

## 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-Year Product Warranty



## ELECTRICAL SPECIFICATIONS

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

Model No. (Single Output)	ALC-3.3S	ALC-5S	ALC-8S	ALC-9S	ALC-12S	ALC-14S	ALC-15S	ALC-24S	
Max Output Wattage (W)	6.6W	8W	8W	8W	8W	8W	8W	8W	
Input	Voltage								
	90-305 VAC or 120-430 VDC								
	Frequency (Hz)								
	47-440 Hz								
	Current (Full load)								
	190 mA max. (115 VAC) / 120 mA max. (230 VAC)								
Inrush Current (<500us)									
25 A max. (115 VAC) / 45 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	8V	9V	12V	14V	15V	24V	
	Voltage Accuracy								
	±2%								
	Current (mA) max								
	2000	1600	1000	888	666	571	533	335	
	Line Regulation (LL-HL) (typ.)								
	±0.2%								
	Load Regulation (0-100%) (typ.)								
	±3%	±2%	±0.5%						
	Minimum Load								
	0%								
Maximum Capacitive Load (at 230VAC)									
8000uF	8000uF	4000uF	4000uF	1300uF	820uF	820uF	270uF		
Ripple									
3.3S~15S : <100mV max (Vp-p)				24S : <150mV max (Vp-p)					
Noise									
3.3S~15S : <150mV max (Vp-p)				24S : <200mV max (Vp-p)					
Efficiency									
69%	75%	78%	79%	79%	80%	80%	81%		
Hold-up Time									
10 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									
>500,000 h @ 25°C (MIL-HDBK-217F)									
Physical	Dimension (L x W x H)								
	1.48 x 1.11 x 1.08 Inches ( 37.66 x 28.16 x 27.5 mm ) Tolerance ±0.5 mm								
	Case Material								
	Plastic resin with Fiberglass (flammability to UL 94V-0)								
Weight									
45 g									
Cooling Method									
Free air convection									
Safety	Agency Approvals								
CE, UL, cUL									
EMC	EMI (Conducted & Radiated Emission)								
	EN 55022 class B								
EMS (Noise Immunity)									
EN 55024									

## ELECTRICAL SPECIFICATIONS

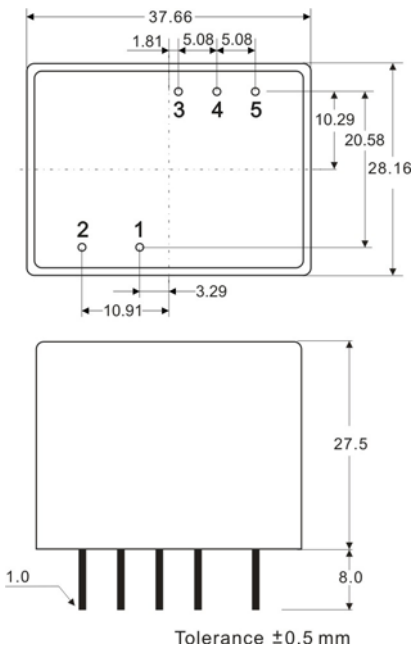
All specifications valid at normal input voltage, full load and +25°C after warm-up time unless otherwise stated.

