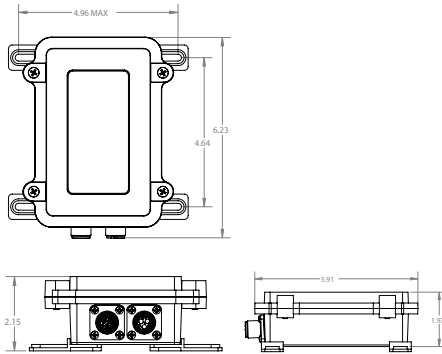




# ANALYTIC SYSTEMS

Power Conversion Solutions

## DC BATTERY CHARGER MODEL BCD70MS



### Description

The BCD70MS Step-Down Series of Mil Spec DC Battery Chargers recharge standard 12V, 24V, 32V or 48V batteries from 24, 36, 48 or 72 VDC power systems for use in military, heavy equipment, marine, industrial, or alternative energy environments. Many customizable input/output options. Output currents range from 2.9 to 10.0 Amps Continuous depending on input/output voltage combination.

New 250 KHz high frequency synchronous rectification SMT design offers higher reliability, higher efficiency (up to 93%) and more power (up to 10A at 12VDC out) with minimum size. Ideal Diode output circuit protects against reverse battery connection, battery discharge with minimum power loss.

The unit has reverse input protection, output current limiting, output short circuit protection and output overvoltage protection (using Crowbar circuit).

### Benefits

- Compact
- Efficient
- Rugged & Reliable
- Waterproof
- Ultra-Quiet
- Simple, effective 2 stage charging

### Design Features

- Four standard input voltage ranges allow operation from 24, 36 or 48 or 72 VDC power sources
- Standard charging voltages of 12, 24, 32 or 48 volt battery. For output current ratings refer to the table on the back of this data sheet.
- Reverse input protection
- Reverse Battery Connection Protection
- Build to meet MIL-STD810G for shock and vibration
- Short circuit protection
- Output over-voltage crowbar
- Easily mounted
- Wide-Temperature operational (-40C to +55 C)
- Rated IP67 Watertight with EMI and O-Ring gasketing
- Designed to meet MIL-STD461F for radiated and conducted emissions
- Conformal Coating for Harsh Environments
- 2 years parts and labour warranty
- Applications: Military, Electric Utilities, Substations, Base Station Power, Industrial Controls and OEM Applications

### Military Features

Most products manufactured by Analytic Systems can be adapted for Commercial Off The Shelf (COTS) military use.

A product in military use will use the extra-wide temperature range components to allow operation from -40°C to +55°C.

The printed circuit boards are protected against condensation by conformal coating and are enhanced with vibration protection that meets or MIL-STD810G, Method 514-3 and Cat-1 Proc 1.

C.O.T.S. products are designed to meet MIL-STD461F levels of radiated and conducted emissions.

All C.O.T.S. products are manufactured in accordance with IPC-A-610.

An ISO9001 and AS9100 Registered Company Battery Chargers • Inverters • Power Supplies • Voltage Converters

8128 River Way, Delta B.C. V4G 1K5 Canada T. 604.946.9981 F. 604.946.9983 TF. 800.668.3884 (US/CANADA)

[www.analysicsystems.com](http://www.analysicsystems.com)

# DC BATTERY CHARGER

# MODEL BCD70MS

		Input Volts					
		Nominal	24	36	48	72	
		Min / Max	20 / 32	30 / 48	40 / 64	60 / 96	
Output Volts	Nominal	Actual	Output Amps				Output Crowbar
	12	13.6	10.0	8.1	7.0	5.7	16
	24	27.2		5.7	5.0	4.1	32
	36	40.8			4.1	3.3	45
	48	54.4				2.9	60
Volts		Continuous				Volts	

## Electrical

Input Ripple & Noise	< 100 mV Peak to Peak
Output Ripple & Noise	< 50 mV Peak to Peak
Transient Response	< 150 mV for 50% Load Step Change
Regulation (Line & Load)	< +/- 0.5%
Efficiency	> 93% @ Maximum Output
EMC	Designed to meet MIL-STD 461F

Operating Temp. Range	-40° to +55°C @ maximum output
Humidity	0 – 95% Relative Humidity
Audible Noise	NONE 0db @ 3 ft
Typical Service Life	> 10 yrs. (87,600 hrs)
Isolation	Any Input or Output to Case 1000 VDC
Packaging	Watertight (IP67)
Shock and Vibration	Built to meet MIL-STD810F

## Mechanical Specification

Length	6.20 in / 15.75 cm
Width	4.91 in / 12.47 cm
Height	2.15 in / 5.46 cm
Material	Cast Aluminum with Alodine Treatment
Finish	Black Powder Coating
Fastenings	All 18-8 Stainless Steel
Weight	0.62 lb / 0.28 kg
Connector Input/Output *	4 Pin Miniature CPC 1445421-3 c/w mating connector
*	Alternate Connectors Available
Warranty	2 years



**ANALYTIC SYSTEMS**  
Power Conversion Solutions

An ISO9001 and AS9100 Registered Company Battery Chargers • Inverters • Power Supplies • Voltage Converters

8128 River Way, Delta B.C. V4G 1K5 Canada T. 604.946.9981 F. 604.946.9983 TF. 800.668.3884 (US/CANADA)

www.analysissystems.com