



## Benefits

- Ultra-Quiet
- Power sensitive electronics without interference
- Rugged & Reliable
- Ensure years of safe and trouble free operation

## Applications

- Telecom Power Plants
- Marine & other Rugged Environments
- Electric Utilities and Substations
- Base Station Power
- Solar / Alternative Power Systems
- Emergency Power Backup (UPS)
- Military Applications (COTS)
- Industrial Controls
- Solar / Alternative Power Systems
- Fuel Cells

## Description

The model VTC315 Voltage Converter supplies either 12V, 24V, or 48 VDC from a 24V or 48VDC power source.

All new Current Mode switching design offers increased power and reliability in a compact package. Extra input and output filtering reduce EMI to extremely low levels. Reliability features include an input fuse, thermal shutdown, current limiting, reverse battery hookup protection and output short circuit shutdown with automatic recovery.

The output voltage is easily adjusted 1.0 volts above or below the standard output voltage. Devices connected to the converter are protected by an output overvoltage crowbar circuit.

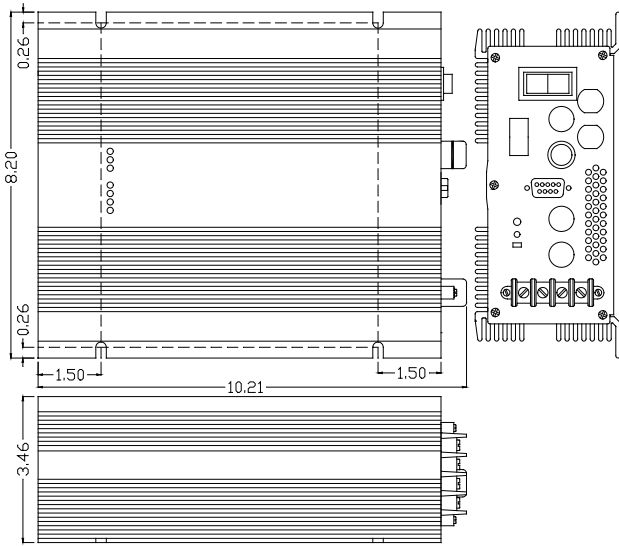
Available options include a Remote Control and/or a Digital Volt Ammeter to monitor output current and voltage.

## Features

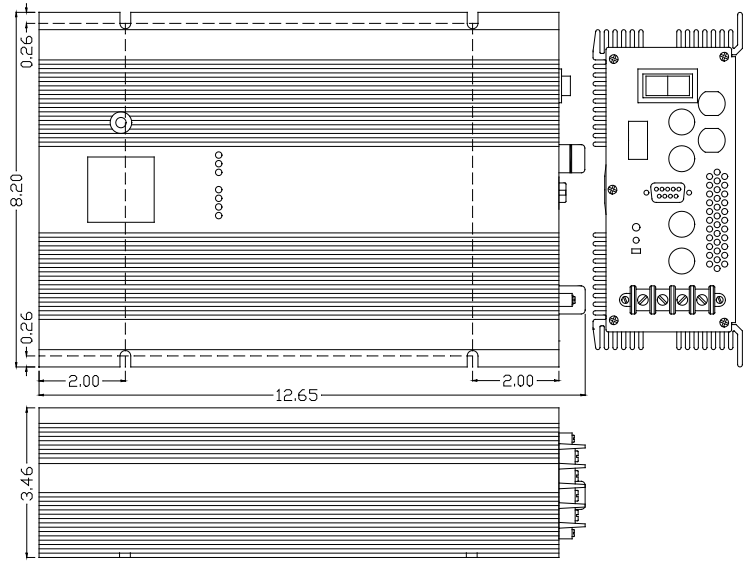
- Fully Isolated Design
- Adjustable output voltage
- Audible & visual indicators for constant current, low input voltage, low output voltage & over-temperature
- Over-temperature shutdown
- Short circuit protection
- Output overvoltage crowbar
- Cycle by cycle current limiting
- Reverse input protection
- Transient Voltage Suppression
- Ultra-quiet low EMI operation
- Dry contact output fail relay
- Custom input / output voltages from 8 to 55 VDC
- Remote control option
- Digital Volt/Ammeter option
- Wide-Temperature operation Available
- Conformal Coating and/or Harsh Environment Ruggedization Available

# VTC315 Isolated Series Voltage Converters

## Mechanical Diagram



Shown without Digital Meter



Shown with Digital Meter

## Specification

### Electrical (Input)

<b>Nominal (ip)</b>	24	48	72
<b>Actual (Vdc)</b>	20-35	40-60	65-90
<b>Input Amps (max)</b>	22	9.6	6.5
<b>Input Fuse</b>	MDA25	MDA15	MDA10
<b>Noise on Input</b>	< 25 mV		

### Environmental Specification

<b>Operating Temp. Range</b>	-25° to +40°C @ maximum output Derate Linearly 2.5% per °C from 40°C (Optional -40°C extra wide temp. operation avail.)
<b>Humidity</b>	0 - 95°C Relative Humidity (non-condensing) with optional conformal coating
<b>Audible Noise</b>	NONE Ødb @ 3 ft
<b>Typical Service Life</b>	> 10 yrs. (87,600 hrs)
<b>Isolation</b>	Input-Case & Input-Output 1500VDC (500V @ 24V I/P) Output-Case 500VDC (1500VDC @ 48V O/P)

### Electrical (Output)

<b>Output Nominal (op)</b>	12	24	48
<b>Output Volts (DC)</b>	13.6 ± 0.05	27.2 ± 0.05	54.4 ± 0.05
<b>Output Amps</b>	20 cont. / 22.5 peak	10 cont. / 12.5 peak	5.0 cont. / 6.0 peak
<b>Output Crowbar</b>	16.0 ± 0.5V	32.0 ± 1.0V	63.9 ± 2.0V
<b>Output Adjustment</b>	± 1.0		
<b>Switching Frequency</b>	60 ± 2 KHz		
<b>Idle Power</b>	< 10 Watts		
<b>Output Ripple &amp; Noise</b>	< 25 mV		
<b>Transient Response</b>	< 2V for 50% Surge		
<b>Regulation (Line &amp; Load)</b>	< +/- 0.5%		
<b>Duty Cycle</b>	Peak 20% for 10 min max Continuous 100% for 24 hours per day		
<b>Efficiency</b>	> 80% @ Maximum Output		

### Mechanical Specification

<b>Length</b>	9.6 in / 24.4 cm
<b>Width</b>	8.2 in / 20.8 cm
<b>Height</b>	3.5 in / 6.4 cm
<b>Clearance</b>	1 inch (2.5 cm) all around
<b>Material</b>	Marine Grade Aluminium
<b>Finish</b>	Black Anodize / Powder Epoxy Coat
<b>Fastenings</b>	All 18-8 Stainless Steel
<b>Weight</b>	7.5 lb / 3.4 kg
<b>Connections</b>	Four contact output terminal
<b>Warranty</b>	3 years
<b>Safety</b>	Approval to cETLus standards ABS 11-HS794404B-PDA

Available From: