http://www.vupower.com

Programmable DC Power Supply

VUPOWER®

VUPOWER means view power

INTERACT

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INTERACT

Model description

IPS-B Series <Single>

IPS-B Series <Dual>

1 VFD

Large character to assure "easy-to-read".
Output channel(P1/P2) will display.
Simultaneous dual display in dual output products.

High setting & display resolution : 1mV/1mA.

Operation indicator (CV, CC, Rmt, Trk).

3 Keys

Indication light on each silicon key under being pressed.
Soft touch key with silicon material.

Non-volatile storage & recall of 10 settings.

All-in-one function at setup key
(Setup limit to protect device under test, Power-off memory for restarting after power shutdown, Password for setup to prohibit any access from unauthorized person, Easy calibration, Calibration recover, Interface setting, Beep setting).

Auto tracking function(Dual models only).

Output On/Off function for emergency & safety.
This Key work even under lock situation of front Keys.

Lock function to prevent any mistake on front keys(Except Output On/Off key).

Encoder switch for easy setup with feeling of clicking.

2 Output

Binding post: Rated for 15Amps, 1000Vac working voltage.
Single output : 60~300W.
Isolated dual output with dual display : 120~360W.
Remote sensing terminals for compensation against voltage drop of wire resistance(Single models only).

Others

Poly-Carbonate front panel to prevent any unexpected short-circuit.
Silicon-Rubber bumper to protect hardware.
Bench-top or 19" half-rack mountable.

VUPOWER common features (IPS-B Series, AK-Series)

- Excellent low ripple & noise by true linear operation.
- High speed transient response time.
- Power off memory for restarting after power shutdown.
- Constant Voltage & Constant Current(CV/CC) operation with automatic crossover.
- Easy calibration from front panel.
- Calibration recover function.
- Store/Recall function by non-volatile storage of 10 settings.
- High accuracy & simultaneous digital metering of voltage and current by VFD display.
- Bench-top or 19" half rack mountable/3U(132mm height), Half-rack(212mm width) size without bumper.
- C-UL, CE Gs, TUV Approval(Single models only).

Programmable DC Power Supply

■ PS-B Series

<Single>

<Dual>

Precision DC Power Supply

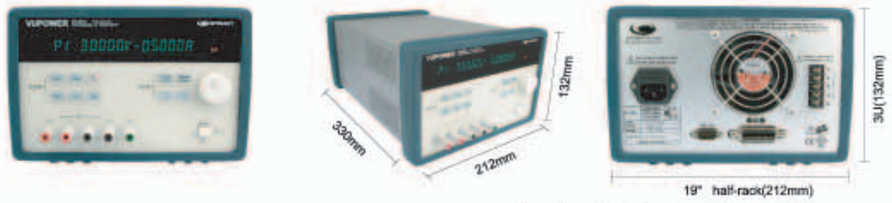
■ AK Series

<Single>

<Dual>

P Programmable DC Power Supply

■ IPS-B Series (Single output)



<Dimension without bumper>

■ Features

- High power in a compact size up to 300W.
- Display setting value on front VFD window.
- High setting & display resolution of 1㎷/1㎃.
- RS-232C & GPIB(IEEE488.2) interface with SCPI.
- Remote sense facilities for compensation against voltage drop from wire resistance.
- Front or rear output enable.

