

Datasheet

19in 1U rack for RCP2000series term blk

RS Stock number 733-2051



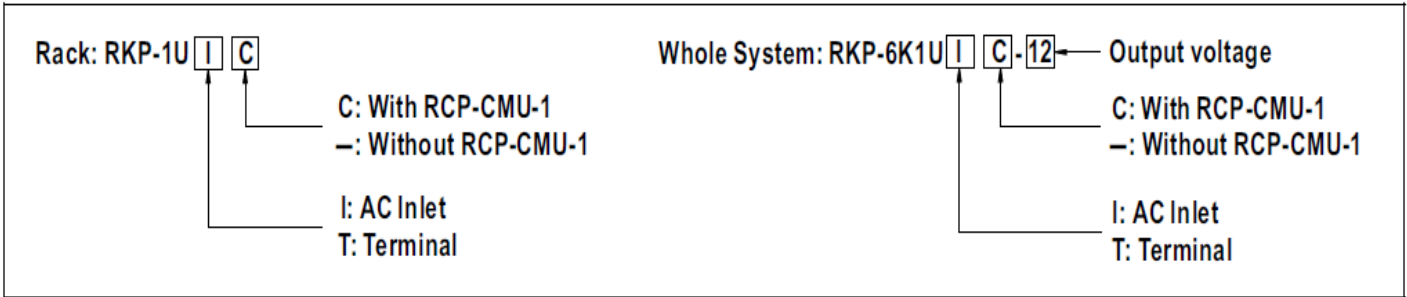
■ Features :

- Universal AC input / Full range
- Holds up to 3 power modules
- Active current sharing up to 6000W(3 unit) in 19"rack, 3 rack max. can be operated in parallel
- PMBus serial interface
- IEC60320-C20 or terminal block input
- Front-end & rectifier applications
- Stackable for system expansion
- Low profile: 1U height, 19" rack mount
- Hot swappable modules
- Output voltage trimming function
- Hot-swap operation

■ Description :

RCP-2000 rack power system is an advanced 19" rack-mounted power system containing up to 3 hot-swappable RCP-2000 rectifiers and can deliver up to 6000W in the single rack. Up to 3 racks can be stacked to provide expanded total system capability up to 18,000W that are especially suitable for the application of servers, information technology equipment, networking, telecommunications, and wide range of industrial applications using distributed power architecture. Equipped with PMBus communication protocol, RCP-2000 rack system can be controlled or monitored by external device such as monitoring unit (RCP-CMU-1) or PC.

