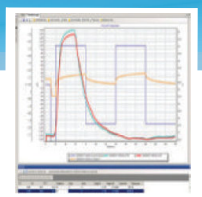
SBT Battery & Module Test System for voltage up to 150V



The SBT is a 16-Channel Battery Tester, ideal for testing and evaluating (P)(H)EV as well as industrial battery modules and packs, up to 150 Volt. Our equipment is designed for both laboratory and production scale applications, including End-of-Line testing.

By adding more test systems to the same network, the number of channels can easily be expanded.

Preparing a test can be done off-line on an existing desktop PC, running our LifeTest™ application. The End User can configure the specific test regime with individual charging or discharging steps, loops, jumps, subroutines, end conditions, ... For complex cycles, the software allows single-click imports via preformatted CSV files.

The system supports current, voltage, power and resistive based loads, with a minimum pulsing width of 1 msec. The SBT system will give you ultra fast switching capabilities between charging and discharging modes, guaranteeing you the accuracy you need.

Every channel is independent, microprocessor-controlled and features a dynamic electronic load to obtain a very high accuracy, reliability and flexibility. Using CAN bus interface the unit can communicate with the battery module or pack to obtain additional data, such as the individual cell voltages and temperatures.

Our test system captures all heat losses into the cooling water. The dissipated heat in the cooling water is evacuated directly outside the laboratory for a sustainable working space, free from noise and excess heat.

HIGHLIGHTS

16 independent channels, each with 60 Ampère charging & discharge capability

Choice between 45, 100 or 150 Volt configuration

Voltage regulated power supply for increased energy efficiency

ZERO heat dissipation in laboratory - low noise (<60dB)

Parallel channel switching mode for high current applications across all channels

DYNAMIC linear electronic load

4 automatic switched current ranges

High accuracy up to +/-0.005% FSD for voltage measurement
High accuracy up to +/-0.02% FSD for current measurement in each range

Ultra fast rise, fall and switching time between charging and discharging modes

Climate Chamber Control functionality

Autonomous calibration and temperature compensation guaranteeing extreme stability

Water cooling with heat sink & heat exchanger for accuracy and stability of high power

Ethernet communication with the LifeTest™ Server for fast data retrieval

Temperature input per channel for temperature monitoring

Fully programmable test profile in current, resistance, power and voltage

Internal Resistance measurement (AC & DC method)

Over 10.000 configurable program steps for simulating complex power demand simulations (e.g. Drive Cycle simulation with max 120.000 steps,...)

External Control via I/O for HIL applications, ...

Optional : Auxiliary I/O such as Analog Voltage, Temperature

SBT Battery & Module Test System
45, 100 or 150 Volt configurations

Technical specifications	SBT04560	SBT10060	SBT15060
Voltage			
Range 1:	0 to 45V	0 to 100V	0 to 150 Volt
Range 2:		0 - 30V	
Measurement Accuracy:		±0.03% FSD (Full Scale Deviation) (±0.005% FSD with default filter)	
Resolution:		0.5mV (range 30V), 2.5mV (range 45/100/150V)	
Input Impedance:		> 1 MΩ	
Current			
Range:		0 to 60 A (4 automatic switched current ranges 60 mA, 600 mA, 6A and 60A)	
Min Battery Voltage at full power discharge		8 - 10 Volt depending on setup	
Measurement Accuracy:		±0.02% FSD in each range	
Control Accuracy:		±0.03% FSD in each range	
Resolution:		0.002% FSD: 1µA (range 60mA), 10µA (range 600mA), 100µA (range 6A), 1mA (range 60A)	
Capacity Calculation:		Accuracte on board calculation of capacity values	
Maximum Discharge/ Charge Power:		3kW per channel	
Features			
Measurement:		4-point measurement, differential input	
Sampling Parameters for Storage:		Δvoltage, Δcurrent, Δtime, End of Event	
Sampling Frequency:		1 msec	
Minimum Pulse Width:		1 msec	
Rise, Fall & Switch Time:		< 1 msec	
Buffer Memory:		> 500k measurements per channel	
AD converters:		2 x 18 bit effective conversion for Voltage and Current	
Calibration:		Automatic integral digital calibration (based on internal Reference Voltage)	
On-board inputs:		1 Temperature sensor input (NTC or PTC)	
Charge / Discharge Modes:		Constant Current, Voltage, Power, Resistance	
End Conditions:		Time, Voltage, Current, Temperature (+ derivatives), Ch. & Disch. Capacity, Timers, Self-Created Variables, ...	
Internal Resistance Measurement:		DC method with programmable current & AC method (1kHz)	
Climate Chamber Control:		TCP/IP, RS485, RS232, ModBus, …	
Auxiliary IO:		Analog and Digital In- and Outputs (e.g. Analog Voltage In- and Output, Digital In- and Output, Temperature Input)	
Other Specifications			
Dimensions:		1440mm Width x 1985mm Height x 800mm Depth	
Electrical:		3x185…260VAC (Δ) + PE / 3x320…450VAC (Y) + N(Y) + PE 50/60 Hz	
Max. Power Consumption:	62 kW	62 kW	62 kW
Weight:		600 kg	

EMEA

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more info