Specifications

750 W type

Item/Model		PWX750LF	PWX750MLF	PWX750MHF	PWX750HF
Half rack size			PWX750ML		
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) *1	100 Vac	10.5 A			
	200 Vac	5.25 A			
Inrush current *2		70 A or less			
Power (MAX) *3		1100 VA			
Power factor (TYP) *1		0.99 (input voltage 100 V), 0.97 (input voltage 200 V)			0.98 (input voltage 100 V), 0.96 (input voltage 200 V)
Efficiency *1		74 % or greater			
Hold-up time for power interruption *3		20 ms or greater			

*1. With rated load. *2. 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). *3. 100 Vac with rated load.

Item/Model			PWX750LF	PWX750MLF	PWX750MHF	PWX750HF
Half rack size				PWX750ML		
Output						
Rating	Output voltage *1		30 V	80 V	230 V	650 V
	Output current *1		75 A	28 A	10 A	3.5 A
	Output power		750 W			
Voltage	Setting range		0 V to 31.5 V	0 V to 84 V	0 V to 241.5 V	0 V to 682.5 V
	Setting accuracy		± (0.05 % of set +0.05 % of rating)			
	Line regulation *2		± 5 mV	± 10 mV	± 25 mV	± 67 mV
	Load regulation *3		± 5 mV	± 10 mV	± 25 mV	± 67 mV
	Transient response *4		1 ms or less		7 ms or less	
	Ripple noise *5	(p-p) *6	60 mV	80 mV	120 mV	330 mV
		(rms) *7	8 mV	8 mV	25 mV	60 mV
	Rise time	Rated load	100 ms			
		No load	100 ms			
	Fall time*8	Rated load	100 ms		150 ms	250 ms
		No load	450 ms	550 ms	1500 ms	3000 ms
	Maximum remote sensing compensation voltage (single line)		1.5 V	4 V	5 V	5 V
	Temperature coefficient (MAX) *9		100 ppm/°C (during external control)			
Current	Setting range		0 A to 78.75 A	0 A to 29.4 A	0 A to 10.5 A	0 A to 3.675 A
	Setting accuracy		±(0.5 % of set +0.1 % of rating)			
	Line regulation		± 9.5 mA	± 4.8 mA	± 3 mA	± 2.35 mA
	Load regulation		± 20 mA	± 10.6 mA	± 7 mA	± 5.7 mA
	Ripple noise *10	(rms) *7	150 mA	65 mA	30 mA	15 mA
	Temperature coefficient (TYP) *9		100 ppm/°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-9131 1:1 probe that conforms to the JEITA specifications. At the rated output current. *6. When the measurement frequency bandwidth is 10 Hz to 20 MHz. *7. When the measurement frequency bandwidth is 5 Hz to 1 MHz. *8.When the breeder circuit on/off setting is on. *9. When the ambient temperature is within 0 °C and 50 °C. *10. When the output voltage (Rated Power ÷ Rated Current) is 10 % to 100 % of the rating. At the rated output current.

Item/Model		PWX750LF	PWX750MLF	PWX750MHF	PWX750HF
Half rack size			PWX750ML		
Display function					
Voltage display	Maximum display	99.99 (fixed decimal point)		999.9 (fixed decimal point)	
	Display accuracy	± (0.2 % of reading +5 digits)			
Current display	Maximum display	99.99 (fixed decimal point)			9.999 (fixed decimal point)
	Display accuracy	± (0.5 % of reading +5 digits)			
Power display *1		The PWR DSPL key lights in red.			
	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.

Item/Model			PWX750LF	PWX750MLF	PWX750MHF	PWX750HF
Half rack size				PWX750ML		
Protection functions						
Overvoltage protection (OVP), Overvoltage protection 2 (OVP2), Overcurrent protection (OCP), Undervoltage limit (UVL), Overheat protection (OHP), Overheat protection 2 (OHP2), Fan failure protection (FAN), Incorrect sensing connection protection (SENSE), Low AC input protection (AC-FAIL), Shutdown (SD), Power limit (POWER LIMIT), Communication monitoring (WATCHDOG)						
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.			
	Current monitor (IMON)		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			OUTON STATUS, CV STATUS, CC STATUS,ALM STATUS, PWR ON STATUS			

*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.

750 W type

Item/Model			PWX750LF	PWX750MLF	PWX750MHF	PWX750HF
Half rack size				PWX750ML		
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 rtg			
	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 rtg			
	Output on/off control [OUTPUT ON/OFF CONT]		Possible logic selections: Turn the output on using a LOW (0 V to 0.5 V) or short-circuit, turn the output off using a HIGH (4.5 V to 5 V) or open-circuit. Turn the output on using a HIGH (4.5 V to 5 V) or open-circuit, turn the output off using a LOW (0 V to 0.5 V) or short-circuit.			
	Output shutdown control [SHUT DOWN]		Turns the output off with a LOW (0 V to 0.5 V) or short-circuit.			
	Alarm clear control [ALM CLR]		Clears alarms with a LOW (0 V to 0.5 V) or short-circuit.			