SELECTION GUIDE

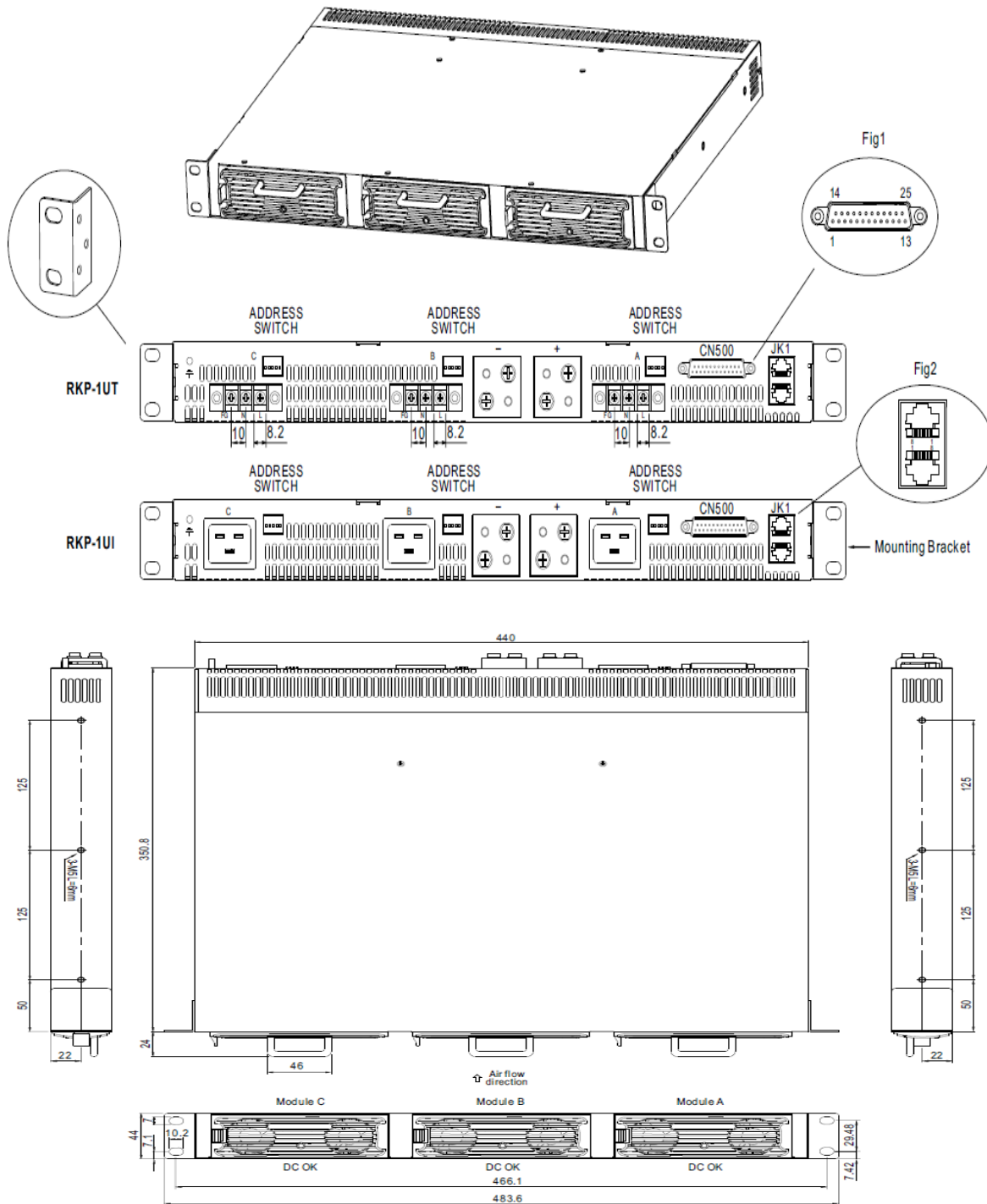


SPECIFICATION - Rack System

MODEL		RKP-6K1U□-12	RKP-6K1U□-24	RKP-6K1U□-48
OUTPUT	MODULE	RCP-2000-12	RCP-2000-24	RCP-2000-48
	RACK	RKP-1UI or RKP-1UT		
	OUTPUT VOLTAGE	12V	24V	48V
	MAX. OUTPUT CURRENT	300A	240A	126A
MAX. OUTPUT POWER <small>Note.6</small>		3600W	5760W	6048W
INPUT	VOLTAGE RANGE <small>Note.5</small>	90 ~ 264VAC 127 ~ 370VDC		
	FREQUENCY RANGE	47 ~ 63Hz		
	AC CURRENT (Typ.) FOR EACH UNIT	13A/115VAC 7A/230VAC	16A/115VAC 11A/230VAC	16A/115VAC 11A/230VAC
	LEAKAGE CURRENT	<3.5mA / 230VAC		
FUNCTION	AUXILIARY POWER	5V @ 0.3A, 12V @ 0.8A		
	REMOTE ON/OFF CONTROL	By electrical signal or dry contact ON:short OFF:open		
	REMOTE SENSE	Compensate voltage drop on the load wiring up to 0.5V. "Local Sense" should be connected in order to get the correct output voltage if the "Remote Sense" is not used		
	DC OK SIGNAL	The isolated TTL signal out, refer to function manual		
	AC FAIL SIGNAL	The isolated TTL signal out, refer to function manual		
	OUTPUT VOLTAGE TRIM	Adjustment of output voltage, possible between 90 ~ 110% of rated output		
	OVER TEMP WARNING	Logic " High" for over temperature warning, refer to function manual, isolated signal		
	FAN FAIL SIGNAL	The isolated TTL signal out, refer to function manual		
ENVIRONMENT	WORKING TEMP.	-25 ~ +70°C (Refer to output load derating curve)		
	WORKING HUMIDITY	20 ~ 90% RH non-condensing		
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH		
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 50°C)		
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes		
SAFETY & EMC <small>(Note 4)</small>	SAFETY STANDARDS	UL60950-1, TUV EN60950-1 approved		
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.7KVDC		
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C / 70% RH		
	EMI CONDUCTION & RADIATION	Compliance to EN55022 (CISPR22)		
	HARMONIC CURRENT	Compliance to EN61000-3-2,-3		
OTHERS	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, ENV50204, EN61000-6-2 (EN50082-2), heavy industry level, criteria A		
	DIMENSION	Rack 486.6*350.8*44(L*W*H)		
	PACKING	11.5Kg; 1pcs/11.5Kg/2.67CUFT		

