

# ACT0550 Cell Tester For High Power Cell Testing



## ACCURACY & SPEED

- High-Speed Dynamic Cell Testing
- Accurate Simulations Including Drive Cycles, Pulses and High Precision Cycling
- Reliable & Real Time Measurements in Multiple Ranges
- Application Specific In & Output Extensions
- Flexible Channel Configuration from 50A to 4000A

## Product Details

The ACT0550 is a 80-channel high power cell tester, ideal for testing and evaluating cells for high speed and accuracy demanding applications such as : electric vehicles, grid storage, consumer electronics. This test equipment can be used in several areas, from Research & Development to production quality control and incoming goods inspection.

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.

The channels use Linear Power Mosfets to obtain a very high accuracy and speed. 80 channels of 5V, 50A are mounted in 1 test rack and can be paralleled as needed up to a maximum of 4000A.

The system comes standard with 4 current ranges that are automatically switched. Optionally, you can add analog and digital in-and-out-puts 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 1 msec. Our ACT0550 system will give you ultra-fast switching capabilities between charging and discharging modes, guaranteeing the accurate simulations you need.

## Highlights

- ✓ 80 independent 5V/50A channels per rack
- ✓ Parallel switching across all channels
- ✓ 4 automatic switched current ranges
- ✓ High accuracy of +/- 0.03% FSD
- ✓ 1 msec sampling 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
- ✓ Temperature input per channel for temperature monitoring
- ✓ Internal Resistance measurement (AC & DC method)
- ✓ Optional : Auxiliary I/O such as analog voltage, temperature & digital input/analog voltage and digital output

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## For High Power Cell Testing



### Technical Specifications

#### Voltage

Range	0 to +5 Vdc
Control accuracy	± 0.05% FSD (Full Scale Deviation)
Measurement accuracy	± 0.005% FSD (Full Scale Deviation)
Input impedance	10 MΩ

#### Current

Range	0 to 50 A (4 automatic switched current ranges 50 mA, 500 mA, 5A and 50A)
Control accuracy	± 0.03% FSD in each range
Resolution	1μA (range 50mA), 10μA (range 500mA), 100μA (range 5A), 1mA (range 50A)
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	1 msec
Minimum pulse width	1 msec
Rise, fall & switch time	< 1 msec
Memory	128 MB for test regime and data samples (per 5 channels)
Calibration	Automatic integral digital calibration (based on internal reference voltage)
On-board inputs	1 Temperature sensor input per channel
Charge / Discharge modes	Constant Current, Voltage, Power, Resistance etc.
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 fixed frequency)
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	3x185...260VAC (Δ) + PE / 3x320...450VAC (Y) + N(Y) + PE 50/60 Hz
Max. power consumption	35 kW
Weight	± 577 kg / ± 1272lbs



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