5 Watt Dual AC-DC Converters

Features:

- 5W Compact Size 32.5 x 27.5 x 19.5mm
- Wide AC & DC Input 90V to 264VAC (100 to 370VDC)
- Temperature Range -20°C to +70°C
- Dual Isolated Outputs
- Fully Isolated Pri - Sec >4000Vrms
- Insulation: Class II
- Materials: UL94-V0
- Safety: EN61558, EN60950, CE, UKCA

Description

VTX-214-005-### is a compact size Dual Output 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, Isolated Outputs and reinforced isolation. It offers good EMC performance. The converters are widely used in industrial power, 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 1 Voltage Current	Output 2 Voltage Current	Output 1 Capacitive Load (uF)	Output2 Capacitive Load (uF)	Efficiency Typical
VTX-214-005-403	5	3.3V/750mA	3.3V/750mA	470	470	>70%
VTX-214-005-405	5	5V/500mA	5V/500mA	470	470	
VTX-214-005-407	5	7.5V/330mA	7.5V/330mA	100	100	
VTX-214-005-409	5	9V/250mA	9V/250mA	100	100	
VTX-214-005-412	5	12V/166mA	12V/166mA	100	100	
VTX-214-005-415	5	15V/138mA	15V/138mA	100	100	
VTX-214-005-0305	5	3.3V/750mA	5V/500mA	470	470	
VTX-214-005-0312	5	3.3V/750mA	12V/208mA	470	100	
VTX-214-005-0315	5	3.3V/750mA	15V/160mA	470	100	
VTX214-005-0324	5	3.3V/750mA	24V/100mA	470	100	
VTX-214-005-0503	5	5V/500mA	3.3V/750mA	470	100	
VTX-214-005-0512	5	5V/500mA	12V/208mA	470	100	
VTX-214-005-0515	5	5V/500mA	15V/160mA	470	100	
VTX-214-005-0524	5	5V/500mA	24V/100mA	470	100	
VTX-214-005-1203	5	12V/200mA	3.3V/750mA	100	470	
VTX-214-005-1205	5	12V/200mA	5V/500mA	100	470	
VTX-214-005-1215	5	12V/200mA	15V/160mA	100	470	
VTX-214-005-1512	5	5V/1000mA	24V/200mA	100	100	
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	-	-	0.060	A
	230VAC	-	-	0.035	
Inrush Curent	115VAC	-	15	-	
	230VAC	-	25	-	
External Input Fuse		1Amp Slow Blow Fuse			

Output Specification					
Item	Conditions	Min	Typical	Max	Unit
Output Voltage	Output V01	-	+/-5	+/-7	%
	Output V02	-	+/-10	-	
Line Regulation	Full Load Output V01	-	+/-2	-	
	Full Load Output V02	-	+/-5	-	
Load Regulation	0% - 100% Load V01	-	+/-3	-	
	0% - 100% Load V02		+/-10		
Ripple / Noise	20MHz Bandwidth (Peak to Peak Value)	-	-	250	mV
Temp. Coefficient		-	+/-0.02	-	%/^{O}C
Short Circuit Protection		Hiccup, Continuous, Self-recovery			
Over Current Protection		>150% Load Self-recovery			
Over Voltage Protection		Hiccup, Continuous, Self-recovery			
Minimum Load		0	-	-	%
Hold-up Time	115VAC Input	-	10	-	mS
	230VAC Input	-	60	-	

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General Specification					
Item	Conditions	Min	Typical	Max	Unit
Dielectric Strength	Input to Output (1Min, 5mA)	4000	-	-	VAC
	Output 1 to Output 2 (Isolated Output)	1000	-	-	VDC
Operating Temperture		-20	-	+70	°C
Storage Temperture		-40	-	+105	
Storage Humidity		-	-	+95	%RH
Soldering Temperature	Wave Soldering	260 +/-5°C			
	Manual Soldering	360 +/-5°C			
Switching Frequency		-	60	-	KHz
Safety Class		CLASS II			
MTBF		>300,000Hrs @ 25°C (MIL-HDBK-217F)			
Designed Life	25°C, 230VAC 100% Load	>150x10³ h			
	70°C, 230VAC 100% Load	>27x10³ h			
Safety Approvals		Compliant to IEC62368, EN61558			
Cooling Method		Free Air Convection			
Weight		30g			

