

# Marstech



## Rectifier Charger System



**Marstech Charger**

## Main Feature

- ▶ Industrial Layout
- ▶ Easy maintenance/front access
- ▶ Input isolation transformer , protected by MCCB
- ▶ Full set of battery charging methods available
- ▶ Microprocessor control
- ▶ LCD Display
- ▶ 12 pulse bridge
- ▶ DC/DC stabilizer (dropping diodes or chopper regulator)

## Main Option

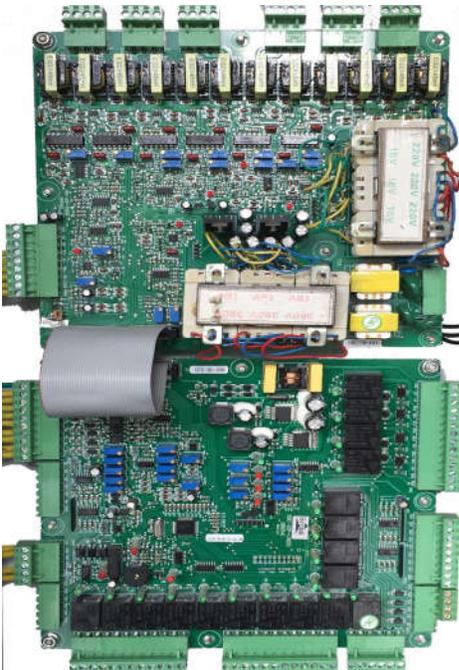
- ▶ Customized input and output voltage
- ▶ AC mains failure monitoring, DC earth fault monitoring
- ▶ Temperature compensated battery voltage
- ▶ Timer controlled battery charging
- ▶ Reversible operation (battery discharging to the ac mains)
- ▶ Additional PFI filters
- ▶ Additional THD filters
- ▶ Output distribution panels

## Application

- ▶ Power Station and Substation
- ▶ Water Treatment Plants
- ▶ Manufacture Plants
- ▶ Transportations
- ▶ Oil & Gas and Petrochemical Plants

## Standards

- ▶ ISO 9001
- ▶ IEC 60146-1
- ▶ IEC 60076-1
- ▶ IEC 60529
- ▶ IEC 62040-1
- ▶ IEC 61000-2/3/12
- ▶ IEC 61000-4/5/6
- ▶ IEC 50091-1/2
- ▶ EMC 55011
- ▶ Quality Management Systems
- ▶ Semiconductor converters - General requirements
- ▶ Power transformers General
- ▶ Degree of protection
- ▶ Safety
- ▶ Electromagnetic compatibility (EMC)
- ▶ Low voltage AC Surge 1.2/50  $\mu$ s, 2kV line to ground, 1kV line to line
- ▶ Low voltage DC Surge 1.2/50  $\mu$ s, 2kV line to ground, 1kV line to line
- ▶ Electrical Standards
- ▶ Industrial, scientific, and medical (ISM)



- ▶ **Marstech** is with DSP technology fully controlled. Charger is base on Thyristor with Isolation transformer, Input PF >0.9 Low harmonic <6% , Standard low DC Ripple < 1% for 3 phase systems and Charger characteristic according DIN 41773 (UL)

# Marstech Rectifier Catalogue

A Compact Industrial DC System  
Specially Designed for Power Stations  
and Substations

Marstech standby power system chargers are built for both lead acid and nickel cadmium batteries. It has incorporated the most asked-for features and offers a high degree of standardization and reliability. Development of the system took into account the requirements of our customers and the experience acquired by Marstech over more than 12 years of activity in the area of power version technology.

