15 Watt Compact AC-DC Converters

Features:

- 15W Small Compact Size 52.4 x 27.2 x 24.0mm
- Wide AC & DC Input 85V to 305VAC
- Temperature Range -40°C to +85°C
- EMC Compliant without external components
- Output Range: 3.3V - 24VDC
- Low Standby Power <0.1W
- Fully Isolated Pri - Sec >4000Vrms
- Insulation: Class II
- Materials: UL94-V0
- IEC/EN/UL62368, EN61558, EN60335, IEC60601-1 (2xMOPP)
- 3 Year Warranty

Description

VTX-214-015-5## is a compact AC-DC power converter. It features a wide AC input 85V to 305Vac and a DC input voltage 100 to 430VDC. The converters have been designed with low power consumption, high efficiency, high reliability, reinforced isolation. It offers good EMC performance compliant to IEC/EN61000-4 and CISPR32/EN55032 and meets IEC/EN/UL62368, EN60335, EN61558, IEC60601-1/ANSI/AAMI ES60601-1 standards. The converters are widely used in industrial, power, home appliances, instrumentation, communication and civil applications. For extremely harsh EMC environment, we recommend using the application circuit show in this Datasheet or contact our Technical team for further support.

Selection Guide

Part Number	Power Rating Watts	Output Voltage (VDC)	Output Current (mA)	Ambient Temp. (°C)	Efficiency Typical	Input Range
VTX-214-015-503	13.2	3.3	4000	55°C (85°C @ 40%)	>81%	85 - 305VAC (100 - 430VDC)
VTX-214-015-505	15	5	3000			
VTX-214-015-509	15	9	1670			
VTX-214-015-512	15	12	1250			
VTX-214-015-515	15	15	1000			
VTX-214-015-518	15	18	833			
VTX-214-015-524	15	24	625			

Note: Other output voltages are available upon request.

Please contact Vigortronix for any enquiries. Products can be altered to suit custom requirements.

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Input Specification					
Item	Conditions	Min	Typical	Max	Unit
Input Voltage	AC Input	85	-	305	VAC
	DC Input	100	-	430	VDC
Input Frequency		47	-	440	Hz
Input Current	115VAC	-	-	0.5	A
	230VAC	-	-	0.3	
Inrush Curent	115VAC	-	20	-	
	230VAC	-	45	-	
Leakage Current	277VAC / 50Hz	0.1mA RMS Max			
External Input Fuse		3.15Amp Slow Blow Fuse			

Output Specification					
Item	Conditions	Min	Typical	Max	Unit
Output Voltage	Output	-	+/-1.5	-	%
Line Regulation	Full Load	-	+/-0.5	-	
Load Regulation	0% - 100% Load	-	+/-1	-	
Ripple / Noise	20MHz Bandwidth (Peak to Peak Value)	-	100	150	mV
Stand by Power	230VAC 3.3V/5V/9V/12V/15V/18V	-	0.1	-	W
	24V	-	0.12	-	
Temp. Coefficient		-	+/-0.02	-	%/^{O}C
Short Circuit Protection		Hiccup, Continuous, Self-recovery			
Over Current Protection		>110% Load Self-recovery			
Over Voltage Protection		Hiccup, Continuous, Self-recovery			
Minimum Load		0	-	-	%
Hold-up Time	115VAC Input	-	8	-	mS
	230VAC Input	-	50	-	

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General Specification					
Item	Conditions	Min	Typical	Max	Unit
Dielectric Strength	Input to Output (1Min, 5mA)	4000	-	-	VAC
Insulation Resistance	Input to Output (500VDC)	100			M.Ohm
Operating Temperature		-40	-	+85	^{O}C
Storage Temperature		-40	-	+85	
Storage Humidity		-	-	+95	%RH
Soldering Temperature	Wave Soldering	260 +/-5^{O}C			
	Manual Soldering	360 +/-5^{O}C			
Switching Frequency		-	65	-	KHz
Altitude		-	-	5000	m
Safety Class		CLASS II			
MTBF		>1,500KHrs @ 25^{O}C (MIL-HDBK-217F)			
Designed Life	25^{O}C, 230VAC 100% Load	>130x10^{3} h			
	55^{O}C, 230VAC 100% Load	>16x10^{3} h			
Safety Approvals		IEC/EN/UL62368, EN61558, EN60335			
Dimensions		52.40 x 27.20 x 24.00mm			
Weight		55g			
Body Colour		Orange or Black			

EMC Specification		
Emissions	CE /RE	CISPR32 / EN55032 CLASS B EN55014-1
Immunity	ESD	IEC/EN 61000-4-2 CONTACT +/-6KV EN55014-2
	RS	IEC/EN 61000-4-3 10V/m EN55014-2
	EFT	IEC/EN 61000-4-4
	SURGE	IEC/EN 61000-4-5, EN55014-2
	CS	IEC/EN 61000-4-6 10V/r.m.s. EN55014-2
	Voltage Variation	IEC/EN 61000-4-11, EN55014-2

