

ARCH AFC-E1 AC-DC Power Datasheet

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KEY FEATURES

Switching Power Module for PCB Mountable

Fully Encapsulated Plastic Case

Universal Input Range 90-264VAC, 47-440 Hz

Regulated Output and Low Ripple and Low Noise

Isolation Class II

Small Size: 2.06 x 1.07 x 0.93 Inches

Screw Terminal For Optional

CE, CB, UL Approval

3-Years Product Warranty

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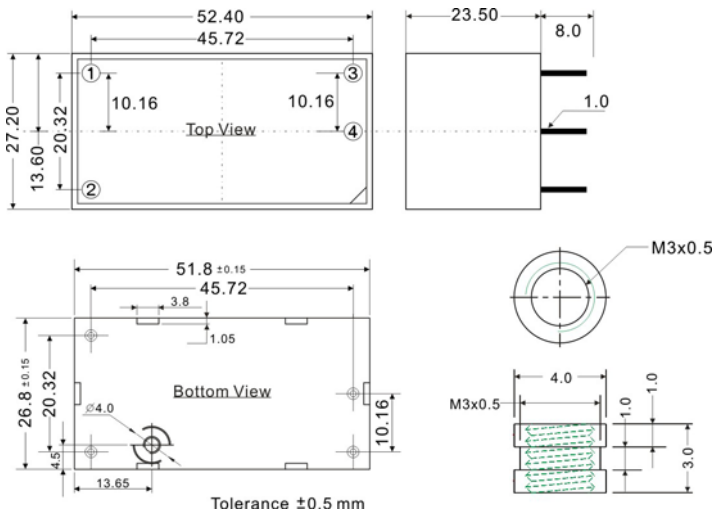

ELECTRICAL SPECIFICATIONS

Model No.	AFC-3.3S-E1	AFC-5S-E1	AFC-12S-E1	AFC-15S-E1	AFC-24S-E1
Max Output Wattage (W)	8.25W	10W	10W	10W	10W
Input	Voltage				
	90-264 VAC or 120-370 VDC				
	Frequency (Hz)				
	47-440 Hz				
	Current (Full load)				
	220 mA max. (115 VAC) / 150 mA max. (230 VAC)				
Inrush Current (<2ms)					
23 A max. (115 VAC) / 46 A max. (230 VAC)					
Leakage Current					
0.25 mA max.					
External Fuse (recommend)					
2 A slow blow type					
Output	Voltage (V.DC.)				
	3.3V	5V	12V	15V	24V
	Voltage Accuracy				
	±2%				
	Current (mA) max				
	2500	2000	833	667	417
	Line Regulation (LL-HL) (typ.)				
	±0.3%.				
	Load Regulation (5-100%) (typ.)				
	±0.5%.				
	Minimum Load				
	0%				
	Maximum Capacitive Load				
75000 uF	40000 uF	8500 uF	3500 uF	1200 uF	
Ripple					
<0.2% Vout +40mV max (Vp-p)					
Noise					
<0.5% Vout +50mV max (Vp-p)					
Efficiency					
74%	79%	82%	78%	80%	
Hold-up Time					
15 ms min.					
Switching Frequency					
125 kHz					
Protection	Over Power Protection				
	Hiccup technique, auto-recovery				
	Over Voltage Protection				
Zener diode clamp					
Short Circuit Protection					
Hiccup mode, indefinite (automatic recovery)					
Isolation	Input-Output (V.AC)				
3000V					
Environment	Operating Temperature				
	-40°C...+70°C (with derating)				
	Storage Temperature				
	-40°C...+85°C				
	Temperature Coefficient				
±0.02%/°C					
Humidity					
20-85% RH					
MTBF					
>330,000 h @ 25°C (MIL-HDBK-217F)					
Physical	Dimension (L x W x H)				
	2.06 x 1.07 x 0.93 Inches (52.4 x 27.2 x 23.5 mm) Tolerance ±0.5 mm				
	Case Material				
	Plastic resin with Fiberglass (flammability to UL 94V-0)				
Weight					
51 g					
Cooling Method					
Free air convection					
Genera	Vibration				
	10-55 Hz 0.5 mm width/ 1 minute cycle				
Shock					
20 G (3 directions each 3 times.)					
Safety	Agency Approvals				
UL/cUL, CE, CB					
EMC	EMI (Conducted & Radiated Emission)				
	EN 55022 class B				
EMS (Noise Immunity)					
EN 55024					

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

2.Ripple & Noise are measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.

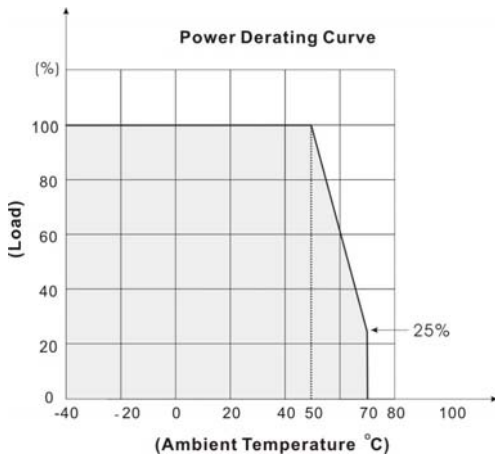
MECHANICAL DIMENSION (Top View)



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

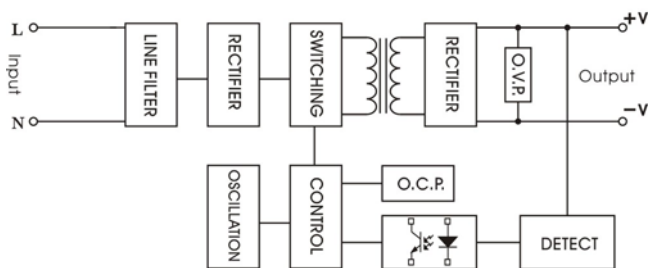
Maximum Torque 1.2 { 1.2 1 } (k g f . c m { N.m })

DERATING



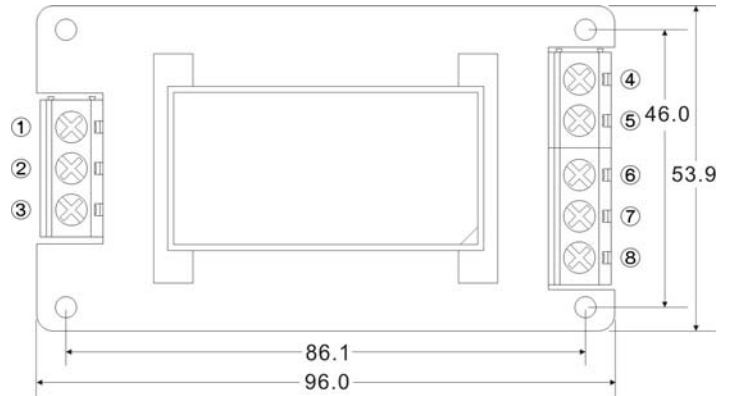
BLOCK DIAGRAM

Single Output



SCREW TERMINAL
AFC- E1-A2


PIN#	Single
1	NO CONNECT
2	AC IN (N)
3	AC IN (L)
4.	NO CONNECT
5	+DC OUT
6	-DC OUT
7	NO CONNECT
8	NO CONNECT


AFC E1-A5


PIN#	Single
1	NO CONNECT
2	AC IN (N)
3	AC IN (L)
4.	NO CONNECT
5	+DC OUT
6	-DC OUT
7	NO CONNECT
8	NO CONNECT

