

# INDUSTRIAL & RAILWAY



## BATTERY CHARGER - DISCHARGER

### IGBT | Thyristor Based



IGBT Based



Thyristor Based



[www.macpowersystems.in](http://www.macpowersystems.in)



**Mac Power  
Systems**

## INDUSTRIAL / RAILWAY BATTERY CHARGER / DISCHARGER

### 110V-155V upto 30-500 Amp

MAC Power Systems designs and manufactures high-reliability industrial Battery Chargers and Charger-Cum-Dischargers for critical power applications. Built with conservative design principles and premium components, our systems ensure failsafe operation, long service life, and consistent performance under demanding conditions.

Our chargers are available in standard and customized configurations, suitable for a wide range of industrial and infrastructure, Railway applications.

## KEY ADVANTAGES

### Extensive Range

- Wide range of standard and customized models
- Voltage outputs up to 110 V - 155 VDC
- Current outputs up to 500 Amps

### High Reliability

- Conservative electrical and thermal design
- High-quality components
- Absolute reliability with fail-safe protection

### Versatility

MAC Battery Chargers and DC systems are widely used in:

- Process Control Systems
- Telecommunications
- Emergency Lighting Systems
- Railways
- Switchgear Protection
- Engine Starting Systems
- Power Station Control Systems



## TECHNICAL SPECIFICATIONS

### ⚡ Electrical Specifications

Parameter	Specification
AC Input Voltage	415 V $\pm$ 10% VAC
Frequency	50Hz $\pm$ 5%
Phase	3 Phase, 4 Wire
DC Output Voltage	110 – 155 VDC
Output Current	30 Amp –500 Amp
Ripple	$\leq$ 2% at full load
Efficiency	$\geq$ 95% at full load
Regulation	Within 1% for AC voltage range and 10–100% load variation

### 🔌 Transformer & Rectifier

Component	Details
Main Transformer	Copper wound
Insulation Class	B / F
Transformer Cooling	Natural Air
Rectifier Type	3 Phase, Full Wave, Full Control
Rectifier Elements	IGBT   Thyristor Based
Rectifier Cooling	Forced Air Cooled

## Isolation & Protection

Protection Feature	Description
AC Input Protection	MCB & Contactor
DC Output Protection	HRC Fuse
Rectifier Protection	Individual Stack Fuses
Over Voltage Protection	Output Over Voltage Trip
Over Load Protection	Output Over Load Trip
Thermal Protection	Thyristor Stack Over Temperature Trip
Capacitor Protection	Filter Capacitor Fuse
Soft Start	Yes
Current Limiting	Yes

## Metering & Monitoring

Meter	Provided
Meter	Yes
AC Input Voltage	Yes
AC Input Current	Yes
DC Output Voltage	Yes
DC Output Current	Yes

## Physical & Environmental

Item	Specification
Dimensions (H x W x D)	1189 x 1036 x 732 mm (Approx.)
Installation	Floor Mounting / Indoor Type
Operating Temperature	Up to 50°C
Relative Humidity	≤ 90%, Non-condensing

## Alarm Indications

Alarm Type	Description
AC Input Fail	Single Phasing / Phase Unbalance / Phase Reversal (Optional)
Rectifier Fuse Fail	Yes
Output Fault	Over Voltage / Over Load
Temperature Alarm	Thyristor Stack Over Temperature
Capacitor Fuse Fail	Yes

## Construction Details

Item	Specification
Wiring	1.1 kV grade multistrand copper, PVC insulated (IS: 694)
Busbars	Electrolytic Copper
Enclosure	Sheet steel, IP-21 protection
Paint Finish	Powder Coated, Siemens Grey (RAL 7032)

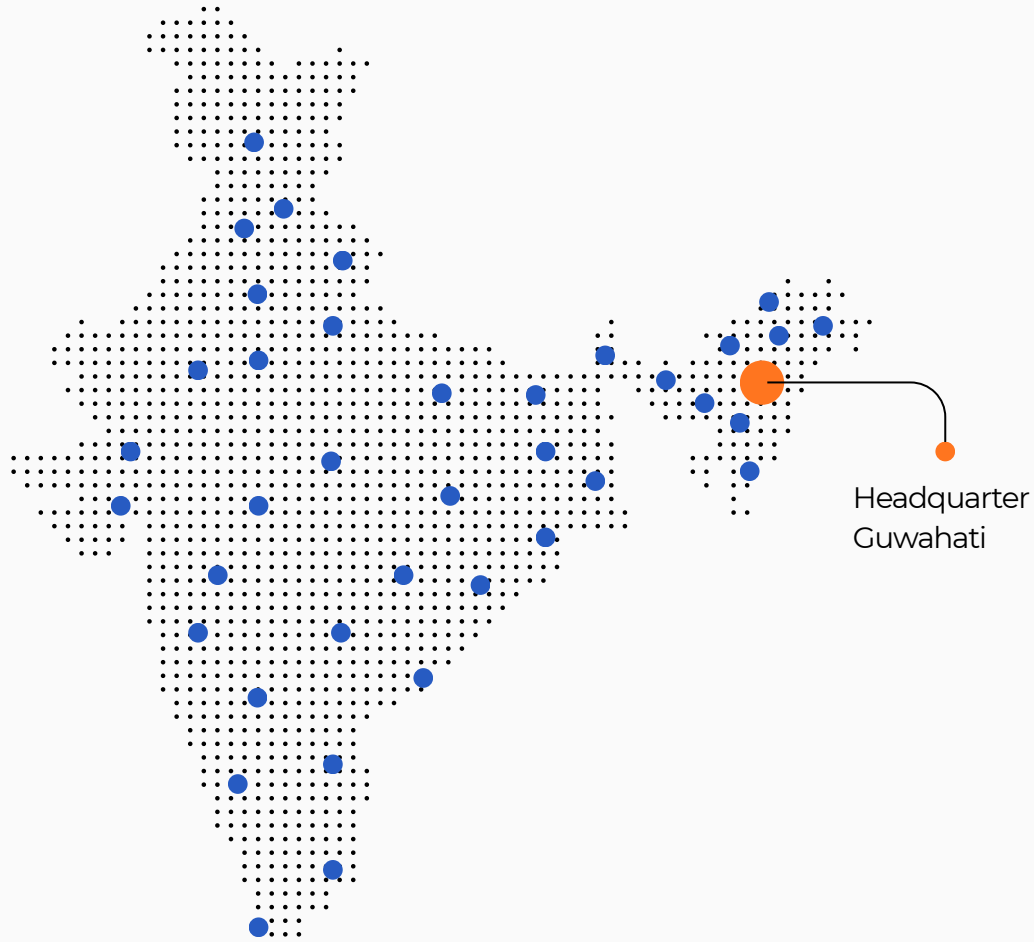
### PRODUCT RANGE

Battery Charger / Discharger

**Current Range:** 30 Amp to 500 Amp

**Voltage Output:** 110V - 155 VDC

**Models:** Standard & Customized



Headquarter  
Guwahati

## OUR ESTEEMED CLIENTS



**बैंक ऑफ बड़ौदा**  
**Bank of Baroda**



**AXIS BANK**



**Head Office & Factory Address:**

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