1 Watt AC-DC Converters

Features:

- 11W Small Compact Size - PCB Mount
- Single Output - Regulated
- Input: 90 - 265VAC , 47 - 63Hz (100 - 370VDC)
- Output Range: 3.3V - 48VDC
- Low Standby Power <0.3W
- Low Ripple & Noise
- Encapsulated Design
- Fully Isolated Pri - Sec >4000Vrms
- Insulation: Class II
- Materials: UL94-V0
- Safety: EN61558, EN62368-1, CE

UK CA CE

RoHS COMPLIANT

Description

VTX-214-001-1xx is a compact AC-DC power converter. It features a wide AC input 85V to 265Vac and a DC input voltage 100 to 370VDC. 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-214-001-103	1	3.3	300	70°C (80°C @ 50%)	>60%	90 - 264VAC (100 - 370VDC)
VTX-214-001-105	**1**	5	200			
VTX-214-001-106	**1**	6	167			
VTX-214-001-107	**1**	7.5	133			
VTX-214-001-108	**1**	8	125			
VTX-214-001-109	**1**	9	111			
VTX-214-001-110	**1**	10	100			
VTX-214-001-112	**1**	12	85			
VTX-214-001-115	**1**	15	67			
VTX-214-001-118	**1**	18	55			
VTX-214-001-124	**1**	24	42			
VTX-214-001-148	**1**	48	21			

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	90	-	264	VAC
	DC Input	100	-	370	VDC
Input Frequency		47	-	63	Hz
Input Current	115VAC	-	-	0.23	A
	230VAC	-	-	0.15	
Inrush Curent	115VAC	-	-	6	
	230VAC	-	-	10	
Leakage Current	230VAC / 50Hz	0.15mA RMS Max			
External Input Fuse		2Amp Slow Blow Fuse			

Output Specification					
Item	Conditions	Min	Typical	Max	Unit
Output Voltage	Output	-	+/-5	-	%
Line Regulation	Full Load	-	+/-5	-	
Load Regulation	0% - 100% Load	-	+/-5	-	
Ripple / Noise	20MHz Bandwidth (Peak to Peak Value)	-	-	<5%	Vp-p
Stand by Power	230VAC	-	0.3	-	W
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	-	40	-	

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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	-	+80	°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		>300KHrs @ 25°C (MIL-HDBK-217F)			
Safety Approvals		IEC/EN/UL62368, EN61558			
Weight		20g			
Body Colour		Orange			

EMC Specification		
Emissions	CE /RE	CISPR32 / EN55032 CLASS B EN55014-1
Immunity	ESD	IEC/EN 61000-4-2 CONTACT +/-8KV AIR +/-15KV
	RS	IEC/EN 61000-4-3 10V/rms EN55014-2
	EFT	IEC/EN 61000-4-4
	SURGE	IEC/EN 61000-4-5, line to line ±2KV/line to PE ±4KV
	CS	IEC/EN 61000-4-6 10Vr.m.s. EN55014-2
	Voltage Variation	IEC/EN 61000-4-11, EN55014-2

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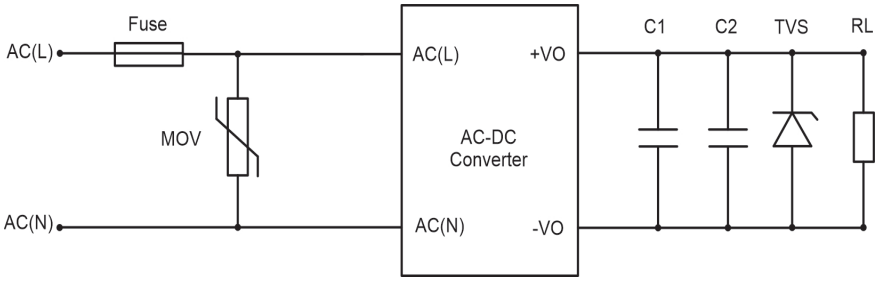
Application Schematic for EMC