■ Specification

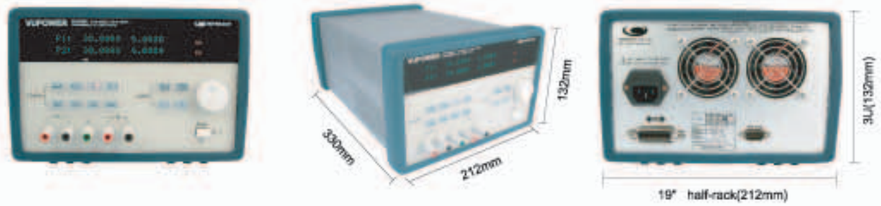
Model	Max. Output Power (W)	DC Output (V/A)	Output port	Resolution		Accuracy(1)				Ripple & Noise		Load Regulation		Load Regulation		Input Rating (VA)	Weight (kg)	Remark
				Programming & Readback (mV/mA)	Meter (mV/mA)	Programming		Readback		V (mVp-p)	A (mArms)	V (mV)	A(mA)	V (mV)	A(mA)			
						V(mV)	A(mA)	V(mV)	A(mA)									
IPS-12B05	60	12/5	P1	<1/1		<18.6	<10	<13.6	<8	<3	<1	<3.2	<0.7	<3.2	<0.7	220	9	CE
IPS-18B10	180	18/10	P1	<1/1		<24	<20	<21	<17	<4	<2	<3.8	<1.2	<3.8	<1.2	450	10	CE
IPS-30B03	90	30/3	P1	<1/1		<24	<8	<19	<6	<3	<1	<5	<0.5	<5	<0.5	300	9	CE
IPS-30B05	150	30/5	P1	<1/1		<24	<10	<19	<8	<3	<1	<5	<0.7	<5	<0.7	390	9	CE
IPS-30B10	300	30/10	P1	<1/1		<30	<20	<27	<17	<5	<2	<8	<1.2	<6	<1.2	635	10.9	CE
IPS-60B03	180	60/3	P1	<1/1	<10/1	<50	<8	<45	<6	<4	<1	<8	<0.9	<8	<0.9	420	9	CE

(1)Accuracy is measured from its front output terminals after 1 hour warm-up and recalibration at 23℃, ±(% of operating output + offset)
- Programming accuracy is the allowance between its front setting value and its actual output from its front output terminals.
- Readback accuracy is the allowance between its remotely controlled value by interface and its actual output from its front output terminals.

※ Transient Response Time is less than 50㎲ to recover its output voltage to within 15mV after changing the current value over the connected electronic load from full load to half load.
※ Standard Input Voltage : 220Vac/48~62Hz, Optional inputs are available - 115Vac, 230Vac, 240Vac.
※ Customized order is acceptable within max. power rate 360W (Max. output voltage under 60V, Max. output current under 10A @ 360W).

P Programmable DC Power Supply

■ IPS-B Series (Dual output)



<Dimension without bumper>

■ Features

- High power in a compact size up to 360W.
- Display Setting value on front VFD window.
- High setting & display resolution of 1㎷/1㎃.
- RS-232C & GPIB(IEEE488.2) interface with SCPI.
- Tracking function.

■ Specification

Model	Max. Output Power (W)	DC Output (V/A)	Output port	Resolution		Accuracy(1)				Ripple & Noise		Load Regulation		Load Regulation		Input Rating (VA)	Weight (kg)
				Programming & Readback (mV/mA)	Meter (mV/mA)	Programming		Readback		V (mVp-p)	A (mArms)	V (mV)	A(mA)	V (mV)	A(mA)		
						V(mV)	A(mA)	V(mV)	A(mA)								
IPS-12B05D(D)	120	2×12/5	P1	<1/1		<18.6	<10	<13.6	<8	<3	<1	<3.2	<0.7	<3.2	<0.7	350	12.3
			P2			<37	<15	<32	<12	<4~8							
IPS-30B03D(D)	180	2×30/3	P1	<1/1		<24	<8	<19	<6	<3	<1	<5	<0.5	<5	<0.5	400	12.3
			P2			<55	<13	<50	<10	<4~8							
IPS-30B05D(D)	300	2×30/5	P1	<1/1		<24	<10	<19	<8	<3	<1	<5	<0.7	<5	<0.7	500	12.3
			P2			<55	<15	<50	<12	<4~8							
IPS-60B03D(D)	360	2×60/3	P1	<1/1	<10/1	<50	<8	<45	<6	<4	<1	<8	<0.9	<8	<0.9	800	12.3
			P2			<85	<13	<80	<10	<4~8							

※ Please refer to page 11 to distinguish between "D" type and "DD" type.

(1)Accuracy is measured from its front output terminals after 1 hour warm-up and recalibration at 23℃, ±(% of operating output + offset)
- Programming accuracy is the allowance between its front setting value and its actual output from its front output terminals.
- Readback accuracy is the allowance between its remotely controlled value by interface and its actual output from its front output terminals.

