The PD-TaD 62 portable PD diagnostics system is used in combination with a BAUR VLF generator for carrying out:
- Partial discharge testing and location
- VLF cable testing with parallel partial discharge testing
- Parallel partial discharge and dissipation factor measurement*
- Full MWT*

With the partial discharge testing and the dissipation factor measurement, two effective and proven methods for evaluating the ageing condition of medium-voltage cables and cable accessories have been combined in a single compact and portable device. The result is a one-step 360° cable analysis with: early detection and localisation of weak points through a PD measurement, in addition to the evaluation of dielectric ageing based on the dissipation factor values.

The ability to perform partial discharge and dissipation factor measurements simultaneously saves a lot of time and leads to increased efficiency during inspection of the entire cable network. The simultaneous monitoring of tan δ values and PD activities, also helps detect hidden faults (e.g. moist joints).

Light, robust and portable: PD-TaD is ideal for mobile use in the field. The device and accessories are convenient to transport in robust transport cases.

* Available methods and BAUR equipment required for these, can be found on page 2.
Full Monitored Withstand Test
Combination of methods for more significant information

With the BAUR PD-TaD 62, in combination with a BAUR VLF generator with tan δ measurement function, dielectric losses can be measured and the cable route can be tested for partial discharges during the VLF cable test. This combination of methods is called Full MWT and provides significantly more information than the cable test alone. While the cable test shows whether the cable system can withstand a load over a specified test duration, the dissipation factor measurement enables an evaluation of the condition of the cable insulation. Moreover, partial discharge testing shows and locates the PD faults precisely. The highlight of MWT is the condition-based test duration: Provided it is permitted, the test duration can be shortened, which in turn lowers costs. This way, the cable is only exposed to the increased test voltage for the required duration.

VLF truesinus® – A voltage shape for all methods and method combinations

VLF truesinus® is the only voltage shape that enables both the reliable voltage tests as well as precise dissipation factor measurement and partial discharge testing. Unlike other voltage shapes, the VLF truesinus® voltage is load-independent, symmetrical and continuous. This is a prerequisite for high precision as well as reproducibility and comparability of measurement results.

Available methods and combinations of methods with PD-TaD 62

<table>
<thead>
<tr>
<th>Method</th>
<th>Significance and benefits</th>
<th>BAUR mobile equipment*</th>
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| PD testing | ▪ Diagnostics of local weak points  
▪ Localisation of faults in the cable insulation | PD-TaD 62 & frida / viola |
| VLF cable testing with parallel PD testing | ▪ Intelligent withstand voltage test  
▪ Diagnostics of local weak points  
▪ Localisation of faults in the cable insulation | PD-TaD 62 & frida / viola |
| Dissipation factor measurement | ▪ Evaluation of the dielectric condition of the insulation  
▪ Indication of PD, water trees, humidity in joints, etc. | PD-TaD 62 & frida TD / viola TD |
| Simultaneous tan δ measurement and PD testing | ▪ Combination of statements of a tan δ measurement and PD testing  
▪ Shorter test duration with simultaneous tan δ measurement and PD testing  
▪ Better detection of hidden faults (e.g. moist joints) and simultaneous analysis of tan δ values and PD activities | PD-TaD 62 & frida TD / viola TD |
| Full MWT | ▪ Combination of statements of a tan δ measurement and PD testing  
▪ Shorter test duration with simultaneous tan δ measurement and PD testing  
▪ Intelligent withstand voltage test with shorter test duration for cables in good condition  
▪ Better detection of hidden faults (e.g. moist joints) and simultaneous analysis of tan δ values and PD activities | PD-TaD 62 & frida TD / viola TD |

* If you already have a VLF generator, please ask BAUR GmbH or your nearest BAUR representative whether your VLF generator is equipped for all measurement methods with PD-TaD 62.
Technical data

**PD-TaD 62**

**HV coupling unit:**
- **Input voltage:** 44 kV<sub>rms</sub> / 62 kV<sub>peak</sub>
- **Capacitance of coupling capacitor:** 10 nF

**PD measuring unit:**
- **Power supply and data transmission:** Via Power Box (Power over Ethernet)
- **Signal gain:** 0 – 75 dB

**Degree of protection:** IP54

**Dimensions (W x H x D):**
- Approx. 410 x 463 x 369 mm incl. HF filter
- Approx. 410 x 668 x 369 mm incl. HF filter

**Weight:**
- Approx. 17 kg incl. HF filter
- Approx. 17.5 kg incl. HF filter

**CAL1B calibrator**
- **Electrical charge (pulses):** 0.1 / 0.2 / 0.5 / 1 / 2 / 5 / 10 nC
- **Power supply:** 9 V block battery, DIN/IEC 6F22

**BAUR system software**
- **Multilingual user interface:** in 23 languages

For more details, see the data sheet for BAUR system software (PD testing)

**Partial discharge location**
- **Theoretical measurement range:** 10 – 12,800 m (at 80 m/µs)
- **Velocity of propagation:** 50 – 120 m/µs
- **Sampling rate:** 100 MSamples/s (10 ns)
- **PD measurement range:** 1 pC – 100 nC
- **Accuracy:** Approx. 1% of cable length
- **Resolution:** 0.1 pC / 0.1 m

**Dissipation factor measurement & MWT**

- **Automatic detection and compensation of leakage currents:** integrated
- **Measurement control:** with BAUR VLF generator frida TD, viola TD

For more details, see the data sheet for the respective VLF generator

**Laptop**
- **Processor:** Intel Core i5
- **Operating system:** Windows 7 Ultimate 32-bit (or higher)
- **Working memory:** At least 4 GB
- **Hard disk:** At least 256 GB SSD

**Power Box**
- **Input voltage:** 90 – 264 V, 47 – 63 Hz
- **Power consumption:** max. 3,500 VA
- **Max. current:** 16 A
- **Interface PD-TaD 62:** Ethernet (PoE)
- **Dimensions (W x H x D):** 160 x 120 x 240 mm
- **Weight:** Approx. 1.7 kg

**General**
- **Ambient temperature (operational):** -10°C to +50°C
- **Storage temperature:** -20°C to +60°C
- **Rel. humidity:** Non-condensing

**Safety and EMC**
- **CE compliant in accordance with Low Voltage Directive (2014/35/EU), EMC Directive (2014/30/EU), Environmental testing EN 60068-2-ff

**Transport case:** Weight and dimensions (W x H x D)
- Transport case 1 with PD-TaD 62
  - approx. 38 kg; 800 x 581 x 482 mm
- Transport case 2 with accessories
  - approx. 22.5 kg; 627 x 497 x 303 mm

**Options**
- **Phase-resolved PD presentation**
- **CAL1E calibrator**
  - (electrical charge (pulses) 0.5 / 1 / 2 / 5 / 10 / 20 / 50 nC)

**HV sources**
- **(not included in the standard delivery of PD-TaD 62)**
  - frida BAUR VLF tester
  - viola BAUR VLF tester

**HV sources incl. tan δ measurement function:**
- **frida TD BAUR VLF tester and diagnostics device**
- **viola TD BAUR VLF tester and diagnostics device**