



ASR-3000 Series

Programmable AC/DC Power Source

FEATURES

- Output Rating: AC 0 \sim 400 Vrms, DC 0 \sim ± 570 V
- Output Frequency up to 999.9Hz (5kHz for ASR-3400HF only)
- DC Output (100% of Rated Power)
- Measurement Items: Vrms, Vavg, Vpeak, Irms, IpkH,
 lavg, Ipeak, P, S, Q, PF, CF
- Voltage and Current Harmonic Analysis (THDv, THDi)
- Remote Sensing Capability
- OCP, OPP, OTP, AC Fail Detection and Fan Fail Alarm
- Support Arbitrary Waveform Function
- Output Capacity: 2kVA/3kVA/4kVA
- Customized Phase Angle for Output On/Off
- Sequence and Simulation Function(up to 10 sets)
- Interface(std): USB, LAN, RS-232, GPIB
- Built-in External Control I/O and External Signal Input
- Built-in Output Relay Control
- Memory Function (up to 10 sets)
- Built-in Web Server

The ASR-3000 Series is an AC+DC power source, featuring high-speed DC voltage rising and falling time (≤100us). There are four models of the series: ASR-3200(2kVA), ASR-3300(3kVA) and ASR-3400/3400HF (4kVA). The series can provide rated power output during AC output and DC output. Ten ASR-3000 Series output modes are available, including 1) AC power output mode (AC-INT Mode), 2) DC power output mode (DC-INT Mode), 3) AC/DC power output mode (AC+DC-INT Mode), 4) External AC signal source mode (AC-EXT Mode), 5) External AC/DC signal source mode (AC+DC-EXT Mode), 6) External AC signal superimposition mode (AC-ADD Mode), 7) External AC/DC signal superimposition mode (AC+DC-ADD Mode), 8) External AC signal synchronization mode (AC-SYNC Mode), 9) External AC/DC signal synchronization mode (AC+DC-SYNC Mode)10) External DC voltage control of AC output mode(AC-VCA).

ASR-3000 Series is ideal for the development of On-board Chargers, Server Powers, LED modules, AC Motors, AC Fans, UPS and various electronic components, as well as for testing applications of automotive electrical equipment and home appliances.

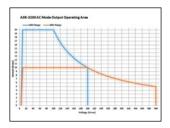
The ASR-3000 Series provides users with waveform output capabilities including 1) Sequence mode generates waveform fallings, surges, sags, changes and other abnormal power line conditions; 2) Arbitrary waveform function allows users to store/upload user-defined waveforms; and 3) Simulate mode simulates power outage, voltage rise, voltage fall, and frequency variations. When the ASR-3000 Series power source outputs, it can also measure Vrms, Vavg, Vpeak, Irms, Iavg, Ipeak, IpkH, P, S, Q, PF, CF, 100th-order Voltage Harmonic and Current Harmonic. In addition, the remote sensing function ensures accurate voltage output, and the Customized Phase Angle for Output On/Off function can set the start and end angles of the voltage output according to the test requirements. The protection limits of V-Limit, Ipeak-Limit and F-Limit can be set according to user requirements. Over voltage limit, OCP, OPP will protect the DUT during the output process. The Fan Fail Alarm function and the AC fail alarm function are also designed in the ASR-3000 Series.

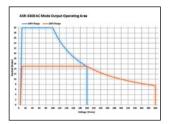
The front panel of the ASR-3000 Series provides a universal socket or a European socket, which allows users to plug and use so as to save wiring time. Since the power socket specification has a maximum current of 15A, the rear panel of ASR-3000 Series is designed with a current circuit breaker. When the socket current is greater than 15A, it will automatically open the circuit to protect users. The ASR-3000 Series supports I/O interface and is standardly equipped with USB, LAN, External I/O, RS-232C and GPIB.

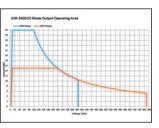
PANEL INTRODUCTION



OPERATING AREA FOR ASR-3000 SERIES







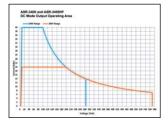
AC Output for ASR-3200

DC Output for ASR-3200

AC Output for ASR-3300

DC Output for ASR-3300

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Model Name	Power Rating	Max. Output Current	Max. Output Voltage
ASR-3200	2k VA	20 / 10 A	400 Vrms / ±570 Vdc
ASR-3300	3k VA	30 / 15 A	400 Vrms / ±570 Vdc
ASR-3400	4k VA	40 / 20 A	400 Vrms / ±570 Vdc
ASR-3400HF	4k VA	40 / 20 A	400 Vrms / ±570 Vdc

AC Output for ASR-3400/3400HF DC Output for ASR-3400/3400HF

The ASR-3000 series is an AC + DC power source that provides not only rated power output for AC output, but also rated power output for DC output.

MEASUREMENT ITEMS FOR ASR-3000 SERIES







RMS Meas Display

AVG Meas Display

Peak Meas Display

ON	ON	ON	ON 94 % 200V SQU					
Harr	Harn	Harn	Harmoni	c Voltage Measure	THDv= 42	.2 %	Simple	
31th	21th	11th	1st	179.9 Vrms	90	.7 %	[Harm]	
32th	22th	12th	2nd	0.0 Vrms		1.0 %		
33th	23th	13th	3rd	59.8 Vrms	30	.2 %	[THDv]	
34th	24th	14th	4th	0.0 Vrms		1.0 %	THDi	
35th	25th	15th	5th	35.8 Vrms	18	.0%		
36th	26th	16th	6th	0.0 Vrms		.0 %		
37th	27th	17th	7th	25.5 Vrms	12	.9 %		
38th	28th	18th	8th	0.0 Vrms		.0%		
39th	29th	19th	9th	19.8 Vrms	10	.0 %	Page	
40th	30th	20th	10th	0.0 Vrms		.0 %	Down	



Voltage Harmonic

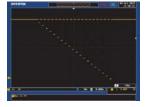
Current Harmonic

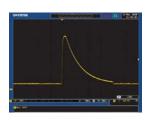
The ASR-3000 Series provides users with measurement capabilities including Vrms, Vavg, Vpeak, Irms, Iavg, Ipeak, IpkH, P, S, Q, PF, CF, 100th-order Voltage Harmonic and Current Harmonic. During the power output, the measurement

parameters including Vrms/Irms, Vavg/Iavg and Vmax/Vmin/ Imax/ Imin can be switched by users at any time to display the instantaneous calculation reading.

SEQUENCE MODE AND BUILT-IN ISO-16750-2 WAVEFORMS







SEQ6: Momentary Drop in **Supply Voltage**

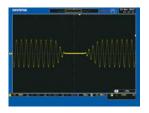
SEQ7: Reset Behavior at Voltage Drop with 12V System

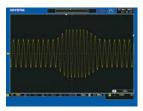
SEQ9: Load Dump with **SEQ8: Starting Profile** Waveform Tr_10ms, Td_40ms

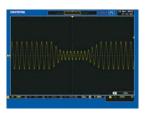
The sequence mode provides editable 10 sets of SEQ0~SEQ9, each set has 0~999 steps, each step time setting range is 0.0001~999.9999 seconds. Users can combine multiple sets of steps to generate the required waveforms, including waveform falling, surges, sags and other abnormal power line conditions to meet the needs of the test applications.

In addition, ASR-3000 Series also built in common ISO-16750-2 test waveforms in the Sequence Mode preset waveforms, including Momentary Drop in Supply Voltage built in at SEQ6, Reset Behavior at Voltage Drop with 12V system built in at SEQ7, Starting Profile Waveform built in at SEQ8 and Load Dump with Tr_10ms, and Td_40ms built in at SEQ9.

SIMULATE MODE







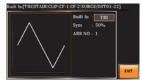
Simulate Mode can quickly simulate different transient waveforms, such as power outage, voltage rise, voltage fall, etc., for engineers to evaluate the impact of transient phenomena on the DUT. Ex: Capacitance durability test.

Power Outage

Voltage Rise

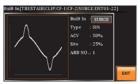
Voltage Fall

FUNCTION WAVEFORM (ARBITRARY EDIT) MODE











TRI Waveform

STAIR Waveform

CLIP Waveform

SURGE Waveform

Fourier Series Synthesized Waveform

in seven categories, allowing users to quickly simulate different AC voltage waveforms. Adjust the desired waveform type directly through the panel (displayed synchronously on the screen),

ASR-3000 Series provides more than 20,000 waveform combinations then the waveform is loaded into the ARB 1~16 waveform register through the access procedures, and return to the main menu output mode to perform ARB Waveform output.

PC SOFTWARE







Basic Controller

Sequence Mode

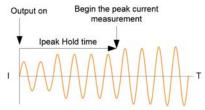
ARB Waveform Edit

The Waveform is Observed with DSO

The ASR-3000 Series software includes basic settings, the Simulate Mode, the Sequence Mode, Data Log and the arbitrary waveform editing function. Users can directly set output voltage, frequency, start/stop phase on ASR-3000 Series through the software. The Simulate Mode can quickly simulate different transient waveforms such as power outage, voltage rise, voltage fall... etc.

The Sequence Mode can edit the editing parameters read back from ASR-3000 Series, or directly edit the parameters and control ASR-3000 Series to output waveforms according to the set sequence. The arbitrary waveform editing function not only combines various waveforms, including sine waves, square waves, triangle waves, and noise waveforms, but also allows uses to draw arbitrary waveforms and output them.

T, IPK HOLD & IPK, HOLD FUNCTIONS



Н. **SLEW RATE MODE**



T, Ipk Measurement

T, Ipk Hold is used to set the delay time after the output (1ms \sim 60,000ms) to capture the Ipeak value and keep the maximum value. The update only functions when the measurement value is greater than the original value. The T, Ipk Hold delay time setting can be used to measure surge current at the power on process of the DUT.

Ipk Hold can be used to measure the transient surge current of the DUT at power on without using an oscilloscope and a current probe.

Time Mode

Slope Mode

The ASR-3000 Series can set the Slew Rate Mode to determine the rise time of the voltage according to the test requirements of the DUT. Slew Rate Mode provides "Time" and "Slope" modes. When setting "Time" mode, ASR-3000 Series can increase output to 10~90% of the set voltage within $100\mu s$; and when selecting "Slope" mode, ASR-3000 Series increases output voltage by a fixed rising slope of 1.5V/µs until reaching the set voltage value.

In addition, if users decide to self-define the rise time of the output voltage, users can flexibly set the rise time of the ASR-3000 Series voltage by editing the Sequence mode.

