



### Features:

- 2W Small Compact Size 33.7 x 22.2 x 18.0mm
- Wide AC & DC Input 85V to 305VAC
- Temperature Range -40°C to +70°C
- Output Range: 3.3V - 24VDC
- Output short circuit, Over-current protection
- Low Standby Power <0.2W
- Fully Isolated Pri - Sec >4000Vrms
- Insulation: Class II
- Materials: UL94-V0
- IEC/EN/UL62368, EN61558, EN60335



### Description

VTX-214-002-5### is a compact AC-DC power converter. It features a wide AC input 85V to 305Vac and a DC input voltage 120 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 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-214-002-503	2	3.3	600	55°C (70°C @ 50%)	>70%	85 - 305VAC (120 - 430VDC)
VTX-214-002-505	2	5	400			
VTX-214-002-509	2	9	222			
VTX-214-002-512	2	12	167			
VTX-214-002-515	2	15	133			
VTX-214-002-518	2	18	111			
VTX-214-002-524	2	24	83			

**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
<b>Input Voltage</b>	AC Input	85	-	305	VAC
	DC Input	120	-	430	VDC
<b>Input Frequency</b>		47	-	63	Hz
<b>Input Current</b>	115VAC	-	-	0.11	A
	230VAC	-	-	0.031	
<b>Inrush Current</b>	115VAC	-	7	-	
	230VAC	-	14	-	
<b>Leakage Current</b>	277VAC / 50Hz	0.25mA RMS Max			
<b>External Input Fuse</b>		1Amp Slow Blow Fuse			

Output Specification					
Item	Conditions	Min	Typical	Max	Unit
<b>Output Voltage</b>	Output	-	+/-5	-	%
<b>Line Regulation</b>	Full Load	-	+/-2	-	
<b>Load Regulation</b>	0% - 100% Load	-	+/-5	-	
<b>Ripple / Noise</b>	20MHz Bandwidth (Peak to Peak Value)	-	100	200	mV
<b>Stand by Power</b>	230VAC	-	0.2	-	W
<b>Temp. Coefficient</b>		-	+/-0.024	-	%/°C
<b>Short Circuit Protection</b>		Hiccup, Continuous, Self-recovery			
<b>Over Current Protection</b>		>120% Load Self-recovery			
<b>Over Voltage Protection</b>		Hiccup, Continuous, Self-recovery			
<b>Minimum Load</b>		10	-	-	%
<b>Hold-up Time</b>	115VAC Input	-	20	-	mS
	230VAC Input	-	50	-	

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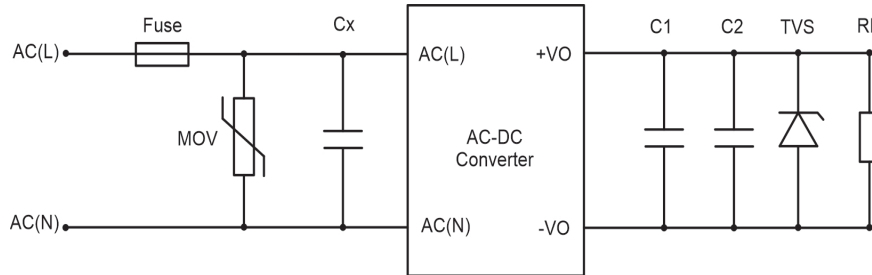
General Specification					
Item	Conditions	Min	Typical	Max	Unit
<b>Dielectric Strength</b>	Input to Output (1Min, 5mA)	4000	-	-	VAC
<b>Insulation Resistance</b>	Input to Output (500VDC)	100			M.Ohm
<b>Operating Temperature</b>		-40	-	+70	°C
<b>Storage Temperature</b>		-40	-	+105	
<b>Storage Humidity</b>		-	-	+95	%RH
<b>Soldering Temperature</b>	Wave Soldering	260 +/-5°C			
	Manual Soldering	360 +/-5°C			
<b>Switching Frequency</b>		-	65	-	KHz
<b>Altitude</b>		-	-	5000	m
<b>Safety Class</b>		CLASS II			
<b>MTBF</b>		>300KHrs @ 25°C (MIL-HDBK-217F)			
<b>Power Derating</b>	-40°C to -25°C,	3.3%/°C			
	+55°C to +70°C,	3.3%/°C			
<b>Safety Approvals</b>		IEC/EN/UL62368, EN61558, EN60335			
<b>Weight</b>		20g			
<b>Body colour</b>		Orange or Black			

EMC Specification		
<b>Emissions</b>	CE /RE	CISPR32 / EN55032 CLASS B EN55014-1
<b>Immunity</b>	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

