

» DAC H300

A CLASS OF COMPACT, LIGHTWEIGHT, AND VERSATILE DAC CABLE TEST SYSTEMS FEATURING WITHSTAND VOLTAGE TEST, PD ANALYSIS AND PD LOCALIZATION

The Damped Alternating Current (DAC) high voltage H300 by **aca - Advanced Cable Accessories AG** is an exceptionally compact, lightweight, and versatile class of systems for testing and diagnosis of high voltage transmission cables up to 230kV rated voltage. It is programmable and features automatic withstand voltage test, partial discharge (PD) measurement and analysis as well as PD localisation. Control and analysis are user-friendly using the **aca-suite**

which is the common software platform for the complete range of **aca** products.

DAC cable testing is an advanced analysis and diagnosis concept, not only a basic “good or bad” measurement tool. It allows to assess the cable insulation condition of newly installed, repaired or serviceaged cable systems and thus supports asset management.

THE MEASURING MODES INCLUDE:

- » Voltage withstand test at voltage level representing operational stress and above
- » Partial discharge measurement, analysis, and location along complete cable systems and
- » Estimation of loss factor ($\tan \delta$)

DAC VOLTAGE TEST AND PD ANALYSIS ALLOW RELIABLE DETECTION OF

- » Insulation deficiencies caused by installation or laying
- » Deficiencies of the cable accessories, i.e., joints and terminations
- » Cable insulation deterioration due to aging processes

The **aca** cable test systems can be designed to meet the specific maximum test voltage as per request. The test system comes in rugged and robust transportation and storage cases which are easy to ship by train, truck or even airplane to the cable test site.



TEST FEATURES

- » Withstand voltage test
- » PD measurement, analysis, and location
- » Loss factor estimation
- » Cable testing as per IEC60060-3, IEEE P400.4/D7

ON SITE PERFORMANCE

- » Maximum charging and peak voltage 288 kV
- » 4 units approx. 700 kg total
- » Rugged and robust transportation and storage cases
- » Easy and intuitive operation with **aca software Suite**

» DAC H300

SYSTEM LAYOUT	
Unit 1	High Voltage Direct Current (HVDC) Generator
Unit 2	High Voltage Switch
Unit 3	Oscillator Impedance
Unit 4	Measuring and Coupling Capacitor
VOLTAGES	
Power Supply	3 phase, 380 V, 48...63 Hz, 4 kVA
DAC Output Voltage	max. 288 kV _{peak} / 204 kV _{RMS} (rating adaptable to customer request)
DAC Frequency Range	30...500 Hz (according to IEC 60270)
OPERATION	
Test Object Capacity	30 nF...3µF (corresponding to approximately 13 km cable)
Joint Locating	Integrated in calibration mode
PD Measuring range	5 pC...100 nC
PD Measuring resolution	1 pC
PD Location	Wide-band, 100 kHz...20 MHz, automatic adjustment
Software	aca - Advanced Cable Accessories Suite included
Safety	Grounding rod
	Voltage control
Environmental Sensors	Humidity and Temperature
Operating range	Temperature: 0...50 °C
	Humidity: 5...90 % rel. humidity (RH), non-condensing
Mass	Approximately 700 kg in 4 units (depending on voltage rating)
Dimensions	4 units in transportation and storage boxes each 1200...2100 mm footprint and 1,200 - 2,100 mm height (depending on voltage rating)

SERVER INCLUDES ACCESSORIES:

- » DAC system including HVDC power supply, combined HV switch, oscillator coil and measuring/coupling capacitor in 4 rugged transportation and storage cases
- » Power supply, grounding and HV connection cable set, grounding rod, calibrator
- » Rugged cable and accessory transportation and storage cases
- » aca software Suite
- » Operating manual

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