

# OPERATION AND INSTALLATION INSTRUCTIONS

# VOLTAGE STABILIZERS ISOLATED DC CONVERTERS



Feed sensitive electronics with proper voltage regardless of battery condition. These stabilizing converters provide continuous, precisely regulated output over the entire range of a battery's usable voltage. This prevents subjecting loads to fluctuating input voltage which can cause shutdown, diminish performance, and possibly damage sensitive electronics.

These stabilizers provide total input/output isolation, virtually eliminating conducted line noise and permitting connection of negative ground gear to positive or floating ground systems, or vice versa. They are housed in a rugged anodized aluminum, dust free, and impact resistant case with an IP 53 rating.

We're confident your NEWMAR DC Power Stabilizer will serve you well. Please read the installation instructions and recommendations on the back of this page to assure proper operation of your stabilizer.

## FEATURES

- Fully isolated input and output allows use of positive or negative ground equipment on vehicles with positive, negative, or floating ground battery systems.
- Critical line regulation design maintains DC output voltage within 1% regardless of varying DC input voltages or changing load conditions.
- Automatic thermal overload protection prevents internal damage from high temperatures due to ambient conditions and/or overloads.
- Low output ripple prevents noise from reaching sensitive electronic equipment.
- Automatic current limiting eliminates damage from shorts and output overload.
- Maintenance free solid state circuitry assures years of dependable service.
- Conformal coated printed circuit board assures years of dependable service.
- Rugged, rust and corrosion proof case of anodized aluminum with integral heat sink provides convection cooling of components.
- All components selected for dependable performance in the most hostile environments.
- Each unit thoroughly tested and inspected before shipment.

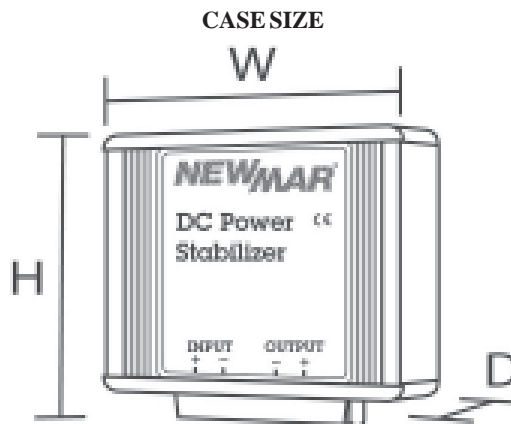
## DC Power Stabilizers - Isolated

Model	Input VDC	Input Amps	Output		Case Size	Weight	
			VDC	Amps Cont.		(Lbs.)	(Kg.)
12-12-3i	10-16	4A	13.6	3	C-1	0.6	0.29
12-12-6i	10-16	8A	13.6	6	C-2	1.3	0.59
24-24-3i	20-32	3.7A	27.2	3	C-2	1.3	0.59
24-24-7i	20-32	8.7A	27.2	7	C-3	1.8	0.82



## CASE SIZE DIMENSIONS

	INCHES			CENTIMETERS		
	H	W	D	H	W	D
C-1	3.5	3.5	2.0	8.9	8.9	5.08
C-2	6.6	3.5	2.0	6.8	8.9	5.08
C-3	7.3	3.5	2.0	18.5	8.9	5.08



## INSTALLATION

The Stabilizers can be mounted in either a horizontal or vertical position. Choose a location that is suitable for mounting. It should not be mounted near hatches, water or oil pumps, battery vapors or exhaust manifold. Avoid locations that would expose the unit to high heat, water, chemicals, and impact. Proper ventilation is necessary and there should be a free flow of air around the Converter.

Use the mounting bracket to mark the 3 holes and drill them to accept the 3 self tapping screws included. Mount the bracket with the screws and "click" the converter into the bracket. Using the push-on connectors provided, crimp them to the input and output wiring and push them onto the correct terminals as shown in the typical wiring diagram below.

**IMPORTANT:** Although the converter is constructed of materials and in a manner which make it highly resistive to the corrosive effects of moisture in the environment, it is not waterproof. Do not mount the stabilizer where there is a possibility of water entering the unit. Evidence of water entry into the stabilizer will void the warranty.

It is recommended that the Stabilizer be mounted as close to the load as possible to reduce the effect of line voltage loss. See WIRE SIZE TABLE for recommended gauge.

## INPUT

These DC Stabilizers are designed to operate from an input range of 10-16 volts or 20-32 volts depending on model. (See reverse for input specifications.) No adjustments are needed to accommodate input voltage within the unit's specified range. The DC Stabilizers may be safely used to power equipment on positive, negative, or floating ground systems.

The input terminals are designated on the terminal label located on the front.

**CAUTION: Even momentary reverse polarity connection may severely damage unit.**

## OUTPUT

Verify correct polarity (+ plus and - minus) to equipment being powered and connect leads using spade terminals.

## WIRE SIZE TABLE

The table below may be used to select the proper gauge wire for both input and output connections up to 10 amps.

CABLE LENGTH (feet)	
10'	20'
#14	#12

## OPERATION/TROUBLESHOOTING

The indicator light next to the INPUT/OUTPUT terminals will illuminate when power is "ON" and DC power is available on the output terminals. If the indicator light does not come on, check the input voltage.

The stabilizer is equipped with a fast acting current limit circuit to protect the unit against overloads and shorts. This circuit will automatically drop output voltage to protect internal components

**NOTE:** Some inductive loads such as DC motors require high start-up surge currents which will trigger this protection circuit. In general, it is recommended that the stabilizer is used in applications with resistive loads.

If there is no output voltage from the stabilizer, disconnect the load from the output and check output voltage; if the output voltage is normal (see specs.), then the load is too great and is shutting down the stabilizer. Check to see if any fuses or circuit breakers that are wired into your system's input and output are blown or tripped.

The stabilizer will also shut down when it overheats (over 80°C). Be sure to allow for cooling and make sure the converter's cooling fins are not obstructed to air flow.

All models have input Over Voltage Protection (model 12-12-3i has input and output OVP). If the input OVP is activated, the unit will shut down until the voltage falls back into the normal operating range.

In the event that you have no output from the stabilizer with no load, then it will need to be serviced.

## PERFORMANCE SPECIFICATIONS ALL MODELS

### Output:

12 V Models: 13.6 VDC\*

24 V Models: 27.2 VDC\*

\* -20% to +15% at extreme temps.

### Output Noise:

<50mV pk-pk (100mV on 24V units) at continuous load

**Off Load Current:** <100mA

**Efficiency:** 85% typical

### Operating Temperature:

-25°C to +30°C, to meet specifications; -30°C to +80°C derate linearly to 0A

**Connections:** Four 6.3mm push-on flat blade connectors

**Mounting:** Click 'n' Fit mounting clip

### Over Current:

Limited by current sensing circuit

### Over Heat:

Limited by temperature sensing circuit

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## TYPICAL WIRING

