



Rectifiers

- Rectifiers for almost all applications up to 6000Amps with Thyristor Controlled, or Motorised Auto Transformer based Design.

Applications-

- Plating rectifiers,
- Anodizing rectifiers.
- DC power supply.
- DC motor speed control.
- Foil etching plants.



High Voltage & Current Injection Test Sets and Relay Test Kits

- AC High voltage test set upto 125KV.
- AC/DC Current Injection Test Set up to 6000 Amps.
- Relay test benches as per requirement



Digital Voltage Stabilisers

- Digitally Controlled Micro Controller based Design
- Stepper Motor makes precise correction with lowest possible time
- Protections for Input & output Under-Over Voltage
- Range from 30KVA to 1000KVA



Charger Accessories

- Digital Prologic .. a brain for Battery Chargers.

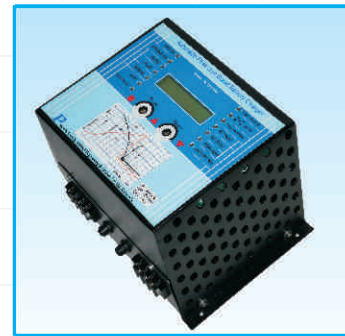
Eliminates need of human judgments, hence avoiding risk to batteries, which occurs due to erroneous selection of modes, thus increasing effective life of batteries

- Only digital Automatic Float / Boost Switch for battery chargers
- Intelligent Selection circuit for auto changeover between Float & Boost Modes
- Sensing of Charging Voltage, Charging Current with respect to time(dV/dt-di/dt)
- Displays of Voltage, Current & all Faults (Annunciation) for battery & charger
- Eliminates failure of any system using Battery as a back up, since batteries are always kept charged in an appropriate condition.



Digital Battery Charger Modules

- First & Only Digital Battery Charger Modules using SMPS or Thyristor control
- With dv/dt & di/dt sensing for precise selection of modes
- Using latest Micro controller technology for sensing & Protections
- Equipped with all protections on mains & DC Side
- Makes Automation Solution highly reliable.
- Intelligent selection for auto changeover from Float to boost & vice versa



Automatic Phase Selector Switch

Only Digital Automatic Phase Selector Switch for Single and Three Phase Loads



- Ideal for unmanned operations
- Sequence of phases can be Priorities
- Automatic selection of available phase for single phase load
- Option of U/V-O/V & Electronic Overload protection

Other Products

- DC Earth Leakage relays.
- AC/DC under/ over voltage relays.
- AC/DC under/ over current relays.
- IDMT Earth fault/ over current relays.
- Range of timers
- Diesel engine controllers for AMF & Fire hydrants systems.
- Range of Power Protection Relays
- Battery status indicator.

Protech Engineering and Controls Pvt. Ltd.

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∴ Credentials ∴

(Some of Our Prestigious Customers)

- Andhra Pradesh Power Gen Corpn.
- ABB Ltd. Mauritius
- Airport Authority of India
- Amines & Plasticizers Limited
- Associated Capsules Pvt. Ltd.
- Best Exports Center Pvt. Ltd.
- BARC
- B L A Industries Ltd.
- Batilboi Environmental Engineering Ltd.
- BPL Mobile Communications Limited
- Central Railway
- Caim India, Surat
- Essar Oil, Rajkot
- Furnace Fabrica (I) Ltd.
- GlaxoSmith Kline Pharmaceuticals Limited
- GMM Pfaudler Limited
- Grasim Industries Limited
- Hindalco Industries Limited
- Hindustan Petroleum Corporation Limited
- Indian Airlines Ltd.
- Indian Oil Corporation Limited
- InterContinental Marine Drive
- Larson & Toubro Limited
- Mahanagar Gas Limited
- Mahindra & Mahindra Ltd.
- Max AeroSpace & Aviation Ltd.
- Mazagon Dock Ltd.
- Mother Dairy Foods Processing Ltd.
- Nuclear Power Corporation (India) Ltd.
- Naval Ship Repair Yard(INDIAN NAVY)
- Nicholas Piramal India Limited
- Pan India Paryatan Limited ,
- PierLite Lighting India Pvt. Ltd.
- Rashtriya Chemicals & Fertilizers Limited
- Raymond Limited
- Reliance Petroleum Pvt. Ltd.
- Schenectady Herdilla Ltd.
- Spenta International Limited
- Shades Electrical, Dubai
- Tata Tele-service Limited
- Tractor Engineers Limited
- Trimax Datacenter Service Ltd.



