

# ElMeS™ high-voltage DC tester



## ...as a tabletop device

The processor-controlled and fully electronically regulated ElMeS™ high-voltage DC tester enables high-voltage testing and insulation measurement to be carried out in just one test step. A precise high-voltage source allows the charging process of the specimen to be current-controlled. With integrated voltage monitoring and a monitored discharge function, the ElMeS™ high-voltage DC tester is perfect for semi-automatic and fully automatic testing. For integration into automatic test sequences, the ElMeS™ high-voltage DC tester has various options for contact monitoring. This ensures that the specimen is connected to the tester. The ElMeS™ high-voltage DC tester is easy to use thanks to a 10"-wide touch screen for operation and monitoring.

## Advantages

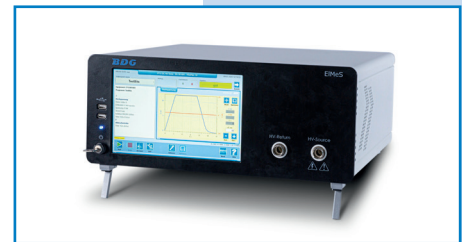
- Fast test voltage rise for a shorter cycle time
- Extremely low overshoot during voltage rise
- Precise voltage regulation
- HV and insulation measurement in a single test step, which reduces the cycle time
- Can be operated on the built-in LCD and using a 10"-wide touch screen
- DC measurement
- Compact housing
- Protection of the specimen
- Operation via Ethernet Modbus TCP/IP
- Suitable for continuous operation for long-term measurements
- Warning lamp set can be connected
- Safety circuit with cross-circuit detection

# ElMeS™ – high-voltage DC tester

Technical data		
Test voltage (DC)	Tolerance	±2.5 V from the target value
	Ripple	At 100 V = 1 Vpp, at 1000 V = 2 Vpp, at 10,000 V = 5 Vpp
	Ripple factor	At 200 V < 1.0%, at 1000 V < 0.5%, at 2500 V < 0.5%
	Rate of rise	100 V/s – 99 kV/s
	Discharge internal resistance	100 MΩ, with HV performance box 1.6 MΩ
	Charge at the output	< 350 mJ *
	Overload protection	Current limitation < 10 mA
	Duty cycle	100%
	Output insulation	±150 V (max. voltage difference between GND output and PE)
Test voltage evaluation	Measuring range	12,000 V
	Uncertainty of measurement	±1.5 V from actual value
	Resolution	1 V
Power evaluation	Measuring ranges	Range 1: 0 to 200 µA Increment of 1 nA Range 2: 0 to 10 mA Increment of 1 pA
	Uncertainty of measurement	Range 1: From 0.5 µA to 200 µA 1% of measured value
		Range 2: From 10 µA to 20 µA 1% of measured value 20 µA to 10 mA 0.5% of measured value
Resistance evaluation	Measuring range	240 GΩ
	Uncertainty of measurement	At 100 V per 50 MΩ < 1% of actual value
		At 100 V per 100 MΩ < 2% of actual value
		At 100 V per 1 GΩ < 5% of actual value
		At 100 V per 2 GΩ < 15% of actual value
	Resolution	1 kΩ
Test period	Adjustment range	No time limit
	Measurement technology	Two-wire measurement technology with guard for current measurement input

General data		
Interfaces	Ethernet	Ethernet http, web interface, data transmission in JSON format
	LCD	Display: 10"-wide touch screen
Power supply	Input voltage range	100 to 240 VAC, 50 to 60 Hz
	Power consumption	Max. 250 VA
	Internal protection	Fine-wire fuse 5 x 20 mm, T4A
	Overvoltage category	II
Mains connection	Plug with switching characteristic: Neutrik powerCON NAC3FX-W-TOP	
Dimensions and weights	Dimensions	437 mm x 176 mm x 480 mm (W/H/D)
	Weight	17.5 kg
Degree of protection	IP20	
Equipment on the HV 19" device	10"-wide multi-touch screen 1280 x 800 pixels, Windows 10 operating system, internal SSD storage disk, 4 x USB 4.0, safety circuit with cross-circuit detection, connection for warning lamp set, operation with test guns possible	
Operating conditions	Ambient temperature	+5 to +40 °C
Relative humidity	Max. 80% non-condensing	

Equipment	Tabletop test rig	Universal test rig
Secured test room	➤	➤
Specimen feed	Drawer	➤
	Manual rotary indexing table	➤
Integrated emergency stop circuit	➤	➤



ElMeS™ as HV 19" device



HV test gun as an accessory



Tabletop test rig with HV 19" device



Universal test rig with built-in ElMeS™ high-voltage DC tester

\* According to DIN EN 50191 (VDE 0104) "Erection and operation of electrical test equipment", the standard need not be applied if the discharge energy is < 350 mJ or the current caused by the voltage is < 12 mA for DC voltage. The requirements for the discharge energy (< 350 mJ) and the safety current limitation to < 12 mA are fulfilled by the tester itself. Within a test station, however, the energy content of the test equipment and the specimen must also be taken into account. This can lead to discharge energies > 350 mJ and discharge currents > 12 mA at an induction-free 2 kΩ resistor, meaning that DIN EN 50191 (VDE 0104) must then be applied and, consequently, suitable safety equipment may be required.