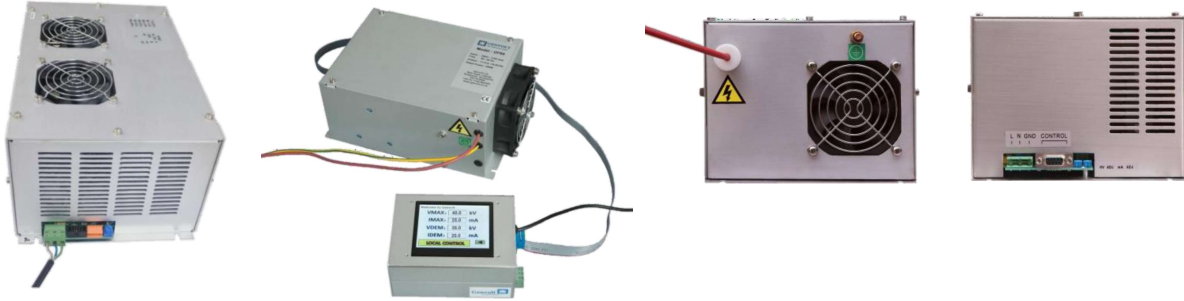




AF06 Range (PWM Mode version)

High voltage power supply



Specification Summary

The AF06 Range is a highly compact and efficient, mains powered high voltage power supply. The standard AF06 series (PFM mode) are based on pulse frequency modulation principle and primary application is for air or oil fume purification. We also manufacture pulse width modulation AF06 (PWM mode). PFM mode AF06 has a limited range adjustment of output while PWM mode has a full range adjustment output. It is suitable for all other general purpose application.

The AF06 has a precise, stable and adjustable output voltage and output current. It is safe and reliable, with a high tolerance to the noise generated by electrical discharges.

The power supplies are designed as single output by default. The dual output power supplies are also available when customer specified.

Line regulation	Less than 0.1%
Load regulation	Less than 0.1%
Voltage ripple	Less than 1% at full load.
Temperature drift	200ppm/°C maximum when operating under 55°C.

Protection

Short circuit protection	In the event of an output short circuit, the output current will remain at the set value.
Over-current protection	In the event of an output over-current, the output current will remain at the set value.
Spark protection	When the power supply experiences a spark on the load, the output will be switched off momentarily. After which, it will be restored automatically.

Input voltage	220VAC (200VAC - 240VAC)
Input current	Less than 6A

Output specification

Output voltage range* (kV)	0-10	0-20	0-30	0-40	0-50	0-60
Available output voltages	10kV	20kV	30kV	40kV	50kV	60kV
Power range	300W, 600W, 800W and 1000W					
Output polarity	Positive or negative. Please specify when ordering.					

*Other output voltage can also be supplied. Please contact Genvolt.

** Some controllers are available. Please contact us if needed.



Control Interface

Local control mode:

The output voltage and current can be adjusted by potentiometers next to the IDC12 connector. Winding both potentiometers clockwise increases the output.

Remote control mode:

Remote control is also available for AF06.

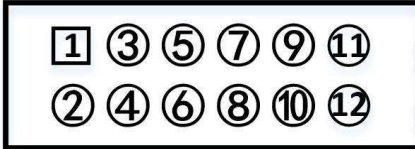
Note: either Local or Remote control, for switching on the power supply, take the two steps

1 Connect HV INHIBIT(Pin6) to +12V(Pin10) to enable the unit;

2 Connect GND to DGND

IDC12 male connector

On IDC12 connector:

