

## KEY FEATURES

- Universal Input Range 90-305VAC, 47-63 Hz
- I/O Isolation 4300VAC
- Operating Ambient Temperature Range -40°C to +85°C
- No Load Power Consumption < 0.1W
- 5000m Altitude Application
- Over-Voltage Category OVC III
- High Efficiency up to 87%
- Isolation Class II
- EMC Compliant without External Components
- Safety Approval to UL / IEC / EN 62368-1
- Design meet IEC / EN 61558-1, IEC / EN 61558-2-16, IEC / EN 60335-1
- 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)	AFCV20-5S	AFCV20-12S	AFCV20-15S	AFCV20-24S
Max Output Wattage (W)	20W			
Input	Voltage			
	90-305 VAC or 120-430 VDC			
	Frequency (Hz)			
	47-63 Hz			
	Current (Full load)			
	385 mA max. (115 VAC) / 250 mA max. (230 VAC)			
Output	Inrush Current (Cold Start)			
	30 A max. (115 VAC) / 60 A max. (230 VAC)			
	No Load Power Consumption			
	< 0.1W (115/230 VAC)			
	External Fuse (mandatory)			
	2 A slow blow type			
Output	Voltage (V.DC.)			
	5V	12V	15V	24V
	Voltage Accuracy			
	±2%			
	Current (mA) max			
	4000	1670	1330	833
	Maximum Capacitive Load			
	10000 uF	1500 uF	1000 uF	470 uF
	Minimum Load			
	0%			
Protection	Line Regulation (LL-HL) (typ.)			
	±0.5%			
	Load Regulation (typ.)			
	±1%			
	Ripple & Noise (Full load)			
	120mV (Vp-p)			1% of Vout
	Efficiency (at 230VAC)			
	85%	86%	87%	87%
Hold-up Time(typ)				
6 ms (at 115VAC) / 46 ms (at 230VAC)				
Isolation	Over Power Protection			
	Hiccup technique, auto-recovery			
	Over Voltage Protection			
Zener diode clamp				
Short Circuit Protection				
Hiccup mode (automatic recovery)				
Input-Output (V.AC)				
4300V				
Environment	Operating Temperature			
	-40°C...+85°C (with derating)			
	Storage Temperature			
	-40°C...+85°C			
	Temperature Coefficient			
	±0.05%/°C			
	Altitude During Operation			
	5000m (UL / IEC / EN 62368-1)			
	Humidity			
95% RH				
MTBF				
>400,000 h @ 25°C (MIL-HDBK-217F)				
Over Voltage Category				
III: Compliance to EN 61558; altitude up to 2000 meters.				
Vibration				
IEC60068-2-6 (10~500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes)				
Shock				
IEC60068-2-27				
Physical	Dimensions (L x W x H)			
	2.07 x 1.08 x 0.93 Inches ( 52.5 x 27.5 x 23.5 mm ) Tolerance ±0.5 mm			
	Case Material			
	Plastic resin (flammability to UL 94V-0)			
Weight				
62 g				
Cooling Method				
Free air convection				
Safety	Approval			
	UL / IEC / EN 62368-1			
Meet				
IEC / EN 61558-1, IEC / EN 61558-2-16, IEC / EN 60335-1				
EMC	EMI (Conducted & Radiated Emission)			
	EN 55032 class B			
EMS (Noise Immunity)				
EN 55035				

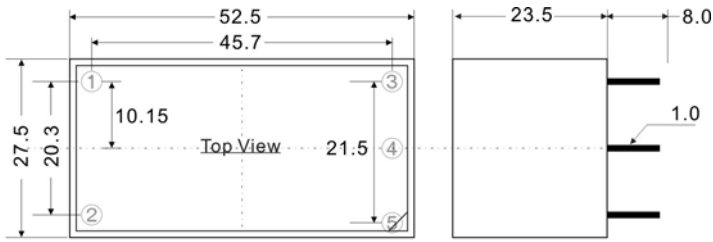
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All specifications valid at normal input voltage, full load and +25°C after warm-up time unless otherwise stated.