*1. J1 connector on the rear panel

Item/Model	PWX750LF	PWX750MLF	PWX750MHF	PWX750HF
Half rack size		PWX750ML		
Control features				
Master-slave parallel operation	Including the master unit, up to four units(all the same model) can be connected.			
Series operation*1	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)*2 • Genesys series made by TDK-Lambda • N5700 and N8700 made by Agilent Technologies • DSC series made by Sorensen • PAG series made by Kikusui			
RS232C, USB, LAN	USBTMC-USB488, LXI 1.3 Class C			

*1. Excluding the PWX750HF *2. This setting does not guarantee compatibility with all measuring instrument application software and drivers.

Item/Model		PWX750LF	PWX750MLF	PWX750MHF	PWX750HF
Half rack size			PWX750ML		
General					
Environmental conditions	Operating environment	Indoor use, overvoltage category II			
	Operating temperature/ humidity	0 °C to +50 °C (32 °F to +122 °F)/ 20 %rh to 85 %rh (no condensation)			
	Storage temperature/ humidity	-10 °C to +60 °C (14 °F to +140 °F)/ 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		± 500 Vmax	± 800 Vmax
	Isolated analog interface *1	± 60 Vmax			
Withstand voltage	Between input and FG	No abnormalities at 1500 Vac for 1 minute			
	Between input and output	No abnormalities at 2000 Vac for 1 minute			No abnormalities at 2250 Vac for 1 minute
	Between output and FG	No abnormalities at 1500 Vdc for 1 minute		No abnormalities at 1600 Vac for 1 minute	No abnormalities at 2000 Vac for 1 minute
	Between input and Isolated Analog Interface *1	No abnormalities at 2650 Vac for 1 minute			
	Between output and Isolated Analog Interface *1	No abnormalities at 2300 Vdc for 1 minute		No abnormalities at 2650 Vac for 1 minute	No abnormalities at 3300 Vac for 1 minute
Insulation resistance	Between input and FG	500 Vdc, 100 MΩ or more (70 % or less)			
	Between input and output	±500 Vdc, 100 MΩ or more (70 % or less)			±1000 Vdc, 100 MΩ or more (70 % or less)
	Between output and FG	±500 Vdc, 40 MΩ or more (70 % or less)			±1000 Vdc, 40 MΩ or more (70 % or less)
Safety *2		Complies with the requirements of the following directive and standard. Low Voltage Directive 2014/35/EU EN 61010-1 (Class I *3, Pollution degree 2)			
Electromagnetic compatibility (EMC) *2		Complies with the requirements of the following directive and standard. EMC Directive 2014/30/EU EN 61326-1 (Class A *4), EN 55011 (Class A *4, Group 1 *5), EN 61000-3-2, EN 61000-3-3 Applicable under the following conditions The maximum length of all cabling and wiring connected to the PWX series must be less than 3 m.			
Dimensions (maximum)/Weight		422.8(485) W×43(44) H×500(580) Dmm/Approx. 8 kg		422.8(485) W×43(44) H×500(580) Dmm/Approx. 7.5 kg	
Half rack size		214 W×43(55) H×437(490) Dmm/Approx. 5 kg			
Accessories		AC cable *6: 1 wire, Output terminal cover: 1 pc., Output terminal M8 bolt set: M8 bolts ×2 sets(Bolt, nut, spring washer, and washer for each bolt) *PWX750ML includes M6 bolt set, Chassis connection wire: 1 wire, J1 connector plug kit: 1 set (Housing: 1 pc., Connector: 1 pc., Plug: 1 pc., Strain relief: 1 pc., Clips: 2 pcs., and two types of Screws: 2 pcs.,), Packing list: 1 copy, Quick reference (1 each for English and Japanese), Safety precautions: 1 copy, China RoHS sheet: 1 copy, CD-ROM: 1 disc			

*1. Option *2. Only on models that have the CE marking on the panel. Does not apply to specially ordered or modified PWXs. *3. This is a Class I equipment. Be sure to ground this product's protective conductor terminal. The safety of this product is only guaranteed when the product is properly grounded. *4. This is a Class A equipment. This product is intended for use in an industrial environment. This product may cause interference if used in residential areas. Such use must be avoided unless the user takes special measures to reduce electromagnetic emissions to prevent interference to the reception of radio and television broadcasts. *5. This is a Group 1 equipment. This product does not generate and/or use intentionally radio-frequency energy, in the form of electromagnetic radiation, inductive and/or capacitive coupling, for the treatment of material or inspection/analysis purpose. *6. AC cable is option for PWX750ML.

