



GET IN THE FAST LANE

How to boost dielectric response analysis

For diagnostic measurements of high-voltage assets on site, time-saving is the key: the time for set-up and measurement, as well as the general offline time of the assets concerned, should be kept as short as possible. In addition, the test equipment must be easy to use and should work as fast as possible. DIRANA, our lightweight dielectric frequency response analysis system, meets both these needs – and since the latest version 4.10 of our Primary Test Manager™ (PTM) software, it is now faster than ever before.

Easy water content determination

DIRANA provides an easy and accurate way to determine the absolute water content of oil-paper insulated assets which is representative of their condition. Water is a threat to the oil-paper insulation of assets such as power transformers, OIP bushings and instrument transformers. Water can be produced due to paper aging or enters the transformer via leaky seals or breathing. It reduces the breakdown strength of the oil and accelerates the aging of the insulation. All these effects reduce the remaining lifetime of an asset.

One system for many valuable results

As well as water content determination in oil-paper insulations, DIRANA delivers many more valuable parameters: power/dissipation factor at line frequency, capacitance, insulation resistance, polarization index (PI), and dielectric absorption ratio (DAR). It also allows a comprehensive condition assessment for other assets such as rotating machines, cables and non-OIP-insulated bushing types.

DIRANA and PTM – a winning combination

DIRANA has operated with our PTM software since December 2016. With this new software the newly PDC+ technique was implemented. The PDC+ technique is an improved version of conventional PDC measurement and speeds up testing by a factor of up to 20. It can be used on any existing DIRANA hardware – you just have to upgrade to the latest software version PTM 4.10.

Intuitive usage and maximum automation

In order to guarantee fast and safe testing, PTM supports you with pre-configured wiring diagrams and

asset-specific test plans during set-up and execution. Moreover, DIRANA's simple wiring concept and clamps with integrated guard technique make it fast and easy to use.

The measurement is performed, analysed and assessed fully automatically. The automatic setting of all parameters makes testing simple and reliable for all users, independently from their expert knowledge.

Compatible and powerful software tool

Beside DIRANA, PTM is compatible with various other OMICRON test systems such as TESTRANO 600, CPC 100 and FRANEO 800. Furthermore, it allows you to import test results which were generated by third party test sets. Therefore most common tests such as sweep frequency response analysis, power factor/dissipation factor, insulation resistance and dissolved gas-in-oil analysis (DGA)

can be performed and analysed using PTM. As PTM can support you with all common tests on power transformers, you receive a comprehensive database for your assets, including all diagnostic results and their history.

Customized, individual reporting

PTM automatically generates reports, including all asset-related information and performed tests. This gives you a comprehensive overview of the asset, test results and assessment.

Furthermore, you can easily adapt the reports to your needs, for example, compile the included parts, provide comments or incorporate your company logo.

Get in the fast lane and use DIRANA combined with our PTM software. Existing DIRANA customers can upgrade to the PTM software free-of-charge. You can find the latest version in our customer portal. [▶](#)

