

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	27.6 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	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	27.6 A	27.6 A	55.2 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 x 133.3 mm x 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 setttable 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	27.6 A	27.6 A	55.2 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 x 133.3 mm x 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 setttable 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	27.6 A	55.2 A	27.6 A	55.2 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 x 133.3 mm x 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.