SPECIFICATIONS

Model			RBS05K-100	RBS10K-100	RBS15K-100
Output Rating					
Rated power			± 5000 W	± 10000 W	± 15000 W
Rated voltage (source)			0 V to 100 V		
Operating voltage (sink)			5 V to 100 V		
Rated current			± 170 A	± 340 A	± 510 A
Output Voltage					
Maximum settable voltage			100 V		
Setting accuracy			0.05 %+0.05 % FS		
Setting resolution			0.1 V		
Load regulation CV			0.05 % FS		
Line regulation CV			0.015 % FS		
Temperature coefficient CV			100 ppm		
Remote sensing (compensation voltage)			5 V		
Source only	Transient response(*1)		2 ms		
	Ripple noise	p-p(*2)	500 mV		
		rms(*3)	35 mV		
	Rise time(*4)	Full load	60 ms		
		No load	15 ms		
	Fall time(*5)	Full load	15 ms		
		No load	30 ms		
Output Current					
Settable maximum source current			170 A	340 A	510 A
Settable maximum sink current			-170 A	-340 A	-510 A
Setting accuracy			0.4 %+0.4 % FS		
Setting resolution			0.01 A		
Load regulation CC			0.2 % FS		
Line regulation CC			0.05 % FS		
Ripple and noise(*6)		rms(*3)	0.1 % FS		
Temperature coefficient CC			200 ppm		
Output Power					
Settable maximum source power			5000 W	10000 W	15000 W
Settable maximum sink power			-5000 W	-10000 W	-15000 W
Setting accuracy			0.5 %+0.5 % FS		
Setting resolution			1 W		
DC Output Resistor					
Resistance range			0 Ω to 100 Ω		
Setting accuracy(*7)			≤5 % Rmax(0 % to 10 % Rmax) ; ≤10 % Rmax(10 % to 100 % Rmax)		
Setting resolution			0.01 Ω		
Protective Functions					
OVP		Range	0 % FS to 110 % FS		
		Accuracy	0.1 %FS		
OCP		Range	0 % FS to 110 % FS		
		Accuracy	0.2 % FS		
OTP			√	√	√
Vsense reverse protection			√	√	√
Input voltage protection (OVP, UVP)			√	√	√
Display Accuracy					
Voltage		Accuracy	0.05 %+0.05 % FS		
		Resolution	0.1 V		
Current		Accuracy	0.4 %+0.4 % FS		
		Resolution	0.01 A		
Power		Accuracy	0.5 %+0.5 % FS		
		Resolution	0.001 kW		
Interfaces Digital					
All-in-One(USB,RS-232/RS-485,CAN,LAN)(*8)			All-in-On / GPIB		
GPIB(*8)			All-in-On / GPIB		
400 V Three-phase Three-wire Input					
Nominal input rating			380 Vac to 460 Vac		
Input voltage range			342 Vac to 510 Vac		
Input frequency range			47 Hz to 63 Hz		
Output Power			5000 W	10000 W	15000 W
Input current (MAX)		at 342 Vac	9.2 A	18.4 A	27.6 A
Input power (MAX)			5.5 kVA	11 kVA	16.5 kVA
Power factor (TYP)			0.99		
Leakage current			5 mA		
Efficiency sink/source (up to)			93 %		
General Specifications					
Environmental conditions	Operating temperature		0 °C to 40 °C		
	Operating humidity		20 % to 90 % RH		
	Storage temperature		-10 °C to 70 °C		
	Storage humidity		20 % to 90 % RH		
	Altitude		1000 m		
Withstand voltage	AC input to case (PE)		DC 2300 V		
Insulation resistance	Between output and GND		DC 500 V		
Mechanical construction	Dimensions (W x H x D) mm		482 mm x 133.3 mm x 790 mm		
	Weight		24 kg	32 kg	40 kg
Parallel operation			√	√	√

*1. When the load changes from 50 % to 100 %, or from 100 % to 50 %, the voltage returns to within 0.75 % of the rating.
*2. Measurement frequency bandwidth is 20 Hz to 20 MHz.
*3. Measurement frequency bandwidth is 20 Hz to 2 MHz.
*4. First set the 0 V output, from 10 % to 90 % of the rated output voltage, with pure resistance.
*5. Rated voltage output, then set to 0 V,from 90 % to 10 % of rated output voltage, with pure resistance.
*6 The ripple is measured with the output voltage set between (20 to 100) % of the rated output voltage and at full output current. The ripple specification is 0.1 % FS in Source mode and 0.2 % FS in Sink and Load modes. For the 20 kW and 30 kW models, the ripple specification is 0.5 % FS. For the 2250 V, 15 kW model, the ripple specification is 0.15 % FS.
*7. When the input voltage is within 10 % to 100 % of the RBS voltage range and the load current is within 10 % to 100 % of the RBS current range.
*8. Communication interface: one of two, factory-installed.

