



AC to DC Converter Rack Mounting Version 48 V DC 10.5 Amps 500 Watts 4 Fuse Protected Outputs

Data Sheet & Product Brochure

U.K.

Valiant Communications (UK) Ltd
Central House Rear Office
124 High Street, Hampton Hill
Middlesex, TW12 1NS,
U.K.

E-mail: gb@valiantcom.com

U.S.A.

Valcomm Technologies Inc.
4000 Ponce de Leon Blvd.,
Suite 470, Coral Gables,
FL 33146, U.S.A.

E-mail: us@valiantcom.com

INDIA

Valiant Communications Limited
71/1, Shivaji Marg,
New Delhi - 110015,
India

E-mail: mail@valiantcom.com

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.



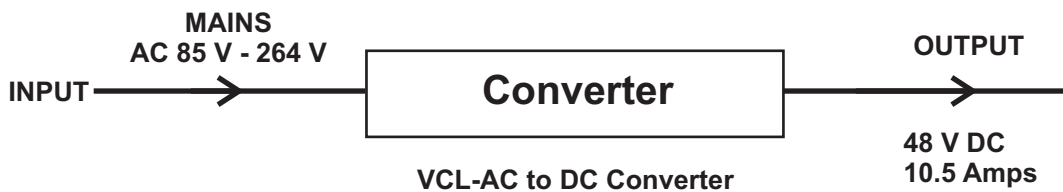
VCL-AC to DC Converter

It may be also used to convert 120 V DC - 373 V DC Input Voltage to 48 V DC Output Voltage.

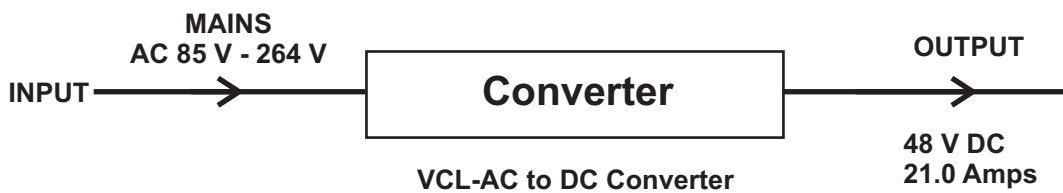
The AC to DC / DC to DC converter is designed for telecom applications requiring stable DC voltage with low EMI and EMC interference.

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

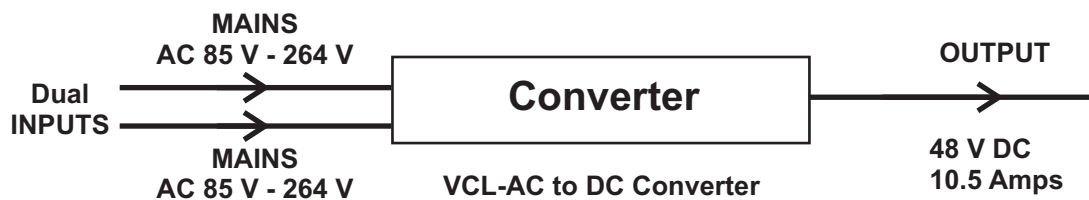
Application Diagram - Option 1 with Single Input



Application Diagram - Option 2 with Single Input



Application Diagram - Option 3 with Dual Inputs



Features

- Converts universal AC Mains Input (85 V AC - 264 V AC, 47 Hz - 63 Hz) to 48 V DC, 10.5 Amps
- Converts universal AC Mains Input (85 V AC - 264 V AC, 47 Hz - 63 Hz) to 48 V DC, 21.0 Amps
- May be used to convert 120 V DC to 373 V DC to 48 V DC output current @ 48 V DC = 10.5 Amps
- Small and compact
- High quality and cost effective
- Auto ranging voltage
- UL, recognized, 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

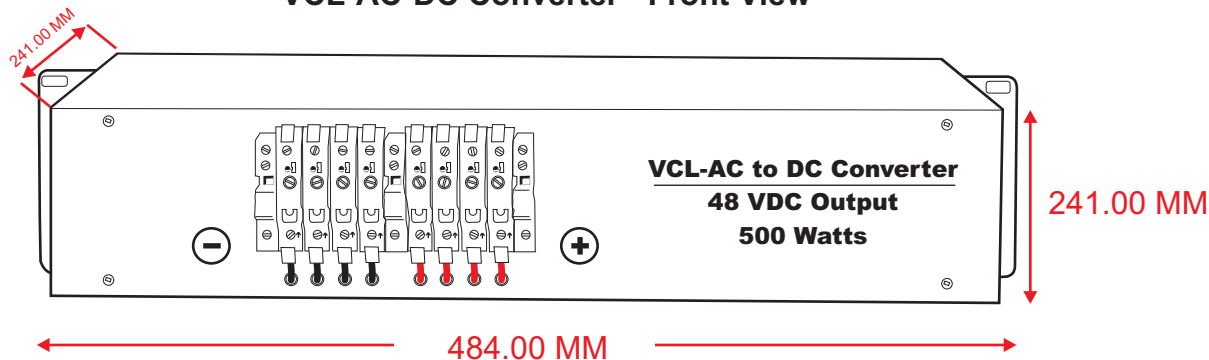
INPUT VOLTAGE [V]	AC 85-264, 47 Hz - 63 Hz DC 120-373
MAX OUTPUT WATTAGE [W]	500
DC OUTPUT	10.5A @ 48 V DC

