

MEET MPD 800

Our next generation MPD for partial discharge testing

Our MPD product manager Ole Kessler has seen MPD technology evolve in many innovative ways over the years. When it comes to our new MPD 800 universal partial discharge (PD) measurement and analysis system, he is definitely excited about the future of PD testing. He explains why in this article.



The MPD 800 represents the next generation of our innovative and widely-used MPD PD testing technology. Established MPD hardware and software features have been enhanced and new functionality has been added to make our MPD 800 the most complete, accurate, and flexible solution available for PD testing in various applications.

High-performance specifications

The MPD 800 system features an expanded adjustable PD frequency range of up to 35 MHz, a faster 125 MS/s sampling rate, an increased PD localization time of 130 μ s, and more powerful digital PD filtering capabilities. The combination of these high-performance specifications greatly increases the sensitivity of PD measurements.

Additional advanced software-based filtering techniques have been enhanced, such as channel gating, 3PARD (3-Phase Amplitude Relation Diagram) and 3FREQ (3-Center Frequency Relation Diagram), that allow users to reliably distinguish between harmful PD and external noise for highly accurate and reliable PD analysis.

When it comes to efficient factory testing on power transformers, the MPD 800 system simultaneously measures and analyzes both PD (Q_{IEC}) and Radio Influence Voltage (RIV) according to IEEE, NEMA and CISPR standards. Powerful PD localization techniques accurately pinpoint the location of PD-related defects along the entire length of power cables. PD localization can also be effectively performed on oil-filled transformers using the enhanced MPD 800 trigger function with our PDL 650 acoustic PD localization device.

Multi-channel PD measurements

The MPD 800 measurement device includes two fiber-optic PD input channels for either synchronous, two-channel PD measurements or a single-channel PD measurement plus a gating channel that can reduce surrounding interference without the need for an additional device.

The MPD 800 system can easily be expanded with up to 20 measurement devices connected via daisy chain with our fiber optic cables in order to perform synchronous, multi-channel PD testing on several distributed measurement points. The MPD 800 system software provides you with a convenient overview of the measurement setup with all of the connected devices and the PD measurement data for each measurement channel.

Flexible, multi-language software

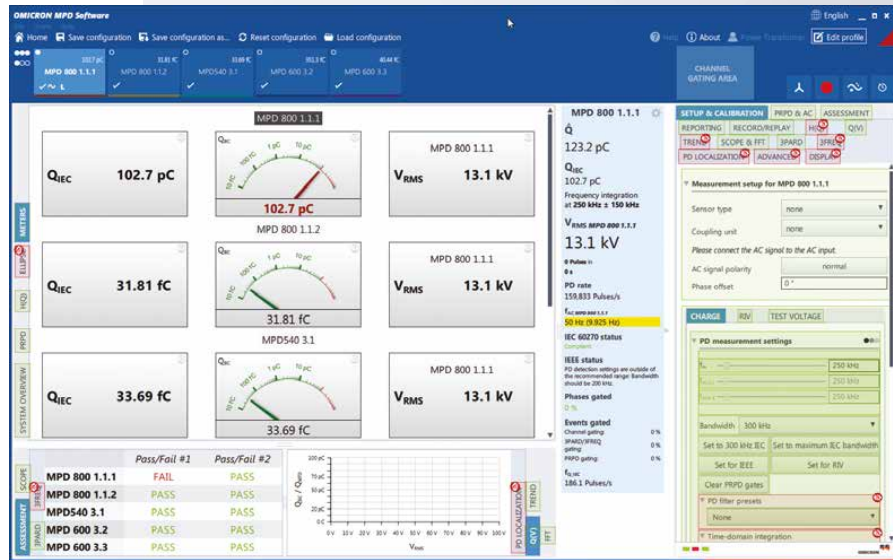
The MPD 800 measurement and analysis software is available in multiple languages, including simplified Chinese, English, German, French, Japanese, Portuguese and Russian. You can easily adjust the calibration and measurement settings, as well as the way that data is displayed. Individualized reports can be created based on your requirements.

Time-saving user profiles

You can also define individual test specifications, including calibration and measurement settings based on applicable international standards for specific types of PD tests and test objects. These specifications can then be saved as profiles for current and future use. In addition, you can decide which of the available PD measurement and analysis software features you need for a specific PD measurement, while hiding those that you don't need for individualized PD testing and reporting. No matter what your level of skill or experience is, these time-saving capabilities make PD testing and analysis much easier and more efficient than ever before.

