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Big VOTANO 100 update

Firmware and PC software update available

Welcome dear friends of protection, control and electrical engineering. The **VOTANO 100**, the voltage transformer test device from **OMICRON**, has just been updated with regard to firmware and software. In this post we take a look at what's new, let's go!

What's NEW?

For those who are in a hurry, a small summary of the new features:

🌐 Modern design of the VOTANO Suite

🌐 Improvements in accuracy

🌐 More decimal places possible in the input fields for the nominal voltage

🌐 Adapted automatic evaluation with additional tolerance for voltage measurement deviation / phase error angle

🌐 Preview of the connection plans for all test steps

🌐 Testing of 16.7 Hz voltage transformers

🌐 Manufacturer programming interface (API)

🌐 Software tool for calibrating VOTANO 100 and VBO2 with the reference voltage transformer

For those who want it in more detail, the following explanations are available. At the end of the article there is a practical tip on voltage transformer testing.

Improvements and new features

Modern design of VOTANO Suite

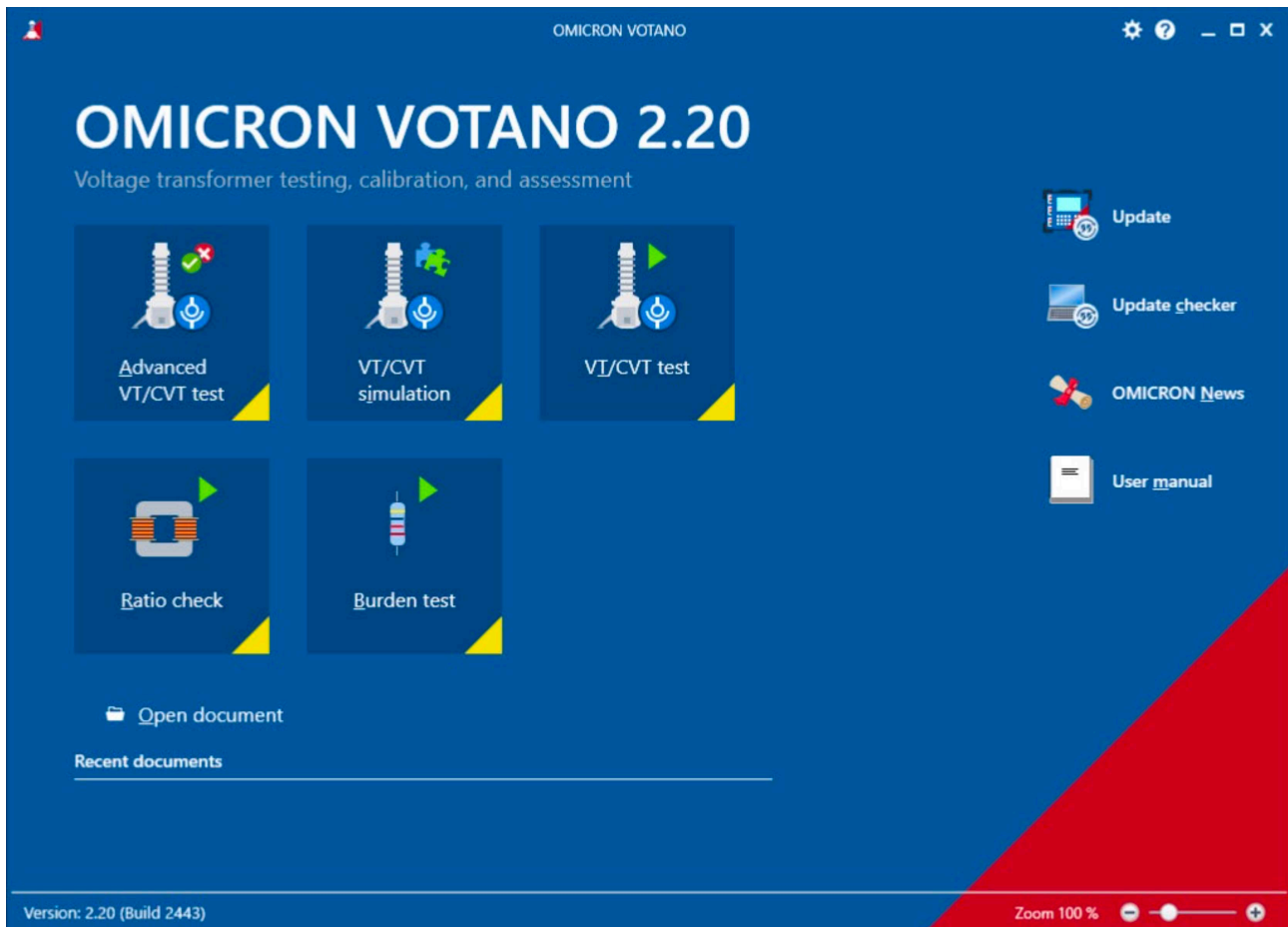The VOTANO Suite has received an updated and modern look and feel.

