HEINZINGER
HIGH VOLTAGE – SMART SOLUTIONS

EVO HIGH VOLTAGE POWER SUPPLY

Output Voltage up to 30 kV DC

Cal Power
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High Voltage Power Supplies of the EVO Series are the New Generation of DC Power Supplies

Simple handling is combined with speed and high precision

The high voltage power supplies of the EVO series offer fast control at high precision. They are particularly comfortable to operate. Their compact build needs only 2U, which is extraordinary for their power density of 500 W, 2 kW and 3 kW.

A microcontroller, combined with an FPGA (Field Programmable Gate Array) permits particularly precise control. This makes complete and digital control of the EVO power supplies possible.

FPGAs are used in high voltage power supplies since they permit quick signal processing and flexible adaptation to various load requirements.

The units are characterized by high performance as well as fast and precise control. The high voltage output can be reversed remotely and supplies either a positive or negative high voltage at the output.

The EVO series is also available with a floating output to enable flexible and secure integration into existing setups, that require a potential-free HV-supply.

Our customers use the EVO e.g. for HV tests in the production and verification of semiconductors, for end-of-line tests and in the research and development environment.

EVO-Series

Highlights

- Voltage: up to 30 kV DC
- Power: 500 W, 2 kW, 3 kW
- Current: up to 2 A
- Polarity: electrical reversible, floating
- Full digital regulation
- Wide range AC input, singlephase
- Ethernet and RS232 on board
- Usable as 19“ rack-mount or benchtop device with integrated adapter

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Typical Applications

Semiconductor Production & Testing

Double Puls Setup

HV tests

Quality test E-mobility

Calibration Setup

EVO HIGH VOLTAGE POWER SUPPLY

Technical Data

General

Function	Digitally regulated DC high voltage power supply
Input voltage	230 V ±10 % (3 kW version) 187 V - 253 V (2 kW version) Active power factor correction Mains socket on rear side (IEC 60320 Type C20)
Input frequency	47 ... 63 Hz
Input current	type-dependent (max. 16 A)
Operating temp.	0 °C ... 40 °C

Displays

- Colored 3.5“ TFT screen with LED backlight
- Just 3 buttons for full manual control
- Menu navigation by clear structure and sub menus
- Configurable code protection for sub menus
- Error and event monitoring including time tags (actual and shadow)

Output

Discharge time (without load)	<60 s (type-dependent)
Output voltage	reversible polarity, positive or negative (connected to earth), floating (potential-free)
Output socket	Female Heinzinger HV connector on rear side

Digital Interface for remote control

- Ethernet and RS232
- SCPI command set

Enclosure

Design	19“ rack-mount or benchtop device with integrated adapter
Height	2U (89 mm)
Depth	500 mm
Weight	from 13.0 kg

Voltage stabilization

Setting range (approx.)	0.01 % to 100 % U_{nom}
Setting accuracy (manual operation)	16 bit
Line regulation (at ±10 % mains voltage change)	< ± 0.01 % U_{nom}
Load regulation (on load step from 10 % to 90 %)	≤0.05 % U_{nom}
Response time (on load current change from deviation 0 to 100 %)	<1 ms to 0.1 % U_{nom}
Stability (under constant conditions)	≤0.01 % U_{nom} over 8 h
Temperature coefficient	≤0.01 % U_{nom} /K
Ripple	≤0.01 % U_{nom} ±100 mV

Current stabilization

Setting range (approx.)	0.01 % to 100 % I_{nom}
Setting accuracy (manual operation)	16 bit
Line regulation (at ±10 % mains voltage change)	< ± 0.01 % I_{nom}
Load regulation (on load step from 0 to 100 %)	≤0.05 % I_{nom}
Response time (on load current change from deviation 0 to 100 %)	<1 ms to 0.1 % I_{nom}
Stability (under constant conditions)	≤0.01 % I_{nom} over 8 h
Temperature coefficient	≤0.01 % I_{nom} /K
Ripple (< 20 kV)	≤ 0.01 % I_{nom} ± 100 mA
Ripple (≥ 20 kV)	≤ 0.02 % I_{nom} ± 0,5 mA

Scope of supply

- Heinzinger EVO HV unit according to type description
- Male Heinzinger HV plug with 3 m HV Cable
- Rubber feet for benchtop application
- Power cable 1.5 m, with CEE7 connector on grid and terminal block for I/O plug

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Accessories / Options:

EVO ramp control
This option facilitates controlled upward and downward regulation with an adjustable gradient. The gradient can be adjusted from 1 V/s to 10 U_{nom} V/s. This option can be retrofitted.