※ Transient Response Time is less than 50㎲ to recover its output voltage to within 15mV after changing the current value over the connected electronic load from full load to half load.
※ Standard Input Voltage : 220Vac/48~62Hz, Optional inputs are available - 115Vac, 230Vac, 240Vac.
※ Customized order is acceptable within max. power rate 360W (Max. output voltage under 60V, Max. output current under 10A @ 360W).

Precision DC Power Supply

AK Series (Single output)

<Dimension without bumper>

Features

- High power in a compact size up to 300W.
- Display setting value on front VFD window.
- High setting & display resolution of 1㎷/1㎃.
- Remote sense facilities for compensation against voltage drop from wire resistance.
- Front or rear output enable.

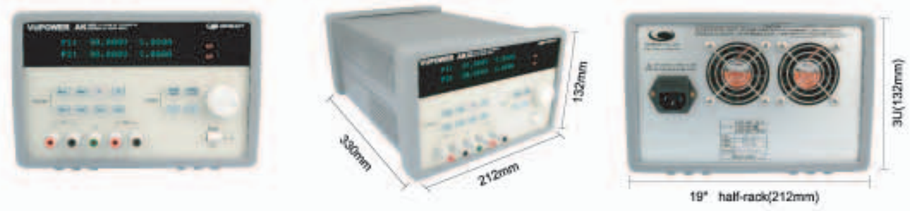
Specification

Model	Max. Output Power (W)	DC Output (V/A)	Output port	Metering Resolution (mV/mA)	Accuracy(1)		Ripple & Noise		Load Regulation		Load Regulation		Input Rating (VA)	Weight (kg)	Remark
					V (mV)	A(mA)	V (mVp-p	A (mArms)	V (mV)	A(mA)	V (mV)	A(mA)			
AK-1205	60	12/5	P1	<1/1	<18.6	<10	<3	<1	<3.2	<0.7	<3.2	<0.7	220	9	CE
AK-1810	180	18/10	P1	<1/1	<24	<20	<4	<2	<3.8	<1.2	<3.8	<1.2	450	10	CE
AK-3003	90	30/3	P1	<1/1	<24	<8	<3	<1	<5	<0.5	<5	<0.5	300	9	CE
AK-3005	150	30/5	P1	<1/1	<24	<10	<3	<1	<5	<0.7	<5	<0.7	390	9	CE
AK-3010	300	30/10	P1	<1/1	<30	<20	<5	<2	<6	<1.2	<6	<1.2	635	10.9	CE
AK-6003	180	60/3	P1	<10/1	<50	<8	<4	<1	<8	<0.9	<8	<0.9	420	9	CE

(1)Accuracy is measured from its front output terminals after 1 hour warm-up and recalibration at 23℃, ±(% of operating output + offset)
※ Transient Response Time is less than 50㎲ to recover its output voltage to within 15mV after changing the current value over the connected electronic load from full load to half load.
※ Standerd Input Voltage : 220Vac/48~62Hz, Optional inputs are available - 115Vac, 230Vac, 240Vac.
※ Customized order is acceptable within max. power rate 360W (Max. output voltage under 60V, Max. output current under 10A @ 360W).

Precision DC Power Supply

AK Series (Dual output)



<Dimension without bumper>

Features

- High power in a compact size up to 360W.
- Display setting value on front VFD window.
- High setting & display resolution of 1㎷/1㎃.
- Tracking function.

Specification

Model	Max. Output Power (W)	DC Output (V/A)	Output port	Metering Resolution (mV/mA)	Accuracy(1)		Ripple & Noise		Load Regulation		Load Regulation		Input Rating (VA)	Weight (kg)
					V(mV)	A(mA)	V (mVp-p)	A (mArms)	V (mV)	A(mA)	V (mV)	A(mA)		
AK-1205D(D)	120	2×12/5	P1	<1/1	<18.6	<10	<3	<1	<3.2	<0.7	<3.2	<0.7	350	12.3
			P2		<37	<15	<4~8							
AK-3003D(D)	180	2×30/3	P1	<1/1	<24	<8	<3	<1	<5	<0.5	<5	<0.5	400	12.3
			P2		<55	<13	<4~8							
AK-3005D(D)	300	2×30/5	P1	<1/1	<24	<10	<3	<1	<5	<0.7	<5	<0.7	500	12.3
			P2		<55	<15	<4~8							
AK-6003D(D)	360	2×60/3	P1	<10/1	<50	<8	<4	<1	<8	<0.9	<8	<0.9	600	12.3
			P2		<85	<13	<4~8							

※ Please refer to page 11 to distinguish between "D" type and "DD" type.