EMC Specification		
Emissions	CE /RE	CISPR32 / EN55022 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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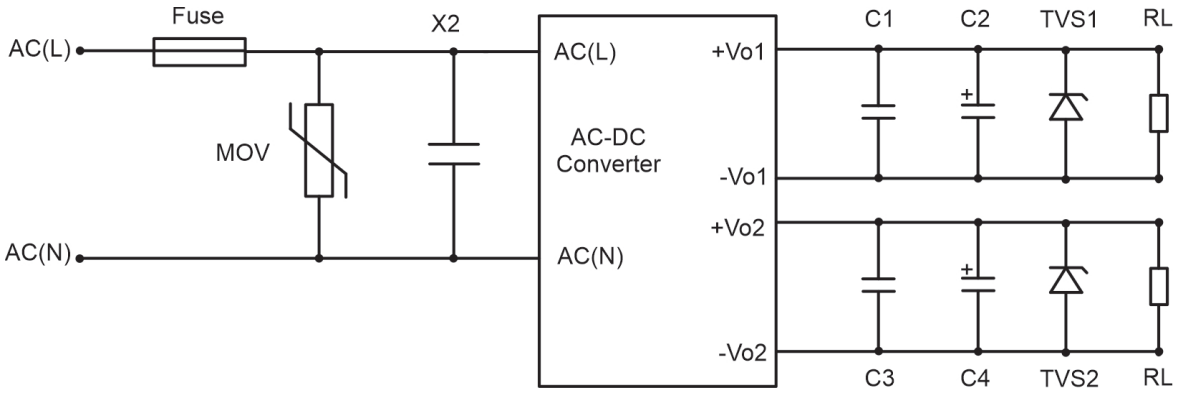
Application Schematic for EMC

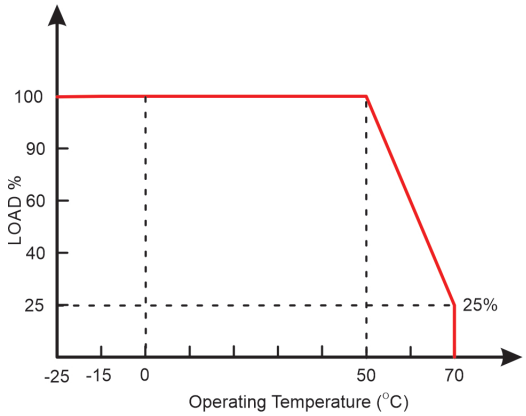
Typical Application EMC



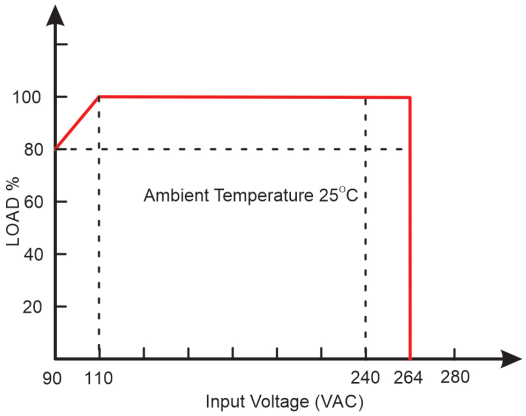
Output Voltage	C1/C3 (uF)	X2	C2/C4 (uF)	TVS1	TVS2	Fuse	MOV
3.3VDC	1.0	104/274 X2-CAP	470	SMBJ7.0A	SMBJ7.0A	1Amp/250V Slow Blow	14D431K
5VDC			470	SMBJ70A	SMBJ20A		
7.5VDC			100	SMBJ12A	SMBJ20A		
9VDC			100	SMBJ7.0A	SMBJ7.0A		
12VDC			100	SMBJ7.0A	SMBJ20A		
15VDC			100	SMBJ7.0A	SMBJ20A		
24VDC			100	SMBJ7.0A	SMBJ30A		
Note: For additional filtering requirements, contact technical support							

