40 Watt OVC IV AC-DC Converters

Image for illustration only

IN PROGRESS

Features:

- 40W Small Compact Size 64.1 x 45.6 x 23.5mm
- Wide AC & DC Input 90V to 305VAC (47~440Hz)
- Temperature Range -40°C to +85°C
- EMC Compliant without external components
- Suitable for Category **OVC IV** (Meets EN62368)
- Output Range: 5V - 48VDC
- Low Standby Power <0.1W
- Fully Isolated Pri - Sec >5700Vrms
- Insulation: Class II
- Materials: UL94-V0
- Meet: IEC/EN/UL62368, EN61558-1:2017
- 3 Year Warranty

Description

VTX-214-040-3## is a compact AC-DC power converter. It features a wide AC input 90V to 305Vac and a DC input voltage 120 to 430VDC. The converters have been designed to meet OVC IV, 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 safety standards IEC/EN/UL62368, EN60335, EN61558, EN62477 standards. The converters are widely used in industrial Control, Monitoring, 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-214-040-305	25	5	5000	50°C (85°C @ 25%)	90%	90 - 305VAC (120 - 430VDC)
VTX-214-040-312	40	12	3333			
VTX-214-040-315	40	15	2666			
VTX-214-040-324	40	24	1666			
VTX-214-040-348	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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Input Specification					
Item	Conditions	Min	Typical	Max	Unit
Input Voltage	AC Input	90	-	305	VAC
	DC Input	120	-	430	VDC
Input Frequency		47	-	440	Hz
Input Current	115VAC	-	-	1	A
	230VAC	-	-	0.5	
Inrush Curent	115VAC	-	-	60	
	230VAC	-	-	100	
Leakage Current	277VAC / 50Hz	0.2mA RMS Max			
External Input Fuse		2Amp 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)	-	150	250	mV
Stand by Power	230VAC	-	0.15	0.2	W
Temp. Coefficient		-	+/-0.05	-	%/^{O}C
Short Circuit Protection		Hiccup, Continuous, Self-recovery			
Over Current Protection		>150% Load Self-recovery			
Over Voltage Category	OVC Ref: IEC 61558-1:2017	**IV**			
Over Voltage Protection	Output: 5V	<7.5VDC (Output Voltage Clamp)			
	Output: 12V/15V	<20VDC (Output Voltage Clamp)			
	Output: 24V	<30VDC (Output Voltage Clamp)			
Minimum Load		0	-	-	%
Hold-up Time	115VAC Input	-	10	-	mS
	230VAC Input	-	30	-	

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General Specification					
Item	Conditions	Min	Typical	Max	Unit
Dielectric Strength	Input to Output (1Min, 5mA)	5700	-	-	VAC
Insulation Resistance	Input to Output (500VDC)	100			M.Ohm
Operating Temperture		-40	-	+85	°C
Storage Temperture		-40	-	+85	
Storage Humidity		-	-	+95	%RH
Soldering Temperature	Wave Soldering	260 +/-5°C			
	Manual Soldering	360 +/-5°C			
Switching Frequency		-	TBA	-	KHz
Altitude		-	-	5000	m
Safety Class		CLASS II			
MTBF		>500KHrs @ 25°C (MIL-HDBK-217F)			
Safety Approvals		IEC/EN/UL62368-1, EN61558, EN60335-1, EN62477-1, IEC61010-1			
Dimensions		64.10 x 45.6 x 23.5mm			
Weight		120 g			

EMC Specification - IN PROGRESS		
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 (Line to Line +/-2KV / Line to PE +/-4KV)
	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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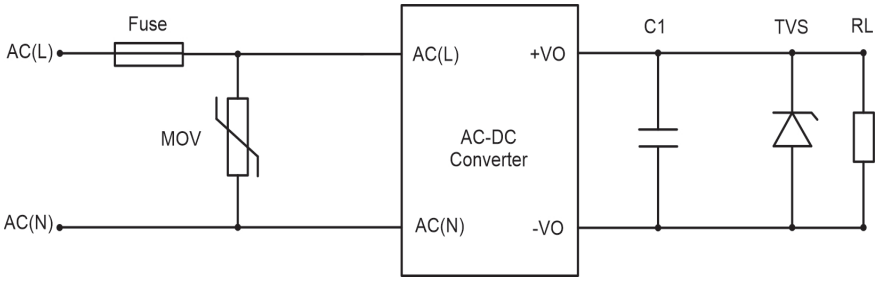
Application Schematic for EMC

