



Test and diagnosis system for commissioning testing and condition analysis of medium-voltage cables

Special features

- Performs cable withstand testing, cable diagnosis and sheath fault pinpointing
- Automatically adjusts the test frequency to the cable length
- Eliminates hazards to the user and prevents extensive damage to the cable
- Easy field operation with no need for external computer

Description

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

The 45 kV tester is a multifunctional tool: apart from VLF and DC testing, it also performs sheath testing and sheath fault pinpointing (in combination with the step voltage probe ESG NT). Moreover, the optional internal tanDelta expands the system to assess both cable integrity and condition.

The smart VLF system automatically adjusts the test frequency to the cable length, making even tests on 25 kV rated cables (up to 25 km) easy and reliable.

Earth loop monitoring and automatic discharge eliminate hazards to the user. The automatic discharge functionality makes the use of an external safety stick no longer necessary.



In the event of excessive charge current, the integrated breakdown detection shuts down the test voltage, preventing extensive damage to the cable.

Field operations require no external computer. Equipped with intuitively operating software and a large internal memory, the VLF 45 kV evaluates and stores all data automatically. Via the USB port, datasets can be easily exported and processed for report generation via the PC software Easyprot (incl. in delivery). The user can review all performed measurements either immediately or at a later point in time (internally).

The well thought-out operating principle combined with simple visual commands guide the user through the entire measurement process, keeping the training time at the minimum even for advanced cable diagnosis.



VLF Sinus 45 kV

Technical data

Output voltage	
VLF sine wave	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	± 2%
Resolution	10 µA
Frequency range	0.01 Hz ... 0.1 Hz autom. frequency adjustment
Output load	0.6 µF @ 0.1 Hz at 32 kV _{RMS} 10 µF maximum test capacity
Internal tanDelta	
Measuring range	10 ⁻³ ... 10 ⁰
Precision	10 ⁻³
Resolution	10 ⁻⁴
Sheath testing (as per IEC 60229)	0 ... 5 kV, 0 ... 10 kV, 0 ... 20 kV DC
Sheath fault pinpointing	0 ... 5 kV, 0 ... 10 kV, 0 ... 20 kV DC Pulse rate 1:3 and 1:4
Safety	Earth loop ground monitoring, autom. discharging of the test object
Input voltage	100 V ... 264 V, 50/60 Hz, 600 VA
Duty cycle	continuous
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 duty cycle (testing without operational interruptions)
- » AC/DC testing in compliance with DIN VDE, EN, IEEE
- » Intuitive user software with large internal memory
- » Leakage current measurement in DC and VLF rectangular mode
- » Optional internal tanDelta with automatic evaluation acc. to IEEE
- » Maximum user safety through automatic discharge of the test object and earth loop ground monitoring
- » Breakdown detection and load recognition (R, C)
- » Quick, easy logging and updates via USB port
- » Sheath testing and sheath fault pinpointing acc. to IEC 60229

Scope of delivery

- » VLF Sinus 45 kV
- » HV connection cable 5 m
- » Mains cable/grounding cable 3 m
- » Accessory bag
- » USB stick for logging
- » Operating manual

Options

- » Internal tanDelta
- » ESG NT (step voltage probe)
- » External safety device
- » Diagnostic connection set

Order information

Product	Order number
VLF Sinus 45 kV	128300045
Internal tanDelta	138316309
Upgrade internal tanDelta (retroactive)	138316310

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