SPECIFICATIONS

		ASR-3200	ASR-3300	ASR-3400	ASR-3500	ASR-3400HF
INPUT RATING (AC rms)						
NOMINAL INPUT VOLTAGE		200 Vac to 240 Vac				
INPUT VOLTAGE RANGE		180 Vac to 264 Vac				
PHASE		Single phase, Two-wire				
NOMINAL INPUT FREQUENCY		50 Hz to 60 Hz				
INPUT FREQUENCY RANGE		47 Hz to 63 Hz				
MAX. POWER CONSUMPTION		2500 VA or less	3750 VA or less	5000 VA or less	6000 VA or less	5000 VA or less
POWER FACTOR*1	200 Vac	0.95 (TYP)				

*1. For an output voltage of 100 V / 200 V (100 V / 200 V range), maximum current, and a load power factor of 1.

AC MODE OUTPUT RATINGS (AC rms)						
VOLTAGE	Setting Range*1	0.0 V to 200.0 V / 0.0 V to 400.0 V				
	Setting Resolution	0.1 V				
	Accuracy*2	±(1 % of set + 1 V / 2 V)				
OUTPUT PHASE		Single phase, Two-wire				
MAXIMUM CURRENT*3	100 V	20 A	30 A	40 A	50 A	40 A
	200 V	10 A	15 A	20 A	25 A	20 A
MAXIMUM PEAK CURRENT*4	100 V	120 A	180 A	240 A	300 A	160 A
	200 V	60 A	90 A	120 A	150 A	80 A
LOAD POWER FACTOR		0 to 1(leading phase or lagging phase)				
POWER CAPACITY		2000 VA	3000 VA	4000 VA	5000 VA	4000 VA
FREQUENCY	Setting Range	AC Mode: 40.00 Hz to 999.9 Hz, AC+DC Mode: 1.00 Hz to 999.9 Hz				AC Mode: 40.0 Hz to 5000 Hz, AC+DC Mode: 1 Hz to 5000 Hz
	Setting Resolution	0.01 Hz (1.00 Hz to 99.99 Hz), 0.1 Hz (100.0 Hz to 999.9 Hz)				0.01 Hz (1.00 Hz to 99.99 Hz), 0.1 Hz (100.0 Hz to 999.9 Hz), 1 Hz (1000 Hz to 5000 Hz)
	Accuracy	0.02 % of set (23 °C ± 5 °C)				
	Stability*5	± 0.005 %				
OUTPUT ON PHASE		0° to 359° variable (setting resolution 1°)				
DC OFFSET*6		Within ± 20 mV (TYP)				

*1. 100 V / 200 V range
*2. For an output voltage of 20 V to 200 V / 40 V to 400 V, an output frequency of 45 Hz to 65 Hz, no load, and 23 °C ± 5 °C.
*3. For an output voltage of 1 V to 100 V / 2 V to 200 V. Limited by the power capacity when the output voltage is 100 V to 200 V / 200 V to 400 V.
If there is the DC superimposition, the current of AC+DC mode satisfies the maximum current. In the case of lower than 40 Hz, and the power rating temperature, the maximum current will be decrease.
*4. With respect to the capacitor-input rectifying load. Limited by the maximum current.
*5. For 45 Hz to 65 Hz, the rated output voltage, no load and the resistance load for the maximum current, and the operating temperature.
*6. In the case of the AC mode and 23 °C ± 5 °C.

OUTPUT RATING FOR DC MODE						
VOLTAGE	Setting Range*1	-285 V to +285 V / -570 V to +570 V				
	Setting Resolution	0.1 V				
	Accuracy*2	±(1 % of set + 1 V / 2 V)				
MAXIMUM CURRENT*3	100 V	20 A	30 A	40 A	50 A	40 A
	200 V	10 A	15 A	20 A	25 A	20 A
MAXIMUM PEAK CURRENT*4	100 V	120 A	180 A	240 A	300 A	160 A
	200 V	60 A	90 A	120 A	150 A	80 A
POWER CAPACITY		2000 W	3000 W	4000 W	5000 W	4000 W

*1. 100 V / 200 V range
*2. For an output voltage of -285 V to -28.5 V, +28.5 V to +285 V / -570 V to -57 V, +57 V to +570 V, no load, and 23 °C ± 5 °C.
*3. For an output voltage of 1.4 V to 100 V / 2.8 V to 200 V. Limited by the power capacity when the output voltage is 100 V to 250 V / 200 V to 500 V.
*4. Limited by the maximum current.

