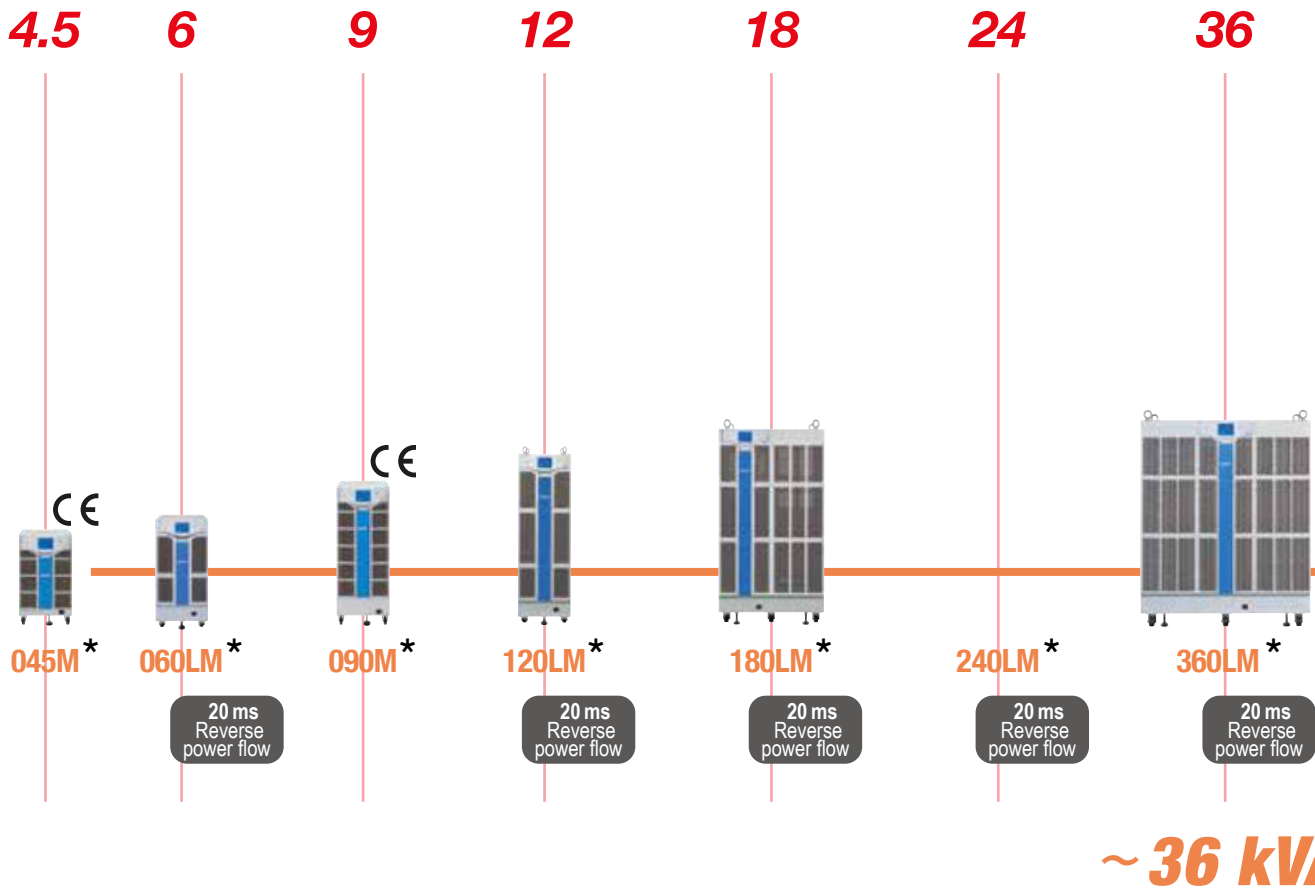


Output power
Model

Multi-phase



* Export permission of Japanese government is needed

DP series Multi-phase model PROGRAMMABLE AC POWER SOURCE

Specifications

Specifications are valid under the following settings and conditions, unless otherwise noted.
 Load: Resistance load of power factor 1, Signal source: INT (internal signal source),
 Output voltage waveform: Sine wave, Remote sensing: Off, AGC/Autocal: Off,
 Current Limiter: Factory default setting, Warm up: 30min. at least

- [set] indicates a setting value, and [rdg] indicates a read value.
 The description noted with "*" indicates that the specification changes by the output range, such as "100 V range specification/200 V range specification."
- A value with the accuracy is the guaranteed value of the specification.
- A value without the accuracy is the nominal value or representative value (shown as typ.).

