

500 Watt, ARF500U Series, U-Channel Power Supply



electronic powersolutions



- Universal AC Input
- 500 Watt with 30CFM Forced Air
- 450W with Conduction Cooling
- 330W with Natural Convection
- U-Channel Chassis or option of fully enclosed format option
- High efficiency up to 92%
- Built-in 12V/0.3A Auxiliary Output, Standby 5V@1A with Fan, @0.4A without Fan
- Full approvals: UL / IEC / EN 62368-1
- Very compact & low profile case size
- Operating Altitude 5000M
- 3-Year Product Warranty

Specification

Input Voltage.....	90~264 VAC, 47~63 Hz (120-370 VDC)
Inrush Current.....	40 A @ 115 VAC, 80 A @ 230 VAC
Output Voltage.....	Single Outputs, See table below
Load Regulation.....	+/-1%
Line Regulation.....	+/-1%
Over Voltage Protection.....	Auto Recovery
Short Circuit Protection.....	Protection level 1 (nominal) : Continuous, Auto recovery Protection level 2 (instantaneous high current) : Latch
Overload Protection.....	Auto Recovery
Hold Up Time.....	8 ms, min
Ripple & Noise.....	1% max
Input to Output Isolation.....	I/P-O/P: 4 kVAC,
Operating Temperature	-30 to +80 °C, see derating curve
Storage Temperature.....	-30 to +85 °C
Safety Standards.....	UL 60950 UL / IEC / EN 62368
EMC.....	EN55032 Class B, EN55032 Class A EN55035
Mechanical	129.7 x 82.55 x 40.0 mm
Connections Input & Output.....	Screw Terminal Input and Output Connections

Models and Ratings

Model	Output Voltage	Output Current				
		30CFM	Conduction (115 VAC)	Conduction (230 VAC)	Convection (115 VAC)	Convection (230 VAC)
ARF500U-12S-AP	12 V	41.5 A	33.3 A	37.5 A	20.83 A	27.5 A
ARF500U-24S-AP	24 V	20.8 A	16.6 A	18.75 A	10.42 A	13.75 A
ARF500U-48S-AP	48.0	10.41 A	8.33 A	9.375 A	5.21 A	6.87 A

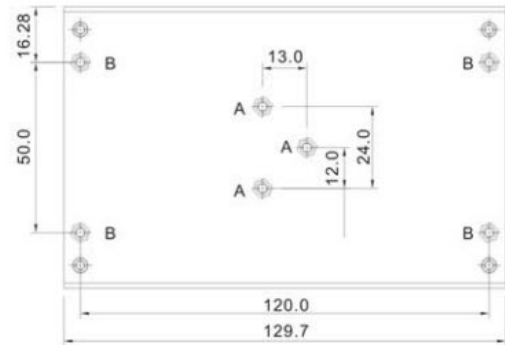
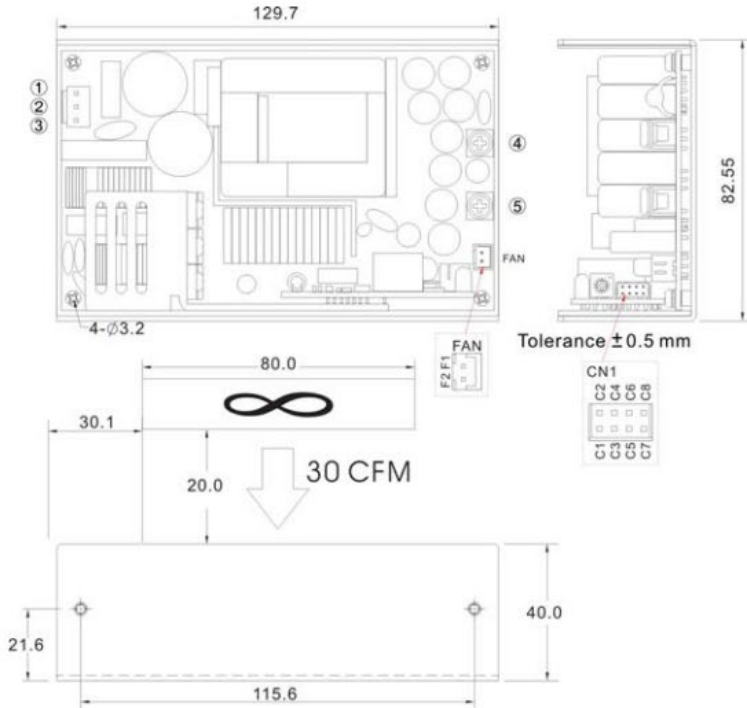
Please see next page for mechanical drawings.