OUTPUT VOLTAGE STABILITY						
LINE REGULATION*1		0.2 % or less				
LOAD REGULATION*2		0.5 % or less (0 % to 100 %, via output terminal)				
RIPPLE NOISE*3		1 Vrms / 2 Vrms (TYP)				

*1. Power source input voltage is 200 V, 220 V, or 240 V, no load, rated output.
*2. For an output voltage of 100 V to 200 V / 200 V to 400 V, a load power factor of 1, stepwise change from an output current of 0 A to maximum current (or its reverse), using the output terminal on the rear panel.
*3. For 5 Hz to 1 MHz components in DC mode using the output terminal on the rear panel.

OUTPUT VOLTAGE WAVEFORM DISTORTION RATIO, OUTPUT VOLTAGE RESPONSE TIME, EFFICIENCY					
TOTAL HARMONIC DISTORTION(THD)*1	< 0.2 % @50/60 Hz		< 0.2 % @50/60 Hz	<0.2 % @50/60 Hz	
	< 0.3 % @<500 Hz		< 0.6 % @<500 Hz	<0.5 % @<500 Hz	
	< 0.5 % @500.1 Hz to 999.9 Hz		< 0.8 % @500.1 Hz to 999.9 Hz	<1 % @500.1 Hz to 2000 Hz	
				< 2 % @2001 Hz to 5000 Hz	
OUTPUT VOLTAGE RESPONSE TIME*2	100 µs (TYP)				
EFFICIENCY*3	80 % or more				

*1. At an output voltage of 50 V to 200 V / 100 V to 400 V, a load power factor of 1, and in AC mode.
*2. For an output voltage of 100 V / 200 V, a load power factor of 1, with respect to stepwise change from an output current of 0 A to the maximum current (or its reverse).
*3. For AC mode, at an output voltage of 100 V / 200 V, maximum current, and load power factor of 1.

MEASURED VALUE DISPLAY							
VOLTAGE	RMS, AVG Value*1	Resolution	0.1 V				
		Accuracy*2	For 45 Hz to 65 Hz and DC: ±(0.5 % of reading + 0.5 V / 1 V)				
			For all other frequencies: ±(0.7 % of reading + 1 V / 2 V)				
	PEAK Value	Resolution	0.1 V				
		Accuracy	For 45 Hz to 65 Hz and DC: ±(|2 % of reading| + 1 V / 2 V)				
CURRENT	RMS, AVG Value	Resolution	0.01 A				
		Accuracy*3	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+0.15 A/0.08 A)	For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.2 A/0.1 A)	For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.25 A/0.13 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+0.2 A/0.1 A)	For all other frequencies: ±(0.7 % of reading+0.3 A/0.15 A)	For all other frequencies: ±(0.7 % of reading+0.4 A/0.2 A)	For all other frequencies: ±(0.7 % of reading+0.5 A/0.25 A)	For all other frequencies: ±(0.7 % of reading+0.4 A/0.2 A)
	PEAK Value	Resolution	0.1 A				
		Accuracy*4	For 45 Hz to 65 Hz and DC: ±(|2 % of reading| + 0.5 A/0.25 A)	For 45 Hz to 65 Hz and DC: ±(|2 % of reading| + 0.8 A/0.4 A)	For 45 Hz to 65 Hz and DC: ±(|2 % of reading| + 1 A/0.5 A)	For 45 Hz to 65 Hz and DC: ±(|2 % of reading| + 1.3 A/0.65 A)	For 45 Hz to 65 Hz and DC: ±(|2 % of reading| + 1 A/0.5 A)
POWER	Active (W)	Resolution	1 W				
		Accuracy*5	±(2 % of reading +2 W)	±(2 % of reading +3 W)	±(2 % of reading +4 W)	±(2 % of reading +5 W)	±(2 % of reading +4 W)
	Apparent (VA)	Resolution	1 VA				
		Accuracy*5*6	±(2 % of reading +2 VA)	±(2 % of reading +3 VA)	±(2 % of reading +4 VA)	±(2 % of reading +5 VA)	±(2 % of reading +4 VA)
	Reactive (VAR)	Resolution	1 VAR				
		Accuracy*5*7	±(2 % of reading +2 VAR)	±(2 % of reading +3 VAR)	±(2 % of reading +4 VAR)	±(2 % of reading +5 VAR)	±(2 % of reading +4 VAR)
LOAD POWER FACTOR		Range	0.000 to 1.000				
		Resolution	0.001				
LOAD CREST FACTOR		Range	0.00 to 50.00				
		Resolution	0.01				
HARMONIC VOLTAGE EFFECTIVE VALUE (RMS) PERCENT (%) (AC-INT and 50/60 Hz only)		Range	Up to 100th order of the fundamental wave				
		Full Scale	200 V / 400 V, 100%				
		Resolution	0.1 V, 0.1%				
		Accuracy*8	Up to 20th : ±(0.2 % of reading + 0.5 V / 1 V) 20th to 100th : ±(0.3 % of reading + 0.5 V / 1 V)				
HARMONIC CURRENT EFFECTIVE VALUE (RMS) PERCENT (%)		Range	Up to 100th order of the fundamental wave				
		Full Scale	20 A / 10 A, 100 %	30 A / 15 A, 100 %	40 A / 20 A, 100 %	50 A / 25 A, 100 %	40 A / 20 A, 100 %
		Resolution	0.01 A/0.1 A, 0.1%				
		Accuracy*3	Up to 20th ±(1 % of reading+0.4 A/0.2 A)	Up to 20th ±(1 % of reading+0.6 A/0.3 A)	Up to 20th ±(1 % of reading+0.8 A/0.4 A)	Up to 20th ±(1 % of reading+1 A/0.5 A)	Up to 20th ±(1 % of reading+0.8 A/0.4 A)
			20th to 100th ±(1.5 % of reading+0.4 A/0.2 A)	20th to 100th ±(1.5 % of reading+0.6 A/0.3 A)	20th to 100th ±(1.5 % of reading+0.8 A/0.4 A)	20th to 100th ±(1.5 % of reading+1 A/0.5 A)	20th to 100th ±(1.5 % of reading+0.8 A/0.4 A)

