PHG 80 portable

BAUR VLF test system

The figure is illustrative.

truesinus®

Portable, high performance test generator with VLF truesinus® technology

- 3 voltage shapes in one device
- For medium-voltage cables of up to 50 kV operating voltage
- Convenient to operate with simple user guidance

The PHG 80 portable VLF test system is used for cable and cable sheath testing of medium-voltage cables up to 50 kV and offers three tried-and-tested voltage shapes:

VLF truesinus® and VLF square wave voltage

BAUR VLF truesinus® digital technology enables the most reliable detection of damage and offers the comparability of measurement results by means of load-independent voltage generation with digital control. Unlike other voltage shapes, the voltage is exact, symmetrical and continuous. The cable length has no influence on the test level. Medium-voltage cables are tested with utmost care and in compliance with the standards.

DC voltage

For DC voltage testing, e.g. for paper-insulated mass-impregnated cables, the PHG 80 VLF HV generator provides a stabilised DC voltage with positive and negative polarity of up to 80 kV.

The PHG 80 portable satisfies the highest requirements with regard to safety, robustness, operational convenience and automation.

Functions

- Max. test voltage up to 57 kV_{rms}
- Cable testing according to: IEC 60502, DIN VDE 0276-620/621 (CENELEC HD 620/621), IEC 60060-3, IEEE 400.2-2013, IEEE 400-2012
- Cable sheath testing according to IEC 60229

Features

- High-performance test generator with 3 kW
- Compact, in a 19" housing
- Control via laptop
- Load-independent, reproducible sinusoidal high voltage by means of VLF truesinus® testing technology
- Adjustable test frequency: 0.01 Hz – 0,1 Hz
- Automatic sequences and reporting
- Use of standardised diagnostics sequences for different applications and cable routes that can be accessed simply on site
- Automatic breakdown detection
- Burn mode or safe shutdown on breakdown
- Intuitive user interface in multiple languages adapted to the work flow
- Safety control unit in compliance with EN 50191
- Variable connection options to cable stations of different models
- Can be expanded in combination with the PD-TaD 62 or PD-TaD 80 to include:
  - Dissipation factor and partial discharge measurements
  - Monitored Withstand Test with dissipation factor measurement (TD-MWT)
  - Full Monitored Withstand Test (Full MWT)

  Further details on the individual methods can be found in the BAUR Software 4 cable testing and diagnostics data sheet

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Technical data

Output voltage	
Frequency range	0.01 – 0,1 Hz
VLF truesinus®	▪ 1 - 57 kV_{rms} ▪ 1.4 – 80.6 kV_{peak}
VLF square wave voltage	1 – 80 kV
DC voltage (positive / negative)	1 – 80 kV
Max. capacitive load	▪ Up to 20 µF ▪ 1.2 µF @ 0.1 Hz @ 57 kV_{rms} ▪ 3 µF @ 0.1 Hz @ 38 kV_{rms} ▪ 4 µF @ 0.1 Hz @ 30 kV_{rms}
Resolution	0.1 kV
Accuracy	1%
Output current	
Output current	▪ 1.8 mA @ 80 kV ▪ 60 mA @ 50 kV ▪ 90 mA @ 20 kV
Max. burn current	120 mA
Resolution	10 µA
Accuracy	1%
Dissipation factor measurement*	
VLF truesinus®	1 – 57 kV_{rms}
Load range	≥10 nF
Measurement range	0.1 x 10^{-3} – 1,000 x 10^{-3}
Accuracy	1 x 10^{-4}
Resolution	1 x 10^{-6} (mean value of the dissipation factor)
Detection and compensation of leakage currents	Automatic

* In combination with the PD-TaD 62 or PD-TaD 80

BAUR Software 4	
Details about the BAUR Software 4 and the system requirements can be found in the data sheet for the BAUR Software 4.	
General	
Power supply	220 – 240 V, 50/60 Hz
Option	100 – 120 V, 50/60 Hz (with external auto transformer)
Max. power consumption	3,500 VA
Reverse voltage protected	Up to 16 kV
Degree of protection	IP22
Dimensions VLF HV generator (W x H x D)	Approx. 755 x 850 x 991 mm (19", 15 RU)
Weight VLF HV generator	Approx. 199 kg, incl. rack and connection cable
Ambient temperature (VLF HV generator)	-20°C to +55°C (from 45°C with reduction in performance)
Storage temperature (VLF HV generator)	-30°C to +70°C
Relative humidity	Non-condensing
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

Standard delivery

PHG 80 portable VLF test system:

- PHG 80 VLF HV generator
- SCU safety control unit
- Laptop incl.
  - pre-installed BAUR software 4
  - pre-installed Windows operating system
  - carrying bag
- GDR 80-500 discharge and earth rod
- Ethernet cable, 3 m
- 19″ rack for PHG 80 portable incl. HV connection cable, earth cable and mains supply cord, cable lengths of 10 m respectively
- Set of 4 wheels for 19″ rack, mounted
- Carry handle, 2 pcs
- User manual

Accessories and options

- External auto transformer, 110/230 V; 3.0 kVA
- BAUR Software 4 for office PC (office installation)

Optional software functions

- Mapping (available countries on request)
- GIS interface