Figure 1: New Home screen of VOTANO Suite 2.20

Accuracy improvements

The accuracy of several sub-measurements for VTs and CVTs has been improved, resulting in an overall better performance of VOTANO.

User input of V_Pr/V_Sr and nominal ratio

The number of decimal places in the nominal voltage input fields have been increased to allow improved resolution for the measurement.

In addition, as an alternative, the transformer can be defined by its "Ratio" rather than by its rated primary and secondary voltages, e.g. 300:1.
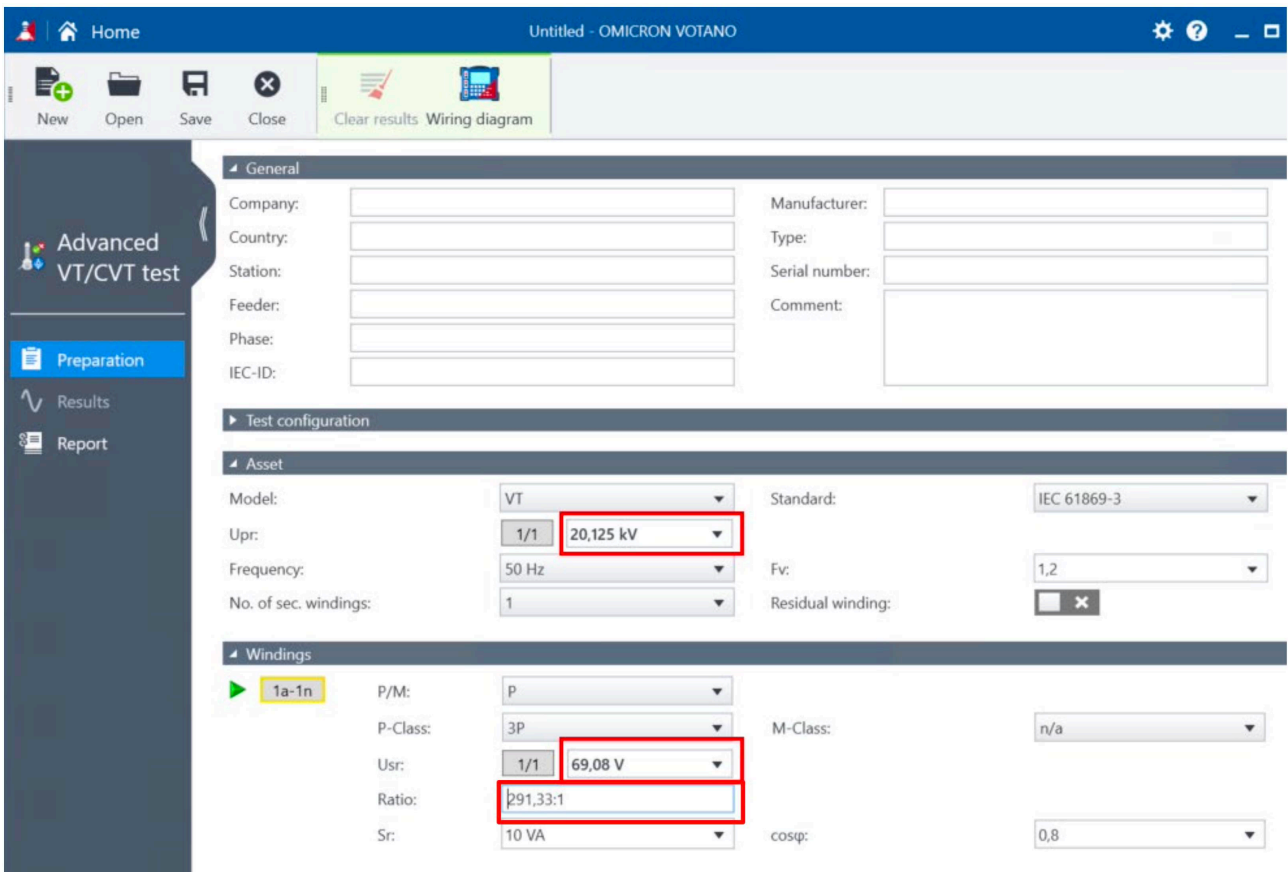
Figure 2: Test preparation screen of VOTANO Suite 2.20

