

# DFA300

Radio Frequency Interference and Acoustic Signal Surveyor

CHECK FOR INSULATION OR  
MECHANICAL PROBLEMS  
IN GAS INSULATED  
SWITCHGEAR OR  
IN-SERVICE SUBSTATIONS

Identify and locate insulation defects with the DFA300, a surveying tool that combines radio frequency interference (RFI) and acoustic emission (AE). It can detect and locate partial discharge (PD) in a few seconds. Designed for surveying live, high voltage apparatus, its versatility makes it the perfect, multi-purpose tool for condition-based maintenance programs.

## FEATURES

- Combination tool uses both RFI and acoustic technology
- Registers RFI from apparatus with insulation problems including PD and arcing
- Synchronize signal capture to the power cycle to facilitate phase resolved PD analysis
- Locate and diagnose internal problems using the acoustic sensor on grounded surfaces
- Easy to use, handheld device with large display screen

## BENEFITS

- Perform non-invasive surveys of critical assets
- Identify and locate insulation defects in gas insulated and open air substations, transformers, instrument transformers and cable terminations
- Convenient tool for daily use or routine substation surveys along with thermography



## DFA300 TECHNICAL SPECIFICATIONS

### INPUT CHANNEL DESCRIPTION

The DFA300 is a dual function instrument capable of analysing either acoustic or RF emissions. There is a single input connection which can accept either a RF or an acoustic sensor.

### ACOUSTIC EMISSION CHANNEL

Inputs	1 channel
Connector	BNC
Input Impedance	50Ω or 22kΩ, software switchable (low noise preamp: 22kΩ only)
AE Operating Frequency	10 kHz to 500 kHz at -3dB points
Phantom Power	28 VDC on BNC centre conductor (100mA current limited), software switchable
AE Sensor	R3a (standard), R6a, R6l, R15a R15l (optional)

### UHF CHANNEL

Inputs	1 channel
Connector	BNC
Input Impedance	50Ω
Bandwidth	50-1000 MHz with 6 MHz RBW
Accuracy	± 100 kHz
Detection Types	Peak and average detector
Sweep Processing	Continuous, Average, Max Hold and differential

### POWER SUPPLY

External Supply	External DC adapter, 12V @ 2A
DC Adapter	85-264 VAC (47-63 Hz) / 12 VDC
Internal Battery	Li-Ion, high capacity 7.2V, 6.6 Ah
Battery Life	>6 hours
Charging Time	3 hours

### MECHANICAL

Instrument	225 x 310 x 70 mm (WxHxD) 8.85 x 12.20 x 2.25 ins (WxHxD) Weight 2.4 kg / 5.5 lbs
Transport Case	425 x 284 x 155 mm (WxHxD) 16.75 x 11.20 x 6.10 ins (WxHxD) Weight 3.4 kg / 7.5 lbs
Total Weight	6.0 kg / 13.2 lbs incl. instrument, transport case, manuals, CD and charger

### LCD SCREEN

Display	TFT, 6.4" Transreflective
Size (W x H)	132 x 100 mm
Resolution	640 x 480 pixels, 256 colours
Backlight	LED

### DATA STORAGE AND TRANSFER

Internal	NV Flash Memory (SD)
External	USB storage class compliant USB Flash Drive / Hard Disk Drive
Data Transfer	USB A/B to and from computer
File Format	XML for use with Doble PDViewer software
Real Time Clock	Battery backed

### CONNECTIVITY

USB 1.1 Host and Client

### ENVIRONMENTAL

Enclosure	IP64
Transport Case	IP67
Electrostatic discharge according to EN 61000-4-2	
Humidity	0-95% non-condensing
Temperature	Operating temperature: -10°C to + 50°C / 14°F to 122°F Storage temperature: -20°C to + 70°C / -4°F to 158°F

## ORDERING INFORMATION

### PRODUCT

#### Doble DFA300

Complete with transport case, antennas, acoustic sensor, battery charger, neck strap and wireless synchronization adapter. Software is included.

### OPTIONAL ACCESSORIES

#### Transient Earth Voltage (TEV) capacitive probe

Capacitive probe for finding PD in metal-clad switchgears. BNC-BNC sensor cable included. (part no. TN-80310)

#### HF Current Transformer, split core, internal diameter Ø 127mm

Scan for electrical pulses as evidence for partial discharge to earth. Can be clipped on an apparatus ground wire (incl. transformers, cable terminations and dead tank breakers). BNC-N sensor cable included. (Part no. 401-0504)

#### Directional Antenna

Provides more specific location of RFI source for surveying Air Insulated Substations (AIS), including direction of the radiations. BNC-BNC sensor cable included. (Part no.: DA100)

#### R15l-AST

Acoustic emission sensor with preamplifier. Application for detecting and localizing a PD source inside transformer tank. BNC-BNC sensor cable included. (Part no.: TN-35114)

#### UHF Drain Valve Sensor DN-50/80

For detecting electromagnetic PD signals in oil filled transformer tank. Application through oil drain valve without outage on the transformer. Suitable only for valves types: ball and gate. BNC-N sensor cable included. (Part no. :2207408000032)



#### Doble Engineering Company

Worldwide Headquarters  
123 Felton Street, Marlborough, MA 01752 USA  
tel +1 617 926 4900 | fax +1 617 926 0528  
[www.doble.com](http://www.doble.com)

Specifications are subject to change without notice.

Doble is ISO certified.

Doble is an ESCO Technologies Company.

MKT\_SL\_DFA300\_10/20