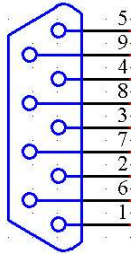


1	VFBK	Regarding Pin 3 GND: voltage feedback 0 - 5V = 0 to maximum voltage e.g. 4V = 24kV and 5V = 30kV (for 30kV 1kW power supplies).
2	IFBK	Regarding Pin 3 GND: 0 - 5V = 0 - maximum current e.g. 4V = 26.64mA and 5V = 33.3mA (for 30kV 1kW power supplies).
3	GND	Analogue ground.
4	IDEM	Current demand. Regarding Pin 3 GND: 0 - 5V = 0 - maximum current.
5	VDEM	Voltage demand. Regarding Pin 3 GND: 0 - 5V = 0 to maximum voltage e.g. 4V = 24kV and 5V = 30kV (for 30kV 1kW power supplies) voltage adjustable range from 5% to 100%
6	HV INHIBIT	Regarding Pin 9 DGND: 0V or FLOATING = HV ON ; +12V = HV OFF.
7	CONST I	Opto-coupler output for spark detection: CLOSE = Constant Current; OPEN = Variable Current.
8	L/R MODE	Regarding Pin 9 DGND: 0V or FLOATING = LOCAL / +12VDC = remote
9	DGND	Digital ground, isolated from Pin 4 GND
10	+12V	Regarding Pin 3 GND: providing an optional +12VDC for customer use. This is provided by the internal power supply.
11	CONST V	Opto-coupler output for spark detection: CLOSE = Constant Voltage; OPEN = Variable Voltage.
12	SPK/FAULT	Opto-coupler output for spark detection: OPEN and then CLOSE within 200ms = SPARK; CLOSE = FAULTY or STOP WORKING; OPEN = FUNCTIONAL.

*Local control mode is the default setting for AF06 power supplies.
Please specify when ordering.



DB9 D type female connector (optional*):



1	DGND	Digital ground, isolated from Pin 4 GND
2	SPARK	Opto-coupler output for spark detection: OPEN and then CLOSE within 1s = SPARK; OPEN = FAULTY or STOP WORKING; CLOSE = FUNCTIONAL
3	VDEM	To be defined
4	GND	Analogue ground
5	VFBK	Regarding Pin 4 GND: voltage feedback 0 - 5V = 0 to maximum voltage e.g. 4V = 24kV and 5V = 30kV (for 30kV 1kW power supplies)
6	L/R MODE*	To be defined
7	HV INHIBIT	Regarding Pin 1 DGND: 0V or FLOATING = HV ON; +12V = HV OFF
8	IDEM	To be defined
9	IFBK	Regarding Pin 4 GND: 0 - 5V = 0 - maximum current e.g. 4V = 26.64mA and 5V = 33.3mA (for 30kV 1kW power supplies)

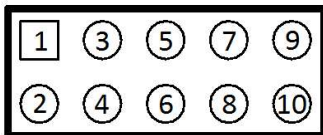
Remote control mode:

Remote control is also available for AF06. On DB9 connector:

3	VDEM	Voltage demand. Regarding Pin 4 GND: 0 - 5V = 0 to maximum voltage e.g. 4V = 24kV and 5V = 30kV (for 30kV 1kW power supplies) Please note that AF06 Range is not adjustable from 0kV.
6	L/R MODE*	Regarding Pin 1 DGND: when applying +12VDC to this pin, the power supply is in remote control mode.
8	IDEM	Current demand. Regarding Pin 4 GND: 0 - 5V = 0 - maximum current

*Local control mode is the default setting for AF06 power supplies. Please specify when ordering.

IDC10 male connector (optional*):



1	VFBK	Regarding Pin 3 GND: voltage feedback 0 - 5V = 0 to maximum voltage e.g. 4V = 24kV and 5V = 30kV (for 30kV 1kW power supplies)
---	------	--