AC/DC Mode, Signal Source

	Single-phase output	Polyphase output
AC/DC mode	AC, ACDC, DC	AC, ACDC
Signal source	INT, VCA, SYNC, EXT, ADD	INT, VCA, SYNC

Power Output (Single-phase)

Model name	DP045M	DP060LM	DP090M	DP120LM	DP180LM	DP240LM	DP360LM
Output power	4.5 kVA	6 kVA	9 kVA	12 kVA	18 kVA	24 kVA	36 kVA
Mode	Single-phase two-wire Floating output, the Lo terminal can be grounded.						
Rated output voltage	100 V/200 V						
Voltage setting range	0.0 V to 160.0 V / 0.0 V to 320.0 V, 0.0 Vp-p to 454.0 Vp-p / 0.0 Vp-p to 908.0 Vp-p (arbitrary wave)						
Setting resolution	0.1 V						
Voltage accuracy *2	± (0.5% of set + 0.6 V/1.2 V)						
Max. current *3	45A / 22.5 A	60 A / 30 A	90 A / 45 A	120 A / 60 A	180 A / 90 A	240 A / 120 A	360 A / 180 A
Max. peak current *4	Peak value (Apk) which is four times of the Max. current				Peak value (Apk) which is three times of the Max. current		
Short reverse power flow *5	—	100% or less of Max. current (RMS) (reverse power flow time ≤ 20 ms, discontinuous, 40°C or lower)	—	100% or less of Max. current (RMS) (reverse power flow time ≤ 20 ms, discontinuous, 40°C or lower)			
Load power factor	0 to 1 (phase lead or phase lag, 45 Hz to 65 Hz)						
Frequency setting range	40.00 Hz to 550.00 Hz (AC mode), 1.00 Hz to 550.00 Hz (ACDC mode)						
Setting resolution	0.01 Hz						
Frequency accuracy	± 0.01% of set (23°C ± 5°C)						
Frequency stability *6	± 0.005%						
Voltage frequency characteristic *7	± 1%						
Output waveform	Sine wave, arbitrary wave (16 types), clipped sine wave (3 types)						
Output on phase setting range	0.0° to 359.9° variable, setting resolution: 0.1°						
Output off phase setting range	0.0° to 359.9° variable (active/inactive selectable), setting resolution: 0.1°						
DC offset *8	Within ± 20 mV (typ. fine adjustment available)						
Output power	4.5 kW	6 kW	9 kW	12 kW	18 kW	24 kVA	36 kVA
Mode	Floating output, the Lo terminal can be grounded.						
Rated output voltage	100 V/200 V						
Voltage setting range	-227.0 V to +227.0 V / -454.0 V to +454.0 V						
Setting resolution	0.1 V						
Voltage accuracy *10	± (10.5% of set I + 0.6 V/1.2 V)						
Max. source current *11	45A / 22.5 A	60 A / 30 A	90 A / 45 A	120 A / 60 A	180 A / 90 A	240 A / 120 A	360 A / 180 A
Max. instantaneous source current *12	Peak value (Apk) which is four times of the Max. current				Peak value (Apk) which is three times of the Max. current		
Short sink current *13	—	100% or less of Max. source current (reverse power flow time ≤ 20 ms, discontinuous, 40°C or lower)	—	100% or less of Max. source current (reverse power flow time ≤ 20 ms, discontinuous, 40°C or lower)			

*1 : [V]=Vrms, [A]=Arms, unless otherwise specified.

*2 : In the case of 10 V to 150 V/20 V to 300 V, sine wave, no load, 45 Hz to 65 Hz, DC voltage setting 0 V, 23°C±5°C.

*3 : If the output voltage is higher than the rated value, this is limited (lowered) to satisfy the power capacity.

If there is the DC superimposition, the active current of AC+DC satisfies the maximum current.

In the case of 40 Hz or lower or 400 Hz or higher, and that the ambient temperature is 40°C or higher, the maximum current may decrease.

