

# ARCH AOCH 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

Single and Dual Output

Low Ripple and Noise

Isolation Class II

Maximum No-Load Watts < 0.3W

CE, CB and UL Approval

3-Years Product Warranty

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**KEY FEATURES**

- Switching Power Module for PCB Mountable
- Fully Encapsulated Plastic Case
- Universal Input Range 90-305VAC, 47-440 Hz
- Single and Dual Output
- Low Ripple and Noise
- Isolation Class II
- Maximum No-Load Watts < 0.3W
- CE , UL Approval
- 3-Years Product Warranty


**ELECTRICAL SPECIFICATIONS**

Model No. ( Single Output )	AOCH -3.3S	AOCH -5S	AOCH -8S	AOCH -9S	AOCH -12S	AOCH -14S	AOCH -15S	AOCH -24S	
Max Output Wattage (W)	3.96W	4W	4W	4W	4W	4W	4W	4W	
Input	Voltage								90-305 VAC or 120-430 VDC
	Frequency (Hz)								47-440 Hz
	Current (Full load)								75 mA max. (115 VAC) / 55 mA max. (230 VAC)
	Inrush Current (<500us)								15 A max. (115 VAC) / 25 A max. (230 VAC)
	Leakage Current								0.25 mA max.
	External Fuse (recommend)								3.15 A slow blow type
Output	Voltage (V.DC.)								3.3V    5V    8V    9V    12V    14V    15V    24V
	Voltage Accuracy								±2%
	Current (mA) max								1200    800    500    444    333    286    267    167
	Line Regulation (LL-HL) (typ.)								±0.5%    ±0.2%
	Load Regulation (0-100%) (typ.)								±1.5%    ±0.5%
	Minimum Load								0%
	Maximum Capacitive Load								14000uF    8000uF    2700uF    2400uF    1000uF    750uF    700uF    220uF
	Ripple & Noise (Vp-p) max								<250mV    <200mV    <150mV    <100mV
	Efficiency								68%    72%    74%    75%    76%    76%    76%    77%
	Hold-up Time								15 ms min.
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								95% RH
	MTBF								>350,000 h @ 25°C (MIL-HDBK-217F)
Physical	Dimension (L x W x H)								1.44 x 1.07 x 0.67 Inches ( 36.66 x 27.16 x 17.1 mm ) Tolerance ±0.5 mm
	Case Material								Plastic resin with Fiberglass (flammability to UL 94V-0)
	Weight								26 g
	Cooling Method								Free air convection
Safety	Agency Approvals								UL , cUL , CE
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.

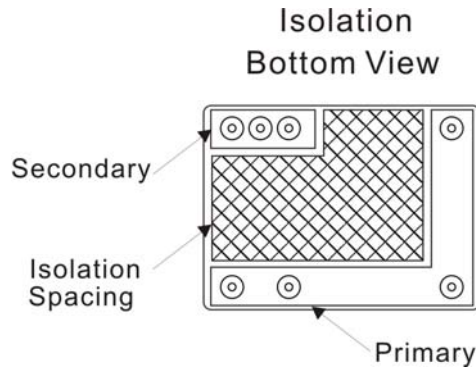
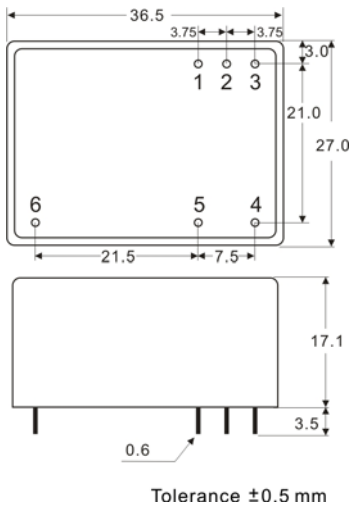
2. Ripple &amp; Noise are measured at 20MHz of bandwidth with 0.1uF &amp; 47uF parallel capacitor.

