

PNC3P HIGH VOLTAGE POWER SUPPLY

Output Voltage up to 60,000 Volts



Universal High Voltage Power Supplies up to 60,000 Volts

Precision DC high and ultra high voltages for numerous applications

Precision high voltage power supplies of the Heinzinger PNC3p series have the same features as the PNC series, but offer higher power ratings up to 6,000 Watts.

They operate as primary switched-mode power supplies and provide a precisely regulated DC voltage with lowest ripple and best long-term stability. The units meet the same high requirements, but allow, due to the higher power, other voltage and current combinations.

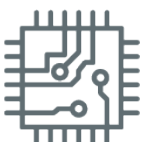
The PNC3p high voltage power supplies are used, similar to the standard PNC series power supplies, where reliable high voltage power supplies are required that provide exceptional long term stability.

The advantage of the PNC3p in comparison to the standard PNC lies in their ability to provide higher power to meet more demanding requirements. This advantage can be used to increase production speed or speed up various processes.

PNC3p-Series Highlights

- Low residual ripple and excellent long-term stability
- Output voltage up to 60,000 V
- Continuous short circuit proof
- Operation is possible as voltage or current source
- Suitable for resistive, inductive and capacitive loads
- Power supplies >10 kV with sealed HV unit therefore have compact dimensions and longterm stability

Typical Applications



Semiconductor tests / manufacturing



HV tests



Plasma applications



Electron gun applications

PNC3p HIGH VOLTAGE POWER SUPPLY

Technical Data

General

Function	switch mode power supply
Input voltage	3x400 V $\pm 10\%$ 3p other on request
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
Current control (CC-mode)	LED
HV-ON	signal lamp

Output

Discharge time (without load)	<60 s (type-dependent)
Output voltage	positive or negative (reversal polarity as option) 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
Output on/off	contact NO = on
Connector	15-pin Sub-D-socket

Enclosure

Units up to 8U: universal enclosure for usage as 19"-chassis or as benchtop version
 12 U-systems are supplied in 19" compact racks, height 600 mm
 height & depth type dependent

Voltage stabilization

Setting range	approx. 0.5 % to 100 % U_{nom}
Setting accuracy (manual operation)	$\leq 0.02\%$ 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%)	<5 ms to 0.1 % U_{nom} deviation
Stability (under constant conditions)	$\leq 0.01\%$ U_{nom} over 8 h
Temperature coefficient	$\leq 0.01\%$ U_{nom} / K
Ripple	$\leq 0.01\%$ pp $U_{nom} \pm 50$ mV

Current stabilization

Setting range	approx. 0.5 % to 100 % I_{nom}
Setting accuracy (manual operation)	$\leq 0.02\%$ 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)	<5 ms
Stability (under constant conditions)	$\leq 0.05\%$ I_{nom} over 8 h
Temperature coefficient:	$\leq 0.01\%$ I_{nom} / K
Ripple	$\leq 0.02\%$ pp $I_{nom} \pm 500$ μA

Scope of supply

- Heinzinger PNC unit according to type description
- Heinzinger HV-cable with HV-connector, length 3 m
- Plug for analog interface
- User manual (German/English)

Accessories / Options:

- Option 01, all outputs on the rear side (system >35 kV always ave outputs on the rear side)
- Option 02, interlock connection
- Option 04, 4 1/2-digit digital displays
- Option 10, DC isolation of the analog interface
- Option 22, coarse/fine setup control
- Option 46, Ramp control
- Option 52, rapid discharge circuit
- Option 56, ARC detection with power cut
- Option 57, setting of voltage and current limits
- Option 60, polarity inversion of the output voltage
- Option 61, electrical polarity reversion
- Option 72, digital 12-bit interface
- Option 95, Calibration Certificate

