

RMO-TD

Transformer winding resistance meters



Dynamic resistance of the tap changer with 0.1 ms sampling

RMO-TD

Winding ohmmeter and tap changer analyser

amperis

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Winding resistance, tap changer analysis and demagnetization in a single device.

Product overview



RMO25TD, RMO40TD, RMO60TD

Top view: connection panel and controls of the device

Two instruments in one

The series joins the winding ohmmeter and the on-load tap changer analyser: three models — RMO25TD, RMO40TD and RMO60TD — inject up to 60 A with 55 V output, measure three windings in series at once and analyse the tap changer without discharging the transformer between taps. The built-in tap changer control unit drives the OLTC from the instrument itself.

DVtest at 0.1 ms

The dynamic resistance measurement records the current with 0.1 ms sampling and catches every drop during the transition; the ripple, the switching time and the tap changer motor current — on a dedicated channel — expose faulty contacts and selectors.

Main features

- Range from 0.1 $\mu\Omega$ to 100 k Ω with $\pm(0.1\% + 0.1\%)$ accuracy.
- Three measuring channels and one Pt100 temperature channel.
- Built-in tap changer control unit.
- Automatic single-phase demagnetization of the core.
- Heat Run test with hot-spot extrapolation.
- Automatic discharge circuit plus thermal and overcurrent protection.
- Memory for 1000 measurements (5000 optional); IP67 with closed lid.



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Applications and software



Device ready for the test with the accessories connected

Applications

- Windings of power and distribution transformers and autotransformers.
- Dynamic resistance (DVtest) of on-load tap changers.
- Tap changer motor current on a dedicated channel.
- Generators, motors and non-inductive objects such as busbars or splices.
- Demagnetization after the test and verification before commissioning.

PC software for control and analysis

The included PC software programs the complete sequence — measure, change tap, measure again —, plots the dynamic resistance graphs with the motor current overlaid, computes ripple and transition times, solves the Heat Run test and exports reports to Excel, PDF or Word.

Automatic demagnetization

After the DC measurement the device removes remanent magnetism by reversing the polarity of the controlled current with decreasing magnitude down to zero, which prevents high inrush currents and erroneous later measurements.



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RMO-TD – MEASUREMENT DATA

Measuring range	0.1 $\mu\Omega$ – 100 k Ω
Typical accuracy	$\pm(0.1\% \text{ rdg} + 0.1\% \text{ FS})$ up to 1.999 k Ω ; $\pm(0.2\% + 0.1\%)$ up to 9.999 k Ω ; $\pm(1\% + 1\%)$ up to 100 k Ω
Resolution	From 0.1 $\mu\Omega$ (up to 999.9 $\mu\Omega$) to 10 Ω (up to 99.99 k Ω), depending on the scale
Test current	5 mA – 60 A DC depending on model; output voltage up to 55 V DC
DVtest (DRM)	0.1 ms sampling; tap changer motor current channel
Temperature	1 Pt100 class B channel; -50 to +180 °C; 0.1 °C resolution
Memory	1000 positions (5000 optional)
Communication	USB; optional RS232 and Bluetooth

Specifications valid at +25 °C with the standard accessories.

The manufacturer reserves the right to change the specifications without prior notice.



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RMO-TD – TECHNICAL SPECIFICATIONS

	RMO25TD	RMO40TD	RMO60TD
Test current	5 mA – 25 A	5 mA – 40 A	5 mA – 60 A
Output power	700 W	900 W	1000 W
Consumption	1800 VA	2250 VA	2250 VA
Output voltage	Up to 55 V DC	Up to 55 V DC	Up to 55 V DC
Dimensions	478 × 194 × 389 mm	478 × 194 × 389 mm	478 × 194 × 389 mm
Weight	13 kg	13 kg	13.2 kg

Common: supply 90 – 264 V AC, 50/60 Hz; backlit 4 × 20 character LCD; optional 58 mm thermal printer; IP67 with the lid closed; operation -20 to +60 °C; storage -40 to +70 °C; humidity 0 – 95% non-condensing. Standards: safety EN 61010-1; EMC EN 61326-1; overvoltage category II; pollution degree 2. Specifications valid at +25 °C.



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