

# HVA90

## VLF high voltage test set

### Datasheet



The HVA90 is a perfectly suitable test set to determine the condition of medium voltage cables with a voltage rating up to 69 kV (acc. to IEEE 400.2-2013). Its compact design and unmatched high voltage output power to weight ratio is second to none on the market and makes it an excellent option for cable testing up to 64 kV<sub>rms</sub> and 90 kV<sub>peak</sub> (sine wave operation). Beside the VLF and DC testing, the HVA90 performs also sheath testing with sheath fault location mode (here, however, additional fault probe is needed).

**Performance:** Outstanding features considering size and weight vs. output load.

**Duty cycle:** No thermal limitation! You can use the test set continuously.

**Safety first:** Two independent discharge devices (electronic and mechanical discharging) and an integrated 12 kV backfeed protection system (at 50/60 Hz).

**Connectivity:** On-site, no external PC is needed. All results can be later downloaded via USB for further investigation and easy reporting via the b2 ControlCenter.

**Solid HV connectors:** Robust HV connectors allow the use of various HV test lead lengths, quick exchange through a replacement cable, or a simpler upgrade path for connection of diagnostics systems.



Output voltage	max. 90 kV <sub>peak</sub> , 64 kV <sub>rms</sub>
Output load	1.0 μF @ 0.1 Hz @ 64 kV <sub>rms</sub>
Weight	127 kg / 280 lbs

## YOUR BENEFITS



### TD AND PD DIAGNOSTICS

HVA90 can be extended to a complete cable diagnostic system at any time.



### DRY SYSTEM

HVA test sets are constructed with non-arcing contacts and no need to change oil. This eliminates routine servicing and makes the test sets almost maintenance-free.



### UNLIMITED OPERATING TIME

HVA generators are designed for continuous operation without any thermal limitations.



### COMPACT AND PORTABLE

Our HVA series have been designed for maximum portability and on-site use. It makes them widely applicable for in-field use.

- Pure sinusoidal output voltage (load-independent)
- Sheath fault pinpointing in combination with sheath fault locator (not included)
- Easily exchangeable HV test lead

- 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
- Report downloads from the device via USB flash drive

# HVA90 VLF high voltage test set

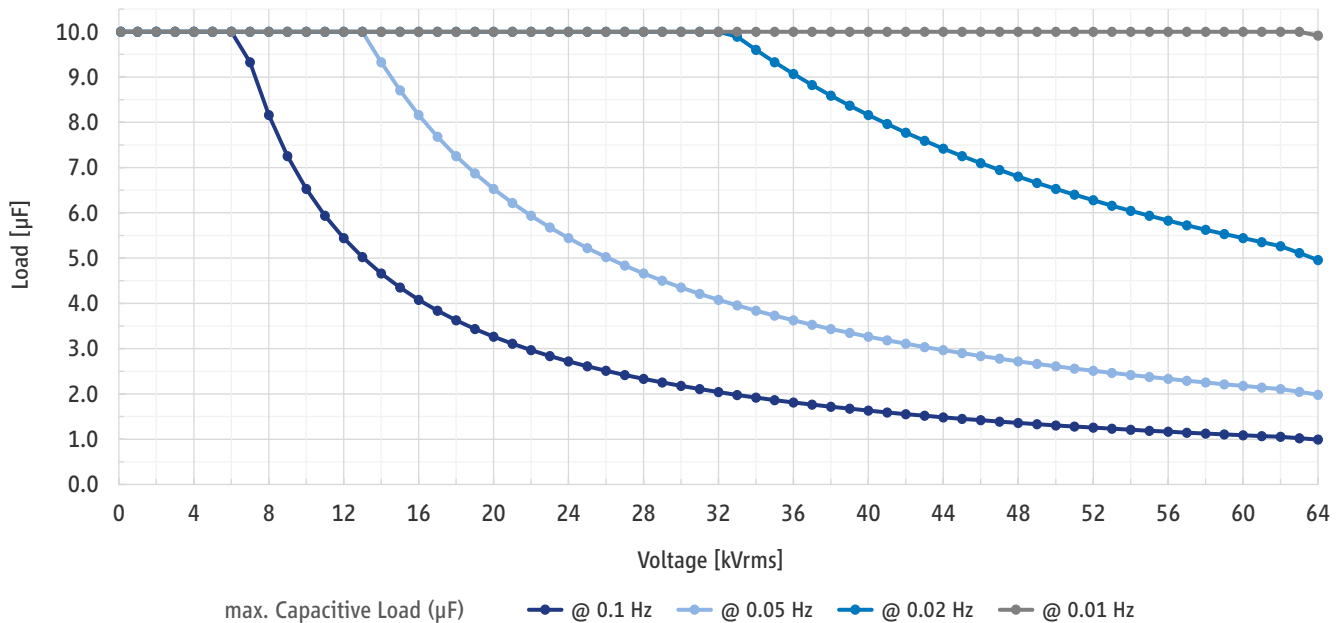
Datasheet



## TECHNICAL DATA

Output characteristics	
VLF sine wave	0 ... 64 kV <sub>rms</sub> / 0 ... 90 kV <sub>peak</sub>
DC	-90 kV ... 90 kV
VLF square wave	0 ... 90 kV
<b>Output voltage</b>	
Sheath test	0 ... 10 kV (negative polarity)
Voltage setting resolution	0.1 kV
AC frequency range	0.01 Hz ... 0.1 Hz
Frequency setting resolution	0.01 Hz
<b>Output current</b>	
AC	41 mA <sub>rms</sub> max.
DC	57 mA max.
Sheath test trip current	0.1 ... 5 mA
Sheath fault location	40 mA max.
<b>Duty cycle</b>	Continuous, no thermal limitation of operating time

