

AIA100

for cable applications

AIA100 FOR NON-INTRUSIVE DIAGNOSIS OF HIGH VOLTAGE CABLE TERMINATIONS AND CABLE JOINTS

The AIA100 is our new handheld instrument for diagnosis of cable accessories. It is a battery powered instrument for detection and location of internal Partial Discharge (PD) in the insulation of cable accessories. The AIA100 includes an acoustic emission (AE) sensor and an acoustic wave guide consisting of insulated hot sticks.

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AIA100 - a NEW handheld instrument for diagnosis of cable accessories



AIA100 Benefits

- Non-intrusive in-service test of cable accessories
- Detection and accurate location of internal PD
- Reliable condition assessment of cable terminations and cable joints

AIA100 Application

- Portable and handheld tool for in-service inspection and monitoring of cable accessories
- Quality assurance of new cable accessories during commissioning
- General purpose tool to detect internal PD on other equipment, such as instrument transformers
- The AIA100 can be applied on live equipment - provided compliant with local safety regulations

AIA100 Technical Specifications

AE channels:	1 Channel (30 kHz sensor incl.)
ADC Resolution:	18 bit
Sample rate:	20 Msps
DC Power Adaptor:	90-253 VAC 12 VDC@1.5 A
Internal Battery charger:	12 VDC
Battery Life:	Up to 4 hours inter- mittent use
Recording length:	5000 points
Internal storage:	128 Mbytes
External Storage:	Compact Flash
AE Frequency Response:	1.0 kHz to 1.0 MHz +/- 1.5 dB
Display:	3.52" Color LCD
Computer interface:	USB 2.0
Weight:	2.5 lbs (1.1 kg)
Operating Temperature:	- 5° to 45° C
Storage Temperature:	-20° to 60° C
Dimensions:	9.5" x 3.5" x 1.4" 240 x 90 x 40 mm
AIA100 36:	standard wave guide up to 36 KV
AIA100 72:	optional wave guide up to 72 KV
AIA100 145:	optional wave guide up to 145 KV

Delivered complete with sensor, synch box, transport case, AC-adaptor, software, hot sticks

AIA100 Viewer Software

The AIA100 instrument is provided with AIA100 Viewer Software. The AIA100 Viewer Software enables the user to:

- Manage AIA100 results
- Plot and overlay results
- Upload and download data to the AIA100 instrument
- Generate detailed reports

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AIA100 Features

- Rapid results – the AIA100 is quick and easy to configure, giving results in seconds
- Reliability and ease of Use – the AIA100 produces high quality results with high repeatability allowing rapid and reliable decision making
- Battery operated – the AIA100 is a stand-alone handheld instrument, which can operate up to 4 hours on one charge
- Wireless synchronization – the AIA100 is utilizing a wireless synchronization module for timing PD and mechanical activity against the power system frequency
- Selectable settings – the AIA100 provides recommended settings for testing both SF6 filled and oil filled equipment
- Rugged and reliable – the AIA100 is an instrument with outstanding durability for field use
- Simple, user-friendly PC interface – a simple interface allows the test results to be uploaded to a PC. Previous data and nameplate configurations can also be downloaded to the AIA100

AIA100 Description

AIA100 can operate in either of two measuring modes: continuous or phase.

Continuous Mode

The continuous mode is used for surveying the apparatus and locating the primary source of the acoustic emission (AE) signal. The continuous measuring mode provides four scales of acoustic signal measurement: the RMS signal, peak signal, degree of modulation with fundamental frequency, and degree of modulation with second harmonic frequency. Figure 1 is an example of the continuous mode locating a PD source.

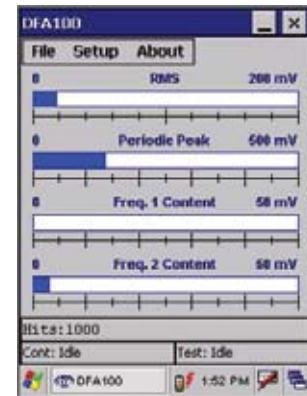


Figure 1 – Continuous

Phase Mode

The phase mode correlates the acoustic signal and the fundamental power signal, and generates an amplitude vs. phase plot. This information is used to determine the synchronizing nature of the acoustical discharges relative to the fundamental power signal. The patterns obtained are used to identify the nature of the source: PD, particles, and mechanical defects. Figure 2 illustrates a typical PD pattern.

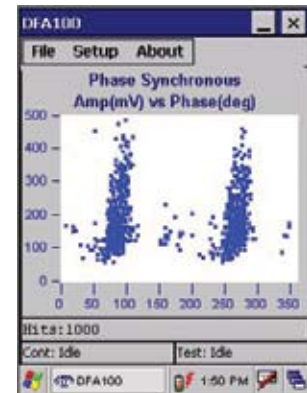


Figure 2 – Phase

AIA100

Additional Applications

The AIA100 can be applied for condition assessment of GIS and dead tank breakers, see separate pamphlets.

*Specifications are subject to change without notice.
For more information, please contact us at info@doble.no*

www.doble.no

Doble is certified ISO 9001:2000
Doble is an ESCO Technologies Company

MKT-SL-AIA100Cable-05/08