ARCH ELECTRONICS CORP.

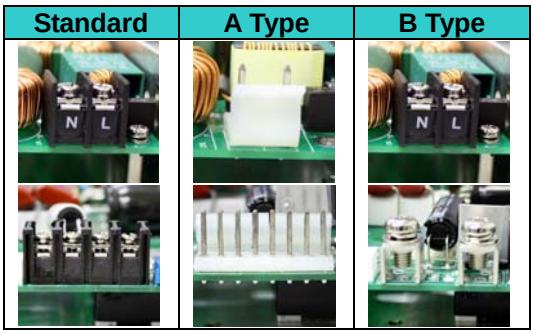
AC-DC ITE Switching Power Supply

ABR300E SERIES 300 Watts

KEY FEATURES

- Enclosed Switching Power Supply
- Universal Input: 90-264 VAC
- Active P.F.C. Function, PF>0.9
- 300W Conduction Cooling
- 300W Convection with 18CFM FAN
- Over Current / Over Voltage / Over Temperature / Short Circuit Protection
- 3-Year Product Warranty





E199779 LEVEL3

(In Progress)

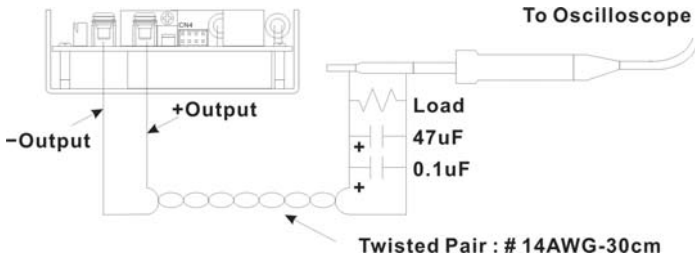
ELECTRICAL SPECIFICATIONS

All specifications valid at normal input voltage, full load and +25°C after warm-up time unless otherwise stated.

Model No.		ABR300E-12S	ABR300E-24S	ABR300E-28S	ABR300E-48S
Max Output Wattage ((W)		300W	300W	308W	300W
Input	Voltage	90-264 VAC			
	Frequency (Hz)	50/60 Hz (47-63 Hz)			
	Current (Full load)	<4.0 A (100 VAC) / <2.0 A max. (200 VAC)			
	Inrush Current (<2ms)	< 70 A max. (115 VAC) / < 90 A max. (230 VAC)			
	Power Factor (typ.)	PF>0.95 (100 VAC) / PF>0.9 (230 VAC) at Full Load			
Output	Voltage (V.DC.)	12V	24V	28V	48V
	Voltage Accuracy	±2%			
	Trim (V.DC)	10.8 ~ 13.2V	21.6 ~ 26.4V	25.2 ~ 30.8V	43.2 ~ 52.8V
	Current (max.)	25	12.5	11	6.25
	Line Regulation (LL-HL) (typ.)	±1%			
	Load Regulation (10-100%) (typ.)	±2%	±1%		
	Minimum Load	0%			
	Maximum Capacitive Load	5000 uF	2500 uF	2500 uF	1250 uF
	Ripple & Noise (max.)	150mVp-p	200mVp-p	200mVp-p	300mVp-p
	Efficiency (%) (at 230 VAC)	87.5%	87%	87%	88%
	Remote Sensing	Provided			
	Hold-up Time (at 230 VAC)	10 ms min.			
Protection	Over Power Protection	Auto recovery			
	Over Voltage Protection	Auto recovery			
	Over Temperature	Auto recovery			
	Short Circuit Protection	Auto recovery, Hiccup mode			
Isolation	Input-Output (V.AC)	3000V			
	Input-FG (V.AC)	1500V			
	Output-FG (V.AC)	500V			
Environment	Operating Temperature	-40°C…+65°C (with derating)			
	Storage Temperature	-40°C…+85°C			
	Temperature Coefficient	±0.05%/°C (0~50°C)			
	Humidity	20~95% RH (Non condensing)			
	MTBF	>200,000 h @ 25°C (MIL-HDBK-217F)			
	Vibration	10~500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes.			
Physical	Dimension (L x W x H)	6.0 x 4.18 x 1.81 Inches (150.0 x 106.0 x 46.0 mm) Tolerance ±0.5 mm			
	Weight	In Progress			
	Cooling Method	Conduction cooling			
Safety	Agency Approvals	CE, UL60950-1 (In Progress)			
EMC	EMI (Conducted & Radiated Emission)	EN 55022 Conducted Class B & Radiated Class A (In Progress)			
	EMS (Noise Immunity)	EN 55024、EN61000-4-2,3,4,5,6,8,11			