IS-0014

	—		ASR-3200	ASR-3300	ASR-3400	ASR-3400HF
NPUT RATING (A			200 Vac to 240 Vac			
NPUT VOLTAGE			180 Vac to 264 Vac			
PHASE NOMINAL INPUT	EDECLIENCY		Single phase, Two-wire 50 Hz to 60 Hz			
INPUT FREQUENC			47 Hz to 63 Hz			
MAX. POWER COM			2500 VA or less	3750 VA or less	5000 VA or less	5000 VA or less
POWER FACTOR * MAX. INPUT CURF	PENT	200Vac 200Vac	0.95 (TYP) 15 A	22.5 A	30 A	30 A
	of 100 V / 200 V (100V / 200V range)			22.3 A	30 A	30 M
	T RATINGS (AC rms)					
VOLTAGE		Setting Range *1	0.0 V to 200.0 V / 0.0 V to 400.0 V 0.1 V			
		Setting Resolution Accuracy *2	±(1 % of set + 1 V / 2 V)			
OUTPUT PHASE			Single phase, Two-wire			_
MAXIMUM CURRE	ENT *3	100 V 200 V	20 A 10 A	30 A 15 A	40 A 20 A	40 A 20 A
MAXIMUM PEAK O	CURRENT *4	100 V	120 A	180 A	240 A	160 A
		200 V	60 A	90 A	120 A	80 A
LOAD POWER FAC POWER CAPACITY			0 to 1 (leading phase or lagging phase 2000 VA	se) 3000 VA	4000 VA	4000 VA
FREQUENCY		Setting Range	AC Mode: 40.0 Hz to 999.9 Hz,	3000 171	4000 171	AC Mode: 40.0 Hz to 5000 H
			AC+DC Mode: 1 Hz to 999.9 Hz			AC+DC Mode: 1 Hz to 5000
		Setting Resolution	0.01 Hz (1.00 to 99.99 Hz), 0.1 Hz (100.0 to 999.9 Hz)			0.01 Hz (1.00 to 99.99 Hz), 0.1 Hz (100.0 to 999.9 Hz)
			0.1 1.12 (100.0 to 355.5 1.12)			1 Hz (1000 to 5000 Hz)
		Accuracy	0.02% of set (23 °C ± 5 °C)			
OUTPUT ON PHA	SE	Stability *5	± 0.005% 0° to 359° variable (setting resolutio	n 1°)		
DC OFFSET "6			Within ± 20 mV (TYP)			
1. 100 V / 200 V range. 2. For an output voltage o	of 20 V to 200 V / 40 V to 400 V, an o	utput frequency of 45 Hz to 65 Hz	, no load, and 23 °C + 5°C.			
3. For an output voltage o	of 1 V to 100 V / 2 V to 200 V. Limite	ed by the power capacity when the	output voltage is 100 V to 200 V / 200 V to 400 V.			
	imposition, the current of AC+DC mo pacitor-input rectifying load. Limited l		t. In the case of lower than 40 Hz, and the power rating	temperature, the maximum current will be decrease.		
\$5. For 45 Hz to 65 Hz, the 6. In the case of the AC m		he resistance load for the maximu	m current, and the operating temperature.			
OUTPUT RATING						
VOLTAGE		Setting Range	-285 V to +285 V / -570 V to +570 V			
		Setting Resolution Accuracy *2	0.1 V ±(1 % of set + 1 V / 2 V)			
MAXIMUM CURRE	ENT *3	100 V	20 A	30 A	40 A	40 A
	*4	200 V	10 A	15 A	20 A	20 A
MAXIMUM PEAK	CURRENT "	100 V 200 V	120 A 60 A	180 A 90 A	240 A 120 A	160 A 80 A
POWER CAPACITY	,	1200 1	2000 W	3000 W	4000 W	4000 W
*1. 100 V / 200 V range.	of -285 V to -28.5 V, +28.5 V to +285 V					
4. Limited by the maximu OUTPUT VOLTAGE LINE REGULATION	E STABILITY N ^{*1}	miled by the power capacity when	0.2% or less			
*4. Limited by the maximu OUTPUT VOLTAG LINE REGULATION LOAD REGULATION	E STABILITY N ^{*1}	med by the power capacity when		terminal)		
*4. Limited by the maximu OUTPUT VOLTAGE LINE REGULATION LOAD REGULATION RIPPLE NOISE *3 *1. Power source input vol	E STABILITY N *1 N *2 N *2 Itage is 200 V, 220 V, or 240 V, no loa	ad, rated output.	0.2% or less 0.5% or less (0 to 100%, via output 1 Vrms / 2 Vrms (TYP)	·	social so	
■4. Limited by the maximu OUTPUT VOLTAG LINE REGULATION LOAD REGULATION RIPPLE NOISE *1. Power source input vol *2. For an output voltage c *3. For 5 Hz to 1 MHz con	E STABILITY N ⁹¹ DN ⁹² Itage is 200 V, 220 V, or 240 V, no loa of 100 V to 200 V / 200 V to 400 V, a l mponents in DC mode using the outp	ad, rated output. load power factor of 1, stepwise ch put terminal on the rear panel.	0.2% or less 0.5% or less (0 to 100%, via output 1 Vrms / 2 Vrms (TYP) ange from an output current of 0 A to maximum currer	terminal) at (or its reverse), using the output terminal on the rear p	panel.	
*4. Limited by the maximu OUTPUT VOLTAGI LINE REGULATIO LOAD REGULATIO RIPPLE NOISE *3 *1. Power source input vol *2. For an output voltage c *3. For 5 Hz to 1 MHz con OUTPUT VOLTAGI	E STABILITY N 9 Integration of the state of	ad, rated output. load power factor of 1, stepwise ch put terminal on the rear panel.	0.2% or less 0.5% or less (0 to 100%, via output 1 Vrms / 2 Vrms (TYP) lange from an output current of 0 A to maximum currer LTAGE RESPONSE TIME, EFFICIENCY	·	anel.	L JOSE STORY
*4. Limited by the maximu OUTPUT VOLTAGI LINE REGULATIO LOAD REGULATIO RIPPLE NOISE *3 *1. Power source input vol *2. For an output voltage c *3. For 5 Hz to 1 MHz con OUTPUT VOLTAGI	E STABILITY N ⁹¹ DN ⁹² Itage is 200 V, 220 V, or 240 V, no loa of 100 V to 200 V / 200 V to 400 V, a l mponents in DC mode using the outp	ad, rated output. load power factor of 1, stepwise ch put terminal on the rear panel.	0.2% or less 0.5% or less (0 to 100%, via output 1 Vrms / 2 Vrms (TYP) ange from an output current of 0 A to maximum currer	·	sanel.	< 0.2% @50/60Hz < 0.5% @<500Hz
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va. Limited by the maximum output VoltaGi LINR REGULATION LOAD REGULATION RIPPLE NOISE *3 P. Power source input voltage c *3. For 5 Hz to 1 MHz con OUTPUT VOLTAGI TOTAL HARMONI	E STABILITY N *1 N *2 Itage is 200 V, 220 V, or 240 V, no los of 100 V to 200 V / 200 V to 40 V, a I moments in OF unde using the out E WAVEFORM DISTORTIC C DISTORTION(THD) *1	ad, rated output. load power factor of 1, stepwise ch put terminal on the rear panel.	0.2% or less 0.5% or less (0 to 100%, via output 1 Vrms / 2 Vrms (TYP) ange from an output current of 0 A to maximum currer LTAGE RESPONSE TIME, EFFICIENCY < 0.2% @50/60Hz < 0.3% @<500Hz < 0.5% @500.1Hz-999.9Hz	·	sanel.	< 0.5% @<500Hz
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"4. Limited by the maximum output VoltaGi LINE REGULATION LOAD REGULATION RIPPLE NOISE "51". Power source input voltage of 3. For 5 Hz to 1 MHz common output VoltaGi TOTAL HARMONI OUTPUT VOLTAGI TOTAL HARMONI OUTPUT VOLTAGI EFFICIENCY "52". For an output voltage of *22. For an output voltage of *22. For an output voltage of *22. For an output voltage of *23. For AC mode, at an output Measure VoltaGi Si, For AC mode, at an output Mea	E STABILITY N *1 Itage is 200 V, 220 V, or 240 V, no loa f 100 V to 200 V, 200 V to 400 V, a propenents in DC mode using the outper E WAVEFORM DISTORTIC C DISTORTION(THD) *1 E RESPONSE TIME *2 f 50 V to 200 V / 100 V to 400 V, a loa f 100 V / 200 V, a load power factor put voltage of 100 V / 200 V, main E DISPLAY	ad, rated output. load power factor of 1, stepwise ch put terminal on the rear panel. DN RATIO, OUTPUT VO ad power factor of 1, and in AC mo of 1, with respect to stepwise chan um current, and load power factor um current, and load power factor	0.2% or less 0.5% or less (0 to 100%, via output 1 Vrms / 2 Vrms (TYP) ange from an output current of 0 A to maximum currer LTAGE RESPONSE TIME, EFFICIENCY < 0.2% @50/60Hz < 0.3% @<500Hz < 0.5% @500.1Hz-999.9Hz 100 µs (TYP) 80 % or more de. ge from an output current of 0 A to the maximum curre of 1.	ot (or its reverse), using the output terminal on the rear p	sznel.	< 0.5% @<500Hz < 1.0% @500.1Hz~2000Hz
"4. Limited by the maximum output VoltaGi LINE REGULATION LOAD REGULATION RIPPLE NOISE "51". Power source input voltage of 3. For 5 Hz to 1 MHz common output VoltaGi TOTAL HARMONI OUTPUT VOLTAGI TOTAL HARMONI OUTPUT VOLTAGI EFFICIENCY "52". For an output voltage of *22. For an output voltage of *22. For an output voltage of *22. For an output voltage of *23. For AC mode, at an output Measure VoltaGi Si, For AC mode, at an output Mea	E STABILITY N ** DN ** DN ** ttage is 200 V, 220 V, or 240 V, no log of 100 V to 200 V / 200 V to 400 V, a propenents in DC mode using the outly E WAVEFORM DISTORTIC C DISTORTION(THD) ** E RESPONSE TIME ** ** ** ** ** ** ** ** **	ad, rated output. load power factor of 1, stepwise ch put terminal on the rear panel. DN RATIO, OUTPUT VO ad power factor of 1, and in AC mo of 1, with respect to stepwise char	0.2% or less 0.5% or less (0 to 100%, via output 1 Vrms / 2 Vrms (TYP) ange from an output current of 0 A to maximum currer LTAGE RESPONSE TIME, EFFICIENCY < 0.2% @50/60Hz < 0.3% @<500Hz < 0.5% @500.1Hz~999.9Hz 100 µs (TYP) 80 % or more de. ge from an output current of 0 A to the maximum currer	nt (or its reverse), using the output terminal on the rear p	sanel.	< 0.5% @<500Hz < 1.0% @500.1Hz~2000Hz
"4. Limited by the maximum of the ma	E STABILITY N ** Itage is 200 V, 220 V, or 240 V, no loa for 100 V to 200 V, 200 V to 400 V, a propenents in DC mode using the outle E WAVEFORM DISTORTIC C DISTORTION(THD) E RESPONSE TIME ** (50 V to 200 V / 100 V to 400 V, a loa for 100 V / 200 V, a load power factor put voltage of 100 V / 200 V, maxim E DISPLAY RMS, AVG Value	ad, rated output. load power factor of 1, stepwise ch put terminal on the rear panel. DN RATIO, OUTPUT VO ad power factor of 1, and in AC mc of 1, with respect to stepwise char unum current, and load power factor Resolution Accuracy *2	0.2% or less 0.5% or less (0 to 100%, via output 1 Vrms / 2 Vrms (TYP) ange from an output current of 0 A to maximum currer VO.2% @50/60Hz VO.3% @<500Hz VO.5% @500.1Hz-999.9Hz 100 µs (TYP) 80 % or more de. ge from an output current of 0 A to the maximum currer of 1. 0.1 V For 45 Hz to 65 Hz and DC: ±(0.5 % For all other frequencies: ±(0.7 % of	ent (or its reverse), using the output terminal on the rear plant (or its reverse).	sanel.	< 0.5% @<500Hz < 1.0% @500.1Hz~2000Hz