**ELECTRICAL SPECIFICATIONS**

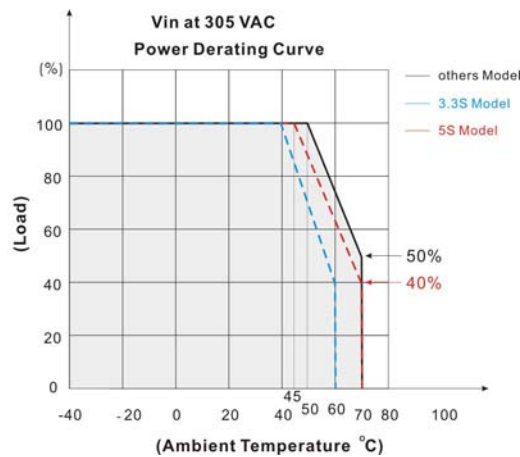
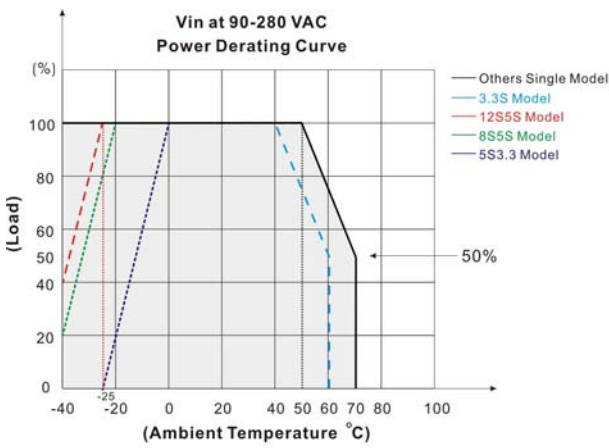
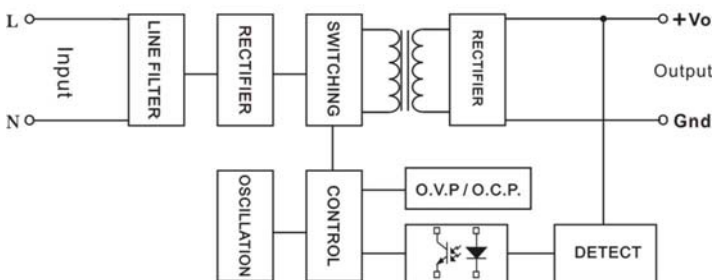
Model No. ( Dual Output )	AOCH-5S3.3S	AOCH-8S5S	AOCH-12S5S
Max Output Wattage (W)	3.5W	3.6W	3.6W
Input	Voltage		
	90-305 VAC or 120-430 VDC		
	Frequency (Hz)		
	47-440 Hz		
	Current (Full load)		
	85 mA max. (115 VAC) / 65 mA max. (230 VAC)		
Inrush Current (<500us)			
15 A max. (115 VAC) / 25 A max. (230 VAC)			
Leakage Current			
0.25 mA max.			
External Fuse (recommend)			
3.15 A slow blow type			
Output	Voltage (V.DC.)		Vo : 5V Vr : 3.3V
	Voltage Accuracy		Vo : ±2% Vr : ±5%
	Current (mA) max		600 / 150
	Line Regulation (LL-HL) (typ.)		Vo : ±0.2% Vr : ±3%
	Load Regulation (25-100%) (typ.)		Vo : ±0.5% Vr : ±5%
	Minimum Load		25%
	Maximum Capacitive Load		Vo : 5600uF Vr : 4700uF
	Ripple & Noise (Vp-p) max		<200mV
	Efficiency		72%
	Hold-up Time		15 ms min.
	Switching Frequency		132±8 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			
95% RH			
MTBF			
>350,000 h @ 25°C (MIL-HDBK-217F)			
Physical	Dimension (L x W x H)		
	1.44 x 1.07 x 0.67 Inches ( 36.66 x 27.16 x 17.1 mm ) Tolerance ±0.5 mm		
	Case Material		
	Plastic resin with Fiberglass (flammability to UL 94V-0)		
Weight			
26 g			
Cooling Method			
Free air convection			
Safety	Agency Approvals		
UL , cUL , CE			
EMC	EMI (Conducted & Radiated Emission)		
	EN 55022 class B		
EMS (Noise Immunity)			
EN 55024			

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**MECHANICAL DIMENSION ( Top View )**


PIN#	Single	Dual
1	+Vo	+Vo
2	GND	COM
3	NC	+Vr
4	AC IN (L)	AC IN (L)
5	AC IN (N)	AC IN (N)
6	NC	NC

**DERATING**

**BLOCK DIAGRAM**
**Single Output**

**Dual Output**