NOTE

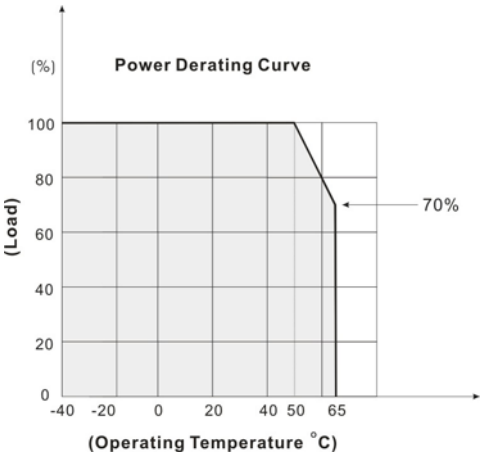
1. Ripple & Noise are measured at 20MHz of bandwidth with ceramic 0.1uF & chemi-con KY 47uF parallel capacitor.

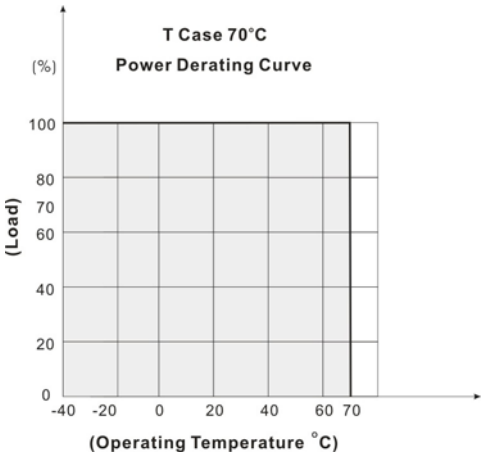


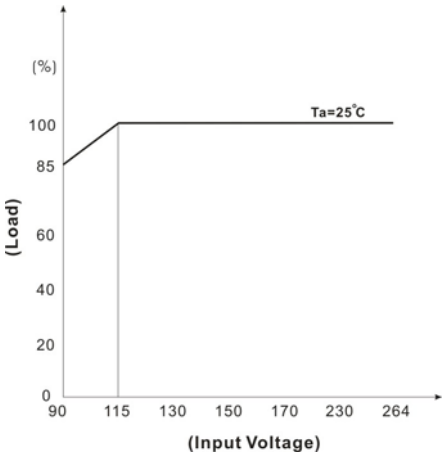
A 30cm twisted pair of no.14 AWG copper wire is connected to a 47uF and 0.1uF capacitor of proper polarity and voltage rating. The oscilloscope probe ground led should connect right to the ground ring of the probe and be as short as possible. The oscilloscope bandwidth should be at 20MHz and connected to AC ground.

2. Hold-up Time measured at 90% Vout.
3. Strongly recommend to conduct this test with DC Voltage. If customer wishes to test with AC Voltage, please disconnect all Y-Capacitors within Arch power supply.
4. The ABR300E Series should be conduction-cooled. Use a fan to dissipate heat.

