

Description

Valiant's DC to DC converter may be used to convert 90V DC ~ 373V DC Input Voltage to 48V DC output voltage.

It may be also used to convert 85V AC-264V AC, 47Hz-63Hz AC Mains Input Voltage to 48V DC Output Voltage.

The 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 19 inch rack mount version, with four fuse protected outputs.



Features

- Converts 90V DC ~ 373V DC to 48V DC output current @ 48V DC = 21.0 Amps
- DC Cold Start Voltage is 105V DC
- Converts universal AC Mains Input (85V AC - 264V AC, 47 Hz - 63 Hz) to 48V DC, 21.0 Amps
- 1+1 Redundant DC Power Supply Inputs (Dual Power Inputs – allows the equipment to be powered from two separate sources). Dry Contact Alarm to indicate failure of inputs - Option 2 only
- 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

Safety Agency Approvals

- Complies with DEN-AN
- UI60950
- C-UL (CSA60950) recognized

CE Marking

- Low Voltage Directive
- EMC Directive

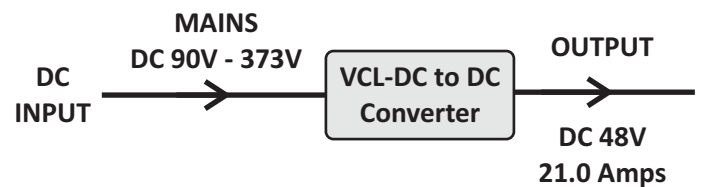
EMI Compliance

- FCC-B
- EN55022-B

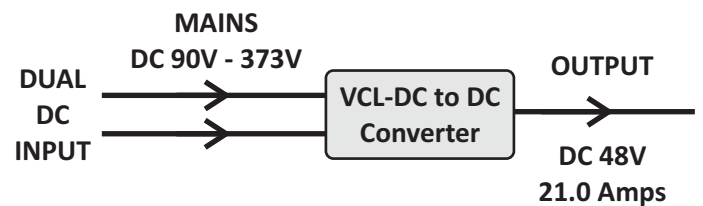
EMC Compliance

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

Option 1: Application Diagram with Single Input



Option 2: Application Diagram with Dual Inputs



INPUT VOLTAGE [V]	DC 90-373 AC 85-264, 47 Hz - 63Hz
MAX OUTPUT WATTAGE (W)	1000
DC OUTPUT	21.0A @ 48 VDC

Ordering Information

VCL-DCDC-DC220-DC048-1000W-21.0A-RK	Power Supply (External) DC to DC Converter, 19"2U Rack Mount Version, - 1 x 90 - 373V DC Input - 1 x 48V DC Output (21A, 1000W DC) (4 Fused outputs)
VCL-DCDC-DC220R-DC048-1000W-21.0A-RK	Power Supply (External) DC to DC Converter, 19"2U Rack Mount Version, - 2 x 90 - 373V DC Input - 1 x 48V DC Output (21A, 1000W DC) (4 Fused outputs)

Technical Specification

DC Input Voltage Range	90 - 373V DC
Cold Start DC Voltage	105V DC
AC Input Voltage (300V AC for 5s)	85 - 264VAC
Input Frequency	47 - 63Hz
Efficiency (typ) % (230VAC)	90
Ripple Noise	300mV
Load Reg.	384mV
Line Reg.	192mV
Max Current	21.0A @48V DC
Inrush Current (cold start)	20A at 115VAC, 40A at 230V AC
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)
Over current Protection	>105% of nominal or >101% of peak. 12V hiccup style, 24V-48V Constant current style
Over voltage Protection	48V: 60 -69.6V
Over temperature 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 1.5kV AC, Input to Output 3kV AC, Output to Ground 500V AC for 1 min.
Isolation Resistance	>100M at 25°C & 70%RH, Output to Ground 500V DC
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 (lv3), -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

Technical specifications are subject to changes without notice.

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U.K.

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