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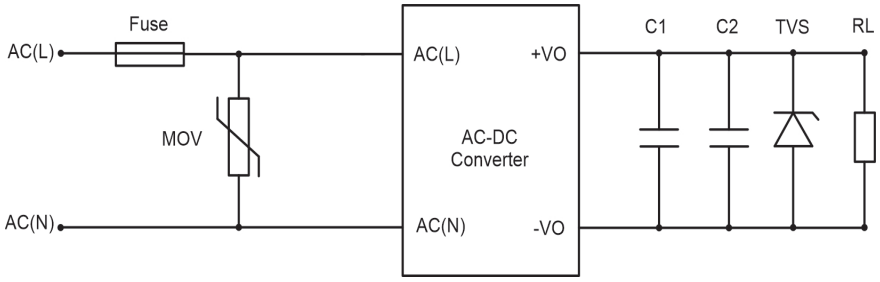
Application Schematic for EMC

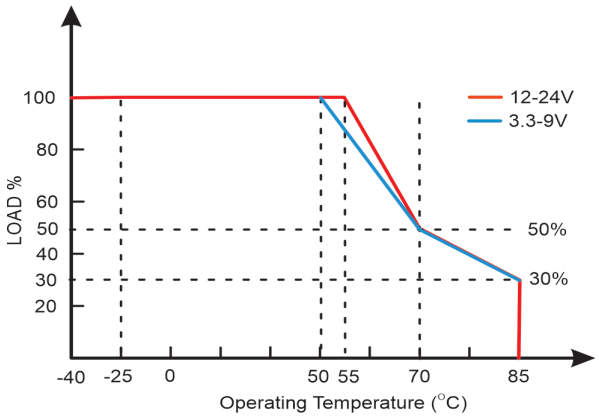
Typical Application



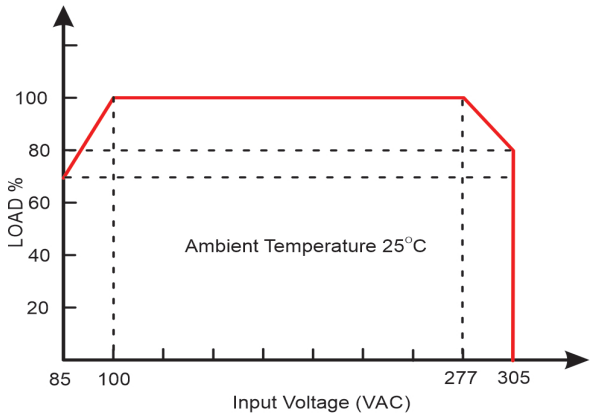
Part Number	C1	C2	TVS	Fuse	MOV	Capacitance Load Max
VTX-214-015-503	1uF/50V	10uF/16V	SMBJ7.0A	3.15A/300V Slow Blow	S14K350	8000 uF
VTX-214-015-505		10uF/16V	SMBJ7.0A			8000 uF
VTX-214-015-509		10uF/25V	SMBJ12A			5400 uF
VTX-214-015-512		10uF/25V	SMBJ20A			4000 uF
VTX-214-015-515		10uF/25V	SMBJ20A			3000 uF
VTX-214-015-518		10uF/35V	SMBJ20A			2000 uF
VTX-214-015-524		10uF/35V	SMBJ30A			1000 uF
Note: For additional filtering requirements, contact technical support						

Derating Graphs

Temperature Derating Graph



Input Voltage Derating Graph



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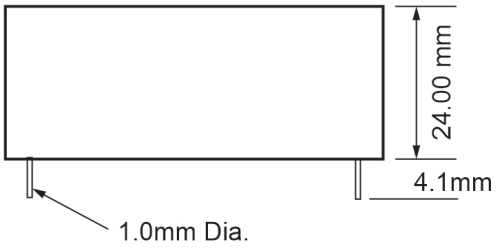
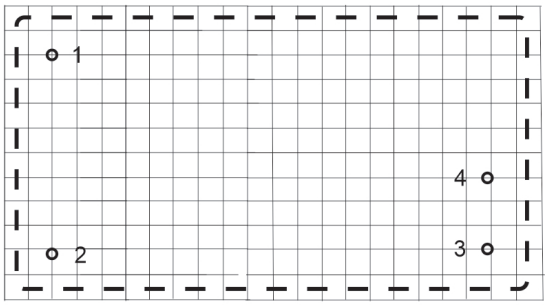
Dimensions

Side View

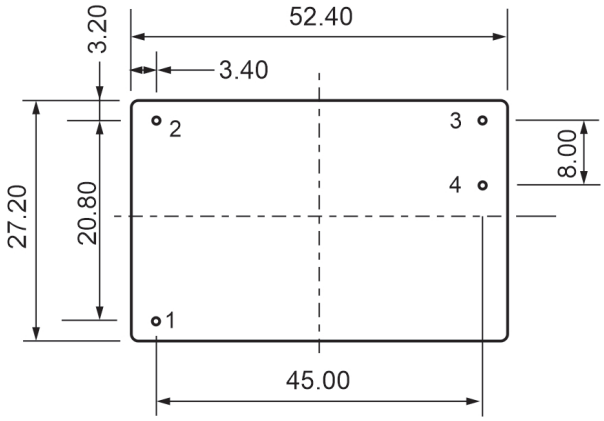


Top View



Grid Pitch 2.54 x 2.54mm (0.1 x 0.1 Inch)

Pin View



(Tolerances: x.xx = ± 0.05, x.x = ± 0.5)

Recommended PCB Pad hole 1.5mm Dia.

PIN Number	Function
1	AC(L)
2	AC(N)
3	-Vo
4	+Vo

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