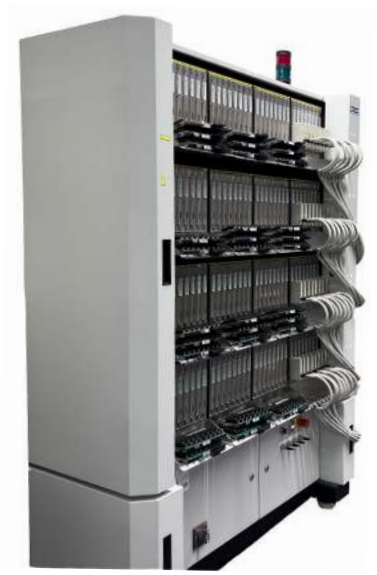
CT0501 Cell Tester

For High Volume Low Power Cell Testing



HIGH VOLUME, LOW POWER

- High Channel Density of up to 1024 channels per rack
- Accurate Low Power Simulations including Cycles and Pulses
- Reliable & Real Time Measurements in Multiple Ranges
- Application Specific In & Output Extensions

Product Details

The CT0501 is a 1024-channel low power cell tester, ideal for high volume testing R&D coin cells, single layer pouch or 18650 cells in cell development and QC labs. This test equipment can be used in several areas, from cell formation to quality control and lifecycle testing.

Preparing a test can be done off-line on a PC or Laptop, running our LifeTest™ application. The end user can configure specific test profiles with cell dependent parameters. The LifeTest™ application communicates with the cell tester over Ethernet to load the test conditions and upload the measurement data.

Due to the high-volume architecture tests are started per test board of 8 cells. Although the Test Regimes are common for the board, channels are controlled individually.

The channels use Linear Power Mosfets to obtain a very high accuracy and speed. 1024 channels of 5V, 500mA are mounted in 1 test rack. The system comes standard with 3 selectable current ranges to fit the current requirements of the cells to be tested. Optionally, you can add analog and digital in-and-outputs to the system using the PEC auxiliary I/O modules (e.g. temperature sensors, voltage inputs, pressure sensors, digital output etc.)

The system supports current, voltage, power and resistive based loads, with a minimum pulsing width of 10 msec. Our CT0501 system will give you ultra-fast switching capabilities between charging and discharging modes, guaranteeing the accurate simulations you need.

Highlights

- 1024 independent 5V/500mA channels per rack
- 3 selectable current ranges
- High accuracy of ± 0.03% FSD
- 10 msec sample timing
- Climate Chamber Control functionality
- Redundant voltage measurement
- Ultra-fast rise, fall and switching time between charging and discharging modes
- Autonomous calibration and temperature compensation guaranteeing extreme stability
- Liquid cooling with central heat exchanger for accuracy and stability at high power
- Optional : Auxiliary I/O such as analog voltage, temperature & digital input/analog voltage and digital output

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Technical Specifications

Voltage

Range	0 to +5 Vdc
Control accuracy	± 0.05% FSD (Full Scale Deviation)
Measurement accuracy	± 0.03% FSD (Full Scale Deviation)
Resolution	200µV
Input impedance	10 MΩ

Current

Range	0 to 500 mA (3 selectable current ranges: 125mA, 250mA and 500mA)
Control accuracy	± 0.03% FSD in each range
Measurement	± 0.02% FSD in each range
Resolution	2µA Measurement Value
Capacity calculation	Accurate on board calculation of capacity values

Features

Measurement	4-point measurement, differential input
Sampling parameters for storage	Δvoltage, Δcurrent, Δtime, End of Event
Sampling frequency	10 msec
Minimum pulse width	10 msec
Rise, fall & switch time	< 1 msec
Calibration	Automatic integral digital calibration (based on internal reference voltage)
Charge / Discharge modes	Constant Current, Voltage, Power, Resistance etc.
End conditions	Time, Voltage, Current, Ch. & Disch. Capacity, Timers, Self-Created Variables
Climate chamber control	Temp, humidity, rise rate
Auxiliary IO (optional)	Analog and Digital In-and-Outputs (e.g. Analog Voltage In-and-Output, Digital In-and-Output, Temperature Input)

Other specifications

Dimensions	(W x D x H) 1440 mm x 772 mm x 1990 mm/ (W x D x H) 56.69''x 30.39" x 78.34"
Electrical	3x 320…450 Vac +N +PE - 50/60 Hz
Max. power consumption	4 kW
Weight	± 577 kg / ± 1272lbs

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