**A. Limited by the maximum control of the ma	E STABILITY N *1 Itage is 200 V, 220 V, or 240 V, no loa f 100 V to 200 V, 200 V to 400 V, a propenents in DC mode using the outper E WAVEFORM DISTORTIC C DISTORTION(THD) *1 E RESPONSE TIME *2 f 50 V to 200 V / 100 V to 400 V, a loa f 100 V / 200 V, a load power factor put voltage of 100 V / 200 V, main E DISPLAY	ad, rated output. load power factor of 1, stepwise ch put terminal on the rear panel. DN RATIO, OUTPUT VO ad power factor of 1, and in AC mo of 1, with respect to stepwise char um current, and load power factor 71 Resolution Accuracy 52 Resolution	0.2% or less 0.5% or less (0 to 100%, via output 1 Vrms / 2 Vrms (TYP) ange from an output current of 0 A to maximum currer V 0.2% @50/60Hz V 0.3% @-500Hz V 0.5% @500.1Hz~999.9Hz 100 μs (TYP) 80 % or more de. ge from an output current of 0 A to the maximum curre of 1. 0.1 V For 45 Hz to 65 Hz and DC: ± (0.5 % For all other frequencies: ± (0.7 % of 0.1 V	at (or its reverse), using the output terminal on the rear properties of the control of the second	oanel.	< 0.5% @<500Hz < 1.0% @500.1Hz~2000Hz
VAL LIMITED by the maximum output VoltaGi LINE REGULATIO LOAD REGULATIO RIPPLE NOISE 13. For an output voltage of 3. For 5 Hz to 1 MHz con OUTPUT VOLTAGI TOTAL HARMONI OUTPUT VOLTAGI EFFICIENCY 23.	E STABILITY N ** Itage is 200 V, 220 V, or 240 V, no loa for 100 V to 200 V, 200 V to 400 V, a propenents in DC mode using the outle E WAVEFORM DISTORTIC C DISTORTION(THD) E RESPONSE TIME ** (50 V to 200 V / 100 V to 400 V, a loa for 100 V / 200 V, a load power factor put voltage of 100 V / 200 V, maxim E DISPLAY RMS, AVG Value	ad, rated output. load power factor of 1, stepwise ch put terminal on the rear panel. DN RATIO, OUTPUT VO ad power factor of 1, and in AC mc of 1, with respect to stepwise char unum current, and load power factor Resolution Accuracy *2	0.2% or less 0.5% or less (0 to 100%, via output 1 Vrms / 2 Vrms (TYP) ange from an output current of 0 A to maximum currer VO.2% @50/60Hz VO.3% @<500Hz VO.5% @500.1Hz-999.9Hz 100 µs (TYP) 80 % or more de. ge from an output current of 0 A to the maximum currer of 1. 0.1 V For 45 Hz to 65 Hz and DC: ±(0.5 % For all other frequencies: ±(0.7 % of	at (or its reverse), using the output terminal on the rear properties of the control of the second	oznel.	< 0.5% @<500Hz < 1.0% @500.1Hz~2000Hz
OUTPUT VOLTAGE EFFICIENCY 1. An output voltage of EFFICIENCY 1. For an output voltage of EFFICIENCY 1. An output voltage of EFFICIENCY 2. For an output voltage of EFFICIENCY 2. For an output voltage of EFFICIENCY 3. For AC mode, at an output voltage MEASURED VALUI MEASURED VALUI VOLTAGE	ESTABILITY N **I Tage is 200 V, 220 V, or 240 V, no loo **I** 100 V to 200 V / 200 V to 400 V, a i **poperatis in DC mode using the out **E WAYEFORM DISTORTIC **C DISTORTION(THD)** E RESPONSE TIME **2 **F50 V to 200 V / 100 V to 400 V, a load **poperation of 100 V / 200 V, maxim E DISPLAY RMS, AVG Value **PEAK Value**	ad, rated output. load power factor of 1, stepwise ch put terminal on the rear panel. ON RATIO, OUTPUT VO and power factor of 1, and in AC mo of 1, with respect to stepwise char unum current, and load power factor Resolution Accuracy Resolution Accuracy	0.2% or less 0.5% or less (0 to 100%, via output 1 Vrms / 2 Vrms (TYP) ange from an output current of 0 A to maximum currer LTAGE RESPONSE TIME, EFFICIENCY < 0.2% @50/60Hz < 0.3% @<500Hz < 0.5% @500.1Hz~999.9Hz 100 µs (TYP) 80 % or more de. gue from an output current of 0 A to the maximum curror of 1. 0.1 V For 45 Hz to 65 Hz and DC: ± (0.5 % For 45 Hz to 65 Hz and DC: ± (12 % 0.01 A For 45 Hz to 6	th (or its reverse), using the output terminal on the rear plant (or its reverse). So of reading + 0.5 V / 1 V) reading + 1 V / 2 V) For adding + 1 V / 2 V) For 45 Hz to 65 Hz and DC:	For 45 Hz to 65 Hz and DC:	< 0.5% @<500Hz < 1.0% @500.1Hz~2000Hz
OUTPUT VOLTAGE EFFICIENCY 1. An output voltage of 25. For an output volta	ESTABILITY N **I Tage is 200 V, 220 V, or 240 V, no loo **I** 100 V to 200 V / 200 V to 400 V, a i **poperatis in DC mode using the out **E WAYEFORM DISTORTIC **C DISTORTION(THD)** E RESPONSE TIME **2 **F50 V to 200 V / 100 V to 400 V, a load **poperation of 100 V / 200 V, maxim E DISPLAY RMS, AVG Value **PEAK Value**	ad, rated output. load power factor of 1, stepwise cheput terminal on the rear panel. DN RATIO, OUTPUT VO and power factor of 1, and in AC me of 1, with respect to stepwise charum current, and load power factor Resolution Accuracy Resolution Accuracy Resolution Accuracy Resolution	0.2% or less 0.5% or less (0 to 100%, via output 1 Vrms / 2 Vrms (TYP) ange from an output current of 0 A to maximum currer < 0.2% @50/60Hz < 0.3% @<500Hz < 0.5% @500.1Hz~999.9Hz 100 µs (TYP) 80 % or more de. ge from an output current of 0 A to the maximum curre of 1. 0.1 V For 45 Hz to 65 Hz and DC: ±(0.5 % For 45 Hz to 65 Hz and DC: ±(0.7 % of 0.1 V) For 45 Hz to 65 Hz and DC: ±(0.5 % 0.0 Hz) 0.0 1 A For 45 Hz to 65 Hz and DC: ±(0.5 % 0.5 % 0.1 Hz) For 45 Hz to 65 Hz and DC: ±(0.5 % 0.1 Hz) For 45 Hz to 65 Hz and DC: ±(0.5 % 0.1 Hz) For 45 Hz to 65 Hz and DC: ±(0.5 % 0.1 Hz) For 45 Hz to 65 Hz and DC: ±(0.5 % 0.1 Hz) For 45 Hz to 65 Hz and DC: ±(0.5 % 0.1 Hz) For 45 Hz to 65 Hz and DC: ±(0.5 % 0.1 Hz) For 45 Hz to 65 Hz and DC: ±(0.5 % 0.1 Hz) For 45 Hz to 65 Hz and DC: ±(0.5 % 0.1 Hz) For 45 Hz to 65 Hz and DC: ±(0.5 % 0.1 Hz) For 45 Hz to 65 Hz and DC: ±(0.5 % 0.1 Hz) For 45 Hz to 65 Hz and DC: ±(0.5 % 0.1 Hz) For 45 Hz to 65 Hz and DC: ±(0.5 % 0.1 Hz) For 45 Hz to 65 Hz and DC: ±(0.5 % 0.1 Hz) For 45 Hz to 65 Hz and DC: ±(0.5 % 0.1 Hz)	ent (or its reverse), using the output terminal on the rear plant (or its reverse). 6 of reading + 0.5 V / 1 V) 6 reading + 1 V / 2 V) 6 of reading 1 V / 2 V) 7 of reading 1 V / 2 V 8 of 45 Hz to 65 Hz and DC: 2 (0.5 % of reading+0.15 A/0.08 A)	For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.2 A/0.1 A)	< 0.5% @<500Hz < 1.0% @500.1Hz~2000Hz
"4. Limited by the maximum output Voltage In Proceedings of the Voltage In Proceedings of the Voltage of Total Harmonia Output Volta	ESTABILITY N **I Tage is 200 V, 220 V, or 240 V, no loo **I** 100 V to 200 V / 200 V to 400 V, a i **poperatis in DC mode using the out **E WAYEFORM DISTORTIC **C DISTORTION(THD)** E RESPONSE TIME **2 **F50 V to 200 V / 100 V to 400 V, a load **poperation of 100 V / 200 V, maxim E DISPLAY RMS, AVG Value **PEAK Value**	ad, rated output. load power factor of 1, stepwise cheput terminal on the rear panel. DN RATIO, OUTPUT VO and power factor of 1, and in AC me of 1, with respect to stepwise charum current, and load power factor Resolution Accuracy Resolution Accuracy Resolution Accuracy Resolution	0.2% or less 0.5% or less (0 to 100%, via output 1 Vrms / 2 Vrms (TYP) ange from an output current of 0 A to maximum currer LTAGE RESPONSE TIME, EFFICIENCY < 0.2% ⊕50/60Hz < 0.3% ⊕<500Hz < 0.5% ⊕500.1Hz−999.9Hz 100 µs (TYP) 80 % or more de. ge from an output current of 0 A to the maximum currer of 1. 0.1 V For 45 Hz to 65 Hz and DC: ±(0.5 % For all other frequencies: ±(0.7 % of 0.1 V For 45 Hz to 65 Hz and DC: ±(1.2 % 0.1 A) 0.0 A For 45 Hz to 65 Hz and DC: ±(1.2 % 0.1 A) For 45 Hz to 65 Hz and DC: ±(1.2 % 0.1 A) For 45 Hz to 65 Hz and DC: ±(1.2 % 0.1 A) For 45 Hz to 65 Hz and DC: ±(1.2 % 0.1 A) For 45 Hz to 65 Hz and DC: ±(1.2 % 0.1 A) For 45 Hz to 65 Hz and DC: ±(1.2 % 0.1 A) For 45 Hz to 65 Hz and DC: ±(1.2 % 0.1 A) For 45 Hz to 65 Hz and DC: ±(1.2 % 0.1 A) For 45 Hz to 65 Hz and DC: ±(1.2 % 0.1 A) For 45 Hz to 65 Hz and DC: ±(1.2 % 0.1 A) For 45 Hz to 65 Hz and DC: ±(1.2 % 0.1 A) For 45 Hz to 65 Hz and DC: ±(1.2 % 0.1 A) For 45 Hz to 65 Hz and DC: ±(1.2 % 0.1 A) For 45 Hz to 65 Hz and DC: ±(1.2 % 0.1 A) For 45 Hz to 65 Hz and DC: ±(1.2 % 0.1 A) For 45 Hz to 65 Hz and DC: ±(1.2 % 0.1 A) For 45 Hz to 65 Hz and DC: ±(1.2 % 0.1 A) For 45 Hz to 65 Hz and DC: ±(1.2 % 0.1 A)	th (or its reverse), using the output terminal on the rear plant (or its reverse). So of reading + 0.5 V / 1 V) reading + 1 V / 2 V) For adding + 1 V / 2 V) For 45 Hz to 65 Hz and DC:	For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.2 A/0.1 A) For all other frequencies:	< 0.5% @<500Hz < 1.0% @500.1Hz~2000Hz
"4. Limited by the maximum output Voltage In Proceedings of the Voltage In Proceedings of the Voltage of Total Harmonia Output Volta	ESTABILITY N **I Tage is 200 V, 220 V, or 240 V, no loo **I** 100 V to 200 V / 200 V to 400 V, a i **poperatis in DC mode using the out **E WAYEFORM DISTORTIC **C DISTORTION(THD)** E RESPONSE TIME **2 **F50 V to 200 V / 100 V to 400 V, a load **poperation of 100 V / 200 V, maxim E DISPLAY RMS, AVG Value **PEAK Value**	ad, rated output. load power factor of 1, stepwise of put terminal on the rear panel. DN RATIO, OUTPUT VO ad power factor of 1, and in AC mo of 1, with respect to stepwise other unrecurrent, and load power factor Resolution Accuracy Resolution Accuracy Resolution Accuracy Resolution Accuracy Resolution Accuracy Resolution	0.2% or less 0.5% or less (0 to 100%, via output 1 Vrms / 2 Vrms (TYP) ange from an output current of 0 A to maximum currer < 0.2% @50/60Hz < 0.3% @-500Hz < 0.5% @500.1Hz~999.9Hz 100 µs (TYP) 80 % or more de. ge from an output current of 0 A to the maximum curre of 1. 0.1 V For 45 Hz to 65 Hz and DC: ±(0.5 % For all other frequencies: ±(0.7 % of 0.1 X) For 45 Hz to 65 Hz and DC: ±(0.5 % 6.1 X) 0.01 A For 45 Hz to 65 Hz and DC: ±(0.5 % 6.1 X) For 45 Hz to 65 Hz and DC: ±(0.7 % of 0.1 X) For 45 Hz to 65 Hz and DC: ±(0.7 % of 0.1 X) For 45 Hz to 65 Hz and DC: ±(0.7 % of 0.1 X) 0.01 A For 45 Hz to 65 Hz and DC: ±(0.7 % of 0.1 X) For 41 Hz to 65 Hz and DC: ±(0.7 % of 0.1 X) For 47 Hz to 65 Hz and DC: ±(0.7 % of 0.1 X) For 47 Hz to 65 Hz and DC: ±(0.7 % of 0.1 X) For 47 Hz to 65 Hz and DC: ±(0.7 % of 0.1 X)	ent (or its reverse), using the output terminal on the rear part (or its reverse). So of reading + 0.5 V / 1 V) Freading + 1 V / 2 V) For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.15 A/0.08 A) For all other frequencies: ±(0.7 % of reading+0.3 A/0.15 A)	For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.2 A/0.1 A) For all other frequencies: ±(0.7 % of reading+0.4 A/0.2 A)	< 0.5% @<500Hz < 1.0% @500.1Hz~2000Hz
