



BATTERY CHARGERS

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**Power
Generation**

5A and 10A

FOREWORD

The purpose of this manual is to provide the user with sound general information for operating the battery charger. It is for guidance and assistance with recommendations for correct and safe procedure. Cummins Power Generation Limited cannot accept any liability whatsoever for problems arising as a result of following recommendations in this manual.

The information contained within the manual is based on information available at the time of going to print. In line with the Cummins Power Generation Limited policy of continual development and improvement, information may change at any time without notice. The user should therefore ensure that, before commencing any work, he has the latest information available.

Users are respectfully advised that it is their responsibility to employ competent persons to carry out any installation work in the interests of good practice and safety. It is essential that the utmost care is taken with the application, installation and operation of any equipment. Careful reference should also be made to other Cummins Power Generation Limited literature, in particular the Health and Safety Manual (0908-0110-00), the Product Operation and Maintenance, and Engine Operation Manuals.

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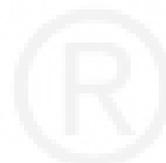
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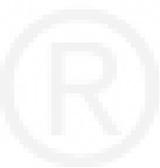
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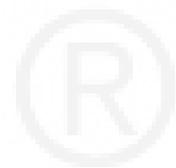


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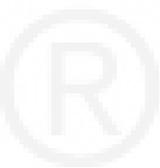
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SECTION 1 – SAFETY

1 Safety

This manual should form part of the publication package supplied by Cummins Power Generation Limited with specific generator sets. In the event that this manual has been supplied in isolation please refer to other Cummins Power Generation Limited literature, in particular the Health and Safety Manual (0908-0110-00), and the other Operation and Maintenance manuals relevant to your generator set.

1.1 Warning, Caution and Note Styles Used In This Manual

The following safety styles found throughout this manual indicate potentially hazardous conditions to the operator, service personnel or the equipment.

WARNING: **WARNS OF A HAZARD THAT MAY RESULT IN SEVERE PERSONAL INJURY OR DEATH.**

Caution: *Warns of a hazard or an unsafe practice that can result in product or property damage.*

Note: A short piece of text giving information that augments the current text.

1.2 Warnings

WARNING: **IT IS IMPORTANT TO READ AND UNDERSTAND ALL SAFETY NOTICES PROVIDED IN THIS MANUAL. IMPROPER OPERATION OR MAINTENANCE COULD RESULT IN A SERIOUS ACCIDENT OR DAMAGE TO THE EQUIPMENT, CAUSING INJURY OR DEATH.**

1.3 General Information

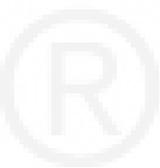
This manual should form part of the documentation package supplied by Cummins Power Generation Limited with specific generator sets. In the event that this manual has been supplied in isolation please refer to the other Cummins Power Generation Limited literature, in particular the Health and Safety Manual (0908-0110-00), the Controller manual, and the Engine Manual.

Note: It is in the user's interest to read and understand all Health and Safety information together with all Warnings and Cautions contained within the documentation relevant to the generator set and its operation and maintenance.

1.4 Generator Plant Safety Code

Before operating the generator set, read the Controller Manual and the Engine Manual and become familiar with them and the equipment. Safe and efficient operation can be achieved only if the equipment is properly operated and maintained. Many accidents are caused by failure to follow fundamental rules and precautions.

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SECTION 2 – DESCRIPTION

2 Description

The 5 Amp and 10 Amp Battery Chargers are of the constant voltage, current limited type, designed for the charging of vented or sealed lead acid and nickel cadmium batteries. They are also capable of supplying a standing load whilst simultaneously maintaining the battery to its fully charged state. Designed to be left in circuit during cranking and to operate in parallel with the charge alternator mounted on the engine.



WARNING: All installation and electrical connections must be made by trained experienced engineers and wired in accordance with applicable and relevant codes of practise.

Features:

- Boost charge facility
- Charge fail facility
- Short circuit protected
- Reverse power protected
- Constant voltage
- Current limited
- RF suppression

The chargers are supplied loose for wall mounting.



Figure 2-1 5A Charger

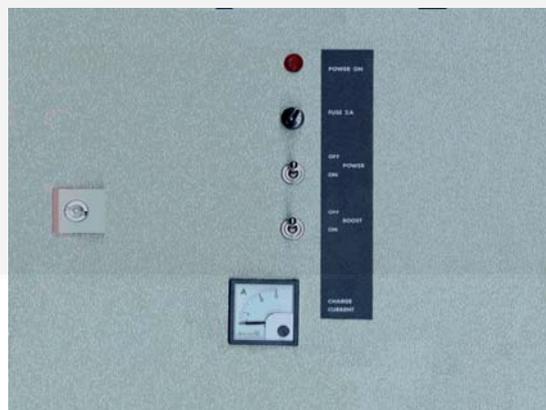
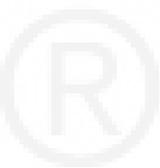


Figure 2-2 10A Charger

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SECTION 3 – OPERATION

3 Operation

As the charge cycle commences, current is limited to the maximum allowable by the electronic control circuitry. As the battery becomes increasingly charged, the current demanded by the battery reduces proportionally, until the battery terminal float voltage equals the reference voltage of the charger at which point the charger maintains a trickle charge only, which is insufficient to either overcharge the battery or cause “gassing” effects.

A Boost Charge facility enables the constant voltage of the charger to be increased, allowing charge time to be reduced and periodic equalisation of battery cells to take place.

Boost charge commences on the operation of the Boost switch located on the front panel of the unit.

3.1 Controls and Indicators

1. Controls

The following controls are provided:

- Power On / Off

Switches the unit On / Off

- Boost

A Boost Charge facility enables the constant voltage of the charger to be increased, allowing charge time to be reduced and periodic equalisation of battery cells to take place. Boost charge is obtained when the Boost switch is placed in the On position.

In the Off position Boost charging does not take place.

Note: The charger should not be left in the Boost position for excessive periods or gassing of the battery will occur.

2. Indicators and Meters

The following indicators are provided:

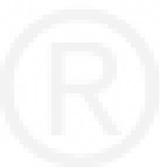
- Power On

This indicator illuminates when the Power switch is in the On power and AC power is supplied to the unit.

- Charge Current Meter

This indicates the output current of the battery charger in amps.

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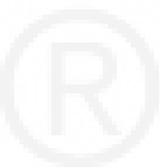


SECTION 4 - SPECIFICATION

4 Specification

| | |
|-------------------------------|---|
| Supply Voltage: | 220 to 250 Volts, 50-60Hz AC only. Others available on request |
| Output: | 5A and 10A electronically limited |
| Boost: | Increase of 0.35V per cell on connection of the 'BOOST" terminals circuitry |
| Charge Failure: | Relay energises 10 seconds after charge failure, contacts close to indicate this condition |
| Relay Contact Ratings: | Volts free, 16 A max., resistive |
| Temperature Range: | 14°F to 140°F (-10°C to +60°C) |
| Protections: | Short Circuit / Over Voltage / Over Current/ Reverse Polarity / Reverse Power |
| Mechanical Details: | |
| 5A Charger: | 160 x 200 x 160mm (h x w x d) |
| 10A Charger: | 300 x 380 x 210mm (h x w x d) |

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