

# Power Supplies

## RAX, RAX-E Series

AC Input

Single Output, Long Life

### FEATURES

- Compatible with a wide range of source voltages(RAX30W series).
- AC.100V input(RAX) and AC.200V input(RAX-E) types are available.
- Adjustable output voltage.
- Remote ON-OFF.
- Remote sensing.

### PART NUMBERS AND RATINGS

#### RAX:AC.100V INPUT(UL/CSA APPROVED)

#### WIDE INPUT ONLY FOR 30W TYPE(UL/CSA/TÜV APPROVED)

Output voltage (V)	30W type		50W type	
	Current(A)	Part No.	Current(A)	Part No.
3	6	RAX03-6R0		
5	6	RAX05-6R0	10	RAX05-10R
12	2.5	RAX12-2R5	4.2	RAX12-4R2
15	2	RAX15-2R0	3.4	RAX15-3R4
24	1.3	RAX24-1R3	2.1	RAX24-2R1
28	1.1	RAX28-1R1		
48			1	RAX48-1R0

#### RAX-E:AC.200V INPUT(UL/CSA/TÜV APPROVED)

Output voltage (V)	50W type	
	Current(A)	Part No.
3		
5	10	RAX05-10RE
12	4.2	RAX12-4R2E
15	3.4	RAX15-3R4E
24	2.1	RAX24-2R1E
28		
48	1	RAX48-1R0E



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### SPECIFICATIONS

#### 30W TYPE

Part No.		RAX03-6R0	RAX05-6R0	RAX12-2R5	RAX15-2R0	RAX24-1R3	RAX28-1R3
Output voltage, current*1		3V • 6A	5V • 6A	12V • 2.5A	15V • 2A	24V • 1.3A	28V • 1.1A
Maximum output power	W	18	30	30	30	31.2	30.8
Input requirements							
Input voltage Eac	V	85 to 270[Rating: 100-120/200-240]					
Input frequency	Hz	47 to 66[Rating: 50-60](Single phase)					
Input current	A	1/0.5max.[100/240V]					
Fuse rating	A	2.5[Internal]					
Surge current	A	18/36max.[120/240V, 1st surge current, reset after roughly 30s min.]					
Leakage current	mA	0.5/0.75max.[120/240V, 60Hz output rating]					
Efficiency	% [100V]	70typ.	75typ.	80typ.	80typ.	80typ.	80typ.
Output characteristics							
Output voltage	V	3	5	12	15	24	28
Voltage variable range	V	1.8 to 3.6	4 to 5.5	8.4 to 13.2	12 to 16.5	16.8 to 26.4	22.4 to 30.8
Maximum output current*1	A	6	6	2.5	2	1.3	1.1
Minimum output current	A	0	0	0	0	0	0
Overvoltage threshold	V	3.8 to 4.6	6 to 6.9	13.7 to 15.7	17 to 19.5	27 to 30.5	32 to 35
Overcurrent threshold	A	6.6 to 7.8	6.6 to 7.8	2.8 to 3.6	2.2 to 2.7	1.5 to 1.9	1.3 to 1.8
Voltage stability	Input variation	%	1.5max.(0.8typ.)[85 to 132V, 170 to 270V]				
	Load variation	%	1.5max.(0.8typ.)[0 to 100% load]				
	Temperature variation	%	2max.(1typ.) 3V:3max.(2typ.)[-10 to +50°C]				
	Drift	%	0.5max.(0.1typ.)[25°C, input and output ratings, after input voltage ON for 30min to 8h]				
	Dynamic load	%/ms	±4max./1max.[50 to 100% sudden load change, tr, tf ≥ 50μs]				
Ripple Ep-p	mV	50max.	50max.	80max.	80max.	100max.	100max.
Ripple noise Ep-p	mV	100max.	100max.	170max.	200max.	290max.	330max.
Start up time	ms	300max.[100V]					
Hold up time	ms	20min.[100V]					
Accessory equipment							
Operation indicator		LED(green) illuminates when voltage output is ON.					
Overvoltage protection*2		Output voltage shielding type, set value fixed.					
Overcurrent protection		Fixed current and voltage threshold type, automatic recovery.					
Remote ON-OFF		Yes(Floating)					
Remote sensing		Yes					
Output voltage external function		Yes					
Standards							
Safety standards		UL1950, CSA ELECTRICAL BULLETIN No.1402C, EN60950 (TÜV) approved.					
Noise terminal voltage		FCC class B compliant.					
Construction							
External dimensions HxWxL	mm	110×33×146					
Weight	g	550max.					
Mounting method		Can be attached to 2 sides.					
Case material		Frame and cover:Aluminum					

\*1 Current rating(maximum output current) is determined for -10 to +50°C. Derating is required when used outside this temperature range.

\*2 Recovery occurs after roughly 30s upon reset.