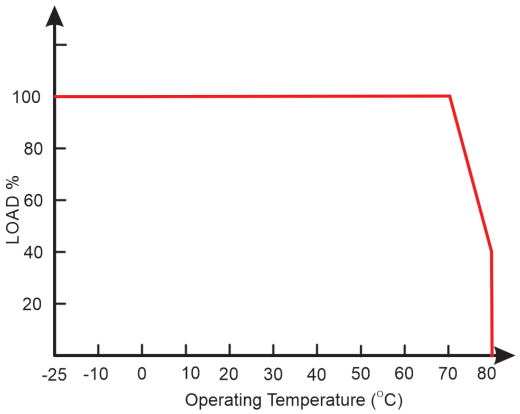
Typical Application



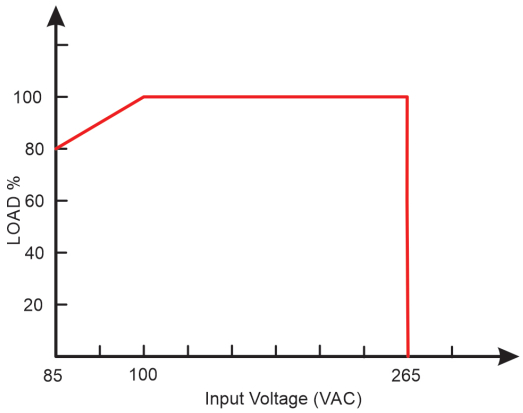
Output Voltage	C1	C2	TVS	Fuse	MOV
3.3V to 8V	1uF/50V	220uF/16V	SMBJ7.0A	1Amp/250V Slow Blow	14D561K
9V to 10V		150uF/25V	SMBJ12A		
12V to 18V		150uF/25V	SMBJ20A		
24V		100uF/35V	SMBJ20A		
48V		100uF/60V	SMBJ60A		
Note: For additional filtering requirements, contact technical support					

Derating Graphs

Temperature Derating Graph



Input Voltage Derating Graph



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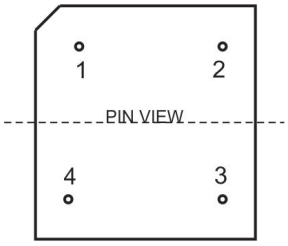
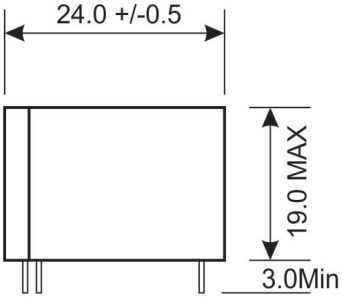
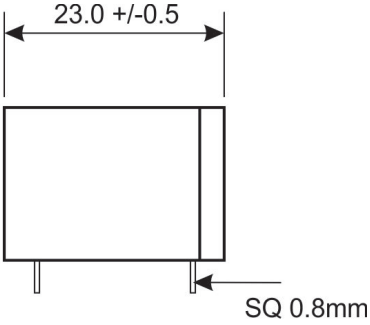
Dimensions

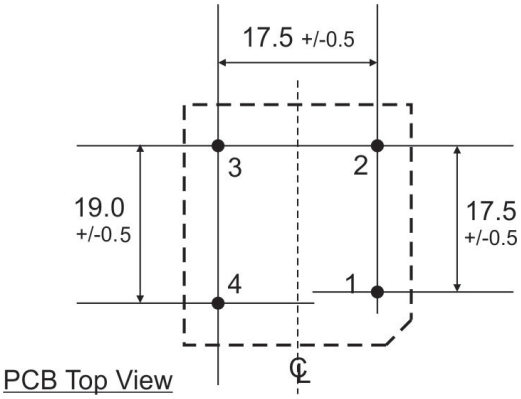






Pin 1: Output Grnd
Pin 2: Output V+
Pin 3: Input Neutral
Pin 4: Input Line

Note: Recommend PCB hole size to be 1.5mm Dia.



Recommended PCB
Hole size: 1.5mm Dia.

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

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