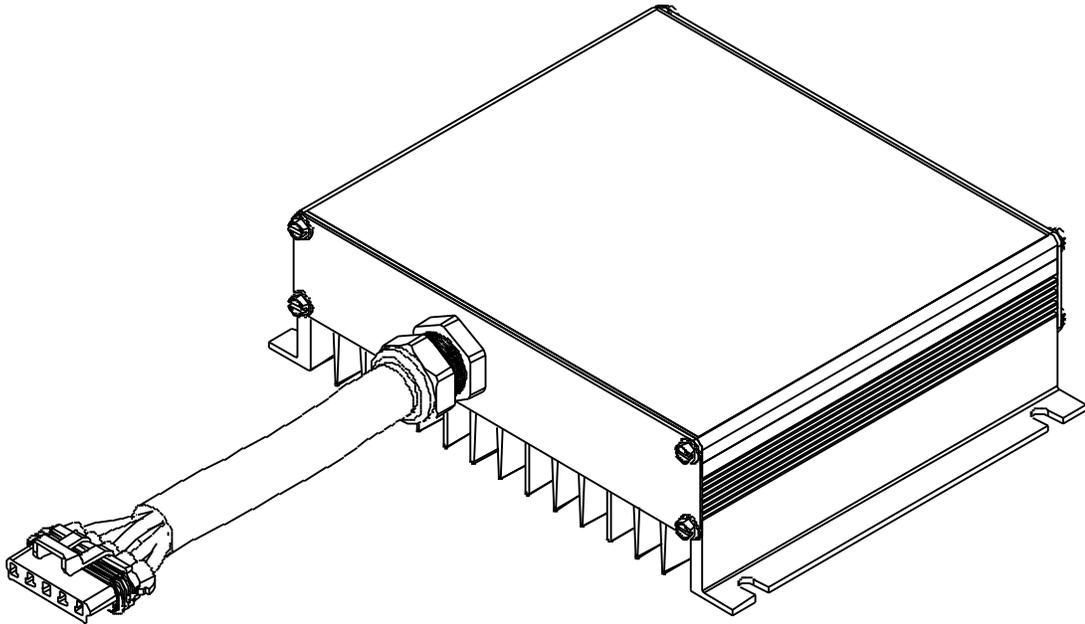


# 30A Converter / Equalizer



**VC-30, DC to DC Converter**  
**VE-30, Battery Equalizer**

## Table of Contents

Introduction.....	2
Specifications.....	2
Operation.....	2
Installation Recommendations .....	3
Dimensions / Troubleshooting.....	4

**Introduction**

Thank you for purchasing a Vanner VC-30 DC to DC Converter or the Vanner VE-30 Battery Equalizer. We are confident that you will be very pleased with its performance because Vanner products are designed and manufactured by skilled professionals using the highest standards in workmanship. With minimum maintenance and care, you can be assured of many years of trouble-free service.

**Specifications**

Model	VC-30	VC-30-NLC	VE-30
<b>24 Volt Input</b>			
Input Voltage Range (for full output)	18 to 32 Vdc		
Minimum start voltage	14 Vdc		
Input Amps (max)	24 amps		
<b>12 Volt Output</b>			
Output Voltage	13.5 Vdc		Input ÷ 2
Output Capacity	30amps		
<b>Ignition Trigger</b>			
Turn ON	8-36Vdc		
Turn OFF	IGN <1.5Vdc AND Load <0.5A	IGN <1.5Vdc	
<b>Temperature</b>			
Operating Range	-40°C to +75°C (-40°F to 167°F)		
Operation at full load	-40°C to +50°C (-40°F to 122°F)		
Storage	-54°C to +95°C (-65°F to 203°F)		
Mounting Location	Mount on a flat surface. Location should be protected from battery acid and gases.		
Environmental Considerations	Anodized aluminum enclosure provides protection against salt, fungus, dust, water, fuel vapors and all fluids associated with commercial and off-highway vehicle operations. Continuous exposure to splashes and spills should be avoided.		
IP Rating	54		
Serviceable	No		
Weight	3.8 lbs.		

**Operation**

**Normal Operation:**

VC-30 will provide up to 30 amps continuous output and maintain 13.5 volts output voltage across the full range of DC input voltage.

VE-30 will maintain the voltages between two batteries wired in series. It will supply up to 30 amps of output to the 12V battery from the 24V battery to maintain equalization.

