

PNC & PNC3p

High Voltage Power Supplies

Output Voltage up to 300,000 Volts DC



PNC Series PNC3p Series Highlights

- Low residual ripple and excellent long term stability
- Output power up to 6,000 Watt
- Continuous short circuit proof
- Reserve voltage proof
- HV on/off via push button or interface
- Operation is possible as voltage or current source (CV-mode or CC-mode)
- Suitable for resistive, inductive and capacitive loads
- Setting of the output values through 10-turn potentiometers, separately for voltage and current
- Remotely controllable and extendable by means of the integrated analog interface 0...10V.
- Power supplies >10kV with sealed HV unit therefore have compact dimensions and longterm stability

High Voltage Power Supplies up to 300,000 Volt with superb precision

Precision-controlled DC high and ultra-high voltages for numerous industries.

PNC high voltage power supplies are used wherever reliable high voltage power supplies are needed with long-term stability in the DC-area, and which ideally are as independent as possible of their ambient conditions. Efficiency is also an important characteristic for high voltage power supplies. Efficiency refers to the ratio between the power entering and leaving the supply, and is normally assessed at the rated input voltage and at full load. High voltage power supplies have a high degree of efficiency and therefore improve the lifespan of the equipment with reduced cooling requirements. It is worth remembering that the difference between the power entering the supply and the power leaving it is converted into heat. So the higher the efficiency for primary switched mode power supplies, the lower

the heat load on the components. PNC high voltage power supplies are used when reliability and long-term stability are required. The semiconductor industry, for example, uses high voltage supplies from Heinzinger, as do plastics and film manufacturers or companies from the fields of medical and laboratory technology. Thanks to their compact construction, most supplies are available as table-top devices or as standardized 19" slide-in modules. From voltages of 20 kV and up, the high voltage part is cast, allowing the supplies to be used anywhere and delivering high precision and long-term stability irrespective of the ambient conditions. Special requirements and costly installations, such as those necessary with oil or air-insulated equipment, are therefore obsolete.



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PNC Series PNC3p Series Technical data



General

| | |
|-----------------|--|
| Function | switch mode power supply |
| Input voltage | PNC: 230V \pm 10 % PNC3p: 400V \pm 10 % other on request |
| Input frequency | 47 ... 63Hz |
| Input current | type-dependent (max. 10A) |
| 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 |
| Current control (CC-mode) | LED |
| HV-ON | signal lamp |

Output

| | |
|---------------------------------------|--|
| Discharge time (with unloaded output) | <60s (type-dependent) |
| 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 included

| | |
|--------------------|-------------------------|
| Voltage adjustment | 0...10V |
| Current adjustment | 0...10V |
| Voltage monitor | 0...10V |
| Current monitor | 0...10V |
| Output on/off | contact NO = on |
| Connector | 15-pin Sub-D- socket |

Full set of device IDs including default set

Enclosure

Universal enclosure for use as 19"-chassis or as bench case version (12U units as 19"-rack)
Width 19"(443mm), height & depth type dependent
Customized versions on request

Voltage stabilization

| | |
|---|--|
| Setting range approx.: | 0,5 % to 100 % U_{nom} |
| Setting accuracy: (manual operation) | \leq 0,02 % U_{nom} |
| Reproducibility: | \leq 0.1 % U_{nom} |
| Line regulation: (at \pm 10 % mains voltage change) | $<$ \pm 0.01 % U_{nom} |
| Load regulation: (on load step from 0 to 100%) | \leq 0.05 % U_{nom} |
| Response time: (on load current change from deviation 0 to 100 %) | $<$ 5ms to 0.1 % U_{nom} |
| Stability: (under constant conditions) | \leq 0.01 % U_{nom} over 8h |
| Temperature coefficient: | \leq 0.01 % U_{nom} /K |
| Ripple: | \leq 0.01 % pp $U_{nom} \pm$ 50mV |

Current stabilization

| | |
|---|---|
| Setting range approx.: | 0,5 % to 100 % I_{nom} |
| Setting accuracy: (manual operation) | \leq 0,02 % I_{nom} |
| Reproducibility: | \leq 0.1 % I_{nom} |
| Line regulation: (at \pm 10 % mains voltage change) | $<$ \pm 0.01 % I_{nom} |
| Load regulation: (on output voltage change of around \pm 10 % due to load change) | $<$ 0.1 % I_{nom} |
| Response time: (on output voltage change of around \pm 10 % due to load change) | $<$ 5ms |
| Stability: (under constant conditions) | \leq 0.05 % I_{nom} over 8h |
| Temperature coefficient: | \leq 0.01 % I_{nom} /K |
| Ripple: | \leq 0.02 % pp $I_{nom} \pm$ 500 μ A |

Scope of supply

- Heinzinger PNC unit according to type description
- Heinzinger HV-cable with HV-connector, length 3m
- 19" rack adapter set (units up to 9U)
- Power cable 1.5m, with connector (CEE7, Schuko) for PNC
- Plug for analog interface

Options + Interfaces

For customization, a wide range of options and interfaces are available.

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