

## viola and viola TD

### BAUR VLF testers and diagnostics devices



MWT  
true<sup>•</sup>sinus

### New generation in the condition evaluation of cable systems

- Cable testing and dissipation factor measurement in one device
- Easy and quick test assembly
- Automatic testing and diagnostic sequences
- High performance and compact

The portable viola and viola TD devices are used for

- Cable testing
- Cable sheath testing
- Cable diagnostics (viola TD):
  - Dissipation factor measurement
  - Monitored Withstand Test with dissipation factor measurement
  - Partial discharge measurement\*

The **VLF testing** makes it possible to locate insulation faults in plastic- and paper-insulated mass-impregnated cables in the shortest of testing times without impairing the quality of the surrounding insulating material.

The **dissipation factor measurement** with 0.1 Hz VLF truesinus® provides differentiated information on the ageing condition of paper-insulated mass-impregnated and PE/XLPE cables. In the case of PE/XLPE cables, the dissipation factor measurement is capable of differentiating between new, slightly or severely "water tree"-damaged cables. This makes it possible to prioritise the need to replace cables.

The **Monitored Withstand Test with dissipation factor measurement** combines the cable testing and dissipation factor measurement, allowing an accurate and comprehensive assessment of the cable condition. In addition, there is minimum load on the cable due to the optimised test duration.

\* in combination with the BAUR PD-TaD 62 PD diagnostics system and BAUR Software 4.

- Output voltage up to 44 kV<sub>rms</sub> / 62 kV<sub>peak</sub>
- Cable testing/MWT with tan δ of medium-voltage cables up to 35 kV acc. to IEEE 400.2-2013

#### Functions and features

##### viola and viola TD

- Suitable for continuous operation
- Max. test voltage 44 kV<sub>rms</sub> / 62 kV<sub>peak</sub>
- Voltage shapes: VLF truesinus®, VLF square wave voltage and DC voltage
- Load-independent, reproducible sinusoidal high voltage by means of VLF truesinus® testing technology
- Cable testing according to: IEC 60060-3, IEC 60502.2, CENELEC HD 620/621 (DIN VDE 0276-620/621), IEEE 400-2012, IEEE 400.2-2013
- Cable sheath testing according to IEC 60502/IEC 60229
- Can be expanded in combination with PD-TaD 62:
  - viola: to include the PD diagnostics function
  - viola TD: to include the PD and MWT diagnostics function

##### viola TD

- Dissipation factor measurement on medium-voltage cables up to 35 kV
- Monitored Withstand Test MWT according to IEEE 400.2
  - MWT with dissipation factor measurement
  - Full MWT with dissipation factor and PD measurement\*
- Highly precise dissipation factor measurement with precision of  $1 \times 10^{-4}$
- Detection of leakage currents using VSE box (option)
- Fully automated and individually programmable diagnostic sequences incl. evaluation

## Technical data

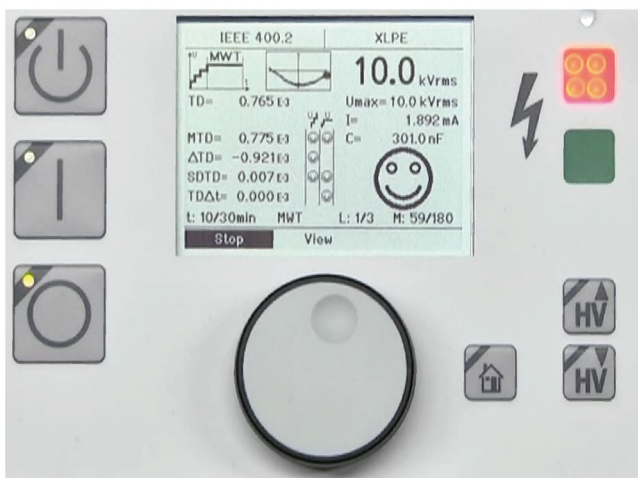
| Output voltage   |   |
|--|---|
| Frequency range  | 0.01 – 0.1 Hz   |
| VLF truesinus®   | 1 – 44 kV <sub>rms</sub> (62 kV <sub>peak</sub> )   |
| VLF square wave voltage                                  | 1 – 60 kV   |
| DC voltage   | ±1 – 60 kV  |
| Resolution   | 0.1 kV  |
| Accuracy   | 1 %   |
| Load range (VLF testing)                                 | 1 nF – 10 μF  |
| Output current   |   |
| Measurement range  | 0 – 70 mA   |
| Resolution   | 1 μA  |
| Accuracy   | 1%  |
| Max. capacitive load                                     | 0.85 μF at 0.1 Hz, 44 kV <sub>rms</sub> / 62 kV <sub>peak</sub><br>2.7 μF at 0.03 Hz, 44 kV <sub>rms</sub> / 62 kV <sub>peak</sub><br>7.7 μF at 0.01 Hz, 44 kV <sub>rms</sub> / 62 kV <sub>peak</sub> |
| Dissipation factor measurement (viola TD)                |   |
| VLF truesinus®   | 1 – 44 kV <sub>rms</sub>  |
| Load range   | 10 nF – 10 μF   |
| Resolution   | 1 x 10 <sup>-6</sup>  |
| Accuracy   | 1 x 10 <sup>-4</sup>  |
| Measurement range  | 1 x 10 <sup>-4</sup> – 21,000 x 10 <sup>-3</sup>  |
| tan d measuring frequency                                | 0.1 Hz  |
| Automatic detection and compensation of leakage currents | With VSE box (optional)   |

