

MajorBCD310 Watt DC Charger

The **MajorBCD310** has an all new single board design that incorporates state-of-the-art switchmode technology for unmatched efficiency and ultra-quiet operation.

Multiple stages of filtering reduce radiated or conducted noise to very low levels. Applications include charging the compulsory battery on vessel's over 20 meters, 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 12 and 24 VDC power systems in marine, automotive or aeronautical environments and more.



Product Features

- **Transient Voltage Suppressor**
- **Fully Isolated Design**
- **Adjustable Output Voltage**
 - ▶ For charging standard or deep cycle lead-acid, VRLA or Gel cell type battery
- **Audible & Visual Indicators**
 - ▶ For constant current, low input voltage, low output voltage & over-temperature
- **Extremely Rugged**
 - ▶ Well suited for marine and other demanding environments
- **Short Circuit Shutdown**
- **User-Selectable 2 or 3 Stage Charging Profile**
- **High Tolerance**
 - ▶ For shock and vibration
- **Ultra-Quiet**
 - ▶ Low EMI operation
- **Protection**
 - ▶ Current limiting protection
 - ▶ Short circuit protection
 - ▶ Reverse input protection
 - ▶ Output over-voltage crowbar
 - ▶ Over temperature shutdown
- **Spark-Free Connection**
- **Can be left Permanently Connected**
- **Dry Contact Output Fail Relay**
- **Warranty**
 - ▶ 3 years parts and labour

Product Specifications

Mechanical & Environmental	
Operating Temperature Range	0 - 40°C @ Maximum Output; Derate Linearly 2.5% per °C from 40°C
Humidity	0 - 95°C @ Relative Humidity (non-condensing) with optional conformal coating
Audible Noise	None Ødb @ 3 feet
Typical Service Life	>10 years (87,600 hours)
Isolation	Input-Case & Input-Output 1500 VDC; Output-Case 500 VDC
Dimensions (L x W x H)	9.1 x 7.8 x 2.5 in / 23.1 x 19.8 x 6.4 cm
Clearance	1 inch (2.5 cm) all around
Physical	Marine-grade aluminum material, Black anodize / powder epoxy coat finish; 18-8 stainless steel fastenings; 4 contact output terminals
Weight	4.0 lbs / 1.8 kg
Warranty	3 years
Safety	CSA/UL Pending

Model Selection Guide

Model	MajorBCD310-110	MajorBCD310-250	MajorBCD310-300
Nominal Input	110	250	300
Input Voltage	100 - 140	230 - 280	280 - 360
Input Amps	3.4	1.5	1.3
Input Fuse (MDA)	4	3	2
Noise on Input	< 25 mV	< 25 mV	< 25 mV

Nominal Output Voltage	12	24	32
Output Voltage	13.6 ± 0.05	27.2 ± 0.05	36.3 ± 0.05
Absorption Voltage	14.4	28.8	38.4
Charging Amps	20	10	7.5
Absorption to Float	2.0 Amps	1.0 Amps	0.75 Amps
Output Fuses (ATC)	AGC 25 x 2	AGC 15 x 2	AGC 10 x 2
Battery Banks	1 or 2	1 or 2	1 or 2
Output Adjustment	± 0.5	± 0.5	± 0.5
Battery Size (AH)	80 - 120	40 - 60	30 - 45
Output Crowbar	16.0 ± 0.5 V	32.0 ± 1.0 V	42.7 ± 1.3 V
Output Ripple & Noise	< 25 mV	< 25 mV	< 25 mV
Transient Response	< 2 V for 50% Surge	< 2 V for 50% Surge	< 2 V for 50% Surge
Line Load Regulation	< ± 0.5%	< ± 0.5%	< ± 0.5%
Duty Cycle	Peak 20% for 10 min max; Continuous 100% for 24 hours/day	Peak 20% for 10 min max; Continuous 100% for 24 hours/day	Peak 20% for 10 min max; Continuous 100% for 24 hours/day
Efficiency	> 75% @ Maximum Output	> 75% @ Maximum Output	> 75% @ Maximum Output
Stages	2 or 3	2 or 3	2 or 3