Amara Raja
Powered by Innovation

POWER CHARGE
CUSTOMIZED

MOVING MOUNTAINS USING POWER?

Each one requires different loads & capacities.

Presenting the range of
Customized Conventional Chargers

Amara Raja
POWER SYSTEMS LIMITED

Amara Raja Power Systems Limited (ARPSL) is a part of the Amara Raja Group specializing in the manufacture and delivery of Power Delivery Systems for Critical Applications across various sectors. Making a distinct mark in such diverse industries as Oil & Gas, Power sector, Telecommunications, Railways and a host of other industries, the pioneering spirit and a propensity to take the lead have propelled ARPSL to the status of a market leader.

Amara Raja's Conventional Battery Charger Systems use **Thyristor Based Switching Technology** for achieving the desired DC output. The power requirement is adjusted by using phase control technique which is provided by the control circuit. The feedback signals from the output to the control circuit are used for maintaining voltage regulation and current limit.

The systems are designed to be compatible with all kinds of battery in use in industry, be it VRLA, non VRLA or Ni-cad making them the most versatile product range preffered across various sectors.

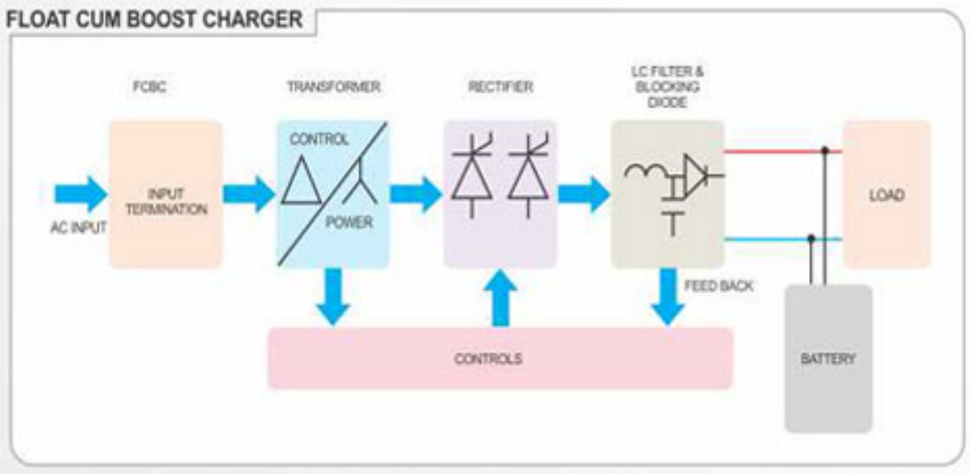
Product Salient Features

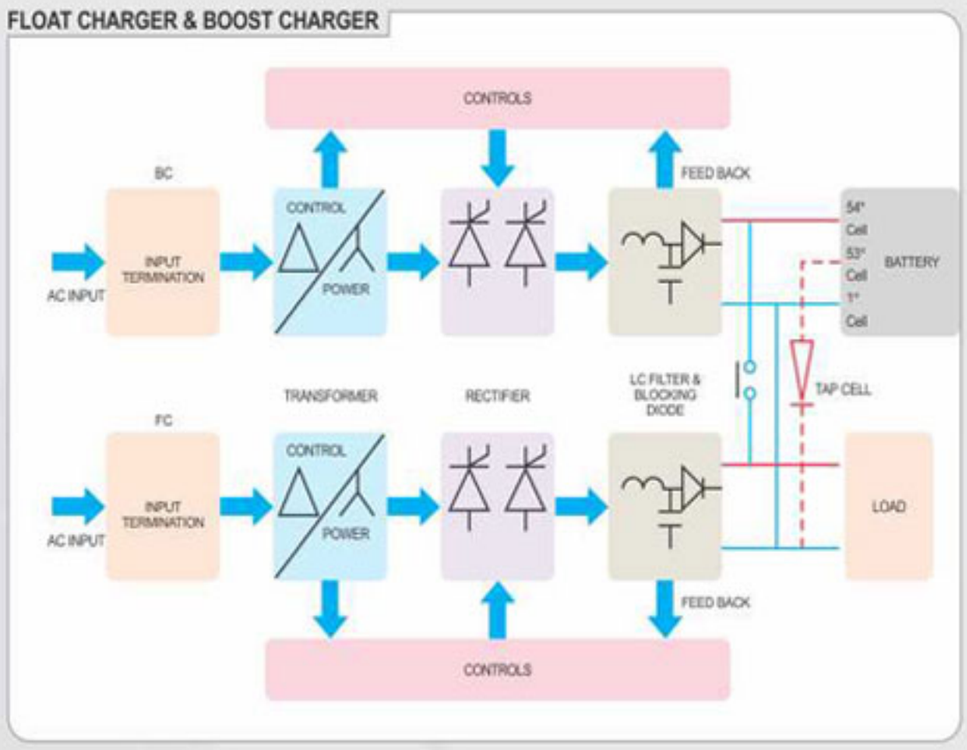
- Automatic voltage regulation using Digital/Microprocessor controlled Logic assures maximum reliability and high performance control
- Soft start to minimize in - rush current into battery when unit is switched on
- Smoothing Filter Circuit to limit the AC ripple to required levels
- Charger short circuit and Overload protection
- Over voltage cutback keeps load and battery banks secure
- Separate battery path current limiting keeps battery charging current lower than the load current maintaining charging current constantly at required levels
- Built in Auto phase-reversal operation ensures the charger continues functioning even when input phase reversal occurs
- Automatic Float/Boost changeover, based on current drawn by the battery
- Cabinet fabricating using CNC M/C meets varying needs and requirements of industry
- Robotic welding
- Class "F" insulation for magnetics and all magnetics are manufactured as per IS standards.

Amara Raja Conventional Battery Charger Syste

Float cum Boost

- Float cum Boost charger is a combination of a float charger and a boost charger.
- During normal operation FCBC works as a float charger.
- On failure of mains supply battery starts supplying to the load.
- Once the main power restores FCBC switches to float or boost mode based on the battery charging requirements.
- This configuration is most suitable where the load can withstand the Boost voltage of the Battery Bank.



