AMCV20 Series

FiDUS
power in motion...

20 Watts

- Overvoltage Category III 90-305VAC Input
- IEC 62368-1 ITE approval & designed to meet IEC 60335-1 Home Appliance
- -40 to +85°C Operation
- EN55032 Level B conducted & radiated
- 3 Year warranty

The AMCV20 series of OVC III compact encapsulated AC-DC power modules are PCB mount and have low emissions, meeting EN55032 level B for both conducted and radiated noise. The units are suitable for home use designed to meet IEC 60335-1, also they are approved to the latest IEC 62368-1 safety standard. They provide 18.4-20W of power and have a wide temperature range from -40 to +85°C. The series offers low no-load power consumption of <0.1W. All models have a Fidus 3 year warranty.

Dimensions:

2.07 x 1.08 x 0.93" (52.5 x 27.5 x 23.5mm)

Models & Ratings

Model Number	Output voltage	Output Power	Output Current	Efficiency	Capacitive Load	Ripple / Noise[1]	Min Load
AMCV2005S	5V	20W	4000mA	85%	4000uF	<120mV	0%
AMCV2012S	12V	20W	1670mA	86%	1500uF	<120mV	0%
AMCV2015S	15V	20W	1330mA	87%	1000uF	1% Vout	0%
AMCV2024S	24V	20W	4000mA	87%	470uF	<120mV	0%
AMCV2005S12S	5V	18.4W	2000mA	81%	5000uF	150mV	25%
	12V		700mA		750uF	150mV	25%
AMCV2012D	+12V	20W	833mA	85%	±1000uF	150mV	25%
	-12V		833mA			150mV	25%
AMCV2015D	+15V	20W	666mA	85%	±470uF	150mV	25%
	-15V		666mA			150mV	25%

Notes

1. Ripple and noise measured with 20MHz bandwidth and with 0.1uF and 47uF parallel capacitors

Key specifications

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
AC Input range	90		305	VAC	Derate at 100VAC to 80% at 90VAC
Operating temperature	-40		85	°C	See derating curve page 2
Efficiency	81		87	%	See model table above. At 230VAC full load
Dimensions	2.07 x 1.08 x 0.93" (52.5 x 27.5 x 23.5mm)				
EMC	EN55032 Level B Conducted and Radiated. EN61000-3 and EN61000-4, harmonics, flicker, Surge, EFT, ESD, conducted and radiated EN55035				
Safety	UL / IEC / EN 62368-1, Designed to meet IEC / EN 60335-1 EN61558-1 EN61558-2-16, CE				

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Input

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Input voltage	90		305	VAC	Derate at 100VAC to 80% at 90VAC
	120		430	VDC	DC fuse required
Input frequency	47		440	Hz	
Power factor					EN61000-3-2 class A compliant
Input current	250		385	mA rms	385mA 115VAC and 250mA at 230VAC
Inrush current	30		60	A	30A at 115 and 60A at 230VAC. Cold start at 25°C
No load input power			0.1	W	
Earth leakage current					Class II construction, no earth

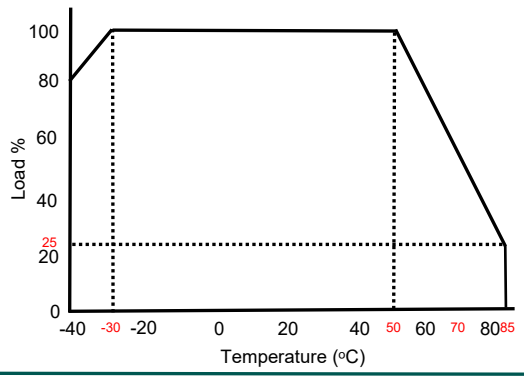
Output

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Output voltage	5		24	VDC	See Model & Ratings table
Set point accuracy	±2		±2	%	Single output models
	±5		±6		Dual output models
Line regulation		±1		%	Low line to High line.
Load regulation		±1		%	25 to 100% load single output models only
		±1 /±2 / ±4		%	25 to 100% symmetrical load. 5V/12V ±2%/±4% 12D and 15D models ±1%
Minimum load	0		25	%	25% For dual outputs see models and ratings table
Ripple & Noise	120	150	1%Vout	mV pk-pk	See model table. Noise and ripple measured with 0.1uF ceramic and 47uF electrolytic. 20 MHz bandwidth. See model table on page 1
Hold up time	6		46	mS	6ms at 115VAC. Full load
Overload protection					Trip & restart. Automatic recovery
Short circuit protection					Trip & restart. Automatic recovery
Overvoltage protection					Latch reset

Environmental

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Operating temperature	-40		85	°C	See derating graph below
Storage temperature	-40		85	°C	
Cooling					Convection cooled
Temperature coefficient			±0.05	%/°C	
Humidity			95	% RH	

Derating curve



AMCV20 Series

EMC: Emissions

	Standard	Test level	Criteria	Notes & Conditions
Conducted	EN55032	B		
Radiated	EN55032	B		
Harmonic current	EN61000-3-2	Class A		
Voltage flicker	EN61000-3-3			

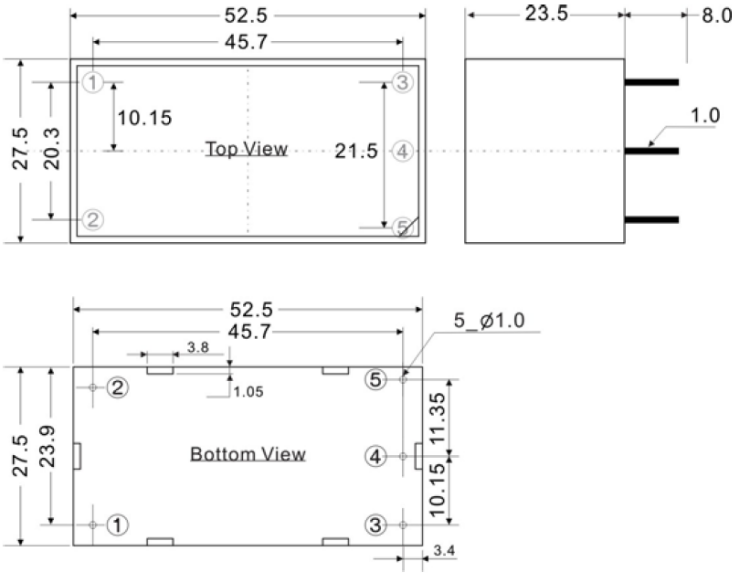
General

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Efficiency	84		87	%	See models & Ratings table. At 230VAC full load
Isolation	4000			VAC	Input to output
Power density			12.02	W/In^3	
MTBF		>400		KHrs	As per MIL-HDBK-217F, 25°C GB
Weight		55		g	

Safety Approvals

	Safety standard	Notes & Conditions
UL	UL 62368-1	
CB	IEC 62368-1, Designed to meet IEC 60335-1	
TUV	EN 62368-1, Designed to meet EN 60335-1 EN61558-1 EN61558-2-16	
CE		2014/35/EU LVD
Equipment protection class		Class II

Mechanical Details



Pin Connections			
Pin	Single	Dual	05S12S
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	COM	+5V OUT
5	NP	-DC OUT	COM

Dimension notes

1. All dimensions shown in millimetres
2. Pin diameter 0.5 ±0.05 (0.02 ±0.002)
3. Case tolerance ±0.5 (±0.002)