■ Mechanical Specification (Rack System)

Case No. 959A Unit:mm



■ CN500 Pin No. Assignment

Connector Pin No. Assignment(CN500) : D-Type Right Angle 25 positions

Pin No.	Assignment	Pin No.	Assignment	Pin No.	Assignment	Pin No.	Assignment	Pin No.	Assignment
1	ON/OFF-A	6	FAN FAIL-A	11	T-ALARM-B	16	ON/OFF-C	21	FAN FAIL-C
2	AC-OK-A	7	ON/OFF-B	12	FAN FAIL-B	17	AC-OK-C	22	+S
3	DC-OK-A	8	AC-OK-B	13	+5V-AUX	18	DC-OK-C	23	-S
4	PV-A	9	DC-OK-B	14	+12V-AUX	19	PV-C	24	+V
5	T-ALARM-A	10	PV-B	15	GND-AUX	20	T-ALARM-C	25	-V

■ JK1 Pin No. Assignment

Connector Pin No. Assignment(CN) : RJ45 8 positions

Pin No.	Assignment	Pin No.	Assignment
1	DA	6	SDA
2	DB	7	SCL
3,4,5	NC	8	GND-AUX

■ CN500 IN/OUT Connector pins function description

Pin No.	Function	Description
1,7,16	ON/OFF	Each unit can separately turn the output on and off by electrical signal or dry contact between ON/OFF A,B,C(pin 1,7,16) and +5V-AUX(pin 15). Short: ON, Open: OFF. (Note.2)
2,8,17	AC-OK	Low : When the input voltage is ≥ 87 Vrms. High : when the input voltage in ≤ 75 Vrms. (Note.2)
3,9,18	DC-OK	High : When the Vout $\leq 80\pm 5\%$. Low : When Vout $\geq 80\pm 5\%$. (Note.2)
4,10,19	PV	Connection for output voltage trimming. The voltage can be trimmed within its defined range. (Note.1)
5,11,20	T-ALARM	High : When the internal temperature (TSW1 or TSW2 open) exceeds the limit of temperature alarm. Low : When the internal temperature (TSW1 or TSW2 short) under the limit temperature. (Note.2)
6,12,21	FAN FAIL	High : When the internal fan fail. Low : When the internal fan is normal. (Note.2)
13	+5V-AUX	Auxiliary voltage output, 4.4 ~ 5.5V, referenced to GND-AUX (pin 15). The maximum load current is 0.3A. This output has the built-in "Oring diodes" and is not controlled by the remote ON/OFF control.
14	+12V-AUX	Auxiliary voltage output, 10.8 ~ 13.2V, referenced to GND-AUX (pin 15). The maximum load current is 0.8A. This output has the built-in "Oring diodes" and is not controlled by the remote ON/OFF control.
15	GND-AUX	Auxiliary voltage output GND. The signal return is isolated from the output terminals (+V & -V).
22	+S	Positive sensing. The +S signal should be connected to the positive terminal of the load. The +S and -S leads should be twisted in pair to minimize noise pick-up effect. The maximum line drop compensation is 0.5V.
23	-S	Negative sensing. The -S signal should be connected to the negative terminal of the load. The -S and +S leads should be twisted in pair to minimize noise pick-up effect. The maximum line drop compensation is 0.5V.
24	+V	Positive output voltage. For local sense use only, can't be connected directly to the load.
25	-V	Negative output voltage. For local sense use only, can't be connected directly to the load.

