



Benefits

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

Applications

- Marine Electronics Displays
- Mobile Offices (TV and Radio Vans)
- Automotive / RV
- Electric Utilities and Substations
- Base Station Power (Radio & Telecommunications)
- Industrial Controls (OEM Applications)
- Field Work / Construction Sites
- Solar / Alternative Power Systems
- Any 12 or 24V Equipment

DC/DC Converters

VTC305 Series Step-Up Converter

Description

Step up a 12 VDC battery to between 13.5 and 17.0 or 24.0 and 27.5 VDC in 0.5 VDC increments (via 3 position DIP switch), or stabilize a 12 or 24 VDC power system.

Safety features include reverse input protection, low input voltage alarm, low output voltage alarm, over temperature shutdown and alarm, a dry contact alarm relay output and output overvoltage crowbar. If the input voltage exceeds the regulated output voltage, the unit simply passes the voltage through with full LC filtering and a single schottky diode drop (0.5 VDC or less). Optional features include remote panel monitoring with On/Off control.

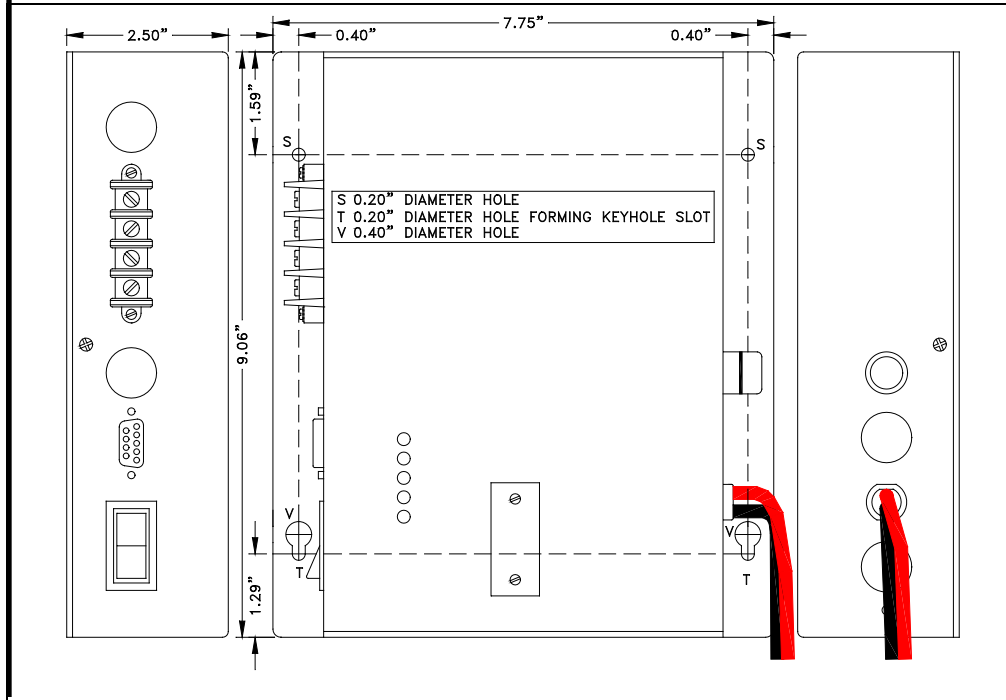
Applications include temporarily brightening 12 volt headlights or work lights, increasing voltage into an automotive or marine ignition system for hotter spark and/or prevention of failures due to voltage drop during engine start, stabilizing 12V and 24 VDC power systems in marine, automotive or aeronautical environments and more.

Features

- Vibration proof output voltage adjustment by 3 position DIP switch
- Audible & visual indicators for constant current, low input voltage, low output voltage & over-temperature
- Extremely rugged and well suited for marine and other demanding environments
- High tolerance for shock and vibration
- Ultra-quiet low EMI operation
- Current limiting protection
- Reverse input protection
- Output over-voltage crowbar
- Dry contact output fail relay
- Remote control option
- Wide-Temperature operation available
- Parallel output diodes available
- Conformal Coating and/or Harsh Environment Ruggedization Available
- 3 year parts and labour warranty

VTC305 Series Step-Up Voltage Converter

Mechanical Diagram



Specification

Electrical (Input)

| | | |
|-------------------------|------------|---------|
| Input Volts (DC) | 10.5-18 | 10.5-28 |
| Input Amps (max) | 30 | |
| Input Fuse (AGC) | 20 x 2 Amp | |
| Noise on Input | < 25 mV | |
| Low Input Voltage Alarm | 10.5 VDC | |
| Current Limit | 30 Amps in | |

Environmental Specification

| | |
|-----------------------|---|
| Operating Temp. Range | -25° to +40°C @ maximum output Derate Linearly 2.5% per °C from 40°C (Optional -40°C extra wide temp. operation avail.) |
| Humidity | 0 - 95°C Relative Humidity (non-condensing) with optional conformal coating |
| Audible Noise | NONE Ødb @ 3 ft |
| Typical Service Life | > 10 yrs. (87,600 hrs) |
| Isolation | Any Input or Output to Case 500 VDC Input to Output – Common Negative |

Electrical (Output)

| | | |
|--------------------------|--|--|
| Output Nominal (op) | 12 | 24 |
| Output Volts (DC) | Input - 1V or 13.5 to 17.0 Whichever is greater | Input - 1V or 24.0 to 27.5 Whichever is greater |
| Output Amps | ♦ 27 | |
| Output Crowbar | Programmed Output Volts x 1.2 | |
| Output Ripple & Noise | < 25 mV | |
| Low Output Voltage Alarm | Programmed Output Voltage minus 2.5 VDC | |
| Transient Response | < 1V for 50% Surge | |
| Regulation (Line & Load) | < +/- 0.5% | |
| Duty Cycle | Continuous 100% for 24 hrs per day | |
| Efficiency | > 90% @ Maximum Output | |

Mechanical Specification

| | |
|-------------|-----------------------------------|
| Length | 9.1 in / 23.1 cm |
| Width | 7.8 in / 19.8 cm |
| Height | 2.5 in / 6.4 cm |
| Material | Marine Grade Aluminium |
| Finish | Black Anodize / Powder Epoxy Coat |
| Fastenings | All 18-8 Stainless Steel |
| Weight | 4.0 lb / 1.8 kg |
| Connections | Four contact output terminals |
| Warranty | 3 years |

♦ The actual output current capability depends upon the input/output voltage ratio. To obtain the actual output current capability at any given input voltage, use the following formula:

$$\text{Output Amps} = \text{Input Volts} / \text{Output Volts} \times 27$$

For example, at 11 VDC in and 13.6 VDC out, the output current = 11/13.6 x 27 = 22.8 amps

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