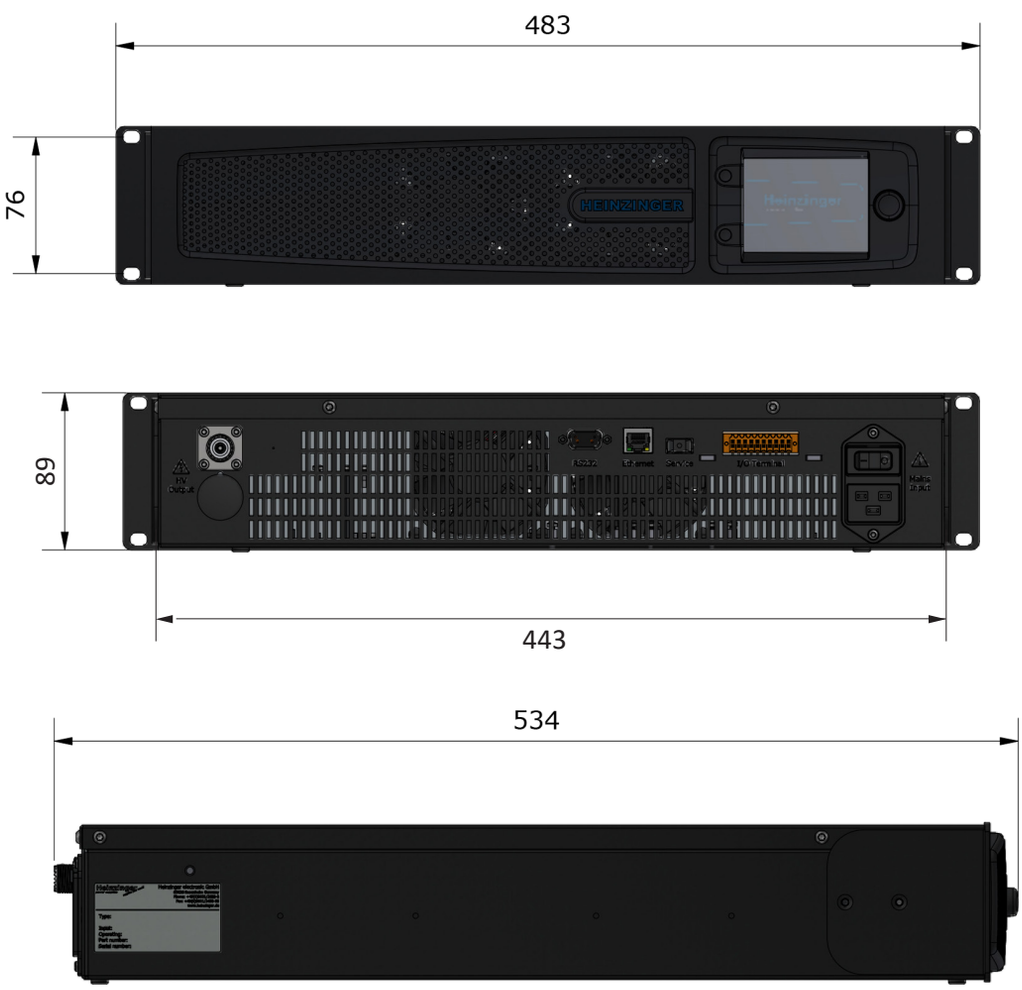
EVO ARC detection
This option facilitates the detection of flashovers in the output voltage, which the device can report, and also switches off the output voltage if desired. This option can be retrofitted.

Product Summary EVO

Type	Power (W)	Voltage (V)	Current (mA)	Height (U)	Rack Depth (mm)	Weight (kg) approx.	Part number
EVO 1500 - 1400 flo	2,000	1,500	1,400	2	500	13	00.210.113.4
EVO 1500 - 2000 flo	3,000	1,500	2,000				00.210.114.4
EVO 1500 - 1400	2,000	1,500	1,400				00.210.113.x*[1]
EVO 5000 - 400		5,000	400				00.210.143.x*[1]
EVO 10000 - 200		10,000	200				00.210.163.x*[1]
EVO 1500 - 2000	3,000	1,500	2,000				00.210.114.x*[1]
EVO 5000 - 600		5,000	600				00.210.144.x*[1]
EVO 10000 - 300		10,000	300				00.210.164.x*[1]
EVO 20000 - 25	500	20,000	25			16,5	00.210.181.x*[2]
EVO 30000 - 17		30,000	17			17,5	00.210.191.x*[2]

*[1] Available with positive (...1), negative (...9), as well as reversible (...5) polarity
*[2] Available with positive (...1) or negative (...9) polarity

Technical Drawing



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