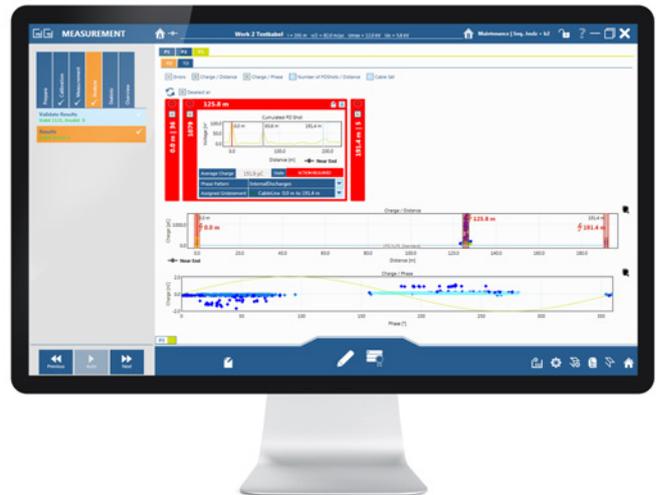


# PD30-E

## Partial Discharge Diagnostics System



The b2 electronics high voltage Test System **PD30-E** offers both portable and built-in solutions for diagnostics of medium voltage cables, rotating machines and transformers.

Diagnostics of medium and high voltage cables provides the opportunity for early detection of vulnerabilities, allowing preventative maintenance work to be carried out before the cable fails in service. Partial Discharge diagnostics (PD) allows a precise analysis of cables and their joints and terminations. In combination with the VLF HV Generator HVA28TD (not in scope of supply), Tan Delta Diagnostics can also be performed.

### Features

- Small, light and portable units
- b2 Suite - comprehensive diagnostics software and database
- Easy and clear process of PD measurement
- Manual and automatic diagnostics modes
- Saves all data automatically
- PD-locating and phase-resolved presentation of PD
- PD magnitude
- High noise reduction
- Comprehensive but easy reporting
- Filter for suppressing noise signals
- Lightest solution
- Measurement setup according to IEC 60270 for Partial discharge measurement and calibration

[www.b2hv.com](http://www.b2hv.com)

# PD30-E

## Partial Discharge Diagnostics System

The only IEEE 400.2-2013 described VLF voltage shape (sinus) for PD

- PD mapping - precise localization of partial discharge
- PD phase resolution (PD pattern) to categorize type of fault
- Inception and extinction voltage
- Load-independent frequency

b2 electronics diagnostics system PD30E (combined with VLF generator<sup>1</sup>) provides a pure sinusoidal output voltage with stable frequencies. This is a pre-condition of direct comparison of PD and TD diagnostics results across cables of different lengths. The characteristics at ever-changing frequencies and varying output voltage waveforms provide no basis for reliable comparisons. Pure sinusoidal output voltage is recommended by standards (such as IEEE400.2-2013) and therefore clear guidelines and test procedures are provided.

The comprehensive control and diagnostics software b2 Suite makes the process of diagnostics easy as never before, guiding the operator step by step through the entire process. The b2 Suite Data Base allows your data to be processed, stored and made available for future reference in just a few clicks.

<sup>1</sup> VLF (0.1 Hz) high voltage generator (required) with integrated Tan Delta Diagnostics (option) is not in scope of delivery.



### Compact, lightweight and portable solutions

From small portable units for on-site use (e.g. off-shore) to built-in solutions for „test van“ versions.



### Automatic Mode

In addition to the manual, incremental, and self-explanatory menu, the system also offers an automatic measurement mode.