PIONEERS IN CREATING FUTURE

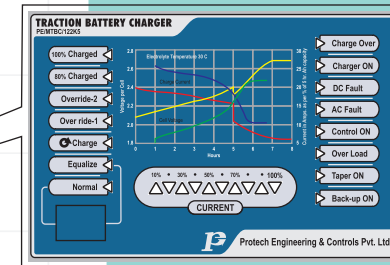
Protech Engineering & Controls Pvt. Ltd.



Battery Chargers

WE CONTROL POWER....
... ANY AMOUNT OF IT..!

Digital Traction Chargers



Input - 230V AC 1-Phase,
Output - 48V /56 Amps
Digital Traction Charger
Made for Glaxo Ltd, Thane



Special features

- Uses latest Micro Controller technology
- Regulated output across the range of models
- No timer setting required.
- Inbuilt control and memory for saving the ongoing charging cycle when mains power fails and continuing the same when mains power resumes.
- Two stage taper charging with constant voltage & intelligent current control.
- Normal / Equalize charging mode selection.
- Senses dv/dt and di/dt for precise control.
- Over ride function in both the stages of Taper charging.
- Indication for 80%, 100% charge and Changeover.
- Automatic refresh charging.
- Lower losses as output is controlled by controlling Thyristor firing angle.
- Protections like "Abnormal AC Input (AC Fault)" and "Wrong Batteries connected (DC Fault)" provided as standard features.

Applications-

- All types of battery operated Material Handling Equipments; like Fork-lift Trucks, Platform Trucks, Pallets, Tuggers, Stackers etc.

Standard Model-

- Range of models available from 12 to 72 volts traction batteries from 80 AH to 2000 AH capacity.

* Customer and application specific chargers can be made available on demand.

Float cum Boost Chargers

Special features

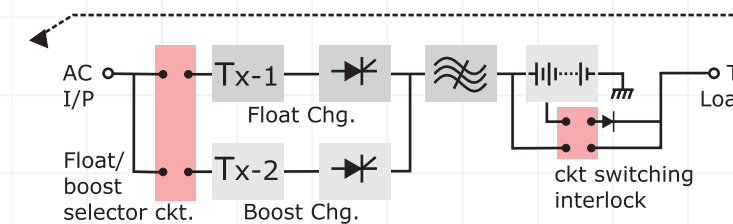
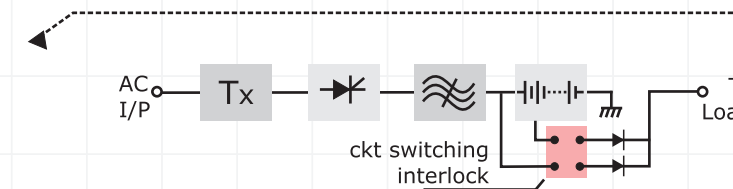


Input - 415V AC 3-Phase,
Output - 110V /40 Amps
Float & Float cum Boost Charger
Made for ABB Ltd, Mauritius



Input - 230V AC 1-Phase, Output - 30V /15 Amps
Double redundancy with 2 sets of battery bank
Float cum Boost Charger
Made for Crompton Greaves Ltd., Mumbai

- Unique Micro controller technology.
- Can Handle wide Input supply variation from -20% to +25%.
- Eliminates need for human judgement, hence avoids a risk to batteries which occurs due to erroneous mode selection, thus increasing the life of batteries.
- Provides protection with annunciation for almost all battery & chargers related faults.
- Manual modes of operation also provided.
- Senses dv/dt and di/dt for precise control.
- Uses combination of constant voltage and constant current charging.