SPECIFICATIONS

Model			RBS05K-500	RBS10K-500	RBS15K-500	RBS20K-500	RBS30K-500
Output Rating							
Rated power			± 5000 W	± 10000 W	± 15000 W	± 20000 W	± 30000 W
Rated voltage (source)			0 V to 500 V				
Operating voltage (sink)			10 V to 500 V				
Rated current			± 40 A	± 80 A	± 120 A	± 160 A	± 240 A
Output Voltage							
Maximum settable voltage			500 V				
Setting accuracy			0.05 %+0.05 % FS				
Setting resolution			0.01 V				
Load regulation CV			0.03 % FS				
Line regulation CV			0.015 % FS				
Temperature coefficient CV			100 ppm				
Remote sensing (compensation voltage)			25 V				
Source only	Transient response(*1)		2 ms				
	Ripple noise	p-p(*2)	600 mV				
		rms(*3)	95 mV				
	Rise time(*4)	Full load	30 ms				
		No load	15 ms				
	Fall time(*5)	Full load	15 ms				
		No load	30 ms				
Output Current							
Settable maximum source current			40 A	80 A	120 A	160 A	240 A
Settable maximum sink current			-40 A	-80 A	-120 A	-160 A	-240 A
Setting accuracy			0.15 %+0.15 % FS				
Setting resolution			0.01 A				
Load regulation CC			0.1 % FS				
Line regulation CC			0.05 % FS				
Ripple and noise(*6)		rms(*3)	0.1 % FS			0.5 % FS	
Temperature coefficient CC			200 ppm				
Output Power							
Settable maximum source power			5000 W	10000 W	15000 W	20000 W	30000 W
Settable maximum sink power			-5000 W	-10000 W	-15000 W	-20000 W	-30000 W
Setting accuracy			0.5 %+0.5 % FS				
Setting resolution			1 W				
DC Output Resistor							
Resistance range			0 Ω to 500 Ω				
Setting accuracy(*7)			≤5 % Rmax(0 % to 10 % Rmax) ; ≤10 % Rmax(10 % to 100 % Rmax)				
Setting resolution			0.01 Ω				
Protective Functions							
OVP		Range	0 % FS to 110 % FS				
		Accuracy	0.1 %FS				
OCP		Range	0 % FS to 110 % FS				
		Accuracy	0.2 % FS				
OTP			√	√	√	√	√
Vsense reverse protection			√	√	√	√	√
Input voltage protection (OVP, UVP)			√	√	√	√	√
Display Accuracy							
Voltage		Accuracy	0.05 %+0.05 % FS				
		Resolution	0.01 V				
Current		Accuracy	0.15 %+0.15 % FS				
		Resolution	0.01 A				
Power		Accuracy	0.5 %+0.5 % FS				
		Resolution	0.001 kW				
Interfaces Digital							
All-in-One(USB,RS-232/RS-485,CAN,LAN)(*8)			All-in-One / GPIB				
GPIB(*8)			All-in-One / GPIB				
400 V Three-phase Three-wire Input							
Nominal input rating			380 Vac to 460 Vac				
Input voltage range			342 Vac to 510 Vac				
Input frequency range			47 Hz to 63 Hz				
Output Power			5000 W	10000 W	15000 W	20000 W	30000 W
Input current (MAX)		at 342 Vac	9.2 A	18.4 A	27.6 A	36.8 A	55.2 A
Input power (MAX)			5.5 kVA	11 kVA	16.5 kVA	22 kVA	33 kVA
Power factor (TYP)			0.99				
Leakage current			5 mA				
Efficiency sink/source (up to)			93 %				
General Specifications							
Environmental conditions	Operating temperature		0 °C to 40 °C				
	Operating humidity		20 % to 90 % RH				
	Storage temperature		-10 °C to 70 °C				
	Storage humidity		20 % to 90 % RH				
	Altitude		1000 m				
Withstand voltage	AC input to case (PE)		DC 2300 V				
Insulation resistance	Between output and GND		DC 500 V				
Mechanical construction	Dimensions (W x H x D) mm		482 mm × 133.3 mm × 790 mm				
	Weight		24 kg	32 kg	40 kg	34 kg	43 kg
Parallel operation			√	√	√	√	√

