

1U Multi Range Programmable  
DC Power Supply  
PWX750ML



# NEW STANDARD OF RACK MOUNT POWER SUPPLY



D C P O W E R S U P P L Y

*1U Multi Range Programmable DC Power Supply*

## **PWX750ML**

Variable voltage and current combinations with 3 times of coverage ratio of its range within the rated power

1U height, slim and lightweight design, suitable for rack mount

Rated output power: 750W

Rated output voltage: 80V

PFC circuit of 0.99 (with 100V) or 0.97 (with 200V) at full load

LAN/USB/RS-232C as standard interface (LAN: LXI compliant)

# NEW STANDARD OF RACK MOUNT POWER SUPPLY

## MULTI RANGE

3 times of coverage ratio  
for the voltage and  
current range

## LXI

LAN, USB, RS-232C:  
as standard interface

## SLIM

1U size

The PWX750ML is a constant voltage (CV)/constant current (CC) automatic crossover DC power supply, which enables you to combine a wide range of voltages and currents within the output power rating. A seamless operation range is provided from 80V-9.38A to 26.8V-28A. A single PWX750ML can cover an extensive output range equivalent to what is provided by several units of a conventional single range DC power supply. Also, the 1U design is suitable for a rack mount, enabling it to fit into a minimal amount of space in the rack. This makes it possible to improve packaging density and save space. Moreover, it comes standardly equipped with USB, RS-232C, and LAN interfaces, essential for system upgrades. Particularly, the LAN interface complies to the LXI (LAN eXtention for Instrumentation). This enables you easily to control and monitor the power supply from a browser via PC or smart phone.

*1U Multi Range Programmable  
DC Power Supply*

# PWX750ML

- For research and development, quality control, and production line



**NEW**

Model	Voltage	Current
PWX750ML	0 to 80V	0 to 28A

## PWX750ML features

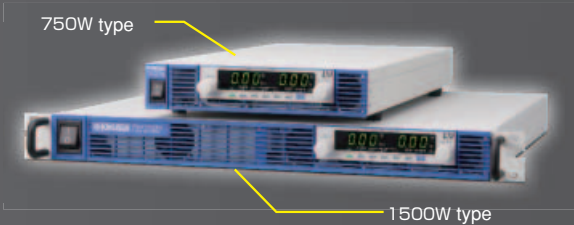
- Variable voltage and current combinations with 3 times of coverage ratio of its range within the rated power
- 1U height, slim and lightweight design, suitable for rack mount
- Rated output power: 750W
- Rated output voltage: 80V
- PFC circuit of 0.99 (with 100V) or 0.97 (with 200V) at full load
- LAN/USB/RS-232C as standard interface (LAN: LXI compliant)
- Supporting universal input voltage
- Expandable output capacity by parallel operation (up to 4 units by the same model)
- Expandable output voltage by series operation (up to 2 units by the same model)
- External analog control function (controls output voltage and current by voltage and resistance)
- Remote monitoring function (output voltage, output current, and operating mode can be monitored)
- Various protection functions: overvoltage protection, overcurrent protection, and overheat protection
- Memory function (3 combinations of settings for voltage, current, OVP, OCP, and UVL)
- Remote sensing function
- Bleeder circuit ON/OFF setting (to prevent over-discharging of batteries)
- CV, CC priority start function (prevents overshoot with output ON)
- Command language setting function: Command compatibility mode widely used in global manufactures