File name

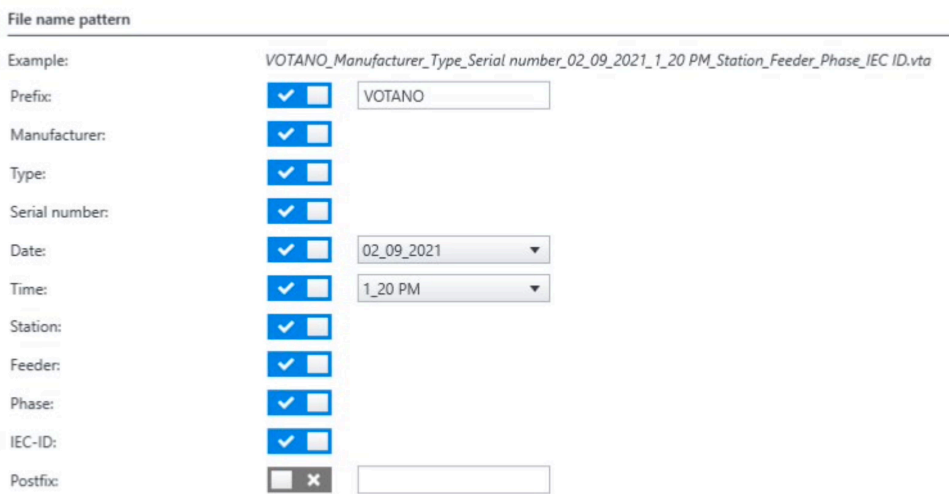More parameters of the voltage transformer can now be included into the default file name.

Figure 3: Dialog to define the file name

Customized automatic assessment with additional ratio/phase tolerance

VOTANO 100 now offers the option to customize the automatic assessment by defining an additional user-defined ratio and phase tolerance for the assessment. VOTANO 100 then considers this tolerance for its assessment and highlights assessments that are based on boundary values very close to the class limit by stars (*OK*). This gives users the possibility to optionally consider the measurement uncertainty of the test setup and test device in their assessment.
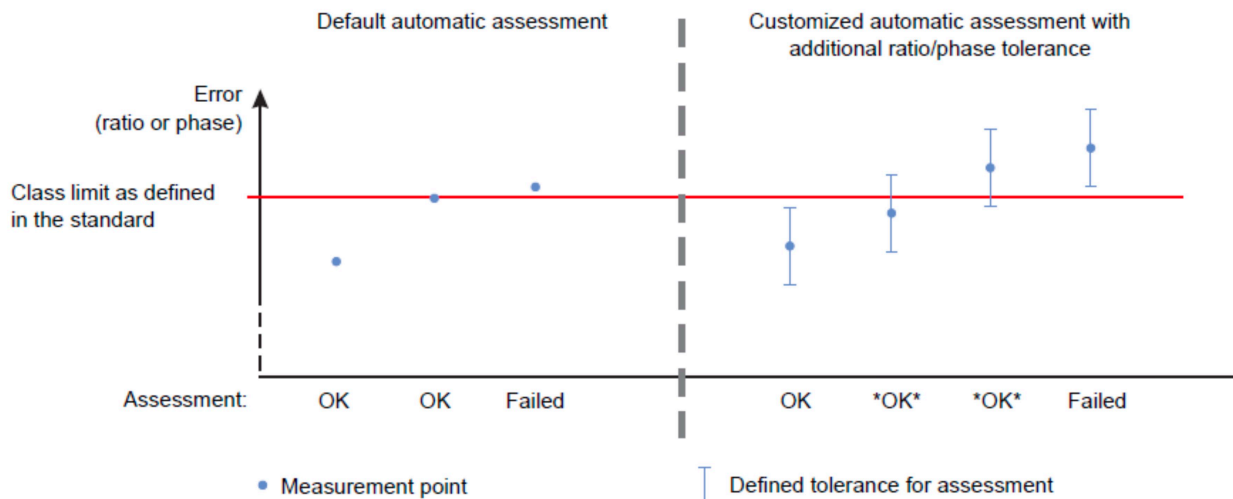

