GES
GREEN ENERGY SOLUTIONS

Ayk (Pvt.) Ltd.

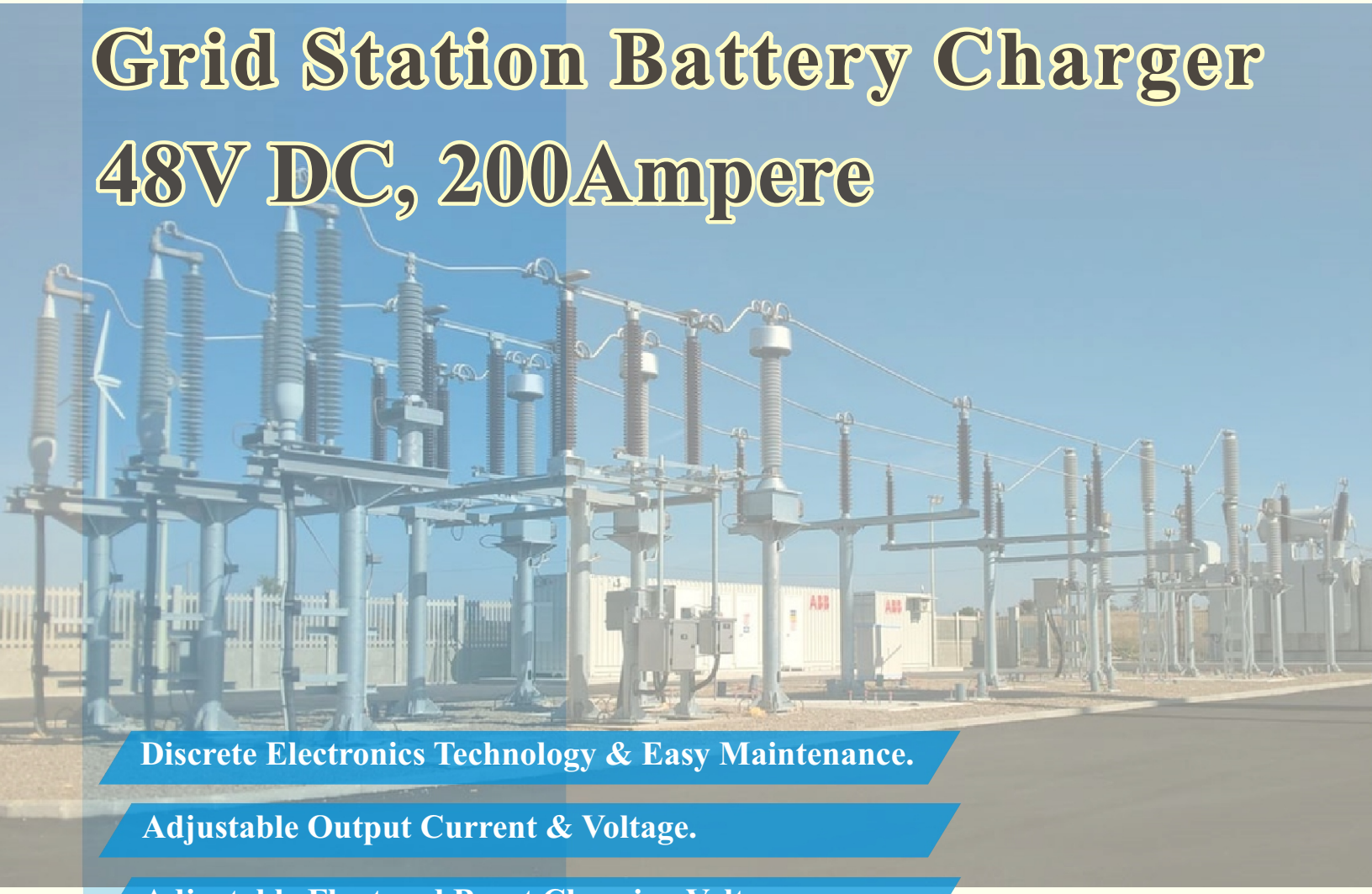
ISO 9001:2015

NTDC DRAWING APPROVED

WAPDA SPECIFICATIONS COMPLIED

Grid Station Battery Charger

48V DC, 200Ampere



- Discrete Electronics Technology & Easy Maintenance.
- Adjustable Output Current & Voltage.
- Adjustable Float and Boost Charging Voltage.
- Individual Output For The Boost Charging.
- Electronics Over Voltage / Under Voltage Protection.
- Load Over Voltage Protection.
- Battery Over Voltage Protection.
- Over Load and Short Circuit Protection.

