

Data Sheet no. 2.13/1

DC Voltage Charging & Test Systems up to 900 kV, Series M, Type GP.../...M

Description:

Application

for quick charging of pure capacitive loads of some 10 μ F, as e.g. capacitor banks and furthermore with additional smoothing capacitor for isolation tests on dry or wet HV insulations with output currents of some 100 mA,

DC Voltage Generator

Circuitry:

Single-stage doubler circuitry acc. Greinacher

Stage no-load voltage: 500, 600 or 900 kV

Mechanical construction:

Two-column structure with a vertical rectifier column, example see Fig. 1

Polarity change-over:

automatically within some sec.

Discharging/earthing:

automatically and with additional earthing bars

Feeding

Voltage 230/400 V

Power max. 240 kVA

Frequency 50/60 Hz

Regulation unit:

power module with thyristor controller in a cubicle

HV transformer:

single-phase, cylinder-type HV transformer, type PEOI, see Data Sheet 1.11

Voltage measurement

Voltage divider: resistive divider, 0.5 mA

Peak voltmeter: MU 18, see Data Sheet 5.56, integrated in the BG 5 G

Remark: For systems with fast polarity reversal mixed resistive capacitive dividers can be quoted.

Control

Basic control BC 5 (Data Sheet 1.52) with operator device BG 5 G (Data Sheet 2.53)

Operator device using SIMATIC components, separate buttons for the main switch, the operation switch and the emergency switch-off, contacts for warning lamps and safety loop.

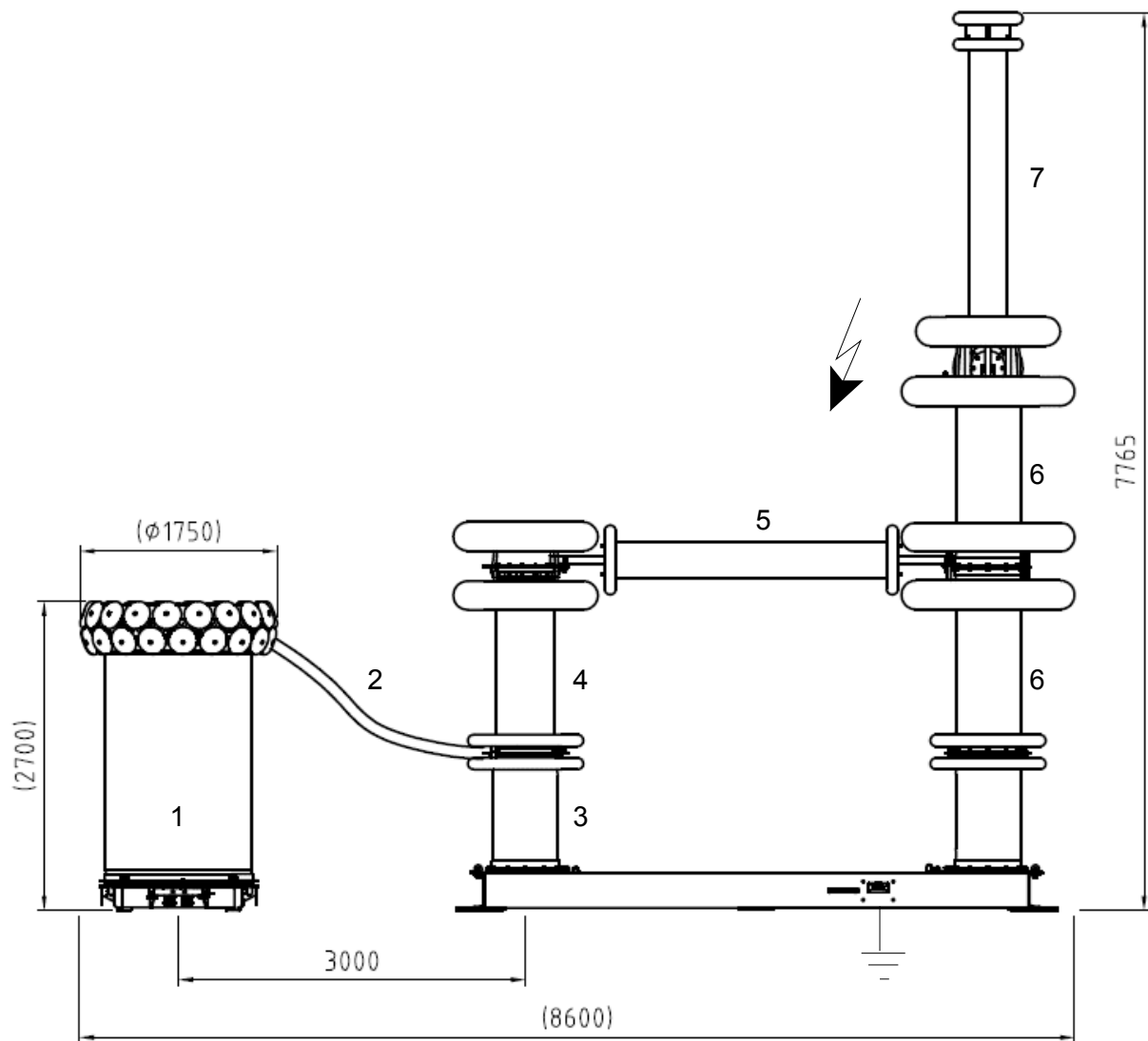
Optionally a Computer-aided Control and Measuring System CMS 22 or 23 G with the related software GMS is available (see Data Sheets 1.52 and 1.55).

Technical data

For the nominal data and main dimensions of the standard types of DC voltage test systems series M see the table below.

Type designation: GP x/y M
 x - Nominal current in mA
 y - Nominal voltage in kV
 M - Series

Type	Nominal voltage	Continuous operation			Dimensions (without transformer)		Weight (without transformer)	Feeding for Type GP
		Nominal current	at a voltage	with a ripple	Height	Floor area		
	kV	mA	kV	%	m	m x m	kg	
GP 300/500 M	500	300	500	< 3	6.4	5.5 x 2.5	2000	PEOI 250/250
GP 200/600 M	600	200	600	< 3	7.7	7.3 x 2.5	2500	PEOI 250/250
GP 200/900 M	900	200	900	< 3	11.5	5.2 x 3	3000	PEOI 200/400



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|---|--------------------|---|---------------------------|
| 1 | HV transformer | 5 | Damping resistor |
| 2 | HV lead | 6 | Rectifier units |
| 3 | Post insulator | 7 | Resistive voltage divider |
| 4 | Doubling capacitor | | |

Fig. 1: DC charging system GP 200/600 M ($I_{DC} = 200 \text{ mA}$, $U_{DC} = 600 \text{ kV}$, Series M)

For further information please contact:

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