Specifications

1500 W type

Item/Model			PWX1500L	PWX1500ML	PWX1500MH	PWX1500H
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) *1		100 Vac	21 A			
		200 Vac	10.5 A			
Inrush current *2			70 A or less			
Power (MAX) *3			2200 VA			
Power factor (TYP) *1			0.99 (input voltage 100 V), 0.97 (input voltage 200 V)			0.98 (input voltage 100 V), 0.96 (input voltage 200 V)
Efficiency *1			74 % or greater			
Hold-up time for power interruption *3			20 ms or greater			

*1. With rated load. *2. 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). *3. 100 Vac with rated load.

Item/Model			PWX1500L	PWX1500ML	PWX1500MH	PWX1500H
Output						
Rating	Output voltage *1		30 V	80 V	230 V	650 V
	Output current *1		150 A	56 A	20 A	7 A
	Output power		1500 W			
Voltage	Setting range		0 V to 31.5 V	0 V to 84 V	0 V to 241.5 V	0 V to 682.5 V
	Setting accuracy		± (0.05 % of set +0.05 % of rating)			
	Line regulation *2		± 5 mV	± 10 mV	± 25 mV	± 67 mV
	Load regulation *3		± 5 mV	± 10 mV	± 25 mV	± 67 mV
	Transient response *4		1 ms or less		7 ms or less	
	Ripple noise *5	(p-p) *6	60 mV	80 mV	120 mV	330 mV
		(rms) *7	8 mV		25 mV	60 mV
	Rise time	Rated load	100 ms			
		No load	100 ms			
	Fall time *8	Rated load	100 ms		150 ms	250 ms
		No load	800 ms	1000 ms	1500 ms	3000 ms
	Maximum remote sensing compensation voltage (single line)		1.5 V	4 V	5 V	5 V
	Temperature coefficient (MAX) *9		100 ppm/°C (during external control)			
Current	Setting range		0 A to 157.5 A	0 A to 58.8 A	0 A to 21 A	0 A to 7.35 A
	Setting accuracy		±(0.5 % of set +0.1 % of rtg)			
	Line regulation		± 17 mA	± 7.6 mA	± 4 mA	± 2.7 mA
	Load regulation		± 35 mA	± 16.2 mA	± 9 mA	± 6.4 mA
	Ripple noise *10	(rms) *7	300 mA	130 mA	60 mA	30 mA
	Temperature coefficient (TYP) *9		100 ppm/°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-9131 1:1 probe that conforms to the JEITA specifications. At the rated output current. *6. When the measurement frequency bandwidth is 10 Hz to 20 MHz. *7. When the measurement frequency bandwidth is 5 Hz to 1 MHz. *8.When the breeder circuit on/off setting is on. *9. When the ambient temperature is within 0 °C and 50 °C. *10. When the output voltage (Rated Power ÷ Rated Current) is 10 % to 100 % of the rating. At the rated output current.

Item/Model			PWX1500L	PWX1500ML	PWX1500MH	PWX1500H
Display function						
Voltage display		Maximum display	99.99 (fixed decimal point)		999.9 (fixed decimal point)	
		Display accuracy	±(0.2 % of rdng +5 digits)			
Current display		Maximum display	999.9 (fixed decimal point)	99.99 (fixed decimal point)		9.999 (fixed decimal point)
		Display accuracy	±(0.5 % of rdng +5 digits)			
Power display *1			The PWR DSPL key lights in red.			
		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.

Item/Model			PWX1500L	PWX1500ML	PWX1500MH	PWX1500H
Protection functions						
Overvoltage protection (OVP), Overvoltage protection 2 (OVP2), Overcurrent protection (OCP), Undervoltage limit (UVL), Overheat protection (OHP), Overheat protection 2 (OHP2), Fan failure protection (FAN), Incorrect sensing connection protection (SENSE), Low AC input protection (AC-FAIL), Shutdown (SD), Power limit (POWER LIMIT), Communication monitoring (WATCHDOG)						
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 rtg			
	Current monitor (IMON)		Selectable monitor voltage range: 0 V to 5 V or 0 V to 10 V			
		Setting accuracy	2.5 % of rtg			
Status signal output *1 *2			OUTON STATUS, CV STATUS, CC STATUS, ALM STATUS, PWR ON STATUS			

*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.

1500 W type

Item/Model			PWX1500L	PWX1500ML	PWX1500MH	PWX1500H
Control features						
External control *1	Output voltagecontrol (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 rtg			
	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 rtg			
	Output on/off control [OUTPUT ON/OFF CONT]		Possible logic selections:Turn the output on using a LOW (0 V to 0.5 V) or short-circuit, turn the output off using a HIGH (4.5 V to 5 V) or open-circuit. Turn the output on using a HIGH (4.5 V to 5 V) or open-circuit, turn the output off using a LOW (0 V to 0.5 V) or short-circuit.			
	Output shutdown control [SHUT DOWN]		Turns the output off with a LOW (0 V to 0.5 V) or short-circuit.			
	Alarm clear control [ALM CLR]		Clears alarms with a LOW (0 V to 0.5 V) or short-circuit.			