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A= For fixture to chassis only
A=M3x0.5P
B=For fixture to pcb/chassis only
B=M3x0.5P

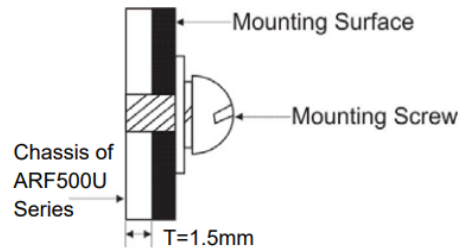
Torque: 3 ± 0.5 Kgf.cm

Brands		Alex		JST	
PIN#	Single	Mating Housing	Terminal	Mating Housing	Terminal
A,B	PE	—	—	—	—
1	AC IN (N)	9396-3	96T series	VHR-3N	SVH-41T-P1.1
2	NO PIN				
3	AC IN (L)				
4	+DC OUT	Terminal : M3.5 Pan HD screw in 2 positions Torque to 8 lbs-in(90 cNm) max.			
5	-DC OUT				

ASSEMBLY INSTRUCTIONS

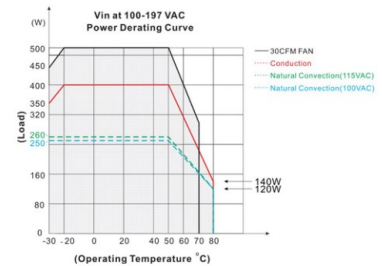
*U Case T=1.5mm

Customer is advised to screw into the threads no more than 1.5mm

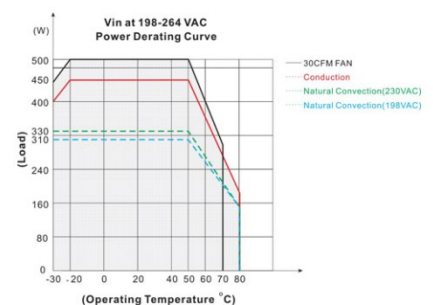


Connector Pin (CN1)					
Brands		Cheng Weei		JST	
PIN#	Single	Mating Housing	Terminal	Mating Housing	Terminal
C1	-5V SB	PHD-H20-2X4P	PHD-T20	PHDR-08VS	SPHD-001T-P0.5
C2	+5V SB				
C3	GND				
C4	DC-OK				
C5	-RC				
C6	+RC				
C7	-S				
C8	+S				

DERATING



If input voltage is lower than 100VAC, please refer to the output derating v.s. input voltage curve for details



Connector Pin (FAN)					
Brands		Alex		JST	
PIN#	Single	Mating Housing	Terminal	Mating Housing	Terminal
F1	+12V	8821-2	8820T	XHP-2	SXH-002T-P0.6
F2	GND				

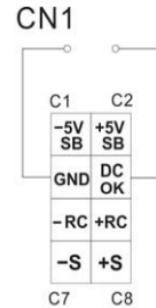
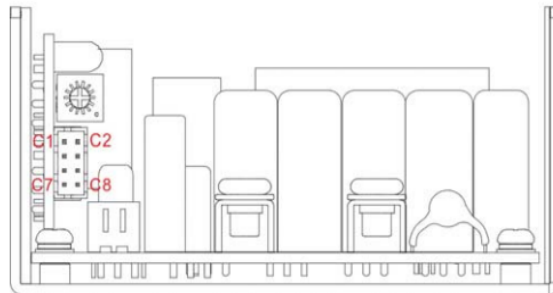
FUNCTION DESCRIPTION of CN1

Pin No.	Function	Description
C1	-5VSB	This pin connects to the negative terminal(-V). Return for DC-OK and -RC signal output.
C2	+5VSB	Stand by voltage output ground 4.2~5.5V, referenced to pin C1(-5VSB). The maximum load current is 1A with Fan, 0.4A without Fan..
C3	GND	This pin connects to the negative terminal(-V). Return for DC-OK and -RC signal output.
C4	DC OK	DC-OK Signal is a DC output, referenced to pin C3(DC-OK GND).
C5	-RC	This pin connects to the negative terminal(-V). Return for DC-OK and -RC signal output.
C6	+RC	Turns the output on and off by electrical or dry contact between pin C5 (-RC), Short: Power OFF, Open: Power ON. The input voltage must be less than 1V in order to disable VOUT and greater than 3.3V (up to 5V) to enable it.
C7	-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.
C8	+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.

FUNCTION MANUAL & APPLICATION NOTE

1. DC-OK Signal

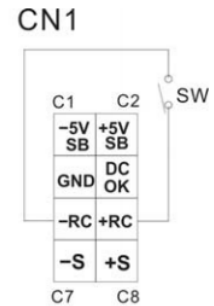
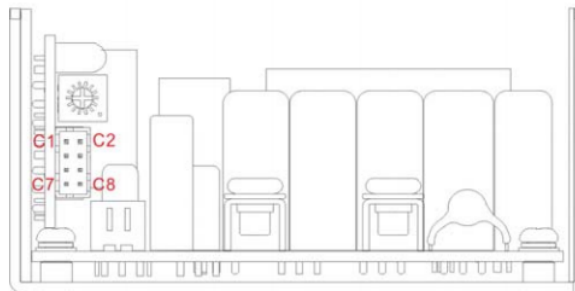
Between DC-OK and GND	Output Status
3.7~6V	ON
0~1V	OFF



2. Remote Control

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

Between +RC and -RC	Output Status
SW ON (Short)	OFF
SW OFF (Open)	ON



2. +S and -S Sense

Shorter wiring to each unit is recommended, as well as twisting +S and -S in pairs, as shown below