*4 : For the capacitor input type rectified load (crest factor=4 or 3), the rated output voltage, and 45 Hz to 65 Hz.

*5 : In the case rated output voltage, 50 Hz or 60 Hz.

If the output voltage is higher than the rated value, this is limited to satisfy the power capacity.

It may reduce short reverse power flow if ambient temperature is 40°C or higher or repeated interval of reverse power flow is 15 minutes or less.

External power injection or regeneration which is over short reverse power flow capacity is not available.

*6 : For 45 Hz to 65 Hz, the rated output voltage, no load or the resistance load for the maximum current, and within the operating temperature.

*7 : For 40 Hz to 550 Hz, sine wave, the rated output voltage, the resistance load for the maximum current at 55 Hz, and 55 Hz reference.

*8 : In the case of the AC mode and 23°C±5°C.

*9 : [V]=Vdc, [A]=Adc, unless otherwise noted. The polarity is relative to the Lo terminal.

*10 : In the case of -212 V to -10 V, +10 V to +212 V/-424 V to -20 V, +20 V to +424 V, no load, AC setting 0 V, 23°C±5°C.

*11 : If the output voltage is higher than the rated value, this is limited (lowered) to satisfy the power capacity.

If there is the AC superimposition, the active current of DC+AC satisfies the maximum current. In the case that the ambient temperature is 40°C or higher, the maximum current may decrease.

*12 : Instantaneous=within 2 ms, at the rated output voltage.

*13 : In the case rated output voltage. If the output voltage is higher than the rated value, this is limited to satisfy the power capacity.

It may reduce short reverse power flow if ambient temperature is 40°C or higher or repeated interval of reverse power flow is 15 minutes or less.

Power Output (Polyphase)

Model name		DP045M	DP060LM	DP090M	DP120LM	DP180LM	DP240LM	DP360LM	
Output power	1P3W	3 kVA	4 kVA	6 kVA	8 kVA	12 kVA	16 kVA	24 kVA	
	3P4W	4.5 kVA	6 kVA	9 kVA	12 kVA	18 kVA	24 kVA	36 kVA	
Mode		Single-phase three-wire (1P3W), three-phase four-wire (Y-connection) (3P4W) Floating output, the N-terminal can be grounded.							
Setting mode *14		Balanced mode, unbalanced mode							
Rated output voltage		100 V/200 V (phase voltage)							
Voltage setting range	Phase voltage setting	0.0 V to 160.0 V / 0.0 V to 320.0 V, 0.0 Vp-p to 454.0 Vp-p / 0.0 Vp-p to 908.0 Vp-p (arbitrary wave)							
	Line voltage setting	Collective for all phases in balanced mode and each phase in unbalanced mode 1P3W: 0.0 V to 320.0 V / 0.0 V to 640.0 V, 3P4W: 0.0 V to 277.2 V / 0.0 V to 554.2 V							
	Setting resolution	Balanced mode and sine wave only Phase voltage setting: 0.1 V, Line voltage setting: 0.2 V							
Voltage accuracy *2		± (0.5% of set + 0.6 V/1.2 V)							
Max. current *3		15A / 7.5 A	20 A / 10 A	30 A / 15 A	40 A / 20 A	60 A / 30 A	80 A / 40 A	120 A / 60 A	
Max. peak current *4		Peak value (Apk) which is four times of the Max. current				Peak value (Apk) which is three times of the Max. current			
Short reverse power flow *5		————	100% or less of Max. current (RMS) (reverse power flow time ≤ 20 ms, discontinuous, 40°C or lower)	————	100% or less of Max. current (RMS) (reverse power flow time ≤ 20 ms, discontinuous, 40°C or lower)				
Load power factor		0 to 1 (phase lead or phase lag, 45 Hz to 65 Hz)							
Frequency setting range		40.00 Hz to 550.00 Hz (AC mode), 1.00 Hz to 550.00 Hz (ACDC mode)							
Setting resolution		0.01 Hz							
Frequency accuracy		± 0.01% of set (23°C ± 5°C)							
Frequency stability *6		± 0.005%							
Voltage frequency characteristic *7		± 1%							
Output waveform		Sine wave, arbitrary wave (16 types), clipped sine wave (3 types)							
Output on phase setting range *15		0.0° to 359.9° variable, setting resolution: 0.1°							
Output off phase setting range *15		0.0° to 359.9° variable (active/inactive selectable), setting resolution: 0.1°							
Setting range of the phase angle (unbalanced mode)		L2 phase: 180.0° ± 35.0° (1P3W), L2 phase: 120.0° ± 35.0°, L3 phase: 240.0° ± 35.0° (3P4W)							
Setting resolution		0.1°							
Phase angle accuracy *16		45 Hz to 65 Hz: ± 1.0°, 40 Hz to 550 Hz: ± 2.0°							
DC offset *8		Within ± 20 mV (typ. fine adjustment available)							

