

WK Series Extended Current 500 Watt Regulated High Voltage DC Power Supplies

Up To 125kV 5.25 Inch Panel Height

Laboratory Performance and Features

Fully compliant with the European harmonized EMI directive, EN50082-2, and with the low voltage (safety) directive, 73/23/EEC.



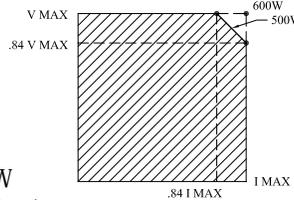
CE Check the specs... and compare

Models from 0-80kVDC through 0-125kVDC.

The WK Series is a 500 watt regulated DC power supply offering output voltage ranges to 125kV and an interesting "plus." Maximum current ratings are equivalent to a 600W supply up to 84% of rated voltage! Panel height is only 5.25 inches and weight is less than 30 pounds. The WK Series is available with dual analog output meters or, optionally, with digital meters or a blank panel for OEM/system applications.

Features:

Extended Current. WK Series models have maximum current ratings that are equivalent to a 600W supply. These currents are available for all voltages up to 84% of rated output voltage. Above this point, current is derated to maintain a constant 500W maximum output.



Pulse-Width Modulation. Off-the-line pulse-width modulation provides high efficiency and a reduced parts count for improved reliability.

Constant Voltage/Constant Current Operation. Automatic crossover from voltage to current regulation is used to provide protection from overloads, arcs, and short circuits.

Low Ripple. Ripple is less than 0.1% of rated voltage at full load.

Tight Regulation. Voltage regulation is better than 0.005%, line or load, and current regulation is better than 0.1% from short circuit to rated voltage.

Front Panel Controls (Analog and Digital Versions.) Separate 10-turn controls with locking vernier dials are used to set voltage and current levels.

A high voltage enable switch and an AC power on/off switch complete the panel controls. L.E.D.'s indicate when high voltage is on, the output polarity, and whether the supply is operating in a voltage or current regulating mode. For the blank panel version, only a power on/off switch is provided.

Air insulated. For improved serviceability and decreased weight.

Small Size and Weight. WK Series power supplies consume only 5.25 inches of panel height. Weight is 30 pounds typical.

Warranty. Standard power supplies are warranted for three years; OEM and modified power supplies are warranted for one year. A formal warranty statement is available.



Designing Solutions for High Voltage Power Supply Applications

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Specifications

(From 5% to 100% rated voltage. All units operate down to zero output with very slight degradation of performance.)

Input: 102-132V RMS, 48-63Hz single phase, <10 A. Connector per IEC 320 with mating line cord terminated with NEMA 5-15 plug.

Efficiency: Typically 83% at full load.

Output: Continuous, stable adjustment, from 0 to rated voltage or current by panel mounted 10-turn potentiometers with 0.05% resolution, or by external 0 to 10V signals is provided. Voltage accuracy is 0.5% of setting + 0.2% of rated. Repeatability is <0.1% of rated.

Stored Energy: 80kV: 9J, 100kV: 11J, 125kV: 14.5 J.

Voltage Regulation: <0.005%, line or load.

Ripple: <0.1% RMS of rated voltage at full load.

Current Regulation: <0.1% of full scale (rated current) from short circuit to rated voltage.

Voltage Monitor: 0 to +10V DC for zero to rated voltage. Accuracy, 0.5% of reading + 0.2% of rated voltage.

Current Monitor: 0 to +10V DC for zero to rated current. Accuracy, 1% of reading + 0.05% (0.1% for reversible model) of rated current.

Stability: 0.01% per hour after 1/2 hour warmup. 0.05% per 8 hours.

Output Voltage Rise/Decay Time Constant: Typically 400 ms rise or decay time constant for 125kV model, using HV on/off or remote voltage control, with 15% resistive load.

Temperature Coefficient: 0.01% per degree C.

Ambient Temperature: -20 to +40 degrees C, operating; -40 to +85 degrees C, storage.

Polarity: Positive, negative, or reversible with respect to chassis ground.

Protection: Automatic current regulation protects against all overloads, including arcs and shorts. Fuses, surge-limiting resistors, and low-energy components provide ultimate protection.

Accessories: Detachable 8-foot shielded HV coaxial cable (see Model Chart for cable type) and 6-foot detachable line cord provided.

Remote Controls: Common, +10V reference, interlock, current monitor, current program, voltage monitor, voltage program, HV enable/disable, and ground. Provided on a rear panel mounted terminal block.

External Interlock: Open off, closed on. Normally latching except on blank panel version where it is non-latching.

HV Enable/Disable: 0-1.5V off, 2.5-15V on.

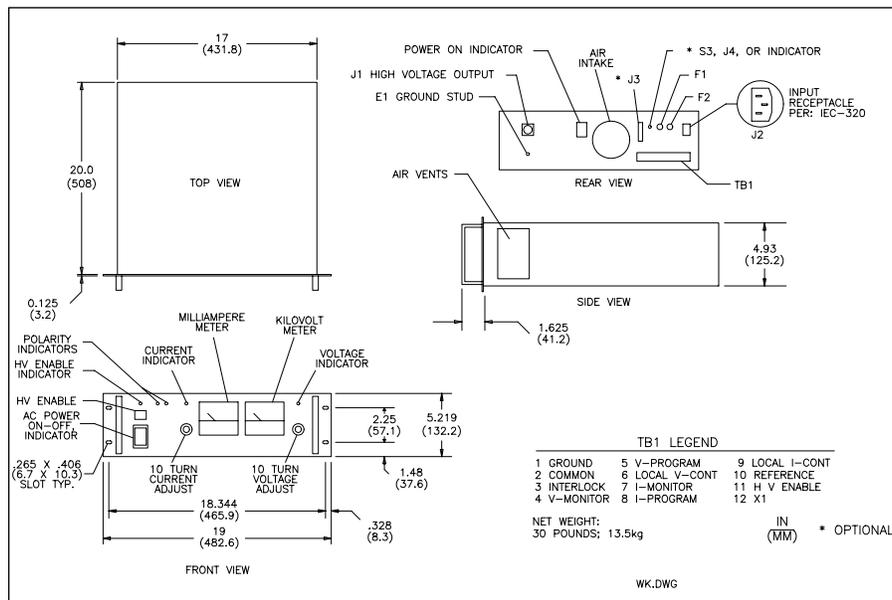
Options

Symbol	Description	
100	90-116V input, 48-63Hz.	NEMA 5-15 plug.
200	180-232V input, 48-63Hz.	NEMA 6-15 plug.
220	200-264V input, 48-63Hz.	NEMA 6-15 plug.
400	48-420Hz input	
DM	3-1/2 digit LCD panel meters.	
NC	Blank front panel, power switch only.	
CT	Current trip. Power supply trips off when the load current reaches the programmed level. This option has a rear panel switch that selects either "trip" operation or current limiting.	
ZR	Zero start interlock. Voltage control, local or remote, must be at zero before accepting an enable signal.	
SS	Slow start ramp. Specify standard times of 1, 2, 3, 5, 10, 15, 20, or 30 s +/- 20%.	
5VC	0-5V voltage and current program/monitor.	

Models

Positive Polarity	Negative Polarity	Reversible Polarity	Output Voltage	Output Current	Output Cable
WK80P7.5	WK80N7.5	WK80R7.5	0-80kV	0-7.5mA	DS2121
WK100P6	WK100N6	WK100R6	0-100kV	0-6mA	DS2121
WK125P5	WK125N5	WK125R5	0-125kV	0-5mA	DS2121

Note: Product of voltage and current automatically limited to 500W maximum.



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