

PNCcap HIGH VOLTAGE CAPACITOR CHARGER

Output Voltage up to 200,000 Volts



PNCcap: High Voltage Capacitor Charging Units

Precision DC voltages up to 200,000 Volts for capacitor charging applications

PNCcap systems are tailored for reliable and precise capacitor charging, based on the proven PNC and PNC3p power supply series. Charging voltage and current are independently adjustable via a 10-turn potentiometer, with values displayed on a 3½ digit digital screen.

Users can choose between continuous or triggered charging modes. In triggered mode, an external signal initiates a linear voltage ramp-up to the set level, delivering constant current without overshoot. Once the target voltage is reached, the system transitions seamlessly from current to voltage control, indicated via LED or analog interface, ensuring stable output.

The systems support both positive and negative polarities, with an optional polarity inverter. Remote control is enabled through an integrated analog interface.

PNCcap systems are ideal for periodic capacitor charging, available for voltages up to 200 kV and up to 3000 J/s. Applications include laser technology, medical devices like lithotripters, and pulse generators in industrial and research fields. The optional Preset-Button makes operation much easier.

With precision and performance, PNCcap meets the highest demands of modern capacitor charging.

PNCcap-Series Highlights

In addition to the highlights of the PNC-series:

- Specially designed for periodic capacitor charging
- Linear, adjustable voltage ramp-up to the setpoint Constant current without overshoot
- Continuous or triggered charging modes
- Precise transition between current and voltage regulation
- Power capability up to 200 kV and 3000 J/s

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Technical Data

General

Function	switch mode power supply
Input voltage	1-phase units: 230 V \pm 10 % 3-phase units: 400 V \pm 10 % other on request (e.g. 110 V)
Input frequency	47 ... 63 Hz
Input current	type-dependent
Ambient temp.	0 °C ... 40 °C

Displays

Output voltage	3.5-digit digital display
Output current	3.5-digit digital display
Voltage control (CV-mode)	LED
& Loading complete	
Current control (CC-mode)	LED
HV-ON	signal lamp

Output

Output voltage	positive or negative (reversal polarity as option) electronic common connected to earth
Output socket	Heinzinger HV-socket, passed through to the output voltage

Analog Interface for remote control

Voltage adjustment	0...10 V
Current adjustment	0...10 V
Voltage monitor	0...10 V
Current monitor	0...10 V
Trigger (loading start)	contact NO
Loading complete	contact NO
Connector	15-pin Sub-D-socket

Enclosure

See Heinzinger PNC and PNC3p series, (customized versions possible) for details ask your Heinzinger sales office

Voltage stabilization

Setting range	approx. 0.5 % to 100 % U_{nom}
Setting accuracy (manual operation)	≤ 0.02 % U_{nom}
Reproducibility	≤ 0.1 % U_{nom}
Line regulation (at $\pm 10\%$ mains voltage change)	$< \pm 0.01$ % U_{nom}
Stability (under constant conditions)	≤ 0.01 % U_{nom} over 8 h
Temperature coefficient	≤ 0.01 % U_{nom} / K
Ripple	≤ 0.01 % pp $U_{nom} \pm 50$ mV

Current stabilization

Setting range	approx. 0.5 % to 100 % I_{nom}
Setting accuracy (manual operation)	≤ 0.02 % I_{nom}
Reproducibility	≤ 0.1 % I_{nom}
Line regulation (at $\pm 10\%$ mains voltage change)	$< \pm 0.01$ % I_{nom}
Ripple	up to 0.001% Load dependent

Scope of supply

- See Heinzinger PNC and PNC3p series

Accessories

- All Options for the PNC and PNC3p version are also available for PNCcap systems.

PNCChp



The high-precision power supplies of the PNCChp series achieve a ripple and stability of < 0.001 % in voltage stabilization thanks to special design features and optimized circuits.

Features

- Voltages up to 300,000 V
- Low residual ripple and excellent long term stability up to 0.001 %
- Output power up to 6,000 Watt
- Continuous short circuit proof
- Reverse voltage proof