*1. The voltage display is set to RMS in AC/AC+DC mode and AVG in DC mode.
*2. AC mode: For an output voltage of 20 V to 200 V / 40 V to 400 V and 23 °C ± 5 °C. DC mode: For an output voltage of 28.5 V to 285 V / 57 V to 570 V and 23 °C ± 5 °C
*3. An output current in the range of 5 % to 100 % of the maximum current, and 23 °C ± 5 °C.
*4. An output current in the range of 5 % to 100 % of the maximum peak current in AC mode, an output current in the range of 5 % to 100 % of the maximum instantaneous current in DC mode, and 23 °C ± 5 °C. The accuracy of the peak value is for a waveform of DC or sine wave
*5. For an output voltage of 50 V or greater, an output current in the range of 10 % to 100 % of the maximum current, DC or an output frequency of 45 Hz to 65 Hz, and 23 °C ± 5 °C
*6. The apparent and reactive powers are not displayed in the DC mode.
*7. The reactive power is for the load with the power factor 0.5 or lower.
*8. An output voltage in the range of 20 V to 200 V / 40 V 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 settings: 10 (0 to 9 numeric keys)				
ARBITRARY WAVE	Number of Memories		253 (nonvolatile)				
	Waveform Length		4096 words				
		USB	Type A: Host, Type B: Slave, Speed: 2.0, USB-CDC				
		LAN	MAC Address, DNS IP Address, User Password, Gateway IP Address, Instrument IP Address, Subnet Mask				

INTERFACE	**Standard**	**RS-232C**	Complies with the EIA-RS-232 specifications
		EXT Control	External Signal Input; External Control I/O
		GPIB	SCPI-1993, IEEE 488.2 compliant interface
INSULATION RESISTANCE Between input and chassis, output and chassis, input and output			1000 Vdc, 30 MΩ or more
WITHSTAND VOLTAGE Between input and chassis, output and chassis, input and output			1500 Vac, 1 minute
EMC			EN 61326-1, EN 61326-2-1, EN 61000-3-2, 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), EN 55032
SAFETY			EN 61010-1
ENVIRONMENT	**Operating Environment**		Indoor use, Overvoltage Category II
	Operating Temperature Range		0 °C to 40 °C
	Storage Temperature Range		-10 °C to 70 °C
	Operating Humidity Range		20 % to 80 % RH (no condensation)
	Storage Humidity Range		90 % RH or less (no condensation)
	Altitude		Up to 2000 m
TRANSPORTATION INTEGRITY			ISTA 2A Test Procedure
DIMENSIONS & WEIGHT			430 mm(W) × 176 mm(H) × 530 mm(D) (not including protrusions); Approx. 25 kg

* Note: A value with the accuracy is the guaranteed value of the specification. However, an accuracy noted as reference value shows the supplemental data for reference when the product is used, and is not under the guarantee. A value without the accuracy is the nominal value or representative value (shown as typ.).