■ JK1 IN/OUT Connector pins function description

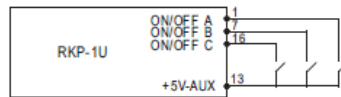
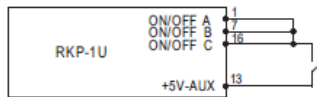
Pin No.	Function	Description
1,2	DA,DB	Differential digital signal for parallel control. (Note.1)
3,4,5	NC	Not use.
6	SDA	Serial Data used in the PMBus interface. (Note.2)
7	SCL	Serial Clock used in the PMBus interface. (Note.2)
8	GND-AUX	Auxiliary voltage output GND. The signal return is isolated from the output terminals (+V & -V).

Note1: Non-isolated signal, referenced to the output terminals (-V).
 Note2: Isolated signal, referenced to GND-AUX.

Function Manual

1. Remote ON/OFF Control

The PSU can be turned ON/OFF together or separately by using the "Remote ON/OFF" function.

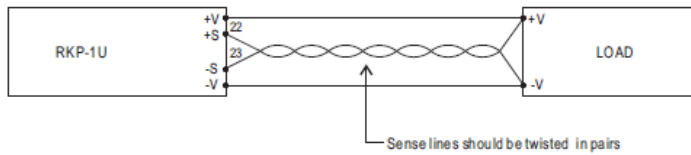


Between ON/OFF and -S	Output
SW Open	OFF
SW Short	ON

2. Voltage Drop Compensation

2.1 Remote Sense

The remote sense compensates voltage drop on the load wiring up to 0.5V.



2.2 Local Sense

Notice: The +S,-S have to be connected to the +V,-V terminals locally in order to get the correct output voltage if the remote sensing is not used.



3. Output Voltage TRIM

- (1) Connecting an external DC source between PV(4,10,19) and -V(25) on CN500 that is shown in Fig. 3.1.
- (2) Adjustment of output voltage is possible between 90~110% (Typ.) of the rated output which is shown in Fig. 3.2. Reducing output current is required when the output voltage is trimmed up.

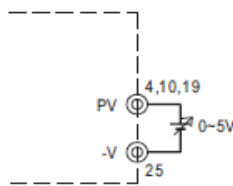


Fig. 3.1 Add on 0~5V external voltage

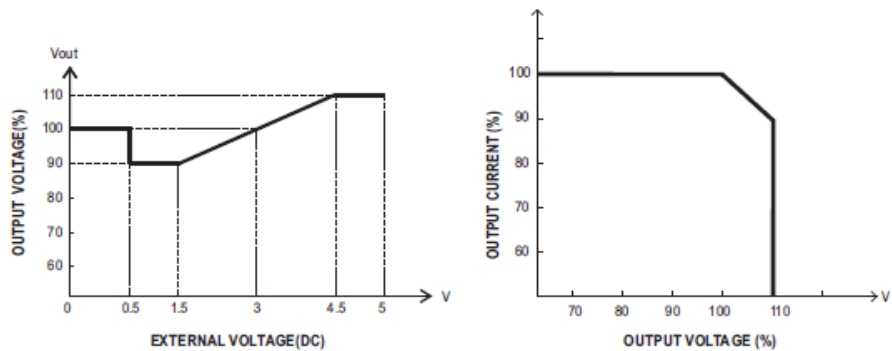


Fig. 3.2 Output voltage trimming

4. Front Panel Indicators & Corresponding Signal at Function Pins

Function	LED	Description	* Signal	PSU Output
AC-OK	GREEN	When input voltage $\geq 87V$	0 ~ 0.5V	ON
AC-NG	RED	When input voltage $\leq 75V$	4.5 ~ 5.5V	OFF
DC-OK	GREEN	When output voltage $\geq 80\% \pm 5\%$ of V_o rated.	0 ~ 0.5V	ON
DC-NG	RED	When output voltage $\leq 80\% \pm 5\%$ of V_o rated.	4.5 ~ 5.5V	ON
T-OK	GREEN	When the internal temperature (TSW1 & TSW2 short) is within safe limit	0 ~ 0.5V	ON
T-ALARM	RED	When the internal temperature (TSW1 or TSW2 open) exceeds the limit of temperature alarm	4.5 ~ 5.5V	OFF

*Signal between function pin and "GND-AUX".