

DOBLE IN-SERVICE TESTING & ASSESSMENT

# 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
- 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

## ORDERING INFORMATION

### PRODUCT

#### Doble DFA300

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

### ACCESSORIES

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

Find PD in metal-clad switchgear (GIS). To be connected directly on the antenna input of the DFA300

#### HF CT

Scan for electrical pulses (f<200 MHz) as evidence for partial discharge to earth. Can be clipped on an apparatus ground wire (incl. transformers and dead tank breakers) and connected to a DFA300. (N to BNC cable required)

#### DA100 Directional Antenna

Provides more specific location of RFI sources for substation surveys. Including direction of the emissions.

### 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



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Specifications are subject to change without notice.

Doble is ISO certified.

Doble is an ESCO Technologies Company.

MKT\_SL\_DFA300\_08/17