

# VTC120i Series DC/DC Voltage Converter



A product of:



## Benefits

- Ultra-Quiet
- Convection cooled, no noisy fan
- Power sensitive electronics without interference
- Rugged & Reliable
- Ensure years of safe and trouble free operation

## Applications

- Programmable Logic Controllers (PLC's)
- Rugged Mobile Environments
- Automotive / RV / Marine
- Electric Utilities and Substations
- Oil Patch
- Telecommunications Power
- Industrial Controls (OEM Applications)
- Field Work / Construction Sites
- Solar / Alternative Power Systems
- Security Systems Power
- Any 12, 24 or 48V Equipment

## DC/DC Converters

### VTC120i Series (isolated)

#### Description

The VTC120i Series of Isolated Voltage Converters are variable duty cycle switching power supplies with precision linear regulator outputs. They can be configured to run from a 12V, 24V or 48VDC battery system to provide input/output voltages as shown below.

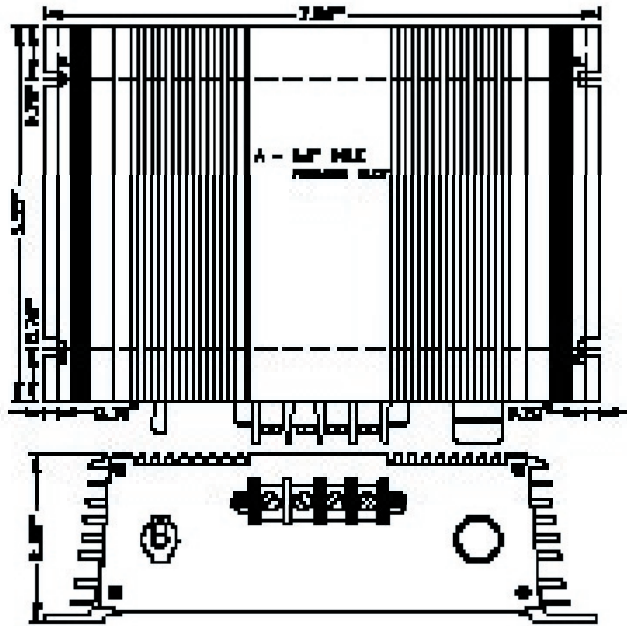
Applications include running 24V PLC controls from a 12 Volt battery system, or any other application requiring 24 VDC when only 12 VDC is available or to provide ground isolation between two 12 VDC or 24 VDC power systems, or between a 12 VDC and 24 VDC power system.

We are confident that you will get many years of reliable service from this Voltage Converter.

#### Features

- Versatile design with wide variation of input and output combinations
- Precision linear regulator final stage for ultra clean output for all units
- Extremely rugged and well suited for marine and other demanding environments
- High tolerance for shock and vibration
- Short circuit protection
- Ultra-quiet low EMI operation
- Reverse input protection
- Parallel output included
- Ideal for running 24V PLC controls from 12 VDC
- Many isolated versions including two high output for converting positive ground to negative ground or resolving other ground related problems
- Can be built to Class 1, Division 2 Standards for Hazardous Duty
- 3 year parts and labour warranty

## Mechanical Diagram



## Specifications (Specifications Subject to Change Without Notice)

### Electrical (Input / Output)

|                               |                         |         |         |         |         |         |         |
|-------------------------------|-------------------------|---------|---------|---------|---------|---------|---------|
| <b>Model (VTC120i)</b>        | -12-12                  | -12-24  | -24-24  | -48-12  | -48-24  | -12-48  | -24-48  |
| <b>Input Volts (DC)</b>       | 11 – 15                 | 11 – 15 | 22 - 30 | 40 – 60 | 40 – 60 | 11 – 15 | 22 – 30 |
| <b>Input Amps (max)</b>       | 8.5                     | 15      | 7.5     | 2.1     | 4.2     | 30      | 15      |
| <b>Output Volts (DC)</b>      | 12.0                    | 24.0    | 24.0    | 12.0    | 24.0    | 48.0    | 48.0    |
| <b>Output Amps</b>            | 5 Continuous / 5.5 Peak |         |         |         |         |         |         |
| <b>Isolation Input-Output</b> | > 500 VDC               |         |         |         |         |         |         |

### Electrical (General)

|                                     |  |
|-------------------------------------|--|
| <b>Output Adjustment</b>            | ± 0.5  |
| <b>Noise on Input</b>               | < 5 mV   |
| <b>Output Ripple &amp; Noise</b>    | < 5 mV   |
| <b>Transient Response</b>           | < 1V for 50% Surge   |
| <b>Regulation (Line &amp; Load)</b> | < +/- 0.5%   |
| <b>Duty Cycle</b>                   | Peak 20% for 10 min maximum Continuous 100% for 24 hours per day |
| <b>Efficiency</b>                   | > 80% @ Maximum Output   |

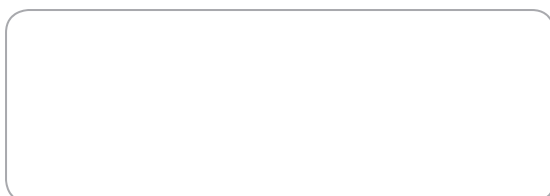
### Environmental Specifications

|                              |   |
|------------------------------|---|
| <b>Operating Temp. Range</b> | -25° to +40°C @ maximum output<br>Derate Linearly 2.5% per °C from 40°C<br>(Optional -40°C extra wide temp. operation avail.) |
| <b>Humidity</b>              | 0 - 95% Relative Humidity<br>(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<br>Output-Case 500VDC   |

### Mechanical Specifications

|                    |                                    |
|--------------------|------------------------------------|
| <b>Length</b>      | 7.9 in / 20.1 cm                   |
| <b>Width</b>       | 6.0 in / 15.2 cm                   |
| <b>Height</b>      | 2.4 in / 6.1 cm                    |
| <b>Material</b>    | Marine Grade Aluminium             |
| <b>Finish</b>      | Black Anodize / Black Powder Epoxy |
| <b>Fastenings</b>  | All 18-8 Stainless Steel           |
| <b>Weight</b>      | 2.5 lb / 1.1 kg                    |
| <b>Connections</b> | Four contact output terminal       |
| <b>Warranty</b>    | 3 years                            |

Available from:



# RIPEnergy®

The power conversion company

RIPEnergy AG  
Talstrasse 2  
CH-8702 Zollikon  
Switzerland

Ph +41-(0)43-818 53 85  
Fax +41-(0)43-818 53 87  
www.ripenergy.ch