*1. When the load changes from 50 % to 100 %, or from 100 % to 50 %, the voltage returns to within 0.75 % of the rating.
*2. Measurement frequency bandwidth is 20 Hz to 20 MHz.
*3. Measurement frequency bandwidth is 20 Hz to 2 MHz.
*4. First set the 0 V output, from 10 % to 90 % of the rated output voltage, with pure resistance.
*5. Rated voltage output, then set to 0 V, from 90 % to 10 % of rated output voltage, with pure resistance.
*6 The ripple is measured with the output voltage set between (20 to 100) % of the rated output voltage and at full output current. The ripple specification is 0.1 % FS in Source mode and 0.2 % FS in Sink and Load modes. For the 20 kW and 30 kW models, the ripple specification is 0.5 % FS. For the 2250 V, 15 kW model, the ripple specification is 0.15 % FS.
*7. When the input voltage is within 10 % to 100 % of the RBS voltage range and the load current is within 10 % to 100 % of the RBS current range.
*8. Communication interface: one of two, factory-installed.

SPECIFICATIONS

Model			RBS05K-750	RBS10K-750	RBS15K-750	RBS20K-750	RBS30K-750
Output Rating							
Rated power			± 5000 W	± 10000 W	± 15000 W	± 20000 W	± 30000 W
Rated voltage (source)			0 V to 750 V				
Operating voltage (sink)			10 V to 750 V				
Rated current			± 25 A	± 50 A	± 75 A	± 120 A	± 180 A
Output Voltage							
Maximum settable voltage			750 V				
Setting accuracy			0.05 %+0.05 % FS				
Setting resolution			0.1 V				
Load regulation CV			0.03 % FS				
Line regulation CV			0.015 % FS				
Temperature coefficient CV			100 ppm				
Remote sensing (compensation voltage)			37.5 V				
Source only	Transient response(*1)		2 ms				
	Ripple noise	p-p(*2)	900 mV				
		rms(*3)	100 mV				
	Rise time(*4)	Full load	30 ms				
		No load	15 ms				
	Fall time(*5)	Full load	15 ms				
		No load	30 ms				
Output Current							
Settable maximum source current			25 A	50 A	75 A	120 A	180 A
Settable maximum sink current			-25 A	-50 A	-75 A	-120 A	-180 A
Setting accuracy			0.15 %+0.15 % FS				
Setting resolution			0.01 A				
Load regulation CC			0.1 % FS				
Line regulation CC			0.05 % FS				
Ripple and noise(*6)		rms(*3)	0.1 % FS			0.5 % FS	
Temperature coefficient CC			200 ppm				
Output Power							
Settable maximum source power			5000 W	10000 W	15000 W	20000 W	30000 W
Settable maximum sink power			-5000 W	-10000 W	-15000 W	-20000 W	-30000 W
Setting accuracy			0.5 %+0.5 % FS				
Setting resolution			1 W				
DC Output Resistor							
Resistance range			0 Ω to 750 Ω				
Setting accuracy(*7)			≤5 % Rmax(0 % to 10 % Rmax) ; ≤10 % Rmax(10 % to 100 % Rmax)				
Setting resolution			0.01 Ω				
Protective Functions							
OVP		Range	0 % FS to 110 % FS				
		Accuracy	0.1 %FS				
OCP		Range	0 % FS to 110 % FS				
		Accuracy	0.2 % FS				
OTP			√	√	√	√	√
Vsense reverse protection			√	√	√	√	√
Input voltage protection (OVP, UVP)			√	√	√	√	√
Display Accuracy							
Voltage		Accuracy	0.05 %+0.05 % FS				
		Resolution	0.1 V				
Current		Accuracy	0.15 %+0.15 % FS				
		Resolution	0.01 A				
Power		Accuracy	0.5 %+0.5 % FS				
		Resolution	0.001 kW				
Interfaces Digital							
All-in-One(USB,RS-232/RS-485,CAN,LAN)(*8)			All-in-On / GPIB				
GPIB(*8)			All-in-On / GPIB				
400 V Three-phase Three-wire Input							
Nominal input rating			380 Vac to 460 Vac				
Input voltage range			342 Vac to 510 Vac				
Input frequency range			47 Hz to 63 Hz				
Output Power			5000 W	10000 W	15000 W	20000 W	30000 W
Input current (MAX)		at 342 Vac	9.2 A	18.4 A	27.6 A	36.8 A	55.2 A
Input power (MAX)			5.5 kVA	11 kVA	16.5 kVA	22 kVA	33 kVA
Power factor (TYP)			0.99				
Leakage current			5 mA				
Efficiency sink/source (up to)			93 %				
General Specifications							
Environmental conditions	Operating temperature		0 °C to 40 °C				
	Operating humidity		20 % to 90 % RH				
	Storage temperature		-10 °C to 70 °C				
	Storage humidity		20 % to 90 % RH				
	Altitude		1000 m				
Withstand voltage	AC input to case (PE)		DC 2300 V				
Insulation resistance	Between output and GND		DC 500 V				
Mechanical construction	Dimensions (W x H x D) mm		482 mm × 133.3 mm × 790 mm				
	Weight		24 kg	32 kg	40 kg	34 kg	43 kg
Parallel operation			√	√	√	√	√