*14: Can be set only in the polyphase output.

*15: Set for the L1 phase. The component of the phase angle setting is added for the other phases.

*16: In the case of 50 V or higher, sine wave, and same load condition and voltage setting for all phases.

Stability and Distortion

Output voltage stability (phase voltage)	Fluctuation with input voltage *17 : within ±0.15% Fluctuation with output current *18 : DC (only single-phase output) within ±0.15 V/±0.30 V, 45 Hz to 65 Hz within ±0.15 V/±0.30 V, 40 Hz to 550 Hz within ±0.5 V/±1.0 V Fluctuation with ambient temperature *19 : within ±0.01%/°C (typ.)
Distortion of output voltage waveform (phase voltage) *20	0.5 % or lower

*17: For 4.5 kVA model only, for power input 90 V to 250 V (single-phase), power input 200 V reference. In the case of single-phase and three-phase three-wire input, for power input 170 V to 250 V, power input 200 V reference. In the case of three-phase four-wire input, for power input 323 V to 433 V, power input 380 V reference. For the resistance load at the maximum current, the rated output voltage, DC (only single-phase output) or 45 Hz to 65 Hz. Transition state immediately after a change of the input power-supply voltage is not included.

*18: In the case that the output current is changed from 0% to 100% of the maximum current. For output voltage 75 V to 150 V/150 V to 300 V, no load reference. However, if the output voltage is higher than the rated value, the maximum current is limited to satisfy the power capacity.

*19: For power input 200 V (single-phase, three-phase three-wire input) or 380 V (three-phase four-wire input), no load, the rated output voltage, DC (only single-phase output) or 45 Hz to 65 Hz.

*20: 40 Hz to 550 Hz, 50% or higher of the rated output voltage, the maximum current or lower, AC and ACDC modes, THD+N.

Power Input

Model name		DP045M	DP060LM	DP090M	DP120LM	DP180LM	DP240LM	DP360LM
Voltage *21		Overvoltage category II						
1P2W input	1P2W input	100 V to 230 V ±10%, with limited to 250 V or lower	200 V to 230 V ±15%, with limited to 250 V or lower	100 V to 230 V ±10%, with limited to 250 V or lower	200 V to 230 V ±15%, with limited to 250 V or lower	————		
	3P3W input	200 V to 220 V ±15%, with limited to 250 V or lower						
	3P4W input	380 V (phase voltage: 220 V) ±15%, with limited to 433 V (phase voltage: 250 V) or lower						
Frequency		50 Hz ±2 Hz or 60 Hz ±2 Hz						
Power factor *22	at AC100 V input	0.95 or higher (typ.)	————	0.95 or higher (typ.)	————			
	at AC200 V input	0.90 or higher (typ.)						
Efficiency *22		77% or higher (typ.)						
Maximum power consumption		6.75 kVA or lower	9 kVA or lower	13.5 kVA or lower	18 kVA or lower	27 kVA or lower	36 kVA or lower	54 kVA or lower

*21: Specify on order.

*22: In the case of AC-INT, the rated output voltage, the resistance load at the maximum current, 45 Hz to 65 Hz output.