**No output condition:** DC input voltage must be above 18 volts for the unit to “turn ON” and must remain above 14 volts during operation.

**Overload Condition:** An overload condition exists when the 12 volt load exceeds the output rating of 30 amps. The symptoms that indicate an overload condition exists are output voltage below 18VDC combined with 30 amps output current. The overload condition will not damage this equipment. During the overload, internal protection circuits reduce output voltage as needed to limit the output current to 30 amps.

**Ignition VC-30:** This equipment will turn off if the ignition line is below 1.5 volts and the load current drops below 0.5 amps.

**Ignition VC-30-NLC/VE-30:** The converter will turn off if the ignition line is below 1.5 volts, regardless of the load current.

## Installation Recommendations

**Caution:** This equipment employs components that tend to produce arcs and sparks. To prevent fire or explosion, do not install in compartments containing batteries or flammable materials. Safety goggles should always be worn when working near batteries

**Terminal Connections:** This equipment is supplied with a APTIV Metri-Pack 280 Series, 5-position connector. The mating connector is APTIV P/N: 12186400, appropriate wire seals sized to the wire outside diameter are required and not included. The wire should extend a minimum of two inches from the connector in the same plane to maximize the weather resistance of the connector.

The terminations are as follows:

A: +12V Output

B: Ground

C: +24V Input

D: Over Temperature (output is a switch closure to ground capable of sinking 100 ma, MAX, useable for a dash light, etc.)

E: Ignition

**Fusing:** A fault protection device must be installed between this equipment and the power source (battery). A fault protection device would be any fuse or circuit breaker properly rated for the maximum DC input current. This advisory is in accordance with SAE, NEC and UL, for mobile power applications.

**Minimum Wire and Fuse Sizes:** Connect this equipment to the 24vdc source using 10AWG cable protected by a maximum 40-amp fuse or circuit breaker. Using the same size cable for all circuits is recommended. Install adequate fuse protection if smaller cables are used.

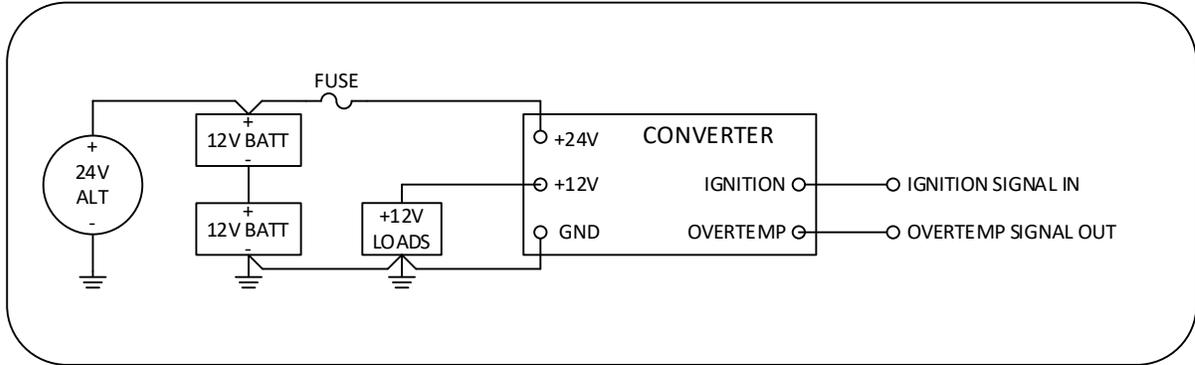
**Wire Temperature rating:** Recommended wire ratings should be 125°C, minimum of 105°C.

**Mounting Location:** This equipment may be mounted in any orientation, however for optimum cooling, mount the converter with fins vertical.