Figure 4: Default automatic assessment and new customized automatic assessment

Wiring diagram previews for all test setups

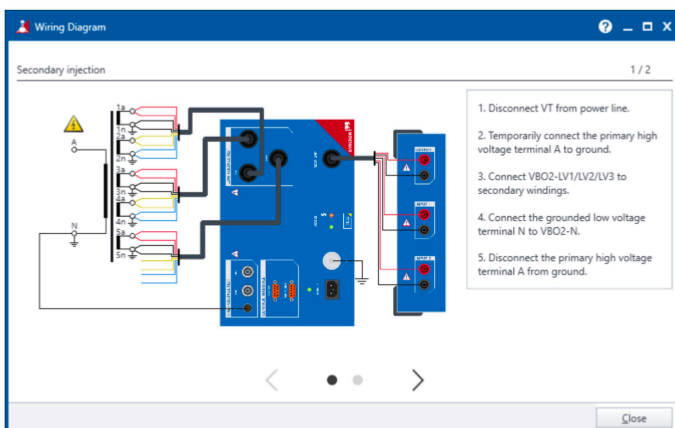The wiring connections for all tests within the measurement sequence can now be previewed.

Figure 5: New wiring diagram preview screen

Additional improvements

🌐 Burden distribution for multi-winding IVTs and CVTs according to IEEE improved

🌐 CVT test: Test voltage is now displayed in %Upr.

🌐 Report logo selection of "none" will not overwrite a custom logo implemented into the Excel template.ine Auswahl der Einstellung "Kein Wert" als Logo für den Prüfbericht überschreibt nicht die selbst gemachten Logos, die in einer Excel-Vorlage implementiert wurden.

🌐 Temporary licenses available for trial purposes

New functional options

Testing of 16.7 Hz VTs

With this option, it is possible to test 16.7 Hz voltage transformers. This feature is relevant for testing voltage transformers that are typically installed in some Central European railway electricity grids. Required license: **16.7 Hz License**

Manufacturer API

This option provides an Application Programming Interface (API) for voltage transformer manufacturers. It enables large-scale, automatized testing of voltage transformers with VOTANO 100, and an optimal integration of the device into production processes. Required license: **Manufacturer API**

Software tool to perform calibrations of VOTANO 100 and VBO2 with reference VT

OMICRON offers a calibrated voltage transformer for periodic verification of the measurement accuracy on-site. This reference VT is delivered together with a calibration certificate (according to ISO/IEC 17025) from an independent test laboratory which is traceable to international standards.

This process is improved by using the VOTANO 100 Calibration Suite option:

🌐 Guided workflow for running a calibration of VOTANO 100 and VBO 2 on your reference VT.

🌐 Compare the results with the reference values of the calibration transformer

🌐 Create a calibration report

- Users can evaluate the verification and calibration data to ensure that the selected intervals meet their requirements for quality and reliability
- To ensure proper operation when extending the calibration interval, a regular verification in a Service Center or in the field is highly recommended.

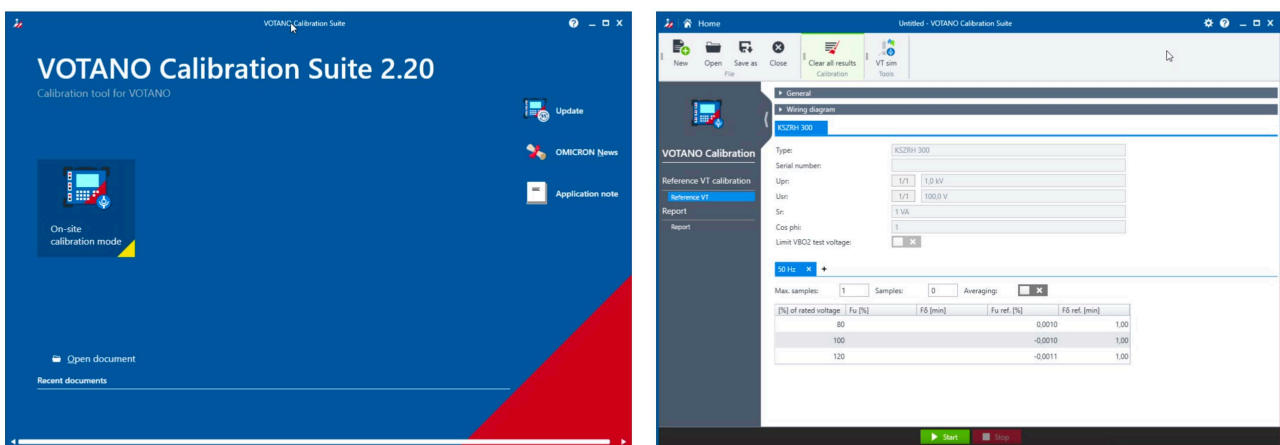Required license: **Calibration tool using an OMICRON reference VT**

Figure 6: Calibration tool using an OMICRON reference VT

Licensing

Three new license options for the features described in Chapter 2 are available. These licenses
are designed to be installed additionally on your VOTANO device.