44. Limited by the maximum OUTPUT VOLTAGE LINE REGULATION LOAD REGULATION LOAD REGULATION RIPPLE NOISE *3 -1. Power source input voltage of *3. For 5 Hz to 1 MHz con OUTPUT VOLTAGE TOTAL HARMONI *1. At an output voltage of *2. For an output voltage of *2. For an output voltage of *2. For an output voltage of *3. For AC mode, at an output voltage of *3. For AC mode, at an output voltage of *3. For AC mode, at an output voltage of *3. For AC mode, at an output voltage of *3. For AC mode, at an output voltage of *3. For AC mode, at an output voltage of *3. For AC mode, at an output voltage of *3. For AC mode, at an output voltage of *4. For an outpu	E STABILITY N **I Tage is 200 V, 220 V, or 240 V, no loa fr 100 V to 200 V / 200 V, or 040 V, a FOR more using the out; E WAVEFORM DISTORTIC C DISTORTION(THD) E RESPONSE TIME TO THE CONTROL OF	ad, rated output. load power factor of 1, stepwise ch put terminal on the rear panel. DN RATIO, OUTPUT VO ad power factor of 1, and in AC m of 1, with respect to stepwise cha rum current, and load power factor Resolution Accuracy Resolution Accuracy Resolution Accuracy Resolution Accuracy Resolution Accuracy	0.2% or less 0.5% or less (0 to 100%, via output 1 Vrms / 2 Vrms (TYP) ange from an output current of 0 A to maximum currer Vo.2% @50/60Hz Vo.3% @<500Hz Vo.5% @500.1Hz~999.9Hz 100 µs (TYP) 80 % or more dee, ge from an output current of 0 A to the maximum currer of 1. 0.1 V For 45 Hz to 65 Hz and DC: ±(0.5 % For all other frequencies: ±(0.7 % of 0.1 V For 45 Hz to 65 Hz and DC: ±(0.5 % For 45 Hz to 65 Hz and DC: ±(0.5 % For 45 Hz to 65 Hz and DC: ±(0.7 % of 0.1 V For 45 Hz to 65	ent (or its reverse), using the output terminal on the rear part (or its reverse). 6 of reading + 0.5 V / 1 V) Feading + 1 V / 2 V) of reading 1 V / 2 V) For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.15 A/0.08 A) For all other frequencies: ±(0.7 % of reading+0.3 A/0.15 A) For 45 Hz to 65 Hz and DC:	For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.2 A/0.1 A) For all other frequencies: ±(0.7 % of reading+0.4 A/0.2 A)	< 0.5% @<500Hz < 1.0% @500.1Hz~2000Hz
"4. Limited by the maximum output Voltage (Line Regulation Regulat	E STABILITY N **I Tage is 200 V, 220 V, or 240 V, no loa fr 100 V to 200 V / 200 V, or 040 V, a FOR more using the out; E WAVEFORM DISTORTIC C DISTORTION(THD) E RESPONSE TIME TO THE CONTROL OF	ad, rated output. load power factor of 1, stepwise of put terminal on the rear panel. DN RATIO, OUTPUT VO ad power factor of 1, and in AC mo of 1, with respect to stepwise other unrecurrent, and load power factor Resolution Accuracy Resolution Accuracy Resolution Accuracy Resolution Accuracy Resolution Accuracy Resolution	0.2% or less 0.5% or less (0 to 100%, via output 1 Vrms / 2 Vrms (TYP) ange from an output current of 0 A to maximum currer < 0.2% @50/60Hz < 0.3% @-500Hz < 0.5% @500.1Hz~999.9Hz 100 µs (TYP) 80 % or more de. ge from an output current of 0 A to the maximum curre of 1. 0.1 V For 45 Hz to 65 Hz and DC: ±(0.5 % For all other frequencies: ±(0.7 % of 0.1 X) For 45 Hz to 65 Hz and DC: ±(0.5 % 6.1 X) 0.01 A For 45 Hz to 65 Hz and DC: ±(0.5 % 6.1 X) For 45 Hz to 65 Hz and DC: ±(0.7 % of 0.1 X) For 45 Hz to 65 Hz and DC: ±(0.7 % of 0.1 X) For 45 Hz to 65 Hz and DC: ±(0.7 % of 0.1 X) 0.01 A For 45 Hz to 65 Hz and DC: ±(0.7 % of 0.1 X) For 41 Hz to 65 Hz and DC: ±(0.7 % of 0.1 X) For 47 Hz to 65 Hz and DC: ±(0.7 % of 0.1 X) For 47 Hz to 65 Hz and DC: ±(0.7 % of 0.1 X) For 47 Hz to 65 Hz and DC: ±(0.7 % of 0.1 X)	ent (or its reverse), using the output terminal on the rear part (or its reverse). So of reading + 0.5 V / 1 V) Freading + 1 V / 2 V) For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.15 A/0.08 A) For all other frequencies: ±(0.7 % of reading+0.3 A/0.15 A)	For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.2 A/0.1 A) For all other frequencies: ±(0.7 % of reading+0.4 A/0.2 A)	< 0.5% @<500Hz < 1.0% @500.1Hz~2000Hz
**A. Limited by the maximum country of the country	ESTABILITY N P1 Tage is 200 V, 220 V, or 240 V, no loo 100 V to 200 V / 200 V to 400 V, a lo proponents in DC mode using the out E WAYEFORM DISTORTIC C DISTORTION(THD) 100 V / 200 V, 100 V to 400 V, a load 100 V / 200 V, 100 V to 400 V, a load 100 V / 200 V, 100 V to 400 V, a load PEAK Value RMS, AVG Value PEAK Value PEAK Value Active (W)	ad, rated output. load power factor of 1, stepwise ch put terminal on the rear panel. ON RATIO, OUTPUT VO ad power factor of 1, and in AC me of 1, with respect to stepwise char num current, and load power factor Resolution Accuracy Resolution	0.2% or less 0.5% or less (0 to 100%, via output 1 Vrms / 2 Vrms (TYP) ange from an output current of 0 A to maximum currer LTAGE RESPONSE TIME, EFFICIENCY < 0.2% @50/60Hz < 0.3% @<500Hz < 0.5% @500,1Hz~999.9Hz 100 μs (TYP) 80 % or more de. ge from an output current of 0 A to the maximum currer of 1. 0.1 V For 45 Hz to 65 Hz and DC: ±(0.5 % For all other frequencies: ±(0.7 % of 0.1 V For 45 Hz to 65 Hz and DC: ±(12 % of reading+0.1 A/0.05 A) For all other frequencies: ±(0.7 % of of 1 lother frequencies: ±(0.7 % of reading+0.2 A/0.1 A) 0.1 A For 45 Hz to 65 Hz and DC: ±(12 % of reading+0.2 A/0.1 A) 0.1 A For 45 Hz to 65 Hz and DC: ±(12 % of reading+0.2 A/0.25 A) 1 W ±(2 % of reading+0.2 A/0.25 A) 1 W ±(2 % of reading+2 W)	ent (or its reverse), using the output terminal on the rear part (or its reverse). 6 of reading + 0.5 V / 1 V) Feading + 1 V / 2 V) of reading 1 V / 2 V) For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.15 A/0.08 A) For all other frequencies: ±(0.7 % of reading+0.3 A/0.15 A) For 45 Hz to 65 Hz and DC:	For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.2 A/0.1 A) For all other frequencies: ±(0.7 % of reading+0.4 A/0.2 A)	< 0.5% @<500Hz < 1.0% @500.1Hz~2000Hz
**A. Limited by the maximum country of the country	E STABILITY N **I DN **2 Ltage is 200 V, 220 V, or 240 V, no load of 100 V to 200 V / 200 V to 400 V, a load of 100 V to 200 V / 200 V to 400 V, a load of 100 V to 200 V /	ad, rated output. load power factor of 1, stepwise of put terminal on the rear panel. DN RATIO, OUTPUT VO ad power factor of 1, and in AC mo of 1, with respect to stepwise cha rum current, and load power factor Resolution Accuracy Resolution	0.2% or less 0.5% or less (0 to 100%, via output 1 Vrms / 2 Vrms (TYP) ange from an output current of 0 A to maximum currer TAGE RESPONSE TIME, EFFICIENCY < 0.2% @50/60Hz < 0.3% @<500Hz < 0.5% @500.1Hz−999.9Hz 100 µs (TYP) 80 % or more de. ge from an output current of 0 A to the maximum currer of 1. 0.1 V For 45 Hz to 65 Hz and DC: ±(0.5 % For all other frequencies: ±(0.7 % of 0.1 V For 45 Hz to 65 Hz and DC: ±(1.5 % of reading+0.1 A/0.05 A) For 45 Hz to 65 Hz and DC: ±(0.7 % of 0.1 A) For 45 Hz to 65 Hz and DC: ±(0.7 % of 0.1 A) For 45 Hz to 65 Hz and DC: ±(0.7 % of reading+0.1 A/0.05 A) For 41 Hz to 65 Hz and DC: ±(0.5 % of reading+0.2 A/0.1 A) 0.1 A For 45 Hz to 65 Hz and DC: ±(1.2 % of reading+0.2 A/0.1 A) 1 W ±(2 % of reading+0.5 A/0.25 A) 1 W ±(2 % of reading+2 W) 1 VA	ent (or its reverse), using the output terminal on the rear provided in the control of the contr	For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.2 A/0.1 A) For all other frequencies: ±(0.7 % of reading+0.4 A/0.2 A) For 45 Hz to 65 Hz and DC: ±(12 % of reading +1 A/0.5 A)	< 0.5% @<500Hz < 1.0% @500.1Hz~2000Hz
**A. Limited by the maximum LIME REGULATION LOAD REGULATION LOAD REGULATION RIPPLE NOISE **3 **I. Power source input voltage of **3. For 5 Hz to 1 MHz com OUTPUT VOLTAGE TOTAL HARMONI OUTPUT VOLTAGE **I. At an output voltage of **2. For an outpu	E STABILITY N *1 tage is 200 V, 220 V, or 240 V, no loo 100 Y to 200 V / 200 V to 400 V, a mponents in DC mode using the out E WAVEFORM DISTORTIC CD DISTORTION (THD) *1 ERSPONSE TIME *2 (50 V to 200 V / 100 V to 400 V, a loo for 100 V / 200 V, a lood power factor toput voltage of 100 V / 200 V, maxim E DISPLAY RMS, AVG Value RMS, AVG Value PEAK Value Active (W) Apparent (VA)	ad, rated output. load power factor of 1, stepwise ch put terminal on the rear panel. ON RATIO, OUTPUT VO ad power factor of 1, and in AC me of 1, with respect to stepwise char num current, and load power factor Resolution Accuracy Resolution	0.2% or less 0.5% or less (0 to 100%, via output 1 Vrms / 2 Vrms (TYP) ange from an output current of 0 A to maximum currer LTAGE RESPONSE TIME, EFFICIENCY < 0.2% @50/60Hz < 0.3% @<500Hz < 0.5% @500,1Hz~999.9Hz 100 μs (TYP) 80 % or more de. ge from an output current of 0 A to the maximum currer of 1. 