



### Features:

- 450W High Power Density 127 x 76.2 x 38.5mm
- Wide AC & DC Input 90V to 264VAC
- Active PFC
- Temperature Range -40°C to +70°C
- Protection: OVP, OCP and Output Short Circuit
- Output Range: 12V - 48VDC
- Low Standby Power <1.0W
- Fully Isolated Pri - Sec >4000Vrms
- Insulation: Class II
- Materials: UL94-V0
- IEC/EN/UL62368, EN61558, EN60601
- 3 Year Warranty



### Description

VTX-210-450-0## is a compact Open style AC-DC power converter with PFC. It features universal AC input and at the same time accepts DC input voltage, low power consumption, high efficiency, high reliability, reinforced isolation. It offers good EMC performance compliant to IEC/EN61000-4 and CISPR32/EN55032 and meets UL/EN/IEC62368, EN60335 and EN60601 standards. The converters are widely used in medical, industrial, office and civil applications. Please contact our Technical team for further support.

### Selection Guide

Part Number	Cooling Method	Power Rating Watts	Output Voltage (VDC)	Output Current (A)	Output Voltage Adj. Range	Input Range
VTX-210-450-012	Air Cooling	250	12	20.8	11.4~12.6	90- 264VAC (120 - 370VDC)
	25CFM	400	12	33.3		
VTX-210-450-015	Air Cooling	250	15	16.7	14.25~15.8	
	25CFM	400	15	26.7		
VTX-210-450-024	Air Cooling	250	24	10.5	22.8~25.2	
	25CFM	450	24	18.75		
VTX-210-450-027	Air Cooling	250	27	9.3	25.65~28.4	
	25CFM	450	27	16.7		
VTX-210-450-036	Air Cooling	250	36	6.95	34.2~37.8	
	25CFM	450	36	12.5		
VTX-210-450-048	Air Cooling	250	48	5.3	45.6~50.4	
	25CFM	450	48	9.4		

**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	-	-	5.2	A
	230VAC	-	-	2.6	
Inrush Current	115VAC	-	40	-	
	230VAC	-	80	-	
Power Factor	230VAC Full Load	0.95	-	-	-
Leakage Current	230VAC / 50Hz	<0.1mA RMS Max			

Output Specification					
Item	Conditions	Min	Typical	Max	Unit
Output Voltage	Output	-	+/-1	+/-2	%
Line Regulation	Full Load	-	+/-0.5	-	
Load Regulation	0% - 100% Load	-	+/-1	-	
Ripple / Noise	20MHz Bandwidth (P-P Value)	-	-	200	mV
Stand by Power	230VAC	-	-	0.5	W
Temp. Coefficient		-	+/-0.03	-	%/°C
Short Circuit Protection		Hiccup, Continuous, Self-recovery			
Over Current Protection		>105% Load, Self-recovery			
Over Voltage Protection		Hiccup, Continuous, Self-recovery			
Over Temperature Protection		Recovery after Supply Power Reset and load removed			
Minimum Load		0	-	-	%
Hold-up Time	230VAC Input	-	16	-	mS
Fan Power		Output Power of 12V/0.5A			
PS_ON Input Signal	Power On / PS_ON High	2	-	5	V
	Power Off / PS_ON Low	0	-	0.5	
PG Signal	Power On PG signal goes high high, delay:	10	-	500	mS
	Power Off/ TTL Signal goes low, delay	1	-	-	
	High Level	2	-	6	V
	Low Level	0	-	0.6	

