

Battery Internal Resistance Tester

Item Number: DC16



Introduction

High precision battery internal resistance tester measures AC IR and DC voltage with four wire accuracy, 10 microohm resolution, 66 readings per second, programmable sorting, and automation ready SCPI Modbus connectivity for lithium, storage, production, and research testing.

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Application	Description	Key Benefit
Lithium battery cell R&D	Measure AC internal resistance and DC voltage on lithium battery samples during product development and electrical characterization.	Simultaneous dual-parameter testing supports faster comparison of cell samples.
Dry-cell incoming inspection	Screen dry batteries before use in manufacturing, laboratory evaluation, or quality-control workflows.	Four-wire resistance measurement supports consistent low-resistance evaluation.
Cylindrical and pouch cell production	Test cylindrical cells and pouch cells at manual stations or within automated handling equipment.	Fast sampling up to 66 times/s and Handler I/O support higher-throughput test operations.
Power battery pack verification	Check resistance and voltage characteristics of power battery packs used in battery manufacturing and service inspection.	The 30 Ohm resistance range and 20 V voltage range cover relevant electrical test values.
Energy-storage battery testing	Evaluate energy-storage batteries and accumulators for research, production, or inspection processes.	Comparator sorting provides structured Hi/IN/Lo classification for repeatable decisions.
Button-cell quality control	Inspect button cells with fine resistance resolution and controlled measurement current.	The 300 mOhm range offers 10 microohm resolution for detailed screening.
Nickel-metal hydride and nickel-cadmium battery testing	Measure rechargeable NiMH and NiCd batteries during product validation or routine quality checks.	Automatic or manual resistance ranging simplifies testing across varying resistance levels.
Supercapacitor ESR measurement	Measure the ESR AC impedance of supercapacitor batteries using the instrument's AC resistance capability.	A dedicated 1 kHz AC source provides a defined test condition for comparative evaluation.

Parameter	DC16 Specification
Product type	Battery Meter
System composition	Main tester and test leads
Measurement parameters	AC internal resistance (AC-IR), DC voltage (DC-V)
Resistance display range	0.01mOhm-310hm
Voltage display range	1mV-20V
Display	3.5 inch TFT color LCD
Signal source	1kHz+/-0.2Hz AC
AC-IR resistance ranges	300mOhm; 30hm; 300hm
300mOhm range maximum reading	310.00
30hm range maximum reading	3.1000
300hm range maximum reading	31.000

Parameter	DC16 Specification
300mOhm range resolution	10microOhm
30hm range resolution	100microOhm
300hm range resolution	1mOhm
300mOhm range measurement current	10mA
30hm range measurement current	1mA
300hm range measurement current	100microA
AC-IR accuracy	+/-0.5%rdg. +/-0.02FS; add +/-2dgt at medium/fast (M/F); add +/-3dgt at extra-fast (EX.F)
Resistance range selection	Three ranges; automatic and manual
DC-V range	20V
DC-V maximum reading	+/-20.000V
DC-V resolution	1mV
DC-V accuracy	+/-0.05%rdg. +/-0.002FS; add +/-0.001FS at medium/fast; add +/-0.002FS at extra-fast
Sampling rate, slow (S)	3 times/s
Sampling rate, medium (M)	10 times/s
Sampling rate, fast (F)	30 times/s
Sampling rate, extra-fast (EX.F)	66 times/s
Correction	Full-range short-circuit zeroing
Comparator records	30 programmable records
Comparator sorting	10-grade sorting; grade counting
Comparator judgment	Resistance and voltage Hi/IN/Lo; combined judgment; interface display; indicator light; beeper; external I/O output signal
Beeper	GD/NG/OFF
Trigger modes	Internal trigger, manual trigger, external trigger, auto trigger, BUS
Communication interfaces	RS232 / RS485 / LAN (optional) / Handler (I/O)
Communication protocols	SCPI / MODBUS
RS232 and RS485 protocol support	Compatible with SCPI and Modbus
Optional LAN protocol support	SCPI
Power supply voltage	AC 100V-240V
Power supply frequency	47Hz-63Hz
Maximum power	<15VA
Dimensions	325mm x 215mm x 80mm (LWH)
Dimensions with foot pads	325mm x 215mm x 96.5mm (LWH)
Weight	3kg