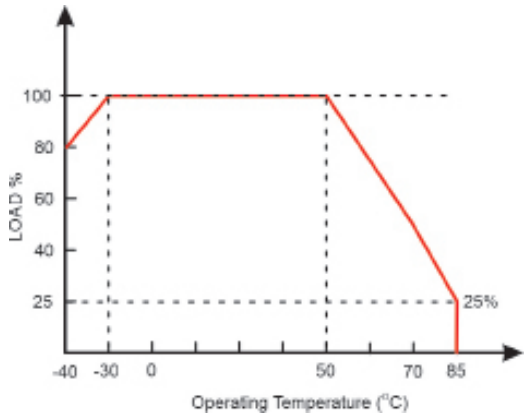
Typical Application



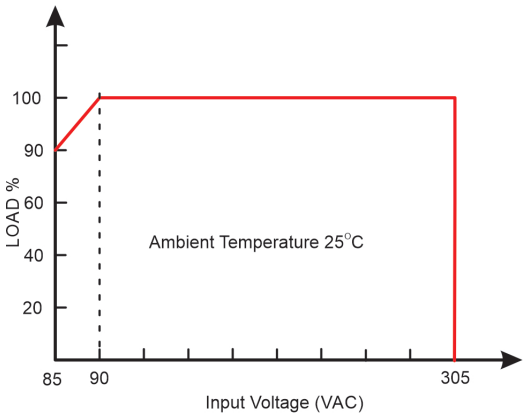
Part Number	C1	TVS	Fuse	MOV	Capacitance Load Max
VTX-214-040-305	1uF/50V	SMBJ7.0A	2Amp/300V Slow Blow	S14K350	8000 uF
VTX-214-040-312		SMBJ20A			6000 uF
VTX-214-040-315		SMBJ20A			5000 uF
VTX-214-040-324		SMBJ30A			1200 uF
VTX-214-040-348					820 uF
Note: For additional filtering requirements, contact technical support					

Derating Graphs

Temperature Derating Graph



Input Voltage Derating Graph



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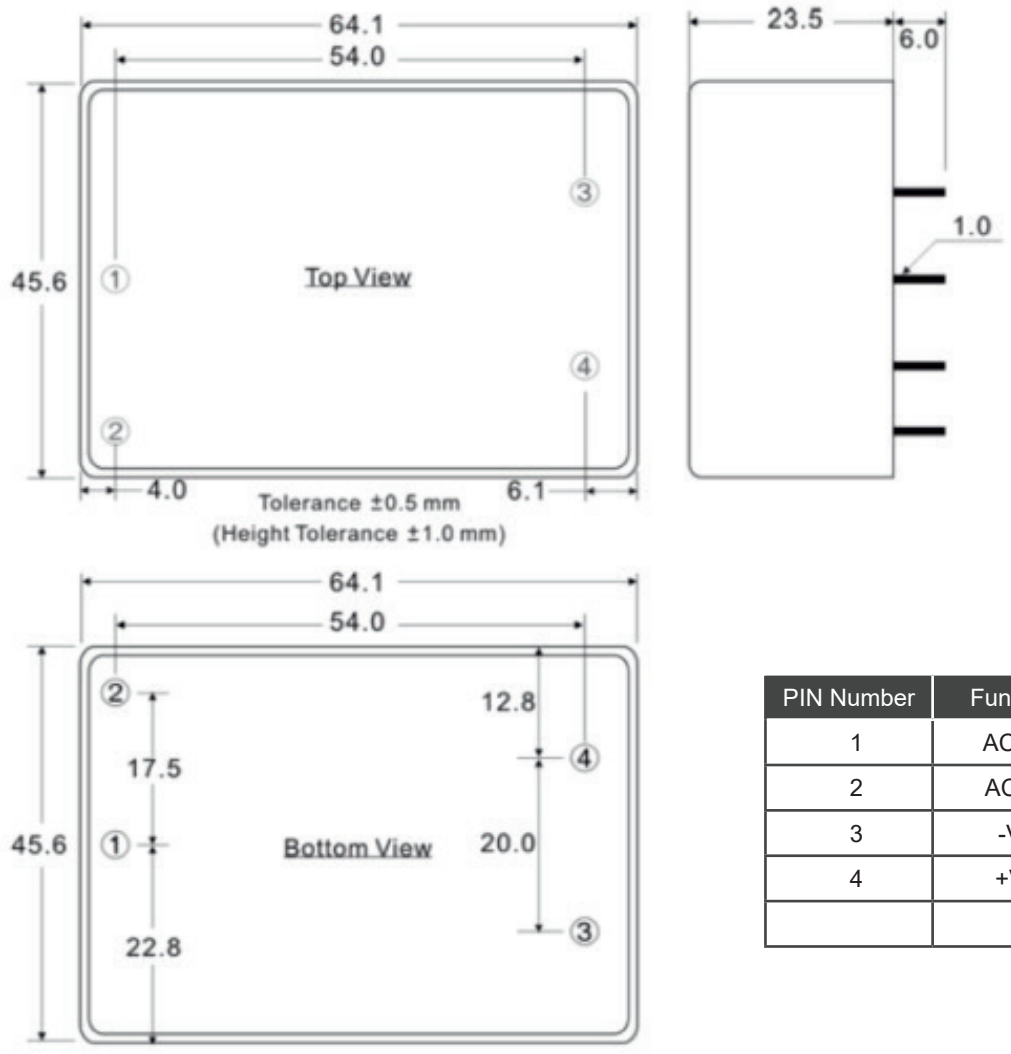
Dimensions



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

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