Derating Graphs

Temperature Derating Graph



Input Voltage Derating Graph



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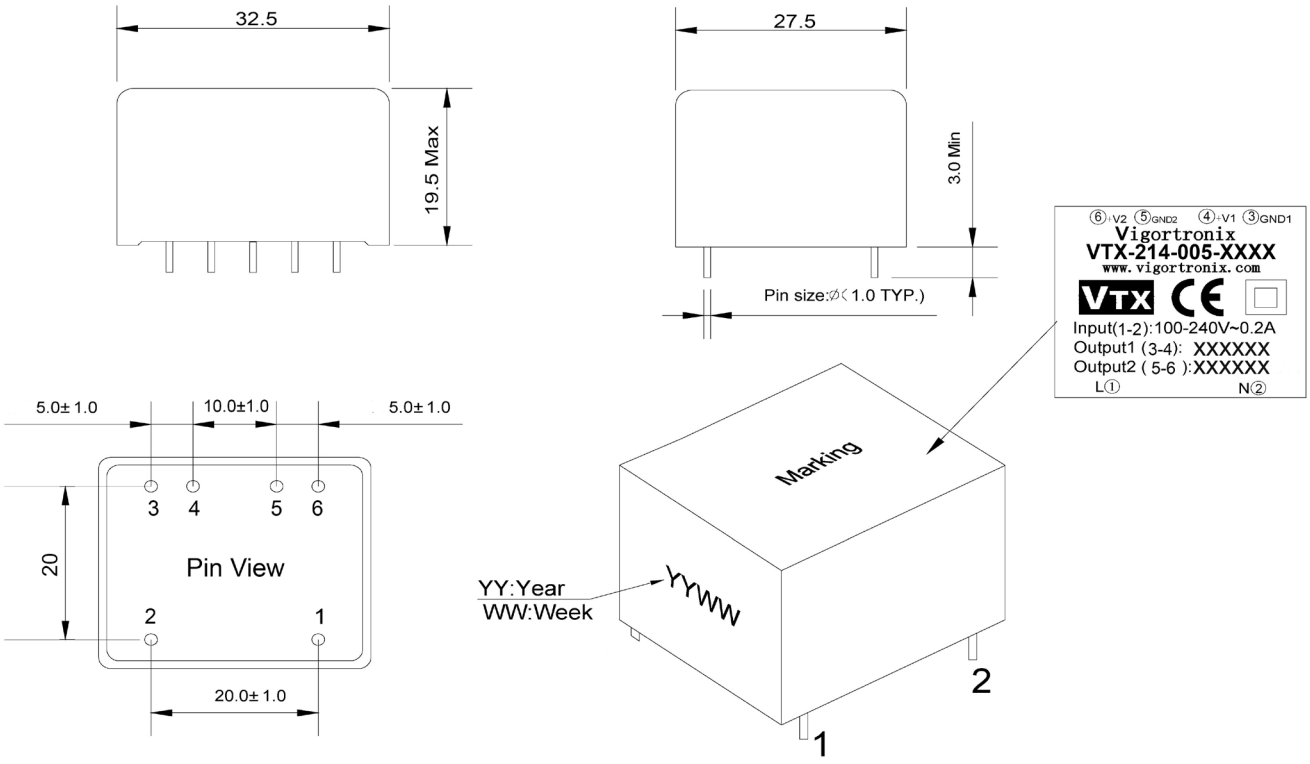
Dimensions



Note: Measuremnts are in millimeters

PIN Number	Function
1	AC(L)
2	AC(N)
3	-Vo1
4	+Vo1
5	-Vo2
6	+Vo2