

VLF SINE 45 kV

Test and diagnostics system for medium-voltage cables



- Performs cable withstand testing, cable diagnosis and sheath fault pinpointing
- Unique user experience thanks to large colour display with touch function
- Automatic result interpretation according to the latest IEEE 400.2 standard
- Highest user safety through earth-loop monitoring and breakdown detection

DESCRIPTION

The VLF sine 45 kV with integrated tan delta is a compact, robust, and portable high-performance test and diagnostic system for medium voltage cables.

The test system is a true all-rounder: In addition to VLF and DC testing, it can also carry out sheath tests and sheath fault pinpointing (in combination with the step voltage probe ESG NT2). In addition, the optional internal tan delta measurement allows a reliable determination of the aging condition of medium-voltage cables. The intelligent VLF system automatically adapts the test frequency to the cable length, so that even tests on 25 kV cables (up to 25 km) can be carried out easily and reliably.

The operation of the system, also for tan delta measurements, does not require an external computer. The VLF sine 45 kV is equipped with intuitive operating software and a large internal memory with which all data is automatically evaluated and saved. Via USB connection or wireless connection to a mobile device (coming soon), datasets can be easily exported and processed using Megger Book Lite PC software (included) for reporting. On the device itself, the user can view all measurements carried out either immediately or at a later time.

The VLF system meets the highest requirements in terms of quality and stability of the test voltage. In addition, the integrated breakdown detection and earth-loop monitoring offer the user maximum safety.

The well-designed and touch-friendly user interface takes the user experience to an unprecedented level. Training time is kept to a minimum, even with the advanced cable diagnostic procedures.

The system can also be used as a power source for the optional PD module, the PDS 62-SIN. This allows it to be expanded into a universal testing and diagnostics system that performs cable testing, tan delta diagnostics and partial discharge measurements. Furthermore, the test performance of the system can be increased to a maximum of 5 μF at 0.1 Hz and 40 kVrms with the optionally available VLF CR-40-TB booster.

To enable safe transport and safe storage, transport cases are available for the VLF sine 45 kV and the optionally available booster VLF CR-40-TB and PD coupler PDS 62-SIN.

TECHNICAL DATA *
Output voltage

VLF sine	0 ... 32 kV _{RMS} / 0 ... 45 kV _{peak}
DC voltage	± 0 ... 45 kV
VLF rectangular voltage	0 ... 45 kV
Precision	± 1 %
Resolution	0.1 kV

Output current

Measuring range	0 ... 20 mA
Precision	± 1 %
Resolution	1 µA

Frequency range	0.01 Hz ... 0.1 Hz autom. frequency adjustment
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Output load	0.6 µF @ 0,1 Hz at 32 kV _{RMS} 10 µF maximum test capacity
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Internal tan delta

Measuring range	10 ⁻³ ...10 ⁰
Precision	10 ⁻³
Resolution	10 ⁻⁴
Sheath testing	0 ... -20 kV DC
Sheath fault pinpointing	0 ... -20 kV DC Pulse rate 0.5:1, 1:2, 1:3, 1:4 and 1.5:0.5
Safety	Earth-loop monitoring, autom. discharging of the test object
Input voltage	100 V ... 264 V, 50/60 Hz, 600 VA
Duty cycle	continuous
Display	7" colour-touchscreen
Interfaces	USB, LAN, wireless (coming soon)
Internal memory	For at least 1000 measurements
Dimensions (W x H x D)	544 x 520 x 416 mm
Weight	50 kg
Protection class	IP 21
Operating temperature	-20 °C ... +55 °C
Storage temperature	-20 °C ... +70 °C

FEATURES

- High test capacity of up to 10 µF
- Continuous test cycle (testing without operational interruptions)
- 7" large colour touchscreen
- Intuitive user software with large internal memory
- Leakage current measurement in DC and VLF rectangular mode
- Optional: Internal tan delta measurement with automatic result interpretation according to IEEE 400.2 or user-defined threshold levels
- Maximum user safety through breakdown detection, automatic discharge of the test object and earth-loop monitoring
- Optional: PD diagnosis with PDS-62 PD coupler
- Optional: Increase in test performance with VLF CR-40-TB booster
- Sheath testing and sheath fault pinpointing acc. to IEC 60229
- Monitored withstand testing in TD and PD mode
- Prepared for wireless data-transfer

SCOPE OF DELIVERY

- VLF sine 45 kV
- HV connection cable 5 m
- Mains cable/grounding cable 3 m
- Accessory bag
- Megger Book Lite reporting software on USB stick
- Operating manual

* We reserve the right to make technical changes.

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ORDERING INFORMATION	
Product	Order no.
VLF sine 45 kV consisting of: VLF sine 45 kV test system	1015415
Mandatory selection lead set (1x)	
Lead set „standard“	2003742
Lead set „NAFTA“	2007861
Mandatory selection mains cable (1x)	
Mains cable EU	81000024
Mains cable UK	118307335
Mains cable US	502025220
Mains cable AUS	90020435
Options:	
Internal tan delta	138316309
Set of test adapter VLF CS-SF6-UNI-L (long 460 mm)	1013586
Set of test adapter VLF CS-SF6-UNI-K (long 310 mm)	1013587
HV connection cable VLF sine 45, 10m	2004420
HV connection cable VLF sine 45, 15m	2004421
HV cable drum VLF sine 45, manual, 25m	1011515
HV cable drum VLF sine 45, manual, 50m	1011516
HV connection cable VLF sine 45, 10m (NAFTA)	2008032
HV connection cable VLF sine 45, 15m (NAFTA)	2008033
VLF CR-40-TB, increase of testable capacity to 5 μF @ 0.1 Hz and 40 kV _{RMS}	128311042
ESG NT2 Ground-fault locator	1014430
PDS 62-SIN PD attachment (see PDS 62-SIN datasheet)	
Transport case VLF sine 45	90021849
Transport case VLF CR-40-TB	90021850
Transport case PDS 62-SIN	90023948
External safety unit with/without controls	2006112 / 2010001
Calibration certificate VLF sine 45 kV	2004132
Calibration certificate VLF CR-40-TB	2006981
Software Megger Book 3 for Windows - full license	2015875



SF6 test adapter for elbows



External safety equipment without and with operating function



PD coupler
PDS 62-SIN



Transport case
VLF SINE 45 kV

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SALES OFFICE

Megger Germany GmbH
 Dr.-Herbert-lann-Str. 6
 D-96148 Baunach
 T +49 9544 68-0
 E team.international@megger.com

VLFSinus45kV_DS_EN_V04

www.megger.com
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