0.1 V For 45 Hz to 65 Hz and DC: ±(0.5 % For all other frequencies: ±(0.7 % of 0.1 V For 45 Hz to 65 Hz and DC: ±(12 % of reading+0.1 A/0.05 A) For all other frequencies: ±(0.7 % of of 1 lother frequencies: ±(0.7 % of reading+0.2 A/0.1 A) 0.1 A For 45 Hz to 65 Hz and DC: ±(12 % of reading+0.2 A/0.1 A) 0.1 A For 45 Hz to 65 Hz and DC: ±(12 % of reading+0.2 A/0.25 A) 1 W ±(2 % of reading+0.2 A/0.25 A) 1 W ±(2 % of reading+2 W)	to (or its reverse), using the output terminal on the rear plant (or its reverse). So of reading + 0.5 V / 1 V) Freading + 1 V / 2 V) For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.15 A/0.08 A) For all other frequencies: ±(0.7 % of reading+0.3 A/0.15 A) For 45 Hz to 65 Hz and DC: ±(2.7 % of reading+0.3 A/0.4 A)	For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.2 A/0.1 A) For all other frequencies: ±(0.7 % of reading+0.4 A/0.2 A) For 45 Hz to 65 Hz and DC: ±(12 % of reading +1 A/0.5 A)	< 0.5% @<500Hz < 1.0% @500.1Hz~2000Hz
**A. Limited by the maximum in the property of	E STABILITY N P1 Lage is 200 V, 220 V, or 240 V, no loue frion V to 200 V / 200 V to 400 V, a imponents in DC mode using the out; E WAVEFORM DISTORTIC C DISTORTION(THD) E RESPONSE TIME E RESPONSE TIME FOR V 100 V / 100 V to 400 V, a load friou V / 200 V, a load power factor that voltage of 100 V / 200 V, maxim E DISPLAY RMS, AVG Value RMS, AVG Value PEAK Value Active (W) Apparent (VA) Reactive (VAR)	ad, rated output. load power factor of 1, stepwise of put terminal on the rear panel. DN RATIO, OUTPUT VO and power factor of 1, and in AC me of 1, with respect to stepwise charum current, and load power factor Resolution Accuracy Resolution	0.2% or less 0.5% or less (0 to 100%, via output 1 Vrms / 2 Vrms (TYP) ange from an output current of 0 A to maximum currer TAGE RESPONSE TIME, EFFICIENCY < 0.2% ⊕50/60Hz < 0.3% ⊕<500Hz < 0.5% ⊕500.1Hz−999.9Hz 100 µs (TYP) 80 % or more de. ge from an output current of 0 A to the maximum currer 10.1 V For 45 Hz to 65 Hz and DC: ±(0.5 % For all other frequencies: ±(0.7 % of 0.1 V For 45 Hz to 65 Hz and DC: ±(2 % 0.0 A) For 45 Hz to 65 Hz and DC: ±(2 % 0.0 A) 10.1 V For 45 Hz to 65 Hz and DC: ±(2 % 0.0 A) For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.1 A/0.05 A) For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.2 A/0.1 A) 0.1 A For 45 Hz to 65 Hz and DC: ±(2 % of reading+0.2 A/0.25 A) 1 W ±(2 % of reading+0.2 A/0.25 A) 1 VA ±(2 % of reading+2 VA) 1 VAR ±(2 % of reading+2 VAR)	ent (or its reverse), using the output terminal on the rear provided in the control of the contr	For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.2 A/0.1 A) For all other frequencies: ±(0.7 % of reading+0.4 A/0.2 A) For 45 Hz to 65 Hz and DC: ±(12 % of reading +1 A/0.5 A)	< 0.5% @<500Hz < 1.0% @500.1Hz~2000Hz
**A. Limited by the maximum LIME REGULATION LOAD REGULATION LOAD REGULATION RIPPLE NOISE **3 **I. Power source input voltage of **3. For 5 Hz to 1 MHz com OUTPUT VOLTAGE TOTAL HARMONI OUTPUT VOLTAGE **I. At an output voltage of **2. For an outpu	E STABILITY N P1 Lage is 200 V, 220 V, or 240 V, no loue frion V to 200 V / 200 V to 400 V, a imponents in DC mode using the out; E WAVEFORM DISTORTIC C DISTORTION(THD) E RESPONSE TIME E RESPONSE TIME FOR V 100 V / 100 V to 400 V, a load friou V / 200 V, a load power factor that voltage of 100 V / 200 V, maxim E DISPLAY RMS, AVG Value RMS, AVG Value PEAK Value Active (W) Apparent (VA) Reactive (VAR)	ad, rated output. load power factor of 1, stepwise ch put terminal on the rear panel. DN RATIO, OUTPUT VO ad power factor of 1, and in AC mo of 1, with respect to stepwise cha rum current, and load power factor Resolution Accuracy	0.2% or less 0.5% or less (0 to 100%, via output 1 Vrms / 2 Vrms (TYP) ange from an output current of 0 A to maximum currer LTAGE RESPONSE TIME, EFFICIENCY < 0.2% @50/60Hz < 0.3% @<500Hz < 0.5% @500.1Hz−999.9Hz 100 µs (TYP) 80 % or more de. ge from an output current of 0 A to the maximum curre of 1. 0.1 V For 45 Hz to 65 Hz and DC: ±(0.5 % For all other frequencies: ±(0.7 % of 1.1 V) For 45 Hz to 65 Hz and DC: ±(12 % of reading+0.1 A/0.05 A) For 45 Hz to 65 Hz and DC: ±(12 % of reading+0.2 A/0.1 A) For 45 Hz to 65 Hz and DC: ±(0.9 % of reading+0.2 A/0.1 A) 0.01 A For 45 Hz to 65 Hz and DC: ±(2 % of reading+0.2 A/0.1 A) 1 VW ±(2 % of reading+0.5 A/0.25 A) 1 VW ±(2 % of reading+2 W) 1 VAR ±(2 % of reading+2 VAR) 0.000 to 1.000	ent (or its reverse), using the output terminal on the rear provided in the control of reading + 0.5 V / 1 V) Freading + 1 V / 2 V) For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.15 A/0.08 A) For all other frequencies: ±(0.7 % of reading+0.3 A/0.15 A) For 45 Hz to 65 Hz and DC: ±(2 % of reading + 0.8 A/0.4 A) ±(2 % of reading + 3 W) ±(2 % of reading + 3 VA)	For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.2 A/0.1 A) For all other frequencies: ±(0.7 % of reading+0.4 A/0.2 A) For 45 Hz to 65 Hz and DC: ±([2 % of reading]+1 A/0.5 A) ±(2 % of reading+4 W)	< 0.5% @<500Hz < 1.0% @500.1Hz~2000Hz
**A. Limited by the maximum in the property of	ESTABILITY N P1 Tage is 200 V, 220 V, or 240 V, no loo 100 V to 200 V / 200 V to 400 V, a loo proposed in DC mode using the out E WAYEFORM DISTORTIC C DISTORTION(THD) F1 E RESPONSE TIME F2 F50 V to 200 V / 100 V to 400 V, a loo proposed in 100 V / 200 V, a loo proposed in 100 V / 200 V, a loo PEAK Value RMS, AVG Value PEAK Value PEAK Value Active (W) Apparent (VA) Reactive (VAR)	ad, rated output. load power factor of 1, stepwise ch put terminal on the rear panel. DN RATIO, OUTPUT VO ad power factor of 1, and in AC mo of 1, with respect to stepwise char um current, and load power factor Resolution Accuracy Resolution	0.2% or less 0.5% or less (0 to 100%, via output 1 Vrms / 2 Vrms (TYP) ange from an output current of 0 A to maximum currer TAGE RESPONSE TIME, EFFICIENCY < 0.2% ⊕50/60Hz < 0.3% ⊕<500Hz < 0.5% ⊕500.1Hz−999.9Hz 100 µs (TYP) 80 % or more de. ge from an output current of 0 A to the maximum currer 10.1 V For 45 Hz to 65 Hz and DC: ±(0.5 % For all other frequencies: ±(0.7 % of 0.1 V For 45 Hz to 65 Hz and DC: ±(2 % 0.0 A) For 45 Hz to 65 Hz and DC: ±(2 % 0.0 A) 10.1 V For 45 Hz to 65 Hz and DC: ±(2 % 0.0 A) For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.1 A/0.05 A) For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.2 A/0.1 A) 0.1 A For 45 Hz to 65 Hz and DC: ±(2 % of reading+0.2 A/0.25 A) 1 W ±(2 % of reading+0.2 A/0.25 A) 1 VA ±(2 % of reading+2 VA) 1 VAR ±(2 % of reading+2 VAR)	ent (or its reverse), using the output terminal on the rear provided in the control of reading + 0.5 V / 1 V) Freading + 1 V / 2 V) For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.15 A/0.08 A) For all other frequencies: ±(0.7 % of reading+0.3 A/0.15 A) For 45 Hz to 65 Hz and DC: ±(2 % of reading + 0.8 A/0.4 A) ±(2 % of reading + 3 W) ±(2 % of reading + 3 VA)	For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.2 A/0.1 A) For all other frequencies: ±(0.7 % of reading+0.4 A/0.2 A) For 45 Hz to 65 Hz and DC: ±([2 % of reading]+1 A/0.5 A) ±(2 % of reading+4 W)	< 0.5% @<500Hz < 1.0% @500.1Hz~2000Hz
44. Limited by the maximum of the ma	E STABILITY N = 1 tage is 200 V, 220 V, or 240 V, no loo 10 N to 200 V / 200 V to 400 V, a mponents in DC mode using the out E WAVEFORM DISTORTIC C DISTORTION (THD) = 1 ERSPONSE TIME = 2 (50 V to 200 V / 100 V to 400 V, a loo for 100 V / 200 V, a lood power factor tput voltage of 100 V / 200 V, maxim E DISPLAY RMS, AVG Value RMS, AVG Value PEAK Value Active (W) Apparent (VA) Reactive (VAR)	ad, rated output. load power factor of 1, stepwise of put terminal on the rear panel. DN RATIO, OUTPUT VO ad power factor of 1, and in AC me of 1, with respect to stepwise cha rum current, and load power factor Resolution Accuracy Resolution	0.2% or less 0.5% or less (0 to 100%, via output 1 Vrms / 2 Vrms (TYP) ange from an output current of 0 A to maximum currer LTAGE RESPONSE TIME, EFFICIENCY < 0.2% @50/60Hz < 0.3% @<500Hz < 0.5% @500.1Hz−999.9Hz 100 µs (TYP) 80 % or more de. ge from an output current of 0 A to the maximum currer of 1. 0.1 V For 45 Hz to 65 Hz and DC: ±(0.5 % For all other frequencies: ±(0.7 % of 0.1 V For 45 Hz to 65 Hz and DC: ±(0.5 % For 45 Hz to 65 Hz and DC: ±(0.5 % For 45 Hz to 65 Hz and DC: ±(0.7 % of 0.1 V For 45 Hz to 65 Hz and DC: ±(0.8 % of reading+0.1 A/0.05 A) For 45 Hz to 65 Hz and DC: ±(0.8 % of reading+0.2 A/0.1 A) 0.1 A For 45 Hz to 65 Hz and DC: ±(2.8 % of reading+0.2 A/0.1 A) 1 W ±(2 % of reading+0.5 A/0.25 A) 1 W ±(2 % of reading+2 W) 1 VAR ±(2 % of reading+2 VAR) 0.000 to 50.00 0.01 0.00 to 50.00 0.01	to (or its reverse), using the output terminal on the rear part (or its reverse). So of reading + 0.5 V / 1 V) reading + 1 V / 2 V) For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.15 A/0.08 A) For all other frequencies: ±(0.7 % of reading+0.3 A/0.15 A) For 45 Hz to 65 Hz and DC: ±(12 % of reading+0.8 A/0.4 A) ±(2 % of reading+3 W) ±(2 % of reading+3 VA) ±(2 % of reading+3 VAR)	For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.2 A/0.1 A) For all other frequencies: ±(0.7 % of reading+0.4 A/0.2 A) For 45 Hz to 65 Hz and DC: ±([2 % of reading]+1 A/0.5 A) ±(2 % of reading+4 W)	< 0.5% @<500Hz < 1.0% @500.1Hz~2000Hz
