



PGR

Ultra-High Voltage DC Systems
400 kV – 2'000 kV

Datasheet



HAEFELY

Current and voltage – our passion

General Description

HAEFELY renowned in the High Voltage world, is a leading supplier for test systems. Our standard line of **PGR** Test Systems are designed to perform ultra high voltage DC insulation tests on electrical apparatus, bushings, transformers & cable according to most national test standards.

The standard modules have a small footprint to optimize space in the laboratory. They can be stacked, making expansion easy and mobile use possible for on-site application. The state-of-the-art control unit offers an ergonomic graphical user interface, based on years of collaboration with many customers. The systems can be used for Routine, Type and Development tests. All supported tests are performed in conformity with most standards

Applicable Standards

- IEC 60060 – General HV Test Systems
- IEC 61076-57-129 – Converter Transformers
- IEC 60076 – Smoothing Reactors
- IEC 65700-19-03 – DC Bushings
- IEC 62501 – Valves
- IEC 60700 – Valves
- IEC 62895
- CIGRE 496 – Cables < 500 kV
- CIGRE 189 – Cables < 800kV
- Other standards on request (UL, CSA, MIL, ASTM...)

Features

- Low ripple < 3% displayed in real time
- Fast Polarity reversal meets latest test standards
- Remote Control of system available
- Mobile system designed for use on site
- Rated current available over the entire voltage range

Advantages

- ✓ Simple to Use – User friendly controls
- ✓ Small Footprint to optimize space
- ✓ Expandable standard modules allow for easy future expansion of the system
- ✓ User safety - visible grounding system with external interlocks available
- ✓ Partial Discharge Testing - low PD levels available up to full output voltage (PD level needs to be specified when ordering and may require additional components)

Product Range

Model	Voltage rating [kV]	Long duration current [mA]	Max. Capacitive charging Current [mA]	Modules -	Weight [kg]
PGR 400 - 5 / 20	400	5	20	1 x 400	1 x 1600
PGR 800 - 5 / 20	800	5	20	2 x 400	2 x 1600
PGR 1200 - 5 / 20	1200	5	20	3 x 400	3 x 1600
PGR 1500 - 5 / 20	1500	5	20	4 x 400	4 x 1600
PGR 1800 - 5 / 20	1800	5	20	5 x 400	5 x 1600
PGR 2000 - 5 / 20	2000	5	20	6 x 400	6 x 1600



Internal Voltage Dividers

RC voltage dividers are integrated in the DC Modules. The divider meets the requirements for an “Approved Measuring System” according to IEC 60060-2. The connections of the divider are brought out to insulated terminals in each module. The divider can be used in stacked configurations just like the DC modules. Another benefit is the possibility to perform an impedance measurement of the divider for calibration checks.



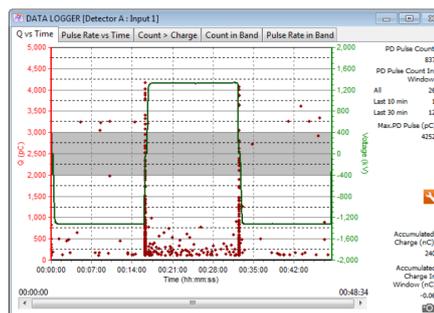
Top Electrode

Top Electrodes are aluminium toroids or spheres made of Polycon electrodes.

Partial Discharge Measurement

While measuring PD on DC test voltage, an accurate recording of each PD event is of maximum importance. DDX 9121b is a highly reliable device for doing this test.

- Q vs Time
- Pulse Rate vs Time
- Count > Charge
- Count in Band
- Pulse Rate in Band



RC Dividers

External Resistive Capacitive dividers are used to measure DC voltages & when measuring Partial discharges. HV units are stacked resistors with parallel capacitive branches to protect against flashovers and for measurement of Ripple.



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