Marstech system is based on a 6-pulse or 12-pulse thyristor bridge controlled by microprocessor. The system is provided with

LCD control panel, displaying the operational status of the equipment. Serial interfaces are available for remote control of the system. Upon request supervision



IP 31 -42

**MARSTECH**

# Marstech Rectifier Catalogue

Technical characteristics							
Model 3BC - Size (A)	110-25 25	110-50 50	110-75 75	110-100 Max 125	220-25 25	220-50 50	220-100 Max 125
<b>INPUT</b>							
Nominal Voltage	One Phase Input			Three Phase Input			
	1 phase 230VAC +/- 20%			3 phase 400VAC +/- 20%			
Nominal Frequency	50 / 60 Hz ±5%						
Cosφ	>0.9						
Transformer	Galvanically isolated						
ITHD	27% 6P, 12% 12P, 6% THD Filter + 12P						
Input Protection	Thermic-Magnetic Over Current Protection, Over Voltage Protection, Phase Sequence						
	Free Operation ( 3 phase ), Soft Start, MCCB Auxiliary contact						
Surge protection	Charger provide surge protection and filter both electromagnetic interference						
<b>OUTPUT</b>							
Nominal Output Volt	110 VDC			220 VDC			
Voltage Adjust	90VDC to 160VDC			190VDC to 280VDC			
Load Current Adjust	0-100% of Nominal Output Current						
Batt Current Adjust	0-100% of Nominal Battery Capacity						
Ripple	≤ 1% V <sub>n</sub> (RMS )						
Static stability	+/- 1% V <sub>n</sub>						
Overload	120% for 10mins						
Float Voltage	2,23 lead acid battery or 1,40 Ni-Cd battery						
Boost Voltage	80% to 125% of Floating Output Voltage						
Equal Voltage	80% to 125% of Boosting Output Voltage						
Battery Charging	Constant Current/ Constant Voltage						
Output Protection	Short Circuit Protection, Over Voltage Protection, Reverse Voltage Protection,						
	Short Circuit, MCB or NH Fuse (based on current value)						
Ventilation	Natural and Fan						
<b>GENERAL</b>							
Boost Timer	0 – 99.9 hours adjustable						
Isolation Voltage	2500VAC input/chassis and output/chassis						
Battery Protection	L-C filters, Overcurrent Electronic protection, Over Voltage Protection and Thermic Fuse						
Efficiency (%)	> 90%						
Noise 1m(dBA)	55 - 60						
Colour	RAL 7035 ( other as option )						
Operation temperature	- 10 ÷ 40°C						
Protection Degree	IP31-42 ( Optional for other protection degree )						
Altitude level	1000m above sea						
<b>COMMUNICATION</b>							
Communication	RS232/RS485 Modbus serial port /RJ45/Dry Contactor (Option )						
Computer Setting	Software to Setting : Float Voltage Setting, Output current setting, battery current setting, automatic.....						
	Equal, boost, Float setting and Reset buttons.						
<b>OPTION</b>							
Event History	Last 250 events recorded on SD card						
Dropping Diod	1 step or 4 step						
Access to Batteries	Batteries and rectifier in the same cabinet with front access (optional)						
Alarm contact	Mains failure, Charger Failure, Low Battery, Hi Volt, Low Rectifier Volt, Line MCCB, Load MCCB, Batt MCCB, Over temperature						
Distribution Output	Reserve space for 5 MCB 2P						
Dimension WxDxH	600x600x1750	600x600x1750	700x700x1750	700x750x1750	600x600x1750	700x750x1750	700x750x1750
Weight (Kg)	250	300	350	380	300	350	400

**LCD MULTIFUNCTIONAL PANEL**

**MONITORS**

- ▶ AC voltage Input
- ▶ Current Input
- ▶ DC voltage output
- ▶ Boost Voltage
- ▶ Float Voltage
- ▶ Rectifier current
- ▶ Load current
- ▶ Battery current
- ▶ Hi DC
- ▶ Low DC

