15 Watt Compact AC-DC Converters

Features:

- 15W Small Compact Size 47.6 x 26.8 x 23.5mm
- 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
- IEC/UL/EN62368, EN61558, EN60335

Description

VTX-214-015-6## AC-DC 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 shown 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-214-015-603	13.2	3.3	4000	55°C (85°C @ 50%)	>82%	85 - 305VAC (100 - 430VDC)
VTX-214-015-605	15	5	3000			
VTX-214-015-609	15	9	1670			
VTX-214-015-612	15	12	1250			
VTX-214-015-615	15	15	1000			
VTX-214-015-618	15	18	833			
VTX-214-015-624	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.

Vigortronix, 16 De Havilland Way, Witney, Oxfordshire, OX29 0YG, UK
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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	-	63	Hz
Input Current	115VAC	-	-	0.45	A
	230VAC	-	-	0.30	
Inrush Curent	115VAC	-	30	-	
	230VAC	-	60	-	
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	-	+/-2	-	%
Line Regulation	Full Load	-	+/-0.5	-	
Load Regulation	0% - 100% Load	-	+/-1	-	
Ripple / Noise	20MHz Bandwidth (Peak to Peak Value)	-	70	120	mV
Stand by Power	230VAC 3.3/5/9/12/15/18V	-	0.1	-	W
	24V	-	0.12	-	
Temp. Coefficient		-	+/-0.02	-	%/°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	-	10	-	mS
	230VAC Input	-	55	-	

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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	°C
Storage Temperature		-40	-	+105	
Storage Humidity		-	-	+95	%RH
Soldering Temperature	Wave Soldering	260 +/-5°C			
	Manual Soldering	360 +/-5°C			
Switching Frequency		-	65	-	KHz
Altitude		-	-	5000	m
Safety Class		CLASS II			
MTBF		>3,200KHrs @ 25°C (MIL-HDBK-217F)			
Designed Life	25°C, 230VAC 100% Load	>130x10^3 h			
	55°C, 230VAC 100% Load	>27x10^3 h			
Safety Approvals		IEC/UL62368-1, EN61558-1, EN60335-1			
Weight		48g			
Body Colour		Orange or Black			

EMC Specification		
Emissions	CE /RE	CISPR32 / EN55032 CLASS B EN55014-1
Immunity	ESD	IEC/EN 61000-4-2 CONTACT +/-8KV 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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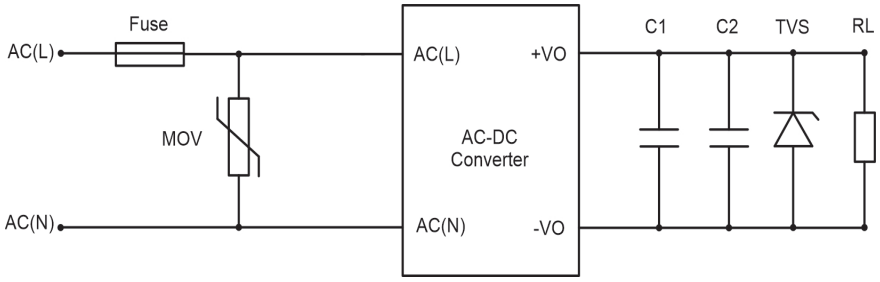
Application Schematic for EMC

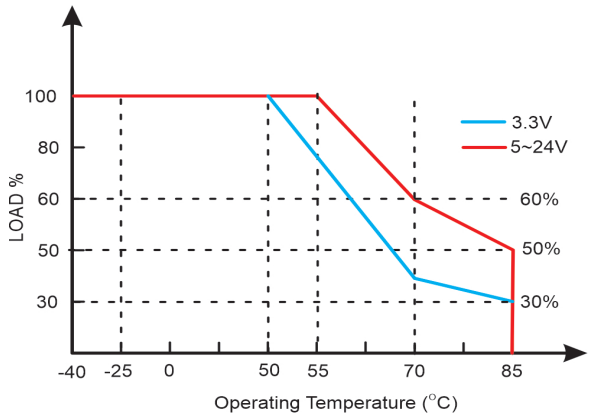
Typical Application EMC



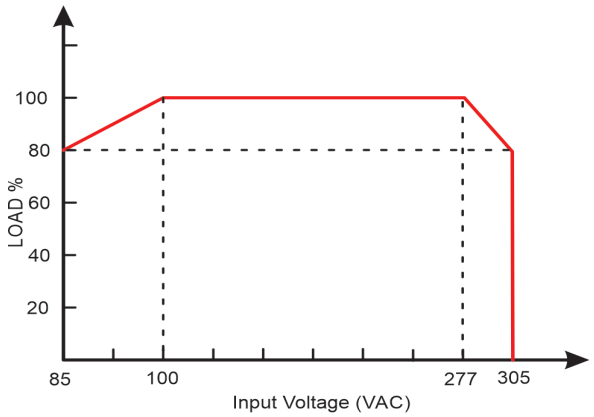
Part Number	C1	C2	TVS	Fuse	MOV	Capacitance Load Max
VTX-214-015-603	1uF/50V	220uF/16V	SMBJ7.0A	3.15A/300V Slow Blow	S14K350	6600 uF
VTX-214-015-605		220uF/16V	SMBJ7.0A			5000 uF
VTX-214-015-609		100uF/25V	SMBJ12A			3000 uF
VTX-214-015-612		100uF/25V	SMBJ20A			2000 uF
VTX-214-015-615		100uF/25V	SMBJ20A			1500 uF
VTX-214-015-618		100uF/35V	SMBJ20A			1000 uF
VTX-214-015-624		100uF/35V	SMBJ30A			680 uF
Note: For additional filtering requirements, contact technical support						

Derating Graphs

Temperature Derating Graph



Input Voltage Derating Graph



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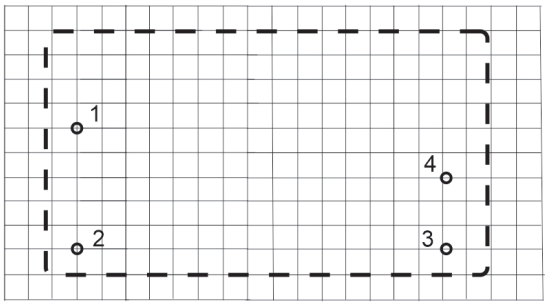
Dimensions

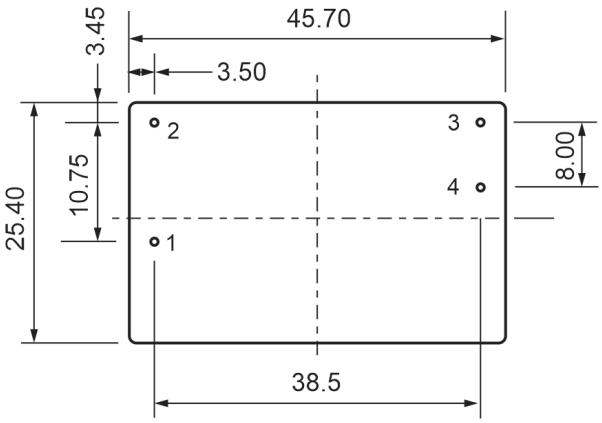
Side View

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