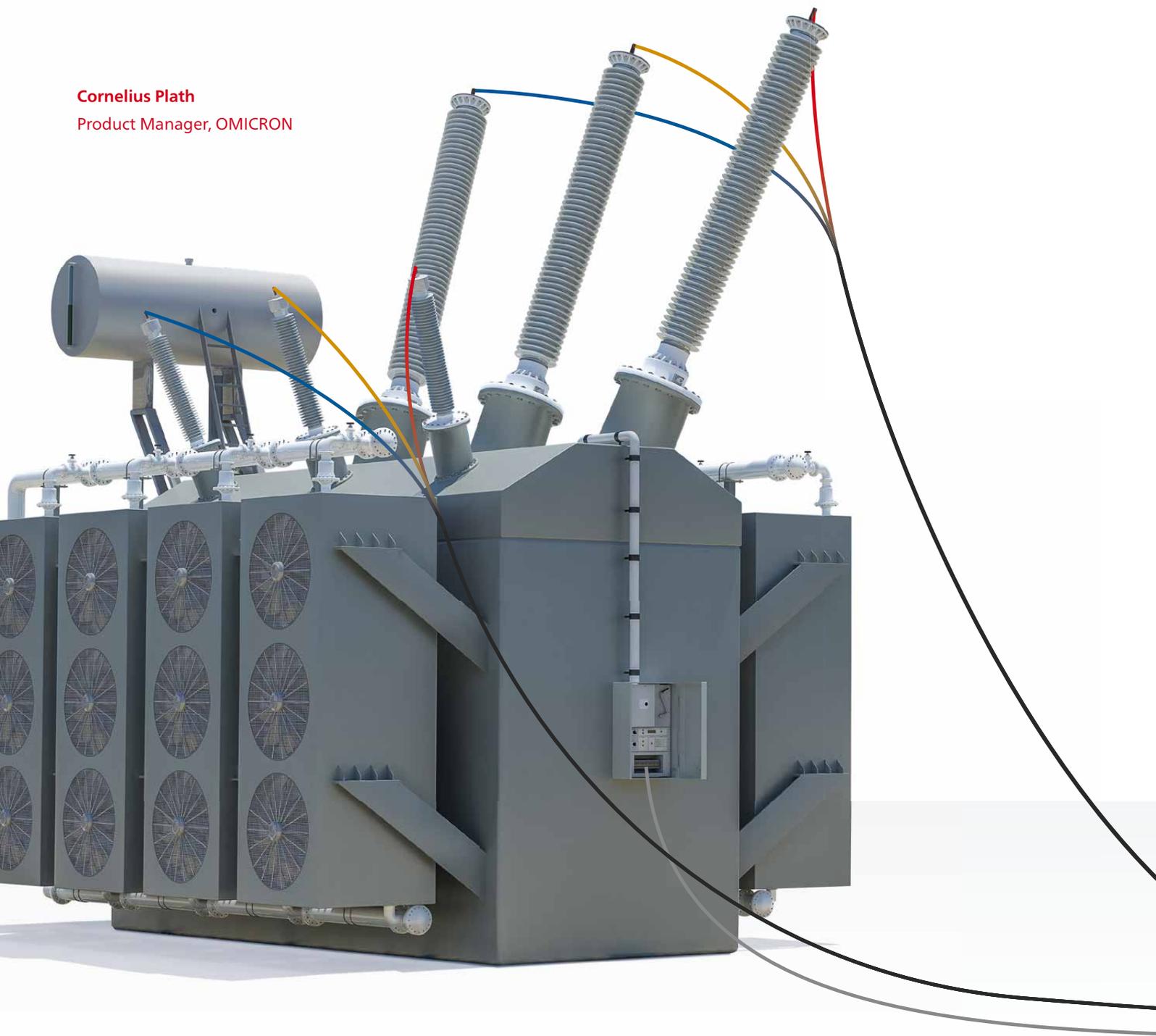


«Our vision was to develop a powerful and lightweight test set that would make power transformer testing faster and easier than ever before.»