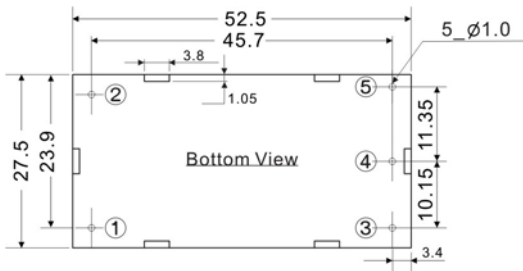
Model No. (Single Output)	AFCV20-5S12S	AFCV20-12D		AFCV20-15D			
Max Output Wattage (W)	18.4W	20W					
Input	Voltage	90-305 VAC or 120-430 VDC					
	Frequency (Hz)	47-63 Hz					
	Current (Full load)	385 mA max. (115 VAC) / 250 mA max. (230 VAC)					
	Inrush Current (Cold Start)	30 A max. (115 VAC) / 60 A max. (230 VAC)					
	No Load Power Consumption	< 0.1W (115/230 VAC)					
External Fuse (mandatory)	2 A slow blow type						
Output		Output 1	Output 2	Output 1	Output 2	Output 1	Output 2
	Voltage (V.DC.)	5V	12V	+12V	-12V	+15V	-15V
	Voltage Accuracy	±5%	±6%	±5%			
	Current (mA) max	2000	700	833	833	666	666
	Maximum Capacitive Load	5000 uF	750 uF	±1000 uF		±470 uF	
	Minimum Load	10%	20%	25%			
	Line Regulation (LL-HL) (typ.)	±5%					
	Load Regulation (typ.)	20-100% Symmetric Load		25-100% Symmetric Load			
		±2%	±4%	±1%			
	Ripple & Noise (Full load)	150mV (Vp-p)					
	Efficiency (at 230VAC)	81%		85%		85%	
	Hold-up Time(typ)	6 ms (at 115VAC) / 46 ms (at 230VAC)					
Protection	Over Power Protection	Hiccup technique, auto-recovery					
	Over Voltage Protection	Zener diode clamp					
	Short Circuit Protection	Hiccup mode (automatic recovery)					
Isolation	Input-Output (V.AC)	4300V					
Environment	Operating Temperature	-40°C...+85°C (with derating)					
	Storage Temperature	-40°C...+85°C					
	Temperature Coefficient	±0.05%/°C					
	Altitude During Operation	5000m (UL / IEC / EN 62368-1)					
	Humidity	95% RH					
	MTBF	>400,000 h @ 25°C (MIL-HDBK-217F)					
	Over Voltage Category	III: Compliance to EN 61558; altitude up to 2000 meters.					
	Vibration	IEC60068-2-6 (10~500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes)					
Shock	IEC60068-2-27						
Physical	Dimensions (L x W x H)	2.07 x 1.08 x 0.93 Inches ( 52.5 x 27.5 x 23.5 mm ) Tolerance ±0.5 mm					
	Case Material	Plastic resin (flammability to UL 94V-0)					
	Weight	62 g					
	Cooling Method	Free air convection					
Safety	Approval	UL / IEC / EN 62368-1					
	Meet	IEC / EN 61558-1, IEC / EN 61558-2-16, IEC / EN 60335-1					
EMC	EMI (Conducted & Radiated Emission)	EN 55032 class B					
	EMS (Noise Immunity)	EN 55035					

## NOTE

- Ripple & Noise are measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.
- The ambient temperature derating of 3.5°C/1000m for operating altitude higher than 2000m(6500ft).
- Please refer to our PDF file "AC-DC Application" on our website: [www.archcorp.com.tw](http://www.archcorp.com.tw)

**MECHANICAL DIMENSIONS ( Top View )**


PIN#	Single	Dual	5S12S
1	AC IN (L)	AC IN (L)	AC IN (L)
2	AC IN (N)	AC IN (N)	AC IN (N)
3	+DC OUT	+DC OUT	+12V OUT
4	-DC OUT	COMMON	+5V OUT
5	NO PIN	-DC OUT	COMMON


**DERATING**
