DIGITAL PD DETECTOR

LDD-6

The Digital PD Detector LDD-6 is designed for standardized measurements according to IEC 60270. The development is based on our long-term experience in the wideband PD measuring technique. The main applications of the LDD-6 are PD quality tests of HV equipment in laboratory and on-site as well as fundamental PD studies in research and education.

Based on wideband detection and digital processing of the PD signals, a high pulse resolution performance (up to 100 kHz) at high measuring sensitivity (< 1 pC) is only one of the features of this device. Due to the compact design, the device is easy to handle. The integrated Windows-NT computer with its user-friendly software allows computer-aided measuring, recording, monitoring and analysis of PD pulses. The PD quantities are displayed in real-time mode and can also be replayed in different modes, like phase resolved PD pattern (PRPDP) as well as a q-u-diagram of PD events. The integrated protocol generator is suitable for creating a simple test report, which can automatically arrange the measured values on the quality test certificate.

Due to the additional mode for noise reduction, the device is not only applicable in screened test laboratories but even under noisy ambient conditions in non-screened production test facilities and on-site. An implemented single channel hardware gating function allows a suppression of external disturbing pulses. This noise cancelling channel is equipped with a software controlled amplifier that features a wide dynamic range.

Hardware of the internal PD Detector

- PD detection at 50 Ω   < 1pC
- PD measuring ranges (AUTO-ranging in 3 dB steps):   100,000 pC
- wideband pre-amplifier: frequency range at 50 Ω   20 kHz ... 20 MHz
- upper limiting frequency of the wide-band amplifier   > 20 MHz
- wideband pulse processing unit: frequency range   100 kHz - 500 kHz
- bandwidth: 400 kHz
- resolution A/D-converter   12 Bit
- maximum pulse repetition rate (superposition error approx. 10 %)   100 kHz
- maximum pulse resolution   100 kHz
- double pulse resolution (positive superposition error < 30 %)   10 μs

Hardware plug-in: GATING UNIT GU

- plug-in for LDD-6 PD measuring system
- real hardware „gating"
- one noise pulse input channel, which is equipped with a software controlled amplifier featuring a dynamic range adjustable between 0 - 80 dB

Further hardware equipment

- computer-aided measuring, recording, monitoring and analysing of PD pulses
- micro-computer

Software equipment

- standard system-, measuring- and evaluation software for PD measurements
- operating system WindowsNT 4.0
- PD measuring and analysing, displaying the test voltage (if connected)
- automatic calibration
- replay of stored PD events, phase resolved PD analysis
- PRPDP - phase resolved PD pattern, phase resolved 2D representations
- q-u-diagram; q-t-diagram

Protocol generator

- protocol generator for creating a test report
- automatic arrangement of values in the released test report
- printing of test report (printer not included)