▲ Rack mount image

## PWX Series lineup plan: 8 models

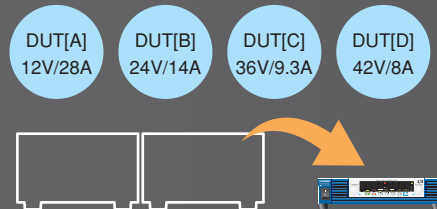
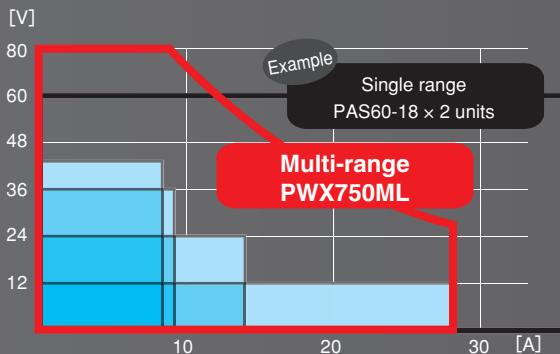
750W type	Output		Rated power	Size	Release scheduled
PWX750L	0 to 30V	0 to 75A	750W	1U half	2012
PWX750ML	0 to 80V	0 to 28A			Available for sale
PWX750MH	0 to 230V	0 to 10A			2012
PWX750H	0 to 650V	0 to 3.5A			2012
1500W type	Output		Rated power	Size	Release scheduled
PWX1500L	0 to 30V	0 to 150A	1500W	1U	2012
PWX1500ML	0 to 80V	0 to 56A			December 2011
PWX1500MH	0 to 230V	0 to 20A			2012
PWX1500H	0 to 650V	0 to 7A			2012



\*This picture shows that the optional bracket (KRB1-PWX) is mounted in the 1500W type.

## Space comparison

- In case of testing four different rating DUTs



Single range power supply could be overkill spec  
Single PWX750ML unit reduces size to 1/6 !

## Option

Product	Model	Remarks
750W model AC cable	AC1-3P2R5M-IEC320-EU	For Europe, with plug, total length 2.5 m (rated voltage 250V/rated current 10A)
	AC1-3P2R5M-IEC320-CN	For China, with plug, total length 2.5 m (rated voltage 250V/rated current 10A)
	AC2-3P3M-IEC320-UL	For Japan and U.S., with plug, total length 3 m (rated voltage 125V/rated current 15A)
Rack mount adapter for 1U half independent packaging	KRA1-PWX HALF SINGLE	
Rack mount adapter for 1U half interconnected packaging	KRA1-PWX HALF PAIR	
Bracket	KRB1-PWX	
Thin support angle	KRB1-PWX SUPPORT ANGLE	For our cosmetic rack KRC/KRO Series 1U type cohesive packaging
Parallel operation cable	PC01-PWX	For 2 units in parallel
	PC02-PWX	For 3 units in parallel
	PC03-PWX	For 4 units in parallel
RS232C control conversion cable	RD-8P/9P	Dsub9P to RJ45

# PWX750ML specifications

AC input	
Nominal input rating	100 Vac to 240 Vac, 50 Hz to 60 Hz, single phase
Input voltage range	85 Vac to 265 Vac
Input frequency range	47 Hz to 63 Hz
Current (MAX)	10.5 A(100 Vac), 5.25 A(200 Vac)
Inrush current (MAX) *1	70 Apeak
Power (MAX)	1100 VA
Power factor (TYP) *2	0.99 (input voltage 100V), 0.97 (input voltage 200V)
Efficiency (MIN)*2	74 % or more
Hold-up time for power interruption (MIN)*3	20 ms or greater

\*1. Excludes the charge current component that flows through the capacitor of the internal EMC filter circuit immediately after the POWER switch is turned on (for approximately 1 ms). \*2. With the rated output current. \*3. For all loads, with 100 V input

Output		
Rating	Output voltage *1	80 V
	Output current *1	28 A
Voltage	Output power	750 W
	Setting range	0 V to 84 V
	Setting accuracy	±(0.05 % of set +0.05 % of rating)
	Line regulation *2	±10 mV
	Load regulation *3	±10 mV
	Transient response *4	1 ms or less
	Ripple noise *5 *6	80 mV (p-p) *7, 8 mV (rms) *8
	Rise time	100 ms with rated load, 100 ms with no load
	Fall time	100 ms with rated load, 450 ms with no load
	Maximum remote sensing compensation voltage (single line)	4 V
Current	Temperature coefficient(MAX) *9	100 ppm/°C (during external control)
	Setting range	0 A to 29.4 A
	Setting accuracy	±(0.5 % of set +0.1 % of rating)
	Line regulation	±4.8 mA
	Load regulation	±10.6 mA
	Ripple noise *10	65mA (rms) *8
	Temperature coefficient (TYP) *9	100ppm/°C

