Temperature Controlled Battery Short Circuit Test Chamber

Item Number: DA15

Introduction

Temperature controlled battery short circuit test chamber delivers 400A DC fault simulation, PLC touchscreen automation, stable thermal control, and protected observation for compliance focused battery safety laboratories and industrial qualification programs requiring repeatable high-current verification under controlled elevated-temperature conditions.

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Application	Description	Key Benefit
Lithium-ion cell short-circuit evaluation	Applies a controlled high-current short circuit to individual rechargeable cells while monitoring voltage, current, and temperature.	Supports repeatable 400A fault-condition assessment with 100ms electrical acquisition.
Battery module safety validation	Evaluates module behavior during remote-actuated short-circuit testing at an adjustable chamber temperature.	Combines electrical fault simulation and RT~80℃ chamber control in one test setup.
Battery pack development	Supports development teams assessing pack-level responses where a protected enclosure, reinforced door, and smoke extraction are required.	Improves operator visibility through a protected viewing window and external reflected lighting.
UN38.3-oriented battery qualification	Provides a platform designed with short-circuit test requirements referenced alongside UN38.3 and related battery safety standards.	Gives qualification teams a dedicated, remotely controlled high-current test environment.
IEC, EN, GB, and UL laboratory testing	Enables laboratories to organize battery short-circuit procedures around the GB, IEC, EN, UL, MT/T 1051-2007, and GB/T 2900.11-1988 references cited for the system.	Helps align equipment capability with common safety-test frameworks without relying on a general-purpose chamber.
Thermal fault-response studies	Records two temperature channels during electrically induced fault testing while the enclosure maintains a controlled setpoint.	Supports direct comparison of thermal behavior with measured current and voltage conditions.
Battery manufacturing quality investigations	Helps quality teams reproduce high-current electrical abuse conditions when investigating cell, module, or pack safety performance.	Remote operation at up to 7m with no solid obstruction increases separation between personnel and the test enclosure.

Parameter	Specification
Site-facing identifier	DA15
Test purpose	Remote-controlled high-current battery short-circuit testing designed around GB/IEC/EN/UN38.3/UL/MT/T 1051-2007 and GB/T 2900.11-1988 requirements
System configuration	Pneumatic contactor, temperature-control chamber, and remote controller
Display and control method	PLC touchscreen control
Maximum short-circuit current	400A
Device internal resistance	80±20mΩ (load current 400A)
Remote-control distance	7m with no solid obstruction
Mechanical life	300,000 cycles

Parameter	Specification
Chamber temperature range	RT~80℃, adjustable
Temperature fluctuation	±0.5℃
Temperature deviation	±2℃
Temperature-control functions	Fully automatic constant temperature; rapid temperature compensation; PID+S.S.R heating
Circulation system	Forced horizontal air-delivery circulation
Motor	High-temperature long-shaft motor
Protection functions	Over-temperature protection; automatic overload power cutoff
Timer function	Power-disconnection alarm indication when temperature reaches the set time
Voltage measurement range	0~10V
Voltage measurement accuracy	±0.2%F.S
Voltage acquisition rate	100ms, 1 channel
Current measurement range	0~400A DC
Current measurement accuracy	±0.5%F.S
Current acquisition rate	100ms, 1 channel
Temperature acquisition range	0℃~500℃
Temperature acquisition accuracy	1.5℃
Temperature acquisition rate	100ms, 2 channels
Test area	1 independent test area
Test inner chamber size stated in application description	W500xD500xH600mm
Inner chamber size stated in technical parameters	W600 X D500 X H600mm
Inner chamber material	SUS304 stainless steel
Outer dimensions	W940 X D1250 X H1510mm (subject to actual final dimensions)
Cabinet material	Painted cold-rolled steel plate
Viewing window size	390 X 360mm, thickness 20mm
Viewing-window protection	Explosion-proof film and protective steel mesh
Front-door construction	Reinforced design; exposed hinge on left side; heavy-duty door locking clasp on right side
Lighting	Light installed at the cabinet viewing window, reflecting into the inner chamber
Exhaust system	Top-mounted blower; rear-extending smoke-exhaust pipe
Exhaust-pipe diameter	100mm
Test ports	One 50mm-diameter test port on each left and right side of the cabinet; may also be used for voltage measurement
Base and mobility	Four universal casters with fixed foot cups
Power supply	AC 220V, 50HZ single phase
Power	3.0KW
Indicator	One three-color light