

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

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
- ightarrow Suitable for use with photomultipliers

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



Design Example HCE 350 - 2000 2kV / 150mA positive

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 ±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. From 1250V nominal voltage on, HV-connectors are provided. The mating HV- connectors are delivered with the unit.

TECHNICAL DATA:

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



Design Example HCE 7 - 3500 3,5kV / 2mA



Design Example HCE 35 - 35000 35kV / 1mA negative

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: ±1 x 10⁻⁴
- → Residual ripple (0-10MHZ): <1 x 10⁻⁴pp + 50mVpp, typ. 5 x 10⁻⁵pp
- 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 ±10% mains voltage variation:

<± 1 x 10⁻⁵ For no load / full load: <2 x 10⁻⁴ Over 8 hours under constant conditions: <±1 x 10⁻⁴

Within the temperature range:

<±1,5 x 10⁻⁴ /K

Voltage and current adjustment by screwdriver or via analog programming.

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TYPE				vc	DLTAG	E		С	JRREN	т	WIDTH		HEIGHT	DEPTH	WEIGHT
HCE	7 - 125	•	0	-	125	V	0	-	50	mA	14U/ 71	mm	3U/133 mm	170 mm	1,2 kg
HCE	35 - 125	•	0	-	125	V	0	-	250	mA	21 U / 107	mm	3U/133 mm	170 mm	1,5 kg
HCE	140 - 125		0	-	125	V	0	-	1	А	21 U / 107	mm	6U/262 mm	230 mm	3,0 kg
HCE	350 - 125		0	-	125	V	0	-	2,5	А	21 U / 107	mm	6U/262 mm	230 mm	4,0 kg
HCE	7 - 200	•	0	-	200	V	0	-	30	mA	14U/ 71	mm	3U/133 mm	170 mm	1,2 kg
HCE	35 - 200	•	0	-	200	V	0	-	150	mA	21 U / 107	mm	3U/133 mm	170 mm	1,5 kg
HCE	140 - 200		0	-	200	V	0	-	600	mA	21 U / 107	mm	6U/262 mm	230 mm	3,0 kg
HCE	350 - 200		0	-	200	V	0	-	1,5	А	21 U / 107	mm	6U/262 mm	230 mm	4,0 kg
HCE	7 - 350	•	0	-	350	V	0	-	20	mA	14U/ 71	mm	3U/133 mm	170 mm	1,2 kg
HCE	35 - 350	•	0	-	350	V	0	-	100	mA	21 U / 107	mm	3U/133 mm	170 mm	1,5 kg
HCE	140 - 350		0	-	350	V	0	-	400	mA	21 U / 107	mm	6U/262 mm	230 mm	3,0 kg
HCE	350 - 350		0	-	350	V	0	-	1	А	21 U / 107	mm	6U/262 mm	230 mm	4,0 kg
HCE	7 - 650	•	0	-	650	V	0	-	10	mA	14U/ 71	mm	3U/133 mm	170 mm	1,2 kg
HCE	35 - 650	•	0	-	650	V	0	-	50	mA	21 U / 107	mm	3U/133 mm	170 mm	1,5 kg
HCE	140 - 650		0	-	650	V	0	-	200	mA	21 U / 107	mm	6U/262 mm	230 mm	3,0 kg
HCE	350 - 650		0	-	650	V	0	-	500	mA	21 U / 107	mm	6U/262 mm	230 mm	4,0 kg
HCE	7 - 1250	•	0	-	1250	V	0	-	5	mA	14U/ 71	mm	3U/133 mm	170 mm	1,2 kg
HCE	35 - 1250	•	0	-	1250	V	0	-	25	mA	21 U / 107	mm	3U/133 mm	170 mm	1,5 kg
HCE	140 - 1250		0	-	1250	V	0	-	100	mA	21 U / 107	mm	6U/262 mm	230 mm	3,0 kg
HCE	350 - 1250		0	-	1250	V	0	-	250	mA	21 U / 107	mm	6U/262 mm	230 mm	4,0 kg
HCE	7 - 2000	•	0	-	2000	۷	0	-	3	mA	14U/ 71	mm	3U/133 mm	170 mm	1,2 kg
HCE	35 - 2000	•	0	-	2000	V	0	-	15	mA	21 U / 107	mm	3U/133 mm	170 mm	1,5 kg
HCE	140 - 2000		0	-	2000	۷	0	-	60	mA	21 U / 107	mm	6U/262 mm	230 mm	3,0 kg
HCE	350 - 2000		0	-	2000	٧	0	-	150	mA	21 U / 107	mm	6U/262 mm	230 mm	4,0 kg



