

# VALIANT COMMUNICATIONS LIMITED



## **AC to DC Converter Rack Mounting Version 48 V DC 3.2 Amps 150 Watts 4 Fused Outputs**

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Data Sheet & Product Brochure

### **U.K.**

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**Description**

Valiant's AC to DC converter may be used to convert 85V AC-264V AC, 47Hz-63Hz AC Mains Input Voltage to - 48 V DC output voltage. It may be also used to convert 120 V DC - 370 V DC Input Voltage to - 48 V DC Output Voltage.

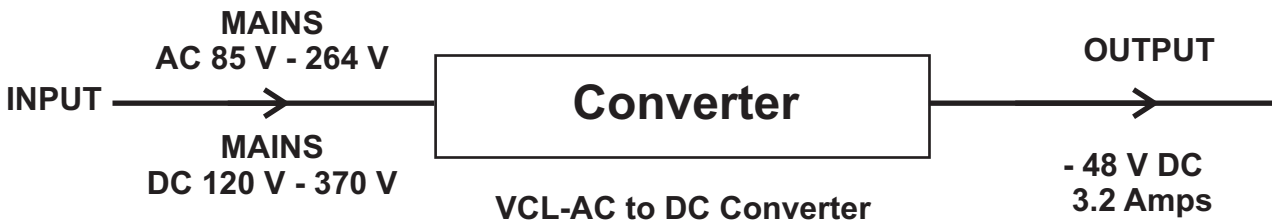


**VCL AC to DC Converter**

The AC to DC / DC to DC converter is designed for telecom applications requiring stable DC voltage with low EMI and EMC interference.

This is an external converter power supply which is available in a portable desktop and 19 inch rack mount version, with four fused outputs in the rack mount version.

**Application Diagram**



**Features**

- Converts universal AC Mains Input (85 V DC - 264 V AC, 47 Hz - 63 Hz) to - 48 V DC, 3.2Amps
- Converts 120 V DC to 370 V DC to - 48 V DC output current @ - 48 V DC = 3.2Amps
- Small and compact
- High quality and cost effective
- Auto ranging voltage
- UL, recognized, TUV approved, CSA certified
- Built-in inrush current, over current and over voltage protection circuits
- Harmonic attenuator, PFC (Complies with IEC61000-3-2)
- Rugged PCB type
- RoHS Compliant

**Safety Agency Approvals**

- Complies with DEN-AN
- UL60950
- C-UL (CSA60950) recognized
- TUV approved

**EMI Compliance**

- FCC-B
- CISPR22-B
- EN55022-B
- VCCI-B

**EMC Compliance**

- EN61000-4-2
- EN61000-4-3
- EN61000-4-4
- EN61000-4-5
- EN61000-4-6
- EN61000-4-8
- EN61000-4-11
- EN55022-B
- EN61000-3-2

**CE Marking**

- Low Voltage Directive
- EMC Directive

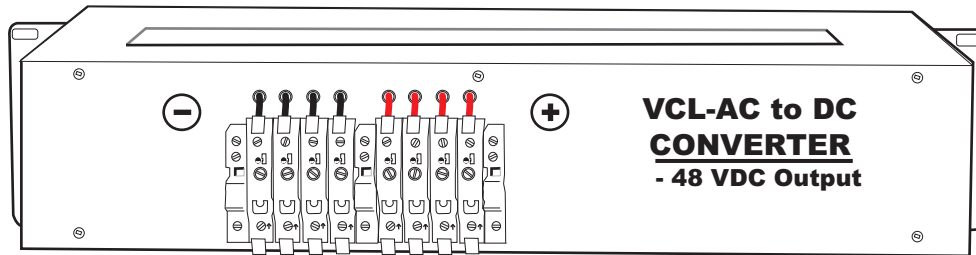
INPUT VOLTAGE [V]	<b>AC</b> 85-264 <b>DC</b> 120-370
MAX OUTPUT WATTAGE [W]	153.6 (Peak 288)
DC OUTPUT	3.2A @ 48 V DC

