

HVA68TD

VLF high voltage test set

Datasheet



The HVA68TD is a truly compact and portable VLF test set that determines the condition of medium voltage cables with a voltage rating up to 46 kV (according to IEEE 400.2). In addition to VLF testing (sine and square wave) and DC testing, it also supports sheath testing and sheath fault location*.

The high output power of the HVA68TD expands greatly the load possibilities. It allows testing longer cables or multiple phases in parallel. The integrated Tan Delta (TD) diagnostics unit enables a straightforward condition assessment of the cable system.

Performance: Best in class output power with outstanding TD diagnostics features. Devices under test up to 7 km in length** can be tested at 48 kV_{rms} with 0.1 Hz

Safety first: Two simultaneous ways of discharging (electronic and mechanical) plus integrated 12 kV backfeed protection (at 50/60 Hz) ensure maximum operator safety.

MWT: Combination of withstand testing & Tan Delta diagnostics in compliance with guide IEEE 400.2 - Monitored Withstand Test.

Connectivity: On site, no laptop is required. All results can be later downloaded via USB or Bluetooth for further analysis and easy reporting using the b2 ControlCenter.

Flexible connection options: Robust HV test leads allow simple and safe connection between HVA and the test object. They are available in different lengths and are easily exchangeable.



Output voltage	max. 68 kV _{peak} , 48 kV _{rms}
Output load	1.7 μF @ 0.1 Hz @ 48 kV _{rms}
Weight	63 kg 139 lbs

YOUR BENEFITS



TRUE MODULARITY

HVA68TD can be easily extended to a complete cable diagnostics system by adding products from our PD or PDTD series at any time.



ARC PRE-LOCATION (APL)

The integrated APL function provides failure distance in case of a breakdown during VLF testing. This adds additional value to traditional VLF testing, which saves time and cost in subsequent cable fault location processes.



UNLIMITED OPERATING TIME

HVA test sets are designed for continuous operation within the specifications.



COMPACT AND PORTABLE

Our HVA series has been designed for maximum portability, resulting in widely applicable devices for any type of on-site use.

- Pure sinusoidal output voltage (load-independent) over the entire power range
- Non-arcing contacts eliminate routine servicing and make the HVA almost maintenance-free

- Breakdown voltage and load detection
- Real time oscilloscope of the output voltage on the HVA display
- Programmable test sequences with a tailor-made software tool

*additional sheath fault locator needed
**at 250 pF/m cable capacitance and 1.7 μF load

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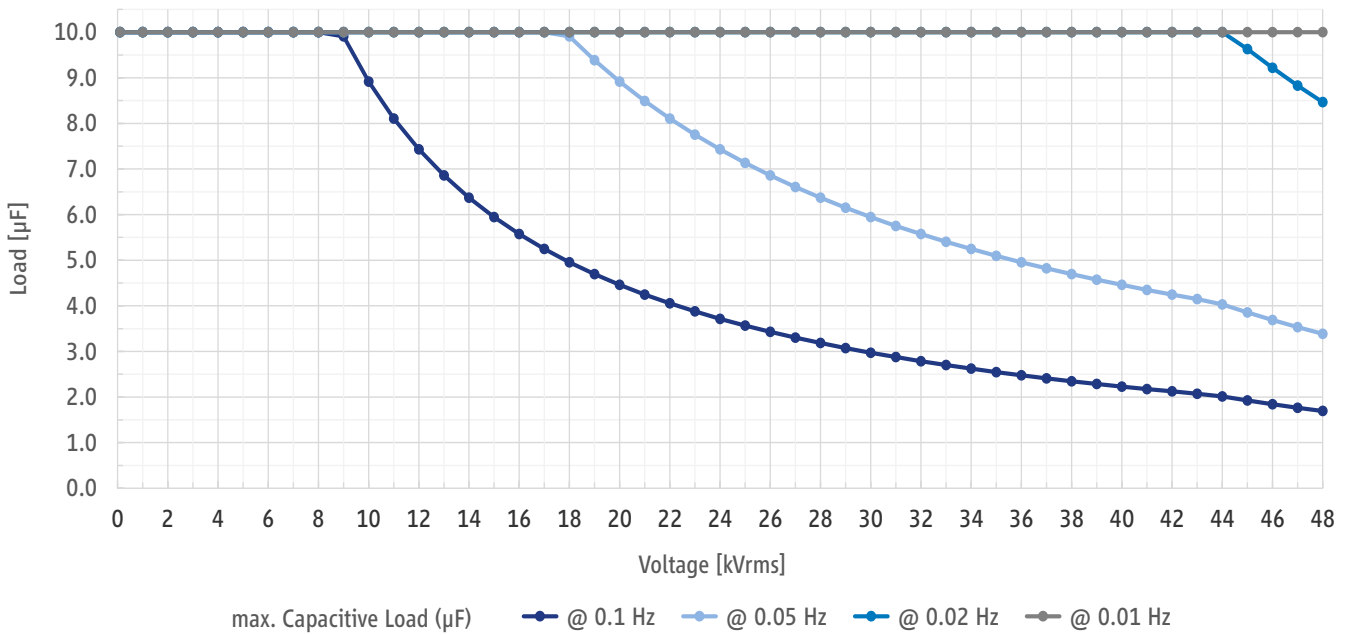
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TECHNICAL DATA