44. Limited by the maximum of the provided by the maximum of the provided by t	ESTABILITY N **I tage is 200 V, 220 V, or 240 V, no loo 100 V to 200 V / 200 V to 400 V, a loo for inov to 200 V / 200 V to 400 V, a loo for inov to 200 V / 100 V to 400 V, a loo for inov to 200 V / 100 V to 400 V, a loo for inov / 200 V, a lood power factor put voltage of 100 V / 200 V, maxim E DISPLAY RMS, AVG Value RMS, AVG Value PEAK Value Active (W) Apparent (VA) Reactive (VAR)	ad, rated output. load power factor of 1, stepwise ch put terminal on the rear panel. DN RATIO, OUTPUT VO ad power factor of 1, and in AC mo of 1, with respect to stepwise cha um current, and load power factor Resolution Accuracy Resolution Range Resolution Range	0.2% or less 0.5% or less (0 to 100%, via output 1 Vrms / 2 Vrms (TYP) ange from an output current of 0 A to maximum currer LTAGE RESPONSE TIME, EFFICIENCY < 0.2% @50/60Hz < 0.3% @<500Hz < 0.5% @500.1Hz-999.9Hz 100 μs (TYP) 80 % or more de. tigge from an output current of 0 A to the maximum currer 0.1 V For 45 Hz to 65 Hz and DC: ± (0.5 % For all other frequencies: ± (0.7 % of 0.1 V) For 45 Hz to 65 Hz and DC: ± (0.5 % For all other frequencies: ± (0.7 % of 0.1 V) For 45 Hz to 65 Hz and DC: ± (0.5 % for adding+0.1 A/0.05 A) For 45 Hz to 65 Hz and DC: ± (0.5 % of reading+0.2 A/0.1 A) 0.01 A For 45 Hz to 65 Hz and DC: ± (2 % of reading+0.2 A/0.1 A) 1 V L(2 % of reading+0.5 A/0.25 A) 1 V ± (2 % of reading+2 W) 1 VAR ± (2 % of reading+2 VA) 1 VAR ± (2 % of reading+2 VAR) 0.000 to 1.000 0.001 Up to 100th order of the fundament	to (or its reverse), using the output terminal on the rear part (or its reverse). So of reading + 0.5 V / 1 V) reading + 1 V / 2 V) For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.15 A/0.08 A) For all other frequencies: ±(0.7 % of reading+0.3 A/0.15 A) For 45 Hz to 65 Hz and DC: ±(12 % of reading+0.8 A/0.4 A) ±(2 % of reading+3 W) ±(2 % of reading+3 VA) ±(2 % of reading+3 VAR)	For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.2 A/0.1 A) For all other frequencies: ±(0.7 % of reading+0.4 A/0.2 A) For 45 Hz to 65 Hz and DC: ±([2 % of reading]+1 A/0.5 A) ±(2 % of reading+4 W)	< 0.5% @<500Hz < 1.0% @500.1Hz~2000Hz
"4. Limited by the maximum of the ma	ESTABILITY N **I tage is 200 V, 220 V, or 240 V, no loo 100 V to 200 V / 200 V to 400 V, a loo for inov to 200 V / 200 V to 400 V, a loo for inov to 200 V / 100 V to 400 V, a loo for inov to 200 V / 100 V to 400 V, a loo for inov / 200 V, a lood power factor put voltage of 100 V / 200 V, maxim E DISPLAY RMS, AVG Value RMS, AVG Value PEAK Value Active (W) Apparent (VA) Reactive (VAR)	ad, rated output. load power factor of 1, stepwise of put terminal on the rear panel. DN RATIO, OUTPUT VO and power factor of 1, and in AC me of 1, with respect to stepwise charum current, and load power factor Resolution Accuracy Resolution Range Resolution Range Resolution Range Resolution Range Range Range Range Resolution	0.2% or less 0.5% or less (0 to 100%, via output 1 Vrms / 2 Vrms (TYP) ange from an output current of 0 A to maximum currer LTAGE RESPONSE TIME, EFFICIENCY < 0.2% @50/60Hz < 0.3% @<500Hz < 0.5% @500.1Hz−999.9Hz 100 µs (TYP) 80 % or more de. ge from an output current of 0 A to the maximum currer of 1. 0.1 V For 45 Hz to 65 Hz and DC: ±(0.5 % For all other frequencies: ±(0.7 % of 0.1 V For 45 Hz to 65 Hz and DC: ±(0.5 % For 45 Hz to 65 Hz and DC: ±(0.5 % For 45 Hz to 65 Hz and DC: ±(0.7 % of 0.1 V For 45 Hz to 65 Hz and DC: ±(0.8 % of reading+0.1 A/0.05 A) For 45 Hz to 65 Hz and DC: ±(0.8 % of reading+0.2 A/0.1 A) 0.1 A For 45 Hz to 65 Hz and DC: ±(2.8 % of reading+0.2 A/0.1 A) 1 W ±(2 % of reading+0.5 A/0.25 A) 1 W ±(2 % of reading+2 W) 1 VAR ±(2 % of reading+2 VAR) 0.000 to 50.00 0.01 0.00 to 50.00 0.01	to (or its reverse), using the output terminal on the rear part (or its reverse). So of reading + 0.5 V / 1 V) reading + 1 V / 2 V) For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.15 A/0.08 A) For all other frequencies: ±(0.7 % of reading+0.3 A/0.15 A) For 45 Hz to 65 Hz and DC: ±(12 % of reading+0.8 A/0.4 A) ±(2 % of reading+3 W) ±(2 % of reading+3 VA) ±(2 % of reading+3 VAR)	For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.2 A/0.1 A) For all other frequencies: ±(0.7 % of reading+0.4 A/0.2 A) For 45 Hz to 65 Hz and DC: ±([2 % of reading]+1 A/0.5 A) ±(2 % of reading+4 W)	< 0.5% @<500Hz < 1.0% @500.1Hz~2000Hz
**A. Limited by the maximum of the control of the c	E STABILITY N P1 Lage is 200 V, 220 V, or 240 V, no lose for 100 V to 200 V / 200 V to 400 V, a lose for 100 V to 200 V / 200 V to 400 V, a lose for 100 V to 200 V / 200 V	ad, rated output. load power factor of 1, stepwise ch put terminal on the rear panel. DN RATIO, OUTPUT VO ad power factor of 1, and in AC mo of 1, with respect to stepwise cha um current, and load power factor Resolution Accuracy Resolution Range Resolution Range	0.2% or less 0.5% or less (0 to 100%, via output 1 Vrms / 2 Vrms (TYP) ange from an output current of 0 A to maximum currer LTAGE RESPONSE TIME, EFFICIENCY < 0.2% @50/60Hz < 0.3% @<500Hz < 0.5% @500.1Hz~999.9Hz 100 µs (TYP) 80 % or more de. gge from an output current of 0 A to the maximum curre 10.1 V For 45 Hz to 65 Hz and DC: ±(0.5 % For all other frequencies: ±(0.7 % of 0.1 V) For 45 Hz to 65 Hz and DC: ±(0.5 % For all other frequencies: ±(0.7 % of 0.1 V) For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.1 A/0.05 A) For all other frequencies: ±(0.7 % of or 1 V) For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.2 A/0.1 A) 0.11 A For 45 Hz to 65 Hz and DC: ±(2 % of reading+0.2 A/0.25 A) 1 W ±(2 % of reading+0.2 A/0.1 A) 1 1 VAR ±(2 % of reading+2 VA) 1 1 VAR ±(2 % of reading+2 VA) 1 1 VAR ±(2 % of reading+2 VAR) 0.000 to 5.000 0.001 Up to 100th order of the fundament 200 V / 400 V, 100% Up to 20th : ±(0.2 % of reading+0.1 V) Up to 20th : ±(0.2 % of reading+0.1 V) Up to 20th : ±(0.2 % of reading+0.1 V) Up to 20th : ±(0.2 % of reading+0.1 V) Up to 20th : ±(0.2 % of reading+0.1 V) Up to 20th : ±(0.2 % of reading+0.1 V) Up to 20th : ±(0.2 % of reading+0.1 V)	to (or its reverse), using the output terminal on the rear plant (or its reverse). So of reading + 0.5 V / 1 V) Freading + 1 V / 2 V) For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.15 A/0.08 A) For all other frequencies: ±(0.7 % of reading+0.3 A/0.15 A) For 45 Hz to 65 Hz and DC: ±(0.8 % of reading+0.3 A/0.15 A) ±(2 % of reading+0.3 A/0.4 A) ±(2 % of reading+3 VA) ±(2 % of reading+3 VAR)	For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.2 A/0.1 A) For all other frequencies: ±(0.7 % of reading+0.4 A/0.2 A) For 45 Hz to 65 Hz and DC: ±([2 % of reading]+1 A/0.5 A) ±(2 % of reading+4 W)	< 0.5% @<500Hz < 1.0% @500.1Hz~2000Hz
"4. Limited by the maximum in the common in	ESTABILITY N P1 Tage is 200 V, 220 V, or 240 V, no loop 100 V to 200 V / 200 V to 400 V, a loop E WAYEFORM DISTORTIC C DISTORTION(THD) E RESPONSE TIME E RMS, a V to 400 V, a lood power factor tiput voltage of 100 V / 200 V, maxim E DISPLAY RMS, AVG Value PEAK Value RMS, AVG Value Active (W) Apparent (VA) Reactive (VAR) TOR TAGE E (RMS)	ad, rated output. load power factor of 1, stepwise of put terminal on the rear panel. DN RATIO, OUTPUT VO ad power factor of 1, and in AC mo of 1, with respect to stepwise charum current, and load power factor Resolution Accuracy Resolution Range Resolution Range Resolution Range Resolution Range Resolution Accuracy Resolution Range Resolution Range Resolution Accuracy Resolution Accuracy Resolution Range Resolution Accuracy Resolution Accuracy Resolution	0.2% or less 0.5% or less (0 to 100%, via output 1 Vrms / 2 Vrms (TYP) ange from an output current of 0 A to maximum currer LTAGE RESPONSE TIME, EFFICIENCY < 0.2% ⊕50/60Hz < 0.3% ⊕<500Hz < 0.5% ⊕500.1Hz−999.9Hz 100 µs (TYP) 80 % or more de. ge from an output current of 0 A to the maximum currer of 1. 0.1 V For 45 Hz to 65 Hz and DC: ±(0.5 % For all other frequencies: ±(0.7 % of 0.1 V For 45 Hz to 65 Hz and DC: ±(1.5 % For 45 Hz to 65 Hz and DC: ±(1.5 % For 45 Hz to 65 Hz and DC: ±(1.5 % 0.01 A For 45 Hz to 65 Hz and DC: ±(1.5 % 0.01 A For 45 Hz to 65 Hz and DC: ±(1.5 % 0.01 A For 45 Hz to 65 Hz and DC: ±(1.5 % 0.01 A For 45 Hz to 65 Hz and DC: ±(1.5 % 0.7 % of reading+0.1 A/0.05 A) For all other frequencies: ±(0.7 % of reading+0.2 A/0.1 A) 1 VA ±(2 % of reading+0.2 A/0.1 A) 1 VA ±(2 % of reading+2 VA) 1 VAR ±(2 % of reading+2 VAR) 0.000 to 1.000 0.001 Up to 100th order of the fundament 200 V / 400 V, 100% 0.1 V, 0.1% Up to 20th : ±(0.2 % of reading+0.2 oth to 100th : ±(0.3 % of reading+	to (or its reverse), using the output terminal on the rear part (or its reverse). So of reading + 0.5 V / 1 V) Freading + 1 V / 2 V) For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.15 A/0.08 A) For all other frequencies: ±(0.7 % of reading+0.3 A/0.15 A) For 45 Hz to 65 Hz and DC: ±(2 % of reading + 0.8 A/0.4 A) ±(2 % of reading + 3 W) ±(2 % of reading + 3 VA) ±(2 % of reading + 3 VAR)	For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.2 A/0.1 A) For all other frequencies: ±(0.7 % of reading+0.4 A/0.2 A) For 45 Hz to 65 Hz and DC: ±([2 % of reading]+1 A/0.5 A) ±(2 % of reading+4 W)	< 0.5% @<500Hz < 1.0% @500.1Hz~2000Hz