(1)Accuracy is measured from its front output terminals after 1 hour warm-up and recalibration at 23℃, ±(% of operating output + offset)
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※ Customized order is acceptable within max. power rate 360W (Max. output voltage under 60V, Max. output current under 10A @ 360W).

C Communication & Interface

Communication:

VUPOWER have RS-232C & GPIB (General Purpose Interface Bus)(IEEE-488.2) interfaces. These interfaces are SCPI Compliance. Means follow all the common commands declared mandatory by IEEE488.2.

RS-232C Interface Configuration:

VUPOWER can be connected to RS-232C interface by using 9-pin (DB-9) serial connector. For RS232C interface Power Supply uses two handshaking lines as RTS(Request To Send) and CTS(Cancel To Send).

GPIB(IEEE488.2) Interface Configuration:

VU POWER can be connected through GPIB interface by using GPIB Connector. It is a 24 pin ribbon type connector with 16 signal lines & 8 ground lines.
Out of 16 signal lines 3 are handshaking lines as:

- DAV
- NRFD
- NDAC

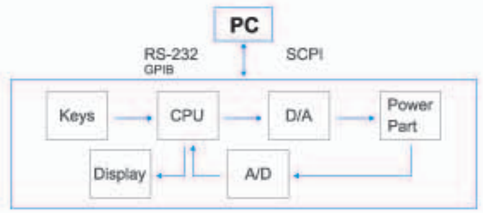
And 5 Bus Management lines as:

- ATN
- IFC
- REN
- SRQ
- EOI

And 8 Data lines as : DIO-1 To DIO-8

Interface:

The Internal Interface of VUPOWER is shown in Fig. Given below.



The setting values of Voltages or Currents can be entered either from Keys or from PC. VUPOWER provides you hands free solution for controlling power supply means seating at remote area you can control all the features of VUPOWER .This can be done by strong feature of VUPOWER such as reading values of voltages or currents, take printout of all the readings, graphical representation of voltages or currents, you can make changes as per your requirements, this all can be achieved by communicating VUPOWER from your PC via RS232C or GPIB interface.

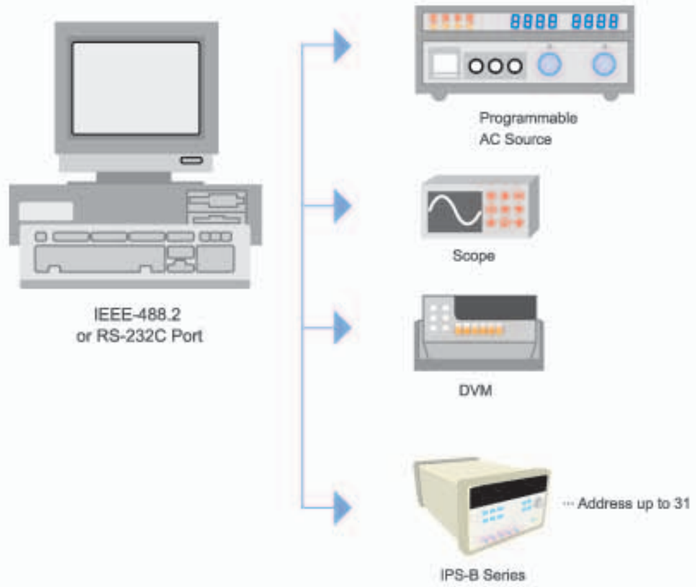
A Application

As the wireless devices are expanding rapidly, most of the factories require highly accurate DC power supplies to strictly control the quality of their goods mostly using battery.
Moreover, most of equipments are being systemized, it is essential for them to have interface function and be rack-mountable on standard 19 inch-rack.