Output characteristics	
VLF sine wave	0 ... 68 kV _{peak} 0 ... 48 kV _{rms}
DC	-68 kV ... 68 kV
VLF square wave	0 ... 68 kV
Output voltage	
Sheath test	0 ... 15 kV (negative polarity)
Voltage setting resolution	0.1 kV
AC frequency range	0.01 Hz ... 0.1 Hz
Frequency setting resolution	0.01 Hz
Output current	
AC	56 mA _{rms} max.
DC	100 mA max.
Sheath test trip current	0.1 ... 10 mA
Sheath fault location	25 mA max.
Duty cycle	Continuous, no thermal limitation of operating time

Load diagram for sine wave



High voltage tests		
Test types	VLF withstand test	
	VLF Tan Delta test	
	Monitored withstand test	
	DC test	
	Sheath test	
	Sheath fault location	pulse - period: 1:3 - 4s, 1:5 - 4s, 1:5 - 6s, 1:9 - 6s (additional sheath fault locator needed)
	Vacuum bottle test	

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High voltage tests (continued)		
Test modes	Manual mode	
	Automatic test sequences (user definable)	
Arc management modes	Burn on arc	
	Trip out on arc	
Compliance	VLF withstand testing according to guide IEEE 400.2 and test standards DIN VDE 0276-620 (CENELEC HD 620 S2), DIN VDE 0276-621 (CENELEC HD 621 S1)	
	AC and sheath testing according to test standard IEC 60502-2 / IEC 60229	
Metering		
Output voltage measurement range	AC TrueRMS	
	Maximum display value	65 kV _{rms}
	Resolution	0.1 kV _{rms}
	Accuracy	± 0.1 kV _{rms} ± 1% of reading
	DC	
	Max./min. display values	93 kV
	Resolution	0.1 kV
	Accuracy	± 0.1 kV ± 1% of reading
Output current measurement range	AC TrueRMS	
	Maximum display value	69 mA _{rms}
	Resolution	0.1 / 1 / 10 / 100 μA _{rms}
	Accuracy	± 1 μA _{rms} ± 1% of reading
	DC	
	Max./min. display values	± 98 mA
	Resolution	0.1 / 1 / 10 / 100 μA
	Accuracy	± 1 μA ± 1% of reading
Tan Delta	Load 10 nF ... 10 μF	
	TD range	0.1 ... 999 E-3
	Resolution	single: 0.1 E-3 mean: 0.01 E-3
	Accuracy	± 0.1 E-3
	Load 1 nF ... 10 nF	
	TD range	0.1 ... 999 E-3
Resolution	single: 0.1 E-3 mean: 0.01 E-3	
	Accuracy	± 0.3 E-3
Arc Pre-Location	Measurement range	80.0 m ... 10.0 km 262.5 ft ... 6.2 mi.
	Velocity range (v)	100.0 ... 300.0 m/μs 328.1 ... 984.3 ft/μs
	Resolution	0.1 m 0.3 ft
Resistance	Range	0.1 MΩ ... 5 GΩ
	Resolution	0.1 / 1 / 10 / 100 MΩ
	Accuracy	typ. 10%
Capacitance	Range	0 ... 30 μF
	Resolution	0.01 / 0.1 / 1 nF and 0.01 / 0.1 μF
	Accuracy	typ. 20%
Flashover voltage	Full output voltage range	

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Further characteristics		
AC supply	190 ... 240V, 50/60 Hz, 3.000 VA 120V operation: 1.500 VA	
Product safety	Backfeed protection: 12 kV at 50/60 Hz	
	DDD Dual Discharge Device (integrated electronic and mechanical discharging)	
	Connector for external interlock	
Data transfer	Key switch (protection against unauthorized use)	
	USB type A	
Report management	Bluetooth	
	Built-in memory: up to 50 reports, 50 test sequences	
PC software	USB drive: dependent on storage capacity	
	b2 ControlCenter (included)	
Environmental conditions	Operating temp. range	-10 ... +55 °C 14 ... 131 °F
	Storage temp. range	-25 ... +70 °C -13 ... 158 °F
	Humidity	5 ... 85%, non condensing
	Altitude	up to 3.500 m 11.483 ft
	Protection class	IP42 (with a closed lid)
Dimensions L x W x H	593 mm x 340 mm x 513 mm 23.3 in x 13.4 in x 20.2 in	
Weight	63 kg 139 lbs	

SCOPE OF SUPPLY

	Art. No.	
HVA68TD VLF high voltage test set	SH5250	
Included accessories	Pcs.	Art. No.
HVA68TD HV test lead PDTD 7 m	1	GH0938
Grounding cable 6 mm ² 4 m M6/clamp transparent	1	GH0522
Corona sphere 2-part, min. clearance distance = 10 mm	2	KMD0081
HVA Guard connection cable	2	KEK0126
HVA Guard connection DUT	2	KMS00064
Test lead with 4 mm plugs 1.5 m	1	KEK0127
Dolphin clip 32 A 4 mm socket black	2	KES0021
G-clamp 6 - 16 mm ² with M8 wing screw	1	KES0274
MC plug S14AR-N with thread shortened	1	KES0282
Straight ring terminal, M14x10 mm	1	KES0384
45° ring terminal, M14x10 mm	1	KES0385
Thread adapting spacer M14 to M10 35 mm	1	KES0386
Corona sphere spacer M10 35 mm	1	KES0387
Spare key for key-lock switch Rafix 16	1	KEC0007
PC software & corresponding smartVLF documentation on a USB drive	1	GZD5028
Bluetooth USB adapter	1	KDG0013
b2 Safety instructions for HVA series multi language	1	DHV1440
Power cord country-specific with C19 connector	1	XKEK0002
Optionally available		
Discharge stick 60 kV 12 kΩ 8 kJ 1.100 mm	1	GH0629