

Switch Mode Technology Battery Charger

PowerBridge TC

12-24-48-110-220VDC 10-300A

EnSmart Powerbridge TC series Battery Charger is a thyristor controlled static rectifier fully digital with constant voltage/constant current features. The input transformer built in provides a complete galvanic isolation from the grid. EnSmart PowerBridge TC battery chargers are widely used in different industries such as: Transformer Centers, Vessels and Yachts, Shipyards Rail Systems, Solar Power Plants, Automobile Services, Hospitals, Energy Generation, Transmission and Distribution Centers Oil and Gas and Mining.



Proven Thyristor Technology

- Full Bridge Thyristor Controlled Rectifier
- Microprocessor Controlled System
- 6 Pulse or 12 Pulse
- Front Panel LCD
- Digital Metering
- Automatic Battery Test

Highly Customizable

- Individual Outputs for Battery and Load
- LVD Contactor Separating Load and Battery
- Battery Rack Integration
- Higher Protection Class (IP31/IP42/IP54/IP65)
- DC +/- Ground Leakage Protection
- Redundancy with Active or Passive Load Sharing
- Battery Management System (BMS)
- Analog Hand Measuring Instruments
- Battery Charge Temperature Compensation
- ModBUS Communication



Technical Specifications

MODEL		
INPUT		
Phase	3 Phase	1 Phase
Voltage	380 V, 400 V, 415 V	220 V, 230 V, 240 V
Voltage Tolerance	±20%	
Frequency	50/60Hz (±5%)	
Power Factor	>0.8	
THDi	<30%	
OUTPUT		
Voltage	12 / 24 / 48 / 110 / 220 VDC	
Voltage Tolerance	±1%	
Current	Up to 300A	
Fast Charging (Boost) Voltage	Up to 120% of the Float Voltage	
Ripple	±1% RMS AC	
Dynamic Response	±2%	
Output Protection	Electronic Short Circuit / Over Voltage / Over Temperature / Over Current Reverse Voltage (Reverse Connection) Protection	
INDICATOR/COMMUNICATIONS		
LCD Indicator	Voltage, Current, Temperature and Status Information	
LED Indicator	Mains, Normal, Output, Fault	
Alarm	Mains Out of Limit, Fault (Adjustable)	
Communication	RS485 / Modbus Communication Feature	
NTC Input	Battery Temperature Compensation	
Parallel	Redundant Operation with Active or Passive Load Sharing Option	
Programmed Operation	Special Process is Applied for Each Process	
Input/Output Connection	Thermic Magnetic Switch / Copper Bus Bar	
GENERAL		
Topology	Isolation Transformer, Thyristor Phase Angle Controlled	
Electrical Standards	EN60146-1-1, EN60335-1 / EN60335-2-29/A2(LVD) EN61000-6-2 / EN61000-6-4 (EMC)	
Cooling	Forced (Fan)	
Isolation Voltage	2500VAC Output/Chassis Bridge	
Efficiency	>85%	
Operating Temperature	0-50°C	
Humidity	5%-90%	
Protection Class	IP20	
Altitude	Max. 2000m	

Highlights



ROBUST AND DURABLE
Heavy duty rugged design
for harsh industrial applications



FULLY MONITORED
Equipped with LCD, monitoring
and metering



EASY INSTALLATION
Low operational cost and
maintenance time