

RMO-TT

Transformer winding resistance meters



RMO40TT, RMO60TT

Up to 100 A with tap changer vibration analysis

RMO-TT

Tap changer analyser and winding ohmmeter

amperis

www.amperis.com

 C/ María Barbeito, 14
27003, Lugo, Spain

 **Contact**
T [+34] 982 20 99 20
info@amperis.com | www.amperis.com

The most complete transformer diagnosis: resistance, tap changer and vibrations.

Product overview



RMO100TT

RMO100TT: top view of the connection panel

The 100 A portable

The three models of the series — RMO40TT, RMO60TT and RMO100TT — measure the winding resistance of inductive objects with up to 100 A and 55 V output; the largest is the only portable winding ohmmeter on the market with that current. The three measuring channels test primary, secondary and tertiary windings in series, and the built-in tap changer control unit drives the tap changer from the device itself.

Diagnosis through vibrations

Besides the DVtest dynamic resistance with 0.1 ms sampling and the motor current channel, an accelerometer on the external tank turns every operation into a mechanical signature: a non-intrusive way to detect looseness, wear and abnormal operating times.

Main features

- Range from 0.1 $\mu\Omega$ to 100 k Ω with $\pm(0.1\% + 0.1\%)$ accuracy.
- Four Pt100 temperature channels for the Heat Run test.
- Vibration channel with ICP accelerometer (± 50 g).
- Built-in tap changer control unit.
- Automatic single-phase demagnetization of the core.
- Automatic discharge circuit plus thermal and overcurrent protection.
- Memory for 1000 measurements (5000 optional); IP67 with closed lid.



C/ María Barbeito, 14
27003, Lugo, Spain

Contact

+T [+34] 982 20 99 20
info@amperis.com | www.amperis.com

Applications and software



RMO40TT, RMO60TT

RMO60TT with the lid open, ready to connect

Applications

- Windings of power and distribution transformers and autotransformers.
- Dynamic (DVtest) and vibration analysis of on-load tap changers.
- Tap changer motor current on a dedicated channel.
- Generators, motors, busbars and high-current joints.
- Heat Run test with four simultaneous temperatures.

PC software for control and analysis

The included PC software programs the complete sequence of measurements and tap changes, overlays dynamic resistance, motor current and vibration on the same graph, computes ripple and transition times and exports reports to Excel, PDF or Word.

Heat Run test

When the transformer heating is switched off, the device is connected to up to three windings and measures the resistance at regular intervals while logging four temperatures; with this data it extrapolates the resistance and the hot-spot temperature to the exact switch-off instant.



C/ María Barbeito, 14
27003, Lugo, Spain

✉ Contact

+T [+34] 982 20 99 20
info@amperis.com | www.amperis.com

RMO-TT — 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 – 100 A DC depending on model; output voltage up to 55 V DC
DVtest (DRM)	0.1 ms sampling; tap changer motor current channel
Vibration	ICP accelerometer, ± 100 mV/g, ± 50 g; 0.1 ms resolution
Temperature	4 Pt100 class B channels; -50 to +180 °C; 0.1 °C resolution
Memory	1000 positions (5000 optional)

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

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



C/ María Barbeito, 14
27003, Lugo, Spain



Contact

+T [+34] 982 20 99 20
info@amperis.com | www.amperis.com

RMO-TT — TECHNICAL SPECIFICATIONS

	RMO40TT	RMO60TT	RMO100TT
Test current	5 mA – 40 A	5 mA – 60 A	5 mA – 100 A
Output power	900 W	1000 W	1300 W
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	543 × 218 × 427 mm
Weight	13.5 kg	13.5 kg	15.5 kg

Common: consumption 2250 VA; supply 90 – 264 V AC, 50/60 Hz; backlit 4 × 20 character LCD; USB (optional RS232 and Bluetooth); 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.



C/ María Barbeito, 14
27003, Lugo, Spain



Contact

+T [+34] 982 20 99 20
info@amperis.com | www.amperis.com