IEC 60335-1 Hot Winding Resistance Meter

2-channel winding temperature rise tester for cold and hot resistance measurement

IEC 60335-1 Clause 11 | 0.5 Ohm - 2000 Ohm Auto-ranging | PC Software Recording

TEST OBJECT
Motor and transformer windings

MEASUREMENT
Cold / hot resistance for temperature rise

APPLICATION
R&D, type test preparation and QC

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Technical Specifications

The IEC 60335-1 Hot Winding Resistance Meter is designed for resistance-based winding temperature rise evaluation of motors, transformers and similar electromagnetic components used in household and similar electrical appliances.

Measurement Performance

Parameter	Specification	Notes
Applicable standard	IEC 60335-1 Clause 11	Temperature rise testing for household and similar electrical appliances
Test object	Motor windings / transformer windings	Confirm according to appliance structure and product-specific standard
Measurement channels	2 channels	Supports comparative or multi-point winding measurement
Resistance range	0.5 Ohm to 2000 Ohm	Auto-ranging measurement for different winding resistance levels
Range configuration	0.5 Ohm, 20 Ohm, 200 Ohm, 2000 Ohm	Four ranges for low and high resistance windings
Cold resistance accuracy	+/-0.1% RD + 0.1% FS	For cold-state resistance measurement
Hot resistance accuracy	+/-0.15% RD + 0.15% FS	For hot-state resistance measurement
Thermal response time	< 30 seconds	Helps reduce delay during hot resistance measurement
Test duration	Up to 99 h 59 min 59 s	Suitable for long-duration temperature rise testing
Temperature measurement	0 deg C to 50 deg C, +/-0.5 deg C	Ambient temperature monitoring for calculation reference

System Configuration

Parameter	Specification	Notes
Display	LCD touch screen display	Easy operation and direct parameter reading
Calculation function	Automatic winding temperature rise calculation	Based on cold and hot resistance change method
Data function	PC software for data recording and curve display	Supports test data management and trend review
Data interface	Serial port communication	For connection to PC software
Report output	Optional printer support	Confirm according to configuration requirement
Power consumption	< 15 W	Low power design to reduce measurement influence
Power supply	AC 220 V +/-10%, 50/60 Hz	Standard laboratory power supply; confirm special voltage before order

Configuration note

The final test setup, operating condition, stabilization time, ambient temperature correction, winding material coefficient and acceptance criteria should follow the selected IEC 60335-1 edition, product-specific standard and laboratory quality procedure.

Testing Principle

The winding resistance of copper or aluminum conductors changes as temperature changes. The meter measures cold resistance before operation and hot resistance after the required operating condition, then supports automatic temperature rise calculation based on resistance variation. Low test current is used to reduce additional self-heating influence during measurement.

1 Cold resistance — 2 Operate product — 3 Hot resistance — 4 Temperature rise

Typical Applications

- Temperature rise testing of air conditioner, refrigerator, washing machine and electric fan motors
- Transformer winding resistance and temperature rise evaluation
- Household appliance R&D verification and design validation
- IEC 60335-1 type testing preparation and internal laboratory confirmation
- Production quality control and long-duration thermal trend recording

Measurement integrity

For reliable winding temperature rise results, confirm stable ambient conditions, low-resistance test lead connection, correct winding material coefficient, proper hot-resistance measurement timing and regular instrument calibration according to the laboratory quality system.

Product Gallery

Angled product view with front touch screen and handle

Front view for panel layout and operating interface reference

Side angled view showing enclosure structure and bench-top format

Before Quotation, Please Confirm

Applicable standard
IEC 60335-1 Clause 11, product-specific standard or internal test procedure

Test object
Motor winding, transformer winding or other electromagnetic component

Resistance range
Expected cold resistance and hot resistance values

Data requirement
PC recording, curve display, report output or printer requirement

Power supply
Required voltage and frequency for the laboratory

Documentation
Calibration certificate, inspection report, user manual or other quality document

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Product link

https://www.dgkingpo.com/product/iec-60335-1-hot-winding-resistance-meter/