"4. Limited by the maximum of the country of the co	E STABILITY N P1 Lage is 200 V, 220 V, or 240 V, no loue from the properties in DC mode using the out great properties in DC mode i	ad, rated output. load power factor of 1, stepwise of put terminal on the rear panel. DN RATIO, OUTPUT VO ad power factor of 1, and in AC mo of 1, with respect to stepwise charum current, and load power factor Resolution Accuracy *2 Resolution Accuracy Resolution Range Resolution Range Resolution Range Resolution Range Resolution Range Resolution Accuracy Resolution Range Resolution Range Resolution Range Resolution Accuracy Range Resolution Range Resolution Accuracy Range	0.2% or less 0.5% or less (0 to 100%, via output 1 Vrms / 2 Vrms (TYP) ange from an output current of 0 A to maximum currer TAGE RESPONSE TIME, EFFICIENCY < 0.2% ⊕50/60Hz < 0.3% ⊕<500Hz < 0.5% ⊕500.1Hz−999.9Hz 100 µs (TYP) 80 % or more de. ge from an output current of 0 A to the maximum currer of 1. 0.1 V For 45 Hz to 65 Hz and DC: ±(0.5 % For all other frequencies: ±(0.7 % of 0.1 V For 45 Hz to 65 Hz and DC: ±(12 % 0.01 A For 45 Hz to 65 Hz and DC: ±(12 % 0.01 A For 45 Hz to 65 Hz and DC: ±(2 % 0.01 A For 45 Hz to 65 Hz and DC: ±(2 % 0.01 A For 45 Hz to 65 Hz and DC: ±(2 % 0.01 A For 45 Hz to 65 Hz and DC: ±(2 % 0.01 A For 45 Hz to 65 Hz and DC: ±(2 % 0.01 A For 45 Hz to 65 Hz and DC: ±(2 % 0.01 A For 45 Hz to 65 Hz and DC: ±(2 % 0.01 A 0.10 A 1 W ±(2 % of reading+0.2 A/0.1 A) 1 VAR ±(2 % of reading +2 VA) 1 VAR ±(2 % of reading +2 VAR) 0.000 to 1.000 0.001 0.001 to 50.00 0.01 Up to 100th order of the fundament 200 V / 400 V, 100% 0.1 V, 0.1% Up to 20th : ±(0.2 % of reading + 0. 20th to 100th : ±(0.3 % of reading + 0. 20th to 100th order of the fundament 200 V / 100% 1 V 100th order of the fundament 200 V / 100 × 1000 order of the fundament 200 V / 100 × 1000 order of the fundament 200 V / 100 × 1000 order of the fundament 200 V / 100 × 1000 order of the fundament 200 V / 100 × 1000 order of the fundament 200 V / 100 × 1000 order of the fundament 200 V / 100 × 1000 order of the fundament 200 V / 1000 × 1000 order of the fundament 200 V / 1000 × 1000 order of the fundament 200 V / 1000 × 1000 order of the fundament 200 V / 1000 × 1000 order of the fundament 200 V / 1000 × 1000 order of the fundament 200 V / 1000 × 1000 order of the fundament 200 V / 1000 × 1000 order of the fundament 200 V / 1000 × 1000 order of the fundament 200 V / 1000 × 1000 order of the fundament 200 V / 1000 × 1000 order of the fundament 200 V / 1000 × 1000 order of the fundament 200 V / 1000 × 1000 order of the fundament 200 V / 1000 × 1000 order of the fundament 200 V / 1000 × 1000 order of the fundament 200 V / 10	to (or its reverse), using the output terminal on the rear part (or its reverse). So of reading + 0.5 V / 1 V) reading + 1 V / 2 V) For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.15 A/0.08 A) For all other frequencies: ±(0.7 % of reading+0.3 A/0.15 A) For 45 Hz to 65 Hz and DC: ±(12 % of reading+0.3 A/0.4 A) ±(2 % of reading+3 W) ±(2 % of reading+3 VA) ±(2 % of reading+3 VA) al wave	For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.2 A/0.1 A) For all other frequencies: ±(0.7 % of reading+0.4 A/0.2 A) For 45 Hz to 65 Hz and DC: ±(12 % of reading+1 A/0.5 A) ±(2 % of reading+4 W) ±(2 % of reading+4 VA)	< 0.5% @<500Hz < 1.0% @500.1Hz~2000Hz
" "AL LIMITED by the maximum of the	E STABILITY N P1 Lage is 200 V, 220 V, or 240 V, no loue from the properties in DC mode using the out great properties in DC mode i	ad, rated output. load power factor of 1, stepwise of put terminal on the rear panel. DN RATIO, OUTPUT VO ad power factor of 1, and in AC mo of 1, with respect to stepwise charum current, and load power factor Resolution Accuracy Resolution Range Resolution Range Resolution Range Resolution Range Resolution Accuracy Resolution Range Resolution Range Resolution Accuracy Resolution Accuracy Resolution Range Resolution Accuracy Resolution Accuracy Resolution	0.2% or less 0.5% or less (0 to 100%, via output 1 Vrms / 2 Vrms (TYP) ange from an output current of 0 A to maximum currer LTAGE RESPONSE TIME, EFFICIENCY < 0.2% ⊕50/60Hz < 0.3% ⊕<500Hz < 0.5% ⊕500.1Hz−999.9Hz 100 µs (TYP) 80 % or more de. ge from an output current of 0 A to the maximum currer of 1. 0.1 V For 45 Hz to 65 Hz and DC: ±(0.5 % For all other frequencies: ±(0.7 % of 0.1 V For 45 Hz to 65 Hz and DC: ±(1.5 % For 45 Hz to 65 Hz and DC: ±(1.5 % For 45 Hz to 65 Hz and DC: ±(1.5 % 0.01 A For 45 Hz to 65 Hz and DC: ±(1.5 % 0.01 A For 45 Hz to 65 Hz and DC: ±(1.5 % 0.01 A For 45 Hz to 65 Hz and DC: ±(1.5 % 0.01 A For 45 Hz to 65 Hz and DC: ±(1.5 % 0.7 % of reading+0.1 A/0.05 A) For all other frequencies: ±(0.7 % of reading+0.2 A/0.1 A) 1 VA ±(2 % of reading+0.2 A/0.1 A) 1 VA ±(2 % of reading+2 VA) 1 VAR ±(2 % of reading+2 VAR) 0.000 to 1.000 0.001 Up to 100th order of the fundament 200 V / 400 V, 100% 0.1 V, 0.1% Up to 20th : ±(0.2 % of reading+0.2 oth to 100th : ±(0.3 % of reading+	to (or its reverse), using the output terminal on the rear part (or its reverse). So of reading + 0.5 V / 1 V) Freading + 1 V / 2 V) For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.15 A/0.08 A) For all other frequencies: ±(0.7 % of reading+0.3 A/0.15 A) For 45 Hz to 65 Hz and DC: ±(2 % of reading + 0.8 A/0.4 A) ±(2 % of reading + 3 W) ±(2 % of reading + 3 VA) ±(2 % of reading + 3 VAR)	For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.2 A/0.1 A) For all other frequencies: ±(0.7 % of reading+0.4 A/0.2 A) For 45 Hz to 65 Hz and DC: ±([2 % of reading]+1 A/0.5 A) ±(2 % of reading+4 W)	< 0.5% @<500Hz < 1.0% @500.1Hz~2000Hz
**A. Limited by the maximum of the property of	ESTABILITY N P1 Tage is 200 V, 220 V, or 240 V, no loop 100 V to 200 V / 200 V to 400 V, a loop E WAYEFORM DISTORTIC C DISTORTION(THD) E RESPONSE TIME F 100 V to 200 V / 100 V to 400 V, a loop 101 00 V / 200 V, a loop dower factor TOR V RMS, AVG Value PEAK Value PEAK Value Active (W) Apparent (VA) Reactive (VAR) TOR AGE E (RMS)	ad, rated output. load power factor of 1, stepwise ch put terminal on the rear panel. DN RATIO, OUTPUT VO ad power factor of 1, and in AC mo of 1, with respect to stepwise cha rum current, and load power factor Resolution Accuracy Resolution Range Resolution Range Resolution Range Resolution Range Resolution Range Resolution Accuracy Range Full Scale	0.2% or less 0.5% or less (0 to 100%, via output 1 Vrms / 2 Vrms (TYP) ange from an output current of 0 A to maximum currer TAGE RESPONSE TIME, EFFICIENCY < 0.2% @50/60Hz < 0.3% @<500Hz < 0.5% @500.1Hz−999.9Hz 100 µs (TYP) 80 % or more de. ge from an output current of 0 A to the maximum currer of 1. 0.1 V For 45 Hz to 65 Hz and DC: ±(0.5 % For all other frequencies: ±(0.7 % of 0.1 V For 45 Hz to 65 Hz and DC: ±(2 % 0.01 A) For 45 Hz to 65 Hz and DC: ±(2 % 0.01 A) For 45 Hz to 65 Hz and DC: ±(2 % 0.01 A) For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.1 A/0.05 A) For all other frequencies: ±(0.7 % of 0.1 A) For 45 Hz to 65 Hz and DC: ±(2 % of reading+0.2 A/0.1 A) 0.1 A For 45 Hz to 65 Hz and DC: ±(2 % of reading+0.2 A/0.25 A) 1 W ±(2 % of reading+2 VA) 1 VA ±(2 % of reading+2 VA) 1 VA ±(2 % of reading+2 VAR) 0.000 to 1.000 0.01 Up to 100th order of the fundament 200 V / 400 V, 100% 0.1 V, 0.1% Up to 20th : ±(0.2 % of reading+0.20 V) V, 0.1% Up to 100th order of the fundament 20 A / 10 A, 100% 0.01 A, 0.1% Up to 20th	ent (or its reverse), using the output terminal on the rear provided in the control of the contr	For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.2 A/0.1 A) For all other frequencies: ±(0.7 % of reading+0.4 A/0.2 A) For 45 Hz to 65 Hz and DC: ±(12 % of reading+1 A/0.5 A) ±(2 % of reading+4 WA) ±(2 % of reading+4 VAR) 40 A / 20 A, 100% Up to 20th	< 0.5% @<500Hz < 1.0% @500.1Hz~2000Hz
" LOAD POWER FACE CURRENT LOAD POWER FACE LOAD CREST FACE LOAD POWER FACE LOAD CREST	ESTABILITY N P1 Tage is 200 V, 220 V, or 240 V, no loop 100 V to 200 V / 200 V to 400 V, a loop E WAYEFORM DISTORTIC C DISTORTION(THD) E RESPONSE TIME F 100 V to 200 V / 100 V to 400 V, a loop 101 00 V / 200 V, a loop dower factor TOR V RMS, AVG Value PEAK Value PEAK Value Active (W) Apparent (VA) Reactive (VAR) TOR AGE E (RMS)	ad, rated output. load power factor of 1, stepwise of put terminal on the rear panel. DN RATIO, OUTPUT VO ad power factor of 1, and in AC mo of 1, with respect to stepwise charum current, and load power factor Resolution Accuracy Resolution Range Resolution Range Full Scale Resolution Accuracy Range Resolution Accuracy Resolution Accuracy Resolution Accuracy Resolution Range Resolution Accuracy Resolution	0.2% or less 0.5% or less (0 to 100%, via output 1 Vrms / 2 Vrms (TYP) ange from an output current of 0 A to maximum currer LTAGE RESPONSE TIME, EFFICIENCY < 0.2% @50/60Hz < 0.3% @<500Hz < 0.5% @500.1Hz~999.9Hz 100 μs (TYP) 80 % or more de tige from an output current of 0 A to the maximum curre of 1. 0.1 V For 45 Hz to 65 Hz and DC: ± (0.5 % For all other frequencies: ± (0.7 % of 0.1 V) For 45 Hz to 65 Hz and DC: ± (0.5 % for all other frequencies: ± (0.7 % of 0.1 V) For 45 Hz to 65 Hz and DC: ± (0.5 % for all other frequencies: ± (0.7 % of reading +0.1 A/0.05 A) For 45 Hz to 65 Hz and DC: ± (0.5 % of reading +0.5 A/0.12 A) 0.11 A For 45 Hz to 65 Hz and DC: ± (2 % of reading +0.5 A/0.25 A) 1 W ± (2 % of reading +0.5 A/0.25 A) 1 VA ± (2 % of reading +2 VA) 1 VAR ± (2 % of reading +2 VA)	to to (or its reverse), using the output terminal on the rear part (or its reverse). For freading + 0.5 V / 1 V) Freading + 1 V / 2 V) For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.15 A/0.08 A) For all other frequencies: ±(0.7 % of reading+0.3 A/0.15 A) For 45 Hz to 65 Hz and DC: ±(2 % of reading+0.3 A/0.15 A) ±(2 % of reading+3 W) ±(2 % of reading+3 WA) ±(2 % of reading+3 VAR) al wave 5 V / 1 V) 0.5 V / 1 V) al wave 3 0 A / 15 A, 100%	For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.2 A/0.1 A) For all other frequencies: ±(0.7 % of reading+0.4 A/0.2 A) For 45 Hz to 65 Hz and DC: ±(2 % of reading +1 A/0.5 A) ±(2 % of reading +4 VA) ±(2 % of reading +4 VA) ±(2 % of reading +4 VAR)	< 0.5% @<500Hz < 1.0% @500.1Hz~2000Hz

