

AHC-E1 Series

5 W AC/DC Power Module

CoolPower
Solutions

- Switching Power Module for PCB Mountable
- Fully Encapsulated Plastic Case
- Universal Input Range 90-264VAC, 47-440 Hz
- Regulated Output
- Low Ripple and Noise
- High Efficiency
- CE, UL Approval
- 2-Years Product Warranty



Electrical specifications

Model No.	AHC-3.3S-E1	AHC-5S-E1	AHC-12S-E1	AHC-15S-E1	AHC-24S-E1	
Max Output Wattage (W)	4W	5W	5W	5W	5.5W	
Input	Voltage	90-264 VAC or 120-370 VDC				
	Frequency (Hz)	47-440 Hz				
	Current (Full load)	110 mA max. (115 VAC) / 70 mA max. (230 VAC)				
	Inrush Current (<2ms)	23 A max. (115 VAC) / 46 A max. (230 VAC)				
	Leakage Current	0.75 mA max.				
	External Fuse (recommend)	1.5 A slow blow type				
Output	Voltage (V.DC.)	3.3V	5V	12V	15V	24V
	Voltage Accuracy	±2%				
	Current (mA) max	1250	1000	420	333	230
	Line Regulation	±0.3% (LL-HL) (typ.)				
	Load Regulation	±0.5% (5-100%) (typ.)				
	Minimum Load	0%				
	Max Capacitive Load	470-23,000µF depending on model				
	Ripple	<0.2% Vout +40mV max (Vp-p)				
	Noise	<0.5% Vout +50mV max (Vp-p)				
	Efficiency	64%	67%	73%	73%	75%
	Hold-up Time	15 ms min.				
	Switching Frequency	132 kHz				
Protection	Over Power Protection	Hiccup technique, auto-recovery				
	Over Voltage Protectio	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	95% RH				
	MTBF	>360,000 h @ 25°C (MIL-HDBK-217F)				
Physical	Dimension (L x W x H)	2.0 x 1.0 x 0.597 Inches (50.8 x 25.4 x 15.16 mm) Tolerance ±0.5 mm				
	Case Material	Plastic resin with Fiberglass (flammability to UL 94V-0)				
	Weight	30 g				
	Cooling Method	Free air convection				
Safety	Agency Approvals	UL/cUL, CE				
EMC	EMI	EN 55022 class B (Conducted & Radiated Emission)				
	EMS (Noise Immunity)	EN 55024				

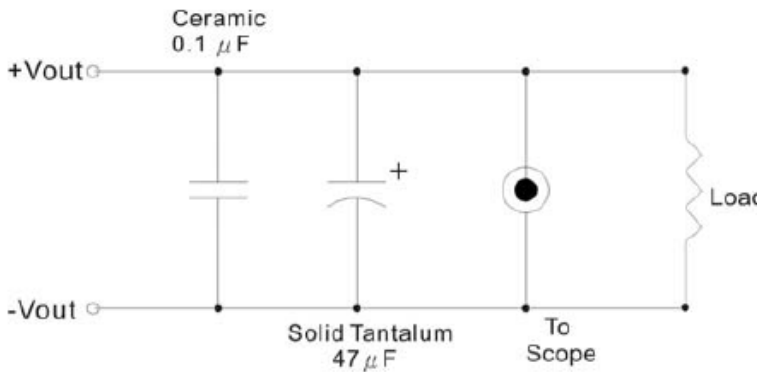
All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.

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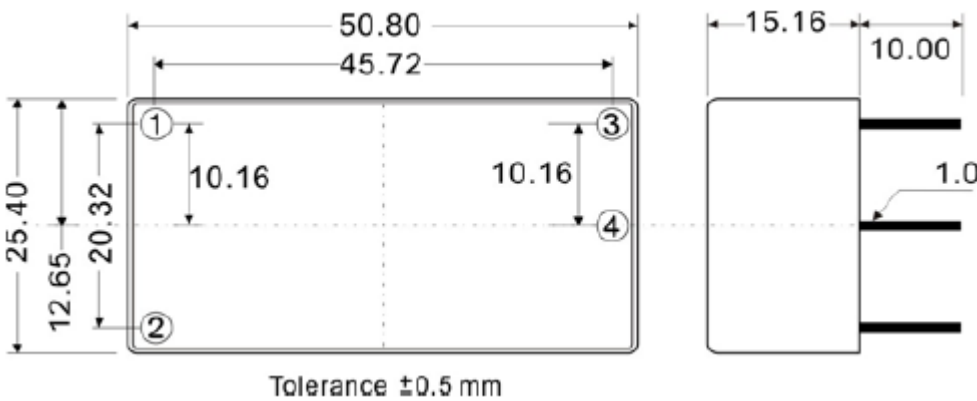
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Output noise

The output noise is measured with 47 μ F tantalum capacitor and 0.1 μ F ceramic capacitor across output.

