

Accurate voltage transformer testing on site

VOTANO 100 proves itself through daily use

Safe and fast – these are two of the outstanding benefits of our innovative voltage transformer testing and calibration system, VOTANO 100. Lengthy testing procedures and testing within high-voltage areas are now a thing of the past. In addition, VOTANO 100 offers you accurate on-site testing. Thanks to these benefits, the device was awarded 'Best Innovation or Technology of the Year' at the 'Middle East Electricity' trade fair. It has also recently been listed in Russia as an officially approved testing device. VOTANO 100 is already being put to daily use at Fesla in Vilnius (Lithuania) – where it is making its mark.



VOTANO 100

- > Very high accuracy allows field calibration of voltage transformers up to the 0.1 accuracy class
- > Excellent mobility through compact size and low weight (< 15 kg / 33 lbs)
- > Automatic result assessment as per IEEE and IEC standards directly after the test
- > Short testing time compared to conventional methods (< 20 min)

 www.omicron.at/votano100

The "Lithuanian and German UAB 'Fesla'" manufactures energy measurement devices. Among its other services, the company also repairs and calibrates these measurement devices. Furthermore, the company's service offer includes testing transducers according to the requirements set by Lithuania's Metrological Institute. "We have been using the OMICRON CT Analyzer for four years and we test about 1,000 current transformers a year," says Mindaugas Urbelis, a technical manager at Fesla. "The CT Analyzer has proven itself to us and now we have started to use VOTANO 100 as well."

Testing the most important parameters

VOTANO 100 can measure the most important parameters of voltage transformers in a short amount of time: winding and short-circuit resistance, magnetization characteristics, transformer ratio, and phase angle accuracy. The results that are being achieved are automatically evaluated in accordance with the IEC or IEEE standards. "We use the test system to determine the transformer ratio and the phase angle accuracy," explains Algirdas Dasevicius, who is in charge of transformer measurement at Fesla. ▶

«VOTANO 100 runs tests unbelievably fast. We used to need at least an hour in the laboratory and now we can do everything on site in just 15 minutes.»



Algirdas Dasevicius

Measurement engineer responsible for transformer testing at Fesla



«We prepared our own test template. With the push of a button, we receive test reports with our exact requirements. There is no longer a need for time-consuming post-testing work at the office.»

Mindaugas Urbelis
Technical manager at Fesla



Proven and tested

VOTANO 100 delivers highly accurate measurement data. Therefore, it is even more important that this data can be used to your advantage in the future. “We prepared our own test template,” explains Mindaugas Urbelis. “With the push of a button, we receive test reports with our exact requirements. There is no longer a need for time-consuming post-testing work at the office.”

Fesla is satisfied with VOTANO 100: “Our work has become significantly easier,” explains Algirdas Dasevicius. “Voltage transformer testing is now faster and safer – and we get accurate results.” The measurement technician also points out another aspect: “We mainly run our tests during spring and fall. However, it is possible that we may run tests in the middle of winter too. In this case, it also helps that VOTANO 100 is able to function at -10°C (14°F) without any problem.”

► “This must be carried out with normal burden and a quarter of the nominal burden, in accordance with the IEC 60044-2 standard.”

Efficient testing

The Lithuanian Metrological Institute requires that current and voltage transformers must be tested every eight years. In the past this was a tedious process. “Previously, transducers with a nominal voltage of 6kV would be taken apart and transported to a laboratory in Vilnius, where they would be tested and then brought back. Sometimes, the transducers would have to travel over 300 km (186 miles) in order to reach us,” remembers Algirdas Dasevicius. “The whole process was unbelievably time-consuming.” As a result, Fesla started looking for a more efficient process. The company had already been using our CT Analyzer since 2010 for testing current transformers. “When we heard that OMICRON was going to put a voltage transformer testing device on the market with similar advantages to the CT Analyzer, we bought it,” Algirdas Dasevicius explains further. They have not

regretted their decision: “VOTANO 100 runs tests unbelievably fast. We used to need at least an hour in the laboratory. Now we use VOTANO 100 to do everything on site in just 15 minutes – there is no longer a need to transport anything to the laboratory,” he happily reports. And so the number of test objects has grown substantially. “With VOTANO 100, we test 6 transformers a day on average, although we once tested 12 voltage transformers in one day – something which we would not have dreamed of before,” says Algirdas Dasevicius.

The safest testing possible

Safety is also very important to Fesla. “With VOTANO 100, the testing engineers can do their work outside of the danger zone,” explains Algirdas Dasevicius. During testing, the 4kV voltage booster VBO1 is the only device situated near the test object in the high-voltage area where it delivers the necessary voltage for testing the transformer ratio. During the transformer test, VOTANO 100 also lets you know automatically if there are any cabling errors.

Fesla

Fesla was established in 1992 in Vilnius (Lithuania). Since 1999, the company has carried the name “Lithuanian and German UAB ‘Fesla’”. Only ten years after it was founded, the company was employing more than 100 people. Since 2003, the company’s service offers have included the repair of energy measurement devices and transducer testing.

 www.fesla.lt



Fesla, Vilnius
(Lithuania)



City of Cape Town,
Cape Town
(South Africa)

Clear metering accuracy in South Africa with VOTANO 100

The City of Cape Town is responsible for running greater Cape Town. One of its tasks consists of purchasing electricity, which it then sells to its 630,000 customers. In order to do this, the city maintains a mostly underground 132 kV power grid as well as an 11 kV distribution grid. Currently, no laboratory can calibrate current and voltage transformers in accordance with IEC 17025 in South Africa. With its high level of accuracy, VOTANO 100 enables the calibration of voltage transformers up to the 0.1 accuracy class. "Without calibration, we would have to rely on the supplier's statement regarding quality, which is why we now carry out the tests ourselves," outlines Cornie Malan, Measurement Manager at the City of Cape Town. The CT Analyzer is already used extensively for testing of all of the new current transformers. "The positive experiences we have had with the device have given us the confidence to acquire several VOTANO 100s for testing voltage transformers," explains Cornie Malan. You can test the accuracy of any type of voltage transformer and specify any load you want. "That's something that is very important to us as most 11 kV voltage transformers run under-burdened," explains Cornie Malan. VOTANO 100 makes both laboratory and on-site measurements much easier. "Despite the initial overhead cost, we will save significantly in the long-run," assures Cornie Malan. "Measurements are now easier and more reliable. We can produce test reports automatically, publish them if necessary and clearly confirm the quality of the metering instrument transformers. In addition, we are planning IEC 17025 accreditation for instrument transformers in the near future. We consider this to be a complete success." 🚩



Keith Daniels, City of Cape Town, calibrating voltage and current transformers using VOTANO 100 and the CT Analyzer.