Cornelius Plath
Product Manager, OMICRON



True 3-Phase Testing Makes the Difference

TESTRANO 600 – a unique, portable, 3-phase power transformer test system

TESTRANO 600, the world's first portable, three-phase test system supports all of the common electrical tests that are carried out on power transformers. Its innovative design reduces wiring efforts significantly and cuts down testing time to one third.

One system – multiple tests

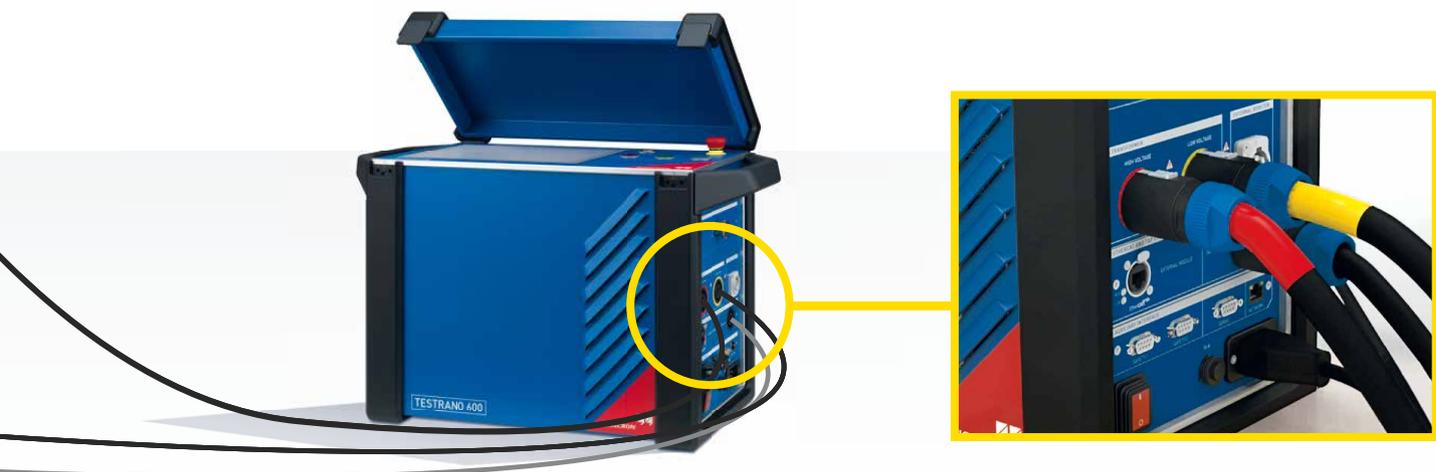
Performing a range of standard electrical tests on a regular basis has proven to be an effective way of gaining reliable insight into the operating condition of transformers and can extend their lifespan. With TESTRANO 600 you can perform all of the common electrical tests on power transformers for routine and diagnostic testing on site or during factory acceptance tests (FAT).

Three wires are all you need

By using TESTRANO 600 you can perform various tests without rewiring. It automatically reconnects and switches the correct outputs and inputs to the transformer terminals.

TESTRANO 600 includes newly designed multi-plug cables with eight integrated wires for the test setup. They are connected to the high-voltage and low-voltage side of the transformer. The custom-designed connector plugs and labelled connection leads leave an extremely narrow margin for wiring errors. Thus, tangled cables become a thing of the past and it is easy for you to maintain an overview of the connections.

You can record the up and down switches of the tap changer as well as the OLTC's motor current and voltage by simply connecting one additional multi-plug cable to the OLTC control. ▶



Multiple tests with one system



Transformer turns ratio (TTR) measurement

TTR measurements verify the operating principle of a power transformer in order

to detect shorted turns and open-circuited conditions. By performing a three-phase TTR measurement, you can verify the phase shift of any winding configuration which can be very helpful when measuring phase shift transformers or rectifiers with unconventional vector groups.



Power / dissipation factor (PF/DF) and capacitance measurement

PF/DF and capacitance measurements are performed in order to investigate

the insulation condition of power transformers and bushings. Standard PF/DF measurements at 50 Hz or 60 Hz can only detect the effects of moisture and aging at an advanced stage. Combining TESTRANO 600 with the CP TD1 accessory allows you to measure PF/DF across a wide frequency range of 15 Hz to 400 Hz and detect defects at an earlier stage.