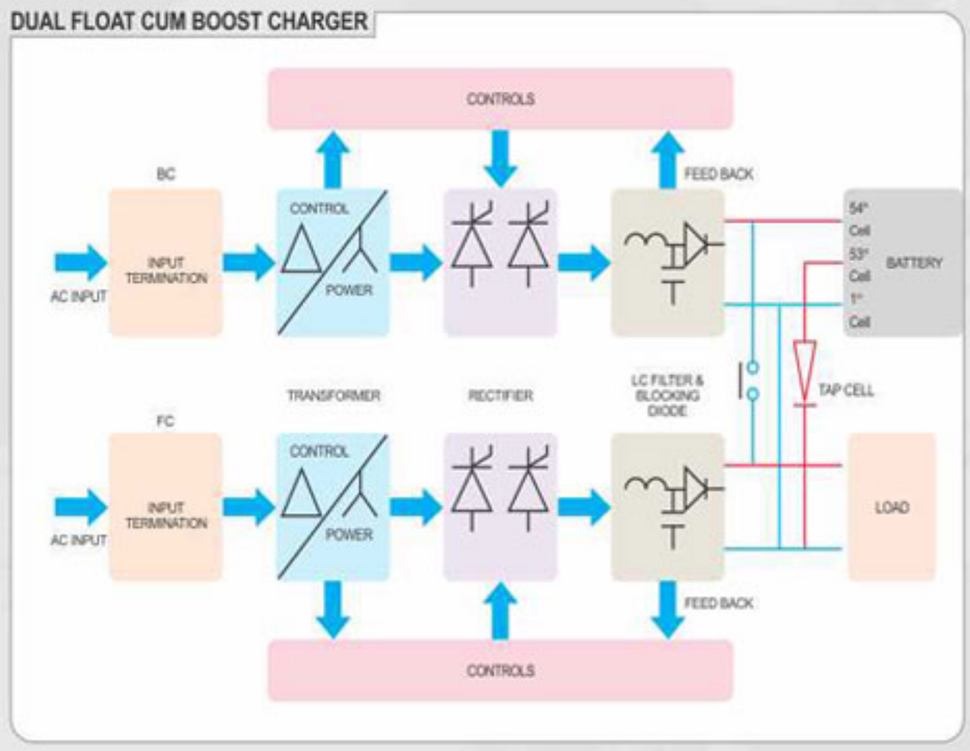


Float Charger & Boost Charger

- The FC & BC has one Float charger & one Boost charger.
- Float charger (FC) is designed to supply the requirement of load & battery float charging currents and Boost Charger (BC) to supply the Boost charging of the Batteries.
- During normal operation FC will be in ON condition & BC will be in OFF condition.
- The FC & BC are connected with interlocking contactor.
- Whenever battery needs boost charging BC cuts in supplying the boost charging, at this stage FC will be isolated from battery & will supply the load.
- During momentary contactor changeovers, battery supplies the load through tap cell.
- When FC fails, BC is automatically cut off and Battery starts supplying the load current.
- The maximum voltage available at the load terminals at any time is equal to that of float voltage.

Dual Float cum Boost Charger

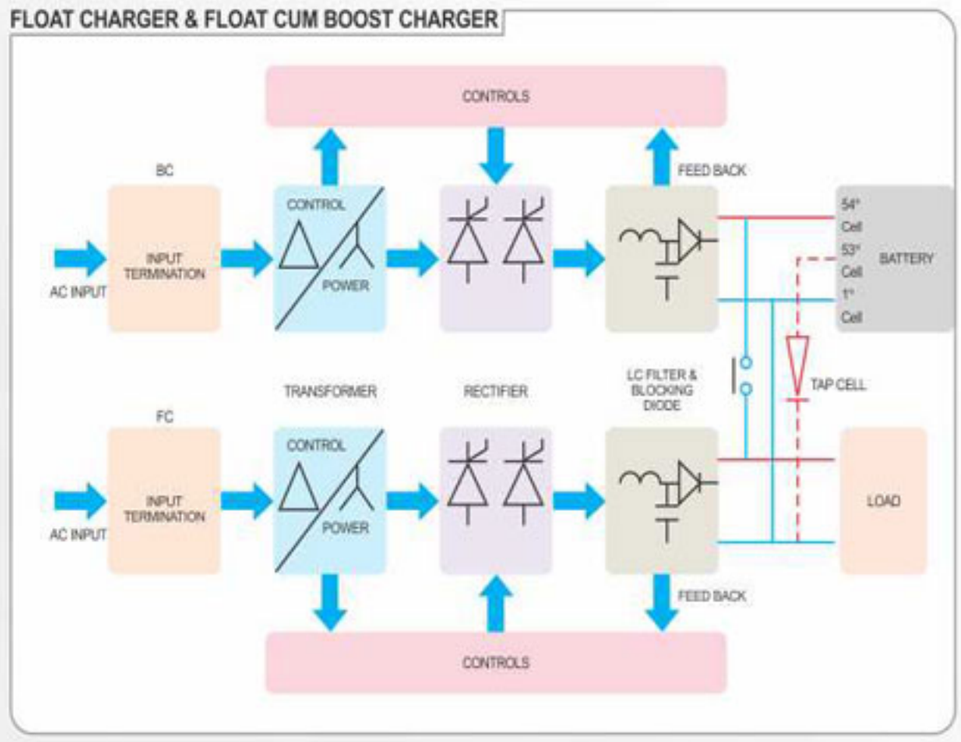
- This system consists of two Float Cum Boost Chargers (FCBC1 & FCBC2).
- In this configuration both the chargers are designed to supply both Load and Battery Charging current.
- During normal operation FCBC-1 is in ON condition and FCBC-2 is OFF.
- In case of manual mode one FCBC supplies to load and another to battery, the FCBC connected to load will not go to boost mode.
- This unit is designed in such a way that if FCBC-1 fails, FCBC-2 comes in line automatically and takes care of both load as well as battery charging currents.



ms are available in the following configurations

Float Charger & Float cum Boost Charger

- The FC & FCBC has one float charger & one float cum boost charger.
- This charger employs power SCRs / Diodes in Full wave Half controlled / Full wave Full controlled.
- The Float Charger supplies both load and battery trickle charging currents while FCBC remains in OFF condition remotely.
- Whenever battery needs boost charging, FC gets isolated from battery through contactor & supplies load whereas FCBC takes care of the boost charging of the battery.
- Provision is available to operate the FCBC in Float mode to supply load when FC is failed.
- At the time of mains failure the isolated contactor gets closed & battery gets connected to the load.
- During contactor changeovers, continuity of DC power to load is maintained.



