

VDS60 (PD/TD)

Ultra-compact and universal VLF Cable Testing and Diagnostics System

The b2 electronic GmbH high voltage Test System **VDS60 (PD/TD)** offers both portable and build-in solutions for testing and diagnostics of medium voltage cables, rotating machines and transformers.

The comprehensive control and diagnostics software **b2 Suite®** makes the process of testing and diagnostics easy as never before, guiding the operator through the entire process. The Data Bank solutions of **b2 Suite®** make data processing and availability for future references accessible in a few click's.

Short Facts

- VLF and DC Output
- PD Diagnostics and Location
- TD Diagnostics
- **b2 Suite®** software
- Sheath Fault Location
- Vacuum Bottle Test



Representative images

Features

- Output voltage 62kVpeak, 44kVrms
- Pure sinusoidal output voltage (load-independent)
- Light and compact as portable version or 19" rack installation
- Testing up to 25kV Cables (3 x U0)
- Unlimited and continuous duty cycle – no limitation to operating time
- Cable testing according: CENELEC HD 620/621, IEEE 400.2-2004, IEEE 400-2001, etc
- USB and Bluetooth connections
- Integrated 12kV transient protection (50Hz)
- Dual Discharge Device (DDD®), both integrated and automatic discharge devices
- Easy exchangeable HV cable
- Intuitive menu operation
- Sheath Test
- Sheath Fault Locating (with Earth Fault Locator – not supplied)
- Vacuum Bottle Test

b2 Suite® – Control Software

- Comprehensive control software – **b2 Suite® (VLF testing, PD and TD diagnostics, Data Base)**
- Operating and control of all hardware through **b2 Suite®**
- Comprehensive Data Bank
- Automatic and manual modes
- Saves data automatically
- Sets parameters and recommend settings
- Leads the operator through the diagnostics step by step
- Extremely easy and quick reporting

b2 Suite® - comprehensive but simple!

b2 Suite® is the integrative “all-in-one” control and diagnostics software. This process was never as easy as now.

Grid Management
Database

Cable Testing
VLF, DC and
Isolation

Partial Discharge
Diagnostics and
Location

Tan Delta
Diagnostics

Analysis
Reporting

b2 Suite® leads you through the entire process of cable testing like VLF, PD and TD Diagnostics, Analysis and Reporting and serves at the same time as the most comprehensive Database available.

Grid Management Data Base

- Illustrated topology of cable , joints, terminations and all necessary data
- Easy implementation of different files, pictures and data (also for reporting)
- Simple search function for future reference

Cable Testing

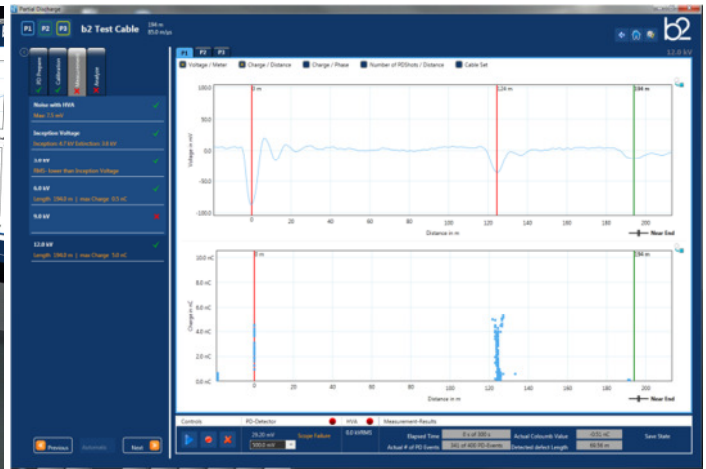
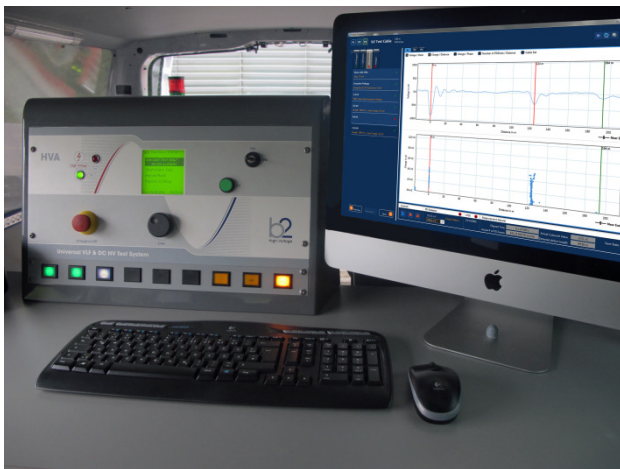
- Control of all hardware (like HV Generator)
- VLF cable testing (sinusoidal and rectangular)
- DC cable testing (pos. and neg.)
- Isolation Testing