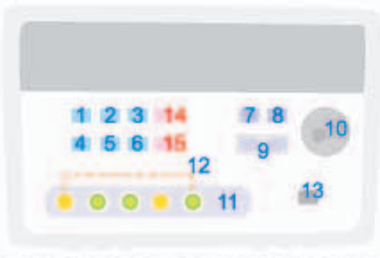
VUPOWER is applicable to

- most of fields in manufacturing wireless electronic products which use rechargeable battery such as Li-ion and are equipped with small LCD; such as manufacturers of Mobile phone(CDMA, GSM), PDA, GPS receiver, Portable DVD, LCD back light, IMT2000 devices, Camcorder, Camera, Rechargeable electronic drill, DC motor.
- all of R&D labs in electronics for circuit test.
- universities.

GPIB&RS-232C



B Brief description of front keys



1. **Recall key** : Recalling the stored value / Returning to the operating state.
2. **Setup key** : Initialization of setting from menu.
   - SETUP-LIMIT : Set the voltage or current limit to escape any unexpected damage.
   - SETUP-POWER FAIL : If you choose "POWER FAIL ON", the latest output is enabled right after the power-on. Instead, if you choose "POWER FAIL OFF", "OUTPUT OFF" will be displayed when you turn on the power supply.
   - SETUP-PASSWORD : Setup the password to prevent unauthorized person from any access.
   - SETUP-COMM : To set the serial or parallel communication.
   - CAL-VOLTAGE : To set the voltage calibration.
   - CAL-CURRENT : To set the current calibration.
   - CAL-VOLT RECOVER : Return to factory default voltage setting .
   - CAL-CURR RECOVER : Return to factory default current setting.
   - SETUP-KNOB BEEP : Set the beep On/Off for Knob.
3. **P1 key** : Output channel key for operation.
4. **Store key** : 10 memory locations (numbered 1,2, ... ,10) are available.
5. **Error key** : Checking the error message / canceling the present procedure.
6. **Lock key** : Lock-in/Lock-out the front keys except Output On/Off key.
7. **Output On/Off key** : Selecting the output enable / disable.
8. **Voltage/Current key** : Switch key for between voltage and current digit under adjustment.
9. **Arrow key** : Moving the blinking digit the right or left under adjustment.
10. **Control knob** : Increasing / Decreasing the value of the blinking digit by turning clockwise or counter clockwise.
11. **Binding post** : Strong material, Max. rating up to 15A.
12. **Remote sensing terminal** : To compensate voltage drop against wire resistance (Single models only).
13. **Power switch** : Power On / Off.

*** Key for dual models.**

14. P2 Key : P2 output channel key for operation.

15. Track : Setting the other channel to be subordinated to active channel.

O Ordering Information

Quotations

Inquiries are welcome concerning our programmable DC power supply or modifications to our standard models. Written quotations from INTERACT are valid for 30 days unless otherwise indicated.

Ordering

When ordering, please specify the product name and complete model number.

Model-OO(B)OOD(D)

- Blank : Single output.
- D : Isolated dual output with dual display (Only outside of Korea).
  Isolated dual output with single display (Only in Korea).
- DD : Isolated dual output with dual display (Only in Korea).

Maximum output current rating(~10A).

- Blank : AK-series.
- "B"marked : IPS-B series.

Maximum output voltage rating(~60V).

IPS-B or AK.

Payment Terms

Unless credit has been established, shipments will be made on an irrevocable Letter of Credit or wire transfer in advance.

Repair Parts

INTERACT maintains a full inventory of replacement parts for immediate shipment.
Customers may recalibrate, troubleshoot or repair products with described in the instruction manual. Also, INTERACT provides technical information and repair components overseas.
Warranty replacements are available to customers at no charge.
Maintenance and replacement components for products out of warranty are available at reasonable fees.

Warranty

VUPOWER maintain a year warranty unless otherwise noted. Each parties should cover the delivery charges with prepaid condition for warranty service.

Product Documentation

All products include operations manual in English, test sheets and a warranty.