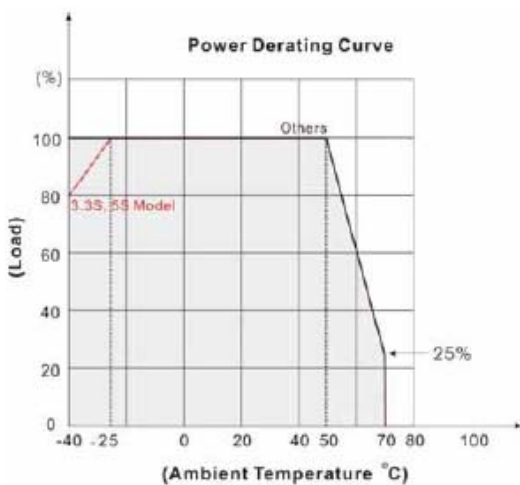


Mechanical Specifications (top view)



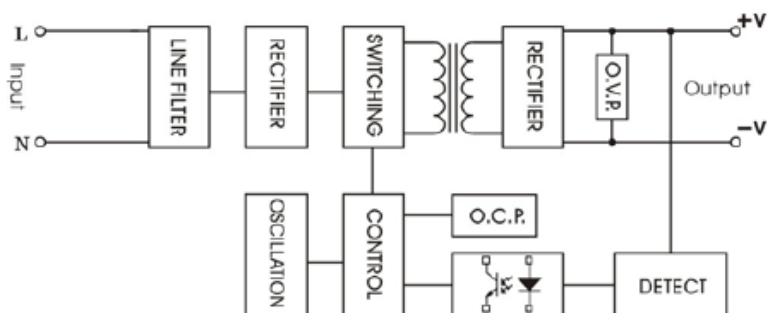
Pin no:	Single
1	AC IN (N)
2	AC IN (L)
3	+DC OUT
4	-DC OUT

Derating



Block Diagram

Single Output



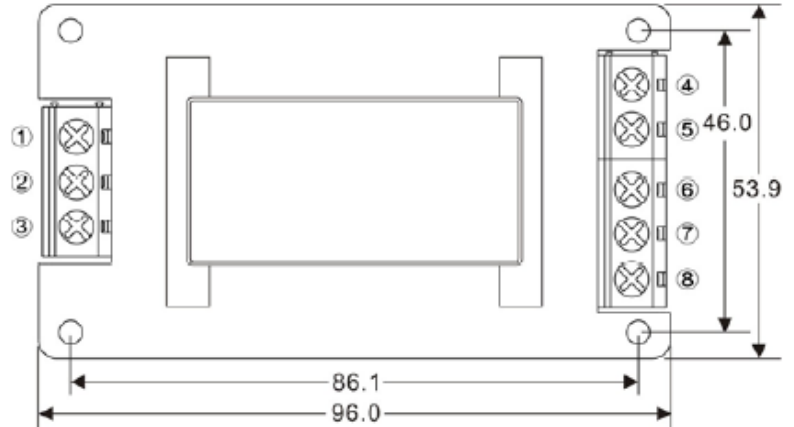
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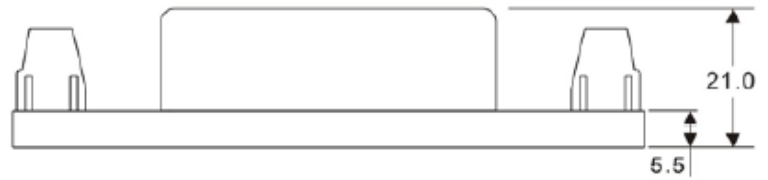
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SCREW TERMINALS