DP series Multi-phase model PROGRAMMABLE AC POWER SOURCE

Specifications

Measurement Function

Model name			DP045M	DP060LM	DP090M	DP120LM	DP180LM	DP240LM	DP360LM		
View	Normal		Displays almost all the measured and setting values excluding the harmonic current measurement on one screen.								
	Simple		Enlarges and displays three items among all the measured values except the harmonic current measurement.								
Voltage *23	Effective value (rms)	Full scale	Single-phase output 250.0 V / 500.0 V								
		Polyphase output	Line voltage of polyphase output, only with sine waveform output. 1P3W: 500.0 V / 1000.0 V, 3P4W: 433.0 V / 866.0 V								
	Resolution		0.1 V								
	DC average value (avg)	Full scale	Single-phase output	±250.0 V / ±500.0 V							
Polyphase output			—————								
Resolution		Single-phase output	0.1 V								
		Polyphase output	—————								
Peak value (pk) (each of max and min)	Full scale	±250.0 V / ±500.0 V									
	Resolution	0.1 V									
Current *24	Effective value (rms)	Full scale	60 A / 30 A	80 A / 40 A	120 A / 60 A	160 A / 80 A	240 A / 120 A	320 A / 160 A	480 A / 240 A		
		Polyphase output	20 A / 10 A	26.67 A / 13.33 A	40 A / 20 A	53.33 A / 26.67 A	80 A / 40 A	106.7 A / 53.3 A	160 A / 80 A		
		Resolution	0.01 A						0.1 A		
	DC average value (avg)	Full scale	Single-phase output	±60 A / ±30 A	±80 A / ±40 A	±120 A / ±60 A	±160 A / ±80 A	±240 A / ±120 A	±320 A / ±160 A	±480 A / ±240 A	
			Polyphase output	—————							
		Resolution	Single-phase output	0.01 A						0.1 A	
			Polyphase output	—————							
	Peak value (pk) (each of max and min)	Full scale	Single-phase output	±240 A / ±120 A	±320 A / ±160 A	±480 A / ±240 A	±640 A / ±320 A	±960 A / ±480 A	±1280 A / ±640 A	±1920 A / ±960 A	
Polyphase output			±80 A / ±40 A	±106.67 A / ±53.33 A	±160 A / ±80 A	±213.32 A / ±106.67 A	±320 A / ±160 A	±426.7 A / ±213.3 A	±640 A / ±320 A		
Resolution		0.01 A							0.1 A		
Hold		Holds the maximum values of I _{max1} and I _{min1} with the polarity (with the clear function)									
Power *25	Active (W)	Full scale	5400 W	7200 W	10800 W	14400 W	21600 W	28800 W	43200 W		
		Polyphase output	1800 W	2400 W	3600 W	4800 W	7200 W	9600 W	14400 W		
		Resolution	0.1 W / 1 W (1000 W or higher)						1 W		
	Apparent *26 (VA)	Full scale	6750 VA	9000 VA	13500 VA	18000 VA	27000 VA	36000 VA	54000 VA		
		Polyphase output	2250 VA	3000 VA	4500 VA	6000 VA	9000 VA	12000 VA	18000 VA		
	Resolution	0.1 VA / 1 VA (1000 VA or higher)						1 VA			
Reactive *26 (var)	Full scale	6750 var	9000 var	13500 var	18000 var	27000 var	36000 var	54000 var			
	Polyphase output	2250 var	3000 var	4500 var	6000 var	9000 var	12000 var	18000 var			
	Resolution	0.1 var / 1 var (1000 var or higher)						1 var			
Load power factor *26	Measurement range	0.00 to 1.00									
	Resolution	0.01									
Load crest factor	Measurement range	0.00 to 50.00									
	Resolution	0.01									
Synchronization frequency (only SYNC)	Display range	38.0 Hz to 525.0 Hz									
	Resolution	0.1 Hz									
Harmonic current *27	Measurement range	Up to 40th order of the fundamental wave									
	Full scale	Single-phase output	60 A / 30 A, 100%	80 A / 40 A, 100%	120 A / 60 A, 100%	160 A / 80 A, 100%	240 A / 120 A, 100%	320 A / 160 A, 100%	480 A / 240 A, 100%		
		Polyphase output	20 A / 10 A, 100%	26.67 A / 13.33 A, 100%	40 A / 20 A, 100%	53.33 A / 26.67 A, 100%	80 A / 40 A, 100%	106.7 A / 53.3 A, 100%	160 A / 80 A, 100%		
	Resolution	0.01 A, 0.1%						0.1 A, 0.1%			
CO ₂ emissions (only DP045M, DP090M)	Contents	Instantaneous (kg CO ₂ /h), integration (t-CO ₂) value for internal loss or output power. CO ₂ emissions coefficient (t-CO ₂ /kWh): variable (resolution: 0.000001)									

*23: In the polyphase output, it is a specification for phase voltage, and the DC average value display cannot be selected.

