

Data Sheet no. 2.11/1

**DC Voltage Extension & Test Systems up to 400 kV,
Series L, Types GZ/GP.../...L****Description:****Application**

- as extensions to existing AC test systems (Types GZ .../... L) or separate DC test systems (Types GP .../... L).
- for isolation tests on dry HV insulations with output currents of 10 mA - 20 mA, and
- for charging of capacitive loads up to 1 µF.

DC Voltage Generator**Circuitry:**

Single-stage doubler circuitry acc. Greinacher

Stage no-load voltage: 200, 300 or 400 kV**Mechanical construction:**

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

Polarity change-over:

operated per hand within some min.

Discharging/earthing:

automatically and with additional earthing bars

Feeding for GP

| | |
|-----------|-------------|
| Voltage | 230/400 V |
| Power | max. 10 kVA |
| Frequency | 50/60 Hz |

Regulation unit for GP:

voltage regulating transformer with a cubicle

HV transformer:

single-phase, cylinder-type HV transformer, type PEOI or T 100, see Data Sheets 1.11 and 4.5

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 for GP

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, type CMS 22 or 23 G (Data Sheet 1.52) with Software GMS (Data Sheet 1.55), is available.

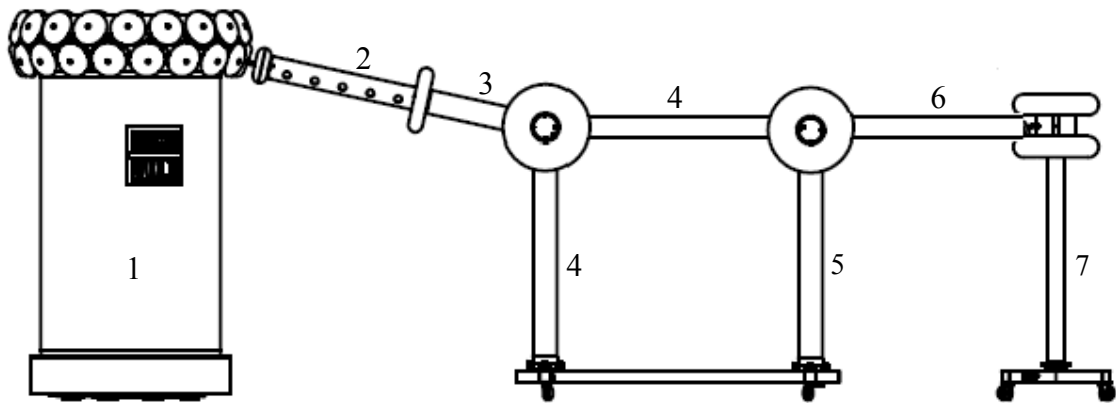
Technical data

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

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

For more details regarding a smaller technical solution, refer also to our DC Module Systems (Data Sheet 4.02).

| GZ-Type GP-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 | |
| GZ/GP 20/200 L | 200 | 20 | 200 | < 3 | 1.4 | 2 x 1.5 | 200 | T 100 |
| GZ/GP 14/300 L | 300 | 14 | 300 | < 3 | 1.8 | 3 x 2.0 | 250 | PEOI 20/140 |
| GZ/GP 10/400 L | 400 | 10 | 400 | < 3 | 2.2 | 4 x 2.5 | 300 | PEOI 20/200 |



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

Fig 1: DC test system GP 10/400 L ($I_{DC} = 10 \text{ mA}$, $U_{DC} = 400 \text{ kV}$, Series L)

For further information please contact:

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