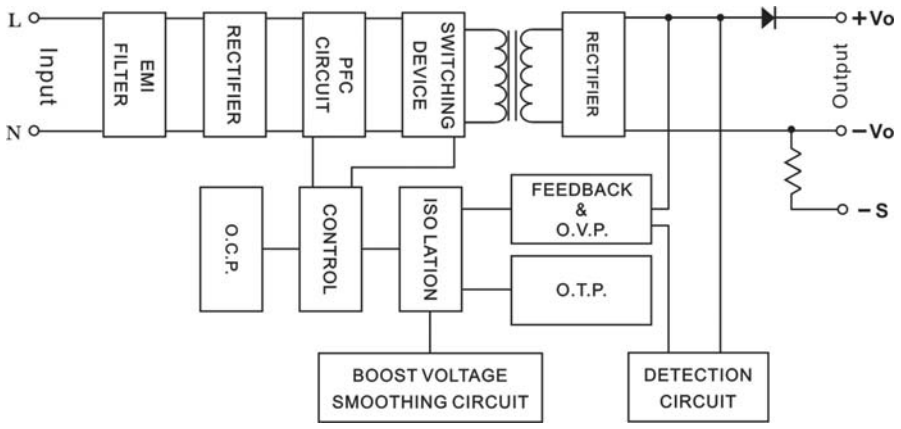
DERATING







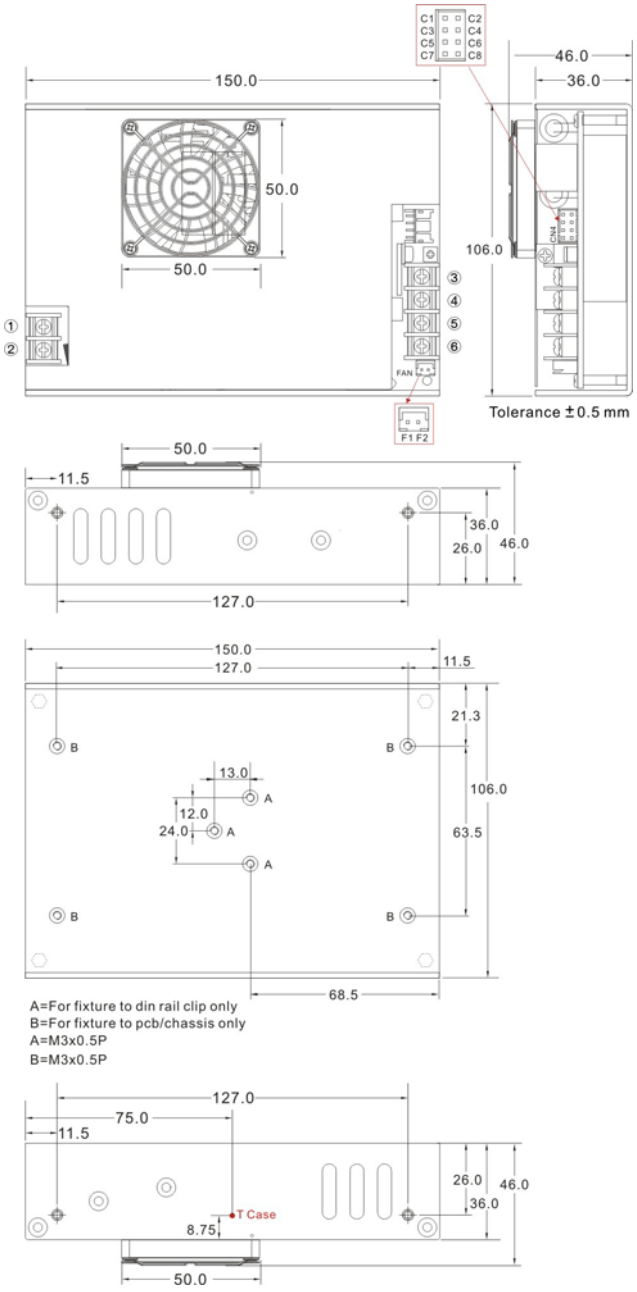
BLOCK DIAGRAM

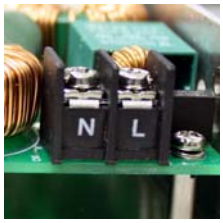


ABR300E SERIES 300 Watts

MECHANICAL DIMENSION (Top View)