*1. When the load changes from 50 % to 100 %, or from 100 % to 50 %, the voltage returns to within 0.75 % of the rating.
*2. Measurement frequency bandwidth is 20 Hz to 20 MHz.
*3. Measurement frequency bandwidth is 20 Hz to 2 MHz.
*4. First set the 0 V output,from 10 % to 90 % of the rated output voltage,with pure resistance.
*5. Rated voltage output, then set to 0 V,from 90 % to 10 % of rated output voltage,with pure resistance.
*6 The ripple is measured with the output voltage set between (20 to 100) % of the rated output voltage and at full output current. The ripple specification is 0.1 % FS in Source mode and 0.2 % FS in Sink and Load modes. For the 20 kW and 30 kW models, the ripple specification is 0.5 % FS. For the 2250 V, 15 kW model, the ripple specification is 0.15 % FS.
*7. When the input voltage is within 10 % to 100 % of the RBS voltage range and the load current is within 10 % to 100 % of the RBS current range.
*8. Communication interface: one of two, factory-installed.

SPECIFICATIONS

Model			RBS10K-1000	RBS20K-1000	RBS15K-1500	RBS20K-1500	RBS30K-1500	RBS15K-2250	RBS30K-2250
Output Rating									
Rated power			± 10000 W	± 20000 W	± 15000 W	± 20000 W	± 30000 W	± 15000 W	± 30000 W
Rated voltage (source)			0 V to 1000 V		0 V to 1500 V			0 V to 2250 V	
Operating voltage (sink)			10 V to 1000 V		10 V to 1500 V			10 V to 2250 V	
Rated current			± 40 A	± 80 A	± 40 A	± 60 A	± 80 A	± 25 A	± 60 A
Output Voltage									
Maximum settable voltage			1000 V		1500 V			2250 V	
Setting accuracy			0.05 %+0.05 % FS						
Setting resolution			0.1 V						
Load regulation CV			0.03 % FS						
Line regulation CV			0.015 % FS						
Temperature coefficient CV			100 ppm						
Remote sensing (compensation voltage)			50 V		75 V			112.5 V	
Source only	Transient response(*1)		2 ms						
	Ripple noise	p-p(*2)	1700 mV		2000 mV		2400 mV	6000 mV	
		rms(*3)	295 mV		300 mV		370 mV	400 mV	
	Rise time(*4)	Full load	30 ms						
		No load	15 ms						
	Fall time(*5)	Full load	15 ms						
		No load	30 ms						
Output Current									
Settable maximum source current			40 A	80 A	40 A	60 A	80 A	25 A	60 A
Settable maximum sink current			-40 A	-80 A	-40 A	-60 A	-80 A	-25 A	-60 A
Setting accuracy			0.15 %+0.15 % FS					0.2 %+0.2 % FS	
Setting resolution			0.01 A						
Load regulation CC			0.1 % FS						
Line regulation CC			0.05 % FS						
Ripple and noise(*6)		rms(*3)	0.1 % FS	0.5 % FS	0.1 % FS	0.5 % FS		0.15 % FS	0.5 % FS
Temperature coefficient CC			200 ppm						
Output Power									
Settable maximum source power			10000 W	20000 W	15000 W	20000 W	30000 W	15000 W	30000 W
Settable maximum sink power			-10000 W	-20000 W	-15000 W	-20000 W	-30000 W	-15000 W	-30000 W
Setting accuracy			0.5 %+0.5 % FS					1 %+1 % FS	
Setting resolution			1 W						
DC Output Resistor									
Resistance range			0 Ω to 1000 Ω		0 Ω to 1500 Ω			0 Ω to 2250 Ω	