🌐 16.7 Hz license (Order number: VESM0812)

🌐 Manufacturer API (Order number: VESM0811)

🌐 Calibration tool using an OMICRON reference VT (Order number: VESM0810)

Practical Tip

How can you improve the quality of your CVT measurement?
When testing CVTs, it is recommended to ensure that the distance between the primary measurement cable and the capacitor stack of your CVT is at least 1 meter. In this way, possible couplings, which could influence the measurement results, can be prevented.
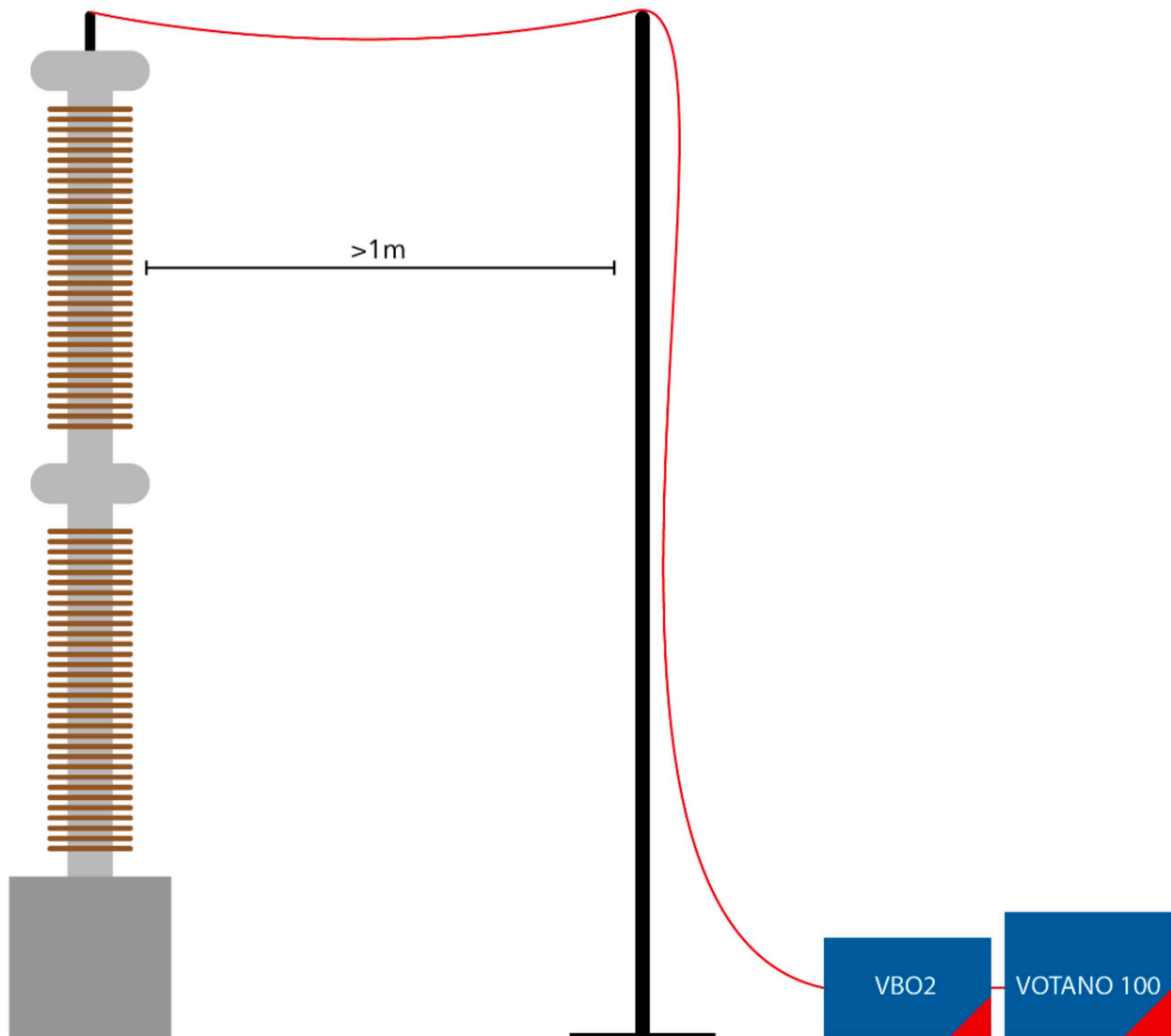

Figure 7: Recommended distance of primary test lead to CVT under test

For all those who still have no idea of the VOTANO 100, a short manufacturer video follows for information.

Sieh dir dieses Video auf www.youtube.com an

Kind regards

Your EEA-Team