Product Summary PNC3p

Type	Voltage (V DC)	Current (mA)	Power (W)	Height (U)	Rack Depth (mm)	Weight (kg)	Part number**
PNC3p 600 - 5000	0 ... 600	0 ... 5,000	3,000	6	585	37	00.230.400.x
PNC3p 600 - 7500		0 ... 7,500	4,500	8	585	50	00.230.401.x
PNC3p 600 - 10000		0 ... 10,000	6,000	12*	700	75	00.230.402.x
PNC3p 1500 - 2000	0 ... 1,500	0 ... 2,000	3,000	6	585	37	00.230.405.x
PNC3p 1500 - 3000		0 ... 3,000	4,500	8	585	50	00.230.406.x
PNC3p 1500 - 4000		0 ... 4,000	6,000	12*	700	75	00.230.407.x
PNC3p 3500 - 800	0 ... 3,500	0 ... 800	2,800	6	585	37	00.230.410.x
PNC3p 3500 - 1200		0 ... 1,200	4,200	8	585	50	00.230.411.x
PNC3p 3500 - 1700		0 ... 1,700	5,950	12*	700	75	00.230.412.x
PNC3p 6000 - 500	0 ... 6,000	0 ... 500	3,000	8	585	37	00.230.415.x
PNC3p 6000 - 750		0 ... 750	4,500	8	585	50	00.230.416.x
PNC3p 6000 - 1000		0 ... 1,000	6,000	12*	700	75	00.230.417.x
PNC3p 10000 - 300	0 ... 10,000	0 ... 300	3,000	8	585	37	00.230.420.x
PNC3p 10000 - 450		0 ... 450	4,500	8	585	50	00.230.421.x
PNC3p 10000 - 600		0 ... 600	6,000	12*	700	75	00.230.422.x
PNC3p 20000 - 150	0 ... 20,000	0 ... 150	3,000	8	585	45	00.230.425.x
PNC3p 20000 - 200		0 ... 200	4,000	8	585	58	00.230.426.x
PNC3p 20000 - 300		0 ... 300	6,000	12*	700	85	00.230.427.x
PNC3p 30000 - 100	0 ... 30,000	0 ... 100	3,000	8	585	45	00.230.430.x
PNC3p 30000 - 150		0 ... 150	4,500	8	585	58	00.230.431.x
PNC3p 30000 - 200		0 ... 200	6,000	12*	700	85	00.230.432.x
PNC3p 40000 - 70	0 ... 40,000	0 ... 70	2,800	8	585	45	00.230.435.x
PNC3p 40000 - 100		0 ... 100	4,000	8	585	58	00.230.436.x
PNC3p 40000 - 150		0 ... 150	6,000	12*	700	85	00.230.437.x
PNC3p 60000 - 50	0 ... 60,000	0 ... 50	3,000	8	585	45	00.230.440.x
PNC3p 60000 - 75		0 ... 75	4,500	8	585	58	00.230.441.x
PNC3p 60000 - 100		0 ... 100	6,000	12*	700	85	00.230.442.x

*12 U-systems are supplied in 19" compact racks height 600 mm

1U = 44,45 mm

Different voltage- or current combinations are available on request.

Dimensions and weights are approximations and may vary depending on the version configurations

**All devices are available with positive x = 1 or negative x = 9 polarity

Other High Voltage Power Supplies

EVO – The new generation of high voltage power supplies



The EVO series supplies your application with constant and reliable high voltage. Both state-of-the-art technology and software have been developed for these units for intuitive operation and protection for the high-voltage power supply, test equipment and personal.

Features

- DC voltage classes: 1.5 kV / 5 kV / 10 kV
- Precision: 0.01 %
- Reversible polarity, positive or negative
- Output power: 2 kW or 3 kW
- Output current up to 2,000 mA
- Wide range AC input, singlephase
- Ethernet and RS232 interfaces on board
- Comprehensive protective functions, e.g. OVP & OCP
- Interlock contacts as standard
- For worldwide use, compliant with CSA, UL & CE
- Innovative operating concept & HMI



PNC



The high-precision power supplies of the PNChp 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 0.01 %
- Output power up to 2,000 Watt
- Continuous short circuit proof
- Reverse voltage proof



PNChp



The high-precision power supplies of the PNChp 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



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