DC Charger / Rectifier

GES Battery Chargers are SCR controlled AC/DC rectifier are automatic voltage Adjust with controlled current ability and short circuit current protection. They confirm to **NTDC** Specification of Station Battery Chargers. TYPE A and B. All operations are controlled and processed by discrete electronics. The load is protected against the failure of the DC charger since the load is fully connected with battery. LC filter is used instead so the output ripple is fully isolate by battery. AC Input and DC output can be switched by circuit breakers individually. The alarm Contacts can be used for external system in case of any problem,

Complete Isolation

Because DC current is controlled by thyristor firing board. Therefore the load is always safe even at high input voltage and congested mains conditions in addition the failure risk is minimized as semiconductors arc used for the rectifier. Standard L.C Line filters are used at the GES DC chargers since an isolation transformer is placed in between the input and output and

DC Ripple

<3% Input and output are protected with MCBs and all settings like boost charge, floating charge, mid battery charge current can be adjusted via control PCB card located inside the panel. DC output is filtered by inductor, so DC ripple at full load is always lower than <1% to increase the battery life.

All the rectifiers have standard low battery and rectifier failure alarm.

Automatic Boost / Float Charging

Output current, boost and float charge voltages are easily adjustable on the control board located inside the panel. The charger output gives the boost charging voltage by setting the battery current ranges. The charger returns to floating voltage level when the battery current value reaches to the set point.

Automatic Alarm Contacts

Main AC supply failure, battery DC supply failure, low battery voltage, over battery voltage, overload voltage, phase missing failure are among the ones that are available to be used in automation systems.

Wide Range of Use

DC chargers are ideal for Transformer Energy Distribution Centers, Gas Oil Energy Distribution Centers, Natural (lass Distribution Centers, Mining Industry, Mobile Phone Towers, Security and Lighting, Power Distribution Centers, Grid Stations, Power Houses. Building Automation Systems, PTCL and special Telecommunication applications, Automobile Industries, Battery manufacturer, and Domestic Applications.

Specifications 48200P3MS-R0

Conforms to NTDC Specification of Station Battery Charger suitable for 24 cell batteries @ 600 Ah

General

Model	48200P3MS-R0
Topology	Three-Phase full controller full wave AC rectifier with isolation transformer
Nominal Rating	48V DC, 200AmpMaster and Stand by
Cooling System	Self Cooling System
Isolation Voltage	2K VAC input chassis and output chassis for 1 minute. Insulation Resistance >20MΩ
Efficience on Full Load	>80% Operating
Temperature	-10 / +50 °C
Protection Level	IP 23 (Standard) : IP 54 (Optional)
Enclosure Material	Mild Steel, Zine Phosphate Coated; 120 µm Electrostatic paints; 2.0mm thickness
Cable Entry	Front Bottom
Access to Batteries	Batteries are place remotely from Rectifier Panel
Relative Humidity	5% to 95% Non-Condective
Panel Light	20 Watt Lamp, 220VAC operated through Door Switch
Panel Socket	3-Pin female socket for general use upto 240V, 05Amp
Related Voltage	415 VAC ±10%
Related Frequency	50Hz -5%
Transfomer	Galvanically Isolated Taps, 340, 380, 415, 450,490 VAC
Float Output Voltage	48V - 57V
Boost Output Voltage	53V - 62V
Output Ripple	Less than 1% RMS
Filtering	L-C Filter
Front Panel	During normal operation of battery charger, no need to pen the door. All the essential parameters are available at front panel.
Mesurement	AC Main Voltmeter, DC Charger/Battery Voltmeter, DC Charger Ammeter, DC Load Ammeter
Indication	Main AC, Float, Boost, Auto, Manual
Switches	Main ON/OFF, Voltage Selector Switch for Charger/Battery Load, Mode Selector Switch for Float, Boost, Auto, Manual
Alarm with contact for remote indication	Charger failure, DC Over Voltage, DC Under Voltage, Capacitor Fuse failure, Load Over Voltage, Phase abnormal

Dimentions

Height	2200mm
Width	810mm
Depth	760mm
Weight	500 Kg (Approx)

Note: Charger Specifications & Design are Subject to Change without any Notice.