*24: The output current is 5% to 100% of the maximum current.

*25: All in the case of sine wave, 50 V or higher output voltage, and that the output current is 10% or higher of the maximum current. In the polyphase output, these are the specifications for each phase. In the polyphase output, the all-phase total display is available.

*26: Excluding DC mode

*27: AC - INT, fundamental wave 50 Hz/60 Hz only, phase current. The measurement does not conform to the IEC or other standard.

Power Unit Energization Setting

Model name		DP045M	DP060LM	DP090M	DP120LM	DP180LM	DP240LM	DP360LM
Maximum output power per unit		1.5 kVA	2 kVA	1.5 kVA	2 kVA	6 kVA	4 kVA	6 kVA
Number of energized units setting range	Single-phase output	1 to 3		1 to 6		1 to 3		1 to 6
	Polyphase output	—————	1	2 (per phase)	1 to 2	1	1 to 2	

Current Limiter

Model name			DP045M	DP060LM	DP090M	DP120LM
Peak current limiter	Positive current	Setting range (peak value)	Single-phase output +22.5 A to +189.0 A / +11.2 A to +94.5 A	+30.0 A to +252.0 A / +15.0 A to +126.0 A	+45.0 A to +378.0 A / +22.5 A to +189.0 A	+60.0 A to +504.0 A / +30.0 A to +252.2 A
			Polyphase output +7.5 A to +63.0 A / +3.7 A to +31.5 A	+10.0 A to +84.0 A / +5.0 A to +42.0 A	+15.0 A to +126.0 A / +7.5 A to +63.0 A	+20.0 A to +168.0 A / +10.0 A to +84.0 A
	Negative current	Setting range (peak value)	Single-phase output -189.0 A to -22.5 A / -94.5 A to -11.2 A	-252.0 A to -30.0 A / -126.0 A to -15.0 A	-378.0 A to -45.0 A / -189.0 A to -22.5 A	-504.0 A to -60.0 A / -252.0 A to -30.0 A
			Polyphase output -63.0 A to -7.5 A / -31.5 A to -3.7 A	-84.0 A to -10.0 A / -42.0 A to -5.0 A	-126.0 A to -15.0 A / -63.0 A to -7.5 A	-168.0 A to -20.0 A / -84.0 A to -10.0 A
Resolution			0.1 A			
Limiter operation			Select whether to recover automatically (continuous) or turn the output off when the limited state continues over the specified time (1 s to 10 s, resolution 1 s).			
RMS current limiter	Setting range (peak value)	Single-phase output	2.3 A to 47.3 A / 2.3 A to 23.7 A	3.0 A to 63.0 A / 3.0 A to 31.5 A	4.5 A to 94.5 A / 4.5 A to 47.3 A	6.0 A to 126.0 A / 6.0 A to 63.0 A
		Polyphase output	0.8 A to 15.8 A / 0.8 A to 7.9 A	1.0 A to 21.0 A / 1.0 A to 10.5 A	1.5 A to 31.5 A / 1.5 A to 15.8 A	2.0 A to 42.0 A / 2.0 A to 21.0 A
Resolution			0.1 A			
Limiter operation			Select whether to recover automatically (continuous) or turn the output off when the limited state continues over the specified time (1 s to 10 s, resolution 1 s).			