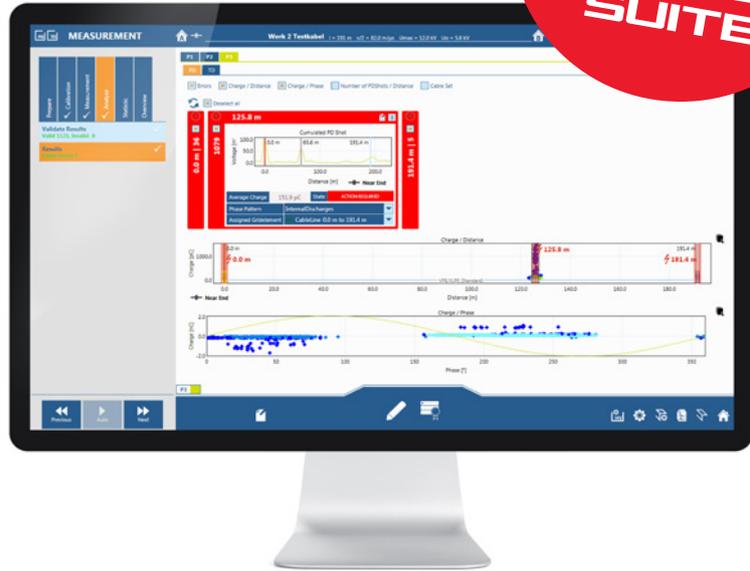
### b2 Suite software

b2 Suite provides a comprehensive „all-in-one“ software solution for testing, diagnosis and management with a comprehensive database.



# b2 Suite

## Diagnostics and Data Base Software



- Automatic or manual modes for testing and PD diagnostics
- Guided Diagnostics Process **leads the operator through diagnostics step by step**
- Automatic & manual gain and trigger setting
- Comprehensive Data Base
- Sets or recommends measuring parameters
- Reporting by a mouse-click
- Recommended by Standards (CENELEC & IEEE), with guidance for interpretation in literature
- Precise location of PD events on cable insulation, terminations and joints
- Algorithms for PD detection
- Analog and digital frequency filters

- Phase-resolved presentation (pattern) of PD
- Measurement in as little as 15 min incl. reporting
- Presentation of PD events over total cable length
- PD mapping
- Direct Mapping of cable trace in OpenStreetMap®
- Display of parasitic frequencies (bandpass and bandstop for parasitic frequencies)



### Algorithms for detection of PD activities

The b2 Suite distinguishes between valid and invalid PD signals, and then separates them. This facilitates easy interpretation of results for the user.



### Database

Comprehensive b2 Suite database enables easy analysis and evaluation of the PD measurement. A fast search function for archived measurements and easy reproducibility of a measurement are among the key features.



### Reporting

Reporting by a mouse click – simple or comprehensive. Individual design for reporting and easy integration of data and files.

# PD30-E

## Partial Discharge Diagnostics (PD)

Article number	SH5027	
Input supply voltage	110 - 240 V AC, 50/60Hz	
Operating voltage	sine wave	1 - 24 kV rms / 34 kV peak
	frequency	0.01 - 0.1 Hz in steps of 0.01 Hz (default 0.1 Hz) - auto frequency
Capacitance	HV Coupling capacitor	~ 1.8 nF
	HV Filter	4 nF
Dimensions	L 300 x W 250 x H 486 mm	
Weight	19 kg	
Filter	analog & digital	
Velocity Range (v/2)	10 - 150 m/μs	
Measuring range	100 km	
PD background level	< 10 pC	
PD localization	accuracy	1%
PD resolution	0.1 pC   0.1 m	
Sample rate	up to 250 MS/s	
Input impedance	10 kΩ / 50 pF	
Bandwidth	100 MHz   analog filter	
Signal amplification	0 - 52 dB (1 channel)   0 - 72 dB (2 channel)	
Environmental conditions	storage	- 20°C to + 65°C
	operating	- 5°C to + 45°C

## Control and Diagnostics Software b2 Suite

Features	<ul style="list-style-type: none"> <li>• Automatic or manual modes for PD Diagnostics</li> <li>• Guided Diagnostics Process</li> <li>• Comprehensive database</li> </ul>
Control	b2 VLF generator control and b2 Suite software
Measurement	Cable length with PD activities, PD Location, PD Mapping, Background Noise, PD Magnitude, Sine Wave Imposed display, PDIV and PDEV, etc...
System requirements	MS Windows 8 / 10, 64 Bit operating system
Scope of delivery	PD30-E device, PDC1 calibrator, HV Cable, power and grounding cable, HV test leads DUT, corona shields Transport boxes (2), b2 Suite software (1 license), Operating manual
NOT in scope of delivery	Computer / PC, VLF (0.1 Hz) Generator (Voltage source)

Please note: VLF (0.1 Hz) high voltage generator (required) is not in scope of delivery.