IS-0014

	,		ACD 2200	ACD 2200	ACD 2400	ACD 2400LIE		
			ASR-3200	ASR-3300	ASR-3400	ASR-3400HF		
1. The voltage display is set t								
			de: For an output voltage of 28.5 V to 285 V / 57 V to 570) V and 23 °C ± 5 °C.				
		maximum current, and 23 °C ± 5 °C		navimum instantaneous current in DC mode, and 23.5	C ± 5 °C. The accuracy of the peak value is for a waveform	of DC or sine wave		
			of the maximum current, DC or an output frequency of 4		C 1 O C. The accuracy of the peak value is for a waveform	or De or sine wave.		
6. The apparent and reactive	powers are not displayed in	the DC mode.						
7. The reactive power is for the								
8. An output voltage in the ra	inge of 20 V to 200 V / 40 V t	to 400 V and 23 °C ± 5 °C.						
OTHERS								
PROTECTIONS			UVP, OCP, OTP, OPP, Fan Fail					
DISPLAY			TFT-LCD, 4.3 inch					
MEMORY FUNCTION			Store and recall settings, Basic set	tings: 10 (0~9 numeric keys)				
ARBITRARY WAVE	Number of Mer		16 (nonvolatile)					
	Waveform Length		4096 words					
NTERFACE	Standard	USB	Type A: Host, Type B: Slave, Speed					
		LAN	MAC Address, DNS IP Address, User Password, Gateway IP Address, Instrument IP Address, Subnet Mask					
		RS-232C	Complies with the EIA-RS-232 spec	ifications				
		EXT Control	External Signal Input; External Con	trol I/O				
		GPIB	SCPI-1993, IEEE 488.2 compliant in	nterface				
NSULATION RESIST.	ANCE		500 Vdc, 30 MΩ or more					
etween input and chassi	s, output and chassis, ir	nput and output						
WITHSTAND VOLTAG	GE		1500 Vac, 1 minute					
etween input and chassi	s, output and chassis, ir	nput and output						
EMC			EN 61326-1, EN 61326-2-1, EN 610	000-3-2, EN 61000-3-3, EN 61000-3-11,	EN 61000-3-12			
			EN 61000-4-2/-4-3/-4-4/-4-5/-4-6/-	4-8/-4-11/-4-34, EN 55011 (Class A), EI	N 55032			
SAFETY		EN 61010-1						
ENVIRONMENT	Operating Environment		Indoor use, Overvoltage Category II					
	Operating Tem	perature Range	0 °C to 40 °C					
	Storage Temper	rature Range	-10 °C to 70 °C					
	Operating Hum	nidity Range	20 % to 80 % RH (no condensation)					
	Storage Humid	ity Range	90 % RH or less (no condensation)					
	Altitude		Up to 2000 m					
	Militade							

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2kVA Programmable AC/DC Power Source 3kVA Programmable AC/DC Power Source ASR-3200 **ASR-3300** 4kVA Programmable AC/DC Power Source **ASR-3400** ASR-3400HF 4kVA Programmable AC/DC Power Source

CCESSORIES

CD (User manual/Programming manual), Safety guide, Input terminal cover, Output terminal cover Include remote sensing, GRA-442-E Rack mount adapter (EIA), GTL-246 USB Cable

GPW-005 Power Cord, 3m, 105°C, UL/CSA Type **GPW-006** Power Cord, 3m, 105°C, VDE Type GPW-007 Power Cord, 3m, 105°C, PSE Type GRA-442-J Rack mount adapter (JIS) GTL-137

Output power wire(Load wire_ 10AWG: 50A, 600V/Sense wire_ 16AWG: 20A, 600V) GTL-232 RS232C Cable, approx. 2m

GTL-248 GPIB Cable, approx. 2m ASR-002 External three phase control unit for IP2W, IP3W, 3P4W output

APS-008 Air inlet filter

* European Output Outlet (factory installed)

APS-008















ASR-002 External three phase control unit

- * Basis Requirement of ASR-002 to ASR-Series
- 1. Must be the three same models of ASR-Series * Functions of ASR-Series are limited when conducts to ASR-002
- No DC Output
 Measurement Items: only current(A), power(W) and PF for each phase
- No Voltage and Current Harmonic Analysis
 No Remote Sensing Capability
 No Arbitrary Waveform Function

- 6. No Sequence and Simulation Function
- Not supported External Control I/O

 No memory Function

 Only support USB, no LAN port for communication





