



Features:

- 40W Small Compact Size 69.5 x 39.0x 24.0mm
- Wide AC & DC Input 85V to 305VAC
- Temperature Range -40°C to +85°C
- Over-voltage Category OVC III
- Output Range: 5V - 48VDC
- Low Standby Power
- Fully Isolated Pri - Sec >4200Vrms
- OVCIII (meet EN62477)
- Materials: UL94-V0
- UL/IEC/EN62368-1, EN61558-1, EN60335-1
- 3 Year Warranty



Description

VTX-214-040-6### 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-214-040-605	35	5	7000	50°C (85°C @ 25%)	>86%	85 - 305VAC (100 - 430VDC)
VTX-214-040-609	36	9	4000			
VTX-214-040-612	40	12	3330			
VTX-214-040-615	40	15	2666			
VTX-214-040-618	40	18	2220			
VTX-214-040-624	40	24	1670			
VTX-214-040-648	40	48	833			

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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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	-	-	1.0	A
	230VAC	-	-	0.6	
Inrush Curent	115VAC	-	30	-	
	230VAC	-	60	-	
Leakage Current	277VAC / 50Hz	0.1mA RMS Max			
External Input Fuse		3.15Amp/300V 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)	-	100	150	mV
Stand by Power	230VAC	-	0.3	0.55	W
Temp. Coefficient		-	+/-0.02	-	%/°C
Short Circuit Protection		Hiccup, Continuous, Self-recovery			
Over Current Protection		>130% Load Self-recovery			
Over Voltage Protection		Hiccup, Continuous, Self-recovery			
Minimum Load		0	-	-	%
Hold-up Time	115VAC Input	-	8	-	mS
	230VAC Input	-	50	-	

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General Specification					
Item	Conditions	Min	Typical	Max	Unit
Dielectric Strength	Input to Output (1Min, 5mA)	4200	-	-	VAC
Insulation Resistance	Input to Output (500VDC)	100			M.Ohm
Operating Temperature		-40	-	+85	°C
Storage Temperature		-40	-	+85	
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		>500KHrs @ 25°C (MIL-HDBK-217F)			
Safety Approvals		IEC/EN/UL62368-1, EN61558-1, IEC/EN60335-1, IEC/EN62477-1			
Weight		102g			
Body Colour		Orange or Black			

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 ±2KV
	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

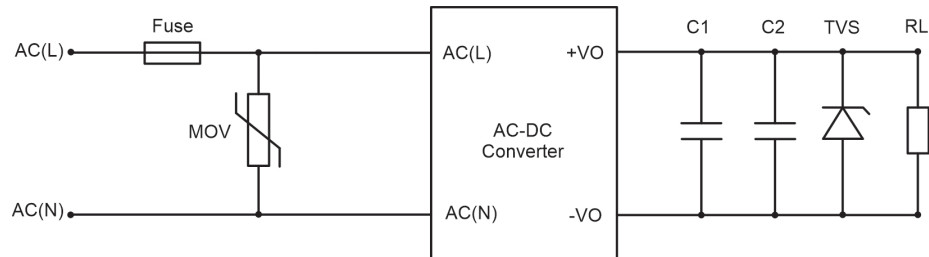
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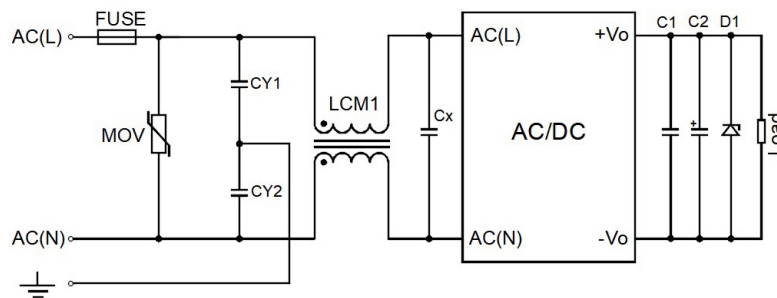
Application Schematic for EMC

Typical Application



Part Number	C1	C2	TVS	Fuse	MOV	Capacitance Load Max
VTX-214-040-205	1uF /50V	330uF/16V	SMBJ7.0A	3.15A/300V Slow Blow	S14K350	6600 uF
VTX-214-040-209		330uF/16V	SMBJ20A			4400 uF
VTX-214-040-212		330uF/16V	SMBJ20A			4400 uF
VTX-214-040-215		220uF/25V	SMBJ20A			3000 uF
VTX-214-040-218		100uF/35V	SMBJ30A			1800 uF
VTX-214-040-224		100uF/35V	SMBJ30A			1500 uF
VTX-214-040-248		47uF/63V	SMBJ64A			470 uF
Note: For additional filtering requirements, contact technical support						

