3 Watt
AC-DC Converters

Features:

- 3W Small Compact Size 25.0 x 25.0 x 16mm
- Wide AC & DC Input 90V to 264VAC
- Temperature Range -25°C to +80°C
- 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
-

Description

VTX-214-003-7## is a compact size AC-DC converter. It features a wide AC input 90V to 264Vac and a DC input voltage 120 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-214-003-703	2.75	3.3	830	50°C (80°C @ 40%)	>65%	90 - 264VAC (120 - 370VDC)
VTX-214-003-705	3	5	600			
VTX-214-003-709	3	9	330			
VTX-214-003-712	3	12	250			
VTX-214-003-715	3	15	200			
VTX-214-003-718	3	18	170			
VTX-214-003-724	3	24	125			

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	120	-	370	VDC
Input Frequency		47	-	63	Hz
Input Current	115VAC	-	-	0.1	A
	230VAC	-	-	0.065	
Inrush Curent	115VAC	-	10	-	
	230VAC	-	20	-	
Leakage Current	230VAC / 50Hz	0.20mA RMS Max			
External Input Fuse		2Amp Slow Blow Fuse			

Output Specification					
Item	Conditions	Min	Typical	Max	Unit
Output Voltage	3.3VAV Output	-	+/-5	-	%
	Other Outputs	-	+/-5	-	
Line Regulation	Full Load	-	+/-3	-	
Load Regulation	0% - 100% Load	-	+/-5	-	
Ripple / Noise	20MHz Bandwidth (Peak to Peak Value)	-	100	300	mV
Stand by Power	230VAC	-	0.2	-	W
Temp. Coefficient		-	+/-0.02	-	%/^{O}C
Short Circuit Protection		Hiccup, Continuous, Self-recovery			
Over Current Protection		>120% Load Self-recovery			
Over Voltage Protection		Hiccup, Continuous, Self-recovery			
Minimum Load		0	-	-	%
Hold-up Time	115VAC Input	-	5	-	mS
	230VAC Input	-	50	-	

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General Specification					
Item	Conditions	Min	Typical	Max	Unit
Dielectric Strength	Input to Output (1Min, 5mA)	3600	-	-	VAC
Operating Temperture		-25	-	+80	°C
Storage Temperture		-25	-	+85	
Storage Humidity		-	-	+95	%RH
Soldering Temperature	Wave Soldering	260 +/-5°C			
	Manual Soldering	360 +/-5°C			
Switching Frequency		-	65	-	KHz
Altitude		-	-	-	m
Safety Class		CLASS II			
MTBF		>300,000Hrs @ 25°C (MIL-HDBK-217F)			
Safety Approvals		IEC/EN/UL62368, EN61558-2-16			
Cooling Method		Free Air Convection			
Dimensions		25.0 x 25.0 x 16mm			
Case Material		UL94-V0 Rated			
Weight		17g			

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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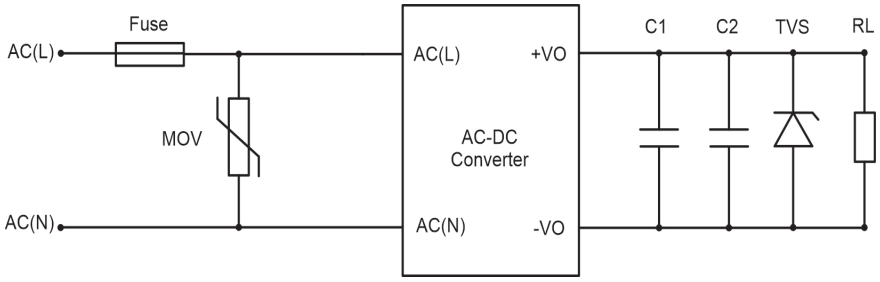
Application Schematic for EMC