Standard







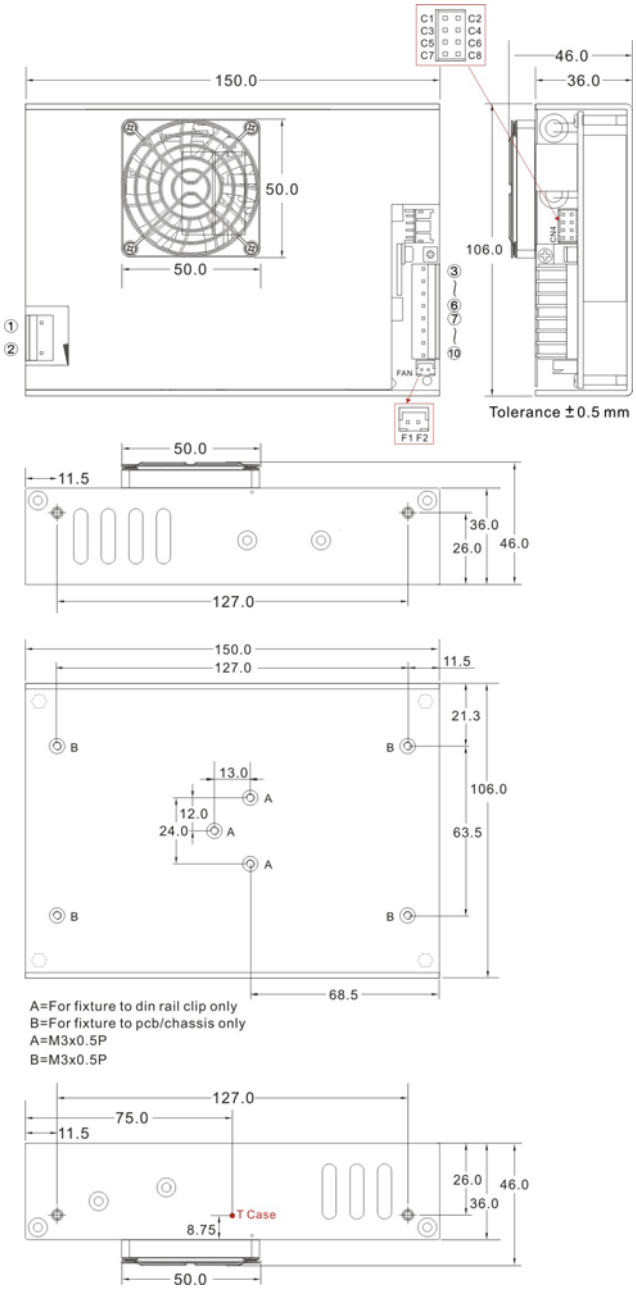
Terminal Pin	
PIN#	Single
1	AC IN (N)
2	AC IN (L)
3~4	+DC OUT
5~6	-DC OUT

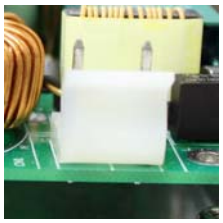
Connector Pin (CN4)	
PIN#	Single
C1	-S
C2	-V
C3	+S
C4	NC
C5	ENA
C6~C8	NC

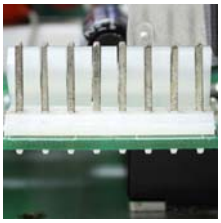
FAN Molex Pin	
PIN#	Single
F1	+DC
F2	-DC

MECHANICAL DIMENSION (Top View)

