

Universal Rechargeable Battery Internal Resistance Tester For Battery Internal Resistance Testing

Item Number: DC18



Introduction

Universal rechargeable battery internal resistance tester measures cell resistance voltage and temperature with 1 microohm resolution, adaptive noise avoidance, pass warning fail evaluation, data storage, USB export, and Bluetooth connectivity for dependable battery inspection.

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Application	Description	Key Benefit
Rechargeable cell incoming inspection	Measure internal resistance and voltage of received cells before they enter laboratory, production, or assembly processes.	Supports consistent acceptance checks using defined resistance and voltage criteria.
Battery cell matching	Compare resistance, voltage, and measured temperature among cells selected for a common pack or test group.	Helps technical teams identify electrical variation within a candidate cell population.
Battery pack maintenance	Assess accessible battery terminals and connections during service inspections, alongside voltage and temperature checks.	Brings multiple condition indicators together in a portable measurement workflow.
Cell manufacturing quality control	Apply preset PASS, WARNING, and FAIL thresholds during process inspection or final quality assessment.	Provides a repeatable decision framework for screening and segregation.
Battery R&D characterization	Record resistance, voltage, and temperature data while evaluating rechargeable cell designs or test conditions.	Enables detailed comparison with 1 $\mu\Omega$ resistance and 1 mV voltage resolution.
Module and interconnect evaluation	Check low-resistance conductive paths, tabs, busbars, and accessible pack-level connections using the four-terminal method.	Reduces lead-resistance influence in low-resistance measurements.
Field service and audit work	Perform portable checks at service locations, pilot lines, laboratories, or customer sites, then upload stored results.	Battery operation, automatic storage, USB export, and Bluetooth support practical data capture.
Research laboratory measurement	Use one instrument for resistance, voltage, and NTC temperature measurement during battery-related experimental work.	Consolidates essential electrical and thermal measurements in a compact unit.

Parameter	Specification
Product Item Number	DC18
Functions	Battery internal resistance measurement, battery voltage measurement, temperature measurement
Noise avoidance frequency	Yes; automatic variable-frequency range 920Hz~1080Hz
Accuracy-guaranteed temperature and humidity	23°C $\pm$ 5°C, 75%rh or less
Power supply	DC 3.7V lithium battery
Resistance resolution	1 $\mu\Omega$
Voltage resolution	1 mV
Temperature resolution	0.1°C
Internal resistance measurement range	0.000m Ω ~3.100 Ω (composed of 4 ranges)

Parameter	Specification
Voltage measurement range	0.000V~±71.00V (composed of 2 ranges)
Temperature measurement range	-10.0°C~60.0°C (single range)
Maximum input voltage	DC 70V (between + measurement terminal and - measurement terminal); AC input is not permitted
Internal resistance measurement method	1KHz AC 4-terminal test method; open-terminal voltage 3V max; measurement current 2.0mA~200mA (measurement current differs by range)
Temperature measurement method	NTC temperature sensor (10KΩ at 26°C)
A/D conversion method	Successive approximation type
Display update frequency	5 times/second
Response time	200ms
Measurement time	Approximately 2 seconds
LCD size	70.1mm×52.6mm / 3.5 inches (320*240 resolution, 16-bit true color screen)
Instrument dimensions	Length × width × height: 190mm×121mm×51mm
USB interface	Available; stored data can be uploaded to a computer for saving and printing
Bluetooth connection	Available
Hold and storage functions	Manual hold and storage; automatic hold and storage
Measurement judgment function	PASS, WARNING, and FAIL judgment thresholds can be preset
Battery status display	Five-level battery display; reminder to recharge when battery voltage is low
Automatic shutdown	Approximately 15 minutes after power-on with no operation; can be disabled in settings
Power consumption	300mA MIN / 500mA MAX
Mass	Instrument: 480g (including battery)
Operating temperature and humidity	-10°C~40°C; 80%RH or less
Storage temperature and humidity	-20°C~60°C; 70%RH or less
Insulation resistance	20MΩ or more (between circuit and enclosure at 500V)
Withstand voltage	AC 3700V/RMS (between circuit and enclosure)
External magnetic field	≤ 40A/m
External electric field	≤ 1V/m
Applicable safety standard	IEC 61010