

## Specifications

### Electrical specifications

#### Input ratings (AC rms)

Model	ASD-1150	ASD-1300	ASD-1600	ASD-1900
Nominal input voltage	100 Vac to 240 Vac (single phase)	220 Vac to 240 Vac (single phase)	220 Vac to 240 Vac (L-L) 3Ø4wires Δ connection 380 Vac to 400 Vac (L-L) 3Ø5wires Y connection	220 Vac to 240 Vac (L-L) 3Ø4wires Δ connection 380 Vac to 400 Vac (L-L) 3Ø5wires Y connection
Input voltage range	90 Vac to 254 Vac	190 Vac to 254 Vac	190 Vac to 250 Vac (L-L) 3Ø4wires Δ connection 329 Vac to 433 Vac (L-L) 3Ø5wires Y connection	190 Vac to 250 Vac (L-L) 3Ø4wires Δ connection 329 Vac to 433 Vac (L-L) 3Ø5wires Y connection
Phase	Single phase, Three-wire	Single phase, Three-wire	Three phase, Four-wire Three phase, Five-wire	Three phase, Four-wire Three phase, Five-wire
Nominal input Frequency	50 Hz to 60 Hz	50 Hz to 60 Hz	50 Hz to 60 Hz	50 Hz to 60 Hz
Input frequency range	47 Hz to 63 Hz	47 Hz to 63 Hz	47 Hz to 63 Hz	47 Hz to 63 Hz
Max. power consumption	1875 VA or less	3750 VA or less	7500 VA or less	11250 VA or less
Power factor	0.98 Min.	0.98 Min.	>0.8 At full load (220Vac) >0.3 At full load (380Vac)	0.98 Min.
Max. input current	90Vac: 22A	190Vac: 20A	190Vac: 35A/phase 329Vac: 25A/phase	190Vac: 35A/phase 329Vac: 25A/phase

#### AC mode output ratings (AC rms)

Model	ASD-1150	ASD-1300	ASD-1600	ASD-1900	
Voltage	Setting Range	0.0 V to 150.0 V / 0.0 V to 300.0 V	0.0 V to 150.0 V / 0.0 V to 300.0 V	0.0 V to 150.0 V / 0.0 V to 300.0 V (Parallel mode) 0.0 V to 300.0 V / 0.0 V to 600.0 V (Series mode)	0.0 V to 150.0 V / 0.0 V to 300.0 V
	Setting Resolution	0.1 V			
	Accuracy	±(0.2 % of set + 0.3 V / 0.6 V)	±(0.2 % of set + 0.3 V / 0.6 V)	±(0.2 % of set + 0.3 V / 0.6 V) (Parallel mode) ±(0.4 % of set + 0.6 V / 1.2 V) (Series mode)	±(0.2 % of set + 0.3 V / 0.6 V)
Output phase	Single phase, Three-wire	Single phase, Three-wire	Single phase, Three-wire	Three phase, Five-wire	
Maximum current	150V	15 A (150V)	30 A (150V)	60 A (150V)	90 A (150V) (Single Phase) 30 A (150V) (Three Phase)
	300V	7.5 A (300V)	15 A (300V)	30 A (300V)	45 A (300V) (Single Phase) 15 A (300V) (Three Phase)
	600V	-	-	15 A (600V)	-
Maximum peak current	150V	90 A (30Hz~100Hz) 75A (>100Hz~1kHz)	90 A (30Hz~100Hz) 75A (>100Hz~1kHz)	180 A (30Hz~100Hz) 150 A (>100Hz~1kHz)	270 A (150V) (30Hz~100Hz) (Single) 90 A (150V) (30Hz~100Hz) (Three Phase) 225 A (150V) (>100Hz~1kHz) (Single) 75 A (150V) (>100Hz~1kHz) (Three Phase)
	300V	45 A (30Hz~100Hz) 38A (>100Hz~1kHz)	45 A (30Hz~100Hz) 38A (>100Hz~1kHz)	90 A (30Hz~100Hz) 75 A (>100Hz~1kHz)	135 A (300V) (30Hz~100Hz) (Single) 45 A (300V) (30Hz~100Hz) (Three Phase) 113 A (300V) (>100Hz~1kHz) (Single) 38 A (300V) (>100Hz~1kHz) (Three Phase)
	600V	-	-	45 A (30Hz~100Hz) 38 A (>100Hz~1kHz)	-
Load power factor	0 to 1 (leading phase or lagging phase)				
Power capacity	1500 VA	3000 VA	6000 VA	9000 VA	
Frequency	Setting range	AC Mode: 30.0 Hz to 1000.0 Hz, AC+DC Mode: 1 Hz to 1000.0 Hz	AC Mode: 30.0 Hz to 1000.0 Hz		
	Setting resolution	0.1 Hz (30.0 to 1000.0 Hz)			
	Accuracy	0.15%			
Output on phase	0.0° to 359.9° variable (setting resolution 0.1°)				