2	IFBK	Regarding Pin 3 GND: 0 - 5V = 0 - maximum current e.g. 4V = 26.64mA and 5V = 33.3mA (for 30kV 1kW power supplies)
3	GND	Analogue ground
4	IDEM	Current demand. Regarding Pin 3 GND: 0 - 5V = 0 - maximum current
5	VDEM	Voltage demand. Regarding Pin 3 GND: 0 - 5V = 0 to maximum voltage e.g. 4V = 24kV and 5V = 30kV (for 30kV 1kW power supplies) Please note that AF06 Range is not adjustable from 0kV.
6	HV INHIBIT	Regarding Pin 9 DGND: 0V or FLOATING = HV ON; +12V = HV OFF
7	SPK/FAULT	Opto-coupler output for spark detection: OPEN and then CLOSE within 1s = SPARK; OPEN = FAULTY or STOP WORKING; CLOSE = FUNCTIONAL
8	L/R MODE	Regarding Pin 9 DGND: when apply +12VDC to this pin, the power supply is in remote control mode.
9	DGND	Digital ground, isolated from Pin 4 GND
10	VDC FAN	Regarding Pin 3 GND: providing an optional +12VDC for customer use. This is provided by the internal fan power supply.

*Please specify the connector type for control interface (DB9, IDC12 or IDC10) when ordering.

Environmental Requirements

Operating temperature	-10°C to 50°C
Storage temperature	-20°C to 80°C

Mechanical Specifications

Voltage range	10-20kV	30-40kV	50-60kV
Width	175mm	195mm	195mm
Height	105mm	136mm	172mm
Depth	244mm	310mm	320mm
HV output connector	On one side of the power supply	Mounted on the back panel	Mounted on the back panel
Control interface connector	12 way IDC connector optional DB9 or IDC10 connector		

Power input connector

Standard 3 way PCB terminal socket & plug 7.62mm pitch.