## Diagnostic Reporter

Used to process and evaluate test and measurement logs, based on MS Excel versions ranging from MS Excel 2007 to MS Excel 2016

### General

|  |   |
|--|---|
| Input voltage                                  | 100 – 260 V, 50/60 Hz   |
| Power consumption                              | Max. 1,400 VA   |
| Reverse voltage protected                      | up to 13 kV   |
| Degree of protection                           | IP24  |
| Data interface                                 | USB 2.0   |
| Dimensions (W x H x D) excl. cable compartment |   |
| HV part  | 505 x 503 x 405 mm  |
| Operating unit                                 | 505 x 433 x 405 mm  |
| Total (two-part)                               | 505 x 854 x 405 mm  |
| Weight   |   |
| HV part  | 57 kg   |
| Operating unit                                 | 19 kg   |
| Ambient temperature (operational)              | -10°C to +50°C  |
| Storage temperature                            | -20°C to +60°C  |
| Safety and EMC                                 | CE-compliant in accordance with Low Voltage Directive (2014/35/EU), EMC Directive (2014/30/EU), EN 60068-2-ff Environmental testing |
| User interface available in 13 languages       | Czech, Chinese (CN), Chinese (TW), Dutch, English, French, German, Italian, Korean, Polish, Portuguese, Russian, Spanish            |



### viola standard delivery

- viola VLF tester, incl.
  - HV connection cable 10 m (fix mounted)
  - GDR 80-272 discharge and earth rod
  - Earth cable, 3 m, with earth terminal
  - Jumper plug for external emergency off unit
  - Diagnostic reporter on USB drive
  - G-clamp, 45 mm
  - Mains supply cord, 2.5 m
  - User manual
  - Pocket guide

### Accessories and options

- External emergency off unit with signal lamps, 25 m or 50 m cable length
- GDR 80-272 discharge and earth rod
- Transport trolley
- PD-TaD 62 portable PD diagnostics system
- Remote control via BAUR Software: Laptop incl.
  - pre-installed Windows operating system
  - pre-installed BAUR Software 4 (cable and cable sheath testing)
  - Carrying bag
  - USB cable 2.0, 3 m

#### Optional software functions

- GIS interface
- Mapping (available countries on request)

### viola TD standard delivery

- viola TD VLF tester and diagnostics device, incl.
  - HV connection cable 10 m (fix mounted)
  - GDR 80-272 discharge and earth rod
  - Earth cable, 3 m, with earth terminal
  - Jumper plug for external emergency off unit
  - Diagnostic reporter on USB drive
  - G-clamp, 45 mm
  - tan delta kit
  - Mains supply cord, 2.5 m
  - User manual
  - Additional manual for dissipation factor measurement
  - Pocket guide

### Accessories and options

- VSE connection kit (for the detection and compensation of leakage currents)
- External emergency off unit with signal lamps, 25 m or 50 m cable length
- GDR 80-272 discharge and earth rod
- Transport trolley
- PD-TaD 62 portable PD diagnostics system
- Remote control via BAUR Software: Laptop incl.
  - pre-installed Windows operating system
  - pre-installed BAUR Software 4 (cable and cable sheath testing, TD measurement)
  - Carrying bag
  - USB cable 2.0, 3 m

#### Optional software functions

- GIS interface
- Mapping (available countries on request)

Information on individual functions and the required system configuration can be obtained from your BAUR representative.

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