



### Features:

- 20W Small Compact Size 52.4 x 27.2x 24.0mm
- Wide AC & DC Input 85V to 305VAC
- Temperature Range -40°C to +85°C
- Over-voltage Category OVC III
- Output Range: 3.3V - 24VDC
- Low Standby Power <0.1W
- Fully Isolated Pri - Sec >4200Vrms
- Insulation: Class II
- Materials: UL94-V0
- UL/EN62368-1, EN61558-1, EN60335-1



### Description

VTX-214-020-6### AC-DC converters is a compact size 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 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-214-020-603	14.85	3.3	4500	55°C (85°C @ 30%)	>81%	85 - 305VAC (100 - 430VDC)
VTX-214-020-605	20	5	4000			
VTX-214-020-609	20	9	2200			
VTX-214-020-612	20	12	1670			
VTX-214-020-615	20	15	1330			
VTX-214-020-618	20	18	1110			
VTX-214-020-624	20	24	830			

**Note: Other output voltages are available upon request.**

Please contact Vigortronix for any enquiries. Products can be altered to suit custom requirements. The information contained in this document is subject to change without notice.

Input Specification					
Item	Conditions	Min	Typical	Max	Unit
<b>Input Voltage</b>	AC Input	85	-	305	VAC
	DC Input	100	-	430	VDC
<b>Input Frequency</b>		47	-	400	Hz
<b>Input Current</b>	115VAC	-	-	0.50	A
	230VAC	-	-	0.30	
<b>Inrush Current</b>	115VAC	-	20	-	
	230VAC	-	45	-	
<b>Leakage Current</b>	277VAC / 50Hz	0.1mA RMS Max			
<b>External Input Fuse</b>		3.15Amp Slow Blow Fuse			

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

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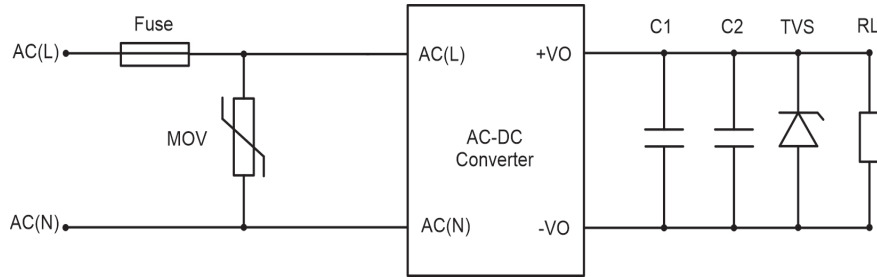
General Specification					
Item	Conditions	Min	Typical	Max	Unit
<b>Dielectric Strength</b>	Input to Output (1Min, 5mA)	4000	-	-	VAC
<b>Insulation Resistance</b>	Input to Output (500VDC)	100			M.Ohm
<b>Operating Temperature</b>		-40	-	+85	°C
<b>Storage Temperature</b>		-40	-	+85	
<b>Storage Humidity</b>		-	-	+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>		>1,500KHrs @ 25°C (MIL-HDBK-217F)			
<b>Designed Life</b>	25°C, 230VAC 100% Load	>130x10 <sup>3</sup> h			
	55°C, 230VAC 100% Load	>16x10 <sup>3</sup> h			
<b>Safety Approvals</b>		IEC/UL62368-1, EN61558-1, EN60335-1 Refer to IEC/EN60601-1/ANSI			
<b>Weight</b>		55g			
<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

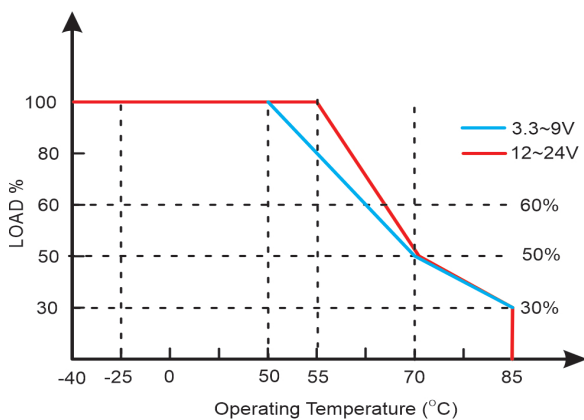
### Typical Application EMC



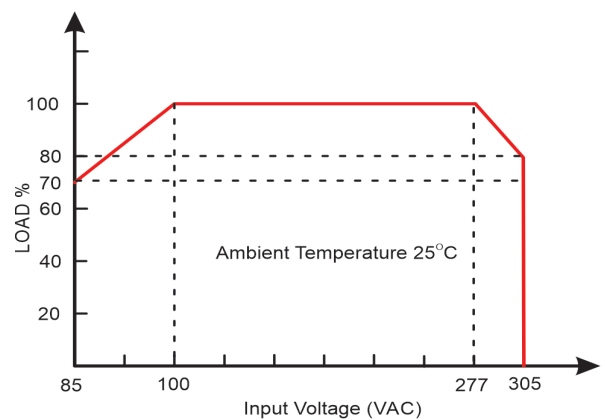
Part Number	C1	C2	TVS	Fuse	MOV	Capacitance Load Max
VTX-214-020-603	1uF/50V	10uF/16V	SMBJ7.0A	3.15A/300V Slow Blow	S14K350	8000 uF
VTX-214-020-605		10uF/16V	SMBJ7.0A			8000 uF
VTX-214-020-609		10uF/25V	SMBJ12A			5400 uF
VTX-214-020-612		10uF/25V	SMBJ20A			4000 uF
VTX-214-020-615		10uF/25V	SMBJ20A			3000 uF
VTX-214-020-618		10uF/35V	SMBJ20A			2000 uF
VTX-214-020-624		10uF/35V	SMBJ30A			1000 uF
Note: For additional filtering requirements, contact technical support						

## Derating Graphs

### Temperature Derating Graph



### Input Voltage Derating Graph



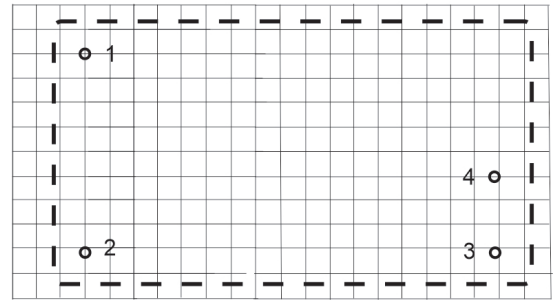
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## Dimensions

Side View



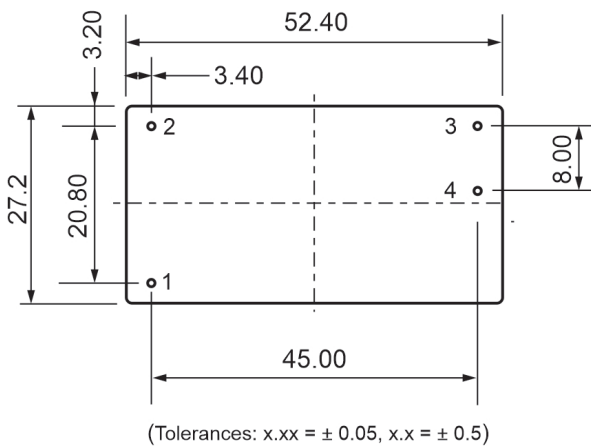
Top View



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

Recommended PCB Pad hole 1.5mm Dia.

Pin View



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

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