\*1. The maximum output voltage and current are limited by the maximum output power. \*2. 85 Vac to 135 Vac or 170 Vac to 265 Vac, fixed load \*3. The amount of change that occurs when the load is changed from no load to rated load (rated output power/rated output voltage) with rated output voltage. The value is measured at the sensing point. \*4. The amount of time required for the output voltage to return to a value within "rated output voltage ± (0.1 % + 10 mV)." The load current fluctuation is 50 % to 100 % of the maximum current with the set output voltage. \*5. Measured using an RC-9131B 1:1 probe that conforms to the JEITA specifications. \*6. At the rated output current \*7. When the measurement frequency bandwidth is 10 Hz to 20 MHz. \*8. When the measurement frequency bandwidth is 5 Hz to 1 MHz. \*9. When the ambient temperature is within 0 °C and 50 °C \*10. When the output voltage is 10 % to 100 % of the rating.

Display function		
Voltage display	Maximum display	99.99 (fixed decimal point)
	Display accuracy	± (0.2 % of reading +5 digits)
Current display	Maximum display	99.99 (fixed decimal point)
	Display accuracy	± (0.5 % of reading +5 digits)
Power display *1	Maximum display	9999
	Display accuracy	Displays the result of multiplying the current and voltage
Operation display	OUTPUT ON/OFF, CV operation, CC operation, Alarm operation, Remote operation (LAN operation), Key lock operation, Preset memory	

\*1. Press PWR DSPL to display the power on the ammeter. Each time you press this key, the display switches between power and current.

Protection functions	
Overvoltage protection (OVP), Overvoltage protection 2 (OVP2), Overcurrent protection (OCP), Undervoltage limit (UVL), Overheat protection (OHP), Fan failure protection (FAN), Incorrect sensing connection protection (SENSE), Low AC input protection (AC-FAIL), Shutdown (SD), Power limit (POWER LIMIT)	

Signal output		
Monitor signal output *1	Voltage monitor (VMON)	Selectable monitor voltage range: 0 V to 5 V or 0 V to 10 V
	Setting accuracy	2.5 % of f.s.
Status signal output *1 *2	Current monitor (MON)	Selectable monitor voltage range: 0 V to 5 V or 0 V to 10 V
	Setting accuracy	2.5 % of f.s.

\*1. J1 connector on the rear panel \*2. Photocoupler open collector output; maximum voltage 30 V, maximum current (sink) 8 mA; isolated from the output and control circuits; status commons are floating (withstand voltage of less than or equal to 60 V); and status signals are not mutually isolated.

Control features		
External control *1	Output voltage control (VPGM)	0 % to 100 % of the rated output voltage Selectable control voltage range: 0 V to 5 V or 0 V to 10 V
	Accuracy	5 % of f.s.
	Output current control (IPGM)	0 % to 100 % of the rated output current Selectable control voltage range: 0 V to 5 V or 0 V to 10 V
	Accuracy	5 % of f.s.
	Output on/off control [OUTPUT ON/OFF CONT]	Possible logic selections: turn the output on using a low TTL level signal or turn the output on using a high TTL level signal
	Output shutdown control [SHUT DOWN]	Turns the output off with a low TTL level signal
Alarm clear control [ALM CLR]	Clears alarms with a low TTL level signal	

\*1. J1 connector on the rear panel

Other features	
Master-slave parallel operation	Including the master unit, up to four units (all the same model) can be connected.
Series operation	Up to two units (all the same model) can be connected.
Preset memory	Up to three sets of the following settings can be saved: the set voltage, the set current, the set OVP, the set OCP, and the set UVL.
Key lock	Locks the operation of all keys other than the OUTPUT key.