Application Schematic Fig. 2 for EMC



EMC Recommended Values

Fuse	3.15A/300VAC, Slow Blow
MOV	14D561K
Cx	0.68uF/310VAC
CY1, CY2	1.0nF/400VAC
LCM1	10mH, Common Mode Inductor

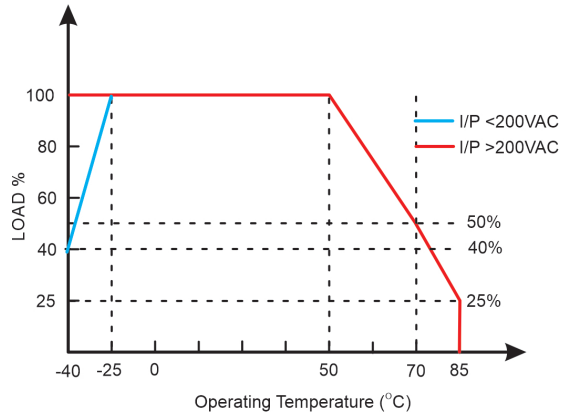
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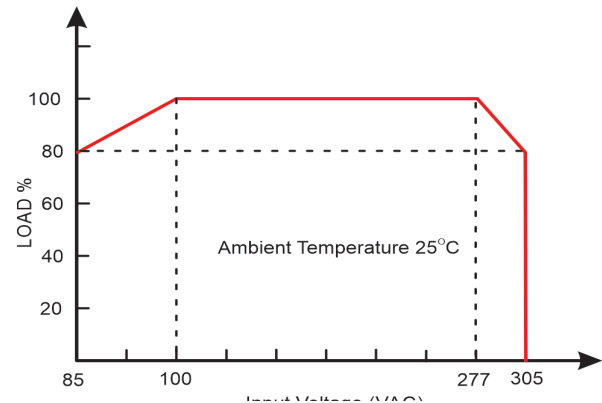
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Derating Graphs

Temperature Derating Graph

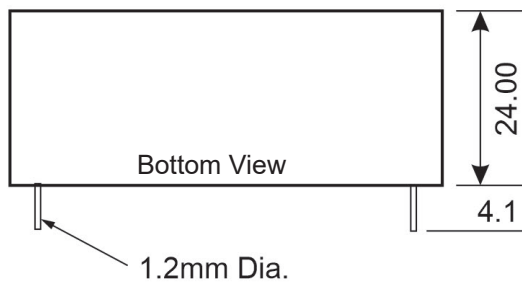


Input Voltage Derating Graph

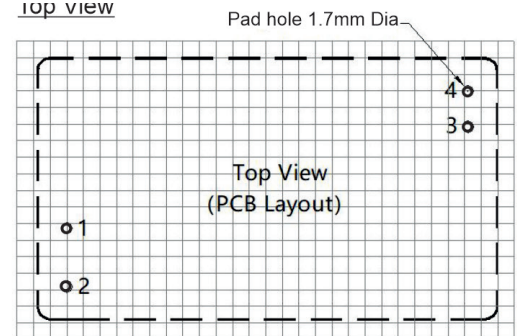


Dimensions

Side View



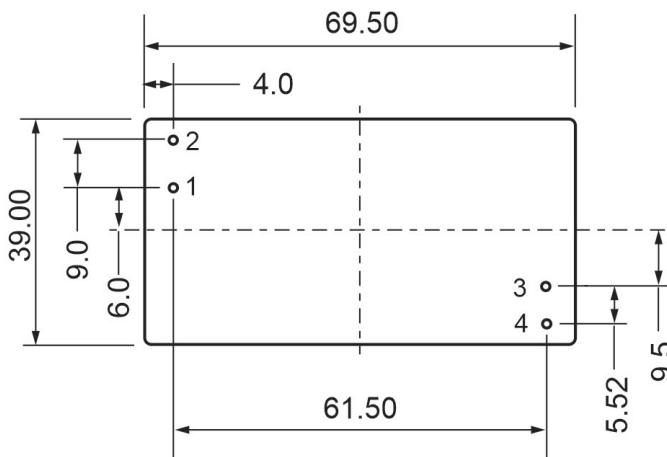
Top View



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

Recommended PCB Pad hole 1.7mm Dia.

Pin View



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

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

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