


UNIT CODE	DESCRIPTION
PS-RSP 500-5	450 Watt, 5 Volt, Single Output, 1U Low Profile, Power Supply with an Active PFC Function

SPECIFICATIONS		
Input	Output	Agency Approvals
Universal 85 ~ 264VAC	+5VDC @ 0 ~ 90A	

Features at a Glance:

- Priced Economically
- Universal AC input for use worldwide
- Efficient (up to 90%)
- Active PFC function (PF>0.95)
- 40.5mm low profile 1U design
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Built-in Remote ON/OFF Control
- Built-in Remote Sense Function
- LED indicator for Power ON
- Forced air cooling (by fan with speed control)
- Safety Standards: UL60950-1, TUV EN60950-1
- Certificates: UL, CUL, TUV, CB, and CE
- MBTF: 187.7K hours min. *MIL-HDBK-217F (25°C)*
- Case: 226A
- Weight: 2.86 lbs. (1.3 Kgs.)
- Dimensions: 9.0" L x 5.0" W x 1.6" H
230L X 127W X 40.5H mm
- 3 year warranty



The PS-RSP 500 Series are economical, single output, general-purpose, 450-500 Watt, 1U low profile, enclosed type, switching power supplies with full range AC input and an active Power Factor Correction (PFC) function.

Other built-in functions include built-in Remote ON/OFF Control, Remote Sense, fan speed control, protection against short circuit, overload, over voltage and over temperature. All versions comply with UL, CUL, TUV, CB, and CE regulations that ensure user and environmental safety.

Wide -30~+70°C (-22~158° F) operating temperature range.

The PS-RSP-500 Series is widely used and applications include general industrial control systems, mechanical and electrical equipment, instrumentation, LED displays, or any system that requires a low profile, economical power supply.

[Click for more information](#)

Pricing:	1 +	\$ 149.95
	10 +	137.50
	25 +	119.00

toll-free 1-866-665-5434 (603) 888-2467 power@electracool.com

Specifications

OUTPUT

DC VOLTAGE	5V
RATED CURRENT	90A
CURRENT RANGE	0 ~ 90A
RATED POWER	450W
RIPPLE & NOISE (max.) <i>Note.2</i>	150mVp-p
VOLTAGE ADJ. RANGE	4.5 ~ 5.5V
VOLTAGE TOLERANCE <i>Note.3</i>	±2.0%
LINE REGULATION	±0.5%
LOAD REGULATION	±1.0%
SETUP, RISE TIME	1500ms, 50ms/230VAC 3000ms, 50ms/115VAC at full load
HOLD UP TIME (Typ.)	18ms/230VAC 14ms/115VAC at full load

INPUT

VOLTAGE RANGE <i>Note.4</i>	85 ~ 264VAC 120 ~ 370VDC
FREQUENCY RANGE	47 ~ 63Hz
POWER FACTOR (Typ.)	PF>0.95/230VAC PF>0.98/115VAC at full load
EFFICIENCY (Typ.)	83%
AC CURRENT (Typ.)	5.3A/115VAC 2.65A/230VAC
INRUSH CURRENT (Typ.)	20A/115VAC 40A/230VAC
LEAKAGE CURRENT	<2mA / 240VAC

PROTECTION

OVERLOAD	105 ~ 130% rated output power. Protection type: Hiccup mode, recovers automatically after fault is removed
OVER VOLTAGE	5.75 ~ 6.75V Protection type: Shut down o/p voltage, re-power on to recover
OVER TEMPERATURE	80°C ± 5°C (TSW1) detected on heatsink of power transistor. Shut down o/p voltage, recovers automatically after temperature goes down

FUNCTION

REMOTE CONTROL	Power ON: Open or 0~0.8VDC between RC+(Pin 4) & RC-(Pin3) on CN100 Power OFF: 4~10VDC between RC+(Pin 4) & RC-(Pin3) on CN100
REMOTE SENSE	Compensate voltage drop on the load wiring up to 0.3V
FAN CONTROL	RTH2 ≥ 50°C ± 10°C Fan on; RTH2 ≤ 40°C ± 10°C Fan off

ENVIRONMENT

WORKING TEMP.	-30°C ~ +70°C (Refer to the "Derating Curve" on last page)
WORKING HUMIDITY	20 ~ 90% RH non-condensing
STORAGE TEMP., HUMIDITY	-40°C ~ +85°C, 10 ~ 95% RH
TEMP. COEFFICIENT	±0.03%/°C (0 ~ 50°C)
VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes

