ANALYTIC SYSTEMS
Power Conversion Solutions

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DC/DC Converters

VTC305MS Series Step-Up Converter

Benefits

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

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.

Military Option

Most of the products manufactured by Analytic Systems can be adapted for military use (Commercial Off The Shelf).

We provide four different levels of ruggedization; most often, a product in military use will use the extra-wide temperature range components to allow operation from -40°C to +55°C.

The printed circuit boards are also protected against condensation and are enhanced with vibration protection that meets or exceeds MIL-STD810F, Method 514-3 and Cat-1 Proc 1.

C.O.T.S. products are designed to meet various levels of EMC radiated and conducted emissions MIL-STD 461F.

All C.O.T.S. products are manufactured in accordance with IPC-A-610.

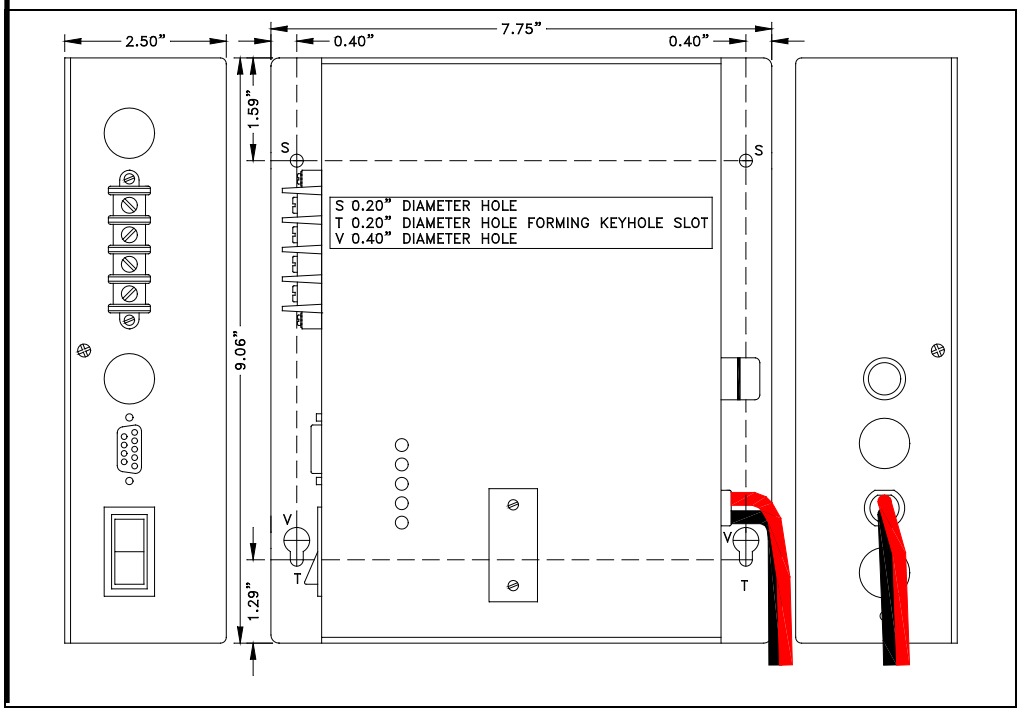
Applications: Military, Electric Utilities, Substations, Base Station Power, Industrial Controls and OEM Applications.

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

VTC305MS 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	-40°C to +55°C @ maximum output Derate Linearly 2.5% per °C from 55°C
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	

♦ 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:

Output Amps = Input Volts/Output Volts x 27

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

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

Available From:

ANALYTIC SYSTEMS
INNOVATIVE POWER CONVERSION SOLUTIONS
ISO 9001:2008 Certified Quality System