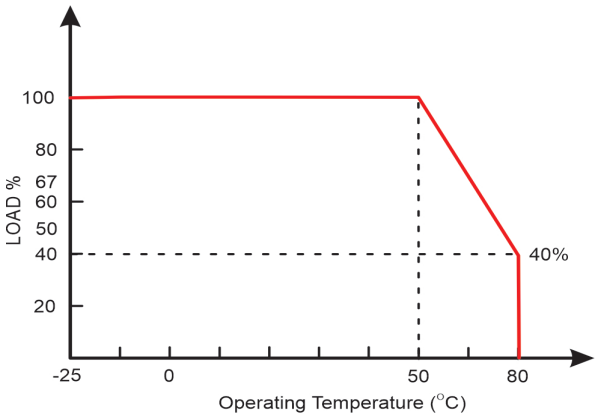
Typical Application EMC



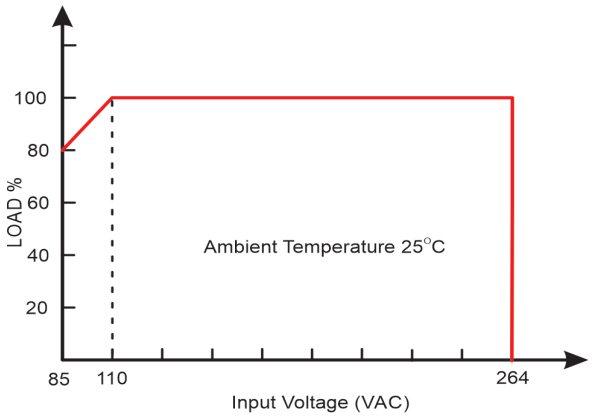
Part Number	C1 (uF)	C2 (uF)	TVS	Fuse	MOV	Capacitance Load Max
VTX-214-003-703	1.0	150	SMBJ70A	2Amp/300V Slow Blow	S14K350	4000 uF
VTX-214-003-705		150	SMBJ70A			4000 uF
VTX-214-003-709		120	SMBJ12A			2200 uF
VTX-214-003-712		120	SMBJ20A			2200 uF
VTX-214-003-715		120	SMBJ20A			1000 uF
VTX-214-003-718		120	SMBJ20A			1000 uF
VTX-214-003-724		68	SMBJ30A			680 uF
Note: For additional filtering requirements, contact technical support						

Derating Graphs

Temperature Derating Graph



Input Voltage Derating Graph



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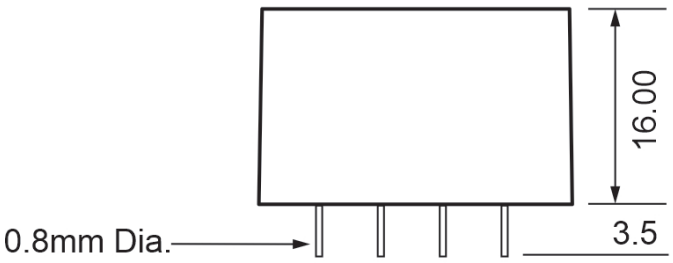
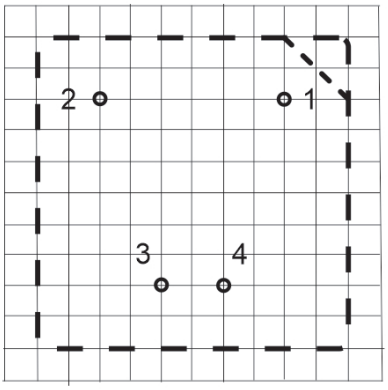
Dimensions

Side View

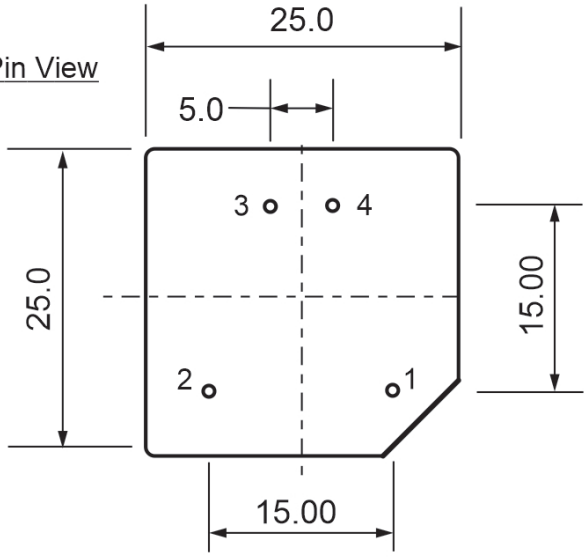


Top View



Grid Pitch 2.50x 2.50mm

Pin View



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

Recommended PCB Pad hole 1.2mm Dia.

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

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