Datasheet

High performance partial discharge diagnostic system

AQUILA – Portable PD Analyzer

Techimp PDPortable AQUILA has been expressly designed to respond to all these needs being a robust and compact portable all-in-one PD detection station providing a full range of options ideal for on field applications. 20+ years of service experience has been condensed in this unit representing a practical system integrating Techimp innovative PD detection technology with multiple connectivity (Wi-Fi, Fiber Optics, USB, bluetooth) and power supply.
The instrument can be used to install a permanent monitoring system, maintaining the degree of protection. Connection via fiber optic allows creating a network of acquisition units in different measurement points.

Techimp's AQUILA is able to stand up to 8 hours of full working conditions in a monitoring session. It can also be used as a power supply source and battery recharging unit for laptops, increasing the efficiency and the effective measuring time of a PD monitoring session, relieving customer for the need of external power supplies. Battery can be easily unplugged for transportation and inspection.

Applications

The AQUILA is suitable for on field diagnostic sessions and periodic/semi permanent assessment of: cable and cable accessories (such as joints and terminations), electric generators & motors, power and measurement transformers, gas insulated and air insulated switchgears; outdoor insulators for overhead Lines (pollution assessment).

Techimp offers a wide and complete range of sensors, accessories and signal conditioning devices in practical kits coming with the AQUILA to cover any possible PD acquisition and optimize the circuit measurement .

Specifications

Innovative - instrument for partial discharge recording & processing

Ultra Wide band - fast integrated processing capability

Up to 6 PD Channel - full support to UWB Techimp Technology, one channel for synchronization

Compact - PD Pulse detector and Waveform analyzer

Multiple - connectivity (Wi-Fi, Fiber Optics, USB, bluetooth)

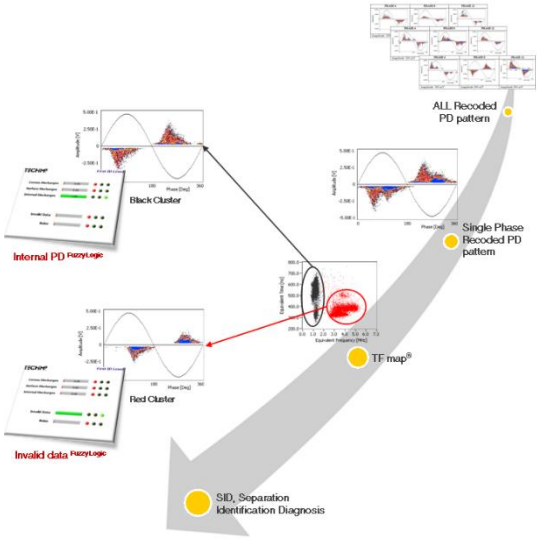
Fuzzy logic - diagnostic tools and statistical processing

IEC 60270 compliant!

SCAN ME

AQUILA

The Ultimate T/F-Map Technology



Techimp TW/TF map technology

Techimp technology (patented) allows different PD phenomena to be classified on the basis of their pulse shape, thus enabling further analysis to be carried out separately on each dataset. PD source identification is, so, highly enhanced and even a non skilled operator will be able to carry it out.

Techimp acquisition technology provides efficient noise rejection as well. As a matter of fact, noise signals have been observed to be very different from PD signals. Techimp classification system is successful in separating PD phenomena from those generated by disturbances. In detail, each PD pulse waveform is acquired and the so-called equivalent time-length and bandwidth are evaluated and plotted on the TF map. Different types of discharges (e.g. PD due to distributed microvoids, slot discharges and noise in a rotating machine) shall group into different clusters in the TW map being characterized by different pulse shapes.

Specifications

Wide Band Acquisition PD channel	
PD Technology	UWB - PRPD/TF map
PD Channels	3 biased UWB Channels for active sensors power supply (expandable To 6)
Bandwidth	16kH-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 µs (min) 20 µs (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	90%, not condensing

General	
Firmware	updating via USB
Certifications	IEC 60270 compliance EN 61326-1 EN 61010-1

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

The Product

The AQUILA provides full support to the innovative proprietary Ultra-Wide-Band TW map technology with up to three PD Channels. Under the cover of the robust rigid box protecting the unit, a control panel gives access to the full range of functions and connectors.

Smart handling system.

The software

The AQUILA comes with PD Pro software platform which holds all the needed functions to control the instrument, to set the correct acquisition parameters, to acquire and visualize the PD dataset in order to get an immediate diagnostic response.

Suitable For

HVAC CABLE | MVAC CABLE | HVDC CABLE | MOTOR | GENERATOR | PWM VSD | GIS GIL GIB | SWITCH BOARDS | OUTDOOR INSULATOR | HV TRAFO | MV TRAFO | TA/TV

Several different sensors are available, fully compatible with Techimp Global Diagnostic platform.
They can be freely combined at customer needs provided they can be applied for the specific application.

Office: ISA - ALTANOVA GROUP S.R.L.
Via M. Margotti, 4/2
40033 Casalecchio di Reno (Bo) - ITALY
Phone +39 051 199 86 050
Email techimp@doble.com