Amara Raja Conventional Battery Chargers are also available in all the redundant versions of all the above configurations and also Application / Customer specific configurations.

Thyristor Control Rectifier - Battery Chargers

Standard Specifications

The battery chargers are manufactured to meet user specific requirements.

AC Input with wide operational Range

Nominal Voltage	230VAC or 415VAC ± 10%, 3/4 wire or as per customer requirement
Frequency	50Hz ± 5%

DC output with an adjustable Range

Voltage	12V / 24V / 48V / 110V / 220V / 460VDC
Current	Range upto 2000A for 24VDC/upto 1000A for 48VDC and 1500A for 110V / 220V
Ripple	<2% RMS
Regulation	within ±1% according to variation of input AC mains Supply
Rectifier Bridge	Full wave half controlled (or) Full wave full controlled.
Efficiency	Better than 80% at full load @ nominal AC input
Noise Level	<60db for natural cooling and 75db for forced cooling

General

Protection	AC Input circuit breaker. DC Output circuit breaker. DC Over voltage cutback. Battery input fuses. Charger over load. Battery Charging Current limit. Short Circuit Protection. Built in DCDB IP – 54 to 20 as per IS : 2147
Meters	Analog / Digital meters
Indications & Alarms	Input On, Charger On Float, Charger On Boost. DC Over Voltage, DC Under Voltage. AC supply fail, Charger fail. Rectifier fuse fail. DC / Battery Earth fault. Battery Fuse blown / Battery Isolated. Load on battery / Battery Discharging Indications through either bright leds or multi point facia display
Switches & Control	Float Voltage POT Boost Voltage POT Charger ON / OFF switch. Manual / Auto select switch. Boost / float select switch. ON / OFF switch for socket & Heater.
Battery compatible with	VRLA Battery / Non-VRLA Battery / Ni-Cad
Paint	RAL 7032 or as per customer requirements
Dimensions	As per industrial standards or as per customer specific requirements
Cooling	Natural or Forced
Temperature range of Operation	0 deg C to 50 deg C.
Cable entry	Bottom Entry or Top entry on customer request

Applications

Amara Raja's Customized Conventional Chargers are employed in critical applications in a wide range of Industries. Our products deliver efficient and reliable performance in the following sectors.

Power sector


Thermal power stations


Hydro power stations


Atomic power stations


Wind mills


Captive power plants

Industry


Cement


Steel


Paper


Chemical


Textile

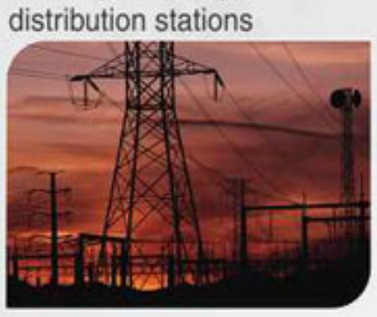

Food processing

Others


Power generating & distribution stations


Oil and Gas Pipeline Cathodic protection systems


Substations


Power transmission


Switchgear tripping

Amara Raja's Customized Conventional Battery charger are the ideal choice for all / critical DC requirements

Customer space

Please note down your specific requirements in this space and let us know. Our marketing team waits eagerly to serve better your needs.

Application of the equipment	
Input source voltage and frequency (with tolerance)	
Maximum Output DC voltage across battery terminals	
I. Float Voltage	
II. Boost Voltage	
Maximum load tolerance Voltage	
Maximum battery charging current	
Normal load current	
Type of battery	VRLA / Non-VRLA / Ni-CAD
Capacity of battery	
No. of battery cells	
Type of configuration	FCBC / FC&BC / FC&FCBC / DFCBC

Contact : .....

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