PDetector
Handheld Partial Discharge Detectors

The PDetector is the ideal device for Online Partial Discharge (OLPD) testing of medium and high voltage electrical equipment. Online PD testing is a method of inspecting the insulation of electric power systems while electrical equipment remains energized and in service. The PDetector employs all 5 types of sensor technology for online PD detection: TEV, UHF, HFCT, AE, and Ultrasonic. Information from multiple sensors gives the PDetector the versatility needed to detect all types of PD in all types of substation apparatus. Furthermore, the exact type (mechanism) of PD activity can be determined instantly using on-screen Phase Resolved Partial Discharge (PRPD) & Phase Resolved Pulse Sequence (PRPS).

**UL Certified**

**Applications**
- GIS
- MV Switchgear
- Power cables
- Transformers
- Substations

**Wireless Connectivity**
- RFID asset tagging
- Wireless phase sync
- Wireless UHF and HFCT transmitters

**Sensor Technology**

**Electromagnetic (EM)**
- TEV - Transient Earth Voltage: 3MHz ~ 100MHz
  Built-in to main handheld unit, contacts to switchgear panels
- UHF - Ultra High Frequency: 300MHz ~ 1.5GHz
  All PD activities produce UHF emissions
- HFCT - High Frequency Current Transformer:
  500kHz ~ 50MHz
  Clamps around grounding leads

**Acoustic (AE)**
- Acoustic Contact: 20kHz - 300kHz
  In-tank testing for PD in oil or SF₆
- Internal Ultrasonic: 40kHz
  Built-in to main handheld unit
- Ultrasonic Extension Microphone: 40kHz
  Airborne ultrasonic emissions
- Ultrasonic Dish: 40kHz
  Concentrating ultrasonic sensor
Main Features
- Employs 5 types of sensors for online PD detection
- PRPD (2D) and PRPS (3D), instantly compares UHF and HFCT signals to local power frequency
- AE and ultrasonic value as RMS, PEAK, frequency content(x1, x2), phase, pulse, and wave spectrum
- Wireless sensor technology
- 8GB on-board data storage
- RFID asset tagging and Intelligent Patrol functions
- Determines specific PD type: void, corona, surface, particle or floating electrode

Technical Specifications
- Resolution: 1dB
- Accuracy: -/+ 1dB
- Size: 7.3” x 4.3” x 1.4” / 185mm x 110mm x 35mm
- Weight: 0.9lbs / 0.4kg
- Power Supply: Li-ion
- Operating time: 6 hours; rechargeable

Software - Data Management
The PDetector software platform includes advanced features for organization, analysis, and trending of test data.
- Trending, programmable alarms
- Intelligent PD recognition
- Easy report creator
- Exports CSV/PDF

Hardware Configurations
Five Recommended Kits configured with optimal combinations of TEV, UHF, HFCT, AE, and Ultrasonic sensors.

<table>
<thead>
<tr>
<th>Config.</th>
<th>Application</th>
<th>Internal TEV</th>
<th>UHF</th>
<th>HFCT</th>
<th>AE Contact</th>
<th>Internal Ultrasonic</th>
<th>Ultrasonic Dish</th>
<th>Ultrasonic Microphone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kit 1</td>
<td>Multi-Function, Five-in-One, for GIS, MV Switchgear, Power Cables, and Transformers</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Kit 2</td>
<td>AE/Ultrasonic, Two-in-One, for GIS, MV Switchgear, Cable Accessories, and Transformers</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Kit 3</td>
<td>TEV/Ultrasonic, Two-in-One, for MV Switchgear</td>
<td>✓</td>
<td></td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Kit 4</td>
<td>UHF/TEV/AE/Ultrasonic, Four-in-One, for GIS</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Kit 5</td>
<td>HFCT/TEV/AE/Ultrasonic, Four-in-One, for Power Cables and Transformers</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

POWER MONITORING AND DIAGNOSTIC TECHNOLOGY LTD.
6840 Via Del Oro, Suite 150, San Jose, CA 95119, USA
P: +1 (408) 972-5588
F: +1 (408) 972-5678
E: sales@powermdt.com
W: www.powermdt.com