

High voltage cassette power supplies IMS-size

Series HCN7E from 125 V to 35 kV / 7 W



Design examples

HCN7E - 12500
12500V / 0,5 mA

HCN7E - 35000
35000V / 0,2 mA

Features:

- Compact size
- Light-weight
- For units from 6.5kV nominal voltage on, all HV components are moulded in (removable) silicon
- Short circuit and flashover proof
- Unlimited operation with rated current in a short-circuit condition
- Voltage regulation with current limitation
- Control mode indicated by LEDs
- Voltage setting with 10-turn potentiometers with precision scale; the adjusting knob can be locked
- Standard analogue programming plus HV ON/OFF input and monitor outputs
- Measuring terminals for voltage and current on the front panel
- Suitable for use with capacitive loads
- Suitable for use with photomultipliers

Function:

In principle, the rectified line voltage drives a square wave generator of fixed frequency, whose AC voltage is transformed, rectified and filtered, producing the output voltage. For regulation, the square wave voltage is pulse width modulated.

Design:

- IMS-cassette design. Width depending on type.
- Table-top-cases are available as an option

Output:

- Output isolation:
The polarity is positive or negative and has to be indicated with the order.
The "0V" - terminal of the output is connected to earth but may be disconnected as needed. When disconnected, the "0V" (earthy) terminal may float with respect to earth up to $\pm 300V$.
- Output terminals:
Outputs are located on the rear of the units.
For units up to 650V nominal voltage, the output is on 4 mm safety connectors.
From 1250V nominal voltage on, HV-connectors are provided. The mating HV-connectors are delivered with the unit.

Technical Data:

- Mains connection:
230V $\pm 10\%$ 47Hz to 63Hz
- Ambient temperature:
0°C to +40°C

The following data applies for voltage and current regulation, and refers to the rated value (unless otherwise stated):
(For explanations please refer to Definitions and Terms on page 61.)

- Setting range:
from approx. 0,1% to 100%
- Setting resolution:
 $\pm 1 \times 10^{-4}$
- Residual ripple:
 $< 1 \times 10^{-4} \text{pp} + 50 \text{mVpp}$, typ. $5 \times 10^{-5} \text{pp}$
- Recovery time:
 $< 1 \text{ms}$ for load changes from 10% to 100% or from 100% to 10%.
- Setting time at nominal load:
 $< 200 \text{ms}$ for changes of the output voltage from 10% to 90% or 90% to 10%
- Discharging time constant for output without load:
approx. 0,5sec. to 2sec., depending on type
- Deviation:
for $\pm 10\%$ mains voltage variation:
 $< \pm 1 \times 10^{-5}$
for no load / full load:
 $< 2 \times 10^{-4}$
over 8 h under constant conditions:
 $< \pm 1 \times 10^{-4}$
within the temperature range:
 $< \pm 1,5 \times 10^{-4} / K$

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Table top cases are available as an accessory

Type	Voltage	Current	Width	Height	Depth	Weight
HCN 7E - 125	● 0 - 125 V max.	50 mA	2/12 19" / 69 mm	4 U / 177 mm	250 mm	2 kg
HCN 7E - 200	● 0 - 200 V max.	30 mA	2/12 19" / 69 mm	4 U / 177 mm	250 mm	2 kg
HCN 7E - 350	● 0 - 350 V max.	20 mA	2/12 19" / 69 mm	4 U / 177 mm	250 mm	2 kg
HCN 7E - 650	● 0 - 650 V max.	10 mA	2/12 19" / 69 mm	4 U / 177 mm	250 mm	2 kg
HCN 7E - 1250	● 0 - 1250 V max.	5 mA	2/12 19" / 69 mm	4 U / 177 mm	250 mm	2 kg
HCN 7E - 2000	● 0 - 2000 V max.	3 mA	2/12 19" / 69 mm	4 U / 177 mm	250 mm	2 kg
HCN 7E - 3500	● 0 - 3500 V max.	2 mA	2/12 19" / 69 mm	4 U / 177 mm	250 mm	2 kg
HCN 7E - 6500	● 0 - 6500 V max.	1 mA	2/12 19" / 69 mm	4 U / 177 mm	250 mm	2 kg
HCN 7E - 12500	● 0 - 12500 V max.	0,5 mA	2/12 19" / 69 mm	4 U / 177 mm	250 mm	2 kg
HCN 7E - 20000	● 0 - 20000 V max.	0,3 mA	2/12 19" / 69 mm	4 U / 177 mm	250 mm	2 kg
HCN 7E - 35000	● 0 - 35000 V max.	0,2 mA	3/12 19" / 104 mm	4 U / 177 mm	250 mm	3,5 kg

● all cassette power supplies available from stock

For 1250V and higher, mating high voltage connectors are included in the scope of delivery. Mating high voltage cables you'll find beginning with page 59.