A Type







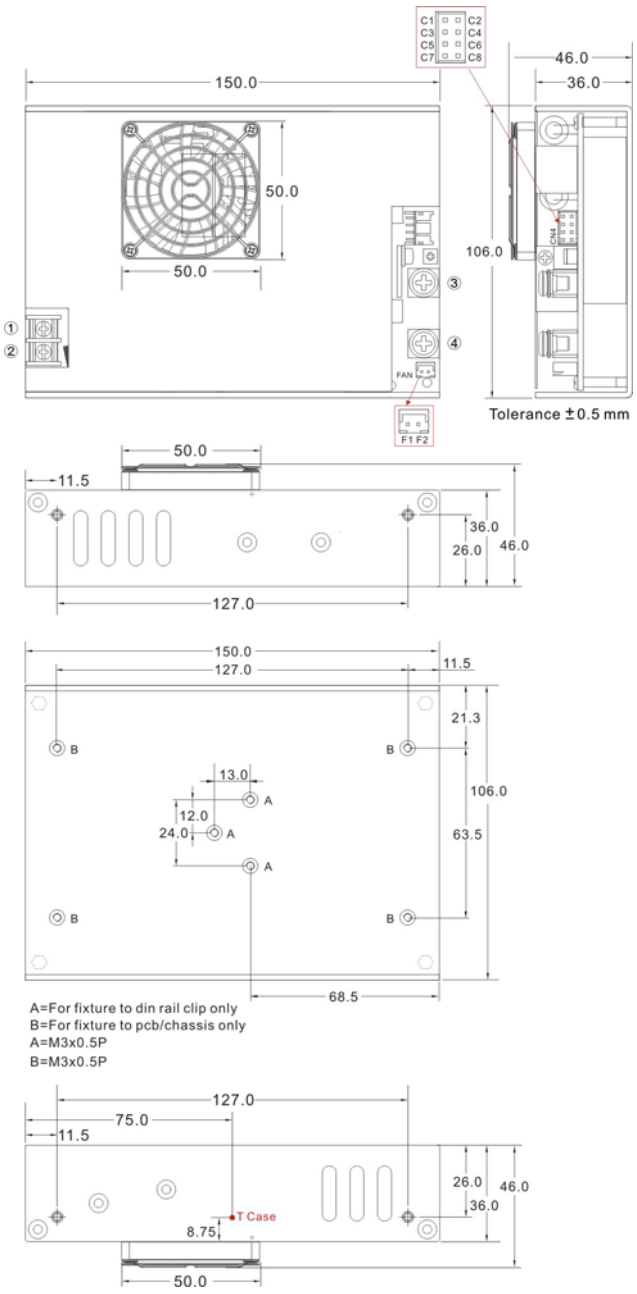
Terminal Pin	
PIN#	Single
1	AC IN (N)
2	AC IN (L)
3~6	+DC OUT
7~10	-DC OUT

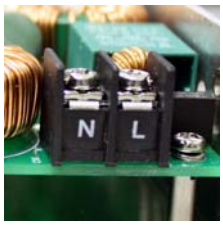
Connector Pin (CN4)	
PIN#	Single
C1	-S
C2	-V
C3	+S
C4	NC
C5	ENA
C6~C8	NC

FAN Molex Pin	
PIN#	Single
F1	+DC
F2	-DC

MECHANICAL DIMENSION (Top View)

B Type







Terminal Pin	
PIN#	Single
1	AC IN (N)
2	AC IN (L)
3	+DC OUT
4	-DC OUT

Connector Pin (CN4)	
PIN#	Single
C1	-S
C2	-V
C3	+S
C4	NC
C5	ENA
C6~C8	NC

FAN Molex Pin	
PIN#	Single
F1	+DC
F2	-DC

FUNCTION DESCRIPITON of CN4 :

Pin No.	Function	Description
C1	-S	Remote sensing (-)
C2	-V	
C3	+S	Remote sensing (+)
C4	NC	
C5	ENA	Open collector (10mA sink current). Low when output is present.
C6	NC	
C7	NC	
C8	NC	