Model No. (Dual Output)	ALC-5S3.3S	ALC-8S5S	ALC-12S5S	
Max Output Wattage (W)	9W	8.5W	8.5W	
Input	Voltage	90-305 VAC or 120-430 VDC		
	Frequency (Hz)	47-440 Hz		
	Current (Full load)	200 mA max. (115 VAC) / 125 mA max. (230 VAC)		
	Inrush Current (<500us)	25 A max. (115 VAC) / 45 A max. (230 VAC)		
	Leakage Current	0.25 mA max.		
	External Fuse (recommend)	2 A slow blow type		
Output	Voltage (V.DC.)	Vo : 5V Vr : 3.3V	Vo : 8V Vr : 5V	Vo : 12V Vr : 5V
	Voltage Accuracy	Vo : ±2% Vr : ±15%	Vo : ±2% Vr : ±10%	
	Current (mA) max	1600 / 310	1000 / 100	666 / 100
	Line Regulation (LL-HL) (typ.)	Vo : ±0.2% Vr : ±3%		
	Load Regulation (10-100%) (typ.)	Vo : ±0.5% Vr : ±5%		
	Minimum Load	25%		
	Maximum Capacitive Load (at 230VAC)	Vo : 4500uF Vr : 3800uF	Vo : 800uF Vr : 3800uF	Vo : 260uF Vr : 3800uF
	Ripple	<100mV max (Vp-p)		
	Noise	<150mV max (Vp-p)		
	Efficiency	73%	78%	79%
	Hold-up Time	10 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	>500,000 h @ 25°C (MIL-HDBK-217F)		
Physical	Dimension (L x W x H)	1.48 x 1.11 x 1.08 Inches ( 37.66 x 28.16 x 27.5 mm ) Tolerance ±0.5 mm		
	Case Material	Plastic resin with Fiberglass (flammability to UL 94V-0)		
	Weight	45 g		
	Cooling Method	Free air convection		
Safety	Agency Approvals	CE, UL, cUL		
EMC	EMI (Conducted & Radiated Emission)	EN 55022 class B		
	EMS (Noise Immunity)	EN 55024		

## NOTE

1. Ripple & Noise are measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.
2. It's necessary Varistor 14S561K at L / N input side in parallel.
3. It's necessary 10R / 15φ thermistor at L input side in series connection.
4. Please refer to our PDF file "AC-DC Application" on our website: [www.archcorp.com.tw](http://www.archcorp.com.tw)

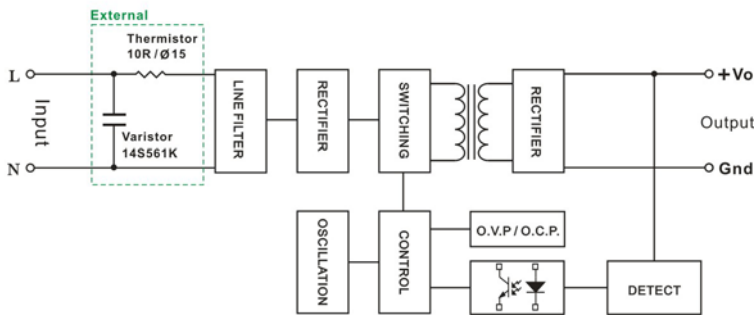
**MECHANICAL DIMENSION ( Top View )**



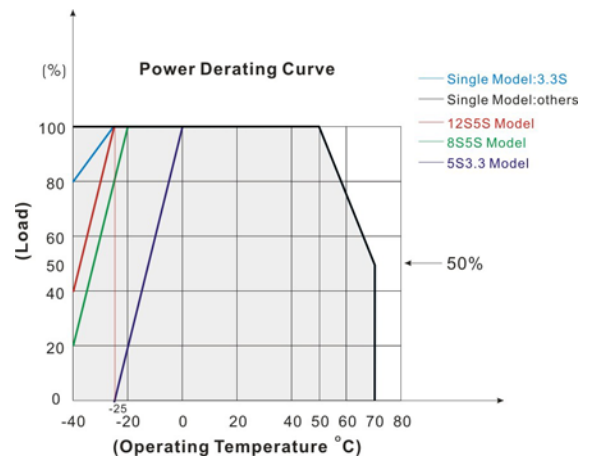
PIN#	Single	Dual
1	AC IN (N)	AC IN (N)
2	AC IN (L)	AC IN (L)
3	NC	+Vr
4	+VO	+VO
5	GND	GND

**BLOCK DIAGRAM**

Single Output



**DERATING**



Dual Output