Partial Discharge Diagnostics and Location

- Automatic and manual modes for the entire process
PD Prepare, Calibration (PDIV, PDEV), Measurement, Analysis and Reporting
- Saves data without commanding
- Sets or recommends parameter
- Does the process step by step

Tan Delta Diagnostics

- Do PD and TD simultaneously
- Integrated TD (Built In)
- Diagnostics at variable frequencies



b2 High-Voltage is a business division of

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EN ISO 9001
Zertifikat Nr. 20 100 92003758

DHV1308 Rev01
ENGLISH

Subject to alternations.
Errors excepted,
Illustrations are not binding.

VDS60 (PD/TD)

Article

SH0239

VLF Generator (0,1Hz)

Input Voltage		110 – 240 V 50/60 Hz (1,5 kVA)
Output Voltage	Sinusoidal	0 – 62 kV peak, 44 kV rms
	DC	± 0 – 60 kV
	Squarewave	0 - 60 kV
	Accuracy	± 1%
	Resolution	0.1 kV
Output Current range		0 – 40 mA (Resolution 1 µA) Accuracy: ±1%
Resistance Range		0.1 MΩ...5 GΩ
Output Frequency		0.01 ... 0.1 Hz in steps of 0.01 Hz (default 0.1 Hz) - auto frequency
Output Load		10.0 µF maximum Capacitance! ¹
Sheath Test	Max Test Voltage	10 kV
	Trip Current	0.1 mA – 5.0 mA
Sheath Fault Location ²	Max Test Voltage	10 kV
	Pulse/Period	1:3 / 4 s, 1:5 / 4 s, 1:5 / 6 s, 1:9 / 6 s
Output Modes		AC (VLF) Symmetrical and load independent across full range, DC (plus or negative polarity), Burn-/Fault Condition or Fault Trip Mode, Jacket / Sheath Testing
Safety		50Hz 12kV Feedback Protection / Dual Discharge Device (internal)
Metering		Voltage and Current (True rms and / or peak), , Capacitance, Resistance, Time, Flashover Voltage
Duty		Continuous! No thermal limitation for operating time.
Weight		57 kg
Size		450 x 340 x 520 mm (excl. Carry Handle)
Environmental conditions		Storage: -25°C to + 70°C
		Operating: -5°C to + 45°C
		Humidity: 5-85% non condensing

Tan Delta Diagnostics (TD)

Input voltage		2 type "D" alkaline cells or NIMH batteries
Operating voltage	Sinusoidal	1 – 44 kV rms
	Frequency	0,1 Hz 0,01 to 0,09 Hz ³
Voltage Measurement	Resolution	0,1 kV rms
	Accuracy	1 % of reading
Current Measurement	Resolution	1 µA rms
	Accuracy	1 % of reading
Tan Delta Measurement	Resolution	1 x 10 ⁻⁵
	Accuracy	± 1 x 10 ⁻⁴
Load range		500 pF to 10 µF
Weight and dimensions		Incorporated in PD Coupling Capacitor
Standards		EMV: IEC6100-4-2, IEC6100-4-4, EN55077; Safety: EN60950, EN50191, EN61010-1

¹ At lower frequency and voltage

² in combination with locating device (not in scope of supply)

³ Calibration Certificate for variable frequencies optional

Partial Discharge Diagnostics

Operating Voltage	Sinusoidal	1 - 44 kV rms
	Frequency	0,1 Hz
HV Coupling Capacitor	Filter Capacitance	1 nF
	Dimensions	L 300 x H 590 x W 250 mm - 18,5 kg
HV Filter	Dimensions	L 300 x H 670 x 250 mm – 15 kg
Measuring Range		12.800 m at 80m/μs
PD background level		10pC
Sample rate		10ns
Input Impedance		10 kΩ / 50 pF
Bandwidth		100 MHz

Control and Diagnostic Software b2 Suite®

Features	<ul style="list-style-type: none"> • 0,1 Hz PD Diagnostics and TD Diagnostics at the same time! • Automatic or manual modes for PD Diagnostics • Guided Diagnostics Process • Comprehensive Data Bank • Sets or recommends measuring parameters • Extremely easy reporting
Control	VLF generator control, PD Diagnostics and TD Diagnostics
Measurement	Cable length with PD activities, PD Location, PD Mapping, PD Magnitude, Sine Wave Imposed display, Background Noise, PDIV and PDEV, etc...
System requirements	MS Windows 7
Languages	on request

Cable Drum Rack

Cables	50m (other length on request) PD free cable (< 5pC)
Versions	Portable or build-in version



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