SAFETY & EMC (*Note 5*)

SAFETY STANDARDS	UL60950-1, TUV EN60950-1 approved
WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC
ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C/ 70% RH
EMC EMISSION	Compliance to EN55022 (CISPR22) Class B, EN61000-3-2,-3
EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, EN55024,EN61000-6-2, EN61204-3 heavy industry level, criteria A

OTHER

MTBF	206.5K hrs min. MIL-HDBK-217F (25 °C)
DIMENSIONS	215*115*30mm (L*W*H)
PACKING	0.9Kg; 15pcs/14.5Kg/0.78CUFT

NOTES follow on next page.

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NOTES: 1. All parameters NOT specifically mentioned are measured at 230VAC input, rated load and ambient temperature of 25°C.
 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
 3. Tolerance: includes set up tolerance, line regulation and load regulation.
 4. Derating will be required when operating under certain low input voltages. Please see the Derating Curves on last page.
 5. The power supply is considered a component which will be installed into a final piece of equipment. That final equipment must be re-confirmed as still meeting EMC directives. For guidance on how to perform these EMC tests, please Google "EMI testing of component power supplies."

Function Description of CN100

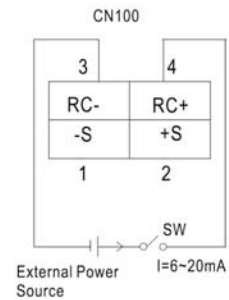
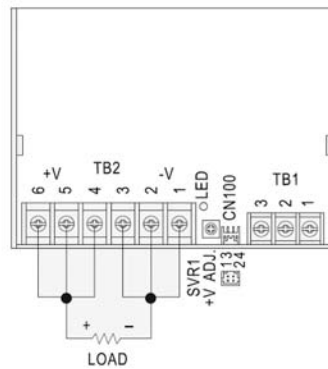
Pin No.	Function	Description
1	-S	Negative sensing. The -S signal should be connected to the negative terminal of the load. The -S and +S leads should be twisted in pair to minimize noise pick-up effect. The maximum line drop compensation is 0.3V.
2	+S	Positive sensing. The +S signal should be connected to the positive terminal of the load. The +S and -S leads should be twisted in pair to minimize noise pick-up effect. The maximum line drop compensation is 0.3V.
3	RC-	Return for RC+ signal input.
4	RC+	Turns the output on and off by electrical or dry contact between pin 4 (RC+) and pin 3 (RC-). 0~0.8VDC or open: Power ON, 4~10VDC: Power OFF.

Function Manual

1. Remote Control

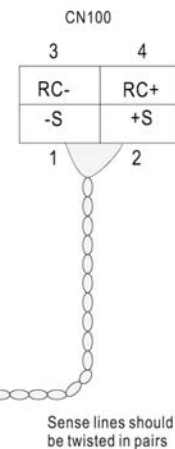
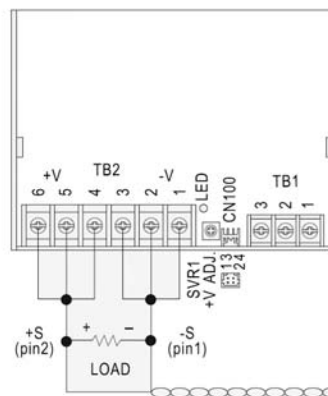
The PSU can be turned ON/OFF by using the "Remote Control" function.

Between RC-(pin3) and RC+(pin4) on CN100	PSU Status
SW OFF (0 ~ 0.8VDC) or open	ON
SW ON (4 ~ 10V)	OFF