# Power Supplies

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AC Input

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### SPECIFICATIONS

#### 50W TYPE

Part No.	AC.100 to 120V input		RAX05-10R	RAX12-4R2	RAX15-3R4	RAX24-2R1	RAX48-1R0
	AC.200 to 240V input		RAX05-10RE	RAX12-4R2E	RAX15-3R4E	RAX24-2R1E	RAX48-1R0E
Output voltage, current*			5V • 10A	12V • 4.2A	15V • 3.4A	24V • 2.1A	48V • 1A
Maximum output power		W	50	50.4	51	50.4	48
Input requirements							
Input voltage Eac	RAX	V	85 to 132[Rating: 100-120]				
	RAX-E	V	170 to 264[Rating: 200-240]				
Input frequency		Hz	47 to 440[Rating: 50-60](Single phase)				
Input current	RAX	A	1.6max.[Input and output ratings]				
	RAX-E	A	0.8max.[Input and output ratings]				
Fuse rating		A	3.15[Internal]				
Surge current	RAX	A	15/17max.[25°C, 100/120V, output rating]				
	RAX-E	A	30/34max.[25°C, 200/240V, output rating]				
Leakage current	RAX	mA	0.5max.[25°C, 100-120V, output rating]				
	RAX-E	mA	0.75max.[25°C, 200-240V, output rating]				
Efficiency		%	75typ.[25°C, input and output ratings]				
Output characteristics							
Output voltage		V	5	12	15	24	48
Voltage variable range		V	4 to 5.5	8.4 to 13.2	12 to 16.5	16.8 to 26.4	32.6 to 52.8
Maximum output current*1		A	10	4.2	3.4	2.1	1
Minimum output current		A	0	0	0	0	0
Overvoltage threshold		V	6 to 6.9	13.7 to 15.7	17 to 19.5	27 to 30.5	55 to 63
Overcurrent threshold		A	10.5 to 11	4.5 to 4.8	3.6 to 3.9	2.3 to 2.5	1.1 to 1.3
Voltage stability	Input variation	%	1.5max.(0.8typ.)[Within the input voltage range]				
	Load variation	%	1.5max.(0.8typ.)[10 to 100% load]				
	Temperature variation	%	2max.(1typ.)[0 to +60°C]				
	Drift	%	0.5max.[25°C, input and output ratings, after input voltage ON for 30min to 8h]				
	Dynamic load	%/ms	±4max./1max.[50 to 100% sudden load change]				
			Total variation 4max.(2typ.)				
Ripple Ep-p		mV	50max.	80max.	80max.	100max.	150max.
Ripple noise Ep-p		mV	100max.	170max.	200max.	290max.	530max.
Start up time		ms	200max.[25°C, input and output ratings]				
Hold up time		ms	20min.[25°C, input and output ratings]				
Accessory equipment							
Operation indicator			Yes				
Overvoltage protection			Output voltage shielding type, recovers upon reset, set value fixed.				
Overcurrent protection			Fixed current and voltage threshold type, automatic recovery.				
Remote ON-OFF			Yes(Floating)				
Remote sensing			Yes				
Output voltage external variable function			Yes				
Standards							
Safety standards	RAX	UL1950D3, CSA ELECTRICAL BULLETIN No.1402C approved.					
	RAX-E	UL1950D3, CSA ELECTRICAL BULLETIN No.1402C, EN60950(TÜV) approved.					
Noise terminal voltage			FCC class A compliant.				
Construction							
External dimensionsH×W×L		mm	110×45×190				
Weight		g	800max.				
Mounting method			Can be attached to 3 sides.				
Case material			Aluminum(Phosphoric and anodized surface)				

\* Current rating(maximum output current) is determined for 0 to +50°C. Derating is required when used outside this temperature range.

# Power Supplies

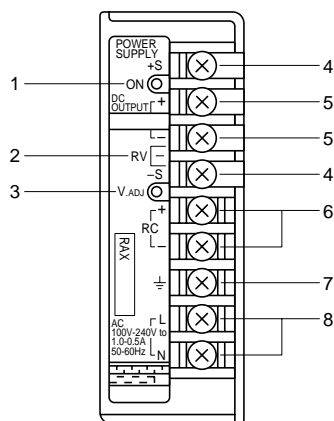
AC Input

Single Output, Long Life

## RAX, RAX-E Series

### TERMINAL DESIGNATIONS AND FUNCTIONS

#### 30W TYPE



Terminal No. 1: Operation indicator LED(ON)

This green LED becomes illuminated when voltage is output.

Terminal No. 2: Output voltage adjustment terminal(RV)

Output voltage can be controlled remotely by adjustment of resistance between RV and output(+). When using remote control of output voltage, please remove the jumper between +S and output(+).

Terminal No. 3: Output voltage adjustment trim(V.ADJ)

Adjusts output voltage.

Terminal No. 4: Remote sensing terminals(+S, -S)

These are normally jumpered. When controlling voltage to the load, please remove jumper, and wire these terminals.

Terminal No. 5: DC output terminals(DC OUTPUT +, -)

Connect to load.

Terminal No. 6: Remote ON-OFF terminals(+RC, -RC)

Output is turned ON-OFF by disconnecting-connecting the RC terminals(output ON when open). RC terminals are floating.

Terminal No. 7: Frame ground terminal(G)

Connect to earth ground. This is connected to the case.

Terminal No. 8: AC input terminals(L, N)

Connect to single phase power supply.

RAX series: AC.100V power supply

RAX30W series: AC. 100 to 200V power supply

RAX-E series: AC.200V power supply

#### 50W TYPE

