



PARTIAL DISCHARGE TESTING & MONITORING

AQUILA[®]

PORTABLE PD ANALYZER



AQUILA

Portable PD Analyzer



The Doble Aquila offers comprehensive Partial Discharge measurement and temporary monitoring capabilities for field testing of High Voltage Assets with particular focus on MV and HV cable insulation system health assessment.

The battery powered device features a three channel 30MHz bandwidth Ultra-Wide-Band acquisition system, paired with advanced signal analysis tools including TF mapping. It enables users to discriminate PD from noise and other nuisance signals in the most challenging environments such as Medium and High voltage Cable PD assessments. Cable Fault Location analysis capabilities provided by the Aquila allow to locate PD activity across the length of the cable system under

Powered by the PD Pro software, acquired PD signals can be automatically identified via the provided PD Classification feature.

Applications

Part of the wider Doble portfolio of in-service PD test equipment, the Aquila's primary technological value proposition focuses on cable assessment and cable fault location. However, the AQUILA is suitable for a wider range of field diagnostics and temporary monitoring of assets such as electric generators and motors, transformers, gas insulated and air insulated switchgear.

Specifications

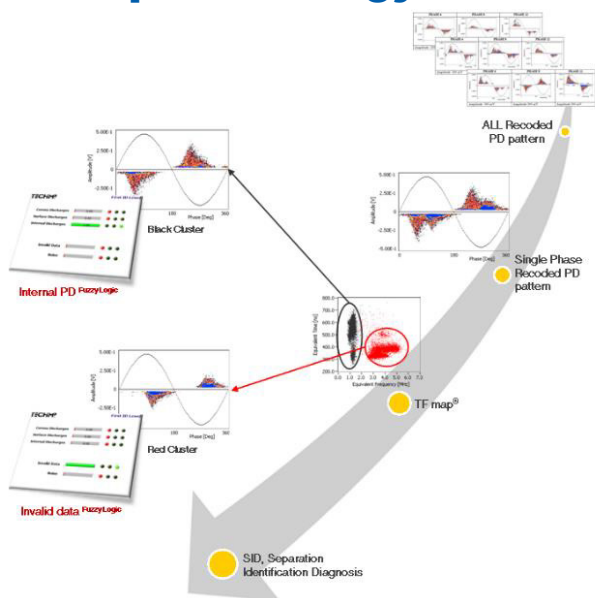
- **Innovative:** Instrument for partial discharge recording and processing
- **Ultra Wide Band:** Fast integrated processing capability
- **Up to 6 PD Channel:** Full support to UWB Doble Technology, one channel for synchronization
- **Compact:** PD Pulse detector and Waveform analyzer
- **Connectivity:** (Wi-Fi, Fiber Optics, USB, Bluetooth)
- **Fuzzy Logic:** Diagnostic tools and statistical processing

Key Points

- 3 (up to 6) Channels synchronous acquisition
- 30MHz UWB detector with TF mapping separation of PD defects and noise
- PD Classification
- Cable Fault Location
- Battery powered device for field use
- Requires PC for operation
- Temporary Monitoring
- Galvanic insulation



TF Map Technology



Doble TF Mapping Technology allows to differentiate different PD phenomena and noise at the time of measurement as well as post processing. In addition to the phase resolved pulse characteristics - phase angle and magnitude - the detector determines two additional characteristics of each pulse called “Equivalent Time (T)” and “Equivalent Frequency (F)”. Pulses from different PD, noise or other signal sources will exhibit different T and F characteristics. By filtering in the T/F domain, superimposed phase resolved partial discharge patterns can be separated, allowing for easy identification and classification with increased sensitivity and accuracy.

Accuracy and reliability of core importance for every PD assessment, and the TF mapping Technology enables sensitive measurements in the presence of noise and reliable PD classification results even for superimposed defects.

Specifications

Wide Band Acquisition PD channel	
PD Technology	UWB - PRPD/TF map
PD Channels	3 biased UWB Channels for active sensors power supply
Bandwidth	16kHz-30MHz, built in UWB filter
Resolution	10 bit
Dynamic range	75 dB
Maximum sampling frequency	100 MS/s
Input voltage range	1-4000 mVpp
Input sensitivity	< 1.0 mVpp
Input Impedance	50 Ohm
Recording time length	1 μ s (min), 20 μ s (max)
Connectors type	BNC
Synchronization channel	
Input voltage range	0.2 - 200 V _{RMS}
Frequency range	0.1 ÷ 1000 Hz
Input Impedance	10 MOhm
Connector type	BNC
Connectivity	
Type	For monitoring: Wi-Fi (IEEE 802.11g) + Ethernet Fiber Optics connection, For instrument setup: Bluetooth For maintenance and FM upgrade: USB

Casing	
Dimensions	410 x 345 x 205 mm
Weight	< 12 kg
IP Degree	IP42 cover Close IP30 cover Open
Power Supply	
Voltage	100 - 240 VAC 50/60 Hz
Outputs for accessories	5V (max 5 W) via USB-A connector 12 V (max 5W)
Battery	2 x 10, 8V, 8 Ah With smart diagnostic system
Autonomy	> 8 hours*
Operating environmental conditions	
Temperature	0 to 60 °C **
Humidity	80%, not condensing
General	
Firmware	updating via USB
Certifications	EN 61326-1 EN 61010-1

(*) Depending on continuous/discontinuous usage
(**) 0 to 45 °C when battery is charging



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Specifications are subject to change without notice. Doble is an ISO 9001 & ISO/IEC 17025 & 17034 Certified Company. Doble is an ESCO Technologies Company.
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