### Load diagram for sine wave



High voltage tests		
<b>Test types</b>	VLF withstand test	
	DC test	
	Sheath test	
	Sheath fault location	pulse / period: 1:3 / 4s, 1:5 / 4s, 1:5 / 6s, 1:9 / 6s (sheath fault locator not in scope of supply)
	Vacuum bottle test	

# HVA90

## VLF high voltage test set

### Datasheet



High voltage tests (continued)	
<b>Test modes</b>	Manual mode Automatic test sequences (user definable)
<b>Arc management modes</b>	Burn on arc Trip out on arc
<b>Compliance</b>	VLF withstand testing according to IEEE 400.2 and the test standards DIN VDE 0276-620 (CENELEC HD 620 S2), DIN VDE 0276-621 (CENELEC HD 621 S1) AC and sheath testing according to IEC 60502-2 / IEC 60229

Metering		
<b>Output voltage measurement range</b>	AC TrueRMS	
	Maximum display value	84 kV <sub>rms</sub>
	Resolution	0.1 kV <sub>rms</sub>
	Accuracy	± 0.1 kV <sub>rms</sub> ± 1% of reading
	DC	
	Maximum display value	120 kV
	Resolution	0.1 kV
	Accuracy	± 0.1 kV ± 1% of reading
<b>Output current measurement range</b>	AC TrueRMS	
	Maximum display value	70 mA <sub>rms</sub>
	Resolution	0.1 / 1 / 10 / 100 μA <sub>rms</sub>
	Accuracy	± 1 μA <sub>rms</sub> ± 1% of reading
	DC	
	Max./min. display values	± 100 mA
	Resolution	0.1 / 1 / 10 / 100 μA
	Accuracy	± 1 μA ± 1% of reading
<b>Resistance</b>	Range	0.1 MΩ ... 5 GΩ
	Resolution	0.1 / 1 / 10 / 100 MΩ
	Accuracy	typ. 10%
<b>Capacitance</b>	Range	0 ... 30 μF
	Resolution	0.01 / 0.1 / 1 nF and 0.01 / 0.1 μF
	Accuracy	typ. 20%
<b>Flashover voltage</b>	Full output voltage range	

Further characteristics		
<b>AC supply</b>	210 ... 240 V, 50/60 Hz, 3.000 VA	
<b>Product safety</b>	Backfeed protection: 12 kV at 50/60 Hz	
	DDD Dual Discharge Device (integrated electronic and mechanical discharge device)	
<b>Environmental conditions</b>	Operating temperature range	-10 ... +50 °C
	Storage temperature range	-25 ... +70 °C
	Humidity	5 ... 85%, non condensing

# HVA90 VLF high voltage test set

Datasheet



Further characteristics	
Data transfer	USB type A
	RS232
Report management	Built-in memory: up to 50 reports, 40 test sequences
	USB flash drive: dependent on storage capacity
PC software	b2 ControlCenter (included)
	HVA ControlCenter (included)
Dimensions L x W x H	545 x 445 x 610 mm
	21.45 x 17.51 x 24 in
Weight	127 kg / 280 lbs

## SCOPE OF SUPPLY

	Art. No.
HVA90 VLF High Voltage Test Set	SH5017
Included accessories	Pcs. Art. No.
HVA94 HV test lead 100 kV PD 7 m MC14	1 GH0540
Earth lead 4 m 6 mm <sup>2</sup> transparent M6/clamp	1 GH0522
Power chord country specific - Unit side C19	1 XKEK0002
HVA language specific manual	1 XDHV0005
HVA safety instructions multi language	1 DHV1440
HVA 1st generation data storage device with PC software	1 GZD5026
Extra Power-on key	1 KEC0007
Cable serial DB9 f/f Link 3 m	1 KEK0017
UC232R-10 "ChiPi" USB-RS232 Adapter	1 KEK0049
HVA90/120 accessories bag with b2 logo, black	1 VKR0053

## OPTIONALLY AVAILABLE

Additional Accessories	Art. No.	Diagnostics Options	Art. No.
Discharge Stick 90 kV 18 kΩ 46 kJ 1450 mm	GH0630	TD90-MC Tan Delta diagnostics system	SH5025
Transport case with wheels	VKR0012	PDTD90-2 PD & TD diagnostics system	SH5033



VKR0012



GH0630



TD90-MC



PDTD90-2

DHV1445 Rev00 – © b2 electronics GmbH – Subject to change without notice.