Model name			DP180LM	DP240LM	DP360LM
Peak current limiter	Positive current	Setting range (peak value)	Single-phase output +90.0 A to +567.0 A / +45.0 A to +283.5 A	+120.0 A to +756.0 A / +60.0 A to +378.0 A	+180.0 A to +1134.0 A / +90.0 A to +567.0 A
			Polyphase output +30.0 A to +189.0 A / +15.0 A to +94.5 A	+40.0 A to +252.0 A / +20.0 A to +126.0 A	+60.0 A to +378.0 A / +30.0 A to +189.0 A
	Negative current	Setting range (peak value)	Single-phase output -567.0 A to -90.0 A / -283.5 A to -45.0 A	-756.0 A to -120.0 A / -378.0 A to -60.0 A	-1134.0 A to -189.0 A / -567.0 A to -90.0 A
			Polyphase output -189.0 A to -30.0 A / -94.5 A to -15.0 A	-252.0 A to -40.0 A / -126.0 A to -20.0 A	-378.0 A to -60.0 A / -189.0 A to -30.0 A
Resolution			0.1 A		
Limiter operation			Select whether to recover automatically (continuous) or turn the output off when the limited state continues over the specified time (1 s to 10 s, resolution 1 s).		
RMS current limiter	Setting range (peak value)	Single-phase output	9.0 A to 189.0 A / 9.0 A to 94.5 A	12.0 A to 252.0 A / 12.0 A to 126.0 A	18.0 A to 378.0 A / 18.0 A to 189.0 A
		Polyphase output	3.0 A to 63.0 A / 3.0 A to 31.5 A	4.0 A to 84.0 A / 4.0 A to 42.0 A	6.0 A to 126.0 A / 6.0 A to 63.0 A
Resolution			0.1 A		
Limiter operation			Select whether to recover automatically (continuous) or turn the output off when the limited state continues over the specified time (1 s to 10 s, resolution 1 s).		

General Information

Model name	DP045M	DP060LM	DP090M	DP120LM	DP180LM	DP240LM	DP360LM	
Withstanding voltage	AC 1500 V or DC 2130 V 1 minute, (inputs vs. outputs/chassis, inputs/chassis vs. outputs)							
Insulation resistance	30 MΩ or higher (DC 500 V), (inputs vs. outputs/chassis, inputs/chassis vs. outputs)							
Operating temperature	0°C to +50°C							
Operating humidity	5% to 85% RH, (Absolute humidity 1 to 25 g/m³, no condensation)							
Dimensions (W×H×D) mm (no protrusions)	430 × 665 × 562	455 × 887 × 803	455 × 1287 × 562	455 × 1407 × 803	910 × 1580 × 803		1365 × 1580 × 803	
Chassis	Type2	Type2L	Type4	Type4L	Type5L		Type6L	
Weight (approx.)	75 kg	125 kg	130 kg	200 kg	350 kg	400 kg	570 kg	
Power input terminal (rear)	Single-phase	M6 screw		M8 upset bolt	M10 upset bolt			
	Three-phase 3-wire			M6 screw				M8 upset bolt
	Three-phase 4-wire							M6 screw
Single-phase output terminal (rear)	M6 screw		M8 upset bolt		M10 upset bolt		M12 upset bolt	
Polyphase output terminal (rear)	M6 screw							
Sensing input terminal (rear)	M4 screw							
Accessories	Instruction manual, CD-ROM (control software, LabVIEW driver, instruction manual for remote control and control software), control cable (D-sub 25 pin connector), stabilizer (DP120LM only)							
	DP045M, DP090M	Instruction manual, CD-ROM (control software, LabVIEW driver, instruction manual for remote control and control software), ferrite core (large), ferrite core (small), cable tie, tabilizer (DP90M only)						

DP series Multi-phase model PROGRAMMABLE AC POWER SOURCE

Specifications

Sequence Function

Number of memories	5 (nonvolatile)
Number of steps	Max. 255 (for each sequence)
Setting range of step time	0.0010 s to 999.9999 s
Operation within step	Constant, keep, linear sweep
Parameter	Output range, AC/DC mode (The above 2 items are common within one sequence), AC phase voltage, frequency, waveform, DC voltage, start phase, stop phase, phase angle, step termination, jump count (1 to 9999, or infinite), specification of the jump-to step, synchronous step output (2bit), specification of the branch step, trigger output
Sequence control	Start, stop, hold, resume, branch 1, branch 2
Others	1) Effective only for AC-INT, ACDC-INT, and DC-INT. 2) The output of AC phase voltage, Frequency and DC voltage of step 0 can be changed on sequence edit view during output ON. 3) For DC-INT, the AC phase voltage, frequency, waveform, start phase, and stop phase cannot be set. 4) The DC voltage cannot be set in the polyphase output. 5) The phase angle can be set only in the polyphase output. The start phase and stop phase are specified for the L1 phase, and the component of the phase angle setting is added to them for the other phases.