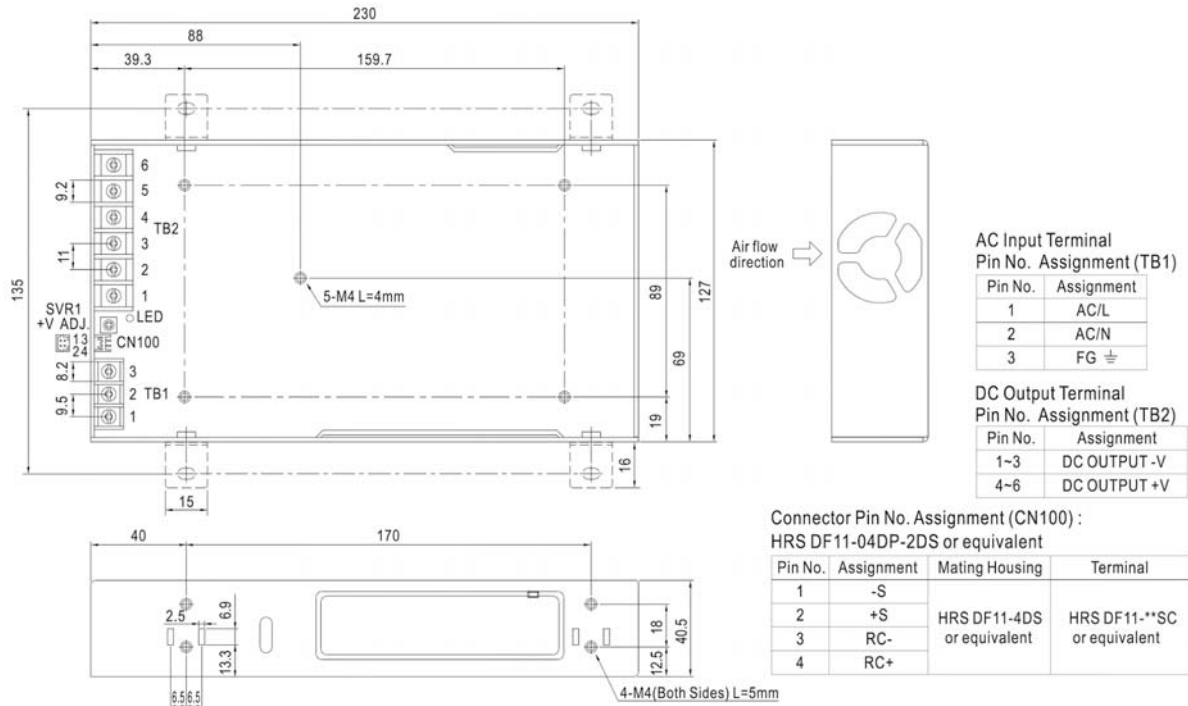
2. Remote Sense

The remote sensing compensates voltage drop on the load wiring up to 0.3V

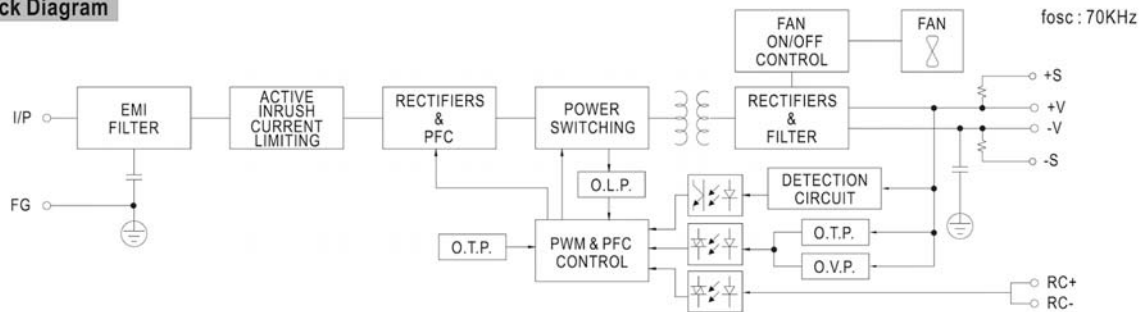


Mechanical Specification

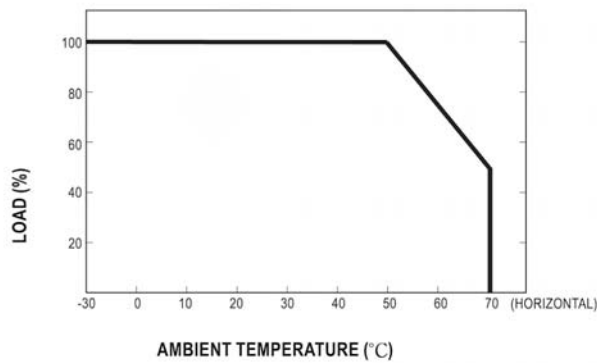
Case No.226A Unit:mm



Block Diagram



Derating Curve



Static Characteristics