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



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

• 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.



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ТҮРЕ			VOLTAGE	CU	RRENT	WIDTH	HEIGHT	DEPTH	WEIGHT
HCE	7 - 3500	• 0	- 3500 V	0 -	2 mA	14U/ 71 mm	3U/133 mm	170 mm	1,2 kg
HCE	35 - 3500	• 0	- 3500 V	0 -	10 mA	21U/107 mm	3U/133 mm	170 mm	1,5 kg
HCE	140 - 3500	0	- 3500 V	0 -	40 mA	21U/107 mm	6U/262 mm	230 mm	3,0 kg
HCE	350 - 3500	0	- 3500 V	0 -	100 mA	28U/142 mm	6U/262 mm	230 mm	4,0 kg
HCE	7 - 6500	• 0	- 6500 V	0 -	1 mA	14U/ 71 mm	3U/133 mm	170 mm	1,3 kg
HCE	35 - 6500	• 0	- 6500 V	0 -	5 mA	21U/107 mm	3U/133 mm	170 mm	1,5 kg
HCE	140 - 6500	0	- 6500 V	0 -	20 mA	21 U / 107 mm	6U/262 mm	230 mm	5,0 kg
HCE	350 - 6500	0	- 6500 V	0 -	50 mA	28 U / 142 mm	6U/262 mm	230 mm	6,0 kg
HCE	7 - 12500	• 0	- 12500 V	0 -	0,5 mA	14U/ 71 mm	3U/133 mm	170 mm	1,3 kg
HCE	35 - 12500	• 0	- 12500 V	0 -	2,5 mA	21U/107 mm	3U/133 mm	170 mm	1,8 kg
HCE	140 - 12500	0	- 12500 V	0 -	10 mA	28 U / 142 mm	6U/262 mm	230 mm	5,0 kg
HCE	350 - 12500	0	- 12500 V	0 -	25 mA	28 U / 142 mm	6U/262 mm	230 mm	6,0 kg
HCE	7 - 20000	• 0	- 20000 V	0 -	0,3 mA	21U/107 mm	3U/133 mm	170 mm	2,3 kg
HCE	35 - 20000	• 0	- 20000 V	0 -	1,5 mA	21U/107 mm	3U/133 mm	170 mm	2,5 kg
HCE	140 - 20000	0	- 20000 V	0 -	6 mA	28 U / 142 mm	6U/262 mm	230 mm	5,0 kg
HCE	350 - 20000	0	- 20000 V	0 -	15 mA	28 U / 142 mm	6U/262 mm	230 mm	6,0 kg
HCE	7 - 35000	• 0	- 35000 V	0 -	0,2 mA	28U/142 mm	3U/133 mm	170 mm	2,5 kg
HCE	35 - 35000	• 0	- 35000 V	0 -	1 mA	28U/142 mm	3U/133 mm	170 mm	2,8 kg
HCE	140 - 35000	0	- 35000 V	0 -	4 mA	28 U / 142 mm	6U/262 mm	230 mm	5,0 kg
HCE	350 - 35000	0	- 35000 V	0 -	10 mA	28 U / 142 mm	6U/262 mm	230 mm	6,0 kg



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

• 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.