Simulation

Number of memories	5 (nonvolatile)
Number of steps	6 (initial, normal 1, trans 1, abnormal, trans 2, normal 2)
Setting range of step time	0.0010 s to 999.9999 s (0 s is available only for the transition step)
Parameter	Output range (The above item is common within the Simulation), AC voltage, frequency, waveform (sine wave only), start phase (excluding the transition step), stop phase (excluding the transition step), synchronous step output (2bit), trigger output, repeat count (1 to 9999 times or infinite)
Sequence control	Start, stop
Others	In simulation function, only AC and sine wave, fixed for ACDC-INT.

Control Software

Functions	
Remote control	Parameter setting, saving, loading, and others.
Status monitor	Monitors and displays status of connected equipment.
Logging	Reads and saves measured values.
Arbitrary waveform	Waveform creation and edit, transfer, display and file operations
Sequence simulation	Sequence data creation, edit, save, transfer, preview, execution control, monitor/display during execution, and others.

Environment	
CPU	300 MHz min. (1.6 GHz min. recommendee)
Memory	128 MB or more. (512 MB min. recommendee)
Free hard disk space	64 MB or more.
Display	1024 × 768 pixels or more, and 256 colors or more
OS	Windows 7/8.1/10 (32 bit/64 bit) (Microsoft)
Disk drive	CD-ROM drive

Other Functions

Setting limitation	Voltage (RMS)	Phase voltage, line voltage (1P3W, 3P4W)
	Frequency	the lower limit ≤ the upper limit
Remote sensing	Voltage detection point is output terminal or sensing input terminal. (switchable)	
AGC	Function for continuously performing automatic correction so that the RMS value of the detection point is equal to the voltage setting value. Response time less than 100 ms (typ.) (At DC/50 Hz/60 Hz, rated output voltage)	
Autocal (Automatic calibration)	When the Autocal is on, the detection point is always measured, and the output voltage is continuously corrected so that its RMS value is equal to the output setting value.	
Clipped sine wave	Number of memories	3 (nonvolatile)
	CF	Variable range: 1.10 to 1.41; setting resolution: 0.01; RMS value correction: yes
	Clipping rate	Variable range 40.0% to 100.0%; setting resolution: 0.1%; RMS value correction: none
Arbitrary wave	Number of memories	16 (nonvolatile)
	Waveform length	4096 words
	Amplitude resolution	16-bit
External signal input	External sync input	Sync signal source switching: external sync signal (EXT) or power input (LINE)
	VCA input	Gain setting range: 0.0 to 227.0 times/ 0.0 to 454.0 times, resolution: 0.1
	External signal input	Gain setting range: 0.0 to 227.0 times/ 0.0 to 454.0 times, resolution: 0.1 Input frequency range: DC to 550 Hz (sine wave), DC to 100 Hz (other than sine wave).
Memory function	Store and recall settings from nonvolatile memory	
	Number of memories	Basic settings: 30; sequences: 5; simulations: 5; clipped sine waves: 3; arbitrary waves: 16
Protections	Protective operation for abnormal output (output overvoltage, output over current, etc.), power unit error, and internal control error (internal communication error, etc.)	
External control I/O	Enables control of the system using external signals (or no-voltage contacts) and state output.	
Interface (GPIB/LAN select on order)	USB interface [USB1.1, USBTMC], RS-232 interface (not capable of binary transfer), GPIB interface (IEEE 488.1 std 1987) (not capable of binary transfer or serial polling), LAN interface (LXI)	
USB memory	Usable memory: conforms to USB 1.1 or USB 2.0, Connector: USB-A (front panel), Readable/writable content: basic setting memory, sequence, AC line simulation, arbitrary wave.	
Output relay control	Selects either ON/OFF using output relay, or high-impedance without using output relay.	
Output waveform monitor	Monitors waveform of output voltage or output current. (switchable)	
LCD display	5.7 inch, contrast 0 to 99, blue or white base color.	
Others	Beep, key lock, output setting at power-on, trigger output setting, time unit setting (for sequence and simulation), reset function.	

Note: The contents of this catalog are current as of January 30th, 2020
*Products appearance and specifications are subject to change without notice.
*Before purchase contact us to confirm the latest specifications, price and delivery date.

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Aufgrund laufender Weiterentwicklungen sind Änderungen der Spezifikationen vorbehalten. Alle Angaben vorbehaltlich Satz- und Druckfehler.

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