AHC-E1-A2

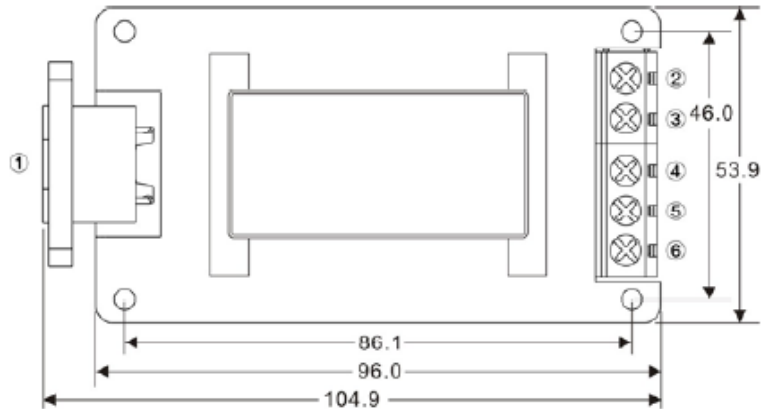


Pin no:	Single
1	NO CONN
2	AC IN (N)
3	AC IN (L)
4	NO CONN
5	+DC OUT
6	-DC OUT
7	NO CONN
8	NO CONN

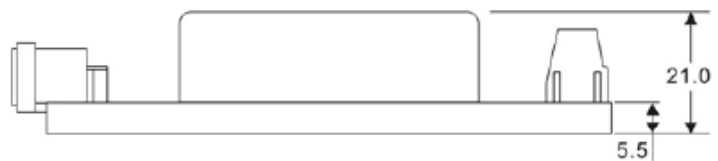


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AHC-E1-A3



Pin no:	Single
1	AC IN
2	NO CONN
3	+DC OUT
4	-DC OUT
5	NO CONN
6	NO CONN



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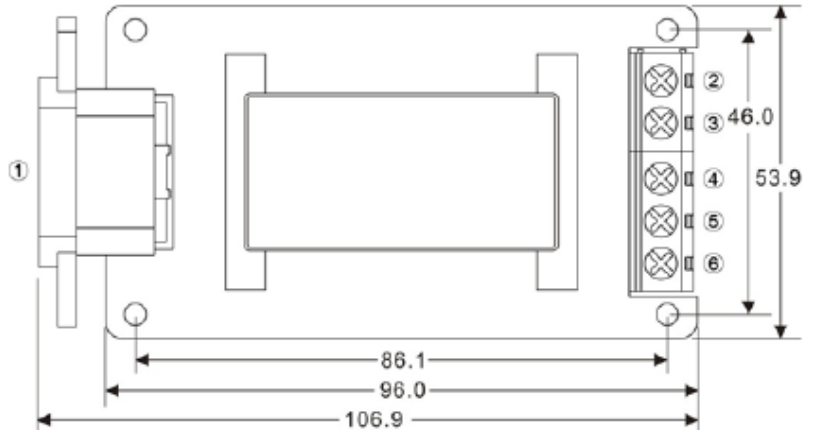
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AHC-E1-A4



Pin no:	Single
1	AC IN
2	NO CONN
3	+DC OUT
4	-DC OUT
5	NO CONN
6	NO CONN

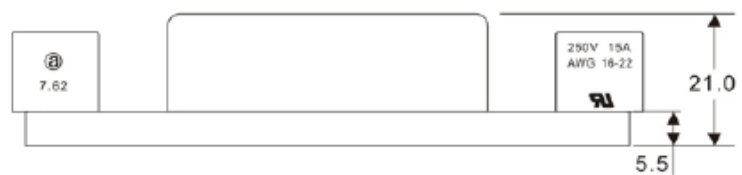
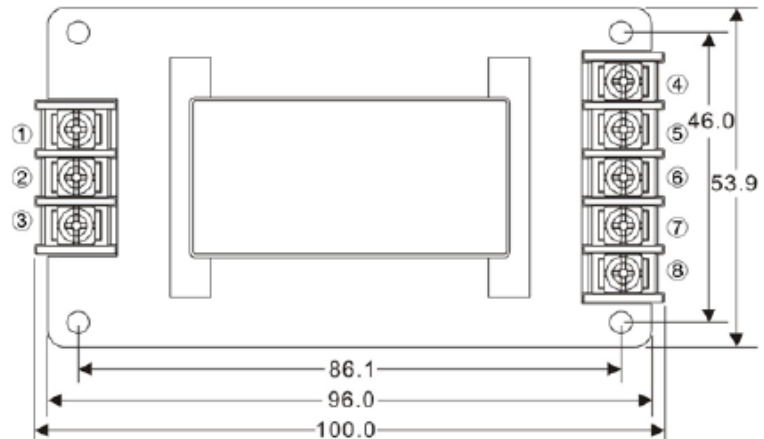


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AHC-E1-A5



Pin no:	Single
1	NO CONN
2	AC IN (N)
3	AC IN (L)
4	NO CONN
5	+DC OUT
6	-DC OUT
7	NO CONN
8	NO CONN



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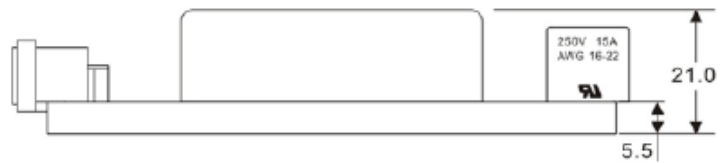
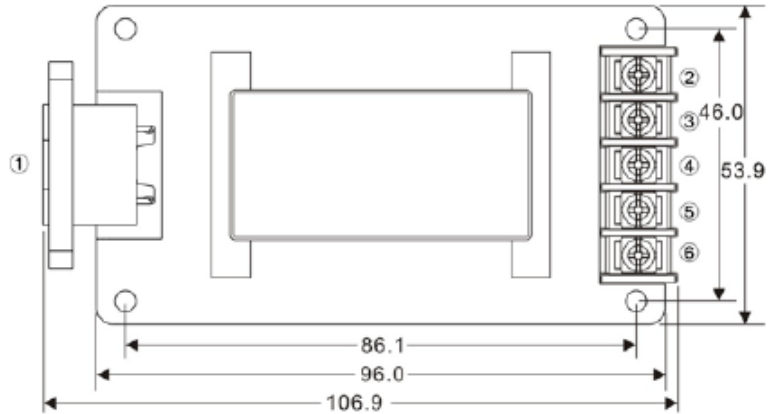
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Pin no:	Single
1	AC IN
2	NO CONN
3	+DC OUT
4	-DC OUT
5	NO CONN
6	NO CONN



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AHC-E1-A7



Pin no:	Single
1	AC IN
2	NO CONN
3	+DC OUT
4	-DC OUT
5	NO CONN
6	NO CONN