Setting accuracy(*7)			≤5 % Rmax(0 % to 10 % Rmax) ; ≤10 % Rmax(10 % to 100 %Rmax)						
Setting resolution			0.01 Ω						
Protective Functions									
OVP		Range	0 % FS to 110 % FS						
		Accuracy	0.1 %FS						
OCP		Range	0 % FS to 110 % FS						
		Accuracy	0.2 % FS						
OTP			√	√	√	√	√	√	√
Vsense reverse protection			√	√	√	√	√	√	√
Input voltage protection (OVP, UVP)			√	√	√	√	√	√	√
Display Accuracy									
Voltage		Accuracy	0.05 %+0.05 % FS						
		Resolution	0.1 V						
Current		Accuracy	0.15 %+0.15 % FS					0.2 %+0.2 % FS	
		Resolution	0.01 A						
Power		Accuracy	0.5 %+0.5 % FS					1 %+1 % FS	
		Resolution	0.001 kW						
Interfaces Digital									
All-in-One(USB,RS-232/RS-485,CAN,LAN)(*8)			All-in-One / GPIB						
GPIB(*8)			All-in-One / GPIB						
400 V Three-phase Three-wire Input									
Nominal input rating			380 Vac to 460 Vac						
Input voltage range			342 Vac to 510 Vac						
Input frequency range			47 Hz to 63 Hz						
Output Power			10000 W	20000 W	15000 W	20000 W	30000 W	15000 W	30000 W
Input current (MAX)		at 342 Vac	18.4 A	36.8 A	27.6 A	36.8 A	55.2 A	27.6 A	55.2 A
Input power (MAX)			11 kVA	22 kVA	16.5 kVA	22 kVA	33 kVA	16.5 kVA	33 kVA
Power factor (TYP)			0.99						
Leakage current			5 mA						
Efficiency sink/source (up to)			93 %						
General Specifications									
Environmental conditions	Operating temperature		0 °C to 40 °C						
	Operating humidity		20 % to 90 % RH						
	Storage temperature		-10 °C to 70 °C						
	Storage humidity		20 % to 90 % RH						
	Altitude		1000 m						
Withstand voltage	AC input to case (PE)		DC 2300 V						
Insulation resistance	Between output and GND		DC 500 V						
Mechanical construction	Dimensions (W x H x D) mm		482 mm × 133.3 mm × 790 mm						
	Weight		32 kg	34 kg	40 kg	34 kg	43 kg	40 kg	43 kg
Parallel operation			√	√	√	√	√	√	√

*1. When the load changes from 50 % to 100 %, or from 100 % to 50 %, the voltage returns to within 0.75 % of the rating.
*2. Measurement frequency bandwidth is 20 Hz to 20 MHz.
*3. Measurement frequency bandwidth is 20 Hz to 2 MHz.
*4. First set the 0 V output, from 10 % to 90 % of the rated output voltage, with pure resistance.
*5. Rated voltage output, then set to 0 V, from 90 % to 10 % of rated output voltage, with pure resistance.
*6 The ripple is measured with the output voltage set between (20 to 100) % of the rated output voltage and at full output current. The ripple specification is 0.1 % FS in Source mode and 0.2 % FS in Sink and Load modes. For the 20 kW and 30 kW models, the ripple specification is 0.5 % FS. For the 2250 V, 15 kW model, the ripple specification is 0.15 % FS.
*7. When the input voltage is within 10 % to 100 % of the RBS voltage range and the load current is within 10 % to 100 % of the RBS current range.
*8. Communication interface: one of two, factory-installed.