FTF-HP

High Power Energy Storage Test System

BITRODE
PARTNER IN POWER

Applications

- Battery Testing, including all advanced chemistries
- Inverter, UPS, Generator, and Flywheel Testing
- Fuel Cell discharge testing
- Drive Cycle Simulation Testing: FUDS, SFUDS, GSFUDS, DST and ECE-15L
- Cycle Testing of EV / HEV / PHEV Battery Packs
- Bi-directional DC Power Supply
- Microgrid Battery Conditioning: Increase lifespan, efficiency and performance battery banks
- Vehicle Drivetrain testing
- Super Capacitor and Ultra-capacitor testing

Highlights

The FTF-HP is by far the highest power test system in the market today. Scalable to provide a maximum output power of 4MW, the FTF-HP automated test system is designed to provide continuous operation in high power applications where precise control of current and voltage is required.

Key Features

- IGBT Design for efficiency and high performance operation
- Design for 100% duty cycle at max power
- Over-current, under-current, over-voltage and under-voltage protection standard on all models
- No performance loss under voltage control
- Quick disconnects on output leads
- Test control and data management with Bitrode's VisuaLCN™ Lab Client Software
- Constant Current (CC), Constant Voltage (CV), and Constant Power (CP) control
- Program execution is independent from the PC with VisuaLCN™ software
- CE compliant
- Discharge power recycled to AC line for cooler, energy-efficient operation
- Built-in isolation transformer, AC input filter, and DC output filter
- 3rd party software control through Remote Binary Protocol (RBP) via Ethernet connection. RBP sold separately.
- Safety features include circuit shutdown when the cabinet door is open
- Dual output (FTF2) in one cabinet with independent control circuit
- FTF systems configured at time of quote so you get the exact desired system and options

BITRODE HEADQUARTERS
9787 Green Park Industrial Drive
St. Louis, Missouri 63123 - USA
tel: +1 636 343-6112
fax: +1 636 343-7473
email: info@bitrode.com

www.bitrode.com

REGISTERED COMPANY ISO 9001

2018 Bitrode Corp. ™

FTF-HP

High Power Energy Storage Test System

BITRODE
PARTNER IN POWER

General Specifications

Number of circuits	1	2	Max 4 circuits
Voltage configurations:	33-500 / 40-700 / 58 -1000V (Zero volt optional)		
Max Current: (configurable)	1000A		Up to 4000A
Max Power: (per cabinet)**	300KW to 1MW (700V max) 300KW to 700KW (1000V max)		4MW 2.8MW
Accuracy:	0.1% of FS		
Peak Efficiency:	>92% (with typical 89-92)		
THD	≤5%		
Power Factor	0.98		
Current Rise Time: (10-90%)	≤ 8 ms (dependent on cabinet specs)		
Pulse Width	20ms		
Switching Time (Chg/Dchg, Dchg/Chg)	Zero		
Overshoot	Zero		
Data Acquisition Rate:	10ms (1ms optional)		
Interface	Ethernet		
Noise Output Level (at 12ft distance)	85 - 90 dB (typical at max power)		
Operation Temperature	0° to 40°C		
Input Voltages	380/400/415/480V ±10% (50/60 Hz)		
Dimensions (approx.)	75"W x 50"D x 78"H	108"W x 50"D x 78"H	TBD

* All specifications are subject to change without notice.
** Maximum cabinet power output is not available for all current/voltage combinations. Contact Bitrode for more details.

System Options

- Up to two current ranges per circuit
- Optional inputs (i.e. temperature, voltage and digital inputs/outputs) assignable to any channel
- Digital I/O with functions assigned per individual test program
- Expression-based program limit conditions
- DC Internal Resistance calculation
- Integration with Battery Management Systems: CAN
- Battery Simulation (BattSim) mode for electric motor/generator testing with user-specified controls: voltage, internal resistance, maximum power. Optional protection module available offers an added layer of protection to the FTF in case the inverter, motor controller, or other DUT connected to the FTF fails, loses control, or discharges an amount of energy outside the capabilities of the FTF. The energy is absorbed until the FTF can shut down in a safe controlled manner.
- Parallel BattSim mode for higher current requirements for specific configurations.
- Ramp charge/discharge
- Insulation Monitoring Device
- Constant Resistance Discharge
- Remote Input Output (RIO) box reduces excessive cable lengths when connecting to remote test station.
- Over 300 additional sensor connections available when adding external RIO box
- External Parallel Controller (PCC) can control up to four circuits for higher power and/or higher current test requirements
- Drive Cycle Conversion utility automates test program development from acquired battery usage data
- Zero Volt option allowing discharge capabilities down to zero volts
- Power PC option that allows 1ms data acquisition and expanded number of programming Steps
- Custom Hardware and Software engineering services
- Environmental chamber control
- Ramp up/down of voltage in Battsim Mode

BITRODE HEADQUARTERS
9787 Green Park Industrial Drive
St. Louis, Missouri 63123 - USA
tel: +1 636 343-6112
fax: +1 636 343-7473
email: info@bitrode.com
www.bitrode.com

2018 Bitrode Corp. ™