Interface	
Software protocol	IEEE Std 488.2-1992
Command language	Complies with SCPI Specification 1999.0 Has a compatibility mode (switchable) · Genesys Series made by TDK-Lambda · N5700/N8700 made by Agilent Technologies · PAG Series made by Kikusui
RS232C, USB, LAN	

General		
Environmental conditions	Operating environment	Indoor use, overvoltage category II
	Operating temperature/humidity	0°C to +50°C / 20 %rh to 85 %rh (no condensation)
	Storage temperature/humidity	-20°C to +70°C / 90 %rh or less (no condensation)
Altitude	Up to 2000 m	

Cooling method	Forced air cooling using fan	
Grounding polarity	Negative grounding or positive grounding possible	
Isolation voltage	±250 Vmax	
Withstand voltage	Input-FG	No abnormalities at 1500 Vac for 1 minute
	Input-Output	No abnormalities at 2000 Vac for 1 minute
	Input-SELV *1	No abnormalities at 2500 Vac for 1 minute
Insulation resistance	500Vdc, 100MΩ or more	

Safety Complies with the requirements of the following directive and standard. Low Voltage Directive 2006/95/EC \*2 EN 61010-1 Class I Pollution degree 2

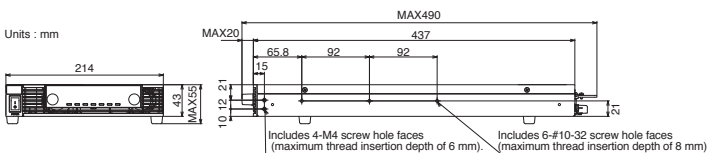
Electromagnetic compatibility (EMC) \*2 \*3 Complies with the requirements of the following directive and standard. EMC Directive 2004/108/EC EN 61326-1, EN 61000-3-2, EN 61000-3-3 Applicable under the following conditions The maximum length of all cabling and wiring connected to the PWX750ML must be less than 3 m.

Dimensions (maximum)/Weight 214Wx43(55)Hx437(490)Dmm/Approx.5 kg

Accessories	
AC cable:1pc., Output terminal cover:1pc., Output terminal M6 bolt set: M6 bolts x8:2 sets(Bolt, nut, spring washer, and washer for each bolt), Chassis connection wire:1wire, J1 connector plug kit:1set(Housing:1pc., Connector:1pc., Plug:1pc., Strain relief:1pc., Clips:2pcs., and two types of Screws:2pcs., ), Packing list:1copy, CONFIG parameter list:1copy, Safety precautions:1copy, China RoHS sheet:1copy, CD-ROM:1disc	

\*1. SELV: Optional isolated analog interface \*2. Does not apply to specially ordered or modified PWX750MLs. \*3. Only on models that have CE marking on the panel.

## ● Outline drawing



## KIKUSUI ELECTRONICS CORPORATION [www.kikusui.co.jp](http://www.kikusui.co.jp)

**KIKUSUI** 1-1-3, Higashiyamata, Tsuzuki-ku, Yokohama, 224-0023, Japan  
Phone : (+81)45-593-7570, Facsimile : (+81)45-593-7571

## KIKUSUI AMERICA, INC. 1-877-876-2807 [www.kikusuiamerica.com](http://www.kikusuiamerica.com)

**KIKUSUI AMERICA INC.** 530 Lakeside Drive, Suite#180, Sunnyvale, CA 94085, U.S.A.  
Phone : 408-733-3432 Facsimile : 408-733-1814

For our local sales distributors and representatives, please refer to "sales network" of our website.

■ All products contained in this catalogue are equipment and devices that are premised on use under the supervision of qualified personnel, and are not designed or produced for home-use or use by general consumers. ■ Specifications, design and so forth are subject to change without prior notice to improve the quality. ■ Product names and prices are subject to change and production may be discontinued when necessary. ■ Product names, company names and brand names contained in this catalogue represent the respective registered trade name or trade mark. ■ Colors, textures and so forth of photographs shown in this catalogue may differ from actual products due to a limited fidelity in printing. ■ Although every effort has been made to provide the information as accurate as possible for this catalogue, certain details have unavoidably been omitted due to limitations in space. ■ If you find any misprints or errors in this catalogue, it would be appreciated if you would inform us. ■ Please contact our distributors to confirm specifications, price, accessories or anything that may be unclear when placing an order or concluding a purchasing agreement.