

# High voltage cassette power supplies EURO-size Series HCE from 125 V to 35 kV / 7 W to 350 W



**Design example**

**HCE 7 - 12500**  
12,5kV / 0,5mA  
positive



**HCE 35 - 35000**  
35kV / 1mA  
negative



**HCE 7 - 3500**  
3,5kV / 2mA  
positive (2 units)

**HCE 350 - 2000**  
2kV / 150mA  
positive

## 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
- Unlimited operation with rated power
- Voltage or current regulation with automatic transition.
- Control mode indicated by LEDs
- Screwdriver adjustment of voltage and current on the front panel
- Standard analog programming plus HV ON/OFF input and monitor outputs
- Measuring terminals for voltage and current monitors on the front panel
- Suitable for use with capacitive loads
- Suitable for use with photo-multipliers

## Option:

- Ten turn potentiometer for voltage on the front panel.

## 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:

- EURO-cassette design. Width depending on type.
- 19" frames 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  $\pm 125V$ .
- Output terminals:  
Outputs are located on the rear of the units. For units up to 650V nominal voltage, the output is on 4mm safety connectors.

## 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 54.)

- Setting range:  
from approx. 0,1% to 100%
- Setting resolution:  
 $\pm 1 \times 10^{-4}$
- Residual ripple (0-10MHz):  
 $< 1 \times 10^{-4} pp + 50mVpp$ ,  
typ.  $5 \times 10^{-5} pp$
- Recovery time:  
Voltage control:  
 $< 1ms$  for load changes from 10% to 100% or from 100% to 10%
- Current control:  
 $< 10ms$  for load changes causing an output change of less than 10% of the rated voltage
- Setting time at nominal load:  
 $< 200ms$  for changes of the output voltage from 10% to 90% or 90% to 10%
- Discharge time constant for output without load:  
approx. 0,5sec. to 5sec., 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 hours under constant conditions:  
 $< \pm 1 \times 10^{-4}$   
Within the temperature range:  
 $< \pm 1,5 \times 10^{-4} / K$

Voltage and current adjustment by screwdriver or via analog programming.



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Rear side with mains connection, high voltage output and analog programming as a standard



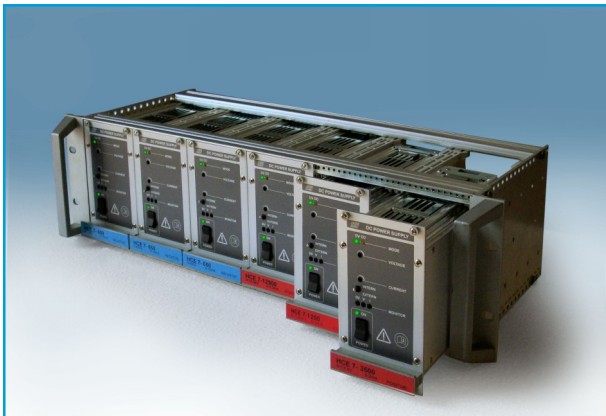
Optionally, the front plane can be equipped with a ten turn potentiometer for voltage adjustment.

| Type           | Voltage      | Current    | Width         | Height       | Depth  | Weight |
|----------------|--------------|------------|---------------|--------------|--------|--------|
| HCE 7 - 125    | ● 0 - 125 V  | 0 - 50 mA  | 14 U / 71 mm  | 3 U / 133 mm | 170 mm | 1,2 kg |
| HCE 35 - 125   | ● 0 - 125 V  | 0 - 250 mA | 21 U / 107 mm | 3 U / 133 mm | 170 mm | 1,5 kg |
| HCE 140 - 125  | 0 - 125 V    | 0 - 1 A    | 21 U / 107 mm | 6 U / 262 mm | 230 mm | 3,0 kg |
| HCE 350 - 125  | 0 - 125 V    | 0 - 2,5 A  | 21 U / 107 mm | 6 U / 262 mm | 230 mm | 4,0 kg |
| HCE 7 - 200    | ● 0 - 200 V  | 0 - 30 mA  | 14 U / 71 mm  | 3 U / 133 mm | 170 mm | 1,2 kg |
| HCE 35 - 200   | ● 0 - 200 V  | 0 - 150 mA | 21 U / 107 mm | 3 U / 133 mm | 170 mm | 1,5 kg |
| HCE 140 - 200  | 0 - 200 V    | 0 - 600 mA | 21 U / 107 mm | 6 U / 262 mm | 230 mm | 3,0 kg |
| HCE 350 - 200  | 0 - 200 V    | 0 - 1,5 A  | 21 U / 107 mm | 6 U / 262 mm | 230 mm | 4,0 kg |
| HCE 7 - 350    | ● 0 - 350 V  | 0 - 20 mA  | 14 U / 71 mm  | 3 U / 133 mm | 170 mm | 1,2 kg |
| HCE 35 - 350   | ● 0 - 350 V  | 0 - 100 mA | 21 U / 107 mm | 3 U / 133 mm | 170 mm | 1,5 kg |
| HCE 140 - 350  | 0 - 350 V    | 0 - 400 mA | 21 U / 107 mm | 6 U / 262 mm | 230 mm | 3,0 kg |
| HCE 350 - 350  | 0 - 350 V    | 0 - 1 A    | 21 U / 107 mm | 6 U / 262 mm | 230 mm | 4,0 kg |
| HCE 7 - 650    | ● 0 - 650 V  | 0 - 10 mA  | 14 U / 71 mm  | 3 U / 133 mm | 170 mm | 1,2 kg |
| HCE 35 - 650   | ● 0 - 650 V  | 0 - 50 mA  | 21 U / 107 mm | 3 U / 133 mm | 170 mm | 1,5 kg |
| HCE 140 - 650  | 0 - 650 V    | 0 - 200 mA | 21 U / 107 mm | 6 U / 262 mm | 230 mm | 3,0 kg |
| HCE 350 - 650  | 0 - 650 V    | 0 - 500 mA | 21 U / 107 mm | 6 U / 262 mm | 230 mm | 4,0 kg |
| HCE 7 - 1250   | ● 0 - 1250 V | 0 - 5 mA   | 14 U / 71 mm  | 3 U / 133 mm | 170 mm | 1,2 kg |
| HCE 35 - 1250  | ● 0 - 1250 V | 0 - 25 mA  | 21 U / 107 mm | 3 U / 133 mm | 170 mm | 1,5 kg |
| HCE 140 - 1250 | 0 - 1250 V   | 0 - 100 mA | 21 U / 107 mm | 6 U / 262 mm | 230 mm | 3,0 kg |
| HCE 350 - 1250 | 0 - 1250 V   | 0 - 250 mA | 21 U / 107 mm | 6 U / 262 mm | 230 mm | 4,0 kg |
| HCE 7 - 2000   | ● 0 - 2000 V | 0 - 3 mA   | 14 U / 71 mm  | 3 U / 133 mm | 170 mm | 1,2 kg |
| HCE 35 - 2000  | ● 0 - 2000 V | 0 - 15 mA  | 21 U / 107 mm | 3 U / 133 mm | 170 mm | 1,5 kg |
| HCE 140 - 2000 | 0 - 2000 V   | 0 - 60 mA  | 21 U / 107 mm | 6 U / 262 mm | 230 mm | 3,0 kg |
| HCE 350 - 2000 | 0 - 2000 V   | 0 - 150 mA | 21 U / 107 mm | 6 U / 262 mm | 230 mm | 4,0 kg |