**ALARM**

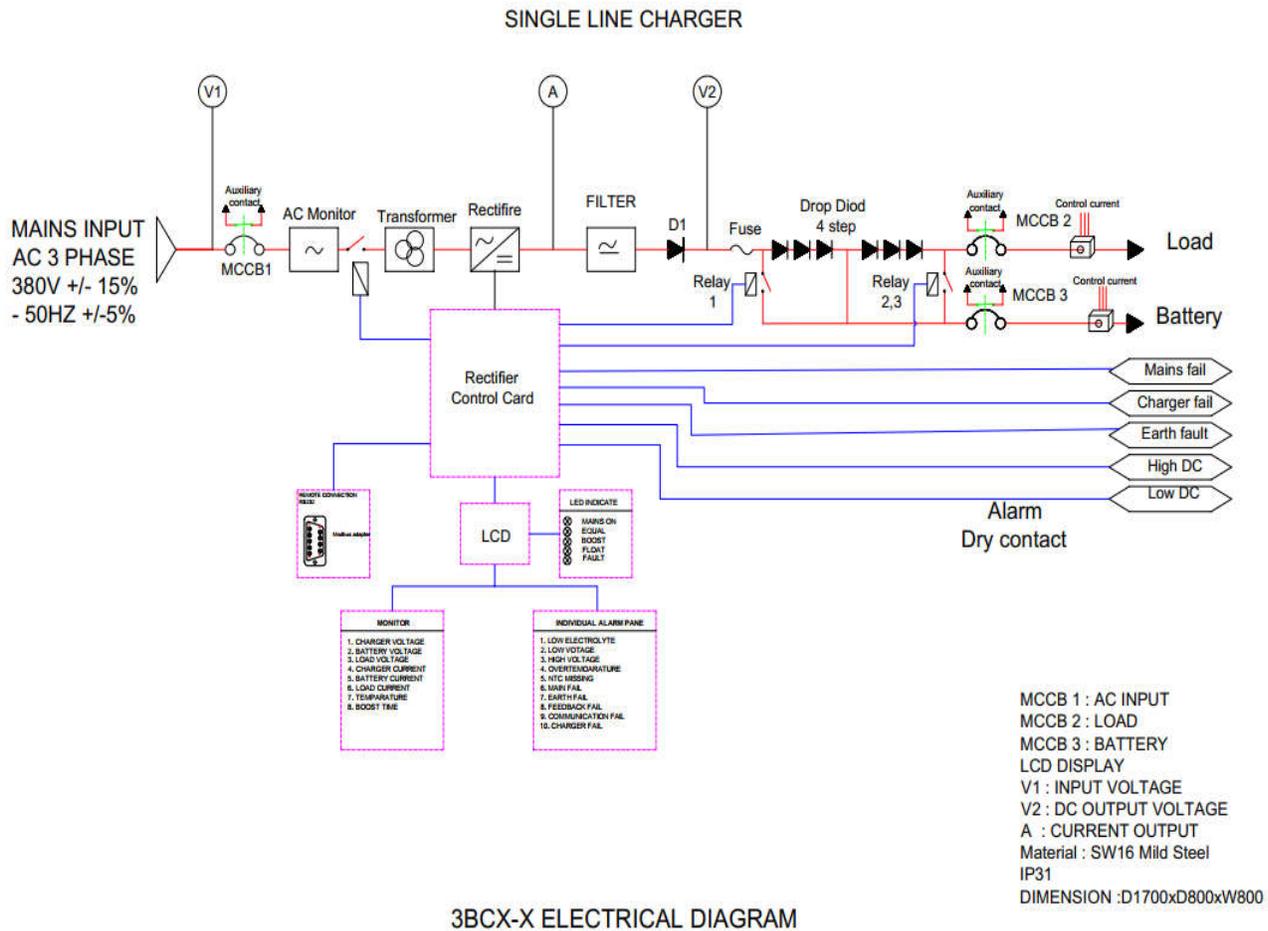
- ▶ Mains fail
- ▶ Charger fail
- ▶ Earth fault
- ▶ Hi DC
- ▶ Low DC
- ▶ Low Electrolyte
- ▶ Overload
- ▶ Low input volt
- ▶ Hi input volt



**LED FUNCTION**

- ▶ MAINS ON
- ▶ EQUAL
- ▶ BOOST
- ▶ FLOAT
- ▶ FAULT

**One Line Diagram**



For further information, please contact our local agent or distributor

*MARSTECH SYSTEM PTE LTD*  
[www.marstech.store](http://www.marstech.store)

MARSTECH