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DAC MV20 / 60kV System

On-site testing and diagnosis up to 60kV of distribution power cables withDAC technology.

After-laying testing and diagnosis of newly installed, repaired or service-aged HV cable systems with reliable results and an appropriate assessment of the condition of the cable insulation as well as of the accessories is the key to successful operation of the distribution and transmission networks.

How to apply DAC on HV cable systems:

This method provides system operators with a lightweight, small and easy to apply technology. All parts of the DAC MV20 test equipment can easily be covered with a flight case and the system fits into a car/ small van with a cargo load below 100kg. The application takes approx 2 to 3 hours

1. DAC MV20 system assembly on site (15min)
2. Connection of all parts and checking of system (15min)
3. Testing and measurement of all three phases of a system (1.5hrs)
4. Analysis of the measuring results - disconnection and packing of test system into transportation boxes (1hrs)

Technical Data:

Max. output voltage	60 kV peak / 42.4 kV rms
Coil inductance	approx. 2.2 Henry
Coil resistance	approx. 32 Ohm
Frequency range damped ac	50 Hz / 550 Hz
Test object capacitance range	0.035 µF ... 4 µF
HV charging current	6 mA
HV Switch	LTT
Embedded system controller	Celeron M, XPE, 2 GB Flash-Disc
RAM	1024 MB
Data acquisition	Integrated 100MHz DAQ, 8 bits
Calibration mode	Automatic / Manual
PD measuring range	1 pC … 100 nC
PD measurement bandwidth	acc. to IEC 60270
PD location bandwidth	150 kHz … 20 MHz , wide range automatic bandwidth adaptation for short and long cables
TDR joint location in calibration mode	Integrated
Dielectric losses range	0.1 % ... 5.0%
Operation control	WLAN 802.11g
User interface	Remote client (Notebook)
Analysis software	DAC Diagnostic Suite: comprehensive viewing, processing, analysis and reporting of DAC measurement data
Weight without transport case	approx. 90 kg
Operating temperature	-5 °C ... 50 °C non condensing
Power Supply	single phase 110-240V, 48-63Hz, 500VA

Main advantages:

Low energy consumption on site – small footprint for test equipment
Only one engineer is needed to execute the full test

Cable system shut-down time will be minimized to 2…3 hours

Voltage withstand test automatically monitored by partial discharges

Results of non-destructive and sensitive PD measurement and tan δ are available on the same day

This approved testing methodology is in accordance with relevant international standards and recommendations (IEEE, IEC, CIGRE)