Standard-compliant PD testing

The MPD 800 system performs IEC and IEEE standard-compliant PD measurements and analysis for routine and type testing, factory and site acceptance testing (commissioning), as well as repair testing and troubleshooting in the field. ▶



The multi-language MPD software can be easily configured for individualized PD testing and reporting.

«Established MPD hardware and software features have been enhanced and new functionality has been added to make our rugged MPD 800 **the most complete, accurate, and flexible solution available for PD testing in various applications.**»

Ole Kessler,
Product Manager, OMICRON

With its high level of measurement accuracy, the MPD 800 system allows you to reliably detect, localize and assess the risks of potentially failure-causing PD activity in the insulation of various electrical assets and components. These include power transformers, rotating electrical machines (motors and generators), power cables, switchgear, and industrial drives, as well as bushings, insulators, capacitors and busbars.

Convenient battery-powered operation

Each MPD 800 PD measurement device is powered with our portable, rechargeable RPB1 battery supplied with the system for up to 16 hours of continuous PD testing. Multiple batteries can be connected for longer testing periods.

Simplified fiber optic connections

The robust fiber optic cables have been designed to be quicker and easier

to connect than ever before. They provide you with the precise synchronicity that is required from all of the MPD 800 measurement devices that are connected in high-voltage areas to a master control device in a safe working area. Fiber optic cables reduce the influence of interference coupling, minimize ground loops, and ensure optimal safety due to the galvanic isolation they provide.

PD measurement recording

The MPD 800 system software records PD data sets in real time while measurements are being performed that can be played back later for analysis and reporting. The recorded PD data includes all measurement values and relevant system settings, allowing users to apply various analysis and disturbance reduction functions in post analysis without having to repeat the measurement. The recorded PD data sets can

also be cut individually and played back slowly enough for you to focus in on relevant PD events and analyze them in greater detail, thus allowing you to determine the PD inception and extinction voltage. The PD assessment and reporting capabilities have been enhanced for more intuitive post-analysis and easy customization.

Full compatibility with MPD 600

If you are already an MPD 600 user, the good news is that you can use your MPD 600 measurement devices with the new MPD 800 software. This allows you to take advantage of the new software interface and enhanced analysis features before adding the new hardware. You can also combine MPD 600 and MPD 800 measurement devices in the same PD test setup. The MPD 800 software even lets you view and analyze the PD data from all of your connected devices simultaneously. ■

MPD 800

Universal partial discharge measurement and analysis system

- › One PD measurement device for all testing applications
- › 2 PD input channels for PD measurement and gating
- › Selectable filters for IEC and IEEE standard-compliant testing
- › Outstanding specifications for highly-sensitive PD measurements
- › Multi-language software with configurable user interface for individualized PD testing and reporting

 www.omicronenergy.com/mpd800



20 YEARS OF PARTIAL DISCHARGE TESTING EXPERIENCE AND RELIABILITY

1ST GENERATION

MPD technology starts with customer requests for something completely new:

- > Performing synchronous partial discharge (PD) measurements on multiple joints in XLPE power cable systems.
- > Measuring PD on large motors in nuclear power plants with limited access for calibrations.



2000

MPD 501



2 inventors at
TU Berlin

2003

First MPD
system for the
mass market

MPD 540



Key features:

- > Fiber optic isolation
- > Completely repeatable measurements
- > Datastream recording
- > Multi-channel synchronization



mtronix founded
to market MPD
worldwide

2ND GENERATION



ONE DEVICE
FOR ALL
ELECTRICAL
ASSETS

2006



OMICRON

In 2006, MPD technology becomes a part of the OMICRON family.

2007

MPD 600



In 2007, the MPD 600 replaces the MPD 540 as the high-end successor for PD measurement and analysis.

2009

MPD 500



In 2009, the MPD product line is expanded with the addition of the MPD 500 for dedicated pass/fail testing.

2020

3RD GENERATION

20 years of continuous, innovative development based on user experience results in the new universal MPD 800.

Outstanding hardware and software features have made PD testing more flexible, faster and easier than ever before and they will continue to do so in the future.



MPD 800



MULTI-CHANNEL
TESTING



FAST AND
EASY



POWERFUL NOISE
SUPPRESSION



OUTSTANDING
SPECS



SYNCHRONOUS,
SCALABLE SYSTEM



STANDARDS-
COMPLIANT TESTING