Technical Specifications

AC Input Voltage (300VAC for 5s)	85 - 264V AC
Input Frequency	47 - 63Hz
DC Input Voltage	120 - 373V DC
Efficiency (typ) % (230VAC)	90
Ripple Noise	300mV
Load Reg.	384mV
Line Reg.	192mV
Max Current	10.5A @48V DC
Inrush Current (cold start)	20A at 115VAC, 40A at 230VAC
Power Factor	Meets EN61000-3-2 (Typical PF 0.98/0.95)
Input Current (115/230VAC)	5.5 / 2.7
Temperature Coefficient	<0.02%/°C (0 - 50°C)
Overcurrent Protection	>105% of nominal or >101% of peak. 12V hiccup style, 24V-48V Constant current style
Overvoltage Protection	48V: 60 -69.6V
Overtemperature Protection	Yes
Hold Up Time (115 / 230V input)	16ms
Leakage Current (230VAC 60Hz)	<0.75mA
Standby Input Power Draw	<0.5W
5V Standby (always on)	5V 0.3A
Operating Temperature	-25 to +70°C. Derate linearly to 50% load from +50 to +70°C
Storage Temperature	-30 to +85°C
Operating Humidity	30 - 90% RH (non condensing)
Storage Humidity	10 - 95% RH (non condensing)
Cooling	Internal fan
Withstand Voltage	Input to Ground 1.5kVAC, Input to Output 3kVAC, Output to Ground 500VAC for 1 min.
Isolation Resistance	>100M at 25°C & 70%RH, Output to Ground 500VDC
Vibration (non operating)	10 - 55Hz: 19.6m/s ² constant sweep 1 min X, Y, Z for 1 hour
Shock	< 196.1 m/s ² (20G)
Immunity	IEC61000-4-2 (lv 2, 3), -3 (lv3), -4 (lv 3), -5 (lv 3), -6 (lv 3), -8 (lv 4), -11
Safety Agency Approvals	UL60950-1, CSA C22.2 No 60950-1-07 (cUL), EN60950-1 2nd Edition, IEC60950-1, CE Mark
Conducted & Radiated EMI	EN55022-B, FCC-B

AC-DC Converter Shelf

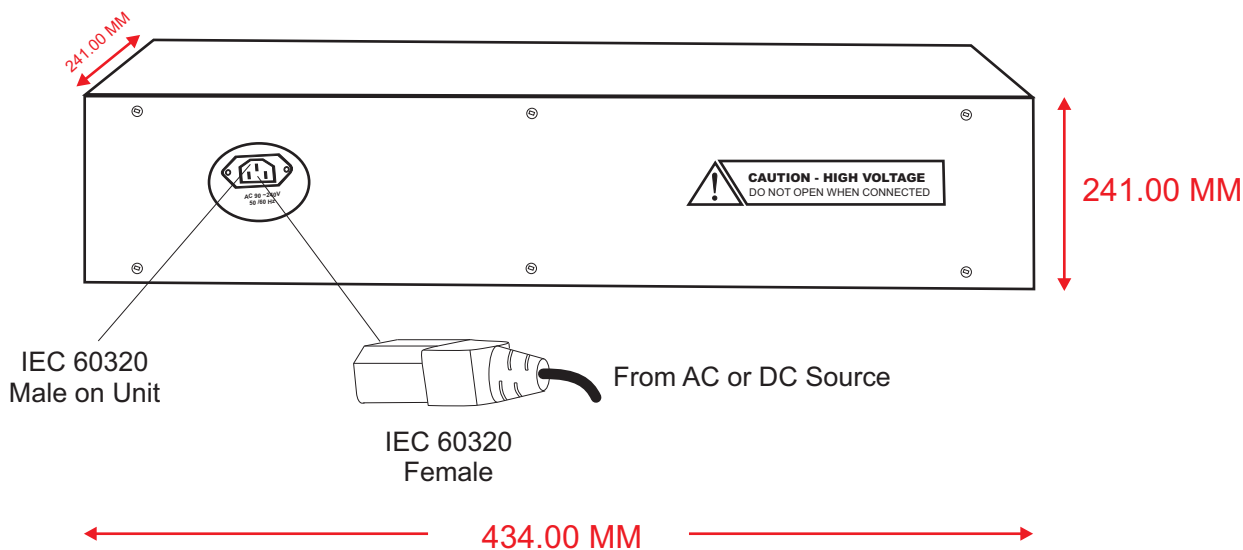
VCL-AC-DC Converter - Front View



Front View - Dimensions

Width	484.00 MM
Depth	241.00 MM
Height	88.00 MM
Weight	4.0 Kg

VCL-AC-DC Converter - Back View



Back View - Dimensions

Width	434.00 MM
Depth	241.00 MM
Height	88.00 MM
Weight	4.0 Kg

Safety Agency Approvals

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

CE Marking

- Low Voltage Directive
- EMC Directive

EMI Compliance

- FCC-B
- EN55022-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

Ordering Information

AC to DC Converter		
S.No.	Part #	Product Description
1.	VCL-ACDC-DC48-500W-10.5A-RK	Power Supply (External) AC to DC Converter 19" 2U Rack Mount Version, 1 x AC Input [85V AC-264V AC, 47Hz-63Hz] 1 x DC Output 48V DC~10.5A, 500W (4 Fused outputs)
2.	VCL-ACDC-AC220R-DC048-500W-10.5A-RK	Power Supply (External) AC to DC Converter 19" 2U Rack Mount Version, 2 x AC Input [85V AC-264V AC, 47Hz-63Hz] 1 x DC Output 48V DC~10.5A, 500W (4 Fused outputs)
3.	VCL-ACDC-DC048-1000W-21.0A-RK	Power Supply (External) AC to DC Converter 19" 2U Rack Mount Version, 1 x AC Input [85V AC-264V AC, 47Hz-63Hz] 1 x DC Output 48V DC~21.0A, 1000W (4 Fused outputs)

Technical specifications are subject to changes without notice.
Revision 05 - December 05, 2025

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