

# DC Power Conditioners

## StartGuard

The abrupt DC system voltage drop that accompanies engine starting can cause microprocessor-driven communication and navigation electronics to "dump" programmed memory.

StartGuard solves this problem by providing supplemental voltage to sensitive electronics while the engine is cranked. It contains a sealed rechargeable battery which is switched on-line to electronics when the starter switch or solenoid is engaged. When the engine is running StartGuard automatically goes off-line and the internal battery is recharged by the alternator.

### Specifications

**Input Voltage:** 13.8 - 14.8 VDC nominal, 15.5 VDC max.

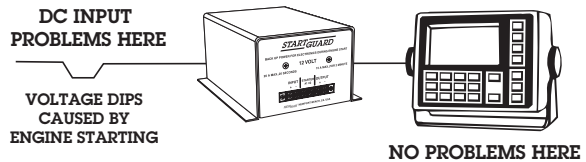
**Relay Activation Input Voltage:** 7-15 VDC

**Output:** 20 amps max.

**Battery:** 12 VDC, sealed rechargeable,  
5 - 7 year life (typical)  
5 amp-hour capacity

Certified by DOT and IATA for shipment by air  
Replacement battery P/N: 591-0412-0

**Back-up Capacity (Fully Charged):** (See matrix below)



Model	Input	Back-Up Capacity		Dimensions		Weight	
		1 Minute	2 Minutes	Inches	Centimeters	Lbs	Kg.
NS-12-20	13.8-14.8 VDC Nominal 15.5 VDC Max	20 amps	15 amps	8.25 x 4.9 x 3.5	20.1 x 12.5 x 8.9	5.5	2.5

## NAV-PAC®

Marine communication/navigation electronics such as programmable data transceivers, GPS and other microprocessor-controlled devices require clean and steady DC input power. Their sensitive circuitry is highly vulnerable to voltage drop from engine start, noise and line spikes from alternators and motors, and conducted noise from various other electronic devices. NAV-PAC prevents these conditions from affecting electronics.

- Prevents voltage "drop-out" to electronics during engine start
- Absorbs line "spikes"
- Filters out electrical interference
- Provides supplemental voltage/battery back-up for up to 15 min.
- Remote monitor panel included.

U.S. PATENT #: 5172292

**Model:** NP-12, NP-24

**Output:** 20 amps Max. @ 12 Volt; 15 amps Max. @ 24 Volt

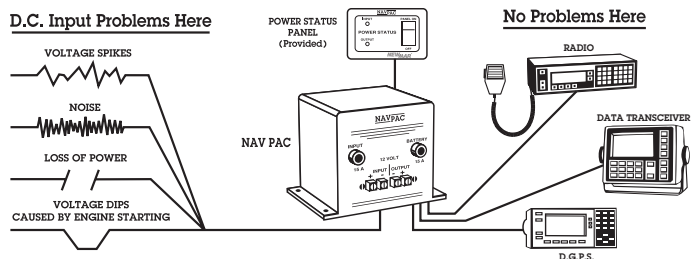
**Back-Up Power:**

7 Amps for fifteen (15) minutes      10 Amps for eight (8) minutes  
15 Amps for two (2) minutes          20 Amps for one (1) minute

**Battery:** Sealed Rechargeable 5.0 Amp-Hour, 5-7 years typical life, can be replaced. Low-voltage disconnect circuit protects battery from total discharge. Certified by DOT and IATA for shipment by air. Replacement battery P/N: 591-0412-0

**Noise Filtering:** Audio through 200 MHZ

**Voltage Spike Protection:** Transient energy capability; 100 Joules, 4,000 amps Max (8 x 20 micro seconds)



Model	Input	Back-Up Capacity		Dimensions		Weight	
		1 Minute	2 Minutes	Inches HxWxD	Centimeters HxWxD	Lbs	Kg.
NP-12	13.8-14.8 VDC Nominal, 15.5 VDC Max	20 amps	15 amps	5.25 x 6.2 x 7.2	13.3 x 15.7 x 18.8	5.9	2.7
NP-24	27.6-29.6 VDC Nominal, 31.0 VDC Max	20 amps	15 amps	6 x 7.75 x 7.5	15.24 x 17.14 x 19	8	3.6



DC Power Onboard