Legend	Definition	
L	Mains input	Live
N		Neutral
E		Earth

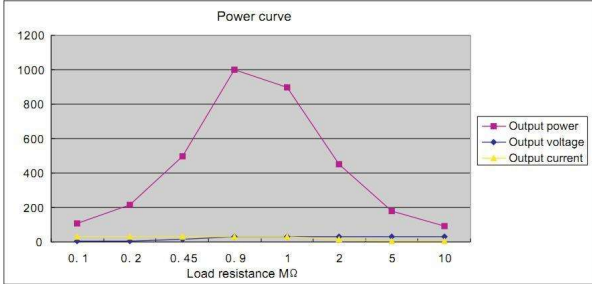


Model number

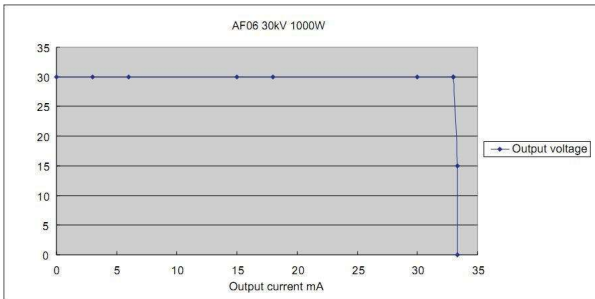
AF06-220-P1000-30L



Power curve



Output current versus voltage curve



Safety

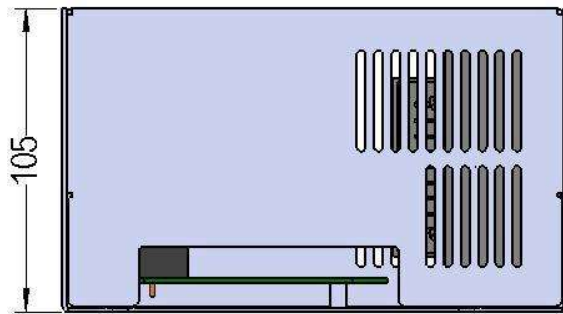
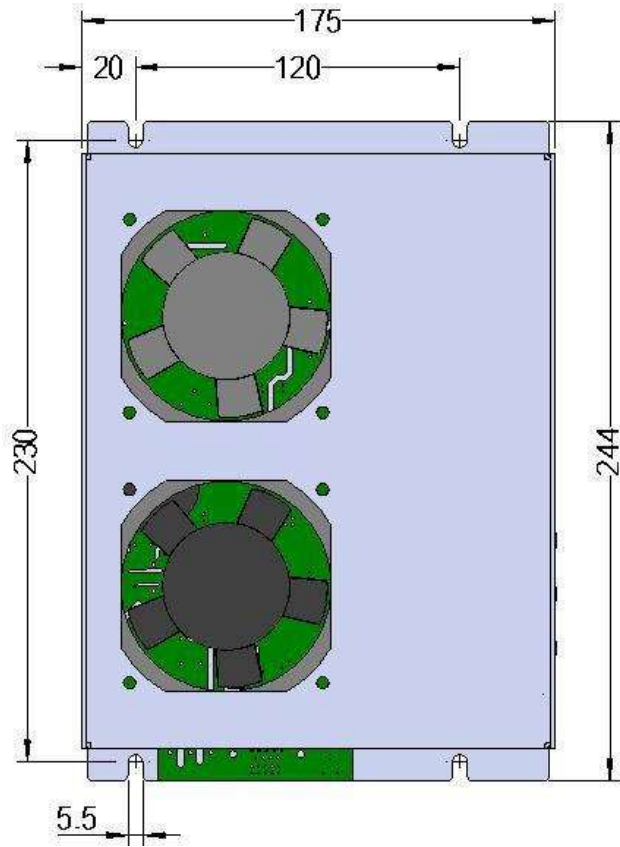
This power supply contains hazardous voltages and stored energy. Contact with the output may result in fatal injury. It should only be used and maintained by trained personnel.

- The area where the power supply is to be used should be kept clean and dry.
- Keep a safe distance from the output connector and remove any item which may come in to contact with the output.
- Ensure that a secure connection is made between the Earth side of the load and the green and yellow Earth lead.

For requirements other than those specified, please do not hesitate to contact Genvolt.

Dimensions

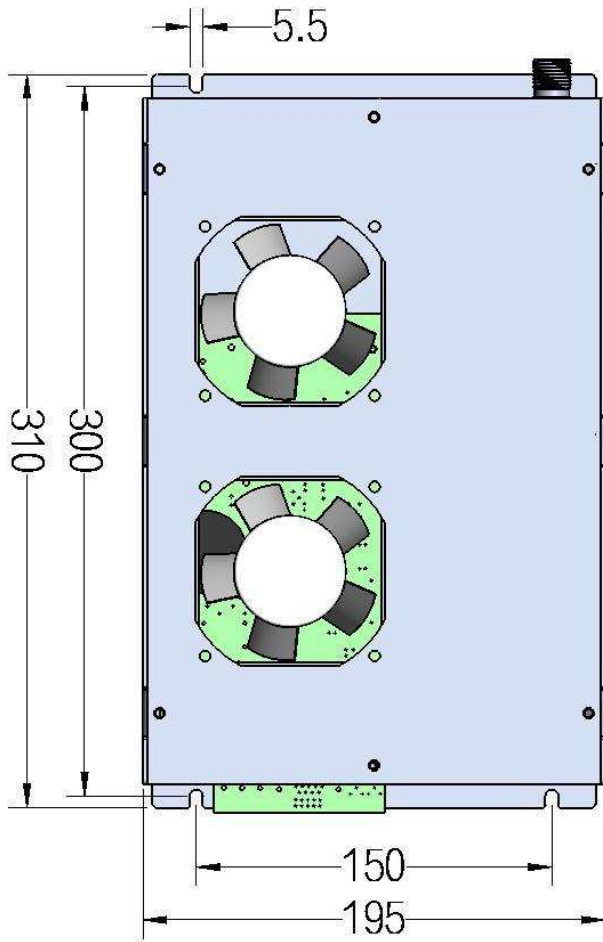
10-20kV power supplies:





Dimensions

30-40kV power supplies:



50-60kV power supplies:

