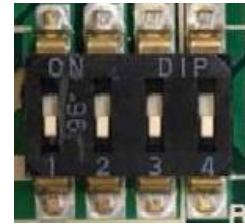
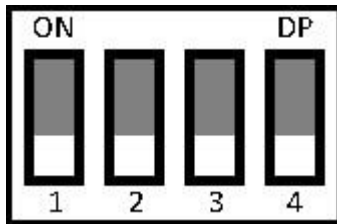
For 44V, switches 1 and 2 should be in the on positions all other switches should be off.

1.2.3 36V - Switch 1 On



For 36V, switch 1 should be in on position will all other switches off.

1.2.4 34V - All switches off



For 34V, all switched should be in the off position.



1.3 Mechanical Layout

The overall mechanical footprint is (W) 260mm x (D) 194mm x (H) 90mm and is footprint compatible with the Sanken SPS077W.

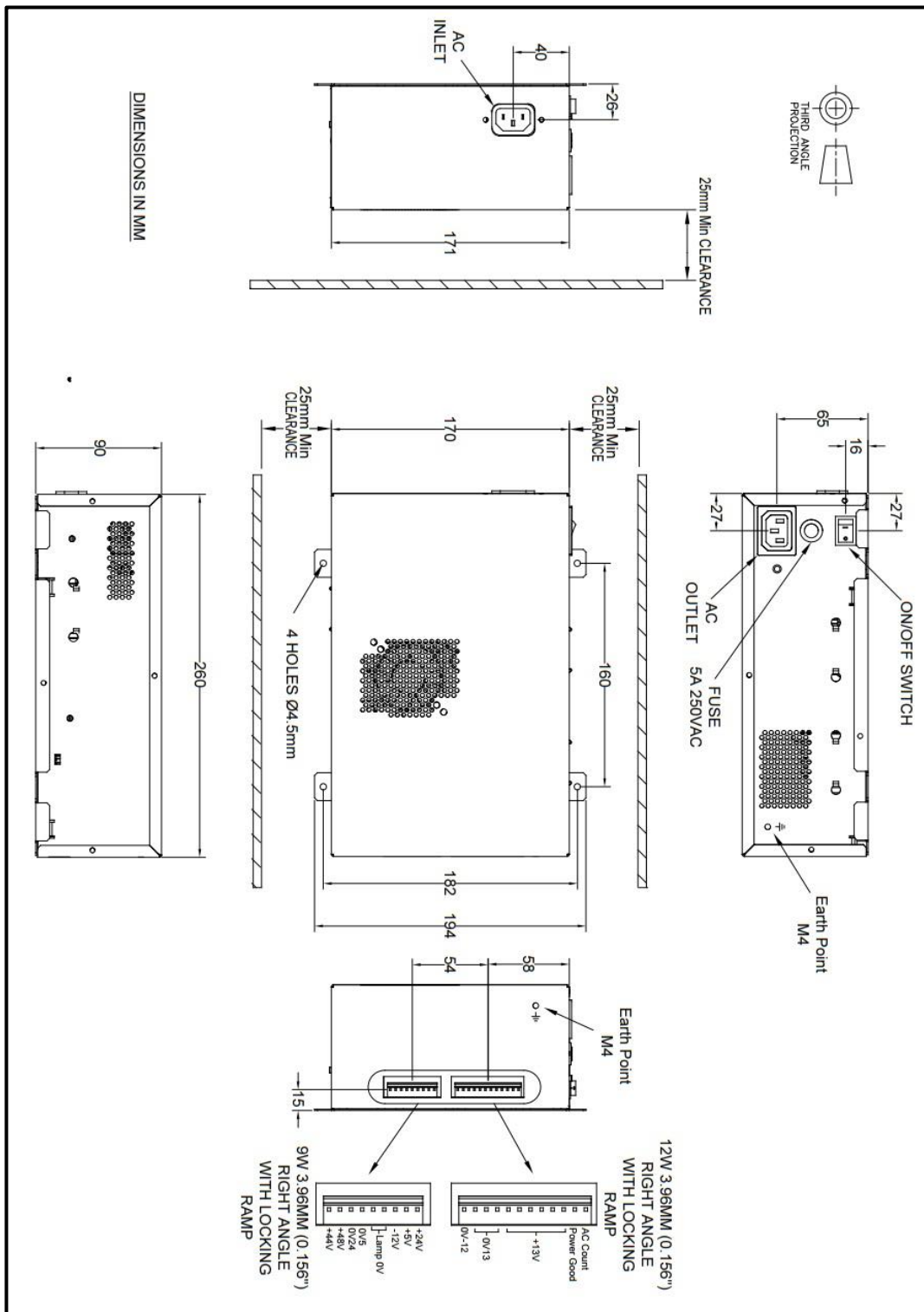


Figure 2 - PSU Mechanical Format

1.4 Connectors

1.4.1 Output Connector Layout

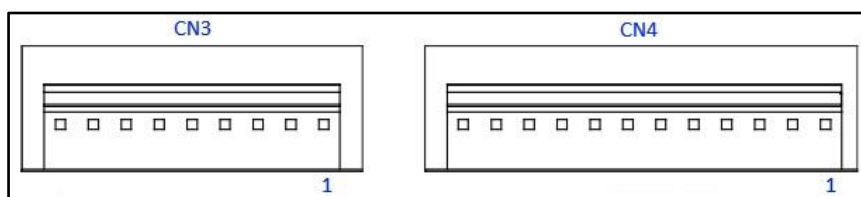


Figure 3 - Output Connector Layout

1.4.2 CN1 AC Input Connector

CN802	AC Input (Male)
Pin	IE C14

1.4.3 CN2 AC Output Connector

CN802	AC Output (Female)
Pin	IE C14

1.4.4 CN3 Aux Outputs 1

CN802	Molex Ref: 26-60-5090 (Mating part 09-50-8091)
Pin	Output
1	24V
2	5V
3	-12V
4	0V
5	0V
6	0V
7	0V
8	+34, 36, 44 or 48V
9	+34, 23, 44 or 48V

1.4.5 CN4 AUX Outputs 2

CN802	Molex Ref: 26-06-5110 (Mating part 09-50-8111)
Pin	Output
1	AC Count
2	Power Good
3	13V
4	13V
5	13V
6	13V
7	13V
8	0V
9	0V
10	0V
11	0V

1.5 Contact Details

For sales enquires please contact sales@heber.co.uk

For technical support enquires please contact support@heber.co.uk