Short-circuit impedance / leakage reactance measurement

Short-circuit impedance / leakage reactance measurements are sensitive

methods for assessing the potential deformation or displacement of windings. No rewiring is needed when you test all three phases in parallel. This saves time and reduces the number of trips up the ladder.



Frequency response of stray losses (FRSL) measurement

Measuring FRSL is the only electrical method for identifying short circuits

between parallel strands and local overheating due to excessive eddy current losses. With TESTRANO 600 the measurement can be done across a frequency range of 15 Hz to 400 Hz on all three phases at the same time without any rewiring. This advanced diagnostic test and the leakage reactance test / short-circuit impedance can be done simultaneously, because the test setup is the same.



DC winding resistance measurement

DC winding resistance measurements are used to determine continuity problems in the winding connections

and tap changer contacts. Using TESTRANO 600 you can measure e.g. all three phases of a wye-connected winding simultaneously. This makes testing three times faster than single-phase testing and reduces your average measurement time.



Dynamic resistance measurement (DRM)

DRM is used to check the on-load tap changer (OLTC) for poorly maintained

and damaged OLTC contacts. With TESTRANO 600 you can perform a fast and comprehensive analysis of the switching process and the internal contacts of tap changers with resistive type diverter switches. The OLTC diagnostic test can be performed parallel to the DC winding resistance tests.

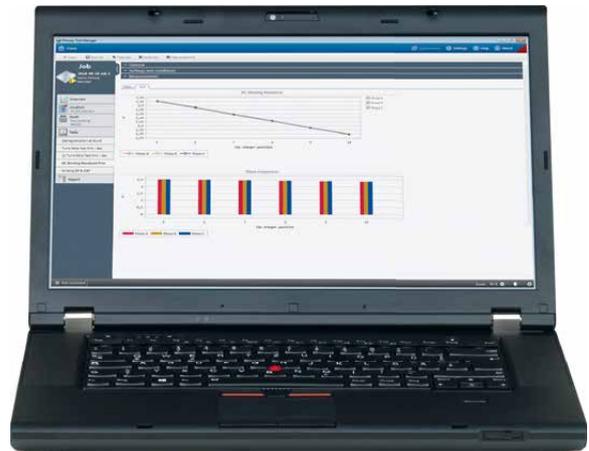
Two types of operation



TESTRANO TouchControl on the integrated display offers pre-configured wiring diagrams and convenient features for graphical comparisons and detailed analysis. You can prepare complex tests in advance and import the test files via the USB interface. The high contrast of the high-resolution, multi-touch 10.6" display ensures good visibility even in bright sunlight. This allows fast, flexible and easy testing on site – just touch & test.

Active discharge and fast demagnetization

The active discharge function (patent pending) of TESTRANO 600 automatically discharges the winding within a matter of seconds after resistance measurements have been performed. This guarantees a high level of safety during testing. You can also reliably demagnetize the transformer's core before and after performing a test with TESTRANO 600. This reduces the risk of high inrush currents and avoids the influence of a magnetized core on subsequent tests, such as excitation current tests or sweep frequency response analysis.



Using TESTRANO 600 with the Primary Test Manager (PTM) software on your laptop offers you full guidance while testing and easy data management. Detailed wiring diagrams and asset-specific test plans based on international standards will support you in executing your tests. For a comprehensive analysis, PTM offers automatic result assessment and comparison as well as customized reporting.

Rugged, compact and safe

All this comes in just one box and is easy to transport. Despite its extensive range of functions, TESTRANO 600 weighs only 20 kg/44 lbs. The rugged design makes it ideal for on-site testing even in rough environments. In order to ensure safety during testing, TESTRANO 600 is equipped with an emergency stop button as well as safety and warning lights.

TESTRANO 600 brings on-site power transformer testing to a new level. With one setup for various tests, the rewiring effort is significantly reduced – this makes testing three times faster. Power transformer testing has never been this quick and easy! 🚩

🔗 www.omicronenergy.com/testrano600