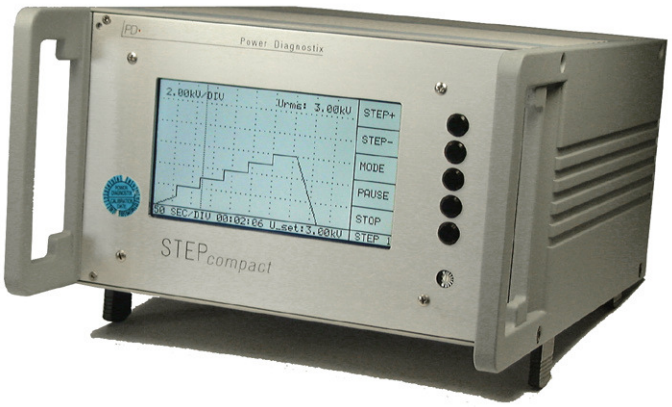
# STEP*compact*

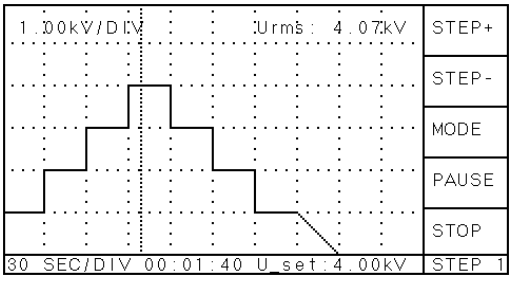



Increasing the high voltage stepwise is a task that is often required during type testing and production testing of high voltage products. The STEP*compact* is an instrument to automate such step tests. The unit combines the control function with the measurement capabilities of a high voltage meter. As a stand-alone instrument, the STEP*compact* can be easily moved between different high voltage test sets.

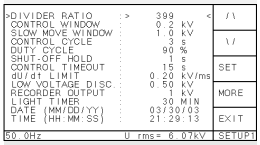
The STEP*compact* measures the voltage signal derived from a capacitive or resistive divider. Using a fiber optic transmission, the UP and DOWN relay contacts of the voltage regulator are actuated to adjust the high voltage according to the programmed test sequence.

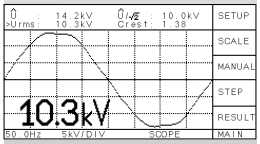
**Features**
Similar to the HV*compact*, the instrument calculates and displays the characteristics of the captured high voltage signal such as Û, Û/√2, $U_{rms}$, frequency, and the crest factor. The unit accepts a nominal input voltage of $100V_{rms}$. In order to correctly acquire even excessively distorted high voltage signals, the STEP*compact* samples up to 200V peak signals.
Using the five menu-driven control buttons, up to 35 different test sequences can be programmed and stored in a non-volatile memory. A test sequence consists of steps and ramps in any order. Besides the automatic mode, a manual mode can be used to set a specific voltage and keep it over time. In factory environments with strongly varying load situations, this function can be very helpful to maintain a stable high voltage level with long-term tests.
Up to seven configurations can be stored in the non-volatile memory in order to adapt the instrument to the properties of different high voltage test sets. Besides the divider ratio, a configuration setup contains settings such as the control cycle or the control window to tune the instrument to the properties of the high voltage test set.

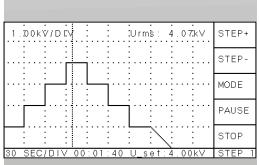
## *Safety and automation for step test sequences*

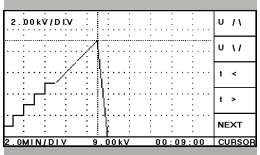


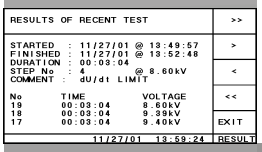

*Running step test sequence*

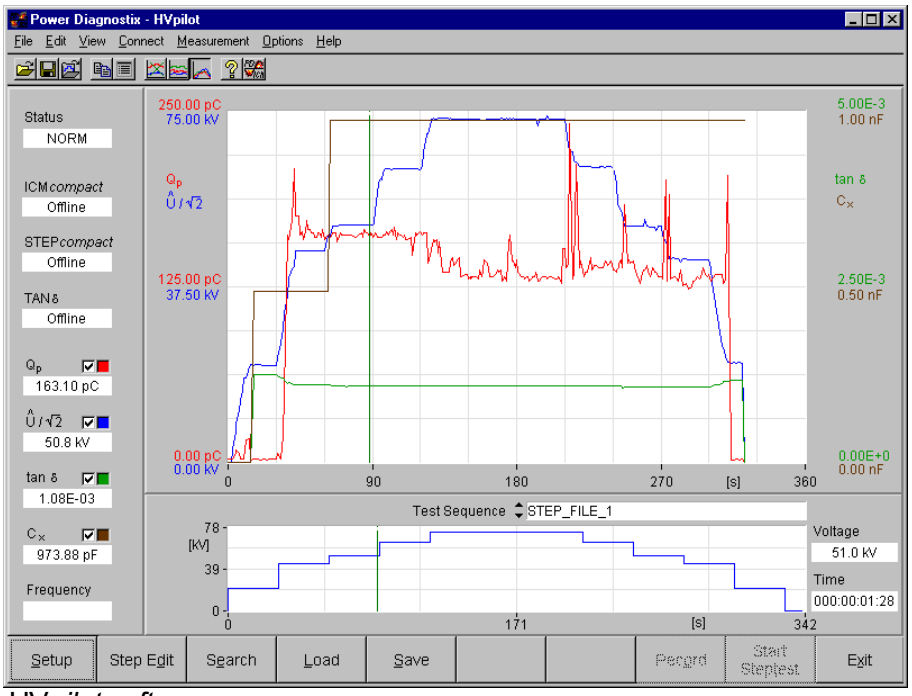



HV*pilot software*

In the standard configuration, the STEP*compact* comes with a self-contained relay box that is remotely controlled via a fiber optic cable. Alternatively, a direct connection to the HV*control*, Power Diagnostix standard control unit for high voltage test sets, can be provided.
To ensure a safe unattended processing of a step test, the STEP*compact* offers several safety features. Incipient breakdown is detected by monitoring the change of the voltage (dU/dt). Further, timeout limits can be set. The instrument keeps a record of the recent test to validate its successful completion or to indicate the point of breakdown or cancellation.

**HV*pilot* Software**
The HV*pilot* software allows the complete supervision of a high voltage test sequence. Using a serial interface, the software connects to the STEP*compact* for the voltage control and measurement. Further, the HV*pilot* software offers convenient programming and editing of the test sequences. Additionally, this software can connect to the ICM*compact* to read the partial discharge level and to the TDA*compact* to read the tanδ as well as the capacitance of the device under test. An export function allows to save the acquired data in file formats for MS-Excel and MS-Word.

Offering complete measurement of high voltage signals plus flexible programming of step test sequences makes the STEP*compact* an ideal and cost-effective solution to automate high voltage test sets. The optional software HV*pilot* offers convenient programming and reporting.



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