

HVA120

VLF high voltage test set

Datasheet



The HVA120 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 85 kV_{rms} and 120 kV_{peak} (sine wave operation). Beside the VLF and DC testing, the HVA120 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. 120 kV _{peak} , 85 kV _{rms} |
| Output load | 0.5 µF @ 0.1 Hz @ 85 kV _{rms} |
| Weight | 198 kg / 436.5 lbs |

YOUR BENEFITS



TD AND PD DIAGNOSTICS

HVA120 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

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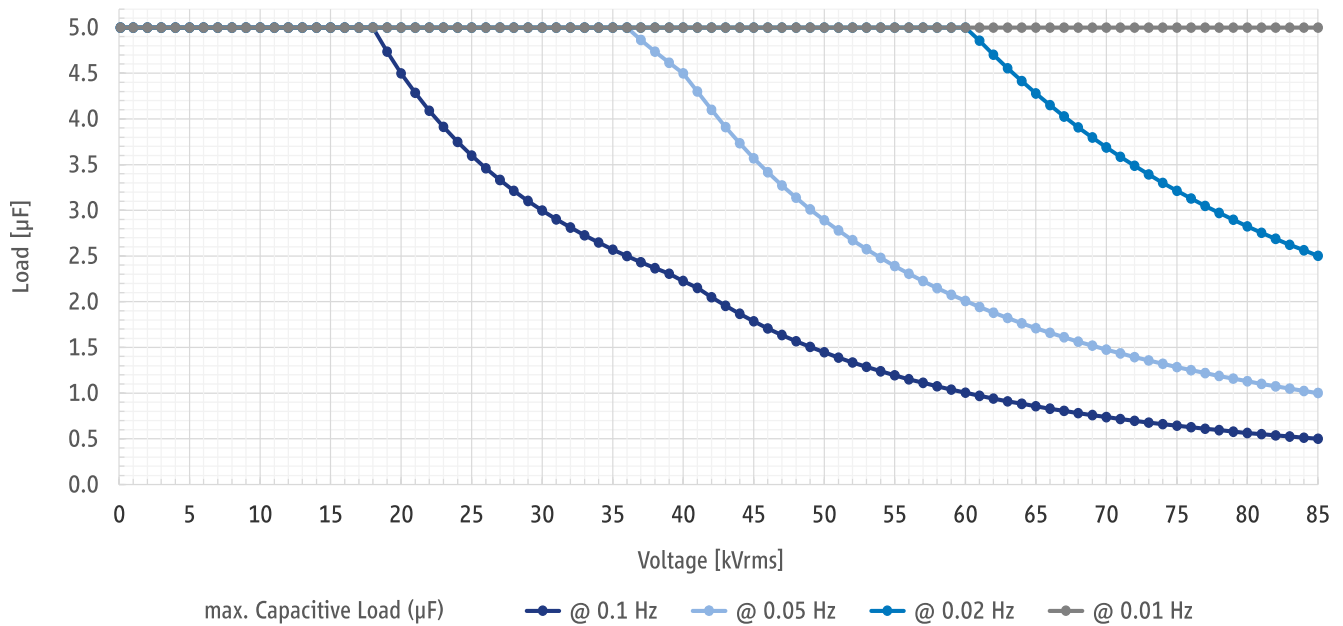
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TECHNICAL DATA

| Output characteristics | | |
|--------------------------|------------------------------|---|
| Output voltage | VLF sine wave | 0 ... 85 kV _{rms} / 0 ... 120 kV _{peak} |
| | DC | -100 kV ... 100 kV |
| | VLF square wave | 0 ... 100 kV |
| | 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 |
| | Output current | AC |
| DC | | 80 mA max. |
| Sheath test trip current | | 0.1 ... 5 mA |
| Sheath fault location | | 40 mA max. |
| Duty cycle | | Continuous, no thermal limitation of operating time |

Load diagram for sine wave



| High voltage tests | | |
|--------------------|-----------------------|---|
| Test types | 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 | |

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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 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 | |
|----------------------------------|---|
| Output voltage measurement range | AC TrueRMS |
| | Maximum display value 100 kV _{rms} |
| | Resolution 0.1 kV _{rms} |
| | Accuracy $\pm 0.1 \text{ kV}_{\text{rms}} \pm 1\%$ of reading |
| | DC |
| | Maximum display value 140 kV |
| | Resolution 0.1 kV |
| | Accuracy $\pm 0.1 \text{ kV} \pm 1\%$ of reading |
| Output current measurement range | AC TrueRMS |
| | Maximum display value 70 mA _{rms} |
| | Resolution 0.1 / 1 / 10 / 100 μA_{rms} |
| | Accuracy $\pm 1 \mu\text{A}_{\text{rms}} \pm 1\%$ of reading |
| | DC |
| | Max./min. display values $\pm 100 \text{ mA}$ |
| | Resolution 0.1 / 1 / 10 / 100 μA |
| | Accuracy $\pm 1 \mu\text{A} \pm 1\%$ of reading |
| Resistance | Range 0.1 M Ω ... 5 G Ω |
| | Resolution 0.1 / 1 / 10 / 100 M Ω |
| | 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 |

| Further characteristics | |
|--------------------------|--|
| AC supply | 210 ... 240 V, 50/60 Hz, 3.000 VA |
| Product safety | Backfeed protection: 12 kV at 50/60 Hz |
| | DDD Dual Discharge Device (integrated electronic and mechanical discharge device) |
| Environmental conditions | Operating temperature range -5 ... +45 °C |
| | Storage temperature range -25 ... +70 °C |
| | Humidity 5 ... 85%, non condensing |

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| 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 | 790 x 445 x 740 mm 31.1 x 17.51 x 29.1 in |
| Weight | 198 kg / 436.5 lbs |

SCOPE OF SUPPLY

| | Art. No. | |
|---|----------|----------|
| HVA120 VLF High Voltage Test Set | SH5019 | |
| Included accessories | Pcs. | Art. No. |
| HVA120 HV test lead 160 kV PD 10 m MC14 | 1 | GH0635 |
| Earth lead 5 m 16 mm ² transparent M6/clamp | 1 | GH1009 |
| 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 120 kV 18 kΩ <36 kJ 1800 mm | GH0605 | TD120-MC Tan Delta diagnostics system | SH5026 |
| Transport case with wheels | VKR0038 | PDTD120-2 PD & TD diagnostics system | SH5034 |
|  VKR0038 | |  TD120-MC PDTD120-2 | |