#### Output rating for DC mode

Model	ASD-1150	ASD-1300	ASD-1600	ASD-1900	
Voltage	Setting Range	-212 V to +212 V / -424 V to +424 V	-	-	-
	Setting Resolution	0.1 V	-	-	-
	Accuracy	±(0.2 % of set + 0.424 V / 0.848 V)	-	-	-
Maximum current	150 V	7 A	-	-	-
	300 V	3.5 A	-	-	-
Maximum peak current	150 V	14 A	-	-	-
	300 V	7 A	-	-	-
Power capacity	750W	-	-	-	

#### Output voltage stability

Model	ASD-1150	ASD-1300	ASD-1600	ASD-1900
Line regulation	0.1%			
Load regulation	0.2%	0.1%	0.2% (Series mode) 0.8% (Parallel mode)	0.2% (Three Phase) 0.8% (Single Phase)

#### Output voltage waveform distortion ratio, Output voltage response time, Efficiency

Model	ASD-1150	ASD-1300	ASD-1600	ASD-1900
Output voltage waveform distortion ratio	1% or less			
Output voltage response time	100 us (TYP)			
Efficiency	78% typ. At full load, 110Vac input voltage	80% typ. At full load	79% min. At full load	80% typ. At full load

#### Measured value display

Model	ASD-1150	ASD-1300	ASD-1600	ASD-1900
Voltage	RMS, AVG value Resolution	0.1 V		
	PEAK value Resolution	0.1 V		
Current	RMS, AVG value Resolution	0.01 A		
	PEAK value Resolution	0.01 A		
Power	Active (W) Resolution	0.1W		
	Apparent (VA) Resolution	0.1 VA		
	Reactive (VAR) Resolution	0.1 VAR		
Load power factor	Range	0.000 to 1.000		
	Resolution	0.001		
Load crest factor	Range	1.2 to 1.414		
	Resolution	0.001		
Harmonic voltage	Range	Up to 39th order of the fundamental wave		

#### Others

Model	ASD-1150	ASD-1300	ASD-1600	ASD-1900
Protections	UVP, OCP, OPP, SCP, OTP, FAN FAIL			
Display	STN-LCD, 6 inch			
Memory Function	Store and recall settings, Basic settings: 4 (0-3 numeric keys)			
Arbitrary Wave Number of memories	30 (nonvolatile)			

### General Specifications

Model		ASD-1150	ASD-1300	ASD-1600	ASD-1900
Interface	Standard	GPIB	IEEE 488.2 compliant interface		
		RS-232C	Complies with the EIA-RS-232 specifications		
		EXT Control	External Control I/O		
Withstand voltage	Between input and chassis, output and chassis, input and output	2210 Vac, 1 minute			
EMC			EN 61326-1		
			EN 61326-2-2		
			EN 61000-3-2 (Class D)		
			EN 61000-3-3		
			EN 61000-4-2/-4-3/-4-4/-4-5/-4-6/-4-8/-4-11 (Class A, Group 1)		
		EN 55011 (Class A, Group1)			
Safety		EN 61010-1			
Environment	Operating environment		Indoor use, Overvoltage Category II		
	Operating temperature range		0 °C to 40 °C		
	Storage temperature range		-40 °C to 85 °C		
	Storage humidity range		90 % RH or less (no condensation)		
	Altitude		Up to 2000 m		
Dimensions (mm)		425(W)×133(H)×525(D)	425(W)×176(H)×520(D)	546(W)×844.5(H)×700(D)	546(W)×1025(H)×700(D)
Weight		22kg	28kg	105kg	153kg