

# VTC305fc Fuel Cell Series



A product of:



## Benefits

- Adjustable to the characteristics of the fuel cell
- Ultra-Quiet, no noisy fan
- Power sensitive electronics without interference
- Rugged & Reliable
- Ensure years of safe and trouble free operation

## Applications

- Marine / Navy
- Military / Space
- 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

VTC305fc Fuel Cell Series  
(common negative)

### Description

Step up or stabilize a fuel cell source to a 12 or 24 VDC power system.

The DC/DC Converter input voltage range is customized to the U-I curve of the fuel cell.

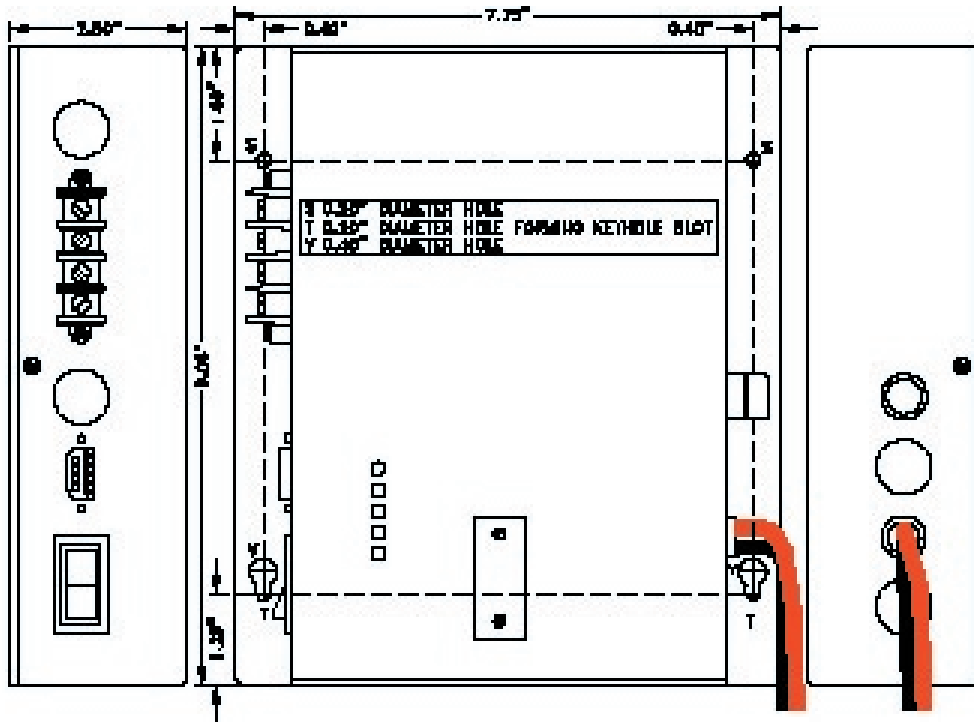
Safety features include reverse input protection, low input voltage alarm, low output voltage alarm, over temperature shutdown and alarm, a dry contact alarm relay output and output overvoltage crowbar. If the input voltage exceeds the regulated output voltage, the unit simply passes the voltage through 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

## Mechanical Diagram



## Specifications (Specifications Subject to Change Without Notice)

### 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 Specifications

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% 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)

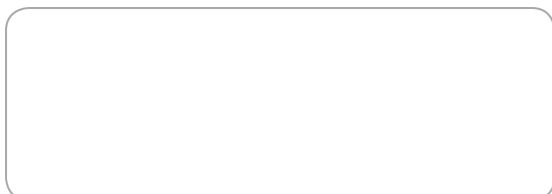
Output Nominal (op)	12	24
Output Volts (DC)	Input -1V or 13.5 to 17.0 Whichever is greater	Input -1V or 24.0 to 27.5 Whichever is greater
Output Amps	♦ 27	
Output Crowbar	Programmed Output Volts x 1.2	
Output Ripple & Noise	< 25 mV	
Low Output Voltage Alarm	Programmed Output Voltage minus 2.5 VDC	
Transient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

### Mechanical Specifications

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 terminal
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:  
**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

Available from:



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