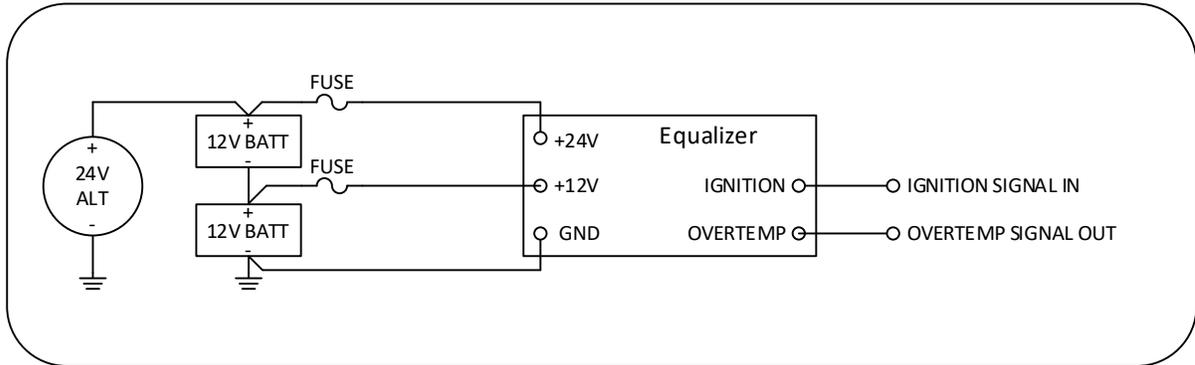
**Environmental Protection:** Protect the unit from direct exposure to moisture such as high-pressure washing, rain, etc.

### Typical Installation diagrams

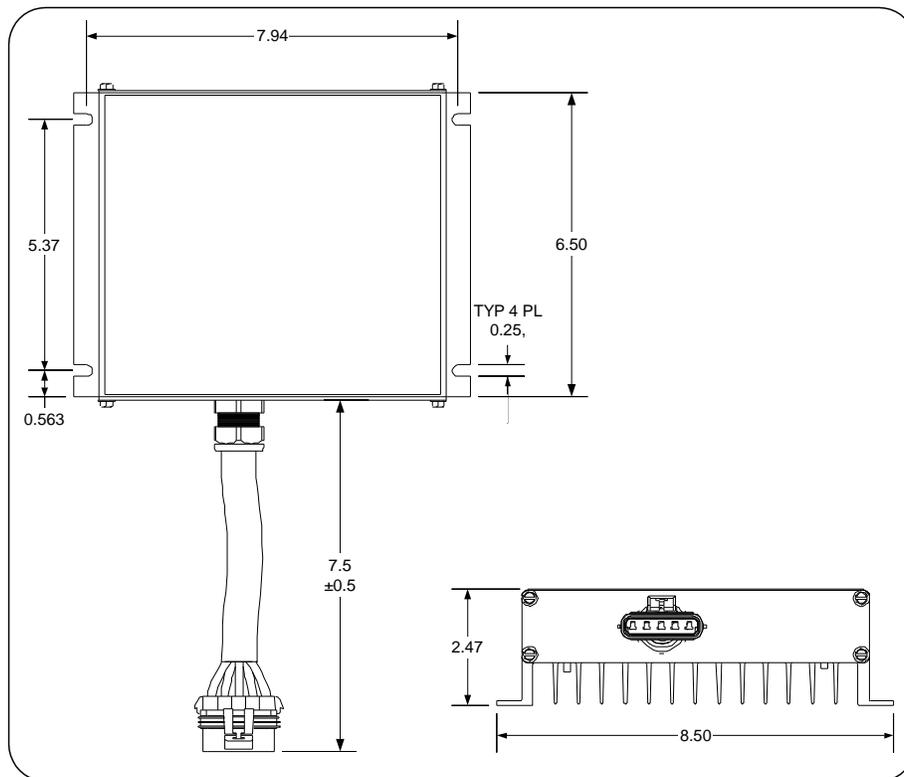
#### VC-30 DC to DC Converter



#### VE-30 Battery Equalizer



### Dimension Specifications



## Troubleshooting

The following are the most likely questions that may be asked. If your situation does not apply to the following categories, please contact Vanner Inc Customer Service Department: 1-800-AC-POWER (1-800-227-6937). Please have your model and serial number before calling.

**Tools Required:**

Multi-meter, Fluke Model 87 or equivalent.

Validate converter output by checking for 13.5+/- 0.5V at 12V distribution busbar

If there is no converter output, check the following:

- >10VDC on converter pin E

- >20V on converter pin C

- Ground continuity on converter pin B

Vanner Incorporated  
4282 Reynolds Drive  
Hilliard, Ohio 43026

1-800-AC POWER  
(1-800-227-6937)  
Tel: 614-771-2718  
[www.vanner.com](http://www.vanner.com)

August 3, 2022 - Printed in U.S.A.