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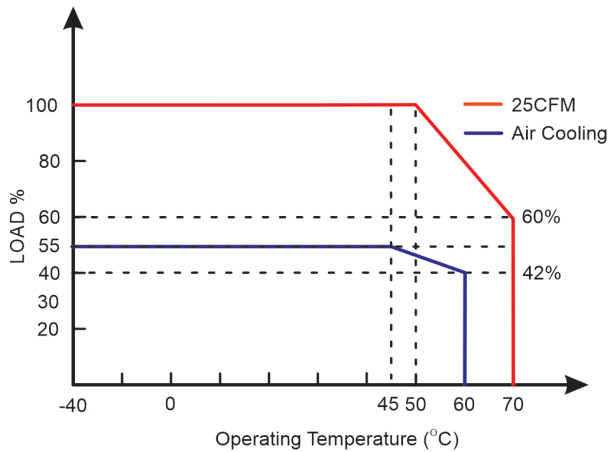
General Specification					
Item	Conditions	Min	Typical	Max	Unit
<b>Dielectric Strength</b>	Input to Output (1Min, <10mA)	4000	-	-	VAC
	Input to Earth(1Min, <10mA)	2000	-	-	
<b>Insulation Resistance</b>	Input to Output (500VDC)	100	-	-	M.Ohm
<b>Isolation level</b>	Input to Output	2x MOPP			
<b>Operating Temperature</b>		-40	-	+70	°C
<b>Storage Temperature</b>		-40	-	+85	
<b>Operating Humidity</b>		20	-	90	%RH
<b>Storage Humidity</b>		-	-	95	
<b>Switching Frequency</b>		-	65	-	KHz
<b>Altitude</b>		-	-	5000	m
<b>Safety Class</b>		CLASS I (With PE) CLASS II (Without PE)			
<b>MTBF</b>		>200KHrs @ 25°C (MIL-HDBK-217F)			
<b>Safety Approvals</b>		EN62368, IEC/EN61558, EN60335, ES60601-1			
<b>Dimensions</b>		127 x 76.2 x 38.5mm (5 x 3 Inch)			
<b>Cooling Method</b>		Free air convection (250W) / 25CFM			
<b>Weight</b>		400g			

EMC Specification		
<b>Emissions</b>	CE /RE	CISPR32 / EN55032 CLASS B EN55014-1
<b>Immunity</b>	ESD	IEC/EN 61000-4-2 CONTACT +/-8KV 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

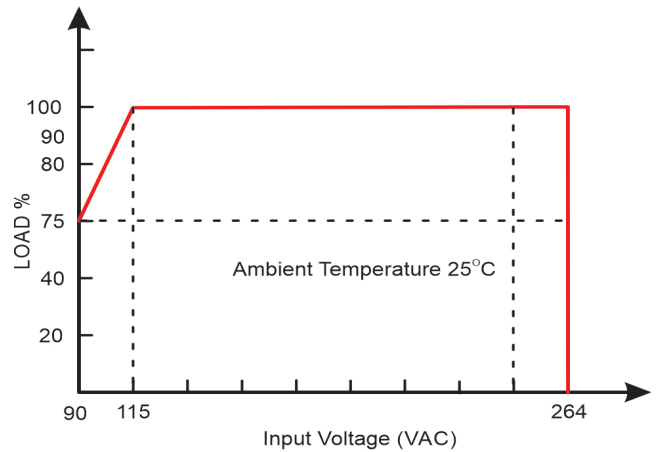
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## Derating Graphs

