

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 FACTOR¹	200 Vac	0.95 (TYP)			
Max. input current	200 Vac	15 A	22.5 A	30 A	35 A
					30 A
¹ 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 Range¹	0.0 V to 200.0 V / 0.0 V to 400.0 V			
	Setting Resolution	0.1 V			
	Accuracy²	±(1 % of set + 1 V / 2 V)			
OUTPUT PHASE					
MAXIMUM CURRENT³	100 V	20 A	30 A	40 A	50 A
	200 V	10 A	15 A	20 A	25 A
MAXIMUM PEAK CURRENT⁴	100 V	120 A	180 A	240 A	300 A
	200 V	60 A	90 A	120 A	150 A
LOAD POWER FACTOR					
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)	0.1 Hz (100.0 Hz to 999.9 Hz), 1 Hz (1000 Hz to 5000 Hz)
	Accuracy	0.02 % of set (23 °C ± 5 °C)			
	Stability⁵	± 0.005 %			
OUTPUT ON PHASE					
DC OFFSET⁶		0° to 359° variable (setting resolution 1°)			
		Within ± 20 mV (TYP)			
¹ 1. 100 V / 200 V range					
² 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 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 4. With respect to the capacitor-input rectifying load. Limited by the maximum current.					
⁵ 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 6. In the case of the AC mode and 23 °C ± 5 °C.					
OUTPUT RATING FOR DC MODE					
VOLTAGE	Setting Range¹	-285 V to +285 V / -570 V to +570 V			
	Setting Resolution	0.1 V			
	Accuracy²	±(1 % of set + 1 V / 2 V)			
MAXIMUM CURRENT³	100 V	20 A	30 A	40 A	50 A
	200 V	10 A	15 A	20 A	25 A
MAXIMUM PEAK CURRENT⁴	100 V	120 A	180 A	240 A	300 A
	200 V	60 A	90 A	120 A	150 A
POWER CAPACITY	2000 W	3000 W	4000 W	5000 W	4000 W
¹ 1. 100 V / 200 V range					
² 2. For an output voltage of -285 V to -285 V, +285 V to +285 V / -570 V to -570 V, no load, and 23 °C ± 5 °C.					
³ 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 4. Limited by the maximum current.					
OUTPUT VOLTAGE STABILITY					
LINE REGULATION¹		0.2 % or less			
LOAD REGULATION²		0.5 % or less (0 % to 100 %, via output terminal)			
RIPPLE NOISE³		1 Vrms / 2 Vrms (TYP)			
¹ 1. Power source input voltage is 200 V, 220 V, or 240 V, no load, rated output.					
² 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 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 TIME²		100 μs (TYP)			
EFFICIENCY³		80 % or more			
¹ 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 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 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	Resolution	0.1 V			
	RMS, AVG Value¹	For 45 Hz to 65 Hz and DC: ±(0.5 % of reading + 0.5 V / 1 V)			
	Accuracy²	For all other frequencies: ±(0.7 % of reading + 1 V / 2 V)			
CURRENT	Resolution	0.1 V			
	RMS, AVG Value	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)
	Accuracy³	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)
POWER	Resolution	0.1 A			
	PEAK Value	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 A/0.5 A)
POWER	Active (W)	1 W			
	Accuracy⁴	±(2 % of reading + 2 W)	±(2 % of reading - 3 W)	±(2 % of reading + 4 W)	±(2 % of reading + 5 W)
	Apparent (VA)	1 VA			
	Resolution	±(2 % of reading + 2 VA)	±(2 % of reading - 3 VA)	±(2 % of reading + 4 VA)	±(2 % of reading + 5 VA)
	Reactive (VAR)	1 VAR			
	Accuracy⁵	±(2 % of reading + 2 VAR)	±(2 % of reading + 3 VAR)	±(2 % of reading + 4 VAR)	±(2 % of reading + 5 VAR)
LOAD POWER FACTOR	Range	0.00 to 1.000			
LOAD CREST FACTOR	Range	0.00 to 50.00			
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%			
	Accuracy⁶	Up to 20th: ±(0.2 % of reading + 0.5 V / 1 V)	Up to 20th: ±(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 %
	Resolution	0.01 A/0.1 A, 0.1%			
	Accuracy⁷	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+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+0.8 A/0.4 A)
¹ 1. The voltage display is set to RMS in AC/AC+DC mode and AVG in DC mode.					
² 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 3. An output current in the range of 5 % to 100 % of the maximum current, and 23 °C ± 5 °C.					
⁴ 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 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 6. The apparent and reactive powers are not displayed in the DC mode.					
⁷ 7. The reactive power is for the load with the power factor 0.5 or lower.					
⁸ 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			

INTERFACE	Standard	LAN	MAC Address, DNS IP Address, User Password, Gateway IP Address, Instrument IP Address, Subnet Mask	
		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) x 176 mm(H) x 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.).