## Technical Specifications

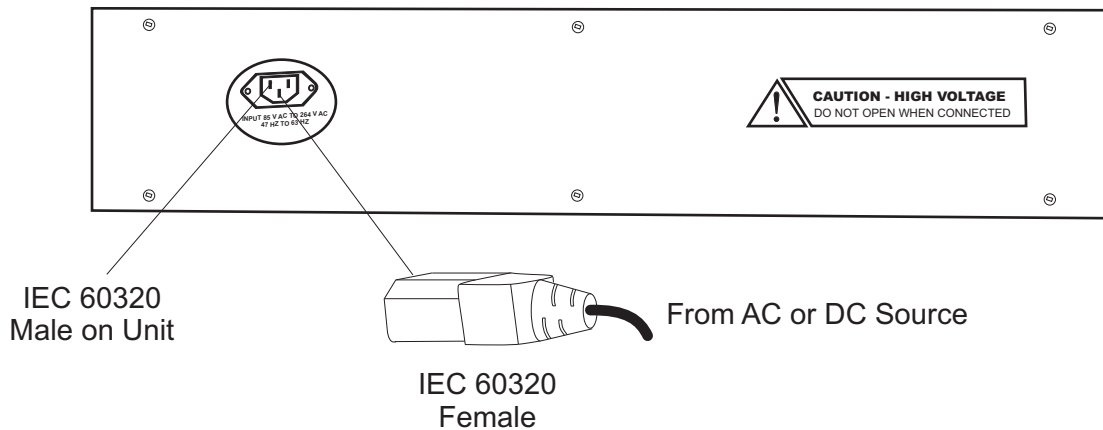
<b>Input Voltage</b>	[V]	<b>AC 85 to 264</b> <b>DC 120 to 370</b>
Current	[A] ACIN 100V ACIN 200V	2.0typ (Io=100%) 1.0typ (Io=100%)
Frequency AC	[Hz]	50/60 (47 to 63) or DC
Efficiency	[%] ACIN 100V ACIN 200V	84typ (Io=100%) 87typ (Io=100%)
Inrush Current	[A] ACIN 100V ACIN 200V	15typ (Io=100%) (At cold start) (Ta=25°C) 30typ (Io=100%) (At cold start) (Ta=25°C)
Leakage Current	[mA]	0.75max (60Hz, According to IEC60950 and DEN-AN)
<b>Output Voltage</b>	[V]	48V DC
Current	[A]	0 to 3.2A (Peak 6)
Line Regulation	[mV]	48 max
Load Regulation	[mV]	150 max
Ripple [mVp-p]	0 to +45° C -10 to 0° C	150 max 300 max
Ripple Noise [mVp-p]	0 to +45° C -10 to 0° C	250 max 350 max
Temperature Regulation [mV]	0 to +45° C -10 to 45° C	240 max 300 max
Drift	[mV]	48 max
Start-Up Time	[mS]	500 max (ACIN 100V, Io=100%)
Hold- Up Time	[mS]	20typ (ACIN 100V, Io=100%)
<b>Overcurrent Protection</b>		Works over 101% of rating (-H:peak) and recovers automatically
Overvoltage Protection		Works at 115 to 140% of rating
Input- Output -RC <b>Isolation</b>		AC3000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At Room Temperature)
Input-FG Isolation		AC2000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At Room Temperature)
Output -RC-FG Isolation		AC500V 1minute, Cutoff current = 100mA, DC500V 50M Ω min (At Room Temperature)
Output -RC Isolation		AC100V 1minute, Cutoff current = 100mA, DC100V 10M Ω min (At Room Temperature)
Operating Temp., Humidity and Altitude		-10 to +70°C, 20 to 90% RH (Non-condensing) 3000 m (10,000 feet) max
Storage Temp., Humidity and Altitude		-20 to +75°C, 20 to 90% RH (Non-condensing) 9000 m (30,000 feet) max
Vibration		10 to 55Hz, 19.6m/s <sup>2</sup> (2G), 3 minutes period, 60 minutes each along X, Y and Z axis
Impact		196.1m/s <sup>2</sup> (20G), 11ms, once each X, Y and Z axis
<b>Safety Agency Approvals</b>		UL60950-1, C-UL, EN60950-1, EN50178 Complies with DEN-AN and IEC60950-1 (At only AC input)
Conducted Noise		Complies with FCC-B, CISPR22-B, EN55022-B, VCCI-B
<b>Cooling Method</b>		Convection

## AC-DC Converter Shelf

### VCL-AC-DC Converter Frontpanel



### VCL-AC-DC Converter Backpanel



## Ordering Information

AC to DC Converter			
S No.	Part #	Product Description	Qty
1	VCL-ACDC-48-150W-3.2A-RK	Power Supply (External) AC to DC Converter, DC to DC Converter 19 inch Rack Mount External Converter Universal AC Input [93VAC-276VAC, 47Hz-63Hz] or 120 V DC -370 V DC to - 48V DC 3.2 Amps	1

Technical specifications are subject to changes without notice.  
Revision 8 - December 28, 2008

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