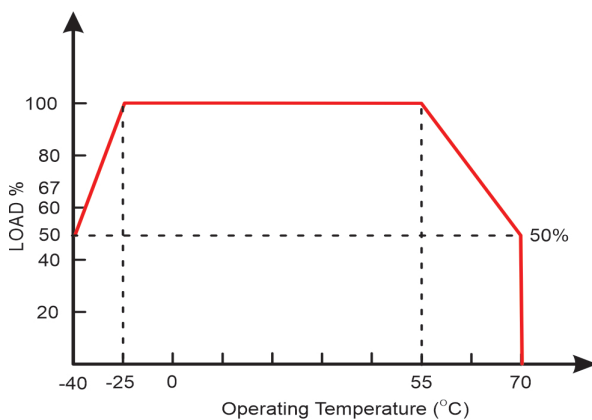
### Typical Application EMC



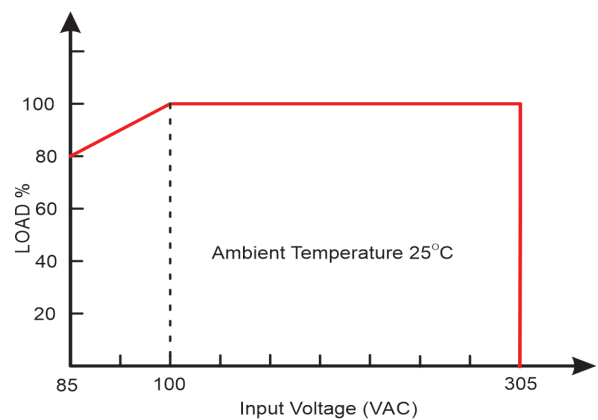
Part Number	Cx	C1	C2	TVS	Fuse	MOV	Capacitance Load Max
VTX-214-002-503	0.47uF /305V	1uF /50V	330uF/16V	SMBJ7.0A	1Amp/300V Slow Blow	S14K350	4000 uF
VTX-214-002-505			220uF/16V	SMBJ7.0A			4000 uF
VTX-214-002-509			100uF/25V	SMBJ12A			2200 uF
VTX-214-002-512			100uF/25V	SMBJ20A			2200 uF
VTX-214-002-515			100uF/25V	SMBJ20A			1000 uF
VTX-214-002-518			100uF/35V	SMBJ20A			1000 uF
VTX-214-002-524			100uF/35V	SMBJ30A			680 uF
Note: R1 is an optional NTC component for EMC.							

## Derating Graphs

### Temperature Derating Graph



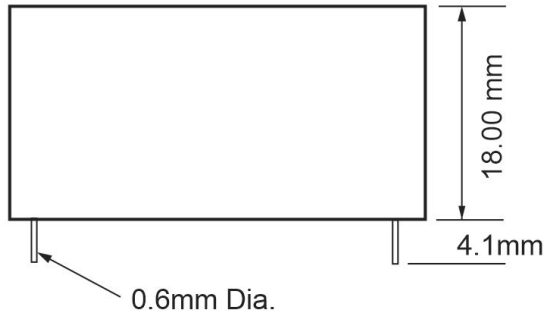
### Input Voltage Derating Graph



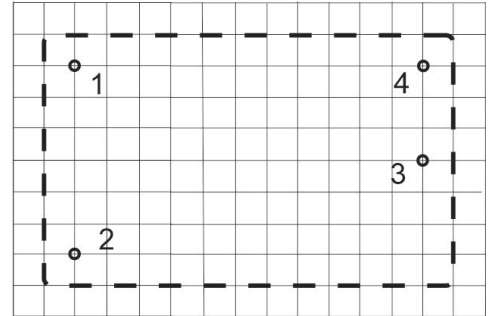
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## Dimensions

Side View

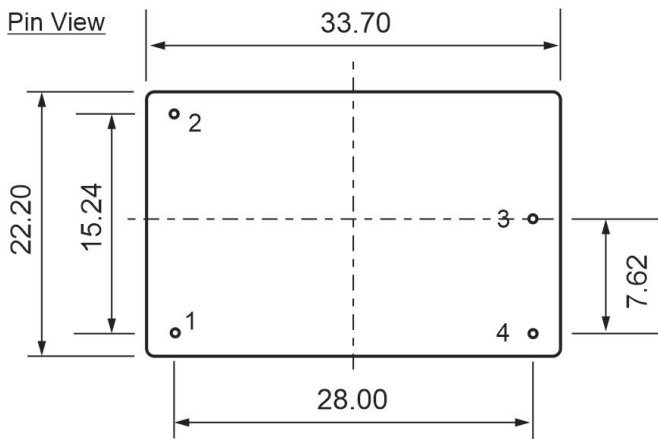


Top View



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

Pin View



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

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

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