### Temperature Derating Graph



### Input Voltage Derating Graph



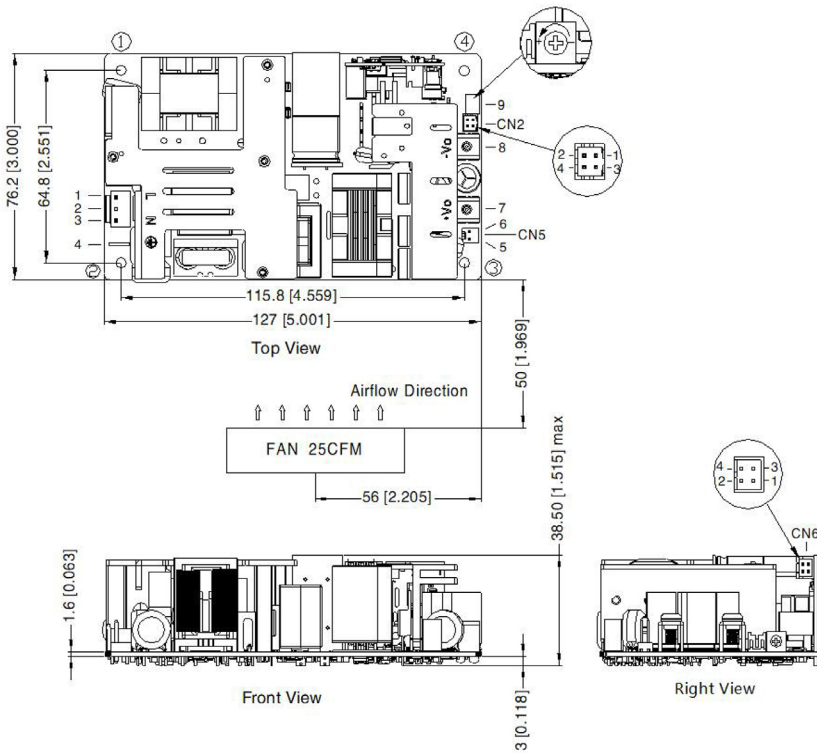
### Efficiency Guide

Part Number	Output Voltage (VDC)	Efficiency Typical (%)	Capacitance Load Max
VTX-210-450-012	12	91	6000 $\mu$ F
VTX-210-450-015	15	92	6000 $\mu$ F
VTX-210-450-024	24	93	6000 $\mu$ F
VTX-210-450-027	27	93	4000 $\mu$ F
VTX-210-450-036	36	93	3000 $\mu$ F
VTX-210-450-048	48	94	2000 $\mu$ F

**Note: Other output voltages are available upon request.**

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## Dimensions



Pin-Out		Customer Connector
Pin	Mark	Housing: JST VHR or equivalent Contact: JST SVH-21T-P1.1 or equivalent
1	AC(L)	
2	NC	
3	AC(N)	
4	⊥	CN5: Fan power output port Housing: TKP 2502 or equivalent Contact: TKP 8811 or equivalent
5	FAN+	
6	FAN-	
7	+Vo	
8	-Vo	
9	ADJ Output adjustable resistor	

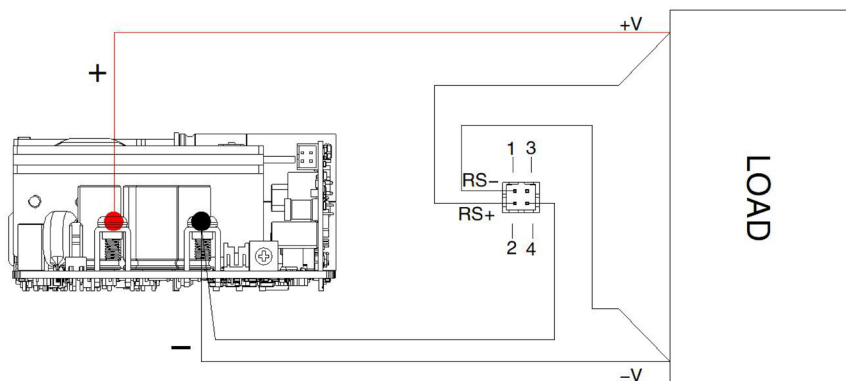
Pin-Out		Customer Connector
Pin	Mark	Housing: JST PHD-2*2Y or equivalent Contact: JST PHD-TE or equivalent
1	+5V	
2	GND	
3	PS-ON	
4	GND	

4 -3  
2 -1  
CN6: PS\_ON signal input port(3-4)  
5VDC Standby output(1-2)

Pin-Out		Customer Connector
Pin	Mark	Housing: JST PHD-2*2Y or equivalent Contact: JST PHD-TE or equivalent
1	RS-	
2	RS+	
3	GND	
4	PG	

2 -1  
4 -3  
CN2: Remote sensing signal input port(1-2)  
PG signal(3-4)

## Remote sensing function wiring diagram



### Note

- RS- and RS+ cannot be shorted or reversed. otherwise the power module will be damaged.
- The remote compensation function can compensate the voltage drop on the output cable, which includes the sum of the cable drop connected to the output positive terminal and the output negative terminal.
- If you need to use remote compensation function, the signal pin needs to be connected with the load and with a twisted pair otherwise the power module will be damaged

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