● short term delivery (components on 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 51.

# High voltage cassette power supplies EURO-size Series HCE from 125 V to 35 kV / 7 W to 350 W



19"-(84U) frames are  
available as accessory



| Type            | Voltage       | Current    | Width         | Height       | Depth  | Weight |
|-----------------|---------------|------------|---------------|--------------|--------|--------|
| HCE 7 - 3500    | ● 0 - 3500 V  | 0 - 2 mA   | 14 U / 71 mm  | 3 U / 133 mm | 170 mm | 1,2 kg |
| HCE 35 - 3500   | ● 0 - 3500 V  | 0 - 10 mA  | 21 U / 107 mm | 3 U / 133 mm | 170 mm | 1,5 kg |
| HCE 140 - 3500  | 0 - 3500 V    | 0 - 40 mA  | 21 U / 107 mm | 6 U / 262 mm | 230 mm | 3,0 kg |
| HCE 350 - 3500  | 0 - 3500 V    | 0 - 100 mA | 28 U / 142 mm | 6 U / 262 mm | 230 mm | 4,0 kg |
| HCE 7 - 6500    | ● 0 - 6500 V  | 0 - 1 mA   | 14 U / 71 mm  | 3 U / 133 mm | 170 mm | 1,3 kg |
| HCE 35 - 6500   | ● 0 - 6500 V  | 0 - 5 mA   | 21 U / 107 mm | 3 U / 133 mm | 170 mm | 1,5 kg |
| HCE 140 - 6500  | 0 - 6500 V    | 0 - 20 mA  | 21 U / 107 mm | 6 U / 262 mm | 230 mm | 5,0 kg |
| HCE 350 - 6500  | 0 - 6500 V    | 0 - 50 mA  | 28 U / 142 mm | 6 U / 262 mm | 230 mm | 6,0 kg |
| HCE 7 - 12500   | ● 0 - 12500 V | 0 - 0,5 mA | 14 U / 71 mm  | 3 U / 133 mm | 170 mm | 1,3 kg |
| HCE 35 - 12500  | ● 0 - 12500 V | 0 - 2,5 mA | 21 U / 107 mm | 3 U / 133 mm | 170 mm | 1,8 kg |
| HCE 140 - 12500 | 0 - 12500 V   | 0 - 10 mA  | 28 U / 142 mm | 6 U / 262 mm | 230 mm | 5,0 kg |
| HCE 350 - 12500 | 0 - 12500 V   | 0 - 25 mA  | 28 U / 142 mm | 6 U / 262 mm | 230 mm | 6,0 kg |
| HCE 7 - 20000   | ● 0 - 20000 V | 0 - 0,3 mA | 21 U / 107 mm | 3 U / 133 mm | 170 mm | 2,3 kg |
| HCE 35 - 20000  | ● 0 - 20000 V | 0 - 1,5 mA | 21 U / 107 mm | 3 U / 133 mm | 170 mm | 2,5 kg |
| HCE 140 - 20000 | 0 - 20000 V   | 0 - 6 mA   | 28 U / 142 mm | 6 U / 262 mm | 230 mm | 5,0 kg |
| HCE 350 - 20000 | 0 - 20000 V   | 0 - 15 mA  | 28 U / 142 mm | 6 U / 262 mm | 230 mm | 6,0 kg |
| HCE 7 - 35000   | ● 0 - 35000 V | 0 - 0,2 mA | 28 U / 142 mm | 3 U / 133 mm | 170 mm | 2,5 kg |
| HCE 35 - 35000  | ● 0 - 35000 V | 0 - 1 mA   | 28 U / 142 mm | 3 U / 133 mm | 170 mm | 2,8 kg |
| HCE 140 - 35000 | 0 - 35000 V   | 0 - 4 mA   | 28 U / 142 mm | 6 U / 262 mm | 230 mm | 5,0 kg |
| HCE 350 - 35000 | 0 - 35000 V   | 0 - 10 mA  | 28 U / 142 mm | 6 U / 262 mm | 230 mm | 6,0 kg |

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