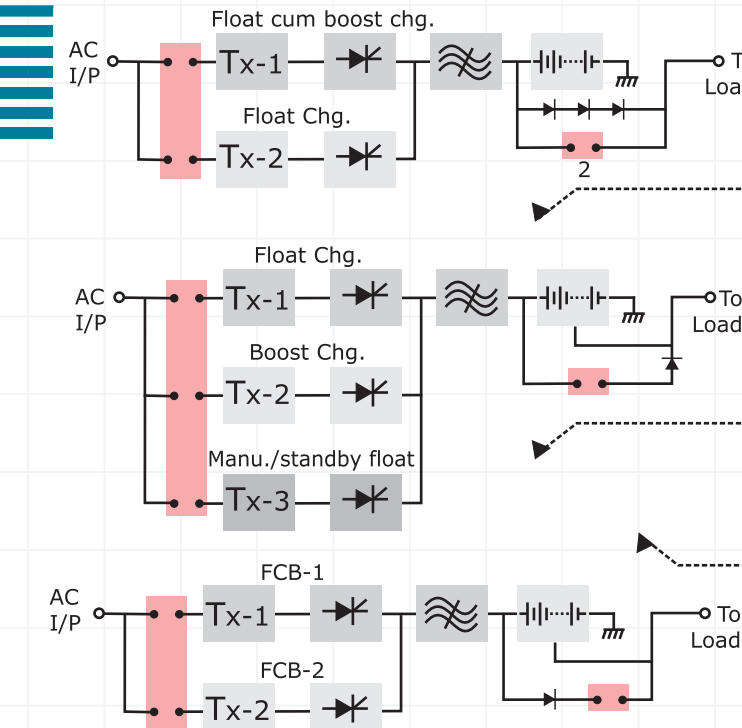
Applications-

- Substation batteries, NICD batteries, Railway's traction & other batteries, D.G. set batteries, Telecom and DC power system.

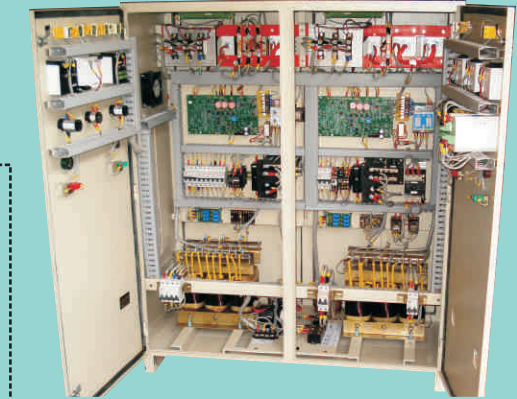
Configuration-

- These chargers can be made as per required configuration. Choice of configuration depend on the criticality of application, some of the most preferred configurations as are as follows-

 1. Float cum Boost battery charging with single set of transformer rectifier.
 2. Float & boost chargers with separate transformer rectifier & controller circuit.



Input - 550V AC 3-Phase, Output - 110V / 40 Amps
Float & Float cum Boost Charger
: Made for Furnace fabrica, Zambia Project



3. Float cum boost along with standby float charger in same cubical.
4. Float, boost charger along with standby float charger.
5. Float cum boost in 1+1 configuration in one cubical.

Chargers cum dischargers & Battery discharger

Special features

- An ideal solution for battery maintenance.
- Both charging and discharging units in same unit with constant voltage and current modes of operation.
- Energy saving discharging: Uses regenerative technology which allows the use of battery energy to drive the other AC loads along with mains AC supply.
- Constant current makes the output short circuit proof equipment.
- Units with Ampere-Hour controlled charging/ discharging can be provided.
- Formation charging with user programmable voltage/ Current & Pause time can be provided.

Types-

- Constant current
- Resistive discharging
- Regenerative discharging



60-310V / 220 Amps Charger cum Discharger
as per RDSO Specification: Made for SE Railways