*1. J1 connector on the rear panel

Item/Model	PWX1500L	PWX1500ML	PWX1500MH	PWX1500H
Control features				
Master-slave parallel operation	Including the master unit, up to four units(all the same model) can be connected.			
Series operation*1	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) *2 • Genesys series made by TDK-Lambda • N5700 and N8700 made by Agilent Technologies • DSC series made by Sorensen • PAG series made by Kikusui			
RS232C, USB, LAN	USBTMC-USB488, LXI 1.3 Class C			

*1. Excluding the PWX1500H *2. This setting does not guarantee compatibility with all measuring instrument application software and drivers.

Item/Model		PWX1500L	PWX1500ML	PWX1500MH	PWX1500H
General					
Environmental conditions	Operating environment	Indoor use, overvoltage category II			
	Operating temperature/ humidity	0 °C to +50 °C (32 °F to +122 °F)/ 20 %rh to 85 %rh (no condensation)			
	Storage temperature/ humidity	-10 °C to +60 °C (14 °F to +140 °F)/ 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		± 500 Vmax	± 800 Vmax
	Isolated analog interface *1	± 60 Vmax			
Withstand voltage	Between input and FG	No abnormalities at 1500 Vac for 1 minute			
	Between input and output	No abnormalities at 2000 Vac for 1 minute			No abnormalities at 2250 Vac for 1 minute
	Between output and FG	No abnormalities at 1500 Vdc for 1 minute		No abnormalities at 1600 Vac for 1 minute	No abnormalities at 2000 Vdc for 1 minute
	Between input and Isolated Analog Interface *1	No abnormalities at 2650 Vac for 1 minute			
	Between output and Isolated Analog Interface *1	No abnormalities at 2300 Vdc for 1 minute		No abnormalities at 2650 Vac for 1 minute	No abnormalities at 3300 Vac for 1 minute
Insulation resistance	Between input and FG	500 Vdc, 100 MΩ or more (70 % or less)			
	Between input and output	500 Vdc, 100 MΩ or more(70 % or less)			1000 Vdc, 100 MΩ or more (70 % or less)
	Between output and FG	500 Vdc, 40 MΩ or more(70 % or less)			1000 Vdc, 40 MΩ or more (70 % or less)
Safety *2		Complies with the requirements of the following directive and standard. Low Voltage Directive 2014/35/EU EN 61010-1 (Class I *3, Pollution degree 2)			
Electromagnetic compatibility (EMC) *2		Complies with the requirements of the following directive and standard. EMC Directive 2014/30/EU EN 61326-1 (Class A *4), EN 55011 (Class A *4, Group 1 *5), EN 61000-3-2, EN 61000-3-3 Applicable under the following conditions The maximum length of all cabling and wiring connected to the PWX Series must be less than 3 m.			
Dimensions (maximum)/Weight		422.8(485) W×43(44) H×500(580) Dmm/Approx. 9.5 kg (20.94 lb)		422.8(485) W×43(44) H×500(580) Dmm/Approx. 9 kg (19.84 lb)	
Accessories		Output terminal cover: 1 pc., Input terminal cover set, Output terminal M8 bolt set: M8 bolts ×2 sets(Bolt, nut, spring washer, and washer for each bolt), Chassis connection wire: 1 wire, J1 connector plug kit: 1 set(Housing: 1 pc., Connector: 1 pc., Plug: 1 pc., Strain relief: 1 pc., Clips: 2 pcs., and two types of Screws: 2 pcs.,), Packing list: 1 copy, Quick reference (1 each for English and Japanese), Safety precautions: 1 copy, China RoHS sheet: 1 copy, CD-ROM: 1 disc * A power cord is not included. Please purchase the optional accessory separately (AC5.5-3P3M-M4C-VCTF).			

*1. Option *2. Only on models that have the CE marking on the panel. Does not apply to specially ordered or modified PWXs. *3. This is a Class I equipment. Be sure to ground this product's protective conductor terminal. The safety of this product is only guaranteed when the product is properly grounded. *4. This is a Class A equipment. This product is intended for use in an industrial environment. This product may cause interference if used in residential areas. Such use must be avoided unless the user takes special measures to reduce electromagnetic emissions to prevent interference to the reception of radio and television broadcasts. *5. This is a Group 1 equipment. This product does not generate and/or use intentionally radio-frequency energy, in the form of electromagnetic radiation, inductive and/or capacitive coupling, for the treatment of material or inspection/analysis purpose.